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COMMUNITY WEALTH BUILDING THROUGH DIGITAL TOOLS FOR COLLABORATIVE FUNDING

Larisa Blazic

A dissertation submitted in partial fulfilment of the requirements for the degree of
Doctor of Philosophy in Human-Computer Interaction

at

City St Georges, University of London
School of Science and Technology
Department of Computer Science
Centre for HCID

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Supervisors:

Prof Stephanie Wilson (HCID, City St Georges, University of London)

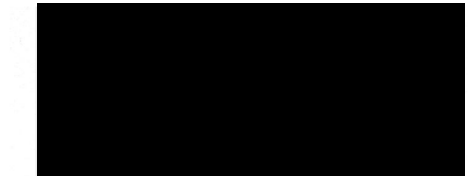
Dr. Sara Heitlinger (HCID, City St Georges, University of London)

Dr. Alex Taylor (Institute of Design Informatics, University of Edinburgh)

DECLARATION

I, Larisa Blazic, declare that this thesis was composed by myself, that the work contained here is my own except where explicitly stated in the text and that this work has not been submitted for any other degree or professional qualification except as specified. Parts of this work have been published in collaboration with my supervisors.

London, UK, September 2025

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Larisa Blazic

DECLARATION OF GENERATIVE AI USAGE

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- Proofreading and grammar suggestions: I used Grammarly to assist with spelling, grammar and stylistic refinements. This tool supported clarity and consistency in written expression but did not alter the substantive content or argumentation.
- Idea generation, brainstorming and writing reviews: I engaged with generative AI platforms including Deep Seek, ChatGPT and Microsoft Copilot to support early writing stage idea development, thematic exploration and structural review. These tools were used to stimulate reflection and refine my thinking, particularly during the drafting and revision phases. All final interpretations, arguments and conclusions are my own.
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ABSTRACT

Human-Computer Interaction (HCI) and Distributed Ledger Technologies (DLTs) hold promise for advancing economic justice, while their design practices often replicate extractive logics. This research responds to this tension by exploring how HCI can support Community wealth building (CWB) and Solidarity economy (SE) through radical participatory design (RPD). Grounded in feminist economics and feminist HCI, the study asks: How can digital infrastructure be co-designed with grassroots communities to address extreme economic inequality; and how can conventional design methods be subverted to reflect co-operative values?

The research engages two stages of inquiry to address these questions. First, it critically examines three platforms (Culture Stake, Circles UBI and Open Collective), revealing how their emancipatory aims can be undermined by the re-inscription of structural inequalities, demonstrating that emerging technologies alone are insufficient for equitable outcomes. Second, it develops and tests two novel participatory methods through empirical engagements with London-based co-operatives and a community land trust: 1) Solidarity mapping which subverts example mapping to prioritise mutual aid and collective agency over efficiency and productivity; and 2) Pick-a-Pebble method, which subverts the accelerated logic of design sprints by embedding care, reflection and a shared pacing termed ‘community time’.

Employing qualitative methods, including expert interviews, focus groups, co-design workshops and thematic analysis, the research contributes both conceptual insights and practical approaches. Methodologically, it adopts a reflexive, emergent stance, treating unpredictability as a generative condition for feminist inquiry. By embedding co-operative principles into both process and output, the study reframes design as a foundational practice for building solidarity-driven digital infrastructures and interactive systems. Finally, this work offers a direction of thinking for ‘designing otherwise’, proposing actionable pathways for HCI to move beyond critique and towards community-led practices that redistribute power, challenge extractive logics in favour of economic justice.

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LIST OF ACRONYMS

CWB Community wealth building

CLT Community land trust

DLT Distributed ledger technologies

HCI Human-Computer Interaction

RPD Radical participatory design

PaP Pick-a-Pebble (method)

PD Participatory design

SE Solidarity economy

SSE Social and solidarity economy

SM Solidarity mapping (method)

STS Science and technology studies

TA Thematic analysis

UBI Universal Basic Income

CHAPTER 1 INTRODUCTION

1.1 Background and rationale

There is a growing and urgent need for Human-Computer Interaction (HCI) and participatory design (PD) to confront extreme economic inequality. This research responds directly to this need. As economic anthropologist Jason Hickel (2025) has starkly outlined, "100 million people in the USA and Europe live in food insecurity. I mean, think about this. The richest countries in the world cannot even guarantee something as simple as food security to their citizens." In the United Kingdom, this systemic failure is embodied in the rampant rise of food bank usage (Trussell Trust, 2025), a grim indictment of an economic system that prioritises market efficiency and capital accumulation over human dignity. The normalisation of such scarcity compels a critical response, one that challenges the very logics that produce this inequality.

I am guided by David Graeber's (2024) assertion that "The ultimate hidden truth of the world is that it is something that we make and could just as easily make differently." This thesis is built upon that conviction. I maintain that the true task before us is to conceive of systems that fulfil human need not through exploitation, but through practices rooted in justice and sustainability, a goal, that although difficult, is both achievable and essential. This is not a naïve proposition – the enormity of the task is not lost on me and I recognise that problems of this scale demand deeply interdisciplinary approaches, primarily aimed at community building and policymaking. Rather, this is a political and ethical stance, rooted in the principles of solidarity and care, that seeks to explore the specific, tangible contributions that HCI and technology design can make within this broader, essential struggle.

Consequently, in this work I make no claim to neutrality. I investigate how digital platforms, particularly those leveraging Distributed Ledger Technologies (DLTs), can be consciously designed to resist capitalist co-option and instead serve community wealth building (CWB) and solidarity economy (SE). In that context, I am interested in exploring the conditions under which design can act as a catalyst for socioeconomic change. This requires an integrated approach where the process (with whom), the purpose (for whom), and the impact (who benefits) are considered as critical as the object itself. Drawing on feminist HCI, participatory design and feminist economics, this study frames design as a site of political possibility, a practice for redistributing wealth and building solidarity infrastructures of mutual aid.

1.2 Historical and political context

I situate this research within a specific historical moment defined by multiple, intersecting crises: the 2008 financial collapse, the COVID-19 pandemic and the steady erosion of the UK's public sector. These events have exacerbated deep economic inequalities and, crucially, have catalysed technological responses that seek to reimagine economic life. Among these, DLTs emerged as a deeply contested domain, embodying both emancipatory potential and a risk of reinforcing existing power structures.

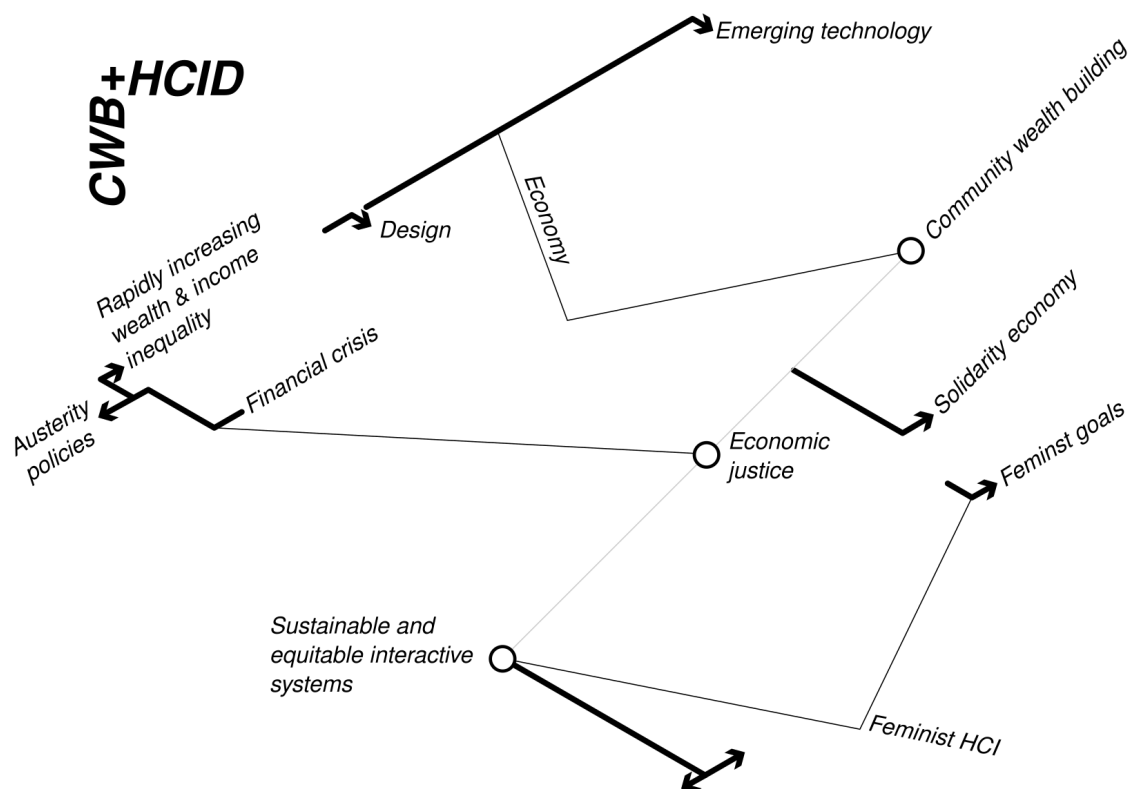


Figure 1: A conceptual map capturing key themes at the intersection of design and economic justice following the 2008 financial crisis. It illustrates the argument for moving towards HCI that supports community wealth building.

The 2008 crisis, a direct result of financialised capitalism, shattered public trust in centralised institutions. In its wake, two divergent technological paths emerged. One was profoundly speculative: Bitcoin's initial libertarian critique was swiftly captured by venture capital, morphing into a crypto-economy characterised by extreme wealth concentration and a new form of algorithmic extraction (Golumbia, 2016; Brekke, 2021). This trajectory cannot be divorced from its context within the military-industrial complex; the very infrastructures of the internet and computation we rely upon have deep roots in military research and funding.

Computer science and later HCI, has since the Second World War been driven by a 'military-industrial' complex (Leslie, 1993; Barbrook and Cameron, 1996) with an underlying aim of technological, economic and political dominance. The military-industrial complex, originally coined by U.S. President Dwight D. Eisenhower in 1961, refers to the relationship between a country's military, its government and industries that produce defence equipment and technology. In this context, digital technology, over the last thirty years, has evolved to encompass broader Silicon Valley's ideological influences (Barbrook and Cameron, 1996). These merged the military-driven objectives of speed and stealth with an entrepreneurial and libertarian ethos. This hybridisation has played a defining role in the way HCI design reinforces the status quo by aligning technological innovation with market-driven values and practices (Khovanskaya *et al.*, 2018a; Zuboff, 2019), often prioritising control and security over openness and equity.

The other path was emancipatory, seen in a resurgence of mutual aid networks, time banks and co-operative platforms seeking to build democratic economic alternatives. This thesis traces the fraught legacy between these two impulses. It asks: how can technologies born from a crisis of capitalism avoid becoming tools of a new technofeudalism (Varoufakis, 2024), a regime where platform owners act as feudal lords, extracting value from users who have little ownership or control?

Projects like Circles UBI and Open Collective exemplify this tension. Circles UBI attempted to create a blockchain-based universal basic income. While it momentarily fostered a hyper-local economy, its rapid decline revealed a common pitfall: a focus on technical innovation without the resilient community governance and sustainable resources needed for longevity. Its struggle highlights the risk of creating well-intentioned tools that nonetheless fail to escape the gravitational pull of unsustainable, capitalist temporalities and growth models. Open Collective, by contrast, offers a more durable model. Though built on conventional technologies, its deliberate "exit to community" process demonstrates that long-term sustainability emerges from aligning ownership and governance with solidarity economy values, not from any specific technological architecture.

This historical context sets the stakes for my inquiry. It reveals that the potential of DLTs is not inherent but contingent on a conscious rejection of extractive logics. It underscores the urgent need for HCI to move beyond a focus on usability and efficiency and toward a deeper engagement with political economy, justice and mutualistic infrastructure.

The alarming rise of food banks in the UK sharpens this urgency. As state retrenchment hollowed out public services, communities turned to grassroots mutual aid. These responses embody the principles of the solidarity economy, care, reciprocity and democratic control, but they are often hampered by a lack of durable digital infrastructure. This thesis explores whether design can help address this gap, not by imposing solutions, but by co-creating tools that reflect community values and rhythms. In doing so, I draw explicitly on feminist HCI, which treats design as a political act centred on pluralism, participation and advocacy. It also engages with feminist economics, which challenges capitalocentric logics (J.K. Gibson-Graham, 2006) to centre care work, relationality and economic plurality. Put together, these frameworks support a praxis of resistance and construction: resisting extractive design norms while building new methods and infrastructures for collective wellbeing.

This historical and political context is the essential terrain on which this research unfolds. It shapes my questions, my methods and my commitments. It insists that design is never neutral and that the tools we build must be accountable to the communities they aim to serve. Or even better, made by communities, for communities.

1.3 Problem statement and research gap

Despite growing interest in justice-oriented design, mainstream HCI continues to sidestep the material realities of economic inequality. While feminist HCI and PD have made significant strides in challenging technocratic paradigms, they often remain confined to critique or surface-level inclusion. Rarely do they confront the structural conditions, unpaid labour, temporal poverty, extractive ownership models, that shape who participates in design and who benefits from its outcomes. This thesis responds to a critical and under-examined area of inquiry: the need for design methodologies that explicitly advance economic justice through co-operative ownership, temporal equity and community-led governance. It questions how we design technologies: specifically, how we might subvert the very methods we use to do so. Moreover, it treats design as a political terrain, one where power is distributed, contested and potentially reclaimed.

The problem is profoundly compounded by the uncritical, techno-solutionist orientation that dominates mainstream DLT research and development. Blockchain and distributed ledger technologies are routinely heralded in libertarian and venture-capital circles as inherently decentralising and emancipatory, possessing a kind of technological determinism that will

inevitably dismantle corrupt institutions. However, this rhetoric masks a stark reality: in their practical implementation, even in the case studies explored in this research that are grounded in solidarity economy and feminist ideals, through conventional design practise these technologies frequently replicate and even amplify the very neoliberal hierarchies and extractive logics they claim to dismantle.

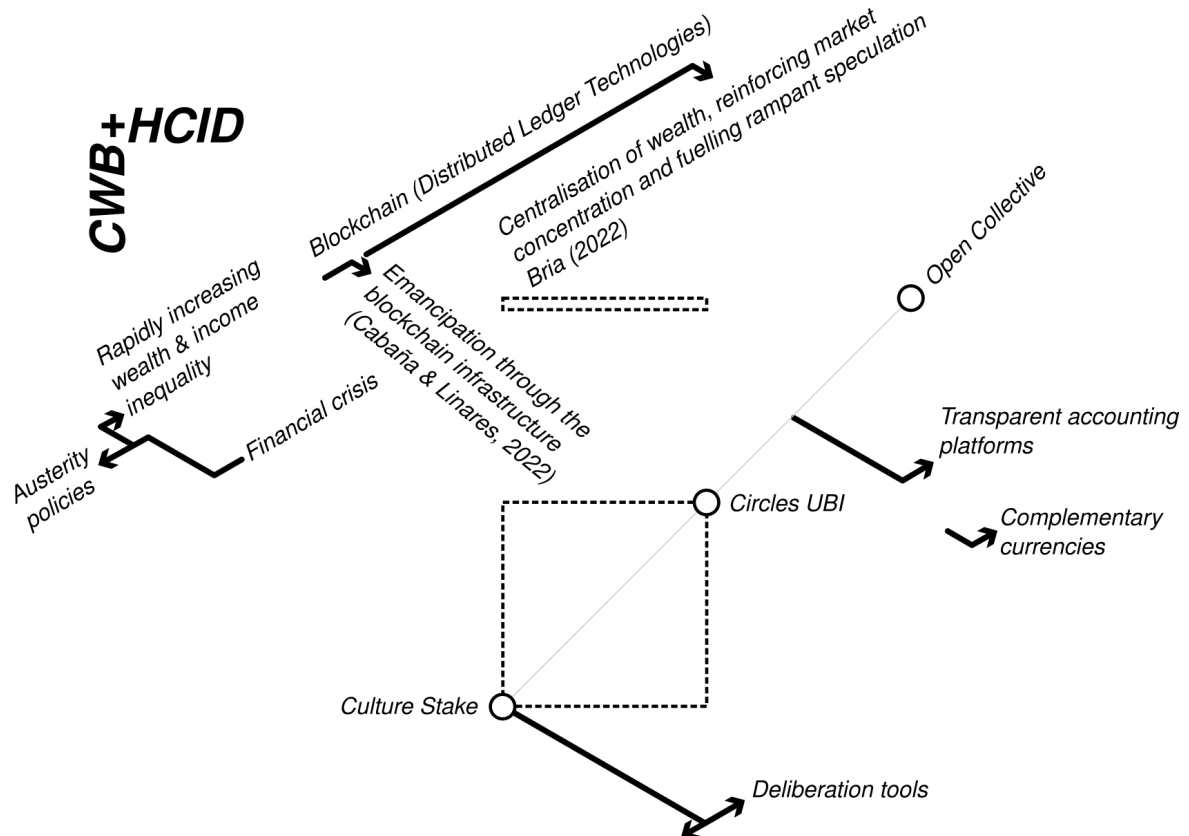


Figure 2: Mapping the problem space of inequality and technological response. This image outlines the central challenge of wealth concentration post-financial crisis and catalogues early socio-technical solutions (e.g., blockchain, complementary currencies), framing the landscape for identifying research gaps in community wealth building tools.

Even participatory design, long considered a democratic counterweight to top-down innovation, is not immune. As Udoewa (2022) argued, PD can reproduce inequality when it fails to transfer actual decision-making power or accommodate the temporal rhythms of marginalised communities. The design sprint, for example, assumes uninterrupted availability and cognitive bandwidth, privileges not afforded to many co-operative members, caregivers, or those navigating precarity. Without deliberate intervention, participation defaults to privilege.

This research confronts these tensions head-on. It identifies three interlocking problems:

1. **Temporal injustice:** Conventional design methods operate on accelerated timelines that exclude those experiencing time poverty. The design sprint's format, for instance, privileges speed over deliberation, efficiency over care and centralised facilitation over distributed agency.
2. **Methodological dishonesty:** Conventional design methods often engage in a form of methodological dishonesty. They present themselves as neutral, objective processes for solving problems, while in reality, they are deeply ideological vehicles that encode and reproduce capitalist values. A tool like example mapping, for instance, is not an innocent facilitator of ideas. It is structurally designed to prioritise product-centric logics of usability, scalability and market fit, the very metrics of capitalist efficiency. This inherent bias constitutes a dishonesty: the method claims to serve 'the user' and 'the project' while systematically marginalising pluralist values, co-operative principles of democratic ownership and feminist epistemologies centred on care and relationality. The dishonesty lies in the erasure of this political stance, framing a specific, value-laden agenda as a universal and apolitical standard for 'good' design.
3. **Governance and participation gaps:** Even platforms built on decentralised technologies often retain centralised governance models. Without mechanisms for democratic control, transparency, and collective stewardship, these platforms risk reproducing extractive dynamics under the guise of innovation.

To address these gaps, I propose a subversive methodological stance. I treat design methods as artefacts capable of being dismantled, reconfigured and repurposed to serve justice-oriented aims. I introduce two novel methods developed through this research: solidarity mapping, which subverts the capitalist assumptions of example mapping to embed co-operative and feminist values; and Pick-a-Pebble, a feminist alternative to the design sprint that consciously reclaims time as a collective resource rather than a commodity to be optimised. These interventions are grounded in what I borrow from Emiliy Kawano (2018), a "resist-and-build" praxis, inspired by Audre Lorde's (1979) crucial warning that "the master's tools will never dismantle the master's house." My work seeks to move beyond critique by actively constructing new tools that are furthering extending thinking and doing in HCI, specifically Bardzell's (2010) feminist interaction qualities: pluralism, participation and advocacy, while engaging Gibson-Graham's (2006) diverse economies framework to make visible and viable the plurality of economic logics that exist beyond capitalism.

In doing so, my research contributes to a growing movement within HCI that seeks to fundamentally reorient design towards justice and collective agency. I offer a practical exploration of design subversion, one that explicitly challenges the temporal, epistemological and governance assumptions embedded in conventional methods. I insist that design must include marginalised voices, but must above all be accessible to them in every way, by allowing agency in setting priorities from the outset.

1.4 Research aims, questions and objectives

This research is situated at the intersection of emerging technology, economic justice and participatory design. My primary aim is to investigate how digital platforms, particularly those leveraging DLTs, can be co-designed with grassroots communities to support CWB and the principles of the SE. I move beyond techno-solutionist narratives to ask how design itself can become a site of redistribution and collective agency.

The urgency of this inquiry is shaped by two converging crises: the deepening economic inequality evidenced by the rise of food banks in the UK and the failure of digital infrastructures to deliver on their emancipatory promises. While blockchain and peer-to-peer technologies are often framed as inherently decentralised and democratic, their practical implementations frequently replicate extractive logics and centralised control. This thesis asks: Can these technologies be reclaimed? And if so, how must our design methods change to make that possible?

To answer these questions, the research is guided by four interrelated inquiries:

RQ1: What is the role of emerging distributed ledger and peer-to-peer network technologies in the establishment of (micro) hyper-local economies?

This question explores the practical, on-the-ground impact of DLTs. It examines how projects like Circles UBI and Culture Stake operationalise their goals, the nature of the economies they create and the challenges they face in sustaining them. It moves beyond technical affordances to interrogate governance, participation and long-term viability. The findings suggest that while DLTs offer transparency and decentralisation, their emancipatory potential is contingent on being embedded within co-operative frameworks and governed by community-led principles.

RQ2: How can feminist scholarship and practice around economics and HCI help inform the design strategies of new digital platforms for collaborative funding?

This question integrates a critical lens. It draws on feminist economics, which foregrounds care work, relationality and economic plurality and feminist HCI, which emphasises pluralism, participation and advocacy. It asks how these traditions can provide tangible strategies to create more equitable, inclusive and accessible design processes. The findings show that feminist principles are not abstract ideals but practical tools for subverting dominant design norms and embedding solidarity into the fabric of digital platforms.

RQ3: How do these technologies compare to other existing grassroots community accounting platforms based on conventional network technologies?

This question introduces a comparative dimension. By analysing a non-blockchain project like Open Collective alongside DLT-based initiatives, the research identifies what is uniquely enabled by blockchain's affordances (e.g. tokenisation, decentralisation) and what core challenges of community organising (e.g. trust, governance, accessibility) persist regardless of the technological substrate. The findings reveal that sustainability and equity depend less on technical architecture and more on governance models and temporal alignment with community rhythms.

RQ4: How can the co-design of technologies/platforms/prototypes support fair, inclusive co-operative economies?

This is the primary action-oriented question. It focuses on methodology, seeking to develop and refine participatory design methods, such as the subversion of example mapping into Solidarity Mapping and the development of the Pick-a-Pebble method, that explicitly embed co-operative principles, feminist goals and a politics of time. It asks how design processes themselves can become sites of practice for fair and inclusive economies.

To answer these questions, the research is structured around six specific objectives, each addressed through distinct chapters and methodological interventions:

- 1. To review the literature on the solidarity economy and the role of emerging DLTs.**

This objective is fulfilled in *Chapter 2: Literature Review*, particularly in the sections "State of blockchain in HCI", "Blockchain as the technological means of supporting solidarity economy and community wealth building" and "Solidarity economy,

community wealth building and co-operative principles”, which critically examine blockchain discourse and situate DLTs within solidarity economy frameworks.

2. **To consider the place of CWB within broader frameworks of democratic, community-based economic development.** This is explored in *Chapter 2* under “Solidarity economy, community wealth building and co-operative principles” and further developed in *Chapter 6: Pick-a-Pebble*, especially in “Context” and “Key themes: co-operative design principles in practice”, where CWB is contextualised within community governance and participatory design.
3. **To review the crossover between HCI and feminist scholarship to assess its transformative impact on design strategies for collaborative funding.** This objective is addressed in *Chapter 2* through “Feminist HCI design qualities” and “HCI, feminist economics and difference” and in *Chapter 3: Methodology*, particularly in “Feminist HCI as methodological orientation”, which articulates how feminist epistemologies inform participatory design and collaborative funding.
4. **To perform a comparative analysis of existing models (Culture Stake, Circles UBI, Open Collective).** This is undertaken in *Chapter 4: Scoping Study*, with “Projects studied” detailing the platforms and “Findings: Design processes and power dynamics”, “The paradox of participation” and “Core values: Solidarity economy in action” presenting insights into governance, participation and sustainability.
5. **To develop and test co-design methods that operationalise insights from feminist and co-operative theory.** This objective is realised through the creation and deployment of solidarity mapping in *Chapter 5* and Pick-a-Pebble in *Chapter 6*. These methods are introduced and analysed in sections such as “Subverting traditional narratives”, “Reimagining rules and principles” and “Community time as a subversive framework”, demonstrating how design tools can be reconfigured to embed feminist and co-operative principles.
6. **To use these methods to identify ways in which co-design can directly support the development of fair, inclusive and co-operative economies.** This is evaluated in *Chapter 7: Discussion*, particularly in “On process: Addressing RQ2 & RQ4”, “Subversion as design practice”, “From consultation to redistribution” and “Designing for collective stewardship”, which reflect on co-design as a mechanism for redistributing power and building solidarity infrastructures.

These objectives guide the thesis from theoretical critique to novel methodological approach and from empirical analysis to practical exploration. They reflect a commitment to understanding the world as it is, while also striving to imagine and build the world as it could be.

1.5 Theoretical framework

This research is grounded in an interdisciplinary theoretical framework that bridges feminist HCI, feminist economics, radical participatory design (RPD) and solidarity economy theory. These traditions inform the study, and indeed animate it. They provide the conceptual scaffolding for a resist-and-build praxis: resisting extractive design norms while building new methods and infrastructures that centre care, inclusion and collective agency.

1.5.1 Feminist HCI: Pluralism, participation, advocacy

Feminist HCI offers a critical lens for reimagining design as a political and ethical practice. Bardzell's (2010) framework of feminist interaction qualities, pluralism, participation and advocacy, serves as a methodological compass throughout this thesis. These qualities challenge the technocratic assumptions of mainstream HCI and foreground the relational, situated and power-sensitive dimensions of design.

- Pluralism resists universalist design logics and embraces the diversity of human experience. It aligns with Gibson-Graham's call for economic plurality and Coraggio's emphasis on multiple economic principles. In this study, pluralism manifests in the design of tools that accommodate different learning styles, governance models and temporal rhythms.
- Participation is treated not as a checkbox but as a contested site of power. Ahmed's (2012) critique of "participation as privilege" and DiSalvo's (2022) work on democratic inquiry underscore the need to redistribute decision-making authority and embed community-led governance into design processes.
- Advocacy demands that design serve the interests of those most affected by economic injustice. It calls for methods structurally, materially and temporally accountable to the marginalised voices they include.

These principles are operationalised through the subversion of dominant participative methods, example mapping becomes solidarity mapping and the design sprint is reconfigured into Pick-a-Pebble. In each case, feminist HCI provides the ethical and epistemological grounding for methodological innovation.

1.5.2 Feminist economics: Diverse economies and temporal politics

Feminist economics complements feminist HCI by challenging the capitalocentric assumptions embedded in mainstream design and economic theory. It foregrounds care work, relationality and economic plurality, insisting that value is not confined to market exchange but emerges through mutual aid, reciprocity and collective stewardship.

- Gibson-Graham’s “diverse economies” framework is central to this thesis. It makes visible the economic practices that exist outside capitalist logics, time banks, co-operatives, community land trusts and treats them as legitimate sites of innovation and value creation.
- Pérez Orozco’s work on feminist economics introduces the concept of “sustainability of life” as a guiding principle, shifting the focus from productivity to care, from growth to wellbeing.
- The politics of time are also central. Feminist economics treats time not as a neutral resource but as a site of power. This thesis builds on that insight by introducing “community time” as a design principle, one that resists the accelerated tempos of Silicon Valley and reclaims slowness as a resource for inclusion, trust-building and deliberation.

Altogether, these insights inform the development of design methods that embed economic justice into their very structure. They challenge the assumption that design must serve market efficiency and instead propose that it can serve collective flourishing.

1.5.3 Participatory design: Radical practise and methodological subversion

Participatory design has long been associated with democratic innovation, but its radical roots in labour activism are often diluted in contemporary practice. This thesis reclaims PD as a

tool for economic justice, drawing on Udoewa's radical PD framework (2022) and DiSalvo's (2022) concept of design as democratic inquiry.

- PD is treated as a method, one fundamentally informed by a political stance. It demands that communities participate in design as well as co-own the process and its outcomes.
- Subversion becomes a key approach. Following Amos Vogel's (1974) distinction between subversion of form and subversion of content, this research reworks conventional design methods to explicitly include co-operative and feminist values. Solidarity mapping subverts the form and content of example mapping, while Pick-a-Pebble goes further, subverting the temporal logic of the design sprint.

This radical PD stance aligns with the Design Justice Network's principles (2018) and treats co-design as a mechanism for redistributing power, instead of just gathering input. It insists that design must be accountable to the communities it serves and that participation must be coupled with ownership.

1.5.4 Solidarity economy and community wealth building

The solidarity economy provides the normative horizon for this research. It offers a vision of economic life grounded in cooperation, democratic governance and collective wellbeing. Community wealth building operationalises these principles through strategies like co-operative ownership, local procurement and asset redistribution.

- Projects like Circles UBI and Open Collective embody these values, albeit imperfectly. Their trajectories reveal the tension between emancipatory aspirations and practical constraints.
- The solidarity economy framework challenges the extractive logics of platform capitalism and proposes infrastructural mutualism as an alternative. It treats digital platforms not as products but as commons, shared resources to be governed collectively.
- This thesis contributes to solidarity economy theory by developing design methods that reflect its principles. It shows how tools like Solidarity Mapping and Pick-a-

Pebble can support the creation of digital infrastructures that are accountable, inclusive and democratically governed.

1.5.5 Subversion and temporality: designing otherwise

Subversion and temporality are the connective tissue of this theoretical framework. They link feminist HCI, feminist economics, PD and solidarity economy theory into a coherent praxis.

- Audre Lorde’s caution that “the master’s tools will never dismantle the master’s house” serves as a guiding provocation. It demands that we adapt and, more importantly, reforge existing methods entirely.
- Subversion is treated as both a methodological and political strategy. It involves reworking the form and content of design tools to reflect co-operative and feminist values.
- Temporality is reimagined through “community time”, a concept that treats time as a collective resource to be stewarded, rather than a constraint to be optimised. It challenges the accelerationist ethos of mainstream design and proposes slowness as a condition for justice.

Taken together, these concepts provide a lens for thinking about designing otherwise. They insist that design must couple its critique of inequality with the active building of infrastructures for equity.

1.6 Methodological orientation

This research adopts a methodological stance that is emergent, reflexive and subversive. It treats design methods not as fixed tools but as ideological artifacts, capable of being dismantled, reconfigured and repurposed to serve ends through which to undo economic inequality. Grounded in feminist HCI, RPD and solidarity economy theory, the methodology reflects a resist-and-build praxis: resisting extractive design norms while building new methods and infrastructures that centre care, inclusion and collective agency.

1.6.1 Emergence and reflexivity

Rather than following a rigid, pre-defined protocol, this research embraces methodological emergence. Inspired by Gaver et al.'s (2022) framing of emergent design research, it treats unpredictability and messiness not as limitations but as vital data. Workshops that veered off-script, participant-led agenda shifts and moments of collective reinterpretation were not disruptions, they were the research.

This stance is deeply informed by feminist epistemology, which critiques the myth of “clean” knowledge production and foregrounds situated, partial and accountable ways of knowing (Haraway, 1988; Puig de la Bellacasa, 2017). It aligns with inventive methods (Lury and Wakeford, 2012) and treats the social complexity of participatory work as the material of inquiry. In this study, emergence was not a compromise, it was a commitment to honoring the lived realities of participants and the political stakes of design.

1.6.2 Participatory design reclaimed

As established in section 5.3, participatory design is central to this research, but not in its diluted, workshop-as-consultation form. This study reclaims PD's radical roots in labour activism and treats it as a mechanism for redistributing power. Drawing on Udoewa's (2022) radical PD framework and DiSalvo's (2022) concept of design as democratic inquiry, it positions PD as a form of public good, one that must resist corporate co-optation and actively transfer decision-making authority to communities.

In practice, this meant confronting PD's central paradox: participation without ownership reproduces inequality. Workshops with co-operatives revealed how even well-intentioned methods can tokenise when they retain traditional power structures. Participants spontaneously subverted conventional agile formats, transforming “user stories” into collective narratives of wealth redistribution. These acts of subversion were not incidental, they were the method.

This approach treats co-design and PD as sites of political education, collective governance and infrastructural experimentation. It insists that participation must be coupled with ownership, asserting that the power to set priorities and finalise design decisions rests solely with the community, not with external designers, funders, or institutions.

1.6.3 Subversion as method

Subversion in this research is a methodological strategy. Drawing on Amos Vogel's distinction between subversion of form and subversion of content (1974), this research reshapes conventional design methods to reflect feminist and co-operative values.

- Solidarity mapping subverts example mapping by replacing its product-centric prompts ("rule, story, example, question") with community-oriented ones ("story for community-driven objectives, guiding principle, equity-rooted examples, reflections"). It reconfigures both the structure and the language of the method to embed solidarity at every step.
- Pick-a-Pebble subverts the design sprint by dismantling its accelerated timeline and introducing community time as a collective resource. It replaces speed with care, centralised facilitation with rotating roles and wireframes with tangible pebbles that symbolise mutual aid and commitment.

These methods are not retrofits, they are new tools forged from feminist and co-operative principles. They demonstrate that the act of subversion creates the discursive and practical space for new forms of participation, governance and temporal alignment.

1.6.4 Temporality and community time

Time in this research is treated as a political dimension, not a neutral resource. Conventional design methods operate on accelerated timelines that exclude those experiencing time poverty, caregivers, volunteers and precarious workers. The design sprint's five-day format exemplifies this exclusion, privileging speed over deliberation and efficiency over inclusion.

This research introduces community time as a subversive framework. It reclaims slowness as a resource for trust-building, reflection and collective agency. It aligns with slow tech and feminist economics, treating time as a shared foundation for democratic participation. In workshops, community time was operationalised through rituals, flexible pacing and distributed facilitation, creating conditions where design could unfold at the rhythm of care rather than the tempo of capital.

1.6.5 Ethics and positionality

Ethical reflexivity is woven throughout the research. The study acknowledges the structural tensions between academic timelines and community rhythms and treats unpaid labour, neurodivergent access and facilitation as critical sites of inquiry. It does not offer sanitised success narratives but foregrounds the unresolved paradoxes of participatory work.

The researcher's positionality, as someone embedded in solidarity economy through my CASH CLT membership, informed every stage of the process. Familiarity with participants enabled trust, but also required constant negotiation of boundaries, expectations and power dynamics. Ethical commitments were not abstract, they were enacted through compensation practices, iterative consent and the co-creation of methods that reflected participant values.

1.7 Structure of the thesis

This thesis is structured to reflect a layered and iterative inquiry into the emancipatory potential of digital platforms, particularly those leveraging DLTs, for economic justice and community wealth building. Each chapter builds on the last, moving from theoretical grounding to empirical exploration, methodological innovation and critical synthesis. The structure mirrors the resist-and-build praxis that animates the research, resisting extractive design norms while building new tools and frameworks rooted in feminist and co-operative values.

- **Chapter 2: Literature review**

This chapter maps the interdisciplinary terrain of the study, reviewing key scholarship in feminist HCI, participatory design, feminist economics and solidarity economy theory. It traces the dual legacy of blockchain technologies, both as speculative instruments and as tools for mutual aid and identifies critical gaps in existing design methodologies. The review establishes the conceptual foundations for the thesis and frames design as a political and economic practice.

- **Chapter 3: Methodology**

Here, the thesis articulates its core methodological commitments. Drawing on Bardzell's feminist interaction qualities, Gibson-Graham's diverse economies paradigm, Ahmed's (2012) critique of participation and Udoewa's radical PD

framework, the chapter constructs a lens through which design methods can be critically examined and reimagined. It introduces the concept of “community time” and positions subversion as a methodological strategy for justice-oriented design.

- **Chapter 4: Stage 1, the exploratory engagement & scoping study**

This chapter presents a comparative analysis of three platforms, Culture Stake, Circles UBI and Open Collective. It examines how each initiative operationalises its goals, navigates governance and engages with community participation. The findings reveal tensions between emancipatory rhetoric and material constraints and underscore the importance of governance, temporality and infrastructural mutualism in sustaining grassroots economic platforms.

- **Chapter 5: Stage 2, the participatory co-creation (Methodological subversion I)**

Building on the critique of conventional design methods, this chapter introduces solidarity mapping, a subversion of example mapping that embeds co-operative and feminist principles into the design process. It details the development and deployment of the method, highlighting how changes in form and content can redistribute power, foster inclusion and align design with community wealth building goals.

- **Chapter 6: Stage 2, the participatory co-creation (Methodological subversion II)**

This chapter develops Pick-a-Pebble, a feminist alternative to the design sprint that reclaims time as a collective resource. It explores how rituals, pacing and facilitation can be reconfigured to support deliberation, trust-building and temporal equity. The method operationalises “community time” and demonstrates how design can resist the accelerationist ethos of mainstream tech culture.

- **Chapter 7: Discussion**

The discussion synthesises the empirical and methodological findings through the lens of the thesis’s theoretical framework. It weaves together the historical context, case-specific narratives and subversive methods to contribute to framework for feminist and justice-oriented HCI. The chapter argues that addressing extreme economic inequality requires a fundamental rethinking of every aspect of design: what, how, for whom and with whom we design.

- **Chapter 8: Conclusion**

The final chapter reflects on the contributions, limitations and future directions of the research. It revisits the research questions, summarises key insights and proposes pathways for further inquiry into feminist design, co-operative infrastructure and solidarity economy technologies. It closes with a call to treat design as a site of collective world-making, one where justice is not an outcome but a process.

The chapters that follow trace this inquiry across theory, case studies, method development and critical synthesis. The next chapter, the literature review, lays the foundation by mapping the interdisciplinary terrain of feminist HCI, participatory design, DLTs and solidarity economy frameworks. It identifies key gaps in existing scholarship and situates this thesis within a broader movement to reclaim design as a tool for economic justice.

CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

In this literature review, I trace an interdisciplinary path for my research. In Part 1, I engage with feminist HCI and participatory design, highlighting how principles of equity, pluralism and participation can actively shape both inquiry and action. Part 2 expands this lens to blockchain and distributed ledger technologies, as well as economic frameworks like the solidarity economy, community wealth building and feminist economics, showing that technology and economic practice only fulfil their transformative potential when designed through community-led, feminist-informed approaches.

Building on this foundation, Part 3 examines the notion of subversion in HCI methods. Here, I draw on feminist theory, design justice and critiques of neoliberal temporality to argue that dominant design practices, particularly those emphasising speed, efficiency and deliverables, must be actively challenged and reconfigured. Though this hybrid, interdisciplinary framing, subversion of form, content and time becomes a conceptual lens in addition to being a methodological strategy for aligning HCI with grassroots economic justice and community wealth building.

This chapter therefore extends the thesis from the previous chapter, where I introduced the broader research context and outlined the critical tensions between technology, justice and community agency. By reviewing these interdisciplinary bodies of work together, I set up the central research questions of this thesis: (1) how can interactive systems and infrastructures be co-designed to support fair and inclusive co-operative economies and (2) how can feminist, justice-oriented approaches to HCI be mobilised to subvert dominant design logics and open space for community-led alternatives?

In doing so, the literature review maps the theoretical and practical gaps in current scholarship and also establishes the conceptual ground for the methodological framework developed in the following chapter.

Part 1: Context and foundations

2.2 Feminist & justice-oriented HCI

My research emerges from a critical gap in HCI: while justice-oriented and feminist HCI scholarship advocate for equity, they often fail to address the material conditions of economic inequality perpetuated by mainstream design methods (Subasi *et al.*, 2020; Light, 2022). I argue that subverting conventional design methods, grounded in feminist theory and the explicit inclusion of co-operative principles and feminist economics, can redirect HCI's focus from efficiency to community wealth building (CWB). Therefore, this thesis adopts a feminist HCI lens as its primary analytic and methodological framework, emphasising social justice, equity and material outcomes in design. Grounded in Audre Lorde's (1979) assertion that oppressive systems cannot be dismantled using their own tools, this work aligns with calls for HCI to confront its neoliberal defaults (Dombrowski, Harmon and Fox, 2016; Harmon *et al.*, 2016; Khovanskaya *et al.*, 2018a; Fedosov *et al.*, 2019). This gap is further highlighted by Chordia *et al.* (2024), who provide a systematic literature review on social justice in HCI, identifying how researchers understand social justice-related harms and benefits, the approaches used to address these harms and the tools leveraged to pursue justice. Their analysis demonstrates that much of HCI's engagement with justice remains at the level of critique, underscoring the need for actionable strategies that address systemic inequities, a need this research seeks to address through feminist-informed subversion and community-led design practices.

In its relatively short history, HCI has developed pathways of engagement with multiple feminist schools of thought, progressively challenging dominant, technocratic approaches. In her seminal paper, Bardzell (2010) emphasises that feminist approaches can be integrated throughout all stages of design, attuned to feminism's central commitments: agency, fulfilment, identity, equity, empowerment, diversity and social justice. This attention to moral and intellectual complexity encourages designers to consider beyond immediate focus on usability, productivity, optimisation, scalability and efficiency but also needs to further encourage questions around how technologies shape socioeconomic relations and power dynamics. Breslin & Wadhwa (2014) and Bellini *et al.* (2018, 2022) extend this work by advocating feminist engagement and community-building within HCI, highlighting collaborative practices that strengthen accountability and inclusion. Kumar *et al.* (2019)

foreground feminist solidarity across borders, particularly in resource-constrained regions, demonstrating how feminist HCI can bridge local needs with global equity considerations.

Recent scholarship has furthered these foundations. Hansson et al. (2023) present a “Toolbox of feminist wonder,” offering methods and theoretical approaches to guide more inclusive and equitable HCI practice. Henriques et al. (2025) develop a “Feminist care ethics toolkit,” providing actionable tools for community-based design that foreground relational ethics and care. Additionally, de Oliveira Freires et al. (2024) critically assess the current state of feminist HCI guidelines, identifying gaps and suggesting directions for more effective integration of feminist principles into practice. Collectively, these contributions situate feminist HCI as a robust framework for inclusion, accountability, social justice and collaboration, bridging theory and practice.

Furthermore, empirical research over the last decade has explored implementation of these principles in diverse contexts, demonstrating both the potential and the limitations of feminist HCI in practice. D’Ignazio et al. (2016) studied feminist participatory design in breast pump development, showing how human-centred and feminist approaches enhance understanding of user ecologies and adoption. Fiesler et al. (2016) applied value-driven design to a fan fiction archive coded primarily by women, illustrating how design mediates tensions in values and influences value formation. Ahmadi et al. (2020) investigated gendered practices in a German video game company, providing methodological support for understanding women’s experiences in IT. Strengers et al. (2021) examined sexual consent in HCI, advancing frameworks for consensual practice and implementation scenarios. Croon (2022) and Key et al. (2022) explored care as a meta-design strategy, challenging dominant androcentric approaches and contributing to design research agendas aligned with feminist critiques of universality, objectivity, tacit knowledge and lived experience. These studies demonstrate the ways in which feminist HCI interrogates both theoretical assumptions and practical design processes. At the same time, they also highlight the persistent need for approaches that address socioeconomic inequities.

My research is fundamentally informed by the principles of feminist HCI as outlined here. These principles provide the essential framework for achieving the overarching aim of my research: to better understand how emerging digital infrastructures and interactive systems, such as collaborative funding platforms, may be co-designed with grassroots organisations to enable communities to manage resources for collective benefit in fair, inclusive, sustainable

and accountable ways. It is through this feminist HCI lens, specifically its commitment to pluralism, participation and advocacy, that the subsequent analysis and design research is shaped. These are not abstract concepts but active, guiding tenets that directly challenge the often exclusionary and top-down paradigms of conventional design of interactive systems and emerging infrastructures.

2.2.1 Feminist HCI design qualities (pluralism, participation, advocacy)

Building upon the theoretical and empirical foundations previously established, this section articulates the translation of feminist HCI principles into concrete design qualities and actionable practices. While the overarching framework is oriented towards social justice, inclusion and material equity, its practical implementation requires a structured set of characteristics to guide the interaction design process. Bardzell's (2010) seminal framework, comprising the qualities of pluralism, participation, advocacy, ecology, embodiment and self-disclosure, provides this essential structure, offering a critical bridge between feminist theory and design methodology.

In this research I specifically focus on the triad of pluralism, participation and advocacy. This selection is deliberate, as these qualities most directly engage with the ethical and political dimensions of design and they hold particular salience for the context of co-operative and community wealth building. They provide a robust analytical lens to examine how feminist HCI can challenge normative conventions, redistribute power within socio-technical systems and support genuine agency, especially within grassroots and resource-constrained environments. By further grounding these qualities in pragmatist feminist philosophy, which privileges lived experience and relational knowledge, this analysis extends feminist HCI beyond critique towards actionable, justice-oriented and community-led methodologies.

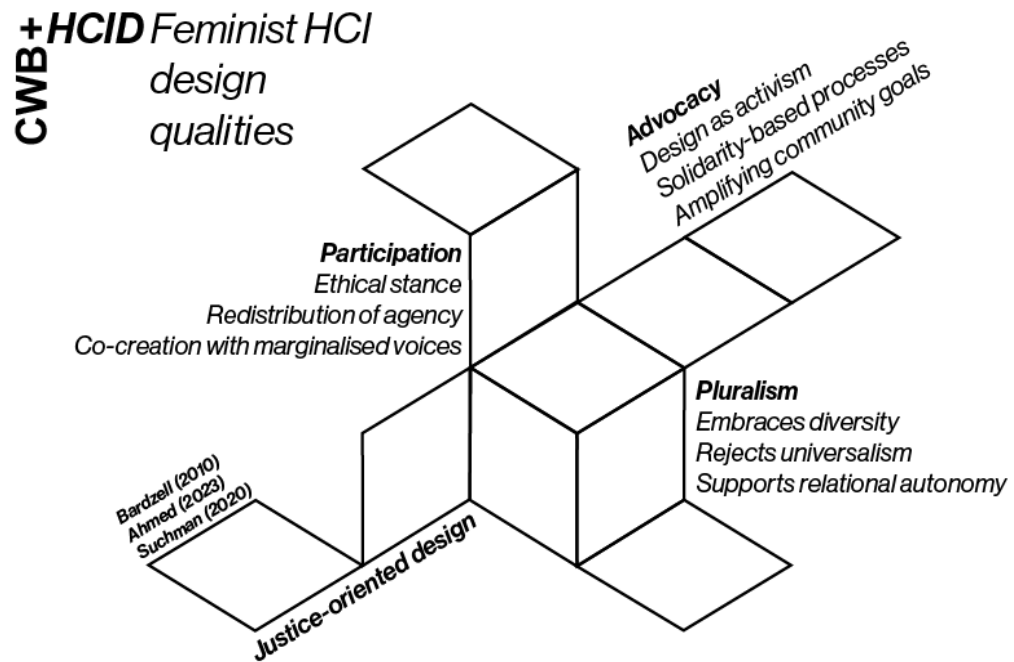


Figure 3: Unpacking Feminist HCI design qualities framework

Bardzell's (2010) work in "Feminist HCI: Taking stock and outlining an agenda for design" proposes a framework of "feminist interaction qualities," building upon Löwgren & Stolterman's (2007) concepts. This framework parallels the evolving nature of feminist thought itself, encompassing a progressive understanding of power, oppression and liberation as they relate to the production and perpetuation of inequality through technology. However, the adoption of this specific framework within HCI literature has been limited. As highlighted by Chivukula & Gray's (2020) citational analysis of 70 published texts, Bardzell's proposed qualities, while influential as a critical referent, are rarely implemented as a comprehensive guide in empirical research or design outcomes. Furthermore, their survey recommends improved conceptual precision for future work. My research aims to address this call by rigorously defining and applying three core qualities, thereby testing and extending their utility within a specific community-based context.

Pluralism is central to feminist HCI as a strategy for nurturing marginalised voices and actively challenging normative conventions. Bardzell (2010) argues that this quality "rejects the claims to universalism not on dogmatic terms, but because of the practical benefits of such an understanding," noting that "pluralist designs are likely to be more human-centred than universalising designs simply because 'human' is too rich, too diverse and too complex a category to bear a universal solution." It encourages a design sensibility that foregrounds

cultural difference, constructively engages with diversity and embraces the margins as vital resources for innovation.

This principle directly confronts the pervasive myth of the 'autonomous user' in mainstream design, a concept rooted in masculine and neoliberal ideals of individualism. Drawing on feminist philosophical critiques of autonomy (Mackenzie & Stoljar, 2000), Bardzell advocates for a model of relational autonomy, where agency is understood as co-constituted within social, economic and technological systems. This framing is crucial for my empirical investigation into temporal autonomy, examining how communities can reclaim agency over the rhythms and paces of design processes to subvert oppressive neoliberal temporalities, such as the relentless pace of design sprints.

Furthermore, the concept of pluralism extends beyond interaction design into the economic realms that this thesis explores. In relation to the socioeconomic aspect of this research, it finds resonance in Coraggio's (2015) "plurality of economic principles and a logic of solidarity", which argues for diverse economic models beyond capitalism. It aligns with Laville and Polanyi's (2013) analysis of the plurality of resources, which acknowledges the critical role of non-market and non-monetary resources (e.g., social trust, mutual aid, commoning) in sustaining communities. Thus, pluralism serves as the foundational bridge between feminist HCI and the feminist economics as it will be discussed later in this chapter.

Participation is fundamentally an issue of agency. In Bardzell's (2010) conception, it is more than a method; it is an epistemological and ethical stance that values processes leading to the co-creation and evaluation of design prototypes. Crucially, this stance "demonstrate[s] a respect for the expertise of different perspectives, including non-professional ones, regardless of backgrounds, status and technical know-how." However, the term "participation" itself is politically fraught and can be deployed towards vastly different ends, a tension highlighted by Vines et al. (2012), who note that participatory work has been performed "with very different intentions: to democratise the design process; to better inform the design of new systems; to engage the public in the construction of their own futures; or simply to appease funding commitments."

A feminist interrogation of participation must therefore ask: Participation to what end and on whose terms? (DiSalvo, 2012a; Ahmed and Irani, 2020; DiSalvo, 2022a; D'Ignazio and Klein, 2023) This moves the discussion beyond mere involvement to a deeper analysis of power and the redistribution of agency. Suchman (2020) locates the core of the issue, stating that "insofar

as we see the politics of technology to be based in fundamental assumptions about where agency is located and whose agencies matter, these approaches have at least the potential to work as powerful allies to feminist projects." From this perspective, genuine participation is not an instrument for better design outcomes but a political commitment to recognising and bolstering the agency of those traditionally marginalised by technological development. This quality is examined as an ideal and as a significant practical challenge within grassroots community design, particularly where power imbalances and resource constraints can co-opt participatory intentions into extractive or appeasing exercises.

Advocacy arises from an explicit acknowledgment of the ethical and political dilemmas inherent in design. Bardzell argues that design is never neutral and that political emancipation can and should serve as a core driver for feminist interaction design. This perspective particularly interests me because of my work with free software communities, where similar principles of agency and collective ownership are paramount. This quality moves design from a service-based model to a solidarity-based model, where the design process itself becomes a form of activism, advocating for the needs, rights and visions of marginalised communities. It is the natural extension of a pluralist and participatory process that takes seriously the agencies and voices it engages. When a design process truly recognises pluralism and redistributes agency through participation, the role of the designer necessarily shifts to that of an advocate, working to amplify and materialise the community's goals. As I outline later in the literature review, this shift connects directly to the work of J.K. Gibson-Graham (1995, 1996, 2003; 2006; 2006) on diverse economies and enacting post-capitalist possibilities through everyday practice. In this study, advocacy emerges as a significant component in the work of all analysed projects, representing a conscious effort to align technological design with broader justice-oriented outcomes.

Therefore, to fully articulate the methodology and ethos of this work, the above exploration delineates how these three core qualities are integrated. Pluralism ensures a multiplicity of voices and economic forms are heard and valued, directly challenging universalist market logics. Participation is framed as the mechanism to move beyond superficial consultation towards fostering genuine co-ownership of the design process and its outcomes. Finally, a stance of advocacy commits the research to actively dismantling power imbalances and championing the needs of marginalised community members within the socio-technical economic system.

In other words, this triad provides a direct answer to the central question of how feminist scholarship and practice within HCI can help inform the design strategies of emerging interactive systems aimed at addressing extreme economic inequality. They offer a concrete set of criteria to evaluate whether a technological intervention operates within an inequitable status quo or actively works to transform it. By connecting these qualities to pragmatist feminism's emphasis on lived experience and public engagement, this framework bridges theoretical critique with grassroots praxis, setting the stage for the empirical investigation that follows.

2.3 Participatory design

Participatory design (PD) is a well-established framework that involves users in the design process. Its Scandinavian origins are tied to labour activism, emphasising collective inquiry and aligning technology with social needs (Bødker, 2006; Björgvinsson, Ehn and Hillgren, 2010). I position my work within a critical tradition of PD that questions its own methods and power dynamics. This draws me first to the work of DiSalvo (2012, 2022), who productively reframes PD as a form of democratic inquiry. However, to address concerns about co-option and superficial participation, my analysis is further guided by Udoewa's (2022) radical extension of this logic, which calls for the active subversion of design methods to redistribute control decisively to communities. While these foundations provide a crucial critical lens, I position PD as a methodology, but also as the essential conceptual underpinning that helps locate the principles of feminist HCI, as discussed in previous section, within the empirical work of this research. I propose that by framing my work within the critical and radical traditions of PD, I can move beyond co-creation as a functional goal and instead use design as a deliberate democratic intervention into socio-technical systems, specifically targeting issues of social and economic justice. This PD framework provides the coherent structure to critically interrogate the entire research process: it allows me to analyse not only who participates, deepening investigation to how participation is structured, whose voices are amplified and how every design decision intersects with broader power structures. It directly enables the analysis of how participants in my workshops, for instance, transformed "user stories" into narratives of wealth redistribution (Chapter 5). By adopting this stance, PD becomes the lens for both the analysis of empirical findings and the critical methodological

reflection on the participatory methods themselves, ensuring the research embodies its stated political and ethical commitments.

2.3.1 PD's labour activism roots

Participatory design emerged in the 1970s from Scandinavian trade union movements as a direct response to increasing automation and the systematic marginalisation of labor voices in workplace decision-making. Pioneering projects like the UTOPIA project focused on empowering skilled workers, such as printers and nurses, to co-design technology that would enhance, rather than deskill, their profession (Ehn and Kyng, 1987; Greenbaum and Kyng, 2020). These early practices were built on a foundation of collective inquiry, mutual learning and the democratic alignment of technology with human, social and economic needs (Bødker, 2006; Björgvinsson et al., 2010). From its inception, PD was therefore never simply a set of methods; it was a political and ethical stance foregrounding values of workplace democracy, justice, equity and autonomy (Robertson and Simonsen, 2012).

This political project stands in contrast to how participation is often framed in mainstream Human-Computer Interaction (HCI) and design practice. Where HCI frequently seeks to optimise for usability, efficiency, or functional improvement, a "productivity-oriented" view (Suchman, 2002), critical PD explicitly engages with systemic power asymmetries and structural inequities. Its goal is "enabling deeper local impact, based on mundane, everyday and socio-material and political engagements" (Björgvinsson et al., 2010, p. 42). In this view, PD becomes a tool for democratic intervention in socio-technical systems, moving beyond co-creation alone (Simonsen & Robertson, 2012). This critical tradition has been powerfully advanced by contemporary scholars who connect PD's roots to broader struggles for social justice. For instance, Le Dantec (2012) demonstrates how PD operates within "issue-based" publics and complex urban infrastructures, where design is inherently political. Building on this, DiSalvo (2012, 2022) explicitly reframes PD as a form of "democratic inquiry" and "constituent technology" that cultivates civic agency among marginalised groups, helping them to contest and reimagine the publics they belong to.

The movement towards a more explicitly liberatory and radical PD pushes this further. Drawing on Freirean pedagogy (2018) and feminist standpoint theory (Haraway, 1988; Harding, 1992), scholars argue that neutrality is impossible and that PD must take a side. As mentioned, Udoewa (2022) contends that to avoid symbolic "checkbox" participation, PD

must actively subvert its own colonial and extractive methods and radically redistribute control to communities. This aligns with Costanza-Chock's (2020) principle of "nothing about us without us" and their work on design justice, which calls for centring the voices of the marginalised to challenge the matrix of domination embedded in design outcomes. Similarly, Wong-Villacres et al. (2021) and Smith et al. (2021) call for decolonising participatory practices by honouring pluriversal knowledges and dismantling the power hierarchies inherent in the designer-participant relationship. Ultimately, this trajectory shows PD evolving from a specific labour movement tactic into a broader framework for emancipatory struggle. It insists that participation is insufficient without the redistribution of power and that true collaboration requires a continuous, reflexive critique of the designer's positionality, the methods used and the political status quo the work seeks to change (Irani *et al.*, 2010; Vlachokyriakos *et al.*, 2022).

2.3.2 PD as the integrative framework for this research

To better understand and address RQ4: How can the co-design of technologies, platforms, or prototypes [may] support fair, inclusive co-operative economies? I approach PD both as a method for creating technology and as a meta-method for critically studying design practices themselves. In that context, PD is already widely recognised as more than a toolkit of methods; together with feminist HCI, it serves as a lens for interrogating how design activities are structured, enacted and experienced (Brandt, Binder and Sanders, 2012; Dalsgaard, 2017). In this sense, PD transforms the design process into a site of empirical inquiry. As scholars such as Björgvinsson et al. (2010) and Simonsen & Robertson (2013) note, PD offers a framework for methodological reflection, revealing how participatory processes expose, reinforce, or reconfigure power dynamics, shape collaboration and ultimately influence design outcomes. In this research, PD plays a dual role: it is both the medium that structures empirical design research and the analytical framework through which this research is critically examined. It supports continuous reflexivity, requiring researchers to consider how their methods mediate power, shape collective narratives and redistribute, or fail to redistribute, authority in practice (Wong-Villacres *et al.*, 2018; Udoewa, 2022).

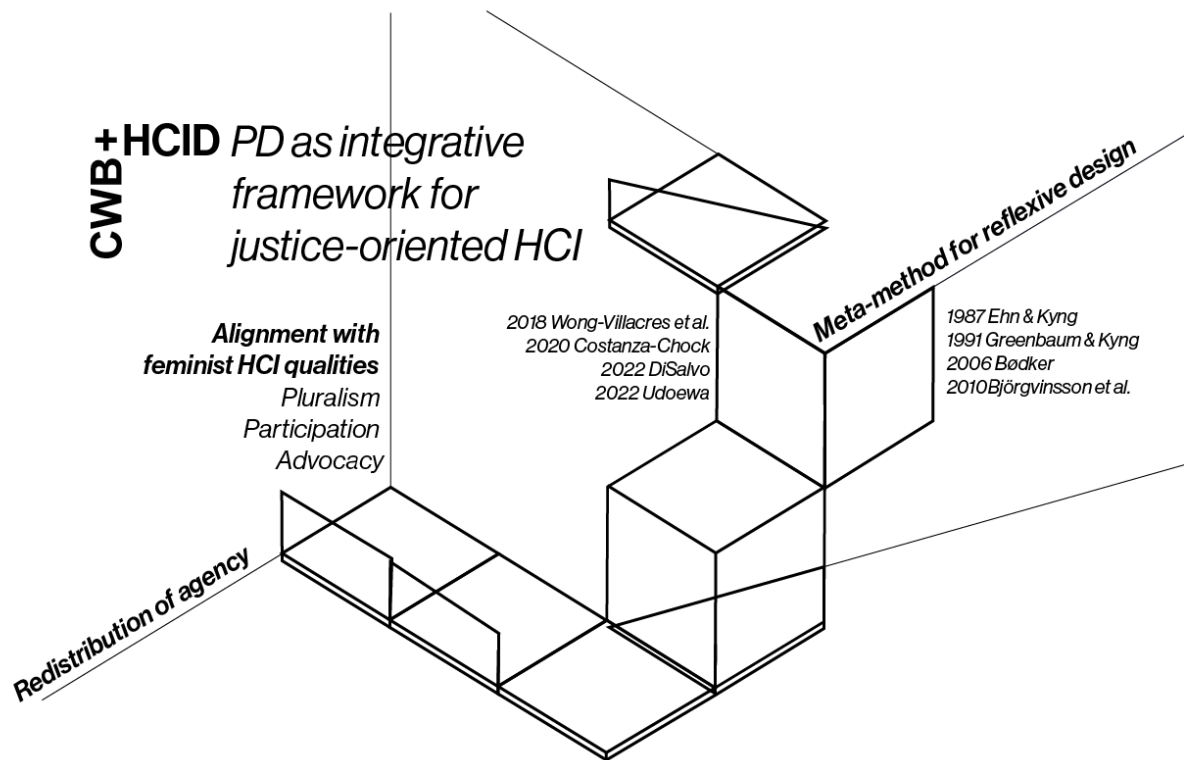


Figure 4: Unpacking PD as the integrative framework for this research

Framing this study within the tradition of PD allows for the integration of theoretical principles (e.g., democratic inquiry, commitment to justice), axiological commitments (e.g., feminist and values-led HCI) and methodological practices into a coherent framework. PD provides the lens through which I interpret empirical findings, guiding analysis of how participatory processes unfold, how power dynamics are negotiated among people and how design can serve as a vehicle for social and economic justice rather than as a tool for solutionism. Finally, this framework positions my research not as objective reporting but as a critical engagement with the socio-material realities of co-design. It requires a reflexive stance, acknowledging my role as a designer-researcher in co-constructing outcomes (Haraway, 1988; Agid *et al.*, 2021). While specific methods are detailed in Chapter 3, it is the PD lens that shapes the questions I ask, the relationships I build with participants and the conclusions I draw about the possibilities and limits of participatory practice in advancing justice-oriented goals.

Having situated my research within the traditions of Feminist HCI and PD, I have established the theoretical and analytical lenses through which I approach questions of justice, collaboration and power in design practice. These frameworks ground my methodological stance and inform how I interpret both the processes and outcomes of co-design. I now turn to

the specific technological domain that motivates this inquiry: blockchain and distributed ledger technologies (DLTs). While these technologies are often celebrated for their potential to decentralise authority and enable new forms of collective organisation, they are also deeply contested, carrying with them problematic assumptions, exclusions and power dynamics. In the following section, I review the literature on blockchain and DLTs, situating them as both the object of design intervention and as a socio-technical site where the broader tensions of participation, equity and co-operative futures are negotiated.

Part 2: Sites of intervention and possibility

2.4 State of blockchain in HCI: overview and trends

Blockchain and distributed ledger technologies (DLTs) are digital infrastructures that record transactions across decentralised networks, enabling secure, transparent and tamper-resistant exchanges without central intermediaries (Nakamoto, 2008). Their arrival has sparked debate in HCI and related fields over governance, embedded values and the conditions under which they might enable new forms of collective organisation (Reijers, O’Brolcháin and Haynes, 2016). My focus is on how these debates intersect with the establishment of *micro and hyper-local economies* (RQ1, Chapter 1) and the co-design of infrastructures that can sustain *fair and inclusive co-operative practices* (RQ4, Chapter 1) in order to address extreme economic inequality.

Murray-Rust et al. (2023) extend HCI research on blockchain by examining it through research-through-design methods, using prototypes and public engagement to explore how people imagine and negotiate blockchain futures. Their portfolio of projects, spanning contexts such as supply chains and energy systems, demonstrates that blockchain should not be understood solely in technical terms, but also as a site of public imagination where civic values and aspirations are expressed. This perspective is directly relevant to my study, as it highlights how participatory and speculative design practices can open up space for more inclusive and value-driven orientations to blockchain infrastructures, challenging dominant narratives of efficiency and optimisation.

Fröhlich et al. (2022) offer the most comprehensive HCI-focused review of blockchain to date. They concluded that although interest in this field is growing, there remains a significant lack of research directly addressing the human–computer interaction challenges associated

with blockchain and cryptocurrency systems. They identified several critical areas for further inquiry, including user-centred design, usability and accessibility, as well as the social and ethical implications of these technologies. The authors also called for greater interdisciplinary collaboration between HCI researchers and blockchain experts to tackle these complex challenges. While they acknowledge blockchain's transformative potential, their central concern is ensuring that these technologies are designed and implemented with users' needs and experiences at the forefront. This concern directly connects to RQ4: how to co-design platforms so that they are accessible and accountable to diverse communities rather than only to technical elites.

Elsden et al. (2018) take this further, calling for engagement with the *social and cultural dimensions* of blockchain, positioning HCI researchers to mediate between technical inherent characteristics and lived values. This cultural lens is crucial for RQ1, because hyper-local economies rely not on abstract decentralisation but on the fit between infrastructures and local practices of exchange, reciprocity and governance. Similarly, Hassan et al. (2020) provide a broad overview of the state of distributed ledger technology (DLT) in Europe, focusing on use cases such as digital identity, supply chain management and social impact bonds. Importantly, they underscore governance, interoperability and regulation as key stumbling blocks. Their attention to co-operative frameworks, particularly Swartz's (2018) work on mutualism, points to blockchain's potential role as infrastructure for solidarity-based economies. This aligns with RQ1's concern with the viability of distributed infrastructures for local wealth building and with RQ4's emphasis on democratic co-design.

In this way, infrastructural mutualism (Swartz, 2018; Hassan *et al.*, 2020) emerges as a bridging concept: it moves blockchain debates away from efficiency and speculation toward collaboration, long-term maintenance and shared responsibility (Karasti, 2014; Vlachokyriakos *et al.*, 2017). This shift has profound implications for HCI: rather than treating blockchain as a technical layer, it asks whether peer-to-peer infrastructures can be *sustained as community assets*, a key concern for hyper-local economic design.

2.4.1 Blockchain as the technological means of supporting solidarity economy and community wealth building

While blockchain has attracted a lot of attention across numerous fields, including HCI, the strand most relevant to my inquiry is its application to collaborative funding, SE and CWB.

The following body of work directly addresses blockchain's imagined role in creating new economic spaces and highlights the risks and possibilities of co-designing such systems. A deeper analysis reveals that the central conflict is better understood as a fundamental ideological struggle over the technology's properties, characteristics and its capacity to be instituted with co-operative rather than capitalist logics, rather than a simple implementation failure.

On one hand, scholars like De Filippi and Hassan (2015) and Kostakis and Bauwens (2014b) present a potent techno-utopian narrative. They frame blockchain not just as a tool, but as a foundational infrastructure for a new political economy, a "protocol stack" for post-capitalism. Their vision aligns with hyper-local needs by proposing distributed systems as a workaround for areas plagued by a lack of institutional trust or predatory financial intermediaries. The promise here is of infrastructural sovereignty: communities could technically own and manage the very platforms through which they exchange value, govern resources and build wealth. In principle, these visions align with hyper-local needs: communities that lack institutional trust or financial intermediaries could benefit from distributed infrastructures to manage resources collectively.

Despite this, critical voices complicate this narrative. Scott (2016) points out that blockchain-based remittances and micro-insurance can indeed support co-operation at scale, but only if communities shape these systems themselves. Otherwise, such technologies risk being imposed from above, entrenching existing hierarchies and marginalising grassroots priorities. This directly implicates design process questions: without participatory and co-design practices, blockchain systems fail to serve as vehicles for inclusive co-operative economies.

The corrective offered by Manski & Bauwens (2020) and extended by Cila et al. (2020) and Rozas et al. (2021) is therefore the most critical contribution. They move beyond asking if blockchain can be used for SE/CWB and instead investigate how its specific features can be consciously architected to embody solidarity. They explore how blockchain-enabled accounting innovations can embody co-operative values, proposing economies of scope that are open, shareable and transparent by design. Their approach resonates with FLOSS traditions of commoning and it demonstrates how technical infrastructures can be coded with co-operative logics. While they stop short of addressing local economies directly, their work indicates how these technical features might be repurposed to support community wealth building if developed with participatory governance structures. This represents a direct

contribution to RQ4, offering a blueprint for embedding solidarity principles into digital infrastructures.

Thus, these studies reveal a dual pattern: on the one hand, blockchain is hailed as a tool for transparent, democratic and co-operative exchange; on the other, in practice, projects often fail because they neglect participatory design, reinforce speculative logics, or reproduce exclusions. This ambivalence underscores why engaging with RQ1 and RQ4 together is necessary: blockchain's relevance to local economies cannot be separated from the processes by which these systems are designed, governed and maintained.

2.4.2 Gaps in current research: grassroots economies and critiques of techno-solutionism

Despite sustained interest, significant gaps remain in HCI research on blockchain, particularly regarding grassroots economies and the risks of techno-solutionism. While top-down blockchain implementations promise efficiency and transparency, there is a persistent danger that such approaches may reproduce existing power imbalances or marginalise local communities. Scott (2016) and other researchers caution that without careful participatory design, blockchain solutions risk imposing technological frameworks that inadequately reflect the priorities and lived experiences of affected communities.

Grassroots and community-led economies offer a counterpoint to these top-down approaches, emphasising local agency, co-operative values and mutual aid. However, these models remain underexplored in HCI research, particularly in terms of how blockchain could be harnessed to support sustainable, community-oriented economic practices. Techno-solutionism critiques (Morozov, 2013) further warn against uncritical enthusiasm for blockchain as a universal fix, highlighting the need to balance technological innovation with social, cultural and ethical considerations. This gap underscores the necessity for research that explores technical capabilities as well as critically interrogates who benefits, who participates and how systems of governance and accountability are structured.

Critical perspectives also reveal systemic contradictions. While blockchain was promoted as a tool for financial inclusion (Nakamoto, 2008), in practice it has often fuelled wealth concentration, speculation and environmental harm (Bria and Morozov, 2022; Cabaña and Linares, 2022). In this sense, my thesis positions blockchain not as a given solution but as a contested, situated technology whose value depends on how it is designed, governed and

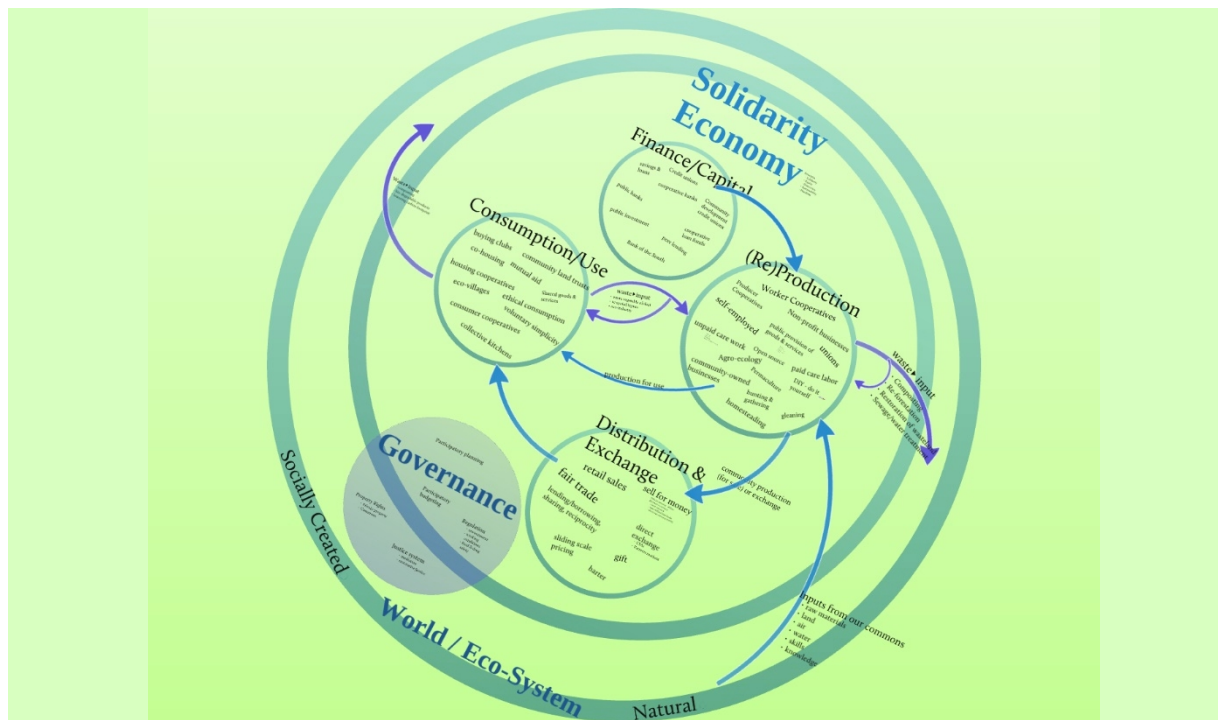
embedded in local economies. By engaging both with the role of DLTs in hyper-local economies and the co-design of inclusive infrastructures, I focus on design strategies, opening space for community-led alternatives that may or may not include blockchain at all.

2.5 From blockchain to community economies

Having explored the potentials and limitations of the blockchain and the way HCI engages with it, it becomes clear that technological innovation alone cannot fully address deep-seated economic inequalities. This leads naturally to the study of community-centred approaches such as the *solidarity economy* and *community wealth building*. By examining historical and contemporary examples, from the Rochdale Pioneers to modern initiatives in Preston, this section situates SE as a framework through which HCI can support more equitable, democratic and locally resilient economic practices.

2.5.1 Solidarity economy, community wealth building and co-operative principles

Solidarity economy (SE), also known as the social solidarity economy (SSE), is an overarching and emerging theoretical framework originating from South American local, self-organised economic activities. These activities emerged as a reaction to the systemic exclusion of citizens from participation in the neoliberal economy, often enforced by military regimes or international financial and economic institutions such as the World Bank or the World Trade Organisation. Literature suggests SE represents a form of grassroots economic system and self-management that has evolved through multiple stages of development. Laville (2010) identifies two broad historical phases: the 19th-century development encompassing associative democracy, the welfare state and social economy centred on co-operatives; and the 20th-century divergent development focused partially on economic and political empowerment through the articulation of social and workers' rights, social cohesion and a holistic vision of society.



However, research suggests that successful alternatives to neoliberalism are expanding in both scope and scale (Gherardi and Masiero, 1990; Primavera, 2010; Nembhard, 2014; Kawano, 2018; Schneider, 2018; Gibson-Graham and Dombroski, 2020; Guérin, Hillenkamp and Verschuur, 2021). Economic activities based on values antithetical to neoliberalism trace back to the 18th century in African American communities (Nembhard, 2014) and the 19th century with the Rochdale Pioneers in the UK, forming co-operative associations and enterprises in response to exclusion and exploitation, ranging from slavery (Nembhard, 2014) to unfair treatment of workers (Fairbairn, 1994). Early U.S. examples emphasised solidarity, concern for community and principles such as “helping thy neighbour” and “lifting as you climb” (Nembhard, 2014). UK examples highlight early co-operative principles (Gibson-Graham, 2003; Altman, 2009), which sharply contrasted with the dominant profit-driven, self-interest-based economic model. Principles such as democratic member control, community concern, limits on member compensation and appropriate use of surpluses underscore values opposed to the homo economicus paradigm (Polanyi, 2002).

In recent decades, these practices have grown into a broader field of economic activity and theorising, articulated as SE, particularly through the work of RIPESS, a global network promoting SSE. Despite contemporary economic theory often overlooking the co-operative movement, especially worker and consumer co-operatives (Altman, 2009), examples such as Legacoop in Italy (founded 1886), Kerala’s first co-operative bank in India (1914) and the Mondragon Cooperative Association in Spain (1950s) demonstrate resilience and success. The International Cooperative Alliance (ICA), representing co-operative economies since 1895, reports that over 12% of the global population participates in one of the 3 million co-operatives worldwide, with the largest 300 co-operatives and mutuals reporting combined turnover exceeding USD 2 billion (World Co-operative Monitor | ICA Monitor, 2022).

The literature indicates that SE is a growing and robust form of economic organising. It provides a compelling argument for leveraging historical experiments and best practices to inform the design and evaluation of platforms for collaborative funding that benefit local economies. The principles and values underpinning SE are particularly significant for this study, as they provide direct pathways for designing interaction processes and outcomes that facilitate grassroots economic well-being. This foundation naturally connects to community wealth building (CWB), which implements similar principles of solidarity and local economic empowerment at the municipal and regional level.

CWB and SE are closely aligned concepts that share the goal of creating equitable and sustainable economic systems. While SE emphasises the broad theoretical and historical dimensions of co-operative and solidarity-based economic practices, CWB focuses specifically on developing wealth and assets within local communities. It prioritises retaining wealth within the community rather than relying on external investment, emphasising local ownership and control of assets such as land, housing and businesses. CWB promotes worker-owned co-operatives, community land trusts and other forms of democratic ownership, providing essential context for this research. Its roots lie in 1960s American countercultural movements that challenged white supremacy, racism, imperialism, expansionism and military adventurism (Hanna and Kelly, 2021).

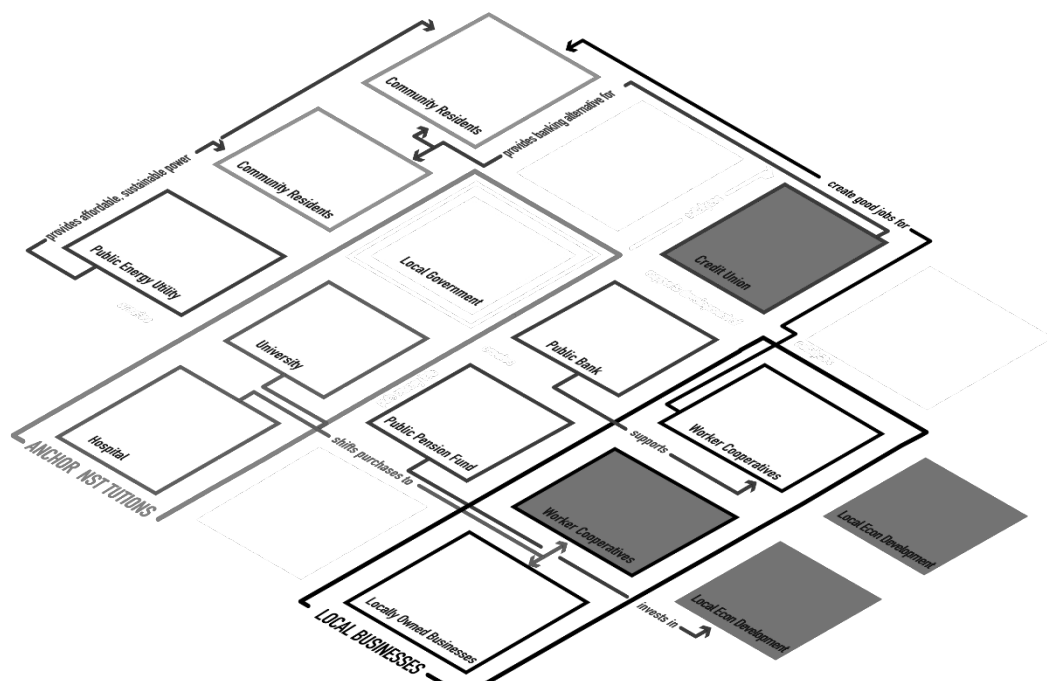


Figure 6: Preston model, image modified form The next system project

CWB was first articulated by the Democracy Collaborative, a U.S. think-tank, in 2005 as a strategy to democratise the economy in Cleveland, Ohio. This involved engaging local wealth holders, including universities, hospitals and local government, known as 'anchor institutions,' to reform procurement practices for local economic benefit and reduce inequality. It also drew on historically and socially tested initiatives such as solidarity economy, co-operative movements and new municipalism (Eder, 2021), building local economic capacity and shared ownership. In this way, CWB represents a practical extension of SE principles, applying them in targeted local contexts to achieve measurable social and economic outcomes.

The City of Preston in the UK is often cited as a model for successful CWB practices. In contrast, literature also highlights challenges in implementing CWB strategies there. Manley (2021) examines the Preston Model, which combines anchor institution procurement and co-operative development to retain local wealth. Dubb (2016) overviews community-based business ownership forms, such as co-operatives and development corporations, as tools for creating community wealth. Bailey (2006) offers guidance on establishing mixed-income communities, a critical component for sustainable development. Hancock (2001) emphasises the necessity of building community capital, including social, ecological, human and economic capital, to foster healthy and prosperous communities.

While these studies identify successes and challenges in implementing CWB, such as navigating planning processes, ensuring financial sustainability and creating broad-based ownership, there has been limited focus on the role of transparent, distributed digital infrastructures for collaborative funding. This research addresses that gap by exploring how digital technologies, particularly distributed ledger technologies (DLTs), can support CWB implementation and sustainability in Preston and beyond.

Both CWB and SE emphasise building local economic resilience, promoting democratic ownership and control and fostering community solidarity. They recognise the limitations of traditional economic models and aim to create alternatives prioritising social and environmental justice. By linking the historical and theoretical foundations of SE with the practical, community-centred strategies of CWB, this study positions co-operative principles as central to designing digital infrastructures that facilitate equitable and sustainable local economies.

Building on this context, I find feminist economics and diverse economies offer critical theoretical tools to analyse and challenge existing economic hierarchies, providing a lens through which community-led design and solidarity-based practices can be understood and implemented.

2.5.2 HCI, feminist economics and difference

HCI has largely overlooked economic models that challenge capitalist hegemony, despite their relevance for addressing inequality and fostering more equitable practices (Vlachokyriakos et al., 2017; Fedosov et al., 2019). My research is anchored in the belief that HCI can play a role in this work by supporting alternative economic frameworks that foreground community, co-

operation and social justice. Community wealth building exemplifies such a framework: it shifts economic power and resources to local, community-based organisations and individuals, emphasising collective ownership, democratic governance and equitable wealth distribution to create more resilient and sustainable economies that provide opportunities for marginalised groups (Dubb, 2016; CLES, 2019; J. Y. Manley, 2021). Researchers argue that HCI can support these practices under the umbrella of the solidarity economy (Vlachokyriakos *et al.*, 2017, 2018; Bassetti, Botto and Teli, 2018) and that concrete design strategies can actively address economic inequality as Part of a broader commitment to social justice (Fox *et al.*, 2016; Chordia *et al.*, 2024).

Feminist economic research, especially the work of Gibson-Graham (1995), provides the theoretical foundation for this approach. Their diverse economies framework critiques the dominance of capitalist hegemony and makes visible a range of economic forms, including co-operative economies such as credit unions and land trusts, which redistribute wealth through democratic ownership (Dubb, 2016). Expanding on this, feminist subversion of the economy (Pérez Orozco, 2022) offers additional evidence that pluralistic, non-capitalist frameworks are effective for addressing inequality and reimagining community wealth.

The historical context of neoliberal globalisation further underscores the need for these alternative economic imaginaries. Major events such as the fall of the Berlin Wall (1989), the signing of NAFTA (1994) and the launch of the World Trade Organisation (1995) marked a peak in global neoliberal expansion. In response, Gibson-Graham (1996; 2006) argued that the capitalist economy is not the only possible form of economic organisation, advocating for the recognition and celebration of multiple economies within society, including those guided by solidarity, co-operation and sustainability. Their work emphasises the diversity of economic activities and relationships within communities rather than focusing solely on market-based exchange.

Building on this foundation, Cameron and Gibson-Graham (2003) examine how feminist economic theory can contribute to envisioning and enacting alternative economies. They critique dualist models embedded in conventional feminist approaches, where binary framings such as “adding on” and “counting in” create rigid oppositions between market and non-market, masculine and feminine. Remaining confined to these binaries limits the imagination of wealth creation and distribution. Feminist deconstruction introduces new spheres of market

production and exchange alongside resistance to value accounting and measurement, opening the economy to difference.

Difference, a central concept in feminist literature, is used to critique dominant norms, highlight marginalised perspectives and resist entrenched power structures. Cameron and Gibson-Graham (2003) suggest that transformative feminist economic politics may transcend traditionally binary-coded qualities, advocating for the proliferation of diverse economic forms that foster co-operation, collaboration, mutual aid and solidarity across all sectors of goods and services provision. By viewing the economy as a discursive construct capable of reconstruction, feminist critique provides a pathway for envisioning and enacting economies that recognise and build upon the interdependence of all who produce, appropriate, distribute and consume in society. When combined with a feminist HCI lens and the qualities discussed earlier, these insights provide both a theoretical and practical framework for thinking about and designing interactive systems and infrastructures that support community-driven economic practices with the aim of economic equality and justice.

2.5.3 Economy of possibility: Ethical metrics, critique of capitalist hegemony

Building on this feminist economic foundation, Gibson-Graham's work since the mid-1990s has made significant theoretical contributions to understanding and expanding the "language of economy." They argue that capitalist dominance, as a hegemonic "capitalocentric" discourse, has consistently constrained attempts to imagine and enact alternative economies. Furthermore, Cameron and Gibson-Graham (2022) build on this work, drawing on Marxist ant-essentialist and feminist post-structuralist thinking to argue that these alternative economies cannot be envisioned or enacted without determining how ethical economic practices connect and cohere. This constitutes a central task for what they term the political economy of possibility. Cameron and Gibson-Graham (2022) present the political economy of possibility as a distinctive stance within the diverse economy approach, focusing on the potential for economic transformation by firstly acknowledging that ethical economic practices already exist in abundance; secondly, recognising that if more ethical economies are to be realised, they must be imagined, enacted and made durable; and lastly, emphasising, perhaps most relevant for this research, that tools are needed to track inputs and outputs of money, labour, care, conviviality and experimentation. Such tools make these inputs and

outputs more visible and help build the infrastructure that might support the shift toward more just futures.

If one of the conditions for bringing these ethical economies into existence is the availability of metrics that clearly demonstrate their benefit, as Cameron and Gibson-Graham argue, then emerging distributed ledger and peer-to-peer (P2P) network technologies have the potential to play a significant role in the task of the political economy of possibility. For example, through secure and transparent record-keeping and the transfer of multiple and diverse forms of value, blockchain technology designed and developed to embody the diverse economies approach can provide publicly accessible evidence demonstrating that more equitable and inclusive economic systems empower communities and promote economic justice. Moreover, following the same logic, if the metrics employed within such a record-keeping system reflect ethical concerns aligned with the political economy of possibility, then it is likely both to acknowledge existing ethical economic practices and to enable the emergence of new metrics. This, in turn, supports the envisioning and enactment of new opportunities for economic and political participation, as well as the creation of new forms of value and wealth.

Theorising economic diversity outside of a capitalocentric framing (Cameron and Gibson-Graham, 2022) raises another valuable point of entry, potentially illuminating gaps in the way CWB is currently practised. This perspective can inform how we conceive, design, govern, maintain and evaluate collaborative funding platforms. They caution that without a supportive infrastructure of laws, regulations and education, experiments in alternative economies are vulnerable. The CWB literature review confirms this is a concern expressed by participants (Prinos, 2021). Although there is arguably a desire to fully establish the Preston model as a bottom-up and rhizomatic process (Manley, 2021), the literature suggests that it is often perceived as a top-down, leadership-driven project and economic transformation strategy (Prinos, 2021). Consequently, the vulnerability of current CWB experiments, such as the one in Preston, lies precisely in the lack of supportive infrastructure. These experiments would benefit from and be made more durable by extending to emerging digital infrastructure to include explicit community control over a record-keeping system that demonstrates the benefits of an alternative economic model prioritising social and economic justice, co-operation and community self-determination.

Having established the why and the what, I now turn to the how. In Part 3, I will investigate how design methods can be deliberately adapted, challenged and subverted to support

community wealth building and co-operative movement. I will draw on HCI and related literatures that explore subversion, particularly of form, content and time, as a strategy to unsettle conventions, redistribute power and open new possibilities for participatory, justice-oriented design.

Part 3: Subversion of HCI methods for CWB

2.6 Subversion in HCI: Theory and practice

This section develops a theoretical and methodological frame for understanding subversion in HCI, drawing on two foundational thinkers whose work remains urgently relevant to design practice. Audre Lorde (1979) offers a political imperative: the warning that “the master’s tools will never dismantle the master’s house.” Her critique highlights the impossibility of achieving emancipatory change by relying on the very logics, methods and temporalities that sustain oppression. In parallel, Amos Vogel (1974), in his theorisation of subversive cinema, provides a dialectical model for how resistance operates through both form and content. Together, Lorde and Vogel suggest that genuine subversion in design requires a twofold refusal: the rejection of inherited forms that reproduce dominant logics and the creation of alternative content that foregrounds justice, solidarity and collective agency.

I extend this synthesis by adding a third dimension, *time*. Subversion, I argue, cannot be realised within the accelerated temporalities of neoliberal HCI, where speed, iteration and efficiency are treated as self-evident virtues. What is required is the carving out of *community time*, a temporal orientation that resists acceleration and instead foregrounds collective rhythms, relational care and deliberation. Community time becomes the enabling condition for subversive practice: without it, refusals of form and content risk being reabsorbed into the neoliberal logics. This triadic framework (form, content, time) provides a critical vantage point from which to interrogate HCI methods and to establish principles for subversive design in service of community wealth building (CWB) as I later present in Chapters 5 and 6.

The following review traces how subversion has been understood within HCI, identifies the gaps in this literature and positions my work within ongoing debates about feminist HCI, participatory design and justice-oriented interaction design. I argue that subversion in design is not only a critique of dominant methods, it is also a generative stance, one that actively reconfigures the temporal, formal and political structures of design practice.

2.6.1 Defining subversion: Lorde's "master's tools" and HCI critiques

Subversion, in its broadest sense, denotes acts of undermining, destabilising, or overturning established systems and norms. In HCI, the concept has been mobilised as a methodological stance that foregrounds the political nature of design, positioning design not as a neutral problem-solving activity but as a site where power is contested and reproduced.

Existing HCI scholarship engages subversion across several fronts. First, subversion operates as a design strategy that troubles conventional practices complicit in environmental degradation (Light, 2022). Second, it has been adopted as a civic and participatory tactic, challenging consumerist and corporate logics by empowering communities to co-create technologies that address their own concerns (DiSalvo, 2012). Third, subversion functions as a critical creative act, embedding feminist and social justice frameworks within mainstream HCI discourse, thereby disrupting normative assumptions of usability, efficiency and neutrality (Bardzell & Bardzell, 2011).

This literature highlights subversion's potential to expand design beyond technical problem-solving, still much of it remains focused on either symbolic gestures or incremental modifications to existing methods. My work builds on these contributions but insists on a deeper reorientation: a Lordean refusal to operate within neoliberal HCI's accelerated and extractive frameworks, paired with a Vogelian attention to creating genuinely alternative forms and contents.

I initially conceptualised subversion as operating on two interconnected levels: *form* (the process of design) and *content* (the goals and values it pursues). This framing emerged directly from the scoping study conversations and the critical perspectives mapped in Parts 1 and 2 of this literature review. Drawing on Vogel's (1974) account of subversive cinema, I experimented with altering both the *form* of methods, for instance, decentralising facilitation in example mapping so that community land trust (CLT) members rather than designers led the sessions and the *content*, by substituting efficiency metrics with mutual aid measures (see Chapter 5). At this stage of the research, subversion was understood primarily as the reworking of existing design tools and objectives.

However, this early theorisation proved insufficient. It became increasingly clear, through both the scoping study and my fieldwork, that form and content alone could not account for the structural challenges posed by neoliberal design cultures. This recognition led to the further development of *time* as a third and essential dimension of subversion, elaborated in

Chapter 6 through a critique of the design sprint. By situating subversion across form, content and time, the research moves from initial methodological adaptations toward a more comprehensive critique of the temporal, political and economic conditions of HCI.

2.6.2 Subversion of form, content and time

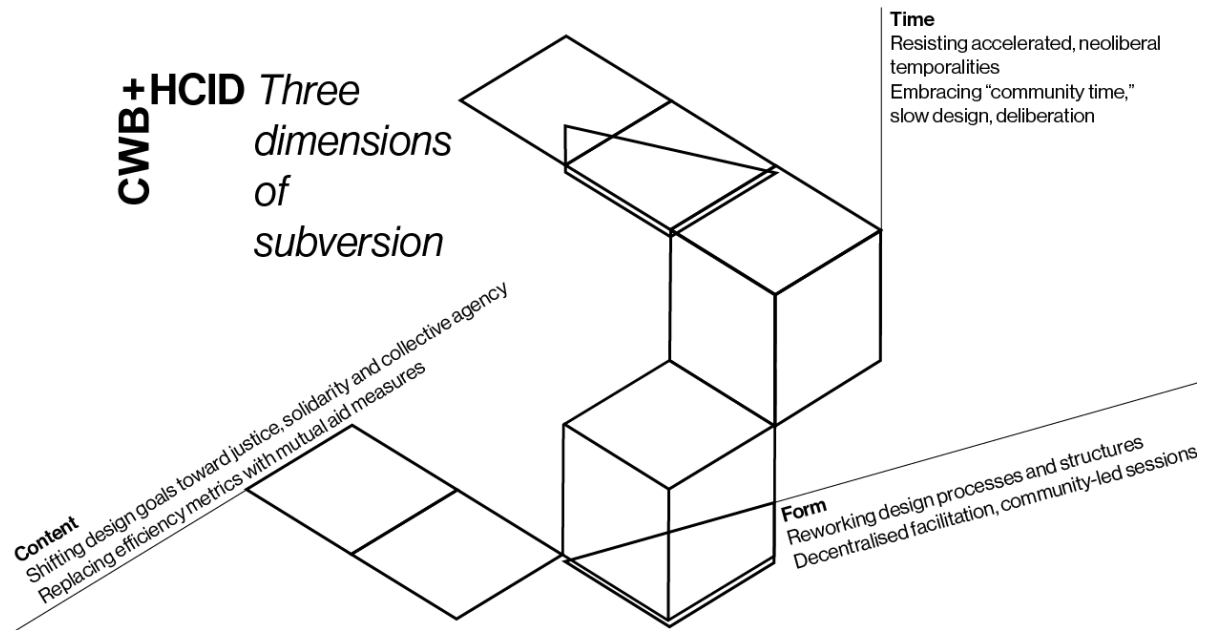


Figure 7: The three dimensions of subversion as explored in this thesis

Subversion, when treated seriously, demands more than oppositional critique. It is not simply a matter of “resisting from within” but of reworking the very conditions under which design operates. Genuine subversion, I argue, is generative as well as disruptive: it troubles existing arrangements while proposing new infrastructures, relational practices and temporalities that realign design with justice-oriented values.

2.6.3 Subverting form and content

Much of the early work on subversive design has centred on exposing the hidden politics of HCI methods and artifacts. Light (2022), for example, articulates “ecologies of subversion” in interaction design, showing how technologies can be mobilised to surface unsustainable practices and re-politicise seemingly mundane decisions about interaction. Similarly,

Khovanskaya et al. (2018a) demonstrate how design interventions can reveal the biases embedded in algorithmic systems, directly challenging techno-solutionist narratives that frame technology as neutral. Bieling (2021) further extends this critique, insisting that even trivial artifacts are political: every design decision reinforces or contests a broader structure of power.

What unites these contributions is an understanding of subversion as more than critique. They demonstrate that design methods and outputs can be strategically reconfigured to propose new political realities, whether by embedding alternative metrics, destabilising hierarchical roles, or amplifying marginalised knowledges. In this sense, subversive methods become generative, creating space for different ways of organising, relating and acting.

PD has emerged as a key site for such experimentation. Cozza et al. (2016) describe “subversive PD” as a practice of exposing inequities embedded in design processes themselves, while Udoewa (2022) pushes this further, calling for radical PD that actively decolonises methods by integrating Indigenous epistemologies and resisting extractive research logics. Campbell (2016) reframes user-centred design as subversive when it empowers communities to challenge institutional hierarchies, shifting the balance of expertise away from technical elites toward lived experience. Gonzatto and van Amstel (2022) add that tokenistic PD can only be transcended when participatory practices move toward long-term solidarity, coalition-building and systemic transformation rather than isolated project outcomes.

Collectively, these scholars demonstrate that subversion of form (methods, roles, procedures) and content (the goals and values embedded in design) is central to building alternatives. My own work extends this line of inquiry by showing that without also addressing temporality, these strategies risk being neutralised by the accelerated, productivist logics of neoliberal HCI.

2.6.4 Example mapping: Structural limitations

I selected example mapping as a critical case study because my scoping work revealed its inherent tensions with co-operative values, directly informed by my research question on enabling fair and inclusive co-design. While established in agile software development, example mapping remains critically underexplored within HCI literature, particularly through

a justice-oriented lens that examines its power dynamics. This collaborative UX method illustrates the profound limits of applying mainstream design tools to justice-oriented contexts. While methods like example mapping are promoted for enhancing clarity and collaboration within agile development, they reveal inherent limitations when viewed through a critical, justice-oriented lens. The method's structured format, centred on decomposing user stories into rules, examples and questions, is not a neutral facilitator of discussion but a formalised system that privileges certain forms of knowledge and participation. It actively advantages voices already fluent in the specific language of software development, technical abstraction and design logic. This fluency often aligns with existing professional and social hierarchies, effectively sidelining participants whose expertise is derived from lived experience, community context, or non-technical domains. Consequently, rather than democratising input, the method can inadvertently reinscribe the very power asymmetries participatory design aims to dismantle. The conversation becomes constrained within a technocratic framework, where the goal shifts from open-ended, value-driven exploration to the efficient production of specified requirements. This demonstrates a core tension: a tool designed for procedural efficiency within a product team can enact procedural injustice in a community-led context, subordinating collective, relational knowledge to the imperatives of technical problem-solving. Its focus on rules, user stories and examples privileges participants fluent in design language and technical reasoning, thereby reinforcing existing hierarchies. This mirrors Lorde's (1979) caution: methods forged for efficiency will inevitably replicate the structures of domination they were built to serve.

Example mapping, a collaborative method championed within agile software development for refining user stories, is designed to create a shared understanding and uncover hidden assumptions. As detailed by Berends & Dalpiaz (2021), its structured process of defining rules, examples and questions is empirically shown to improve the precision and completeness of requirements. This makes it highly effective in its native context: streamlining communication between product owners and developers to reduce ambiguity and accelerate technical production.

However, this very strength becomes a critical weakness when the method is imported into community wealth building (CWB) contexts. The empirical benefits identified by Berends & Dalpiaz, precision, completeness and efficiency in goal-oriented communication, are predicated on a shared fluency in the technical and business logics of software development. The method's rigid format, which efficiently filters discussion into categories of "rules" and

"examples," acts as a gatekeeping mechanism in participatory settings. It inherently privileges participants who can think in terms of abstract rules and systematic scenarios, while marginalising those whose expertise is rooted in lived experience, narrative, or relational knowledge.

This creates a fundamental tension. Empirical observations from fieldwork revealed that non-technical participants, such as community organisers and co-operative members, found it difficult to contort their complex, context-rich realities into the discrete boxes of a user story's 'acceptance criteria.' Their valuable contributions, which often concerned broader ecosystem challenges, power dynamics, or long-term maintenance, issues central to CWB, were systematically filtered out as 'out of scope' for the specific story being mapped. The process that Berends & Dalpiaz show improves efficiency in software teams effectively narrowed the discourse in a community setting, subordinating community-defined values and goals to a technical problem-solving frame. This core limitation of technocratic methods in participatory settings and the alternative approaches developed to counter it, are explored in Chapters 5.

Thus, example mapping exemplifies the central paradox of applying neoliberal HCI methods to justice-oriented work: a tool designed to create procedural efficiency within a specific domain inadvertently enacts procedural injustice when transposed to another. It demonstrates that a method is never neutral; its efficacy is tied to the logics of the system for which it was forged. In the pursuit of the precision that Berends & Dalpiaz document, the method sacrifices the pluralism, contextual richness and democratic deliberation that are the essential nutrients for genuine community wealth building.

2.7 Subverting time

2.7.1 Capitalist temporality vs. community time

In reimagining design methods that align more closely with community-led development and co-operative values, this section begins by examining the concept of time in HCI. Too often treated as a neutral or purely technical constraint, time instead emerges as a deeply political and ethical dimension in design, one that structures inclusion, power and participation. I explore how dominant HCI frameworks valorise speed and productivity, reinforcing neoliberal ideals that exclude slower, collective processes fundamental to justice-oriented design.

Building on this critique, I turn to community time, an emergent paradigm grounded in feminist economics and sociopolitical theories of temporality. Within this framing, time is reclaimed as a shared, negotiated resource that disrupts industry-driven rhythms in favour of grassroots pace and collective agency. Community time functions as both a theoretical and methodological foundation for rejecting normative design practices while creating space for alternative ones, taking Lorde's insistence on transforming the master's tools a step further within this research. To anchor these critiques in practice, I consider PD scholarship alongside the principles of slow tech and slow design. These approaches provide tangible alternatives that foreground sustainability, reflection and user empowerment, embedding temporality within values-driven design processes. I also draw on literature that frames subversion as a methodological lens in HCI, one that interrogates and reconfigures dominant tools, structures and ideologies. Subversion, in this research, becomes a way of challenging extractive logics while amplifying community voices, opening design methods to new forms of agency.

I conclude this section of the literature review with a focused critique of the design sprint method, positioned here as the central object of subversion and emblematic of Silicon Valley's accelerated design culture (Liu, 2020). I argue that the sprint's prioritisation of speed and deliverables renders it fundamentally incompatible with community wealth-building. While a considerable body of research already supports the directions I develop here, I propose that further study is needed, one that centres slowed-down, participatory reconfigurations of design methods rooted in community time, feminist ethics and co-operative principles.

2.7.2 Time in HCI

The study of time in HCI has long been dominated by frameworks privileging efficiency, usability and productivity, with limited attention to how temporal structures shape socioeconomic justice. Although some scholarship considers temporality in relation to accessibility and user experience, few engage directly with how time in design can reproduce or disrupt systemic inequities. This omission is particularly visible in the field's alignment with neoliberal values, where speed, disruption and rapid iteration are celebrated with little reflection on their consequences.

A growing body of work, however, challenges this paradigm by reframing time as a philosophical and political dimension of interaction design. Pschetz et al. (2016) argue for technologies that accommodate diverse communal temporal rhythms, rather than defaulting to

industrial, capitalist time. This view resonates with my critique of HCI's fixation on efficiency, which risks excluding marginalised communities by disregarding their temporal realities. Extending this argument, Pschetz and Bastian (2018) advocate for plural temporalities in design, emphasising the importance of deliberate processes aligned with human and ecological well-being. Their contributions provide a vital foundation for reimagining HCI beyond productivity-driven constraints.

Other scholars have also pressed for alternative temporal frameworks in interaction design. Lindley et al. (2013) call for moving away from efficiency-centred models toward approaches that integrate lived experience and non-linear rhythms. Wiberg and Stolterman (2021) highlight the need for explicit theorisation of temporality within HCI, while Rahm-Skageby and Rahm (2022) introduce “deep time” to foreground long-term sustainability and intergenerational justice. These perspectives collectively push back against the field's uncritical embrace of speed, instead urging reflection on how temporal structures shape power, participation and justice in sociotechnical systems. Complementing these, Rapp et al. (2022) invite HCI to ask ethical questions about time itself, such as the overlooked side-effects of temporal structures, a provocation I take up within this research.

Critiques of capitalist temporality further sharpen the political stakes of time in HCI. Maze (2007) examines how design reproduces oppressive temporal regimes, while Vardi's (2018) “move fast and break things” critique exposes the ethical failures embedded in Silicon Valley's obsession with disruption. These accounts highlight the urgency of confronting HCI's complicity in reinforcing inequality through exploitative temporal practices. Nonetheless, despite these interventions, justice-oriented engagements with time remain marginal within the discipline. Halperin and McElroy (2023) provide a rare exception, analysing the tensions between rapid development cycles and slow, community-driven design practices. Their work, alongside a small but growing body of research (Odom, Lindley, *et al.*, 2018; Oktay *et al.*, 2024; Wiberg, 2025), suggests promising pathways toward equitable temporal frameworks, but such approaches remain sidelined by neoliberal logics still dominant in HCI.

2.7.3 Community time

In reflecting on community time as it relates to design method subversion, community wealth-building and structural inequality, I draw on scholarship that originates beyond HCI. Bastian's (2014a) *Time and community: A scoping study* explores how temporal structures shape

communal bonds and collective identities, emphasising that time plays “a complex and sometimes contradictory role.” She shows how it influences both the formation of communities and the lived experience of belonging, as well as the dynamics of social interaction. This resonates with my exploration of community time in relation to subverting design methods, particularly through the Pick-a-Pebble approach, which positions time as a key dimension of design. In this way, communities can articulate their needs and identities, or risk exclusion if design timelines fail to align with community rhythms of governance and decision-making.

Bastian emerges as a particularly influential figure for this research, especially through her engagement with feminist economic thought and her interviews with scholars such as Gibson-Graham (Bastian, 2015). Their collaborative perspectives advance the idea that communal temporal practices can subvert capitalist logics while supporting equitable and sustainable economies, an argument central to my intervention in design. Bastian’s work also brings additional voices into this conversation, including Andy Goldring (Bastian, 2014c) and Anna Coote (Bastian, 2014d), whose insights deepen my understanding of community time in relation to economic inequality and design. Goldring’s analyses of time-value relationships and Coote’s emphasis on care and unpaid labour as vital to economic resilience both expand this framework.

Building further on Gibson-Graham’s work (2013), I highlight how community time connects to slower, participatory processes that enable visibility for alternative economies, what they describe as an “economy of possibility.” This perspective underscores the importance of flexible, inclusive temporal frameworks in development practices, while offering a critique of the dominant narratives that elevate efficiency and productivity as unquestioned ideals in design. By foregrounding community time, we are better positioned to expose, resist and reconfigure the temporal assumptions that structure HCI, making space for justice-oriented, co-operative futures.

On the whole, these perspectives on community time open a pathway for rethinking design temporality beyond capitalist logics and towards frameworks grounded in care, sustainability and collective agency. For this transition, to move from theory to practice, it is necessary to examine design approaches that already attempt to implement these values in concrete methodologies. This is where the traditions of slow design and slow technology become especially relevant. Emerging as critiques of accelerationist design cultures, these approaches

provide methodological grounding for the temporal reconfigurations outlined above. In what follows, I explore how slow design and slow tech scholarship articulate alternative rhythms and practices that resonate with community time and how their principles can be mobilised within HCI to subvert the dominance of speed and efficiency in design methods.

2.7.4 Slow tech and slow design

While literature on community time and temporality in HCI provides the theoretical foundation for subverting sprint-based design methods, the slow design and slow technology movements offer critical insights into how alternative temporal frameworks can be practised and materialised in design. When situated within radical strands of PD, these approaches demonstrate that slowing down is a political strategy of subversion that challenges neoliberal time regimes in technological production, rather than solely a matter of aesthetics or reflection.

The foundational principles of slow design, articulated by Strauss and Fuad-Luke (2008), position it as a holistic approach privileging sustainability, well-being and meaningful engagement over speed and mass production. Their framework includes reflection, participation and openness, principles that resonate with PD's commitment to collective decision-making and community agency. Subsequent work extends this into design activism: Fuad-Luke (2008) and McCarthy (2013) propose evaluative tools that encourage designers to interrogate not only design outcomes but also the temporal politics of their methods, echoing reflexive approaches in PD (Frauenberger *et al.*, 2015; Kraff and Jernsand, 2023). In this way, slow design and PD converge in recognising that time is never neutral, but a structuring force that shapes who participates and whose values are prioritised.

In HCI, slow design has been explored in more pragmatic terms. Grosse-Hering *et al.* (2013) show how slowing down interaction can deepen user-product relationships, while Odom *et al.* (2018) experiment with “slow technology” through artifacts like the Slow Game, which encourages reflective, long-term interaction. However, as several critics note, such interventions often focus on individual experience and product longevity, stopping short of interrogating how slowness intersects with structural inequities, power asymmetries, or collective struggles. Here PD provides a critical bridge. For instance, Lindström and Ståhl (2015) and Pschetz and Bastian (2018) use temporal lenses within PD to reveal how processes

can either reproduce or disrupt hierarchies of time, while Stephens et al. (2023) emphasise facilitation practices that redistribute temporal agency in collaborative projects.

Slow technology, introduced by Hallnäs and Redström (2001), offers a philosophical foundation for such work. They frame slowness as an invitation to reflection and mindfulness in human–technology interaction, positioning temporality itself as a design material. Later expansions (Hallnäs and Redström, 2001; Odom *et al.*, 2012) explore how slowness can be embodied in materiality, interaction modes and ambiguity, proposing “temporal stretching” as a principle for creating sustained reflection. While influential, these works often retain a normative emphasis on individual contemplation rather than systemic critique. By contrast, PD appropriates slow tech principles toward collective, justice-oriented aims: Del Gaudio et al. (2017), for example, demonstrate how slowing down participatory workshops creates space for collective reflection, while Saad-Sulonen et al. (2018) highlight deliberation and shared decision-making as practices of temporal redistribution. More recent work (e.g., Odom, Stolterman and Chen, 2022; Odom, 2024) emphasises longevity, meaning and ethical engagement, values that PD operationalises at the level of community governance and infrastructural stewardship.

Bringing these strands together, PD politicises the insights of slow design and slow technology. Where slow design foregrounds reflection and sustainability and slow tech promotes mindfulness and longevity, PD insists on embedding these values within collective temporalities and justice-oriented agendas. Deceleration becomes a radical act of temporal justice: a refusal of neoliberal acceleration, a redistribution of temporal agency and an insistence on aligning design processes with community rhythms and long-term societal well-being. Udoewa’s (2022) articulation of radical PD makes this explicit, positioning time as a site of political struggle directly linked to systemic inequities and economic precarity.

Thus, while slow design and slow tech contribute crucial methodological resources for rethinking temporality in design, it is through PD and in this research, through the specific lens of community wealth building, that their insights are re-politicised. This integration enables subversion of design form and content, and simultaneously of design time, making temporal justice a central concern in countering the accelerationist paradigms that underpin contemporary HCI.

This re-politicisation of slowness through PD also provides the conceptual grounding for my later critique of sprint-based methods (Chapter 6). Where the design sprint exemplifies the

accelerationist logics of contemporary HCI, compressing problem definition, ideation and prototyping into artificially short cycles, slow design, slow technology and radical PD collectively suggest how temporality itself can be subverted. In this sense, community time is not merely a counter-narrative but a methodological intervention: it insists that design must be synchronised with community rhythms, relational commitments and long-term infrastructures of care. By situating the sprint as a paradigmatic “fast time” intervention, I extend the insights of slow design and slow tech into a political critique of how time is governed in design and how it might instead be reclaimed as a site of justice-oriented practice.

2.7.5 Design sprint: Neoliberal temporality in practice

The design sprint, perhaps the most iconic of contemporary design methods, epitomises neoliberal temporality in HCI. Emerging from Google Ventures and rooted in agile methodologies, the sprint promises innovation in just five days, moving rapidly from ideation to prototyping. Its appeal lies in acceleration: the condensation of design into compressed cycles that foreground efficiency, disruption and deliverables. Unsurprisingly, the method has been widely adopted across sectors, from medicine (Jake-Schoffman and McVay, 2021) to education (Visescu, Larusdottir and Islind, 2023).

Counter to this, my scoping study and fieldwork highlight profound incompatibilities when this method is transposed into co-operative or community-led contexts. The platforms and the space I study depend on processes of relationship-building, trust and consensus, temporalities that cannot be compressed into a five-day sprint. The accelerated tempo of the sprint imposes artificial urgency, privileging those who are already comfortable with Silicon Valley’s rhythms while excluding those who require time for reflection, translation, or negotiation (Ferreira and Canedo, 2020). The result is not empowerment but exclusion, marginalising participants whose ways of knowing and acting cannot be condensed into rigidly structured cycles.

Beyond exclusionary pace, the sprint also reshapes the epistemic and relational foundations of design. Its reliance on rapid prototyping and quick validation privileges immediate, tangible outputs as the only legitimate forms of knowledge production. This narrows what counts as “evidence,” disregarding slower, embodied, or relational forms of knowing that are vital in co-operative and justice-oriented contexts. At the same time, the sprint’s facilitator-led, phase-driven format re-centres decision-making power, reproducing hierarchical structures rather

than distributing agency across participants. The method cultivates urgency and pressure as markers of productivity, producing affective climates of haste and performance that undermine the conditions necessary for trust, care and mutual recognition.

In this sense, the design sprint is not a neutral tool but an ideological artifact: it enshrines the values of acceleration, disruption and extractive efficiency while actively suppressing co-operative values of solidarity, care and mutual aid. Its celebrated “universality” masks its normativity. Assumptions of constant availability, linguistic fluency and workplace flexibility make the sprint accessible only to certain participants, while others are systematically excluded under the guise of innovation.

Placing the sprint in a broader genealogy further underscores its ideological nature. The very language of the “sprint” was appropriated from hacker and free software communities, where code sprints historically functioned as grassroots, DIY gatherings. As Gabriella Coleman (2013) documents in *Coding Freedom*, hacker cultures fostered openness, collective learning and experimentation, even while privileging technical skill. McKenzie Wark’s *A Hacker Manifesto* (2013) frames hacking more broadly as a political and creative practice that resists commodification. Code sprints, in this tradition, reflected a participatory ethos rooted in mutual aid and DIY culture. By contrast, the Google Ventures design sprint strips this form of its community ethos and reconfigures it as a managerial technique in service of venture-capitalist imperatives. What was once a grassroots practice of collective production becomes an instrument for market acceleration.

While this genealogy is not the central concern of my research, it provides important contextual grounding. Attending to these histories reinforces why HCI must engage critically with the temporal politics of its methods and why the inclusion of knowledge traditions from outside the field matters. Such perspectives demonstrate how design practices are continually shaped, co-opted and redirected by broader socio-economic forces and how alternative genealogies can critically influence the trajectory of analysis.

My rejection of the design sprint, therefore, is not only methodological but political. To subvert such methods requires more than minor adaptation; it demands a reconfiguration of design temporality itself. For this reason, the sprint becomes a key object of critique in my scoping study and later in Chapter 6, where I situate it empirically in relation to my research question about design. Out of this recognition, I developed the Pick-a-Pebble method, which

extends the critique of dominant paradigms by grounding design in community time, feminist ethics and co-operative principles.

2.8 Conclusion

Rather than adhering to a single disciplinary lens, this review integrates findings from diverse domains to provide a holistic understanding of an underexplored area: HCI's potential to support equitable economic outcomes in communities. Through this disciplinary-agnostic approach I draw on insights from HCI, economics, media and cultural studies, sociology, anthropology and design studies, laying the groundwork for a coherent framework for addressing economic justice in HCI. The research advances such a framework by integrating ethical, theoretical and empirical dimensions across three interconnected parts.

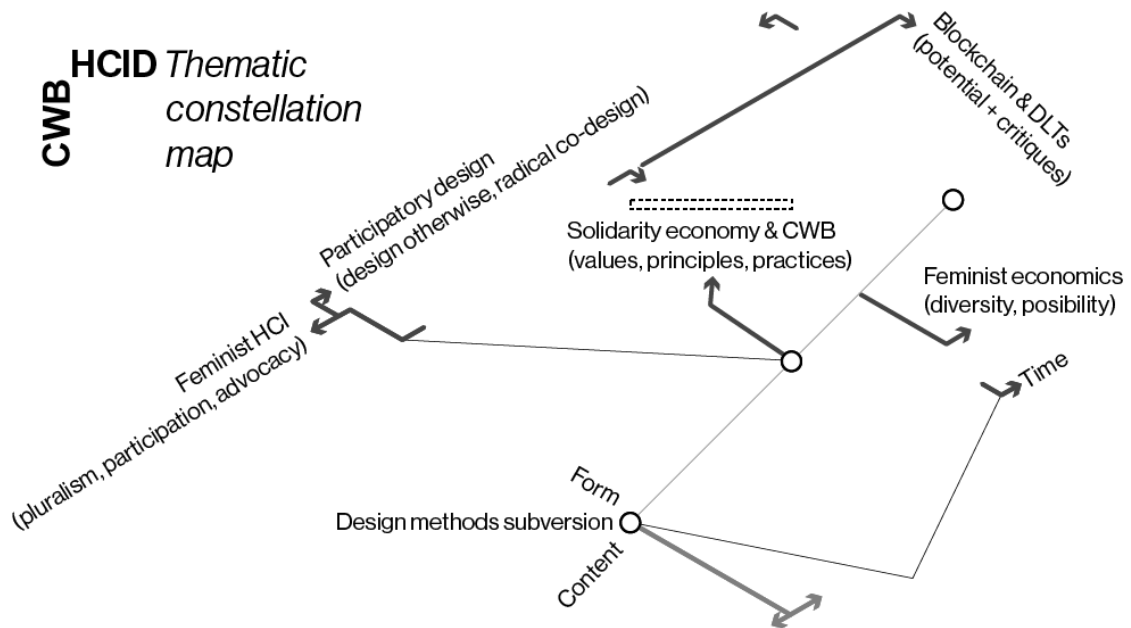


Figure 8: Lines between nodes show conceptual relationships (e.g., PD ↔ Feminist HCI; Blockchain ↔ CWB).

In Part 1, the study established the foundational context and methodological orientation. By situating the research within feminist HCI and radical participatory design (RPD), the study foregrounds ethical commitments to social justice, equity and material outcomes. Drawing on Bardzell's (2010) design qualities of pluralism, participation and advocacy, feminist HCI provides actionable principles that translate theory into practice, while radical PD ensures that participatory engagement genuinely redistributes power to communities rather than being co-opted or superficial. These frameworks, put together, define the ethical stance and

methodological philosophy that underpin the study, guiding both the analysis and the design interventions.

In Part 2, the research turned to the specific domains of intervention, situating technological tools and economic models within the critical frameworks established in Part 1. Blockchain and distributed ledger technologies (DLTs) were approached as contested, situated infrastructures, whose value for community empowerment depends on governance and design choices. Solidarity economy principles and community wealth building were examined as frameworks for creating equitable, resilient and democratic local economies, highlighting a gap in HCI around the integration of digital infrastructures with these models. Finally, feminist economics, drawing on the work of Gibson-Graham, provided a lens to challenge capitalist hegemony and make visible diverse, non-capitalist economic practices, enabling the research to theorise and design for economic difference and possibility. Part 2 thus establishes what the research engages with, framing both the technological and economic contexts for subsequent methodological and empirical work.

Part 3 implements the insights from the first two parts into empirical study and methodological innovation. The design sprint, a dominant method in contemporary HCI, was critically examined for its embodiment of neoliberal temporalities, privileging speed, efficiency and deliverables over participatory, reflective and co-operative processes. Drawing on scoping studies, fieldwork and genealogical insights from hacker/code sprints (Coleman, 2013; Wark, 2013), the research demonstrated how such methods can reproduce hierarchical power dynamics and exclude community actors whose temporalities and capacities are misaligned with Silicon Valley's accelerated pace. In response, the Pick-a-Pebble method was developed as a participatory intervention grounded in community time, feminist ethics and co-operative principles, operationalising subversion to foreground community wealth building as a primary design objective.

Contribution: Subversion as designing otherwise

This orientation aligns with DiSalvo's call for "designing otherwise," a radical participatory design practice that foregrounds difference, pluralism and constituent power. Feminist scholars such as Gibson-Graham, Bardzell and Suchman advance similar arguments for pluralist design logics, refusing universalist solutions in favour of embracing diversity, contingency and situatedness.

Subversion, in this sense, becomes an enactment of feminist difference. It is both a refusal of dominant tools and an active creation of alternative economies, temporalities and relational practices. Through community time, feminist economics and co-operative design, subversion opens up space for community wealth building, not as an afterthought to design but as its primary purpose. This contribution operationalises the theoretical and methodological foundations established in Parts 1 and 2, demonstrating how feminist-informed PD and participatory practices can reconfigure design methods, redistribute power and embed justice-oriented principles at the core of HCI interventions.

Future work: Commoning, community infrastructure and methodological experimentation

Building on the insights from Parts 1 to 3, several avenues for future research emerge. Interdisciplinary concepts such as reciprocity, infrastructural mutualism, feminist solidarity, plurality, co-ownership and relational practices provide a shared vocabulary for justice-oriented design and offer a conceptual grounding for methodological development. Although this research does not directly engage with commoning, frameworks from Michel Bauwens, Silke Helfrich (2019), Elinor Ostrom and recent scholarship on community infrastructures (Medosch, 2025) suggest rich possibilities for extending HCI research into co-operative, justice-oriented infrastructural design. Further exploration of community time, pluralist methodologies and unorthodox participatory approaches will allow HCI to more fully support equitable, inclusive and sustainable design practices.

These directions, when combined, position HCI as a platform for ethical, socially grounded and transformative interventions, demonstrating how the integration of theory, method and practice can address extreme economic inequality, redistribute agency and foreground collective well-being.

Having established in the literature review the critical need to move beyond critique and towards the generative, constructive practices of ‘designing otherwise,’ I turn in the next chapter to the methodological framework I developed to put this vision into practice. Building on the foundations of feminist HCI and economics, with their commitments to pluralism, attention to marginality and resist-and-build praxis, I detail a research design that embodies these principles. Rather than employing extractive or neutral methods, I adopt radical participatory design (RPD), an approach that translates values of horizontality, shared

ownership and democratic agency into the practice of inquiry. Through a two-stage process of exploratory engagement and participatory co-creation, my methodology actively intervenes in dominant design logics, enacting the world-building potential of feminist technoscience.

CHAPTER 3 METHODOLOGY

3.1 Introduction

In this chapter, I detail the methodological approach and research design that form the foundation of my study. As I established in the preceding literature review, HCI has evolved from its early focus on usability to engage with broader societal and political questions, including economic justice and collective well-being. Building on the theoretical foundations I laid in Chapter 2, specifically the critiques from feminist economics and the participatory, advocacy-driven approaches of feminist HCI, this chapter represents my transition from *what* the literature says to *how* I put those insights into practice methodologically.

The primary aim of my research is to investigate how collaborative funding platforms can be co-designed to support fair, inclusive and solidarity-driven co-operative economies. To address this aim, I use this as a guide for my study with a central methodological orientation: Feminist HCI. This framework provides me with the tools to interrogate the politics of design, foreground situated knowledge and challenge claims of neutrality and universality that I argue have historically obscured power relations. In dialogue with feminist economics, particularly the diverse economies framework, this orientation shapes my research approach to be pluralist, attentive to marginality and oriented toward a "resist & build" practise.

To implement these commitments, I employ radical participatory design (RPD) as my core methodology. I see this approach as a political stance, one that aligns with the democratic and co-operative principles of the communities I work with. It allows me to frame co-design as both a form of agency to counter extractive design research models and a practice of building community-led alternatives, ensuring my research process itself embodies the values I seek to study. Building on scholarship explored in Chapter 2, while both are deeply dissatisfied with the status quo, I see critical PD as a project of democratic deepening, while radical PD as a project of democratic overturning.

I have structured this chapter to provide a comprehensive account of my methodological journey. I begin by outlining the theoretical foundations of feminist HCI and its key principles: pluralism, studying from the margins and resist & build, which together form the conceptual anchor for my study. This is followed by a discussion of my epistemological positioning, where I acknowledge knowledge as situated, relational and emergent.

The core of the chapter details my two-stage research design. Stage 1 (Exploratory engagement) describes my scoping study, where I used digital ethnography, semi-structured interviews and a focus group to build a foundational understanding of collaborative funding platforms. Stage 2 (Participatory co-creation) presents my empirical study, which unfolded through three iterative phases of workshops (Co-op Hackathon, Sandbox Sessions and a CLT Away day) to co-design and test methods with grassroots communities.

I then explain the thematic analysis process I used to interpret the rich, qualitative data I generated across both stages, emphasising its reflexive and iterative nature. Finally, I conclude with a reflexive account of ethics & positionality, situating myself within the work and a discussion of my study's limitations, which I frame not as shortcomings but as inherent conditions of engaged, participatory research with grassroots movements.

In summary, this chapter articulates a methodological framework that I have carefully crafted to be rigorously aligned with the political and ethical commitments of my research. This ensures that my study of HCI design engages with the socio-economic relations, political possibilities and emancipatory potential.

3.2 Theoretical foundations

3.2.1 A Feminist HCI framework

As established in the previous chapter, HCI has expanded beyond usability and cognitive models to encompass societal and political questions, including economic justice and collective well-being. Chapter 2 highlighted how feminist economics critiques neoliberal framings of HCI and design and how feminist HCI contributes participatory, pluralist and advocacy-driven approaches. Building on those foundations, this chapter turns from what the literature says to how this study mobilises those insights methodologically.

HCI, with approximately four decades of recognised academic history (Lopes, 2022), has continually expanded its scope and methods. From early technical and psychological orientations toward usability, to socially and culturally informed paradigms (Bødker, 2006, 2015; Harrison and Sengers, 2007), the field has shifted from an emphasis on efficiency and task completion toward the broader societal and political implications of design. Lazar, Feng and Hochheiser (2017) describe this trajectory as a progression from computer science-based to psychology-based and, more recently, sociology-based HCI research. These paradigms

successively broadened the field's view of "the human" in HCI, from an operator of interfaces, to a cognitive actor, to a socially embedded subject.

Within this history, a notable development is the recognition of humans as members of communities, collectives and socio-economic systems shaped by and shaping technologies. More recent work extends HCI beyond the human altogether (Coskun *et al.*, 2022). However, this project focuses on the human-in-community and specifically on the ways grassroots collectives and solidarity-oriented organisations may be supported, or hindered, through collaborative funding platforms.

To address these concerns, this research draws on feminist HCI as its primary methodological orientation, situated in dialogue with feminist economics. Together, these traditions offer a conceptual framework attentive to power, marginality and the emancipatory potential of technology design.

3.2.2 Feminist HCI as methodological orientation

Chapter 2 introduced feminist HCI as a lens for critically reorienting design toward inclusion, accountability and justice. Here, I extend that discussion to establish feminist HCI as a methodological orientation for this project. Feminist epistemologies challenge claims of neutrality and objectivity (Haraway, 1988; Harding, 1992), a critique already traced in Chapter 2 through Lorde's "master's tools" (1979) and the subversive turn in design.

What distinguishes this project is how it draws on both feminist HCI and feminist economics to frame collaborative funding platforms as socio-technical artefacts embedded in political economies. This is consistent with the argument in Chapter 2 that Gibson-Graham's diverse economies (2006) framework offers a productive point of connection between HCI design qualities and solidarity economy principles.

Feminist HCI emerged in the early 2010s as scholars began explicitly integrating feminist philosophies of science with HCI methodologies (Bardzell, 2010; Bardzell and Bardzell, 2011). Unlike traditional HCI, which often assumes neutral, rational and universal users, feminist HCI interrogates the claims of objectivity that have historically obscured power relations and produced oppression (Haraway, 1988; Harding, 1992; Hesse-Biber, 2012). By foregrounding situated knowledge, difference and the politics of design, it challenges the very epistemological foundations of the field. Methodologically, this orientation encourages

participatory and co-design approaches, narrative inquiry and reflexive practices that centre marginalised voices and ethical considerations, rather than abstract generalisations about “users.” Feminist HCI also engages critically with tensions within feminism itself, for example, between standpoint theory and intersectional frameworks, highlighting how attention to multiple axes of identity complicates notions of universality and neutrality. While offering powerful tools to make design more inclusive, feminist HCI must also confront limitations, such as potential essentialism or the difficulty of addressing all forms of systemic oppression, situating its interventions within broader socio-political and historical contexts.

This approach is plural, encompassing diverse epistemologies and methodologies (Harrison, Sengers and Tatar, 2011; Rode, 2011; Fox *et al.*, 2017). It is not confined to the study of gender but extends to class, race, ability and other axes of inequality (Erete, Rankin and Thomas, 2022). Importantly, feminist HCI regards research as inherently political and as carrying emancipatory potential (Gray *et al.*, 2007).

My project takes up this orientation in two key ways. First, it mobilises feminist HCI’s commitments to pluralism, marginality and resist & build praxis as methodological anchors guiding the study design. Second, it places feminist HCI into dialogue with feminist economics, particularly the diverse economies approach (Cameron and Gibson-Graham, 2022), which challenges the hegemony of capitalist logics by making visible co-operative and solidarity-based alternatives. To clarify how these frameworks inform the project, this section unpacks three interrelated principles that shape both its methodological stance and analytic focus. Pluralism foregrounds multiple ways of knowing, resisting universalising logics in design and economic practice. Marginality positions the perspectives and practices of peripheral communities as central, highlighting sites where counter-hegemonic knowledge and alternative economies emerge. Resist & build praxis links critique with constructive intervention, framing collaborative platforms as arenas for both challenging dominant logics and creating solidaristic infrastructures. Through these principles I aim to build deeper connection between feminist HCI and feminist economics, providing a coherent framework for studying collaborative funding platforms in ways that are attentive to power, difference and emancipatory potential.

3.2.3 Pluralism

Pluralism is a central feminist research principle that resists singular or universal models of knowledge. Intemann (2012a) argues that pluralist strategies are essential for revealing the partiality of dominant perspectives and for recognising the value of multiple ways of knowing. In HCI, Bardzell (2010) and Bardzell & Bardzell (2011) advocate pluralist approaches in design to reflect the diversity of human experiences. As discussed in the review of Bardzell's design qualities, pluralism is central to feminist HCI, encouraging sensitivity to diversity and difference rather than universality. Likewise, feminist economics foregrounds diverse economies and critiques capitalocentric binaries.

In parallel, feminist economics underscores the importance of plural economies. Cameron and Gibson-Graham (2022) call for attention to diverse forms of economic activity, such as co-operatives, mutual aid and solidarity finance, that are often hidden within capitalist discourse. Moreover, their work demonstrates how pluralism functions both as an epistemological stance and as a political strategy for visibility and legitimacy.

For this research, pluralism frames collaborative funding platforms as infrastructures that can and should accommodate diversity. Designing with pluralism entails supporting multiple access points, learning styles and value systems (Bianchin and Heylighen, 2018; Eriksson *et al.*, 2022; Prieto *et al.*, 2025). It resists the “universal user” ideal in favour of recognising different subjectivities and collective practices. Following Escobar's (2018) vision of “a world where many worlds fit,” pluralism here is both methodological and normative: it shapes how the study investigates collaborative platforms and what forms of socio-technical futures are imagined as possible.

Finally, pluralism is taken as both an epistemological and methodological stance: acknowledging that collaborative funding platforms should support multiple forms of value exchange, learning styles and community practices. This position explicitly builds on the “economy of possibility” framework introduced in Chapter 2, which calls for infrastructures that make alternative economies visible and viable.

3.2.4 Studying from the margins

bell hooks (1989) articulates marginality as a productive space of counter-hegemonic discourse, not as a site of deficiency but of possibility. This concept has been influential for feminist epistemology (Crenshaw, 1991; Harding, 1992; Intemann, 2012a) and has found resonance in HCI research (Bardzell, 2010; Dimond, 2012; Rosner, 2018; Kumar and Karusala, 2021). Studying from the margins shifts attention to who defines research agendas, whose knowledge is valued and how knowledge production can challenge dominant systems. The literature review highlighted marginality in two senses: (i) bell hooks' articulation of marginality as a site of counter-hegemonic knowledge and (ii) HCI scholarship treating marginal perspectives as vital to democratic design.

Here, I extend those insights to this project's focus on grassroots collectives and FLOSS/DLT initiatives that remain peripheral to dominant economic and technical discourses. By making margins central, the methodology aligns with the subversive strategies reviewed in Chapter 2, which argue for reappropriating design practices in ways that challenge tokenism and exclusion.

In this study, margins are both social and technological. On one hand, they include grassroots collectives historically marginalised within dominant political economies. On the other, they encompass software practices such as free/libre and open-source software (FLOSS), where alternative regimes of ownership and governance operate outside proprietary logics. Justice-oriented distributed ledger technology (DLT) projects, for example, remain marginal compared to speculative cryptocurrency markets. Importantly, it is precisely in these marginal sites that alternative visions of cooperation, ownership and solidarity emerge.

Methodologically, making the margin the centre of analysis allows this research to foreground counter-hegemonic practices and to interrogate how collaborative platforms might reinforce or disrupt systems of oppression. Marginality is thus treated as both an empirical focus and an epistemological commitment.

3.2.5 Resist & build

A recurring question in feminist scholarship is whether feminism can extend beyond critique to constructive practice (Bhavnani and Talcott, 2014). Feminist HCI contributes to this discussion by recognising design as both a site of resistance to domination and a medium for

building alternatives. Collins' (1990) matrix of domination highlights the interlocking systems of oppression that feminist research must critique, but alongside critique is the imperative to build otherwise. Chapter 2 concluded that feminist economics and HCI both move beyond critique toward generative practices of "resisting and building." This praxis is crucial for this project: collaborative funding platforms such as Circles UBI and Open Collective are studied on the one hand as critiques of extractive logics and as constructive experiments in solidarity-driven infrastructures on the other.

This "resist & build" practise aligns with movements in solidarity economy and feminist economics that emphasise constructing viable alternatives to capitalist modes of production (Kawano, Masterson and Teller-Elsberg, 2009; Guérin, Hillenkamp and Verschuur, 2021). In the context of collaborative funding platforms, projects such as Circles UBI and Open Collective embody this dual commitment: they resist extractive, speculative economies while experimenting with infrastructures of care, co-operation and redistribution.

By drawing on resist & build approach (Resist & Build Network, 2020), this study takes forward the call from Chapter 2 for design methods that reject the accelerationist culture of Silicon Valley and instead cultivate community temporalities and ethical economies. For this research, resist & build praxis provides both an analytic and methodological guide. Analytically, it directs attention to how platforms resist dominant economic logics and what they actively build in their place. Methodologically, it frames research as constructive engagement with alternative socio-technical futures rather than solely as critique.

Building on this proposition, radical participatory design emerges as a methodological approach that applies these commitments. Just as feminist HCI situates research at the intersection of critique and construction, radical PD positions co-design as both a form of resistance to oppressive systems and a practice of building alternative, community-led futures. By foregrounding collaboration, community leadership and the redistribution of power, radical PD translates the principles of resist & build into concrete research practices. This alignment ensures that methodology is not neutral or extractive but actively participates in strengthening the democratic capacities, solidarity and ethical infrastructures of the communities under study.

3.2.6 Radical PD

Participatory design is the central methodological commitment of this research. Although I use the terms *co-design* and *participatory design* somewhat interchangeably throughout the thesis, the practical emphasis lies in participation as collaborative process in grassroots-led design (Simonsen and Robertson, 2012). As I discussed in the previous section, *building* operates as a complement to feminist resistance to oppressive systems and technologies. Here, I extend that argument by positioning radical participatory design (RPD) as the methodological approach that aligns with the politics and aspirations of this research.

This orientation builds on feminist approaches to methodology (Lorde, 1979; Harding, 1987; Haraway, 1988, 2016; Suchman, 2002), which insist that method is never neutral but always shaped by relations of power and knowledge. Beyond the historical overview of PD presented in the literature review (Bødker, Kensing and Simonsen, 1997; Kensing and Blomberg, 1998), my methodological choices are particularly influenced by the work of Victor Udoewa (2022) and Carl DiSalvo (2022), who each push PD beyond conventional boundaries but from different philosophical perspectives. Their differences, in how they conceptualise power, purpose and the role of design in society, offer inspiration for the methodological stance developed in this project.

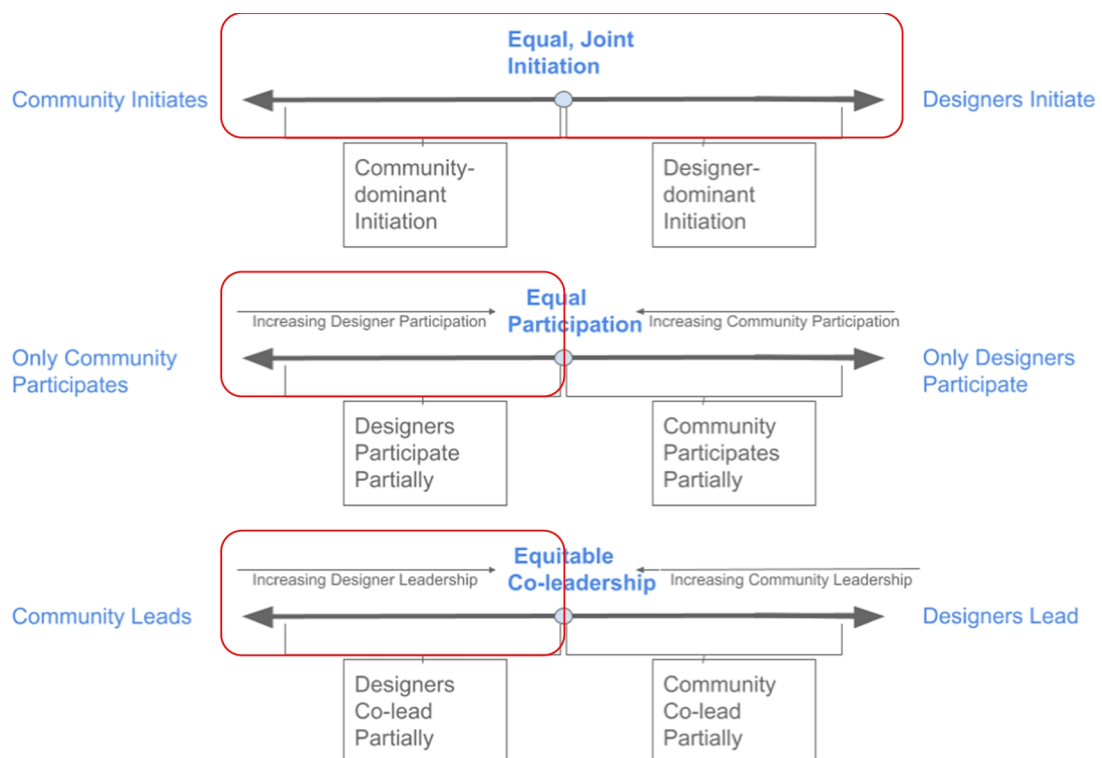


Figure 9: Radical PD meta-method visualisation by Udoewa, 2022

Victor Udoewa advances a reimagining of PD through the lens of decolonisation and justice (Udoewa, 2022). In his work, design is a meta-methodology for liberation, with implications for dismantling oppressive structures and restoring community agency. He positions design as a process led and owned by communities themselves, where designers must divest institutional authority and enter into accountability as community members. This stance resonates with research justice (Jolivéte, 2025) and design justice (Costanza-Chock, 2020), which prioritise experiential, cultural and spiritual knowledge above institutional expertise. For Udoewa, design is a means of reclaiming power from colonial systems and redistributing it to communities historically excluded from decision-making.

Carl DiSalvo, by contrast, frames design as a practice of democratic inquiry and civic care. Across his work, design is understood not as a route to justice as an endpoint, but as a fragile, contingent practice through which communities can ask questions, imagine alternatives and renew democracy (DiSalvo, 2012; 2022). Design here becomes a way to cultivate pluralism and collaborative imagination, often within or alongside institutional settings. DiSalvo's perspective critiques technocracy and innovation culture, while foregrounding the potential of design to support civic reflection and shared responsibility.

This research seeks to embody and extend these perspectives, contributing methodologically to HCI through advancing critical discussions of PD and testing these ideas in practice. For example, I employ a *copyleft* attitude toward design methods and materials, inspired by free software traditions of authorship (Free Software Foundation and Stallman, 1986; Kelly, 2008). All materials developed through this research are released as modifiable, open documents, encouraging communities to adapt and redistribute them beyond the life of the project. This practice enacts community agency throughout the lifecycle of methods, from the co-design process to their afterlife as they circulate across contexts.

At the same time, I seek to *practice design otherwise* by creating spaces for conversation, reflection and exploration within grassroots communities (Light and Akama, 2012a; DiSalvo, 2022a). These processes strengthen the democratic practices already embedded in co-operative movements and generate new understandings of socio-technical relations. In this sense, the methodology does not simply support co-operatives through design, but also learns from the democratic practices of cooperation, adapting principles such as horizontality and “one person, one vote” into the very structure of design processes (Restakis, 2010).

The methodological stance shaped by Udoewa and DiSalvo also raises ontological and epistemological questions central to this research. Ontologically, Udoewa emphasises design as a tool for liberation, while DiSalvo positions it as a practice of democratic renewal. Epistemologically, Udoewa insists that community knowledge must lead, elevating experiential and cultural knowledge above institutional authority, while DiSalvo values pluralism and negotiated power-sharing within design.

My own work is situated between these positions. On the one hand, through becoming a member of a community land trust during this research, I aligned closely with Udoewa’s call for community leadership and accountability. On the other hand, the project originates within a university context, echoing DiSalvo’s institutional location and contingent model of shared leadership. Thus, the methodology I enact is deliberately flexible and open-ended, shaped continuously by community input and guided by feminist commitments to horizontality, care and accountability (Suchman, 2002; Tronto, 2020).

Theme	Udoewa	DiSalvo
Purpose of design	Liberation, justice, decolonisation	Civic care, democratic renewal
Role of designer	Must divest power, become community member	Co-inquirer, facilitator of civic imagination
Knowledge hierarchy	Community knowledge prioritised	Collaborative knowledge valued
Participation model	Full community leadership and ownership	Shared leadership, contingent participation
Institutional critique	Strong decolonial critique	Critique of technocracy and innovation culture

Table 1: Summary of philosophical positions influencing PD direction in this research

As a whole, these methodological commitments respond directly to RQ4: How can the co-design of technologies, platforms and prototypes with [] organisations support fair, inclusive co-operative economies? By adopting radical participatory design as both a guiding politics and a practical method, this research treats co-design not simply as tool-making, but as a process of strengthening democratic capacities within co-operatives. Udoewa’s emphasis on justice and community leadership and DiSalvo’s attention to democratic inquiry and civic care together frame co-design as a means of redistributing authorship, authority and imagination. In practice, this means creating design processes that align with cooperative principles, foreground community knowledges and ensure that outcomes remain open, adaptable and reusable beyond the research. Thus, the co-design of technologies here is less about delivering fixed solutions and more about cultivating conditions for fairness, inclusivity and collective

ownership, reinforcing cooperative economies both in their everyday practices and in their long-term technological futures.

Why radical PD?

The choice of radical participatory design as a methodological approach is not incidental but necessary for the aims of this research. At its core, the project seeks to understand how technologies and platforms can support fair and inclusive co-operative economies. To study such processes using methods that are extractive, hierarchical, or detached from the communities involved would reproduce the very inequities this work aims to address. Radical participatory design is therefore appropriate primarily because of its politics: while it employs a set of techniques, it ultimately enacts fairness, inclusion and collective authorship in the very conduct of research.

Equally, the co-operative organisations at the centre of this study are themselves built upon democratic practices, principles such as horizontality, shared ownership and one person, one vote. Radical PD aligns with feminist approach and resonates strongly with these principles, translating them into design practice. Rather than imposing an external method, it extends and adapts the democratic logics already present within co-operatives. In doing so, PD becomes a way of designing with co-operatives, a way of learning from them, foregrounding their practices as methodological resources.

This approach also provides a way of navigating my own positionality. As a researcher situated within a university who is simultaneously embedded in grassroots co-operative organising, I carry responsibilities to both academic and community contexts. Radical PD offers a framework for negotiating this dual position ethically. By emphasising horizontality and accountability, it allows me to remain attentive to the risks of institutional authority while working toward genuinely collaborative forms of knowledge production.

Finally, radical PD is appropriate because it expands the scope of what design can achieve in this research. Other design approaches might generate tools or prototypes, but they would not necessarily attend to the redistribution of authorship, the cultivation of democratic capacities, or the fostering of long-term community ownership. Radical PD enables this project to treat co-design not simply as tool-making but as a process of building capacity, strengthening democratic practices and redistributing power. In this sense, the choice of methodology is itself part of the research contribution: it demonstrates how participatory design, reimagined

through justice- and democracy-oriented commitments, can sustain co-operative economies both in practice and in technological futures.

The choice of radical participatory design as a methodological approach foregrounds the inseparability of method and knowledge. By foregrounding community leadership, co-creation and collective authorship, this research treats knowledge as relational, emergent and value-laden rather than neutral or pre-given. Such an orientation naturally aligns with a feminist epistemology: it requires reflexivity regarding the researcher's positionality, attentiveness to power dynamics and openness to insights that emerge through collaborative practice. In this way, the epistemological stance provides the conceptual grounding for methodological choices, ensuring that participatory design is enacted ethically, democratically and in dialogue with the lived realities of grassroots cooperative communities.

3.3 Epistemological positioning

This research's epistemological positioning draws on feminist critiques of objectivity, which emphasise that knowledge is always shaped by power relations and the researcher's standpoint. As discussed in Chapter 2, feminist critiques of objectivity challenge the notion of neutral science and highlight instead how power shapes what counts as knowledge (see Section 4 on feminist HCI). I therefore adopt Harding's (1992) notion of "strong objectivity," which requires reflexive awareness of the researcher's positionality and the socio-political conditions that influence knowledge production. Research is not conducted from nowhere but from a particular standpoint, as I point to and discuss across this chapter, my standpoint is one of solidarity with grassroots communities experimenting with alternative economies.

This position entails several epistemological commitments. First, I understand knowledge production as relational: it emerges in collaboration with participants rather than being extracted from them (Stanley and Wise, 1993). Second, I recognise that research carries political responsibility, it cannot avoid taking a stance on systems of power, inequality and exclusion. Third, I treat epistemology as tied to practice: building knowledge is inseparable from imagining and enacting alternative socio-technical arrangements.

A further commitment in my approach is to emergence. As explored in Chapter 2, feminist approaches resist universalist categories and instead foreground relational becoming. I understand knowledge and practice as emergent: they arise in and through encounters, rather than being prescribed in advance. Methodologically, this means I remain open to the

possibility that new concepts, relations and possibilities may emerge unpredictably from collaborative processes. Emergence, then, signals my openness to the unexpected, attentiveness to process and recognition that epistemic authority develops collectively rather than being imposed externally.

Within HCI, these commitments align with a tradition of critical, reflective and participatory methodologies that foreground the politics of design (DiSalvo *et al.*, 2010; Bardzell and Bardzell, 2011). They also resonate with feminist economists' calls to make explicit the values underpinning inquiry and to foreground solidarity, co-operation and care in economic analysis (Cameron & Gibson-Graham, 2022). Furthermore, my stance aligns with feminist HCI's move away from linear, solutionist paradigms of design (see Chapter 2). Rather than conceiving design research as a pathway from predefined problems to predefined solutions, I frame it as a generative process in which research questions, methods and outcomes are co-constituted with participants. This also reflects my pragmatist feminist commitments to lived experience and democratic pluralism, in which inquiry unfolds iteratively through shared engagement.

Taken together, these epistemological commitments: situatedness, reflexivity and emergence, position my study within a tradition that treats knowledge as a collective, processual and politically engaged practice. This approach casts me in a dual role: as a researcher who describes collaborative funding platforms and as a participant who engages in the conditions for emergent solidarities, practices and socio-technical futures. Given these commitments, I adopt a qualitative and interpretive approach. I examine collaborative funding platforms as socio-technical infrastructures situated within broader political economies, rather than as purely technical artefacts. This requires methods capable of capturing complexity, ambiguity and the lived experiences of communities engaging with these platforms.

My epistemological stance directly shapes the methodological design of this study. Because I understand knowledge as situated and emergent, I do not aim to test predefined hypotheses but to create conditions where new insights, practices and relations can unfold. As discussed in Chapter 2, feminist methodologies emphasise openness to the unexpected and attentiveness to lived experience. This requires a methodological orientation that privileges flexibility and responsiveness over rigid protocols.

For this reason, I employ qualitative, interpretive and participatory methods. Qualitative methods are especially suited to phenomena such as trust, collaboration and solidarity, which,

like emergence itself, cannot be fully captured by quantifiable metrics (Adams, Lunt and Cairns, 2008; Lazar, Feng and Hochheiser, 2017). They allow me to trace how motivations, practices and collective imaginaries develop in the life of collaborative funding platforms. Furthermore, a qualitative approach enables me to integrate multiple forms of data, including material and experiential, which aligns with my pluralist stance.

By integrating case study analysis, discourse analysis and participatory engagement, my research remains attentive to both structure and process: the institutional and technical frameworks in which platforms operate and the emergent dynamics that arise through grassroots experimentation. These methods are not simply tools for data collection but opportunities to engage in co-productive inquiry, consistent with my feminist principle that research should be accountable to those whose practices and struggles it seeks to understand.

Summary

This section has outlined feminist HCI as the theoretical foundation for the methodology of this study. Building on the broader trajectory of HCI research, feminist HCI offers tools for interrogating the politics of design. In dialogue with feminist economics, it provides a framework that is pluralist, attentive to marginality and oriented toward resist & build praxis. Moreover, by drawing on resist & build praxis, this study takes forward the call from Chapter 2 for design methods that reject the accelerationist culture of Silicon Valley and instead cultivate community temporalities and ethical economies.

Altogether, these commitments shape the methodological orientation of this project. They ensure that the study of collaborative funding platforms does not remain at the level of technical function or user experience alone, but instead engages with the socio-economic relations, political possibilities and emancipatory potentials of technology design.

3.4 Research design

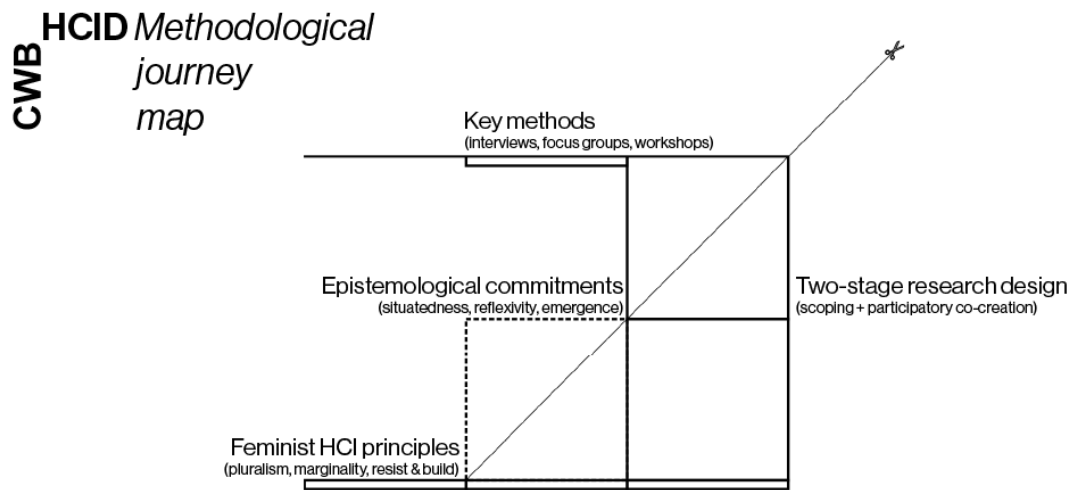


Figure 10: Visual summary of the methodological journey, illustrating the integration of feminist HCI principles, radical participatory design and iterative co-creation

As established above, this study adopts a feminist-participatory research design, underpinned by a commitment to co-constructed knowledge, reflexivity and attention to power dynamics (Haraway, 1988; DeVault and Gross, 2006; Bardzell, 2010). The research followed an iterative design, progressing through two stages comprising of digital ethnography, interviews and participatory workshops. Through this structure I fostered non-hierarchical researcher-participant relationships while allowing methods to adapt responsively to participants' evolving needs. My approach was intentionally qualitative and emergent, grounded in critical reflexivity to align with feminist epistemologies and post-structuralist challenges to research neutrality (Rapley, 2007; Glesne, 2011).

The aim of the first stage of my research was to develop a foundational understanding of how collaborative funding platforms, such as Culture Stake, Open Collective and Circles UBI, operate and how they might be co-designed with grassroots organisations. To achieve this, I conducted in-depth, semi-structured interviews exploring two main areas: the relationship between community wealth and these platforms and the platforms themselves, including their design, functionality, user experience and potential for co-design. This stage provided the empirical and conceptual base for subsequent research, supporting the design of participatory co-design experiments in the second stage.

The aim of the second research stage was to better understand how collaborative and co-operative funding platforms might be co-designed with grassroots organisations engaged in community wealth building. To achieve this, I designed a three-phase empirical study using participatory workshops (Co-op Hackathon, Sandbox Sessions and a Community Land Trust Away Day). Each phase built upon the previous, generating insights into how digital platforms could be adapted or subverted to align with cooperative, feminist and community-led values.

In Table 2, I summarise the research approach I used, including their purpose, participants, data collected and key notes. I began stage one with digital ethnography, interviews and focus group to understand the communities and challenges. From these, I conducted an early thematic analysis, which helped me design and focus the participatory workshops. The stage two workshops then allowed me to test methods, gather additional insights and iteratively refine my approach. Finally, I carried out a thematic analysis across all data to evaluate how the research aligns with feminist and co-operative principles.

Method	Purpose	Participants	Data collected	Notes
Digital Ethnography	Understand online communities, governance and DLT interactions	Online communities, project participants	Observational notes, forum posts, digital interactions	Provides context for interviews & workshops
Semi-structured Interviews	Explore lived experiences, design challenges	Expert participants	Audio recordings, transcripts	Emergent themes; informs workshop design
Focus group	Collaborative reflection, co-refinement of early findings	Selected participants from interviews	Discussion notes, recordings	Participant-led insights; contributes to workshop design
Early TA	Analyse patterns from ethnography, interviews, focus group	All participants	Thematic coding, emergent patterns	Informs workshop design and methodological refinement
Co-op Hackathon	Initial exploration of design methods & cooperative principles	Diverse cooperative stakeholders	Workshop artefacts, photos, notes	Introduces design methods; iterative learning begins
Sandbox sessions	Detailed exploration of design challenges	Cooperative participants, community members	Co-design materials, photos, feedback	Skill-sharing, hybrid design processes, informs final iteration of SM & PP

Method	Purpose	Participants	Data collected	Notes
CLT Away day	Test & evaluate Solidarity Mapping and Pick-a-Pebble method in real context	Community Land Trust members	Workshop artefacts, photos, participant reflections	Context-specific grounding; iterative refinement
Final TA	Analyse patterns across all methods	All participants	Thematic coding, emergent patterns	Focus on pace, subversion, feminist & co-operative values

Table 2: Summary of research methods

3.4.1 Justification of design choices

The selection of this integrated methodological approach was a deliberate and necessary choice to ensure the research process itself aligned with the core principles under investigation. Primarily, this multi-faceted design facilitates non-hierarchical, collaborative knowledge production by positioning participants as co-investigators rather than mere subjects, thereby subverting traditional extractive research models. Furthermore, the combination of methods is essential to capture the rich, situated insights of diverse participants; digital ethnography observes organic community interactions, interviews delve into personal narratives, while focus groups and workshops reveal how these narratives coalesce into shared understandings.

This integration also ensures methodological flexibility, allowing the research to adapt responsively to emergent themes and to consciously subvert conventional design practices that often silence marginalised voices. Ultimately, every methodological choice was made to guarantee alignment with feminist and solidarity economy principles, embedding values of reciprocity, care and democratic participation into the very fabric of the research process, not just its outcomes. This ensures the study doesn't just research alternative economies but actively embodies and practices them.

This approach enabled exploration of participatory design as a tool for challenging extractive, industry-centric paradigms and creating community-centred digital tools that embody co-operative, equitable values supporting community wealth building. I now turn to a detailed description of *Stage 1 and Stage 2*, examining how data collection and thematic analysis shaped the progress of this research.

I now outline the two-stage research process that operationalised these principles. Stage 1, *the exploratory engagement*, comprised digital ethnography, interviews and focus group to build

foundational understanding of the collaborative funding platforms, while establishing collaborative relationships. Stage 2, *the participatory co-creation*, translated these insights into three iterative workshop phases, deepening participant-led design engagement. This progression from observational to participatory methods intentionally mirrored my epistemological commitment to shifting power from researcher to co-producers of knowledge.

3.5 Stage 1: The exploratory engagement

The first stage of my research, termed the exploratory engagement, was designed as a scoping and formative study to build foundational knowledge about collaborative funding platforms. My aim was to develop an understanding of the technical, social and participatory processes underpinning these platforms and to prepare for the subsequent empirical research and co-design experiments.

3.5.1 Digital ethnographic research

Before conducting interviews, I engaged in a period of digital ethnographic research that was crucial for building the knowledge and contextual understanding needed to engage participants meaningfully. By exploring publicly available materials, including project websites, code repositories, online forums, chat channels and recorded presentations, I was able to situate each platform within its conceptual, socio-historical, political and technical contexts. This multi-dimensional approach allowed me to see as much the intended design of the platforms as the lived experience of community interaction, governance and collaboration.

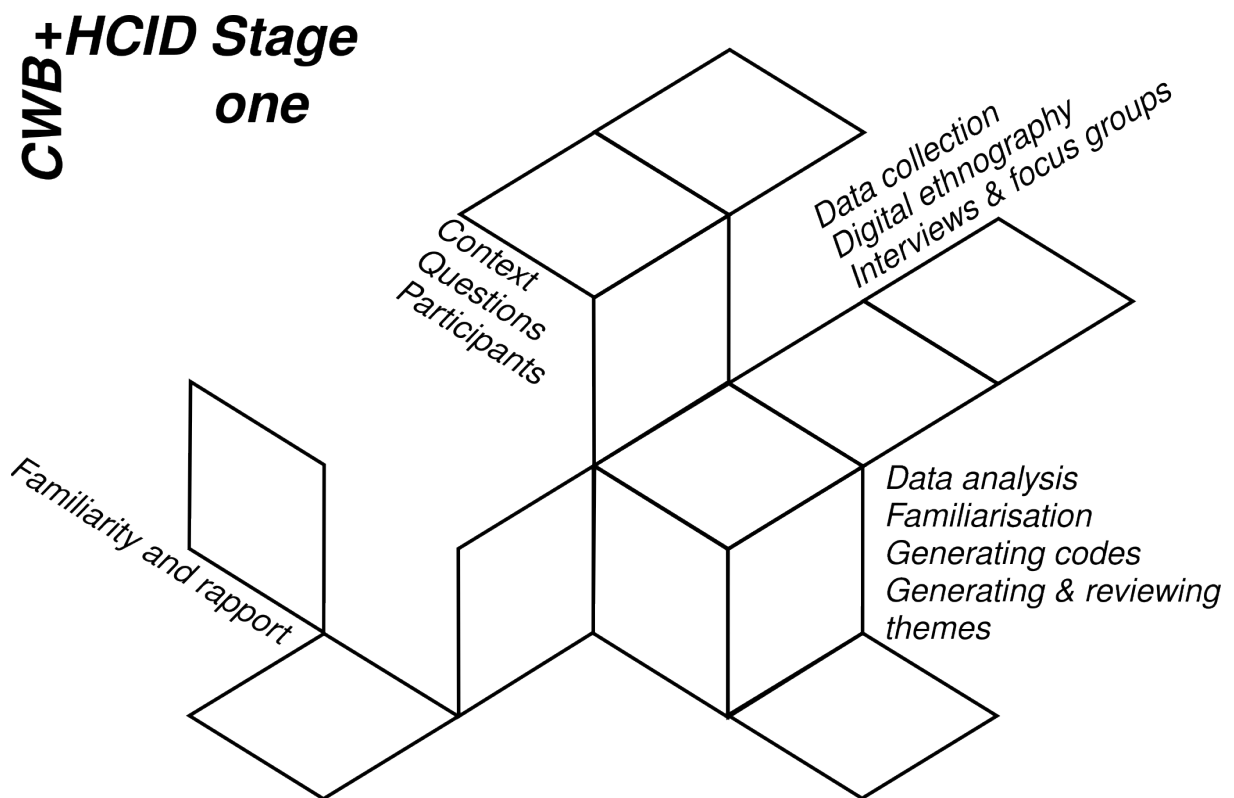


Figure 11: Stage one diagram

Examining code repositories ('Circles Whitepaper', 2023; 'bitspossessed/culturestake', 2025; 'CirclesUBI/whitepaper', 2025) provided insight into software architecture, versioning, team structures and the documentation of development decisions. Observing online communication channels highlighted informal norms, deliberation processes and mechanisms of peer support that are often absent from formal records. Studying platform interfaces allowed me to understand how design choices shape participation and user experience. Together, these layers helped me map both the technical and social dimensions of the platforms.

This preparatory ethnography directly informed my interviews. It enabled me to ask context-sensitive, informed questions and to reference participants' own documented practices. More importantly, it allowed me to engage participants respectfully and collaboratively, supporting co-constructed knowledge production and acknowledging diverse perspectives, which aligns with feminist commitments in digital ethnography (Murthy, 2008).

My approach mirrors methods used by other scholars in similar contexts. Research in STS (Turtle, 1995; Rennie *et al.*, 2022) and Digital Humanities (Fuller, 2008; Snelting *et al.*, 2017; Sollfrank, 2020; Medosch, 2025) demonstrates the value of digital ethnography for understanding governance, collaboration and socio-technical dynamics in online and distributed platforms. Like these studies, my method combined observation of formal

structures (documentation, code) with attention to informal practices (community deliberation, interactions, support mechanisms), offering a more holistic understanding of online projects.

At the same time, I acknowledge the limitations of this approach. Digital ethnography captures only publicly visible activity, leaving more private or sensitive dynamics out of reach. It may also underrepresent voices of participants who engage less visibly online. Recognising these constraints, the ethnographic phase was not a substitute for interviews but a preparatory stage that allowed me to enter discussions with deeper contextual knowledge, ask more meaningful questions and generate richer, more nuanced insights into the governance and social dynamics of collaborative funding platforms.

3.5.2 Interviews

To deepen my understanding of the selected collaborative funding platforms, I conducted seven in-depth, semi-structured interviews with individuals directly involved in their design and development, between March and July 2022. These conversations aimed to illuminate the socio-technical dynamics of platform creation, exploring both the technical processes and the social, political and ethical considerations that shape them. I sought to understand how grassroots participation is facilitated or constrained, how power and decision-making are negotiated between developers and users and how platforms might contribute to more equitable and inclusive economic practices.

The semi-structured format allowed participants to guide the conversation, sharing experiences and insights in their own terms, while also enabling me to probe specific themes emerging from the scoping study. This approach provided access to the often tacit knowledge embedded in practice, knowledge that is difficult to capture through observation or documentation alone. By engaging with practitioners in this way, I was able to reflect on the interplay between the aspirational goals of these projects and the practical realities of their implementation, laying the groundwork for participatory co-design in the subsequent stage of research.

The chosen method conducted through a feminist epistemological lens, provided the necessary depth and flexibility. This chapter details this methodological approach. It begins by summarising how the collected data directly addressed the research questions. It then situates the method within relevant scholarly traditions, explaining why it was uniquely suited to this

study's aims. Finally, it provides a detailed account of the techniques I used to collect and initially analyse the interview data.

These seven interviews served as the primary engine for discovery, directly feeding into the core research objectives. The interviews provided rich, first-hand accounts of these processes, revealing they are far from linear. A detailed recounting of projects histories and evolution, from origins to development, through problems and opportunities, served as examples in iterative, often precarious, socio-technical development. This answered the question of how these platforms are built, highlighting the critical role of learning from public failure. The conversations consistently probed the practicalities of participation, directly addressing the limitations of purely technical solutions to social and economic problems.

Not everything run smoothly in this process. One interview I forgot to record turned into an unexpected lesson in ethical attentiveness and collaboration. Fortunately, the automated transcript was saved, instrumental in reconstructing the conversation, I wrote back to make sure I have explicit consent to use it: "I want to make sure you're comfortable with how this transcript is used, your voice matters here." Their reassurance and feedback reminded me that data collection in feminist-informed research is relational, not extractive and that transparency and dialogue are central to trust. I also remember feeling a mix of panic and relief as I navigated this process, which made me acutely aware of the human stakes in methodological decisions.

The decision to employ semi-structured interviews was guided by Patton's (2002) view of them as a tool for capturing the perspectives and experiences of others, where themes are allowed to emerge from the data rather than being rigidly imposed by pre-set questions. However, my practice of these interviews was deeply informed by feminist methodology (DeVault & Gross, 2006), which was essential for studying a field often dominated by male, techno-utopian narratives. Feminist research explicitly rejects hierarchical, extractive relationships in which the researcher is a neutral "taker" of data. Instead, it aims for dialogue and mutual disclosure (Rapley, 2007). This was evident in my interactions with all participants, which evolved into collaborative reflection. The reciprocity transformed the interviews from interrogations into co-analytical sessions. Glesne (2011) emphasises reflexivity: I was not a neutral observer but a practitioner-researcher with my own biases and experiences in art and technology. My pre- and post-interview notes were crucial for documenting how my assumptions were being tested and how my understanding was evolving in real-time. Creating a safe space was particularly important when discussing

failure and vulnerability and was only possible in an environment framed as a supportive dialogue rather than an evaluation. This openness is rarely captured in traditional, positivist interviews but is critical for honest design research.

The semi-structured, feminist-informed interview proved to be a profoundly effective method for this inquiry. It facilitated access to the complex, human-centred realities of socio-technical design that are absent from whitepapers and official documentation. By prioritising dialogue over interrogation and collaboration over extraction, the method generated rich, authentic data that directly addressed the core research questions regarding process, participation and power. The conversations with experts provided answers, but also a nuanced narrative context, replete with successes, failures and ongoing ethical dilemmas, that is essential for understanding the true challenges and possibilities of building economic alternatives from the ground up. The data collected forms the foundational layer upon which further participatory and co-design phases of this research will be built.

3.5.3 Focus group

Following the individual interviews, I convened an online focus group in autumn 2022 as a way of bringing participants into dialogue with one another, synthesising early findings and opening space for additional reflection. Three expert participants who took part in the earlier interviews gathered for the session, which lasted just over an hour. In line with the protocols of the earlier stages, the discussion was carefully facilitated and recorded, but the tone was intentionally more open and conversational, allowing ideas to circulate more freely between participants than in one-to-one interviews.

The purpose was twofold: to present preliminary findings back to the group and to see what new insights might emerge from their collective engagement with them. In this sense, the session was not simply a validation exercise but a form of collaborative analysis. As Robinson (2019) and Wilkinson (1999) argue, focus groups can unlock a distinct layer of meaning by creating a relatively non-hierarchical space where participants negotiate and co-produce knowledge together. This was very much the case here: rather than passively responding to my framing, the participants challenged, refined and extended it in ways that shifted the direction of the analysis.

Importantly, the decision to hold a focus group was not imposed by me as the researcher but emerged organically from the participants' own desire to reflect together on their overlapping

projects. This responsiveness was consistent with the feminist research principles guiding the study. By treating the session as a shared conversation rather than a data-extraction exercise, I aimed to foster relational accountability and recognise the situated expertise each participant brought. The collective format also created a rare opportunity for practitioners to hear and respond to one another directly, strengthening the sense of group-based empowerment that Wilkinson (1999) describes.

Ultimately, the focus group deepened and consolidated the findings from the *stage one*, while also reminding me that research is a dynamic process. What was most valuable was not simply what participants said, but how they chose to engage with one another and with me: collaboratively, critically and with a strong sense of shared purpose.

3.5.4 Participants

The exploratory study focused on individuals involved in software development, with an emphasis on female leaders to align with feminist methodologies. I prioritised projects explicitly promoting feminist and intersectional approaches to economics. Participants included leaders from Culture Stake, Circles UBI, Open Collective and FreeCoin, providing insights from projects at the forefront of collaborative funding and community wealth building.

In crafting my research, I knew I needed to cast a wide net. While my core case studies were chosen for their depth and maturity, I felt a palpable need to understand the broader, more chaotic frontier of this movement. So, I deliberately pooled potential interviewees from a wider ecosystem of emerging projects, like FairCoin (*faircoin*, 2014; König *et al.*, 2018), CoBudget (*Cobudget*, 2014), FreeCoin (Dyne, 2015), Commonfare (Dyne, 2017; Lyle, Sciannamblo and Teli, 2017; Bassetti, Botto and Teli, 2018; Teli, Lyle and Sciannamblo, 2018; Sciannamblo *et al.*, 2021), DISCO Co-op (DisCO.coop, 2017) and the Robin Hood Co-op (Robin Hood Decentralised Cooperative, 2013), each a fascinating experiment in using the idea of collaborative funding in one way or another.

I remember wrestling with the boundaries of my own study. I was constantly encountering incredible, grassroots initiatives built on principles of circular or community-based economics. Part of me wanted to include them; their spirit felt aligned. But I had to be strict with myself. My central question wasn't just about alternative economies, but specifically about how digital, socio-technical systems are consciously architected to automate and

manage redistribution. The purely social experiments, as valuable as they are, existed outside that specific techno-social lens.

This balancing act, between the focused core and the expansive periphery, ultimately felt like the right approach. It allowed me to dive deep into the intricate mechanics of my primary cases while keeping a finger on the pulse of the wider innovation landscape. It was this dual perspective that gave me, I believe, both the granular detail and the contextual awareness to truly understand the field's ambitions and its limitations.

3.5.5 Familiarity and rapport

In this study, familiarity and rapport were identified as influential factors that may contribute to the quality of data collected during interviews. The quality of data gathered in this study depended on the creation of instant trust between the interviewer and participants, even though this was not a long-term research (Thwaites, 2017). The interviews progressed from a pilot interview with a participant with whom the interviewer had a long history of friendship and collaboration, which presented difficulties in focusing the introduction and questions and allowing the participant to answer fully. On the other end of the spectrum, familiarity with another participant created a high level of anxiety on the interviewer's part, leading to abandoned questions or a lack of follow-up. This highlights the potential negative impact of familiarity on rapport, unless the interviewer is experienced in managing such situations.

The rapport between myself and participants influenced the quality of data collected. While familiarity sometimes facilitated trust, it occasionally created anxiety or distractions, highlighting the need for careful management of relationships during interviews.

3.5.6 Stage 1 summary

Stage 1, *the exploratory engagement*, provided me with a foundational understanding of the three collaborative funding platforms from both technical and social perspectives. Through digital ethnography, interviews and the focus group, I mapped the processes of design, development, governance and community participation, while also identifying tensions, challenges and opportunities within these platforms. The insights I gained informed the refinement of my research questions, participant selection and methodological tools, ensuring that subsequent investigations were grounded in both empirical observation and contextual understanding.

Building on these findings, stage two focuses on a deeper empirical investigation. In this next stage, I apply co-design methods and participatory research practices to examine the dynamics of platform development in action, exploring how design decisions, user interactions and community practices intersect to shape collaborative funding ecosystems. Stage 2 allows me to leverage the knowledge and relationships established in the exploratory stage to engage participants in iterative, practice-based research, enabling both observation and intervention in real-world contexts.

3.6 Stage 2: The participatory co-creation

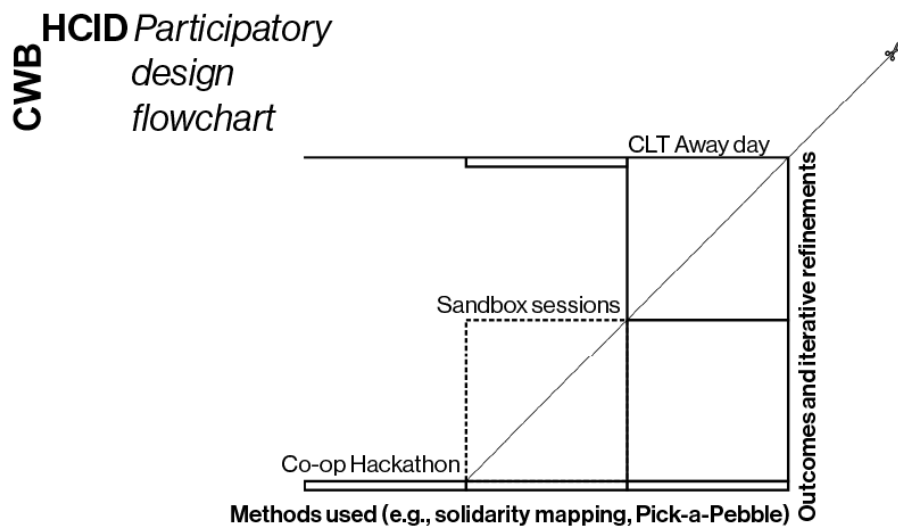


Figure 12: Cutting through the arc of co-design: From Hackathon sparks to community-grounded prototypes, this diagram maps the unfolding of participatory methods across three workshop phases, each iteration deepening solidarity, refining tools and centring collective agency.

Through this study, I aimed to investigate how participatory design activities can surface emergent practices that provide insights into how HCI can support community wealth building. The empirical study unfolded through a structured, three-phase progression of participatory workshops, designed to collect data, but also to test, refine and enact a novel methodological approach as a response to RQ2 (How can feminist scholarship and practice around economics and HCI help inform the design strategies) and RQ4 (How can the co-design with such organisations support fair, inclusive cooperative economies). Each phase contributed incrementally: the Co-op Hackathon introduced the initial critique and

groundwork for subversion; the Sandbox Sessions deepened experimentation, transforming critique into prototypes; and the CLT Away day tested these emergent methods in practice. This iterative structure provided continuity, enabling learning across stages and producing insights that extended beyond method critique into lived practices of subversion. Furthermore, across these stages, what began as exploratory adaptation of existing design methods evolved into two distinct subversions: solidarity mapping (a reworking of example mapping, detailed in Chapter 5) and Pick-a-Pebble (a redesign of the design sprint, elaborated in Chapter 6). These innovations were not planned in advance, but emerged through sustained collective experimentation, reflecting both the co-operative principles under study and the feminist commitment to situated, participant-led knowledge production.

Phase	Chapter 5 focus (Subversion of form/content)	Chapter 6 focus (Subversion of time/speed)
Co-op Hackathon	Introducing example mapping; identifying tensions in Silicon Valley methods	Framing time as friction/resource; critiquing sprint-based temporality
Sandbox sessions	Developing "solidarity mapping" through collective scrutiny	Prototyping Pick-a-Pebble; centring community rhythms
CLT Away day	Testing solidarity mapping in a community land trust context	In-the-wild deployment of Pick-a-Pebble

Table 3: Research design: Three-phase progression

Workshops were situated within solidarity economy contexts, spaces where participants were already resisting Silicon Valley paradigms of disruption, acceleration and extractive innovation. By structuring the research iteratively, I was able to trace how subversion unfolded across multiple dimensions, of form, content, time and speed; and to identify its potential as a generative design approach.

3.6.1 Participants

The participants in the workshops represented a diverse spectrum of co-operative members, encompassing workers from digital co-operatives, housing co-operatives and community land trusts and interested members of the general public. Their experiences ranged widely: some were newcomers to co-operative practice, eager to learn and engage with participatory design methods, while others brought decades of experience in co-operative organising, economic justice campaigns and community-led initiatives dating back to the 1980s. This mix of perspectives created a dynamic and layered foundation for participation, fostering rich

dialogue that blended historical knowledge, contemporary challenges and emergent ideas. The diversity in experience and familiarity with co-operative structures both shaped the content and outcomes of the workshops and enabled methodological experimentation. This allowed us to test and adapt participatory techniques in ways that were responsive to both seasoned participants and those encountering co-operative principles for the first time.

Workshop phase	Number of participants	Age range	Experience level
Co-op Hackathon	10	25–60	Mix of newcomers and experienced co-operators
Sandbox sessions	6	30–60	Primarily experienced co-operators with some newer participants
CLT Away day	6	25–60	Mix of seasoned co-op members and community organisers

Table 4: Second stage participants

3.6.2 Phase One: Co-op Hackathon

The first phase, conducted at the inaugural UK Co-op Hackathon in October 2023, marked the entry point into this empirical study. This workshop introduced participants to the design methods problem, rooted in software engineering and invited them to reflect on its potential and limitations within co-operative contexts. My aim was to surface tensions in adapting a method shaped by Silicon Valley values to settings committed to co-operative principles.

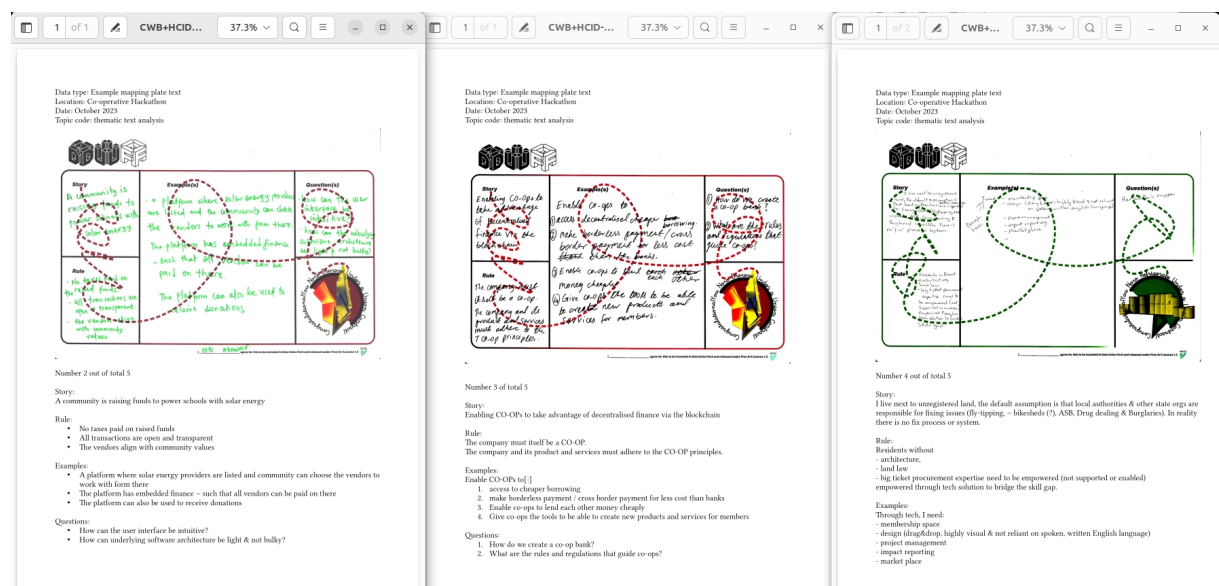


Figure 13: Example mapping data extract and analysis

The session was initially designed as a full-day workshop structured around a series of co-investigative activities. Preparation involved developing a range of physical materials to stimulate discussion and lower barriers to participation. These included icebreaker activities, print-outs of co-operative principles and artefacts from previous research projects, most notably "example mapping for emancipation" plates originally designed to explore issues of data privacy (Blazic, 2020). The session plan was informed by facilitation guides from Mozilla (*Mozilla Open Leaders*, 2018) and Fabriders.net (Slater, 2020), aiming to gather insights on how the co-operative community interprets facilitation and design methods.

However, the research design had to be adapted significantly in situ. As the event unfolded, it became clear that the hackathon participants were primarily focused on their own project development. In response, the workshop was condensed into a single, one-hour session held during the lunch break. This shift highlighted a key methodological challenge and learning point: the necessity of flexibility when operating within a larger, participant-driven event. Despite the compressed one-hour format, participation was high, with ten participants attending for the whole duration and a number of drop-ins. The restructured workshop began with an introduction to my research, connecting it to the broader context of design in the co-

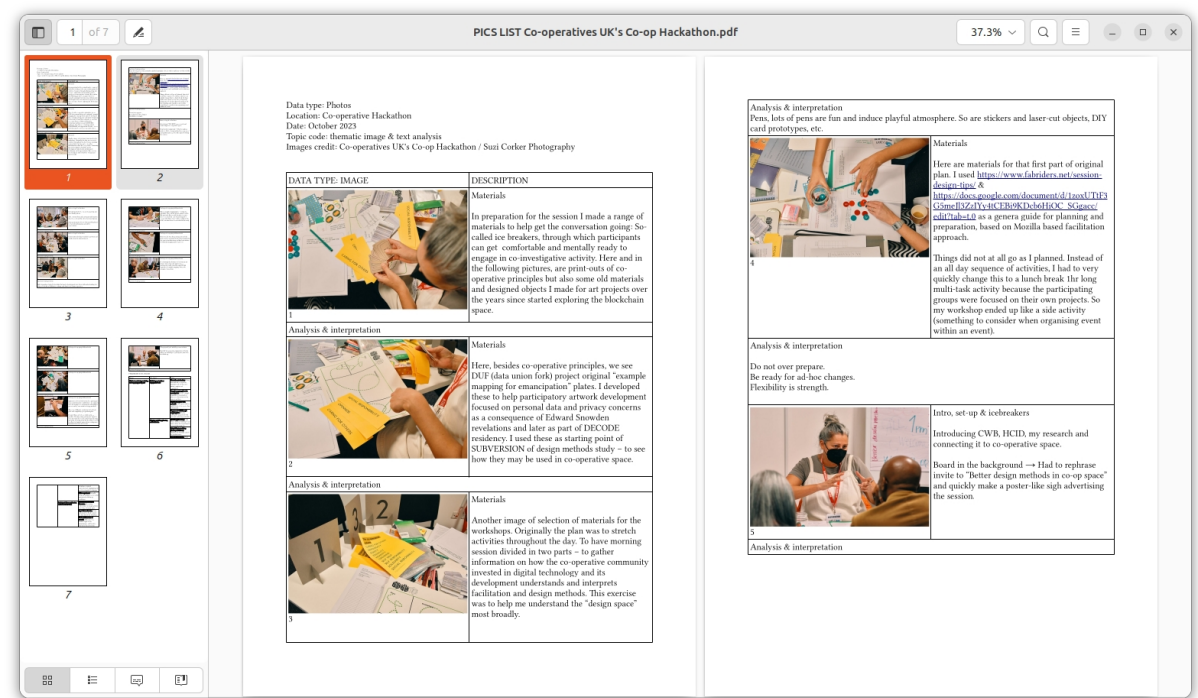


Figure 14: Preliminary TA post COOP Hackathon

operative space. All participants were provided with information sheets and consent forms to review and sign.

To structure the exploration of method adaptation, early in the session, participants were presented with a central, open-ended prompt: "How else can we conduct/make wireframe, flowchart, paper prototype, design sprint in order to bring them closer to co-op principles?" This prompt was designed not to elicit feedback on a specific product but to provoke critical reflection on the process of design itself. The methodological aim was to generate a range of conceptual and practical suggestions for the subversion and hybridisation of conventional HCI methods, directly from practitioners within the co-operative movement. Participants engaged with this prompt by contributing their ideas directly onto A4 printed "plates," effectively using the materials as a collaborative ideation canvas. This approach allowed for the collection of a diverse set of participant-generated proposals, which served as primary data for understanding the landscape of potential methodological innovations.

The last activity introduced example mapping method's history and structure through prompts: "rule," "story," "example" and "question." Participants collectively produced five detailed plates that documented themes including co-operative art education, community solar funding and platform co-operatives. These outputs revealed both the adaptability of example mapping and its shortcomings: while it offered a structured way to organise ideas, it failed to accommodate the values of care, equity and deliberation central to co-operative work.

A central theme emerging here was time. Participants critiqued design sprints for privileging speed and technical fluency, often marginalising those less specialised or less comfortable with accelerated decision-making. Sprint logics, rooted in "move fast and break things," were seen as fundamentally incompatible with community rhythms. Time, participants argued, was not simply a neutral resource but a relational medium that required governance and negotiation. This insight, presented in detail in Chapter 6, laid the foundation for treating temporality not as background but as a central methodological concern.

The Co-op Hackathon thus established two key trajectories: first, subversion of method form and content, by reframing example mapping through co-operative principles; and second, subversion of temporality, by questioning the accelerationist assumptions embedded in dominant design practices. These trajectories became central to the next stages.

3.6.3 Phase two: Sandbox sessions

The second phase of the research, conducted in November and December 2023, was designed to deepen the initial inquiry from the Hackathon by moving from broad critique toward

structured experimentation. This phase comprised two two-hour "Sandbox" sessions. Six participants attended, four of whom had participated in the initial Hackathon, allowing for a degree of continuity and building upon prior shared understanding.

The methodological objective of this phase was explicitly focused on exploring *subversion*. The aim was to actively probe how the structure, content and underlying assumptions of methods like example mapping and design sprint could be entirely reimagined to reflect co-operative and feminist values of pluralism and equality. The sessions were structured not as traditional data-gathering exercises but as collaborative laboratories for method prototyping. The "Circles" activity, for instance, was developed to visually and procedurally expose ingrained assumptions about collaboration, hierarchy and cyclical development processes. This was complemented by exercises like the "Nested dolls" activity, which provided a tangible means to map and discuss complex power dynamics within local economies, drawing direct parallels to hierarchical structures often replicated in standard design practice. These creative formats were a core methodological choice to unlearn everyday concepts and prompt deep reflection from participants on their own positionalities within both economic and technological systems.

The data collection method continued to be highly participatory and artefact-based. The primary data remained the collaborative outputs themselves: the visual maps, diagrams and written principles generated by participants as they engaged with the provocative prompts. My role throughout this process was always meant to be one of a co-experimenter, setting the conditions for exploration and observing how participants collectively navigated the task of method (re)invention.

Through these experiments, participants began to reshape example mapping into solidarity mapping. As I will discuss in Chapter 5, rather than rules, solidarity mapping foregrounded guiding principles. Rather than abstract examples, it emphasised lived stories and relational accountability. In parallel, early iterations of what would become the Pick-a-Pebble (PaP) method emerged. This approach, further discussed in Chapter 6, translated large, complex challenges into manageable, community-driven components. Crucially, PaP embedded a new conceptualisation of time: not deadlines imposed from above, but timelines negotiated collectively as "community time."

The Sandbox sessions thus marked a critical transition: from identifying tensions to prototyping alternatives. Subversion here was not a singular disruptive act but a collective,

iterative process. Through collaborative experimentation, participants reconfigured both form and temporality, translating critique into methods aligned with co-operative values.

3.6.8 Phase three: CLT Away day

The final phase, conducted with the Community Assets for Society and Housing (CASH) Community Land Trust in South-East London, extended these insights into practice. This away day, a 24-hour retreat in September 2024, provided a research “in-the-wild” context for testing solidarity mapping and the PaP method. In the collaboratively planned workshop, I introduced steps from the PaP framework, but participants immediately adapted the agenda, prioritising “pathway mapping” over other stages. This pivot reflected their fluency in community organising and demonstrated how tools could be appropriated and reshaped to fit local needs. In this adaptation, the PaP method evolved beyond my design: tasks were redistributed according to capacity rather than formal roles, digital tools were set aside in favour of value-centred face-to-face discussion and timelines were allowed to emerge organically. Sprint logics were critiqued and replaced, as co-operative temporality redefined governance processes.

This in-the-wild deployment revealed both possibilities and limits. The method proved adaptable and resonant with participants, but time constraints prevented fuller exploration of earlier stages and reliance on facilitator nuance risked undermining reproducibility. Follow-up reflections and online discussions filled some gaps, surfacing both the promise of PaP as a flexible, justice-oriented tool and the need for further refinement.

What unfolded was a dynamic reworking of the assumptions I made whilst outlining the method. Pathway mapping progressed without predefined deadlines, tasks were assigned based on capacity rather than role expectations and digital tools were set aside in favour of value-centred, face-to-face discussion. Their approach didn’t just challenge the rigidity of sprint-based planning, it revealed how deeply co-operative temporality could redefine governance. By the session’s end, the PaP method no longer felt like an experiment; it had become a natural extension of their process.

However, this adaptation came with limitations. The compressed timeline meant we couldn’t fully explore the method’s broader framework, particularly how earlier phases (like problem reframing or resource mapping) might interact with the pathways developed. To fill these gaps, I followed up through online discussions and post-workshop reflections, gathering

insights on where the method succeeded and where it might falter in practice. These conversations surfaced both possibilities, like its potential to re-focus on collective care in decision-making and pitfalls, such as the risk of over-relying on facilitator nuance in less-experienced groups. What became clear was that this wasn't a finished tool, but a promising starting point. The Away day proved the method's viability in real-world conditions, but its full implications demand further research and iterative testing.

3.6.9 Stage 2 summary

The Away day crystallised the iterative nature of subversion: methods are not imported wholesale but reshaped through practice. What began as critique in the Hackathon and prototyping in the Sandbox Sessions became lived governance at the CLT. This stage demonstrated that subversive design methods are not static tools but adaptive, context-sensitive practices.

The progression across the three phases was central to answering all four research questions. The Hackathon surfaced frictions in adapting mainstream design methods (RQ4). The Sandbox sessions demonstrated how feminist and co-operative principles could reshape methods (RQ2), while comparing emergent approaches with existing grassroots practices. The CLT Away day showed how these methods could be enacted and adapted in practice, modelling fairness, inclusivity and accountability in co-design (RQ4).

I designed the workshops as flexible, participant-led events, emphasising hands-on problem-solving, situated knowledge exchange and iterative reflection (Gaver et al., 2022). They allowed me to explore how co-operative design practices could challenge assumptions about productivity, efficiency, optimisation and speed while directing attention to solidarity economy principles and feminist values. The iterative design enabled cumulative learning, refinement of the SM and PaP methods and the identification of context-specific adaptations.

By foregrounding subversion in form, content and temporality, this study contributes both to design research theory and to practical methods for co-operative economies. Subversion is shown not as a singular disruption but as an iterative, situated process of negotiation and transformation, one that is reproducible through the structure of critique → adaptation → deployment. Each workshop was both a site of data collection and a performative act of solidarity, demonstrating how design research can be conducted with, not on, grassroots communities.

3.7 Data analysis

3.7.1 Thematic analysis: A reflexive account of my analytical process

For this study, I elected to use thematic analysis (TA) as outlined by Braun and Clarke (2006) to analyse the rich data gathered from interviews, focus groups, digital ethnography and workshops. I made this methodological choice deliberately; its flexibility and structured while accessible framework were essential for interpreting my large and varied qualitative dataset, which included textual, visual and material artefacts. More than just a practical tool, I found that TA's capacity for producing rich, detailed and rigorously accounted-for interpretations resonated deeply with my commitment to participatory, community-based and feminist research within HCI. Its theoretical agnosticism was particularly valuable, as it empowered me to fluidly combine inductive approaches, allowing insights to emerge directly from the participants' own accounts, with deductive approaches guided by my specific research questions and theoretical interests in co-operative and feminist HCI. This flexibility was crucial for my iterative research design, where early findings actively shaped the subsequent phases of data collection.

I structured my thematic analysis in two deliberate, interconnected stages to intentionally build in opportunities for reflection and refinement. After the initial round of data collection (interviews, focus group, digital ethnography), I conducted a preliminary analysis. This was a strategic decision: coding this early data allowed me to identify nascent patterns concerning temporal experiences and relational dynamics. Crucially, I shared these initial interpretations with participants in the follow-up focus group, opening them for discussion and my own assumption checking. This dialogic process simultaneously validated and enriched the emerging themes with participant insights, ensuring the analysis remained grounded in their experiences. This preliminary work was far more than preparatory; it was the first vital and collaboratively shaped, step in my analytical journey. The refined understanding it produced directly informed the explicit design of the second-stage workshops, ensuring they would probe the most salient themes in greater depth.

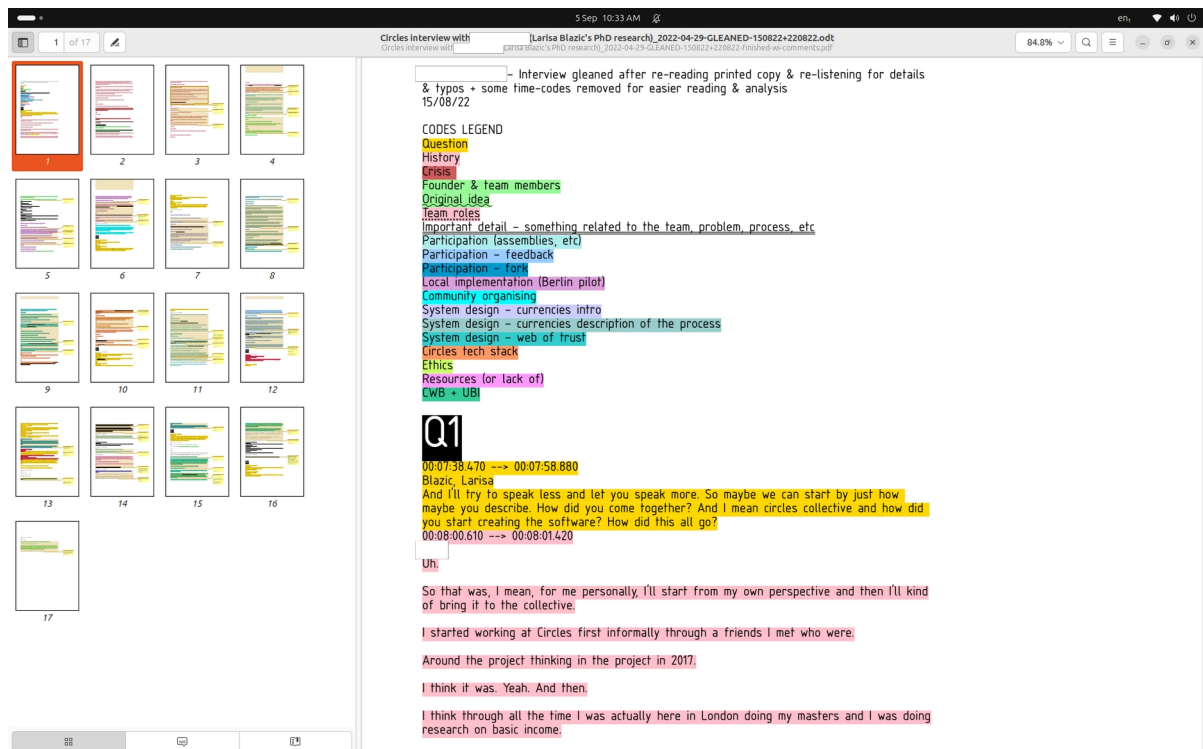


Figure 15: Thematic analysis, coding and gleaning interview data

The second stage of analysis was where the iterative nature of my process became most evident. I engaged with a multifaceted corpus of data, co-design artefacts, photographs, workshop transcripts, feedback forms and my own field notes. Grappling with this mixed-media data was a conscious methodological stance, aligning with feminist principles by creating multiple entry points to honour participant voices and capture the nuanced relational dynamics of our workshops (Björgvinsson, Ehn and Hillgren, 2010; D'Ignazio and Klein, 2023). Throughout, I constantly navigated the tension between rigorous analysis and ethical practice, ensuring GDPR compliance, full anonymisation and respect for participants' time and well-being.

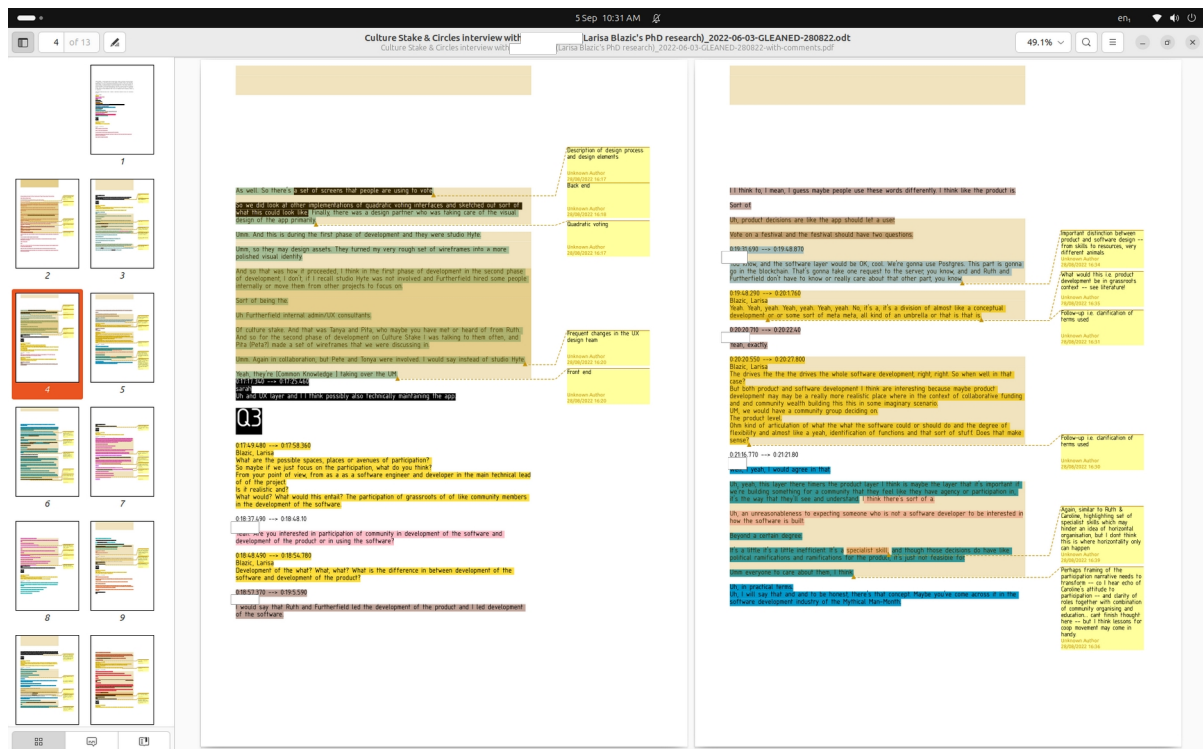


Figure 16: TA, organising data and making comments

3.7.2 Familiarisation and coding

My first substantive step was a deep and critical familiarisation with the entire dataset, as advocated by Braun and Clarke (2006, 2013, 2017). In addition to the interviews transcripts, I immersed myself in the photographs of workshop outputs and the materiality of the artefacts themselves. I reflect now on the challenging balance this required: maintaining a detailed focus on individual data items while simultaneously holding an awareness of broader, cross-cutting patterns. To manage this tension and to critically interrogate my own positionality, I kept contemporaneous reflective notes. This was not a simple log but an essential space where I tracked emergent impressions, challenged my own assumptions and consciously situated the data within larger social and political contexts, particularly through the lenses of feminist and co-operative values (Suchman, 2007; Fox, 2020). This practice was fundamental in shaping my analytical gaze.

My approach to coding was a dynamic negotiation between the data and my theoretical frameworks. I intentionally employed both inductive and deductive strategies. Inductive coding was an act of humility, allowing me to attend to the organic patterns and situated knowledge emerging from participants' own words and creations. Concurrently, my deductive coding, informed by theories of co-operative design and feminist HCI, served as a necessary analytical scaffold, ensuring my interpretations remained relevant to my core research

questions (Björgvinsson et al., 2012; D'Ignazio & Klein, 2023). The process was profoundly iterative. I began with manual, tactile coding on printed materials to feel close to the data, later transitioning to digital organisation for cross-referencing and theme building. The primary challenges I wrestled with included the inherent messiness of qualitative analysis, the constant need to test my interpretations, reconciling overlapping codes, discerning implicit meanings and holding myself accountable for transparent, defensible analytical decisions. For instance, when I noticed myself consistently coding for a particular theme, I would pause and actively search for data that challenged that emerging pattern. This deliberate effort to 'test my assumptions' against the full dataset was a critical guard against selective reading and ensured the final themes were robust and comprehensive, representing both dominant and nuanced participant experiences.

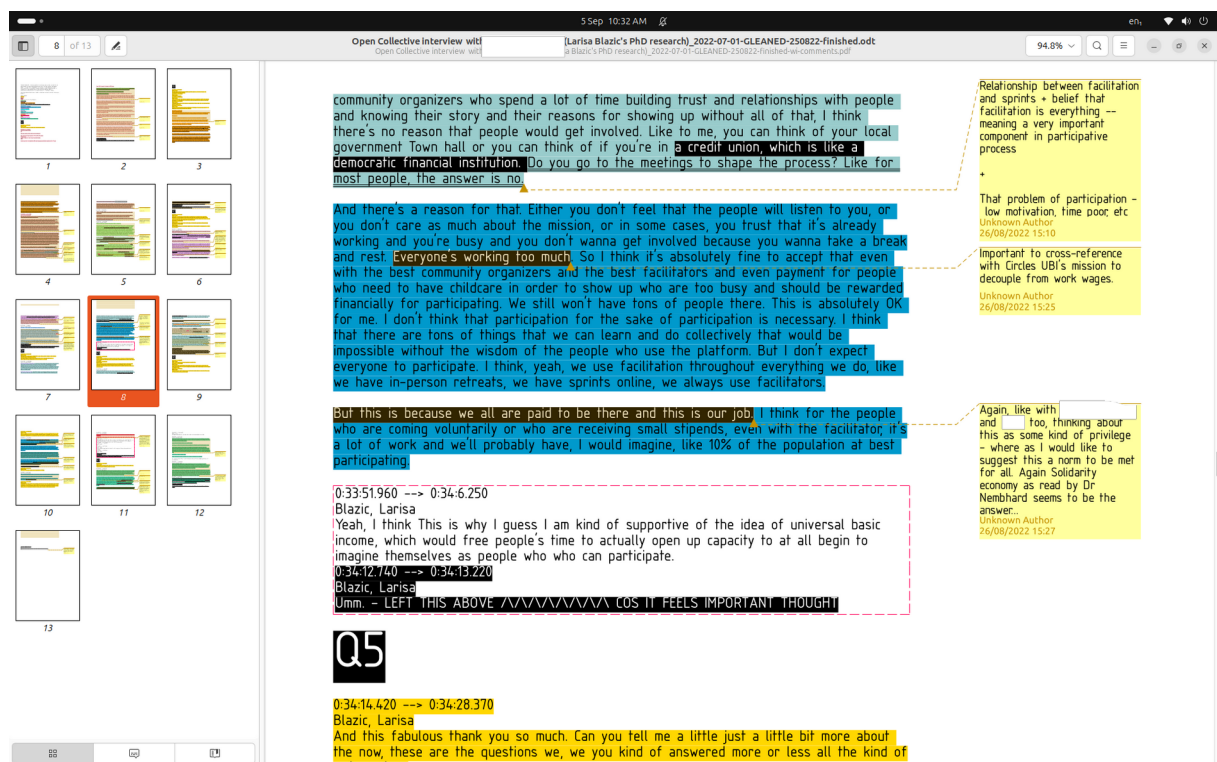


Figure 17: Detail from interview transcript TA

3.7.3 Generating and reviewing themes

Generating themes felt like the culmination of this iterative process, identifying the core narratives that woven through the entire dataset. My early themes were largely descriptive, cataloguing observable patterns in participation and artefact use. However, I pushed myself to move beyond this into a deeper, more analytical space. This meant constantly asking, "What does this pattern mean in the context of my theoretical concerns?" Reviewing these themes

was an exercise in rigorous critique. I repeatedly cross-checked coded extracts against potential themes, asking if they were consistent, if they truly captured the complexity and nuance of participants' experiences. My reflexive notes were again indispensable here, helping me surface and grapple with tensions, for instance, the challenge of balancing rich description with interpretation, or of managing the undeniable influence of my own positionality on the analytical choices I made.

Workshop stage	Data types collected	Format
Co-op Hackathon	1. Images of workshop outputs 2. Printed conversation prompts on design methods 3. Remixed example mapping materials from Data Union Fork project	Physical/digital artifacts
Sandbox sessions	1. Printed collaborative materials 2. Digital documents 3. Backup audio recordings (for verification only)	Mixed media
CASH CLT	1. Online feedback forms 2. Public CLT general meeting minutes 3. Organisation website – publicly available about and other sections 4. OpenCloud infrastructure	Digital institutional records
Researcher documentation	1. Field notes 2. Reflexive journals 3. Sketches	Process documentation & meaning making

Table 5: Data types in second stage

This analytical journey was not seamless; it was defined by working through challenges. The temporal nature of my workshops, with their pauses, delays and extended reflections, resisted a neat, linear coding process. Furthermore, the mixed-media data demanded that I invent consistent methods for representing physical, digital and performative artefacts in a primarily textual analysis. Most significantly, my commitment to feminist and co-operative values required a constant, critical reflexivity. I had to continually question my own assumptions, consciously privilege participant voices over my own interpretations and actively resist conventional academic hierarchies of knowledge. In response, I developed several practical strategies (see Figures 13-17), colour-coded coding schemes, thematic mapping in tables and scheduled reflection sessions, which became essential tools for navigating these complexities.

In retrospect, I understand TA in this study as far more than a simple method for sense-making. It was a sustained, reflexive engagement with both process and principles. By iteratively coding, reviewing and reflecting across multiple data types, I endeavoured to construct a methodology that was rigorous as well as ethically and politically aligned with the co-operative and feminist values at the heart of my research. This approach allowed me to integrate participant perspectives meaningfully, document my analytical pathway with transparency and provide an honest account of the complex challenges inherent in this type of deeply engaged qualitative work.

3.8 Ethics & positionality

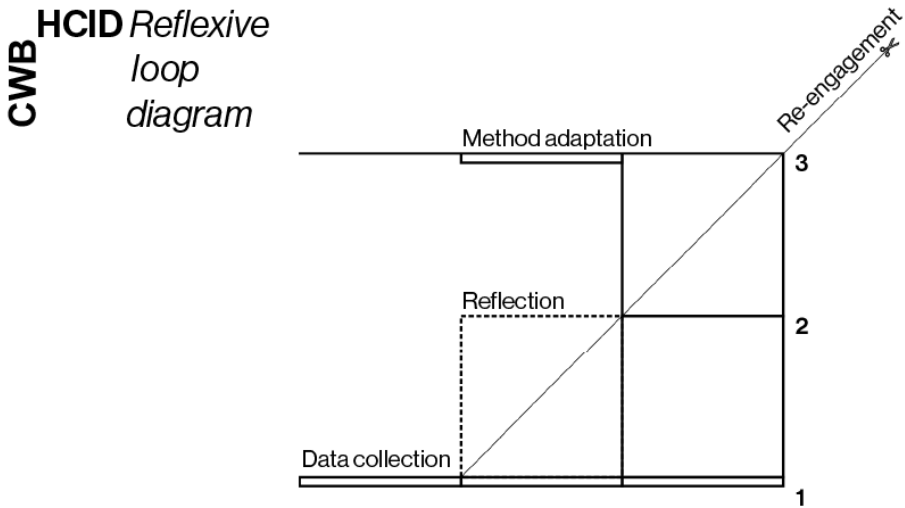


Figure 18: Mapping the iterative cycle of data collection, reflection, method adaptation and re-engagement, this diagram visualises how reflexivity and ethical accountability informed each phase of the study, reinforcing a feminist stance on positionality and co-produced knowledge.

My understanding of ethics and positionality is rooted in a specific personal and historical context. Born in a communist country, I experienced the decline of workers' self-governance movements and the instability of early post-socialist economies. One formative memory is the 1980s inflation, my first encounter with the fragility of fiat currency, which I recall vividly even as a child of ten. Alongside these macroeconomic shifts, personal histories shaped my awareness of cooperative practices: my mother's involvement in a mutual fund, structured less for speculative finance and more as an informal solidarity mechanism to support housing needs, demonstrated how collective resource pooling could operate as a tool of mutual aid.

These experiences seeded my long-standing interest in the political and ethical dimensions of economic infrastructure.

These early life experiences intersected with the wider intellectual and cultural currents that have informed my work. Growing up with the Non-Aligned Movement instilled in me an awareness of anti-colonial principles, self-determination and resistance to extractive power structures. Participation in DIY and maker cultures emphasised grassroots agency and the capacity for communities to generate solutions outside hierarchical or institutional frameworks. Decades of involvement with free and open-source software (F/LOSS) communities sharpened my understanding of intellectual property as a political tool: the tension between exploitative IP regimes and copyleft approaches illustrated to me how ownership and rights could be mobilised either to consolidate power or to enable collective agency. Similarly, solidarity economy practices highlighted mutual aid as both a principle and a method, shaping how I understand co-operation, collective responsibility and the ethical implications of design. These influences form a lens through which I view computing and HCI, always emphasising emancipatory and participatory practices that foreground justice, equity and shared agency.

This political and cultural stance directly informs my design and methodological approach, which is a convergence of critical, open and activist traditions. My work draws on libre graphics, radical openness and activist design to foreground collaboration and ethical responsibility in both visual and interactive systems. Bauhaus principles have informed my approach to the structuring of knowledge, connecting historical design philosophies to contemporary, socially-engaged practice. As an educator and feminist hacker, I am committed to radical pedagogy, where teaching, co-creation and knowledge production are intertwined with empowerment and systemic transformation. Across these domains, my methodology emphasises co-creation, emergent processes and the facilitation of participant agency, aligning the research process itself with the co-operative and emancipatory values I study.

Ethically, this positionality translates into deliberate methodological commitments. I prioritise ongoing consent and participant autonomy, acknowledge the affective and unpaid labour inherent in community participation and consciously resist extractive dynamics that often characterise academic research. Reflexivity is central: I document and interrogate the assumptions and biases that my embedded experiences bring to the research, particularly where they resonate with or diverge from participants' perspectives. By framing ethics as

inseparable from practice, I aim to model solidarity, transparency and equity throughout all stages of the research process.

In this way, my positionality, shaped by historical circumstance, political engagement, technological practice and philosophical reflection, actively informs both what I study and how I study it, guiding methodological choices and ethical commitments. The research is both a study of co-operative practices and a living demonstration of the values that animate them.

3.9 Limitations

This study's contributions are necessarily framed by its methodological boundaries and the material constraints of engaging in long-term participatory work. The limitations discussed below illustrate the core tensions in conducting research in *solidarity with*, rather than *on*, co-operative movements.

The research was intentionally focused on the specific context of co-operatives exploring decentralised ledger technology (DLT) for governance and ownership models. While this provides depth, it limits the generalizability of the findings to other technological domains or cooperative types. Furthermore, the participatory nature of the work, which prioritises deep engagement over broad recruitment, resulted in a small number of core participants. This scale is a recognised feature of intensive qualitative and participatory design research, but it means the findings represent a detailed starting point for exploration rather than a comprehensive map.

A significant constraint was the extensive time frame required for meaningful engagement. The process of building trust, recruiting participants and co-organising activities spanned nearly three years. This extended timeline highlights a fundamental tension: the slow, careful work of building genuine partnerships is at odds with the accelerated pace of traditional research. The immense personal energy and long-term commitment required, while ultimately fruitful, present a practical barrier for researchers and institutions accustomed to more extractive and efficient methodologies.

The research process inevitably encountered power asymmetries rooted in my institutional position and access to resources. Dependencies on institutional tools for communication (e.g., Microsoft Teams) and data analysis created imbalances, as these platforms are owned and controlled by corporate or academic entities external to the co-operative community. This

tension between using available tools and inadvertently reinforcing extractive or corporate tech logics was a persistent challenge. I actively worked to counter these asymmetries by embedding two mitigating practices into the research process: 1) facilitating the co-interpretation of data in real-time during sessions, which ensured emergent findings were immediately shaped by participant insights (Wong-Villacres *et al.*, 2018) and 2) engaging in upfront and transparent negotiations regarding the purpose and outputs of the study to guarantee its utility for the community's goals, adhering to value-sensitive design (Frauenberger *et al.*, 2015).

This study's limitations, its focused scope, small scale and the demanding temporality of its approach, are intrinsically linked to its participatory and co-operative ethos. Rather than diminishing the work, these constraints help to realistically frame its exploratory nature. This research does not seek to provide a definitive answer but to point toward crucial future directions: developing design methods that actively reject extractive logics, documenting how co-operative tech navigates corporate-dominated digital ecosystems and, most importantly, focusing knowledge production within grassroots economic justice initiatives.

The overwhelming focus of mainstream HCI research on privileged contexts, with only a tiny fraction of major publications addressing issues of economic inequality¹, demands a conscious reorientation. Therefore, the significance of this work lies not in its comprehensiveness, but in its commitment to modelling a different kind of design research: one that works in solidarity with co-operative movements, embraces the necessary slowness of trust and accepts its methodological limitations as the very conditions for producing more equitable and relevant knowledge.

3.10 Conclusion

This chapter has outlined the methodological framework that grounds my study, showing how I draw on feminist HCI, in dialogue with feminist economics, to inform both my epistemological stance and research design. Through a radical participatory design approach, I treat methods as political and ethical practices, grounded in a commitment to pluralism and the work of undoing systemic marginalisation. This orientation directly serves the project's

1 Search conducted on 11/05/25 in the ACM Digital Library (<https://dl.acm.org/>) using the query AllField="economic inequality". Results were filtered for relevance to core HCI topics. The precise methodology is available from the author upon request.

core aims: to resist extreme economic inequality and contribute to work of community wealth building.

I structured the research in two stages: beginning with a scoping study through exploratory interviews, digital ethnography and a focus group; and extending into empirical co-design workshops. This structure ensured the inquiry was iterative, responsive and co-constructed with participants. The use of thematic analysis, reflexivity and attention to ethics and positionality further grounded the study in the feminist and co-operative principles of transparency and accountable knowledge production. While my participatory approach introduced limitations of scale, scope and temporality, I understand these constraints as inherent to an engaged work in co-operative space rather than as methodological weaknesses.

Overall, this chapter provides the foundation for the findings that follow. By situating my research methods within a feminist and co-operative orientation, I aim to ensure that the empirical chapters ahead (Chapters 4-6) demonstrate how our collaborative design practices can contest extractive logics and open pathways toward more work that supports socioeconomic justice in HCI.

CHAPTER 4 SCOPING STUDY

4.1 Introduction

In this chapter, I present the qualitative scoping study I conducted between March and November 2022 to address the first three research questions of my PhD project. Building on the literature review and theoretical framework established earlier, this study investigates how digital platforms for collaborative funding are designed within solidarity economies, with a particular focus on how socio-economic dimensions are embedded in their development. My aim is to contribute to a broader understanding of how critical perspectives and HCI practices can inform socio-technical alternatives for emerging digital infrastructures and interactive systems.

The chapter begins by revisiting the socio-technical context of my research, introducing the three case study platforms: Culture Stake, Circles UBI and Open Collective, which I selected for their potential to serve as tools for transparent accounting, complementary currencies and local governance to support community wealth building. Returning to the central concerns of this research, I revisit my guiding questions through the dual lenses of economic theory (Cameron and Gibson-Graham, 2003) and feminist HCI scholarship (Bardzell, 2010), theoretical perspectives that inform both the analytical framework and the methodological approach of this study.

The methods section details my qualitative approach, which combines digital ethnography, semi-structured expert interviews and a focus group. This reflects my commitment to inclusive principles of marginality, pluralism and resistance (Hooks, 1989; Intemann, 2012b), ensuring that the voices of practitioners and communities often excluded from technology design are foregrounded. I also address ethical considerations, including institutional approval and data anonymisation, while critically reflecting on the limitations of relying on proprietary tools like Microsoft Teams due to institutional constraints. My positionality as a researcher embedded in solidarity economy praxis shaped my interactions with participants, particularly in navigating familiarity and rapport during interviews (Thwaites, 2017).

I conducted seven expert interviews with platform developers and organisers, followed by a focus group to validate and expand on preliminary findings. Using thematic analysis (Braun and Clarke, 2006, 2019), I coded data iteratively, moving between inductive and deductive approaches to identify key themes such as design process, participation, and core values. This

method allowed me to integrate participants' lived experiences with theoretical insights from economic and HCI literature.

My analysis revealed tensions between the platforms' emancipatory goals and the practical challenges of co-design. For instance, while an Open Collective participant highlighted misalignment between the project's radical ambitions and conventional design processes, some developers expressed skepticism about non-technical users engaging deeply in design. While I initially considered facilitation central for the next stages, it ultimately fell beyond the scope of the study. Participants prioritised exploring and adapting conventional design methods, shifting the focus toward co-design and participatory design (PD), thus aligning with literature on the flexibility of design processes (Dahl and Sharma, 2022). These findings inform my next research stage: participatory workshops to investigate design methods and PD processes, while contributing to HCI debates on design justice (Costanza-Chock, 2018).

The chapter concludes by framing these tensions as sites for further inquiry, particularly in examining how HCI and solidarity economy principles could reconfigure platform development to better align with their emancipatory aims and, in doing so, more effectively support community wealth building.

4.1.1 Context

My research emerges from a paradox I observe in decentralised technologies: how platforms conceived as responses to economic crisis became vectors of the very inequalities they promised to resolve. The digital infrastructure ecosystems I study, including Circles UBI, Culture Stake and Open Collective, originated in the political ferment following the 2008 financial collapse, when trust in institutions evaporated and movements like Occupy demanded radical economic alternatives. A major drawback of this development is that fifteen years later, we witness how these same kind of technologies now exacerbate wealth concentration through speculative crypto markets and extractive platform models (Scholz, 2016; Bria and Morozov, 2022).

This scoping study grapples with that contradiction. I focus on collaborative funding platforms precisely because they embody blockchain's unresolved tension: their technical architectures encode participatory ideals (mutual credit systems, quadratic voting), while their organisational realities reveal capitulation to Silicon Valley's imperatives (Barbrook and Cameron, 1996). When Gnosis-funded Circles UBI halted its Berlin basic income pilot, I saw

how easily experimental projects become casualties of venture capital's boom-bust cycles. When Open Collective's fiscal host collapsed, I recognised how even well-intentioned platforms remain dependent on the unstable infrastructures they sought to replace.

My starting context is deliberately historical. I trace how today's platforms inherit two competing legacies from 2008: 1) The emancipatory thread: Co-operative credit systems, time banks, and P2P mutualism that flourished in crisis; and 2) The speculative thread: Bitcoin's libertarian individualism that mutated into today's predatory DeFi ecosystems. What interests me is where these trajectories intersect, in order to remedy them, like in Open Collective's "Exit to Community" initiative, where I observe developers consciously wrestling with this duality. Here, feminist HCI becomes my methodological compass: by centring relational accountability and co-operative design, I test whether these platforms might still realise their original solidarity economy aims.

The urgency of this work grows as extreme economic inequality deepens. If blockchain's infrastructures now reinforce inequality, my study asks: Can their original aspirations still bring about economic justice as once was promised? And what distinctive contributions can HCI make to support community wealth building in this contested space? My findings indicate that technological design and development must be coupled with full commitment to social benefit. The path forward, I argue, requires rebuilding collective approaches rooted in historical co-operative practices and guided by feminist principles.

4.1.2 Gap in HCI/STS

While HCI research increasingly engages with social justice (e.g., feminist HCI, participatory design), its treatment of socio-economic inequality remains uneven. As Dourish (2017) argues, HCI often renders technology as "disembodied" from material realities, such as wealth distribution or labour precarity, even in critical work (The Stuff of Bits, p. 23). This gap is stark in DLT research, as presented in literature review, where claims of "decentralisation" rarely address how platforms might actively redress economic inequality (e.g., via redistributive design) or foster community wealth building, a framework that prioritises local ownership, democratic governance and collective asset stewardship (CLES, 2023). By applying feminist HCI methods to study projects like Open Collective and Circles UBI, this chapter exposes tensions between these projects emancipatory rhetoric and its practical

barriers to participation, while proposing co-design strategies to align technology with equitable economic futures.

Furthermore, the literature reveals a persistent disconnect between DLT’s theoretical potential and its practical implementation in solidarity economies. While feminist HCI scholars advocate for inclusion (Frizzo-Barker, 2023) and STS researchers critique blockchain’s pitfalls (De Filippi *et al.*, 2022; Mumford, Sampson and Shires, 2024), few studies examine how these insights might transform platform design to address wealth inequality materially. For instance, despite Gibson-Graham’s (2006) framework of diverse economies, which highlights non-capitalist exchange forms like mutual credit, HCI research on blockchain overwhelmingly prioritises financialised applications (De Filippi *et al.*, 2020). My cases expose this disparity: Circles UBI’s system, though theoretically aligned with solidarity economy principles, collapsed when “crypto bros” support dried up, while Open Collective’s fiscal host crisis revealed how even “alternative” infrastructures depend on traditional financial systems. These failures underscore a critical gap: the absence of redistributive design protocols that could actively involve grassroots communities and enable meaningful community ownership of technological infrastructures. Similarly, while participatory design literature emphasises co-creation (Vines *et al.*, 2012), DLT platforms often reduce participation to token governance votes rather than substantive wealth-sharing, a tension my study makes visible through feminist HCI’s lens of participation (Bardzell, 2010).

4.1.3 Projects studied

As discussed in previous chapters, emerging technologies such as blockchain, smart contracts and digital currencies have the potential to transform local economies by enabling new forms of collaboration, value exchange and governance. In this study, for the purpose of gathering in-depth information on the ways of designing and developing such emerging platforms, I explore three initiatives: Open Collective platform, Circles UBI platform and Culture Stake project - through expert interviews with practitioners and researchers followed by a focus group.

Open Collective

Year	Key events & milestones	Details
2015	Open collective founded	Created to bridge grassroots funding and legacy institutions.

	\$3M Investment	30% cap ensures employee/user majority ownership.
2020	Achieves profitability	Scaled 20x during the pandemic.
	Begins "exit to community" planning	5–7 year horizon for transition.
2022	15,000+ Collectives	Platform growth and experimentation with paid learning cohorts for governance.
	Nested-doll model	Nonprofits (e.g., Open Source Collective) feed expertise into the platform.
	Key tools adopted	GitHub (tech), Cobudget (priorities), Loom (async video), Slack (hybrid governance).
2024	Focus on community ownership	Education (GitHub tutorials) and participatory budgeting.

Table 6: Open Collective timeline

Open Collective is a platform that enables groups and communities to raise and manage funds transparently. It allows groups to easily receive and manage financial contributions, track expenses, and share financial information with their community. Open Collective provides tools for individuals and organisations to create a "collective", which is a transparent and collaborative way to manage finances. Collectives can be used by open source projects, social movements, meetup groups, or any group or organisation that wants to be transparent about their finances and receive financial contributions from supporters. Open Collective also offers features such as customising contribution tiers, setting financial goals and generating financial reports for transparency and accountability.

Circles UBI

Year	Key events & milestones	Details
2013	Conceptualisation	Martin Koppelman proposes Circles (mutual credit + UBI).
2017	Early team formation	P2 joins as researcher; loose team assembles.
2018	Berlin team consolidation	Core members (P3 and another development team member, etc.) join.
2019	Crisis & development begins	Team reduces to 5 core members; development starts on Gnosis Chain.
2020	Feb: Test launch	Pilot on POA network.
	Oct: Public launch	Viral growth causes server overloads.
2021	Formalisation & governance	German co-operative (e.G) established; assemblies and CAT (Committee Activation Team) form.
	Bali pilot starts	Not explored in this study

2022	Berlin open pilot	Focus on B2B Circles/euro redemption.
		Participatory design (e.g., bike co-operatives via assemblies).
2023	Berlin pilot ends	Expand pluriversal front-ends; policy advocacy (e.g., Maricá model).
	Bali pilot ends	TBC

Table 7: Circles UBI timeline

Circles UBI is a platform for implementing a universal basic income system based on a mutual credit system. The platform is built on the Ethereum blockchain and uses a social trust algorithm to enable individuals to issue and exchange their own digital tokens. The basic idea is that each person is given a certain amount of tokens per day, which can be exchanged with other individuals in the network. Since each person receives the same amount of tokens, it creates a basic income for everyone involved in the system. The platform is designed to be community-driven and relies on social trust rather than traditional banking systems to facilitate transactions. Circles UBI aims to create a more equitable and decentralised system of value exchange and distribution and has been used by various groups and organisations for local economic experiments and pilots.

Culture Stake

Year	Phase / Event	Key Details
2018	Precursor: blockchain art commission	Furtherfield partners with Neon Festival. P4 is awarded a commission for her art work. This establishes the connection with P4.
2019	Inception & ideation	Arises from discussions at DECAL (Decentralised Arts Lab) events and a retreat. P2 is inspired by the concept of quadratic voting from the book <i>Radical Markets</i> as a potential tool for cultural democracy and to address the "tyranny of the majority." The core idea: a tool for communities to have a stake in cultural funding decisions.
2019-2020	Early development & design	Initial collaboration with P5 (artist/developer) and a UX/interface designer. The project is scoped down to focus on building a quadratic voting tool.
2020	Pivot due to pandemic	The project pivots to its first major test case: The People's Park Plinth in Finsbury Park, London.
2021	People's park plinth (first major test)	The first public implementation and vote are held. The technical process is challenging. The team learns the critical importance of UX design and testing.
2022	Iteration & UX overhaul	The project partners with P6 to conduct a full UX overhaul. They perform user testing in the park, stripping back the interface and clarifying the user journey based on real feedback.

Year	Phase / Event	Key Details
2023	Future vision & development	The goal is to create a stable back-end and front-end that other UK organisations can use.

Table 8: Culture Stake project timeline

The Culture Stake project, which utilises blockchain-based quadratic voting, aims to promote public participation in the selection and production of public art projects. By doing so, the platform addresses issues of elitism within the art economy and provides greater agency to communities. Specifically, the platform enables individuals to have a stake in the cultural decision-making processes that impact their locality, thereby promoting greater community engagement and participation. This platform is designed to address issues that exist within the art economy, where artists often receive inadequate compensation for their work. Furthermore, it has the potential to promote cooperation, generosity, commons and participatory democracy, thereby potentially indirectly contributing to local and community economic development.

4.1.4 Research questions

This research is situated at the intersection of feminist HCI, economic justice and emerging decentralised technologies. Through this study, I aimed to better understand how collaborative funding platforms are being designed within alternative economic infrastructures, in order to apply and translate these findings into participatory design exploration for communities leveraging such technologies in solidarity economies. The following research questions guided the inquiry:

RQ1: What is the role of emerging distributed ledger and peer to peer network technologies in the establishment of (micro) hyper local economies?

RQ2: How can feminist scholarship and practice around economics and HCI help inform the design strategies of new digital platforms for collaborative funding?

RQ3: How these technologies compare to other existing grass-roots community accounting platforms based on conventional network technologies?

These questions frame the study's focus on both technological affordances and sociopolitical commitments, highlighting the role of infrastructure, values and governance in the design of digital platforms for economic coordination.

4.1.5 Theoretical lens

In this research, I adopt a feminist theoretical framework that draws on critical traditions in feminist HCI, feminist economics and solidarity economy (SE) theory. Building on the work of Bardzell (2010), Bardzell & Bardzell (2011), and Fox et al. (2017), I approach technology design as a deeply political and social process—one that embeds power, difference and agency into platforms and infrastructures. I understand platforms not as neutral tools, but as socio-technical systems that can either reproduce or challenge dominant models. This framing aligns with the view that emerging digital infrastructure is never simply a technical artefact, particularly those embedded in technofeudalism (Varoufakis, 2024).

Feminist theory, especially intersectional and post-structuralist perspectives, allows me to foreground the knowledge and agency of marginalised communities. I draw on Haraway's concept of situated knowledges to attend to how grassroots actors and collectives produce technological knowledge from the periphery. These sites of alternative design are, for me, places where resistance and world-building converge, where communities are actively imagining and enacting different technological futures.

My work is also informed by design justice (Costanza-Chock, 2020), which challenges who gets to design, for whom, and under what conditions. This lens allows me to study how values such as equity, mutual aid, and shared governance serve as aspirations that find concrete expression in the design, governance, and use of co-operative digital platforms. In this way I ask what is being designed and, more importantly, whose vision of the future is embedded in these systems.

Additionally, through this study I engage with solidarity economy frameworks, which provide historical and theoretical grounding for understanding co-operative and community-controlled technological infrastructures. As discussed in the literature review, SE approaches (J.K. Gibson-Graham, 2006; Guérin, Hillenkamp and Verschuur, 2021; Cameron and Gibson-Graham, 2022) reframe economic relations around interdependence, care, and democratic ownership. In this context, the platforms under study are treated not simply as tools, but as instances of economic alternatives that challenge the extractive logic of Big Tech.

Drawing on the concept of infrastructural mutualism (Swartz, 2018) and Gibson-Graham's "diverse economies" framework, this lens allows the study to attend to how technologies both mediate and materialise values. It recognises digital infrastructure, especially in the form of

distributed ledgers or collaborative funding platforms, as a key terrain of political struggle, where questions of value, participation and control are continuously negotiated.

Finally, the feminist commitment to resist and build, to simultaneously critique dominant systems and construct viable alternatives, informs the methodological stance of this study. As such, the scoping study moves beyond documenting the emergence of new platforms to situate them within a broader political project of technological sovereignty, democratic participation and post-capitalist possibility.

4.1.6 Chapter structure

Chapter 4 presents a detailed account of the qualitative research process undertaken to explore the design and governance of collaborative funding platforms. It begins by situating the study within relevant socio-technical and disciplinary contexts, including the gap in current HCI and STS literature concerning decentralised infrastructures and solidarity-based economies. The chapter outlines the research questions and theoretical lens, drawing on feminist HCI, design justice, and solidarity economy frameworks, that guide the study's approach to knowledge production and participation.

The methods section gives an overview starting with the research design, including digital ethnography, semi-structured expert interviews and a follow-up focus group. It includes brief on the planning and preparation involved in conducting the study, such as participant recruitment, interview framing, ethical considerations and documentation practices. The chapter also reflects on the researcher's positionality and the feminist-informed approach to interviewing and analysis. The findings section identifies key themes, ranging from design tensions and power dynamics to the role of facilitation and governance in platform development. The chapter concludes by discussing methodological limitations, potential implications for design and policy and future research directions.

4.2 Methods

4.2.1 Overview

This study employed a feminist epistemological framework to examine the co-design and governance of collaborative funding platforms. In the research design I created a methodological approach that privileged participant voices while maintaining rigorous analytical standards. Below is a concise overview of the methods; for complete methodological details, see Chapter 3.

I began with digital ethnography, immersing myself in the online ecosystems of three collaborative funding platforms. Spending some time analysing GitHub repositories, community forums and platform interfaces, I traced patterns of governance and participation. This preparatory work proved invaluable: by understanding the platforms' technical and social architectures, I could approach subsequent interviews with informed curiosity rather than basic questions. The digital ethnography phase revealed unexpected tensions between the perception of blockchain infrastructures and community practices that later became central to my analysis.

Between March and July 2022, I conducted seven in-depth interviews with platform creators and developers. These conversations, each lasting about an hour, followed a semi-structured format I designed to balance focus with flexibility. Drawing on feminist interviewing techniques, I shared my preliminary research directions with participants and invited them to help shape our discussion. Some of my most revealing insights came from moments when participants redirected our conversation toward issues I hadn't anticipated but that clearly mattered deeply to them. Recording these sessions via Microsoft Teams (despite my reservations about proprietary software) allowed me to be fully present during interviews while ensuring accurate documentation. Transcription and anonymisation followed GDPR and institutional ethics guidelines. After analysing the interviews, I noticed recurring ideas that needed further discussion. Both the data analysis and participants' desire for direct discussion compelled me to organise a focus group in autumn 2022, where three participants helped test my interpretations. The conversation helped clarify ambiguities and highlighted where perspectives diverged. One participant's observation about the role of trust in governance, for instance, pushed me to refine my initial coding framework.

For analysis, I used thematic analysis (Braun & Clarke, 2006), moving iteratively between coding, theme development and revision. Initial coding was conducted manually: transcripts

were printed, annotated by hand and similar excerpts grouped. Later, I transitioned to digital organisation in LibreOffice, refining themes as patterns solidified. This non-linear process required frequent revisiting of earlier codes when new connections emerged.

Throughout, I reflected on how my positionality shaped the research. My background in socially engaged digital art and design inevitably influenced both what was noticed and what might have been overlooked. These potential biases were tracked through systematic pre- and post-interview notes. I also grappled with methodological tensions, like using proprietary software despite my commitment to Free software ideals. The methodological choices I made, from combining digital ethnography with interviews, to adding the focus group mid-process, to embracing the messiness of thematic analysis, all served my central goal of producing knowledge that was both rigorous and respectful of participants' expertise. While I encountered limitations, these too became part of the story, reminding me that all research involves negotiation between ideals and practical realities. What emerged was an approach that, I believe, stayed true to feminist principles while adapting to the unique contours of studying emerging technologies in the context of economic justice.

4.2.2 Ethics and positionality

This research received institutional ethics approval (ETH2122-0778 and ETH2223-0344), but ethical practice extended further than compliance into embodied theoretical commitments. My feminist and participatory action research lens (Kindon, Pain and Kesby, 2007) necessitated transparency at all stages, from prioritising participant-suggested research directions (Costanza-Chock, 2020) to practising citational justice (Collective *et al.*, 2021) in representing marginalised voices in platform design literature.

My positionality as both insider and outsider profoundly shaped this research. Drawing on critical media theory (Fuller, 2008; ed. Marina Vishmidt, 2009; Lovink and Riemens, 2013; Gloerich, Lovink and van der Burgt, 2018; Medosch, no date) and my decade-long FLOSS advocacy, I approached digital infrastructures as political artifacts (Agre, 1997) rather than neutral tools. While my professional ties to some participants and shared solidarity economy perspective (Spade, 2020) facilitated trust and dialogue, I implemented rigorous safeguards: member-checking (Birt *et al.*, 2016) to address familiarity biases, active pursuit of contradictory cases (Creswell, 2013) to counter confirmation bias and reflexive note taking (Pillow, 2003) to document divergences between my assumptions and participants' accounts.

This dual perspective enabled both meaningful engagement and critical distance throughout the research process.

4.2.3 Researcher's role: Facilitation over authority

From the outset, I positioned myself not as an extractive "oppressor" (Smith, 1999) but as a facilitator-collaborator in knowledge co-creation with participants. Drawing on feminist and decolonial HCI scholarship (Bardzell and Bardzell, 2011; Escobar, 2018; Harrington, Erete and Piper, 2019; Smith, Winschiers-Theophilus, Loi, Abreu de Paula, *et al.*, 2021), I designed the study as a suggestive framework; a flexible structure within which participants could redraw boundaries, articulate their own goals and steer the research toward mutual benefit (Costanza-Chock, 2020). This approach acknowledged participants as co-authors of emerging insights, particularly in the focus group where we collectively refined findings (Light and Akama, 2012b).

My process was intentionally emergent: power dynamics, analytical lenses and even research questions evolved across data collection, analysis and reflection phases. This fluidity mirrors participatory design's principle of "situated accountability" (Suchman, 2002); where the researcher's role is to glean meaning with communities rather than about them. Building on this methodological foundation, the following section presents the key findings derived from the data collected throughout this scoping study.

4.3 Findings

As mentioned in the preceding section, the generated themes were constructed using a combination of deductive and inductive approaches. The deductive approach facilitated the organisation of the data by developing codes as organisational tools to maintain alignment with research questions and theoretical frameworks, such as feminist approaches and solidarity economy. The inductive approach helped to inform and direct theme generation, especially sub-themes. The five main themes that emerged were: design process, participation and co-design, communication, facilitation and guidance, and motivation and core values. These themes enabled me to summarise, analyse and organise the broader narratives collected through the interviews and focus group.

4.4 Interview findings

4.4.1 Design processes and power dynamics

Themes	Sub-themes	Codes
Design process	Product design	Conversations (inside and outside projects)
		Wireframes, etc
	Software design	Team roles
		Tech stack
	Currency design	Value/promises
		Inflation
		Web of trust
	Problems	Lack of UX design
		Crisis in collaboration
		Fuzzy boundaries
		Team size & decision-making

Table 9: TA codes → sub themes → themes progression

Through the Design process theme I explored the multifaceted ways in which the teams behind Open Collective, Circles UBI and Culture Stake conceptualised, negotiated and iterated on their platforms. Rather than adhering to a linear or purely technical design methodology, these projects were shaped by dynamic, often contested processes that balanced participatory ideals, feminist values, technical constraints and the pressures of Silicon Valley startup culture.

The formation of each team played a crucial role in shaping their design trajectories. Open Collective and Circles UBI emerged from grassroots collaborations, where team-building was an organic, evolving process. Open Collective's founders came together around the need for transparent fiscal hosting, which provides shared financial and legal infrastructure for groups without their own non-profit status, while Circles UBI's team coalesced around experiments in alternative economies. Both projects emphasised decentralised decision-making, though this sometimes led to tensions between rapid iteration and inclusive governance. Culture Stake, in contrast, was more structured in its early phases, with a focus on collaborative conceptual development and interactive narrative design, exploring how digital platforms could facilitate collective funding decisions in cultural sectors. Its development involved a mix of technologists, artists and economists, leading to debates over usability versus ideological purity and artistic interpretation.

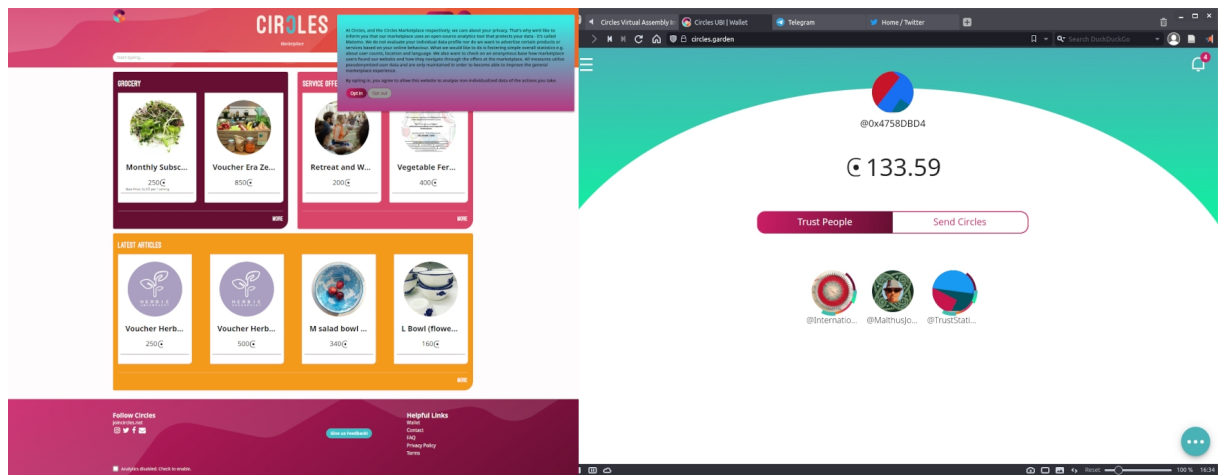


Figure 19: Circles UBI UI Berlin pilot: left - market, right - Circles wallet page

The initial ideas for each platform were not static but evolved through continuous negotiation. The design process revealed inherent tensions between technical constraints and platform goals. For example, Open Collective’s financial transparency requirements necessitated complex back-end structures, which often complicated efforts to deliver an interactive system meeting the needs of groups using the platform. Similarly, Circles UBI’s ambition for a universal basic income system had to reconcile with the complexities of blockchain and digital currency design issues. Furthermore, there was a clear evidence showing how feminist values often clashed with startup culture: many team members explicitly resisted extractive tech industry norms by prioritising care work, equitable compensation and community ownership and governance such as “exit to community,” a goal Open Collective recently achieved. However, the pressure to grow in size, particularly in the Open Collective case, led to tensions in design process methodological choices. Similarly, in the Circles UBI project, it led to tensions in crucial moments of the platform's launch. Highlighting how projects with most idealistic and egalitarian goals may replicate extractive labour practices, disproportionately burdening certain team members. Therefore it can be concluded that the lack of structural support undermines the platforms’ solidarity economy aims, as evident in these two data extracts:

“I remember at our launch party. You know the day that we launched so many people tried to sign up for the app. We went down under load within hours of launching, there was a party that everyone on the team went to except for me and [], who stayed up all night trying to keep the app online. So my role was already so overwhelming. There was no space for anything else. It was a little crazy,”

and

“It was a bad time, not a productive time for Circles. Honestly. There were a few incarnations of the Circles team. Uh funding precarity. The bad decision making practices took a toll, I would say to the point where we weren't effective.”

These excerpts underscore the material and emotional costs of operating within under-resourced, high-pressure environments, even for projects committed to equitable principles. The challenges extended past scaling pressures: UX design experimentations (as seen in Culture Stake's struggles to develop cohesive interactive systems' interfaces and user experiences that best communicate conceptual intentions), crises in collaboration (exacerbated by ambiguous roles and decision-making hierarchies, most notably in Circles UBI) and fuzzy team boundaries (where responsibilities blurred without formal structures as suggested in conversation with Open Collective) further strained these projects. Smaller teams, while often more agile, faced disproportionate burdens when navigating technical and community expectations.



Figure 20: Circles UBI, Bali pilot

Such dynamics jeopardised the longevity and sustainability of these initiatives and also hindered their ability to meaningfully open to broader participation, a tension central to the next theme and the RQ4. When design processes lack intentional infrastructure and capacity for inclusion (e.g., clear onboarding, accessible interfaces, or equitable labour distribution), even well-intentioned platforms risk replicating the problems they seek to dismantle. This tension between ideological aspirations and practical constraints sets the stage for a deeper examination of how power dynamics permeate design processes, as I do in the following empirical study.

These findings align with the tension between ideological aspirations and practical constraints, where reflexive practices (e.g., rotating facilitation roles, power-mapping exercises and iterative feedback loops which I explore later in Chapter 5 and 6) emerge as necessary but incomplete remedies. Nevertheless, the persistence of informal hierarchies underscores a sobering reality: fully decentralising power in collaborative design remains fraught, as power dynamics are as constitutive of outcomes as motivation or values (Bossen and Leimbach, 2017; Ahmed and Irani, 2020). The projects studied thus function as democratic inquiries into socio-technical governance, materialising what DiSalvo (2012) terms contested visions of participation. Here, design becomes a site where authority is not static but perpetually reconfigured, a negotiation between technical expertise and community input, between institutional legacies and emancipatory ideals.

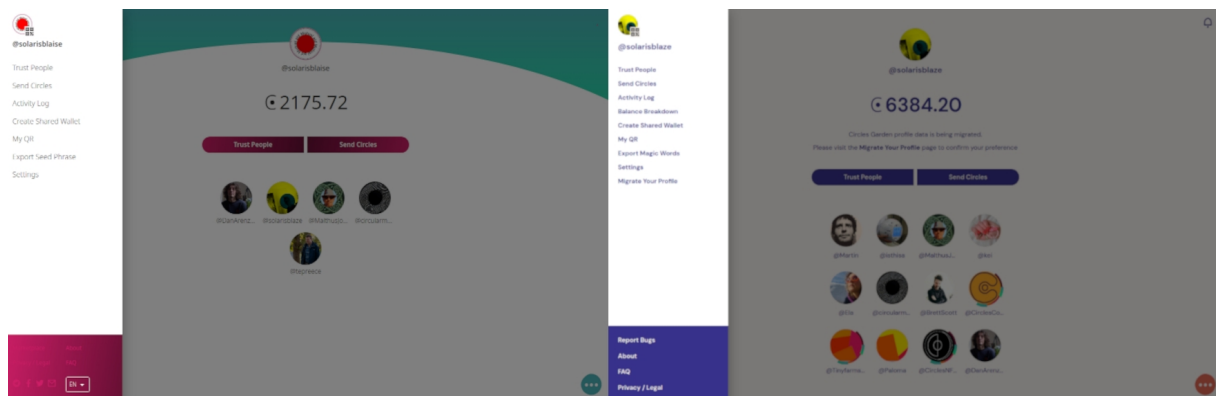


Figure 21: Circles UBI changes after Berlin pilot closure

This reframing positions co-design not as a neutral method but as a political act, one that demands relational accountability (Holtzblatt and Marsden, 2022) and challenges dominant narratives of innovation. The platforms examined surpass encoding functionality to crystallise the very power relations they seek to transform. If left unexamined, these dynamics risk reproducing the inequities participatory approaches aim to dismantle, a risk that feminist HCI and CSCW scholarship explicitly confronts. Thus, the central thread is clear: to say design processes are shaped by power is incomplete; more accurately, they are the domain where power is fundamentally exercised, contested and transformed.

If design processes are inherently political, then participation, the cornerstone of co-design, must be similarly scrutinised. However, as the following section reveals, participatory ideals often clash with practical realities, creating a paradox that undermines even the most egalitarian projects.

4.4.2 The paradox of participation

Themes	Sub-themes	Codes
Participation & co-design	Possibility for participation	Open Source/forking
		Education
		Community organising
	Resistance, barrier and/or tension	Specialist skills
		Frequent changes in team
		Time & resources shortages
		Difficulties building a good dev team who can support grassroots co-creation
		Clarifying expectations

Table 10: Participation and co-design progression from codes to the final theme

In this section, I examine participation as a central but contested theme across the three studied initiatives. While all three projects embraced participatory ideals in principle, as already touched upon in previous key theme, their approaches diverged in practice, shaped by differing goals, constraints and underlying philosophies. These cases illustrate how participation is understood and experienced in practice. They reveal recurring tensions between inclusion and efficiency, decentralised ideals and centralised control as well as theoretical openness versus practical constraints. In the following analysis, I explore these dynamics in depth, examining what each project’s approach reveals about the possibilities and limits of participatory design approaches.

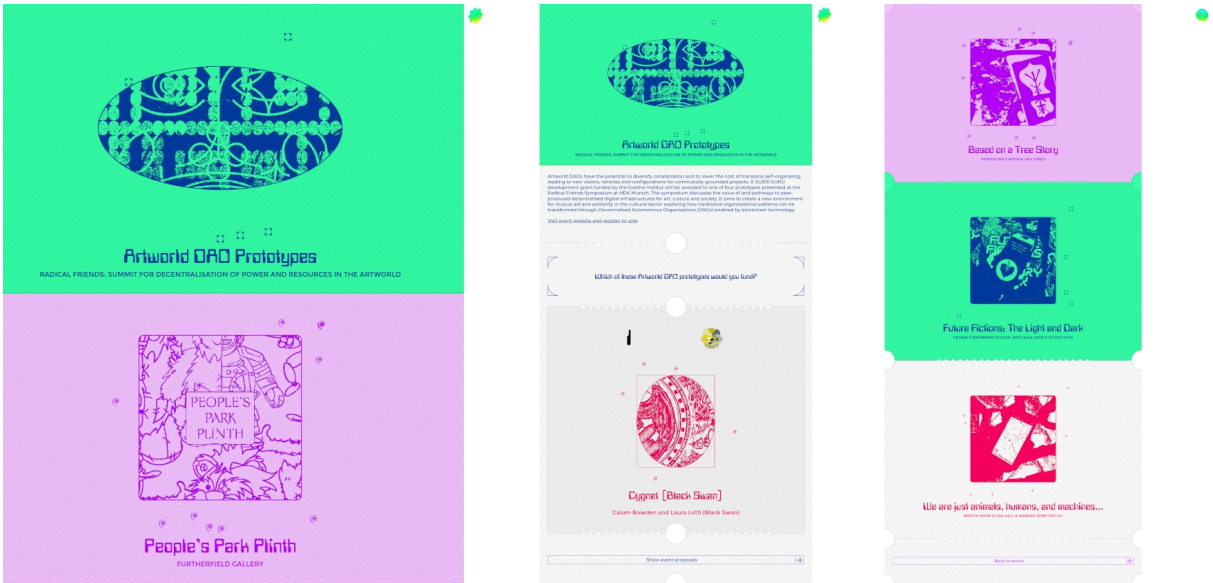


Figure 22: Culture stake UI, part of People Park’s Plinth project

Open Collective exemplifies a participatory model built on open-source technology, education and community organising, though with notable tensions between ideals and implementation.

The platform's GitHub repository allows forking and adaptation, enabling communities to create localised versions, while initiatives like Solidarity Economy 101 educational programme (Open Collective, 2022) and paid learning cohorts foster political and technical literacy. However, P1 acknowledged that most users lack the time or skills to engage deeply with tools like GitHub, necessitating intermediaries to bridge gaps. Governance is intentionally fluid, with rotating facilitators and transparent workflows, but scaling participation remains a challenge, balancing inclusivity with efficiency and ensuring material support for marginalised voices. The "nesting dolls" structure of regional nonprofits (e.g., Open Collective Foundation), I explored in the studies that follow, embeds diverse expertise into the platform, although P1 stressed that full community ownership is a long-term project requiring trust-building and explicit roles to avoid exclusion.

The interview underscores participation as both a technical and social practice, reliant on infrastructure, education and labour. Open Collective's hybrid approach, combining open-source flexibility with radical non-profit networks, offers a pragmatic path toward decentralised governance. Key tensions include the platform's reliance on intermediaries for technical participation, the limited reach of educational programs and the need for paid roles to sustain engagement. Unlike Circles UBI's focus on monetary education or Culture Stake's narrowed collaboration, Open Collective navigates scalability by embedding localised governance while confronting the realities of participatory labour under current economic system. Ultimately, the Open Collective data presents participation as an ongoing negotiation, shaped by design choices, resource constraints and the politics of who gets to shape the platform's future.

Circles UBI, on the other hand, exemplifies both the potential and pitfalls of participatory design in decentralised economic systems. The project's open-source framework and assemblies theoretically enabled community involvement through practice of *forking* and collective governance, while its educational initiatives aimed to foster understanding of alternative economies. However, P2 account reveals significant gaps between ideals and reality: technical complexity limited grassroots engagement with the codebase and Circles' assemblies, though designed as participatory spaces, were often disconnected from the core development team. Resource constraints and unstable funding further narrowed opportunities for meaningful participation, as the small team prioritised survival over inclusive processes. Early enthusiasm for the project was frequently misdirected (e.g., speculators seeking "free

money” misunderstanding the core idea of the platform), underscoring the challenges of aligning participation with radical economic goals in a crypto-saturated landscape.

The Circles UBI data highlights how participation is constrained by structural and cultural factors. Circles’ decentralised governance struggled with fractured decision-making, illustrating the need for clear facilitation and role definitions, lessons echoed in Open Collective’s more structured, but also fuzzy role approach. While the project’s technical design allows for adaptation, its implementation revealed that infrastructure’s availability for modification, replication and further distribution, in other words FLOSS approach alone cannot guarantee equitable involvement. P2’s reflections emphasise that sustainable participation requires both material support (e.g., stable funding for contributors) and deliberate scaffolding to bridge ideological aims with practical execution. Ultimately, Circles UBI serves as a cautionary tale about the limits of participation under resource scarcity, while still offering valuable insights for future experiments in community-led economic systems.

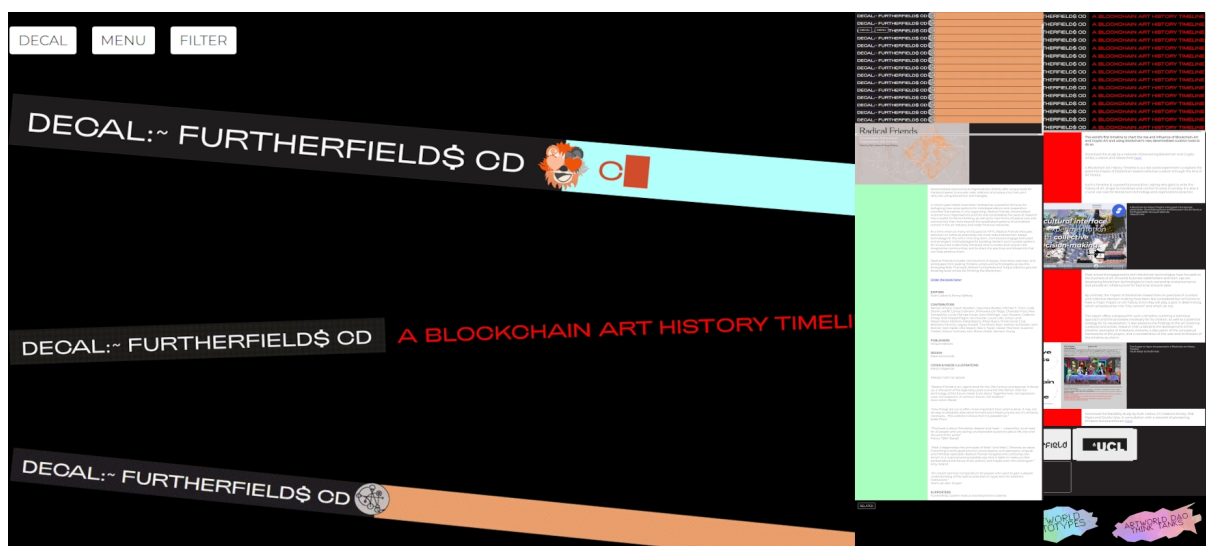


Figure 23: Culture Stake, Decal project UI

Culture Stake embodies this paradox of participation, the same as Open Collective and Circles UBI. The interview with P3, P4, and P5 highlighted a central tension in Culture Stake’s participatory design: the disconnect between its collaborative ideals and the practical constraints of limited capacity. While the project began with inclusive early design and conceptual development, engaging artists, technologists and academics, its implementation phase revealed systemic barriers. Resource shortages, technical complexity and reactive fixes by two external design agencies narrowed participation, rendering it secondary at the least. The team’s instability, time pressures, and funding limitations further hindered sustained co-design, exposing how participation often collapses without material support.

The project's tools, intended to democratise decision-making, ironically became gatekeepers due to their complexity, alienating non-technical users. Key lessons emerged: modular design, facilitation over expertise and insisting on design justice principles to avoid "participation-washing." P5's reflections underscore that meaningful participation requires infrastructure, funded roles, iterative feedback and decoupling from unnecessary technologies. Ultimately, Culture Stake's struggles reveal a political paradox: without dedicated resources, even well-intentioned participatory projects risk replicating exclusion. Future efforts must prioritise capacity-building to sustain genuine collaboration.

The Participation & co-design theme highlights two main sub-themes that demonstrate a high degree of tension in the way interviewees perceive the potential for direct grassroots participation in the software design and development process as evidenced in the following data extracts:

"I think there's sort of a. Uh, an unreasonableness to expecting someone who is not a software developer to be interested in how the software is built. Beyond a certain degree. It's a little it's a little inefficient. It's a specialist skill, and though those decisions"

or,

"I don't think that participation for the sake of participation is necessary. I think that there are tons of things that we can learn and do collectively that would be impossible without the wisdom of the people who use the platform. But I don't expect everyone to participate."

Despite the high levels of anxiety expressed by some participants, or their pessimistic views on the levels of possible participation in the software design and development process, the findings point to several pathways for engaging with the general public on a grassroots level firmly situated in FLOSS domain. This is where a wealth of knowledge generated in HCI research in general and specifically in connection to cryptocurrencies (Bassetti, Botto and Teli, 2018; Teli, Lyle and Sciannamblo, 2018; Sciannamblo *et al.*, 2021), or PD and F/OSS in the not-for-profit sector (Haskel, 2016; Haskel and Graham, 2016), or focusing on aspects of design from a theoretical perspective that works out a general framework of techno-social design grounded in the notion of a participatory, co-operative, sustainable information society (Fuchs and Obrist, 2010) can be applied. This is in addition to the now legendary DiSalvo, Clement, & Pipek, (2012) and Bødker's works.

Participation, in this context, is not a stable concept but is inherently dynamic and riddled with paradox. DiSalvo’s (2022) and Udeowa’s (2022) frameworks helps illuminate how participatory mechanisms, like voting or co-creation, can simultaneously empower and exclude. The data about platforms’ attempts to democratise decision-making had shown they reproduce existing hierarchies, suggesting that participation must be continually reimaged. Rather than resolving the paradox, this theme invites us to dwell within it, treating participation as a space of civic experimentation where new forms of engagement in design process might emerge. How, then, do these participatory experiments unfold in practice? The answer lies in the communicative infrastructures that mediate collaboration: tools, platforms, channels and practices that both enable and constrain democratic engagement, as explored next.

4.4.3 Hybrid communication as governance

Themes	Sub-themes	Codes
Communication	Online	Assemblies - Jitsi
		Telegram
		Slack
		Discord
	In person	Design sprint
		Market
		Park

Table 11: Communication theme TA

The conversations with all participants in the interviews revealed the way they engage with communication may have a whole lot of potential when considering greassroots level design participation. Through the lens of participatory design, the case of Open Collective interview data reveals how communication tools and governance structures shape and are shaped by community-led development. The platform adopted a hybrid approach, using Slack (later Discord) for open discussion and GitHub for technical collaboration, aiming to balance transparency with inclusivity. In contrast, these tools introduced their own barriers: technical literacy gaps and unstructured feedback often sidelined non-expert users. To mitigate this, the team experimented with facilitators and asynchronous platforms like Loom and Co-budget, attempting to bridge accessibility divides. Their iterative sprint model, featuring scoping, building and reflection phases, incorporates community, as in international design team, input while rotating leadership to balance power dynamics. However, P1 notes that true grassroots

participation requires material support (e.g., stipends) and low-barrier entry points, as most users lack time or expertise to engage deeply in technical processes.

Moreover, P1 emphasised targeted participation, suggesting that non-technical roles (e.g., storytelling, policy input) may be more accessible than coding. Key takeaways include the need for "translation" roles to mediate between communities and developers, compensation to enable marginalised voices and hybrid tools that balance openness with structure. These adaptations culminated in the platform's 2024 exit-to-community transition (*Pathways for Open Collective's "Exit to Community"*, 2021), a structural shift reinforcing its community-led and owned aspirations. This shift positions communication as a space where grassroots governance can materialise through design, though challenges like capacity-building and accessibility persist.

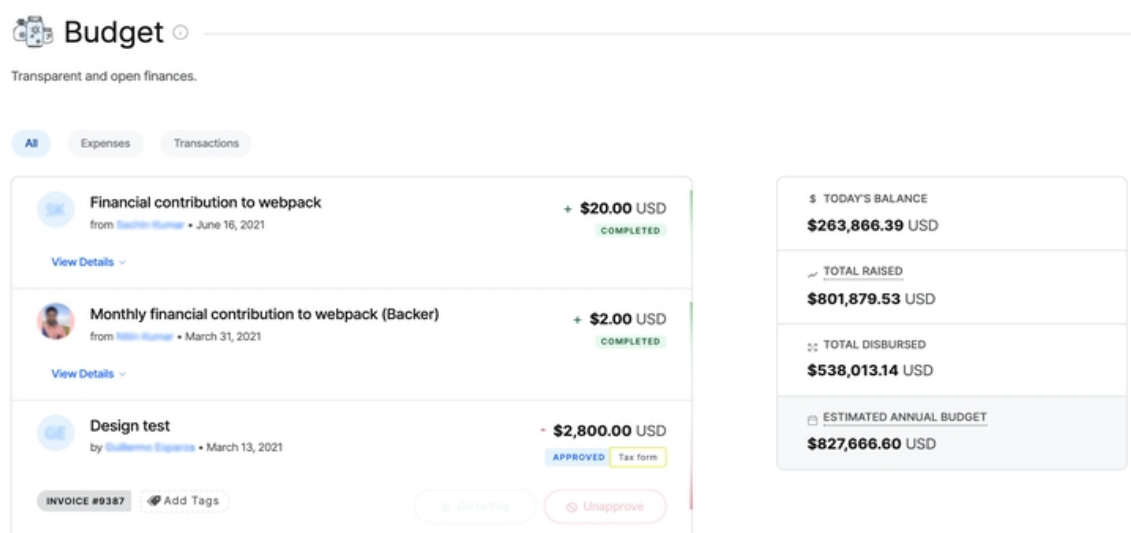


Figure 24: Example of Open Collective UI, budget and transactions

Following on from the Open Collective, I examined how Circles UBI and Culture Stake utilised communication practices and tools to enable participatory design. Both projects rejected rigid, top-down communication in favour of dynamic, community-centred processes. While their approaches reflected distinct priorities, each had a local economic development dimension useful for my exploration of DLT's role in that space; and enabled deeper analysis of design processes to identify opportunities for intervention. Circles UBI in Berlin was employing monthly online and in-person assemblies to engage global and local communities in exploration of local economic development, currency design and more practical concerns around onboarding, while Culture Stake used deliberative voting experiments and transparent feedback loops to gain better understanding of how the platform is perceived when in use.

Data suggest, each project have tried to engage in iterative dialogue with either communities they aimed to bring into the Circles UBI market or the Finsbury park neighbours and visitors: Circles through trust-based protocols and Culture Stake through collaborative arts funding debates, aiming to align with communal values rather than top-down mandates. These cases empirically validate the necessity of structured-yet-adaptive forums (e.g., assemblies, online chat tools, deliberative voting) for inclusive PD. This finding directed future studies toward hybrid communication models that reconcile local input with top-down coordination.

Furthermore, the Communication theme, as revealed in the research, highlights a diverse and varied approach to communication within the projects and platforms studied. It is apparent that multiple forms of hybrid in-person and online communication channels have been established, ranging from assemblies to design sprints. For example, one of the communication channels for the Open Collective is discussed here:

“Because right now there’s no overarching rule about what you should give feedback on and what you should not so you can see everything. Our Slack is completely transparent. Much of it is open to the public.”

Although these communication channels are not formalised and articulated as collaborative, distributed, or P2P governance, they may possess some of these characteristics. This line of enquiry is crucial as it directly relates to the research question of role of DTLs in establishing a local economy, particularly in the context of Circles UBI as evident here:

“You know, focus on this, all these different aspects and not just on the design of the application, but also on the actual design of the economy. So like next month the Assembly will be about co-operative local logistics distribution.”

It also connects to research by Viano et al. (2022), which employs Blockchain as a tool to support the sustainability of the local economy, and Manski & Bauwens' (2020) proposition that DLTs can be designed as a new unencloseable (non-commodifiable) infrastructure, leading to radically new forms of cooperation, organisation and governance. Open Collective’s hybrid approach (Slack/Discord, GitHub) balances transparency and inclusivity but faces barriers like technical literacy gaps, prompting experiments with facilitators and asynchronous tools. This aligns with HCI critiques (Bardzell, 2010; Vlachokyriakos *et al.*, 2018), highlighting the need for material support and low-barrier entry to enable grassroots participation. Similarly, Circles UBI and Culture Stake reveal the opportunities and obstacles

when developing and testing communication strategy as a means to enable community control over the technology.

Importantly, even with accessible tools, equitable participation hinges on intentional facilitation. The following section examines how feminist approaches to facilitation, both within teams and broader communities, can mitigate the hierarchies that communication tools alone cannot resolve.

4.4.4 Facilitation as feminist infrastructure

Themes	Sub-themes	Codes
Facilitation & guidance	Positive view or experience	Part of thinking form the start – budget allocation
		Use internally
		Use with community
		Facilitation tools
	Negative view or experience	Lack of facilitation & guidance leading to variety of problems within team & wider community

Table 12: Abandoned in later research, nevertheless a subject highlighted for future study

In my research, facilitation and guidance emerged as a salient theme, as a deliberate practice that shaped team dynamics and community engagement. I recognised its nuanced role as an intervention (rather than a neutral process), one that redistributes power, insists on equity, and embeds care into design culture. However, due to the time constraints and scope limitations inherent to my PhD work, I made the deliberate decision to defer a deeper investigation of facilitation for future study. This choice does not reflect its lesser importance; rather, my data underscores it is necessary, even as its manifestations varied across participants. While communication tools help bring community into the design process, my findings point to facilitation’s transformative function, a dimension I explicitly mark as critical for further research, outside the boundaries of this project.

Open Collective Money Flow

Explainer video: <https://www.loom.com/share/2c023ee87d6541c89c24e7b80544929e>

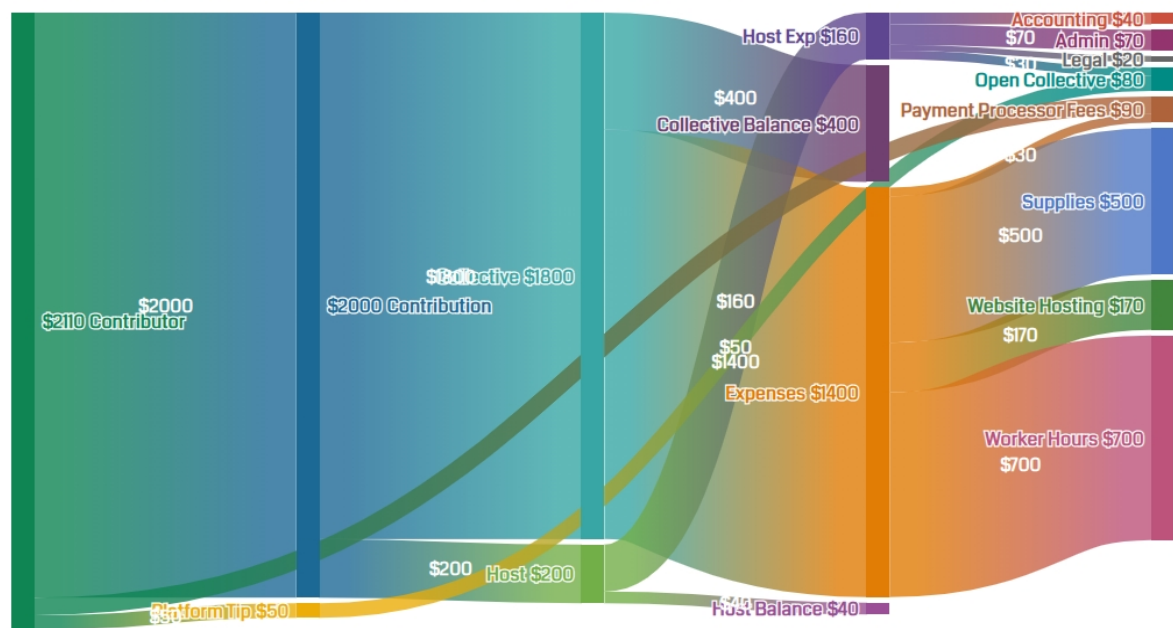


Figure 25: OC money flow – detailed, by Alanna Irving on 18 Sep 2021

Facilitation is not an afterthought but a foundational element of Open Collective’s platform development work. The team integrates facilitation into workflows, such as rotating facilitators during six-week sprints to prevent power consolidation. These facilitators are tasked with structuring discussions ("setting agendas, keeping us on time") and monitoring participation ("noticing who is not speaking up and who is speaking too much"). This approach counters the "tyranny of structurelessness," where informal hierarchies dominate in the absence of intentional design. The interview data also implied that facilitation requires material support, while not explicitly stated, the need for paid facilitators (e.g., community organisers, translators) suggesting that Open Collective treats facilitation as labour deserving compensation, resisting the devaluation of care work. Additionally, the participant expressed a view that facilitation bridges gaps where the tools fall short. For example, GitHub’s technical barriers exclude non-coders, so facilitators act as "translators," mediating between users and developers. Similarly, in community governance experiments, P1 acknowledged that most users lack time or capacity for deep engagement, so facilitators structure participation through paid cohorts rather than assuming open platforms guarantee inclusion. This reflects a feminist understanding that accessibility requires active intervention, not just technical solutions.

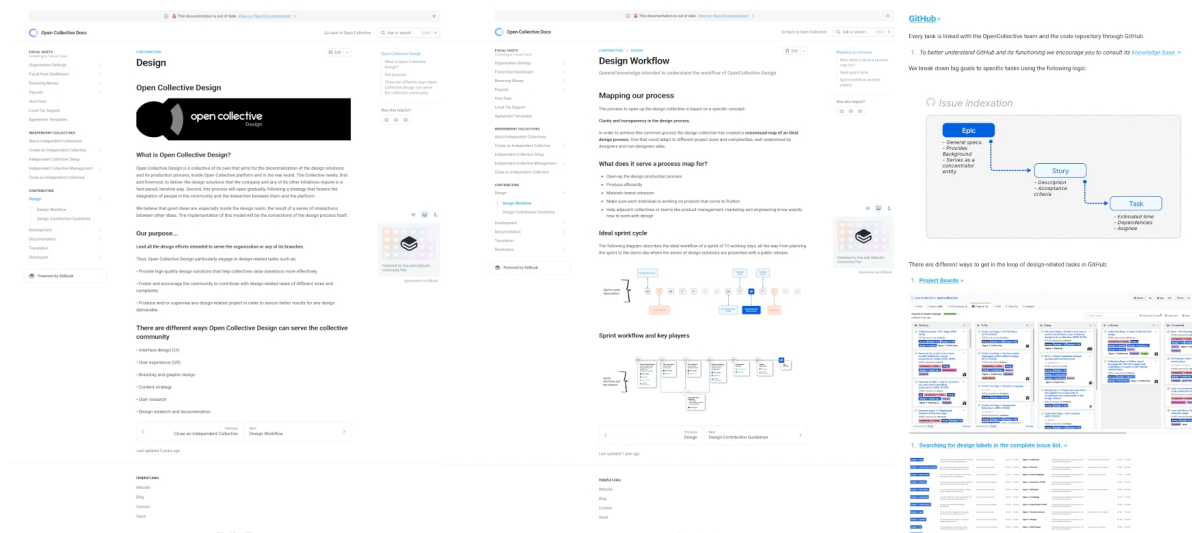


Figure 26: Old Open Collective doc site contained guides on collaborative design options and design process

The interview with P2 highlights facilitation in the Circles UBI project as both a practical necessity and political practice, emerging organically through grassroots collaboration and crisis. Unlike structured models as discussed with the Open Collective, facilitation in Circles UBI evolved ad-hoc, with roles crystallising around technical development, outreach and administration, but without rigid hierarchies. Furthermore, as P2 insists, Circles UBI facilitation process deliberately embodied feminist and decolonial principles, rejecting one-size-fits-all solutions in favour of adaptable, open-source frameworks. While facilitation is improvisational and activist-driven, unresolved hierarchies remained, with core team members holding disproportionate influence. The project underscores that tools alone cannot flatten power structures, intentional, resourced facilitation is critical.

Finally, facilitation in the Culture Stake project centred on guiding collaboration and decision-making among stakeholders, with a focus on public engagement and deliberation. Key methods included user testing, workshops, and iterative design to balance technical and community needs. For instance, prototypes were tested in public spaces to prioritise intuitive interactions over complex explanations, while workshops aimed to blend voting with community-building. However, challenges emerged, such as tensions between deliberation and efficiency, transparency versus privacy, and the undervaluation of maintenance labour, often falling on underpaid or volunteer contributors. Facilitation also had to navigate power dynamics, ensuring community input without devolving into "design by committee."

Highlighting the unmet need for deeper community engagement, the Culture Stake focused interviews helped identify gaps in facilitation, particularly the need for more imaginative deliberation tools, such as arts-based engagement, to deepen participation. The considerations

team mentioned as of importance included embedding structured discussions alongside voting, adopting modular design for adaptability and using data storytelling to collaboratively analyse outcomes. Sustaining facilitation efforts required addressing feminist economic concerns around unpaid care work and exploring alternative funding models. Ultimately, Culture Stake demonstrated the importance of iterative, community-centred facilitation while underscoring the capacity limitations as influenced by limited resources, the need for long-term resources and deeper integration of deliberative practices.

The literature on PD has extensively investigated this theme (Björgvinsson, Ehn and Hillgren, 2010; DiSalvo, Clement and Pipek, 2012; Chamberlain, Crabtree and Davies, 2013; Barney *et al.*, 2016; Bødker, Dindler and Iversen, 2017; Bassetti *et al.*, 2019; Calderon Salazar and Huybrechts, 2020; D'Ignazio *et al.*, 2020; Udoewa, 2022), while the HCI community has also recognised the significant impact of facilitation on participatory activities, processes and outcomes (Dahl and Sharma, 2022). These findings intervene in HCI and PD debates that often treat participation as a problem of tool design rather than relational labour. While Dahl & Sharma (2022) similarly highlight facilitation's role, cases presented here extend this by exposing its material and political dimensions, particularly how unpaid care work (Bardzell, 2010) and invisible hierarchies (Costanza-Chock, 2020) undermine participatory ideals. This challenges PD's historical focus on 'methods' over maintenance (Björgvinsson *et al.*, 2010), suggesting facilitation should be theorised as infrastructural. Future HCI research should shift from asking solely how to design participatory systems to also asking who sustains them, under what conditions and at whose cost. The results of this study demonstrate that facilitation is employed both internally by some projects and externally with communities as seen here:

“Oh yes, facilitation is everything. In fact, we call the people who lead each sprint, cause we have these six week sprints facilitators. So we rotate who is responsible for setting agendas, keeping us on time so that we're respectful of people's availability, both in meetings and across the six weeks and people who notice who is not speaking up and who is speaking too much and help balance the power around people's social position and who feels comfortable sharing their opinion and who needs to be drawn out a little more.”

and here:

“I think, yeah, we use facilitation throughout everything we do, like we have in-person retreats, we have sprints online, we always use facilitators.”

Moreover, positive experiences are associated with skilled facilitation, which is considered an effective approach for expanding participation and collaboration from the early stages of a project. Conversely, the lack of facilitation and guidance is seen to lead to a range of problems within teams and the wider community. As such, greater consideration of facilitation and guidance is crucially important for promoting fair and equitable participation within and beyond teams and should be recognised as a long-term educational strategy within projects. Underlying these procedural challenges is a deeper question: What values anchor these projects? The final theme shifts from method to motivation, revealing how feminist facilitation and participatory design are ultimately in service of a solidarity economy, one that redistributes power as deliberately as it redistributes resources.

4.4.5 Core values: Solidarity economy in action

Themes	Sub-themes	Codes
Motivation & core values		Addressing economic injustice
		Growing Solidarity economy
		Decoupling work form wages
		Infrastructure of the Commons
		Redistribution of wealth
		Public art funding democratisation
		Decentralised financial services

Table 13: Interviews theme 5, Motivation & core values

As explored through the literature review, the solidarity economy is understood as a value-driven practice rooted in transparency, decentralisation, and collective well-being as much as an economic model. Projects like Circles UBI, Culture Stake and Open Collective embody these principles by reimagining work, wealth and ownership. They do this through decoupling survival from wages, creating commons-based infrastructures and redistributing resources democratically. These initiatives draw inspiration from movements like Occupy and thinkers such as David Graeber (Graeber, 2015), emphasising horizontal governance, mutual aid and resistance to extractive capitalism and technofeudalism.

In the Motivation & core values theme, a notable finding is the interrelatedness of Circles UBI and Open Collective, which converge on the concept of solidarity economy as evidenced in the interviews:

“our core values of solidarity, transparency and decentralization”

and

“So I really believe in, you know, local democratic ways in which communities can, you know, organise to democratise the political economy around them and create more ecological value chains, supply chains, and especially in the in the place like Europe”.

Furthermore, this research confirms projects like Circles UBI, Open Collective and Culture Stake exemplify the solidarity economy’s core values: redistribution, transparency, and democratic ownership, in practice. Circles UBI worked to decouple survival from wages by creating community-backed basic income currencies, while Open Collective provides commons-based fiscal infrastructure, enabling mutual aid groups and artist collectives to manage shared resources without bureaucratic gatekeepers. Culture Stake, meanwhile, experimented with participatory art funding, allowing communities to directly decide how cultural budgets are spent. These models reject extractive economics, instead prioritising collective stewardship and equitable access – all, I argue, in support community wealth building.

While these case studies illustrated how solidarity economy principles were put into practice, the lived realities of implementing such ideals revealed much deeper complexities. The tensions between ideals and implementation, speed and care, as well as scale and inclusivity, highlighted in the interview findings, led me to explore these friction points further. To better understand them, I responded to participants request for a follow up conversation and convened a focus group to examine the gaps between theory and practice. Their collective insights revealed the persistent challenges while surfacing adaptive strategies for navigating them.

4.5 Focus group findings

The focus group followed the expert interviews and was designed, in part, based on participants’ suggestions. P1, P2 and P3, each deeply embedded in platform design and development, were invited to reflect on tensions and unresolved issues that they felt should inform the direction of this research. Their contributions revealed critical insight into lived challenges in designing collaborative, ethical and inclusive technologies. The session allowed us to zero in on design methods. While design sprints were the most discussed format, alternative approaches such as example mapping and “slow design” were raised, suggesting a

growing dissatisfaction with inherited interactive systems design norms. I here highlight three themes with most impact in the next stage of my research.

4.5.1 Process & methodology critiques

Theme	Code	Quote
Process & methodology critiques	Sprint culture	P1: "We use conventional Sprints... I have a problem with it."
		P1: "How do we make alternative methods that can be normalised?"
	Speed vs care	P1: "We're trying to slow down and not Sprint—but we don't know how."
		P2: "Small experiments can test ideas without disrupting the system."
	Tool alienation	P1: "GitHub requests require facilitation—who gets to say what's urgent?"

Table 14: Focus group theme 1, with data extract

The focus group conversations were an opportunity for closer inspection of design methods as experienced by the experts. Design sprints, in particular, surfaced as a site of tension, where the logics of efficiency-driven tech development collided with feminist and care-centred approaches within solidarity economy projects. Participants critiqued how these sprints privileged speed and technical expertise, sidelining slower, more inclusive deliberation. As one put it: “We use conventional Sprints... I have a problem with it” (P1), continuing: “We’re trying to slow down and not Sprint, but we don’t know how” (P1). In fact, even as they critiqued these constraints, their accounts hinted at alternative possibilities, practical experiments already unfolding in the margins, that moved ahead theoretical correctives.

What might it mean to reimagine design processes in ways that centre care, equity, and shared governance? Some pointed to slow design, feminist HCI and community-owned tools as pathways to temporal justice, redistributing time to amplify marginalised voices. The friction extended beyond pacing to deeper questions of power: “GitHub requests require facilitation - who gets to say what’s urgent?” (P1). Here, seemingly open tools like GitHub reproduced hierarchies, demanding technical fluency and reinforcing this authority unless deliberately redesigned for inclusivity. As confirmed in the next study, this key theme underscores a central paradox: while the platforms and initiatives I study here embody solidarity economy principles, prioritising shared agency, their design processes are dominated by a culture that is a stark opposite.

The challenge, then, was not to reject efficiency outright but to interrogate its politics: Who benefits from speed? Who bears its costs? Could “sprints” be reimagined as “rolls” or “rituals,” embedding care into their structure? Such shifts would require more than methodological tweaks, they demand renegotiating the very foundations, as I set out to explore in the Chapters 5 and 6. The conversations thus framed design as a site of solidarity, where tools and timelines could either entrench or challenge systemic exclusion.

4.5.2 Power, representation & colonial design

Theme	Code	Quote
Power & representation in tech	Who builds	P3: "I hire radical women to change the space from within." P1: "Radical thoughts are often outside engineering teams."
	Colonial design	P3: "Colonial design isn't abstract—it's white guys in a room speculating. We counter by hiring differently." P1: "Our roadmap looks conventional; we need to break rules."
	Language as power	P1: "We call it a 'walk' but still use the word 'Sprint'."

Table 15: Focus group theme 2, with data extract

The critiques of design sprints and tools like GitHub revealed more than just methodological tensions, they exposed deeper fractures in who controls design and whose knowledge is valued. As participants grappled with the dominance of efficiency-driven frameworks, their reflections inevitably turned to questions of power, representation and the colonial legacies embedded in design itself.

“Colonial design isn’t abstract, it’s white guys in a room speculating” (P3), noted one participant, distilling how exclusion precedes outcomes, in the very composition of design teams. The pressure to conform to dominant conventional paradigms of interaction design, whether in roadmaps (“Our roadmap looks conventional; we need to break rules” [P1]) or language (“We call it a ‘walk’ but still use the word ‘Sprint’” [P1]), highlighted how technical cultures replicate colonial hierarchies, privileging certain voices (often white, male, and hyper-technical) while marginalising others. Even so, participants weren’t passive witnesses to these dynamics. Their strategies, like intentionally hiring “radical women to change the space from within” (P3) or amplifying “radical thoughts [that] are often outside engineering teams” (P1), pointed to a praxis of political awareness and agency: challenging dominant and colonial design practice by reclaiming participation, language and decision-making. This was

not a superficial engagement through diversifying teams but about dismantling the epistemic dominance of tech's status quo.

The link between methodology and coloniality thus became undeniable. The same tools that enforced speed over care (like design sprints) also reinforced whose knowledge counted as “expertise,” a tension solidarity economies couldn't resolve without confronting design's racialised and gendered defaults. As the next chapters explore, this demands more than incremental fixes; it requires reimagining design's foundational logics, from who gets a seat at the table to how “progress” is defined.

4.5.3 Experiments and anchors

Theme	Code	Quote
Experiments & alternatives	Paid reflection	P1: "We need roles for experimental reflection, not just coding."
	Pragmatic progressive direction	P3: "Radical spaces often critique but don't build. We're trying to be pragmatic while keeping politics central."
		P2: "Donna Haraway informs everything we do—but we started from local park realities, not theory."
		P2: "[Our chosen developers-collaborators] could grasp our non-financial blockchain goals."
Historical/Theoretical anchors	Solidarity economy	P1: "We're a bridge for informal economies surviving capitalism."
	Feminist HCI	P3: "It matters which bodies produce which thoughts."
		P1: "How to embed feminist methods in software design?"

Table 16: Focus group theme 3, with data extract

The conversations kept returning to a shared frustration between participants: the gap between critique and making, between theory and material practice. Participants framed this not as a methodological gap but as a structural one, tied to the valuation of labour, the coloniality of design frameworks and the material constraints of working within (or against) tech's dominant logics. “We need roles for experimental reflection, not just coding,” insisted P1, pushing against the default velocity of tech production. Notably, this was not a call for unbounded deliberation but for formally recognised time, for paid time, time to interrogate, to prototype alternative structures, to ask what it might mean to build differently. P3 echoed this, but with a sharper edge: “Radical spaces often critique but don't build. We're trying to be

pragmatic while keeping politics central” - highlighted a tension central to my later fieldwork: the risk of critical discourse becoming self-referential when divorced from the compromises and alliances required to materially intervene in systems. P2’s reflection on their blockchain project exemplified this negotiation. Their emphasis on collaborators who “could grasp non-financial goals” pointed to a deliberate alignment with a way of working capable of bridging technical and political imperatives. The strategic nuance here became a key lens for my subsequent analysis of *subversion*. This strategic nuance became a key lens for my analysis, focusing on how conventional methods might be reconfigured both to subvert dominant technical values and, more importantly, to materially respond to the design-shaping pressures of extreme economic precarity.

The practices we discussed during the focus group are rooted not through abstraction alone, but in the tension between theory and lived realities. As P2 noted, “Donna Haraway informs everything we do, but we started from local park realities, not theory.” Here, frameworks bend toward specificity: the place, informal economies, the bodies that occupied them, demonstrating how theory serves not as a prescriptive mould, but as a lens that sharpens when pressed against material conditions. P1 articulated this duality in their work as “a bridge for informal economies surviving capitalism,” a formulation that rejects hollow notions of “resistance” in favour of tangible support.

The unresolved questions participants raised: “How to embed feminist methods in software design?” (P1) and “It matters which bodies produce which thoughts.” (P3), were not purely rhetorical. They became catalysts for my future reflections, shaping the direction of subsequent studies designed to systematically address the urgency of these inquiries. These questions do more than highlight gaps; they underscore a pressing need for research that bridges feminist theory and technical practice, particularly in HCI, where dominant paradigms often render alternative epistemologies illegible.

4.6 Reflection

In this study, I reveal the complex tensions that DLT platforms navigate between the ideals of decentralisation and participatory governance and the more centralised, expert-driven realities they often embody. While these platforms explicitly align themselves with feminist and solidarity economy principles, prioritising equity, care and collective ownership, the insights gathered from expert interviews and the focus group show persistent contradictions between

these values and the dominant Silicon Valley startup culture that shapes design methodologies and economic models.

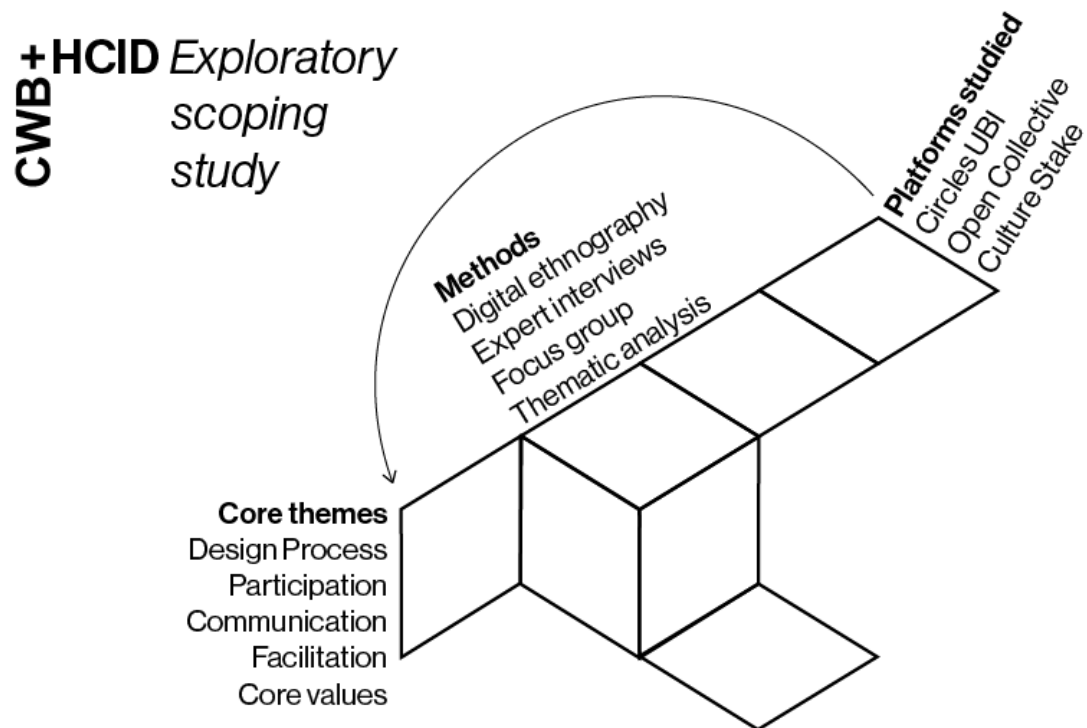


Figure 27: This diagram maps the anatomy of the first stage of this research, highlighting the real-world projects studied, the methods used to understand them and the core themes that emerged from their development. These components reveal how grassroots technologies are built, limited and sustained through community effort, communication and shared values.

For example, P1 and others critiqued the conventional sprint culture for privileging speed and technical expertise over slower, care-centred approaches, highlighting a tension between efficiency and inclusivity. The reliance on technical fluency, as P1 pointed out with GitHub facilitation challenges, acts as a gatekeeping mechanism that reproduces colonial power structures despite the platforms' emancipatory ambitions. P3's observation that "colonial design isn't abstract, it's white guys in a room speculating" captures how exclusion is embedded as much in the processes of design, in who participates and how knowledge is valued, as in the outcomes.

Through these discussions, it became clear that participatory design on these platforms is, at its core, a process of confronting the socio-political and economic conditions that shape design, extending far beyond technical development. Feminist HCI and solidarity economy frameworks helped me see that design infrastructures must be understood as sites of power negotiation, requiring intentional facilitation and insisting of foregrounding marginalised

voices, something that P1 and P3 emphasised by calling for experimental reflection roles and the embedding of feminist methods in software design.

Ultimately, this study confirmed a paradox: these alternative, community-oriented platforms remain entangled within hegemonic techno-economic paradigms that limit their transformative potential. This led me to argue that moving beyond techno-solutionism is essential. Instead, participatory technology development must politicise its practices, embedding care, reflexivity and structural change at its core. The future sustainability and radical potential of these platforms will hinge on their ability to reconcile these tensions, through feminist-informed methodologies and by providing robust material support for facilitation and community governance.

Chapter 4 illuminated the challenges of reconciling participatory ideals with dominant techno-economic paradigms. Building on these insights, in Chapter 5 I move on to investigate concrete strategies and theoretical frameworks for subverting conventional design, grounding the analysis in both participant experiences and feminist HCI scholarship to chart pathways toward economic justice.

CHAPTER 5 METHODOLOGICAL SUBVERSION 1: SOLIDARITY MAPPING

5.1 Introduction

In this chapter, I investigate how the subversion of conventional design methods can serve as a strategic intervention to address the role of interactive systems in perpetuating extreme economic inequality. Building on the tensions identified in Chapter 4, where the emancipatory goals of collaborative funding platforms clashed with the extractive logics of their design processes, this chapter moves from critique to active reimagination. I present a participatory study that subverts a mainstream UX method, example mapping, to explore how co-operative and feminist principles can be embedded directly into the architecture of design practice itself.

The chapter is grounded in Audre Lorde's seminal assertion that "the master's tools will never dismantle the master's house" (1979). I extend this provocation to the field of HCI, arguing that methods born from Silicon Valley's efficiency and productivity imperatives cannot, in their original form, generate outcomes oriented toward economic justice. Instead, I propose and examine subversion as a deliberate design strategy: a process of dismantling a method's neoliberal foundations and reconstructing it to serve solidarity economies and community wealth building (CWB). This approach transforms example mapping from a tool for clarifying software requirements into what I term *solidarity mapping*, a practice for making visible collective assets, needs and visions for a more equitable economic future.

To structure this investigation, I draw on film theorist Amos Vogel's concepts of the "subversion of form" and "subversion of content" (1974). Recontextualised for design, this framework allows me to analyse both the structural evolution of the method, such as decentralising facilitation and redefining roles and what its content represents, including the replacement of user stories with solidarity prompts and efficiency metrics with measures of mutual aid. This dual lens helps articulate how subversion operates as a recursive process, simultaneously altering a method's mechanics and its ideological commitments.

The findings presented here emerged from a series of iterative, participatory workshops detailed in Chapter 3: COOP Hackathon, Sandbox sessions and an engagement with CASH community land trust (CLT), co-designed with participants from co-operatives and solidarity economy organisations. Through thematic analysis of workshop artifacts and reflections, I identify five key themes that illustrate the practice and outcomes of subversion: challenging traditional narratives, reimagining rules as guiding principles, generating examples and

scenarios of community wealth, embedding reflective practices and fostering collective action and mutual aid.

Ultimately, this chapter argues that subversion is more than a critical tactic; it is a necessary foundation for HCI scholarship and practice committed to economic justice. By documenting the transformation of example mapping into a tool for solidarity, I demonstrate how design methods can be reclaimed to prioritise collective agency, democratic ownership and care over extraction and profit.

5.1.1 Context

Current extreme economic inequality and the intense concentration of wealth are perpetuated, in part, by the design of interactive systems and digital infrastructure that prioritise profit maximisation for the few over equitable access and opportunity for the many (Ekbia and Nardi, 2016; Fox *et al.*, 2016; Khovanskaya *et al.*, 2018b; Light, 2022). I start with an assumption that industry-standard design paradigms for such systems and infrastructures often reinforce existing power structures by embedding biases that favour corporate interests, algorithmic surveillance and extractive data practices (Zuboff, 2019; Varoufakis, 2024). To address this, as reimagining design methods in human-computer interaction (HCI) is necessary, I propose an approach inspired by Audre Lorde's assertion that "the master's tools cannot dismantle the master's house" (Lorde, 1979). Subverting a UX design method, example mapping, to address the problem as expressed by Lorde, I explore how prioritising community-driven, participatory design processes that explicitly include co-operative principles may challenge entrenched hierarchies and build interactive systems rooted in economic justice. We explore the early-stage design process for community-owned technology, focusing on small and medium-sized co-operatives and community land trusts (CLTs). Grounded in feminist scholarship, we are motivated in this work by the research question: How participatory and co-design methods for developing interactive systems and digital infrastructure can support community wealth building?

To contextualise the approach to my exploration, I look at some of the broader conditions that influence the conventional use of design methods in this space. Computer science and later HCI, has since the Second World War been driven by a 'military-industrial' complex (Leslie, 1993; DiSalvo, 2012b; Suchman, Follis and Weber, 2017) with an underlying aim of technological, economic and political dominance. The military-industrial complex, originally

coined by U.S. President Dwight D. Eisenhower in 1961, refers to the relationship between a country's military, its government and industries that produce defence equipment and technology. In this context, digital technology, over the last thirty years, has evolved to encompass broader Silicon Valley's ideological influences (Barbrook and Cameron, 1996). These merged the military-driven objectives of speed and stealth with an entrepreneurial and libertarian ethos. This hybridisation has played a defining role in the way HCI design reinforces the status quo by aligning technological innovation with market-driven values and practices (Ekbia et al., 2016; Khovanskaya et al., 2018). A more critically orientated HCI recognises and critiques these goals and objectives as incompatible with an ethically driven view of technology (Fuchs and Obrist, 2010; DiSalvo, 2012b; DiSalvo, Clement and Pipek, 2012; Khovanskaya, Baumer and Sengers, 2015; Costanza-Chock, 2018; Erete, Israni and Dillahunt, 2018; Udoewa, 2022). These critical investigations make space for new design methods, or subversion of design methods, through which technology becomes an instrument of social change rather than a tool of control (Germain, 2018). Furthermore, the subversion of the design method we present here is part of our commitment to HCI research that counters "how (technological) initiatives become yet further a means of exploiting for profit" (Light, 2022). We draw on the ways in which subversion in HCI is productively considered a tool (Bardzell and Bardzell, 2013), a strategy (Ashby *et al.*, 2019), a theoretical lens (Hansson *et al.*, 2023) and a form of resistance (Light, 2011; Van House, 2011). Drawing on and moving beyond contemporary debates in this space, this paper adds to the social justice, feminist, decolonising and ethics focused literature in HCI by developing a critical exploration of how we might subvert a design method.

In this chapter I outline how we (participants and I) co-modified this design method in order to subvert the original goals of efficiency and productivity and instead, forward the principles of mutual aid, cooperation and feminist goals. Through the work presented in this paper, I outline findings from the case study, which offer a novel way for HCI researchers and designers to engage with communities and the emancipatory work that they do through shared understanding of community goals (Berends and Dalpiaz, 2021). I discuss findings using Amos Vogel's classification "subversion of form" and "subversion of content" (Vogel, 1974) to develop a systematic approach to shaping technology that helps dismantle the 'master's house' (Lorde, 1979). Reimagining Vogel's theory, originally applied to radical cinema, as a challenge to dominant design ideologies, I explore participation roles, the shape they take and who makes them (subversion of form) and rethink the political, ethical and cultural assumptions behind technology (subversion of content). In essence, I employ this approach as

a call to use design not for usability or efficiency alone, but as a tool for provocation, resistance and social change. I conclude the chapter by proposing that the example mapping subversion may benefit community wealth building and heed a call to more research in economic justice-focused HCI.

5.1.2 Gaps

While Human-Computer Interaction (HCI) and Science & Technology Studies (STS) have increasingly engaged with critical and speculative approaches to design (Bardzell and Bardzell, 2013; Dunne and Raby, 2013; Wizinsky, 2022), the field lacks a clear articulation of subversion as a deliberate design strategy, particularly one that transforms neoliberal tools into liberatory practices. Prior work has examined resistance (Mann and Ferenbok, 2013), infrastructural inversion (Bowker and Star, 1999) and repurposing (Ricci, Brilli and Tassi, 2018), but these concepts often remain descriptive rather than actionable. Subversion, as proposed here, goes beyond critique or adaptation: it requires systematic dismantling and reimagining of a method's epistemic and political foundations (e.g., method's implicit capitalist productivity logics) to serve solidarity economies.

This gap is twofold:

1. **Theoretical:** Subversion is underexplored as a generative HCI/STS concept. While critical design exposes power structures (Dunne & Raby, 2013), it rarely accounts for how subversion operates within mainstream design methods, retaining their scaffolding while replacing their ideological core.
2. **Practical:** Few frameworks exist to guide how to subvert methods in ways that spotlights collective agency. Participatory design (PD) emphasises co-creation (Simonsen & Robertson, 2012), but subversion demands confrontational reuse: repurposing tools in ways that actively undermine their original oppressive intent (e.g., repurposing Example Mapping's rule-bound scenarios into solidarity-driven narratives).

This chapter addresses these gaps by theorising subversion as a recursive process, simultaneously deconstructing the method's hidden politics (STS) and reconstructing its mechanics for equity (HCID), while grounding it in a community wealth-building context.

5.1.3 Theoretical framework

As discussed in depth in Chapter 2: Literature Review, this study is grounded in the intersection of feminist HCI, participatory design (PD), community wealth building (CWB) and feminist economics, with an emphasis on subversion as both a methodological and political strategy.

Feminist HCI provides the primary analytical lens. This body of work, informed by feminist theory, critiques the technocratic and neoliberal underpinnings of dominant design practices (Bardzell, 2010; Hansson et al., 2023), advocating for principles of care, pluralism and activism. It foregrounds the role of power, difference and social justice in shaping technology design (Bardzell & Bardzell, 2011; Light, 2011). However, as noted in Chapter 2, much of this scholarship concludes at the point of critique. My research seeks to extend this trajectory by operationalising feminist principles in the design process itself, for example, reconfiguring established tools to foreground community-defined priorities and collective benefit (Pérez Orozco, 2022).

Participatory Design offers a parallel and intersecting tradition. Rooted in Scandinavian labour activism (Bødker, 1996; Björgvinsson et al., 2010), PD seeks to democratise design through the active involvement of affected stakeholders. In contrast, empirical studies have demonstrated its capacity to reproduce existing hierarchies when control over agenda-setting remains centralised (DiSalvo, 2012; Udoewa, 2022). As introduced in Chapter 2, the concept of radical PD (Udoewa, 2022) reframes participation as a vehicle for redistributing decision-making power and embedding economic justice into the design process, an orientation that underpins the methodological choices in this study.

CWB and feminist economics provide the material and economic dimension to this theoretical frame. CWB refers to strategies that redistribute economic power through democratic ownership and localised control (Nembhard, 2014; Dubb, 2016). Feminist economics complements this by challenging capitalist orthodoxy and advocating for economic plurality, care and mutualism (Gibson-Graham, 2006; Pérez Orozco, 2022). These frameworks reveal the embeddedness of design methods within broader political–economic systems and inform this study’s emphasis on solidarity economies within HCI (Vlachokyriakos et al., 2017; Fedosov et al., 2019).

Finally, subversion functions as the connective principle linking these traditions. Within HCI, subversion has been articulated as a strategy for destabilising dominant assumptions and

proposing alternative, often politicised, design practices (Costanza-Chock, 2018; Germain, 2018). In this study, following the conceptualisation in the literature review, subversion is understood as the reworking of both form (e.g., decentralising facilitation, shifting decision-making authority to participants) and content (e.g., replacing efficiency metrics with measures of mutual aid and wealth redistribution) in design practice.

These theoretical commitments constitute the stage upon which the findings of this thesis are set. In the sections that follow, these frameworks will be brought into dialogue with empirical material, revealing how they operate in practice, at times reinforcing one another, at times revealing contradictions, in the pursuit of design practices that actively contest economic inequality.

5.1.4 Research questions

The study primarily addresses RQ2 and RQ4. RQ2 explores feminist approaches and feminist HCI's role in expanding the design strategies with what is considered valuable knowledge, adopting pluralist perspectives and critiquing power relations. This then by design leads to political education, raising consciousness among all participants about economic struggles, ensuring whilst the economically marginalised can analyse these issues for their benefit. In addition, as Sara Ahmed's (2012) notion of 'the performativity of diversity work' reminds us, these efforts collide with a deeper structural reality: privileged participants retain institutional power to determine whether, and how, such critiques are implemented. This tension directly informs RQ4's urgency: How can the co-design of technologies/platforms/prototypes with [] organisations [creating Solidarity economy inspired digital infrastructure and interactive systems] support fair, inclusive, co-operative economies? Here PD stands to regain its original political agenda by aligning with movements and technologies that embody values capable of effectively addressing economic inequality, thereby reaffirming PD methods as instruments of change. Moreover, PD must move beyond alignment with "values" to contest ownership models by transferring control of platforms/prototypes to co-operative governance (e.g., through shared IP, profit-sharing). Only by confronting these material stakes can PD reclaim its political agenda as a tool for economic justice rather than a performance of inclusion.

5.1.5 Chapter Structure

In this chapter, I open by problematising HCI's role in economic inequality and introduce my approach: subverting traditional design methods (like example mapping) through feminist and co-operative principles to create solidarity mapping. I then review gaps in HCI scholarship, from neoliberal design paradigms to participatory design's untapped potential for economic justice, anchoring my work in feminist HCI and community wealth building (CWB). Next, I detail my participatory methodology: Co-op Hackathons, Sandbox Sessions and a CLT workshop, emphasising how iterative, community-led data collection and thematic analysis shaped the study. My findings reveal five key themes: *subverting dominant narratives, reimagining the rules, scenarios and examples for community wealth, embedding reflective practices and collective action*. I reflect on these results through dual lenses: *the subversion of form and content*, arguing for PD's reclamation as an approach for inducing material change, while grappling with challenges like co-optation. Finally, I conclude by positioning this work within HCI's broader shift toward justice-oriented design, urging the field to treat subversion not as dissent but as foundational practice.

5.2 Methods



Figure 28: Solidarity mapping steps resulting from the research, full details in Appendix C

In this study, I employed a participatory, feminist-co-operative methodology across three iterative phases: Co-op Hackathon, Sandbox sessions and a Community Land Trust (CLT) engagement, to explore how co-operative principles can subvert conventional design methods in HCI. During the first phase, the Co-op Hackathon, I introduced participants to example mapping within a co-operative design context. Despite time constraints, the session revealed

strong participant interest in reframing design tools to better align with community ownership, democratic governance and local capacity-building. These early insights surfaced important tensions between dominant Silicon Valley design paradigms and co-operative values, shaping the direction of the subsequent phases (Light et al., 2017; Bardzell, 2018).

Building on that foundation, the Sandbox Sessions allowed me to focus explicitly on subverting example mapping by incorporating the principles. Through structured activities and collective reflection, participants and I identified the need for greater flexibility, accessibility and equitable representation within design processes. It was during these sessions that the concept of solidarity mapping emerged as a promising alternative approach, one that foregrounds community-led knowledge production and economic justice (D'Ignazio and Klein, 2023). The iterative nature of these workshops enabled collaborative critique that led to consequent design methods' modification, challenging hierarchical and extractive norms.

In the final phase, I worked closely with members of the LDN.CASH Community Land Trust to test and adapt solidarity mapping in this specific co-operative context. This stage demonstrated how participatory tools can evolve through ongoing community feedback, reinforcing my commitment to co-creating knowledge and designing for plurality and situated agency (Gibson-Graham, 2006).

Across all phases, my thematic analysis (TA) highlighted key themes such as subverting traditional narratives, reimagining rules, examples and scenarios and reflective practices. The findings reveal persistent tensions between co-operative aspirations and dominant technofeudal digital infrastructures (Srnicek, 2017; Scholz, 2023; Varoufakis, 2024), while showing how subversive, participatory methods like solidarity mapping can be a harbinger of more just and democratic design futures. Throughout the research, I positioned myself as a facilitator and co-learner, fostering a collaborative knowledge production process grounded in feminist and co-operative ethics that prioritise ongoing consent, data sovereignty and accountability (Bardzell, 2018; Irani, 2019). Ultimately, this work reflects my conviction that design methodology itself can be a site of political intervention, advancing HCI scholarship toward solidarity economies and emancipatory practice.



Figure 29: Introducing the research and plan for the workshop at the COOP Hackathon

Building on this foundation the following section introduces process through which I collaboratively subvert example mapping method as a focal point of the exploration. By applying this novel approach, I aim to show how conventional design methods can be transformed to challenge dominant paradigms and better serve the interests of people experiencing economic inequality.

5.3 Findings

5.3.1 Introduction



Figure 30: COOP Hackathon workshop participant engaging with example mapping modification

This section presents the findings from a series of participatory workshops aimed at exploring how subversion of design methods, particularly example mapping, can support CWB and address economic inequality. Grounded in feminist HCI and co-operative movement principles, the study involved diverse range of participants, including co-operative members, community land trust (CLT) participants and the general public. The research developed across three phases: a Co-operative Hackathon, Sandbox design sessions and Community Land Trust (CLT) workshops. The findings are organised into five main sections: *subverting traditional narratives*, *reimagining rules and principles*, *innovative examples and scenarios*, *reflective practices*, *collective action and mutual aid*; each highlighting key themes that emerged from the data. They reveal how participatory design, when deliberately subverted from its traditional forms, can become a powerful tool for community wealth building and economic justice.

Through this work I engage with findings from the empirical and analytical journey through which participants and I collaboratively explore the viability of solidarity mapping as a tool for addressing economic inequality and fostering community wealth building. Through this

process I articulate subversion of form and content as a design process intervention that underlines the modification of example to solidarity mapping. By engaging with co-operatives, CLT members and the general public, throughout this research we tested prevailing assumptions about participatory design, collective ownership models and the tensions inherent in scaling solidarity economies. These conversations revealed both the limitations and latent potential of existing systems: while participation gaps and institutional inertia persist (as noted in prior study and chapters), the findings also demonstrate that a space for intervention already exists, one that HCI, grounded in co-operative principles and historical precedents (from Rochdale to contemporary mutual aid networks), can and must engage with.

The analysis underscores that economic inequality is a structurally entrenched problem, demanding legislative, cultural and technological shifts. Moreover, the research documents how solidarity mapping, as a process and a tool, can expand the reach of community wealth building by:

- **Making solidarity visible:** Mapping practices surfaced shared assets, needs and networks, reinforcing collective agency.
- **Navigating tensions:** Participants grappled with "engagement" disparities, even so these very tensions became sites for reimagining design's role in fostering equitable participation.
- **Historical continuity:** The resilience of co-operative models (e.g., Rochdale's legacy) offers a scaffold for HCI to align with long-standing anti-capitalist praxis

The findings reveal a dialectical relationship between solidarity mapping (as a specific method) and the broader socio-technical transformations required to sustain co-operative economies. Below, we trace how the key themes of solidarity mapping, generated through thematic analysis: subversion, reimagined rules, reflection and collective action.

Key themes:

5.3.2 Subverting traditional narratives

Sub-themes	Code
Redistributing design authority	Critique of developer-centric control

	Tension: Co-operative vs. traditional narratives
	Shift from "user stories" to "solidarity prompts"
Rejecting hierarchical models	Preference for horizontal collaboration
	Solidarity mapping as subversion
	Challenge to technical elitism
Challenging exclusionary infrastructures	Critique of profit-driven digital systems
	Systemic gaps in tech design
	Tools for democratic ownership

Table 17: Key theme TA table pointing to conventional design paradigms challenges

This theme shows how participants in the hackathon, sandbox sessions and the CASH CLT workshop collectively helped explore subversion of the first step in engaging with the example mapping: the story. The most prominent finding across all three research phases was participants' consistent challenge to conventional design paradigms through the stories they tell. Through their narratives and engagement with the materials, participants reframed the activity, shifting it from a task-oriented exercise to a practice grounded in mutual aid and solidarity. This opened up a way of working within the design method that encourages community agency. This finding contributes to RQ2 and RQ4 by demonstrating how communities can repurpose a co-design method to redistribute design power, critique normative infrastructures and prototype new socio-technical imaginaries aligned with community wealth building.

The redistributing design authority sub-theme reveals a direct challenge from participants who refused to accept that 'technical expertise' should dictate social outcomes, echoing the ethos of co-operative movements. Moreover if we analyse the sub-theme through the lens of co-operative movements' narratives as folk tales (Zukovska and Matthews, 2025), we can draw fascinating parallels between participatory design and oral storytelling traditions, where narrative power is decentralised, collective and often subversive. The redistribution of design authority reveals participants' fundamental challenge to developer and designer-centric control, powerfully articulated by one Hackathon participant who asked, "The way we design tech now assumes engineers should decide everything, but what about the people who actually use it?" This simple yet profound question lays bare the tension between co-operative narratives (emphasising shared ownership and decision-making) and traditional design paradigms (prioritising efficiency-driven, top-down control).

facilitator who cedes control, aligning with decolonial and participatory traditions that question who gets to author the future, mirroring the scoping study participants concerns and aspirations in the Chapter 4. This tension also mirrors DiSalvo et al.'s (2012) observation that participatory design often operates within constraints that predetermine whose voices are amplified. The central question, then, is not just who speaks, but who decides what counts as legitimate storytelling and how these hierarchies persist even in "democratised" processes.

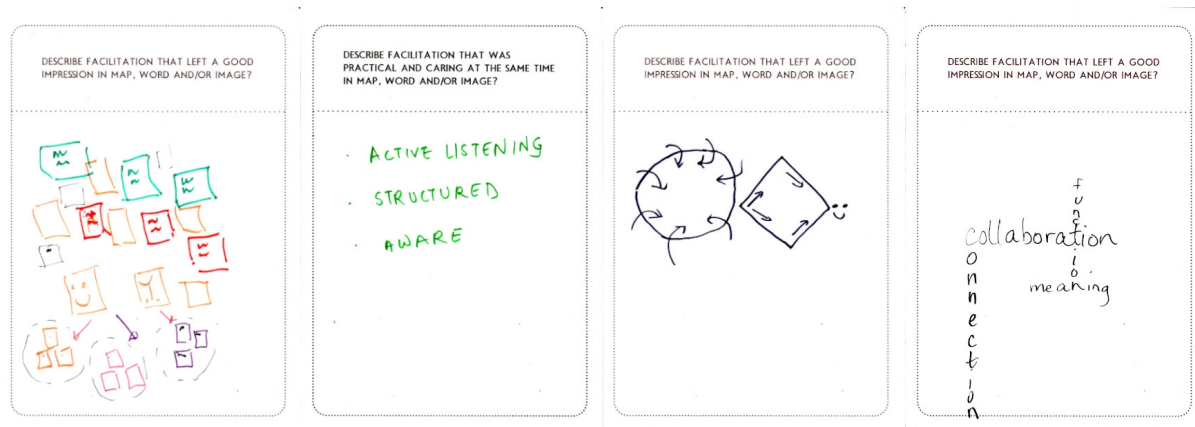


Figure 32: Early stages of co-operative space exploration used a variety of ways to engage with the participants, some written, some visual – which connected well with participants' concerns expressed around neurodiversity, non-English speaking participation as well as diverse learning styles

Finally, through the challenging exclusionary infrastructures sub-theme I observe how participants across all phases identified current digital systems failing to support co-operative principles. This critique, echoed by a hackathon participant: "Digital infrastructure must support mutual aid, not profit," underscored the need to challenge dominant economic systems, as feminist scholars like Gibson-Graham argue. The discussion extended beyond technical design to question the institutional and political structures shaping technology. In response, community-driven interventions emerged, reimagining technology as a community asset. Key examples like solar energy tools incorporated solidarity prompts, blockchain prototypes supported co-operative finance and participatory mapping aided unregistered land negotiations, all aligning with design justice principles (Costanza-Chock, 2018). These efforts demonstrated that infrastructure can be conceived to prioritise mutual aid, proving co-operative values must shape both design and systemic structures to counter exclusionary narratives. This critique led to concrete design interventions, such as replacing traditional "user stories" with "solidarity prompts" (e.g., "Who is excluded by this design?").

The *Subverting traditional narratives* theme reveals participants' willingness to subvert conventional, i.e., traditional, narratives about who designs what, how decisions are made and

how priorities are set. This is particularly relevant to dismantling developer and designer-centric approaches, especially in industries where these roles are often perceived as superior, a dynamic that directly hinders more equitable relationships among all participants in the design process. The findings point to a need for design methods that elevate community participation from inclusion to full co-creation, an idea explored further in the next theme dealing with "the rules."

5.3.3 Reimagining rules as guiding principles

Sub-themes	Code
From rigidity to flexibility	Resistance to prescriptive rules
	Value-driven prompts replace rules
	Equitable tone in governance
Democratic governance frameworks	Power distribution questions
	Collective ownership models
	Transparency in decision-making
Feminist economic principles	Relational governance
	Co-operative practices
	Community-driven design

Table 18: Rules subversion emerging

Through the *Reimagining rules* theme I critically examine how workshop participants collectively interrogated and engaged with the rigid, prescriptive logics underpinning the second element of example mapping. By reframing static "rules" as dynamic "guiding principles," they did not plainly adjust terminology but fundamentally reconfigured the epistemological foundations of design validity: what constitutes legitimate knowledge, who holds the authority to define it and crucially, how it must remain open to iterative, context-responsive evolution. This thematic thread directly engages RQ2's and RQ4's, demonstrating how co-operative design methodologies can dismantle authority-driven prescription in favour of values-led co-creation. What emerged was not a negation of structure, but a radical reimagining of structure as sensitive to the community members' experiences. This shift is traced through the subtheme *From rigidity to flexibility*, revealing how participants' insistence on "negotiability" exposed the unwanted pressures of conventional UX paradigms, where "rules" operate as algorithmic demands removed from extreme economic inequality lived experiences.

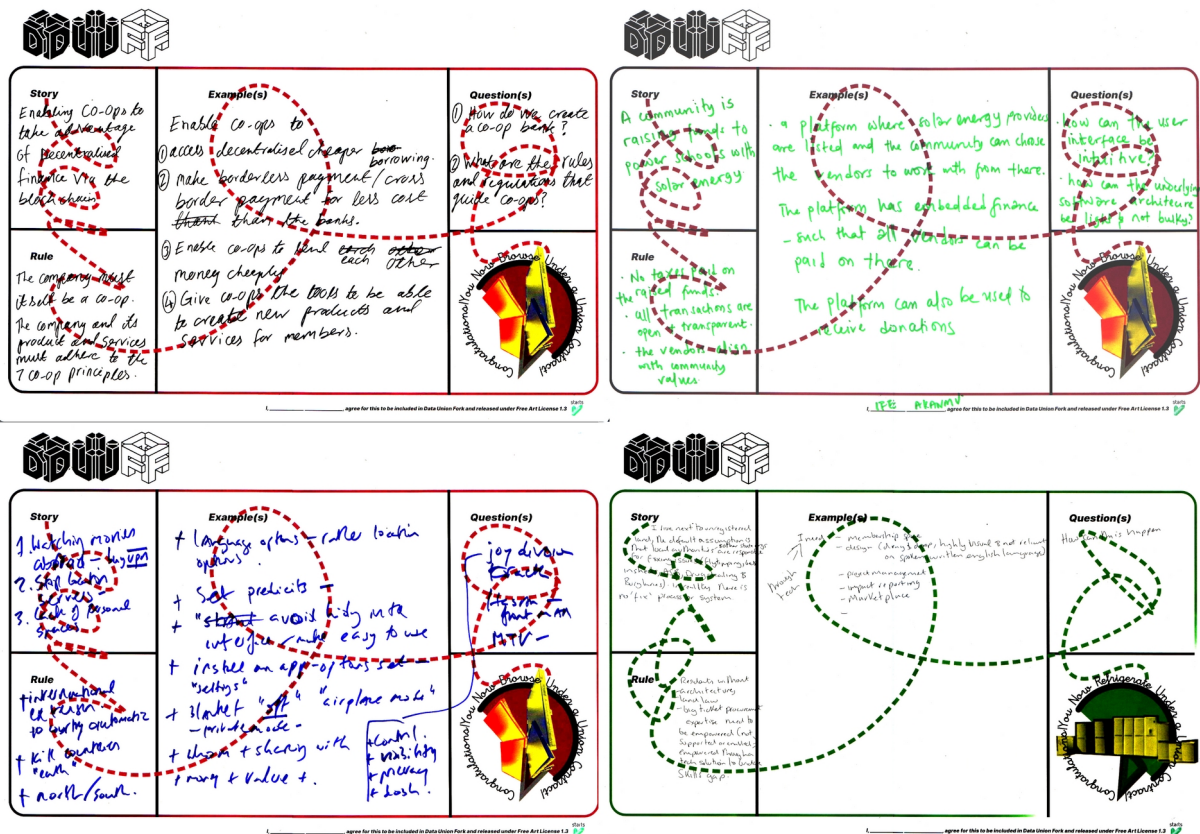


Figure 33: Example mapping starting point for the COOP Hackathon test was material I developed for an art project Data Union Fork (DUF) – this is the data extract form the Hackathon

The resistance to prescriptive rule structures was both methodological and deeply political, a rejection of a design approach rooted implicitly in neoliberal values, in favour of systems that acknowledges other ways of being in the world. As one CLT participant asserted: “Rules feel like constraints imposed on us. We need guidelines that adapt to our realities,” a statement that encapsulates the broader critique of design-as-constraint. This perspective aligns with Pérez Orozco’s (2022) feminist economics subversion, which frames governance as relational co-production rather than top-down imposition. Here, the workshops’ activities deliberately embraced ambiguity and negotiation, contrasting sharply with example mapping’s adherence to “the rule”. What surfaced was the perception of inadequacy of conventional design method such as the example mapping to accommodate grassroots realities, where community needs, temporal constraints and resource limitations demand fluid, adaptive structures. Crucially, this discourse opened pathways to rethinking rules through co-operative principles, positioning them not as computational absolutes but as socially embedded tools for dialogue.

Throughout the workshops’ progression, iterations and reflection, subversion of rules in example mapping emerged as a methodological shift that surfaces tensions around power, legitimacy and ownership. The participants reframed rule-making as a collective political

practice. For instance, one Sandbox participant's reflection "Who decides fund allocation? Let's make that democratic" transformed a technical question into a governance debate, revealing how system constraints are always already entangled with power relations. This aligns with DiSalvo's (2012) adversarial design, where conflict is not resolved but dwelt in, becoming a generative site for democratic inquiry.

The critique of rules as static, expert-defined constraints led to their replacement with open-ended value prompts through questions like "How might we ensure transparency in decision-making?" or "What does equity look like here?" These reframed the rules as invitations for collective negotiation, resonating with Costanza-Chock's (2020) design justice approach. Participants emphasised that this reconfiguration was not exclusively technical but deeply ethical and ideological. One Hackathon participant noted that transparency should be encoded not as an afterthought but as a structural principle, while others proposed approaches such as open transactions and participatory budgeting. This mirrors the feminist ethic of relational accountability (Bardzell and Churchill, 2011; Fox *et al.*, 2017; Bellini *et al.*, 2018; Rosner, Friedman and Stolterman, 2018; Croon, 2022), where systems must reflect integrated technical effectiveness, social responsibility and care.

By the study's end, "rules" had dissolved into shared commitments, contextual, revisable and collectively authored. The linguistic shift to "guiding principles" or "guides" marks the subversion: rules are no longer top-down impositions but living agreements, mirroring Freirean (1970) dialogue and Udoewa's (2022) radical PD. The solidarity mapping method thus subverts design's traditional power dynamics, positioning constraints not as limitations but as scaffolds for emancipatory futures. This theme ultimately highlights a fundamental transformation in how constraint, control and governance are conceptualised within participatory design (Bødker, Kensing and Simonsen, 1997; Cleaver, 1999; Lodato and DiSalvo, 2018). Where traditional methods treat rules as fixed, solidarity mapping treats them as dialogic and relational. In doing so, it shifts the purpose of design away from system specification and toward political education and shared accountability. Reimagining rules as principles reveals the political dimensions of participatory design process and the necessity of embedding democratic governance, not just usability, into design methods. The next theme explores how the method was further explored through "the examples," the third element of example mapping.

5.3.4 Examples and scenarios of community wealth

Sub-themes	Codes
Resource-sharing platforms	Redistributing knowledge (not monetising)
	Low technical barriers
	Mutual aid focus
Federated co-operative models	Shared autonomy
	Scalable solidarity
	Decentralised governance
Decentralised financial tools	Co-operative finance
	Affordable cross-border transactions
	Mutual credit systems
Embedding care labour	Valuing invisible labour
	Solidarity economics in practice
Long-term community prototyping	Beyond one-off solutions
	Co-creation of scenarios

Table 19: The examples explored across the study

In conventional example mapping, examples serve as neutral, functional illustrations to clarify requirements or test cases, reinforcing existing systems rather than challenging them. They typically focus on feasibility, efficiency and alignment with business logic, acting as tools for incremental problem-solving rather than critical inquiry. By contrast, the examples from the hackathon radically depart from this norm by functioning as provocations and political statements. Instead of only just describing how a system should work, they demonstrate how it could work if designed around co-operative and feminist principles, such as the example of solar energy platform embedding open transactions and community funds, directly opposing extractive market norms.

Through this key theme, I examine how participants used example mapping to help me further identify opportunities for subversion. By working with the ‘examples,’ they challenged dominant techno-economic paradigms, ensuring communities benefited from both process and outcomes. Throughout the workshops, participants engaged in high-level discussions of the characteristics and principles of community wealth building. The ideas explored, ranging from federated co-operatives to visually based community asset governance tools, functioned as points for fragmenting the high level visions: imagining futures grounded in mutual aid, collective ownership and economic justice. This finding directly addresses RQ4, demonstrating how the “examples” can help articulate grassroots community needs and socio-

economic justice ideas to become useful for interactive systems design while adhering to the principles I seek to embed.



Figure 34: The Sandbox sessions materials, example mapping redesigned to signal focus on relationship between community wealth building and HCI

During the Hackathon, in particular, participants co-created scenarios reflecting co-operative values, which clustered into three main types: resource-sharing platforms, federated co-operative models and decentralised financial tools. Furthermore, independently developed CASH CLT's community skill-sharing platform demonstrated how technology could redistribute knowledge rather than monetise it (Free Software Foundation and Stallman, 1986; CASH, 2020). Meanwhile, through the art school co-operative and federation participants explored how small co-ops could share resources without losing autonomy, with proposals such as "Set up a federation of multi-stakeholder CO-Ops" illustrating scalable solidarity. Additionally, one blockchain application emerged not as techno-solutionist fix but as tools to advance co-operative principles, such as enabling "CO-OPs to access cheaper borrowing". Participants specifically emphasised the importance of low-cost cross-border payments in supporting global solidarity economies.

The approach we tested at the first workshop transformed example mapping from a problem-solving tool into a world-building exercise. Where conventional examples validate predefined

rules, these examples subvert them, proposing alternative socio-technical structures, like examples rejecting text-heavy systems that exclude participants' contributions with less tech or design skill-set. By encoding feminist and co-operative values (e.g., autonomy, redistribution) into design, the examples become prefigurative prototypes, materialising speculative but actionable futures. This shift turns example mapping into an assertion of power by the community, where defining examples is not just about clarifying functionality but about reimagining power dynamics in socio-technical systems.

On the other hand, the data collected helped me consider how participants were embedding care labour and long-term community wealth building perspectives. Participants integrated care, solidarity and invisible labour into design, valuing non-monetised contributions like skill-sharing and emotional support, as seen across all the workshops, which redistributed knowledge for free, another fundamental challenge to extractive tech norms. Additionally, the workshops data implied sustained community-led design, with participants co-creating evolving systems like federated co-ops and mutual credit tools that show long-term commitment to these examples.

While the examples generated during the Hackathon served as a very useful pathway to study and analyse participant's engagement with the materials and ideas such as subversion and community wealth building, it's important to note that their function as "examples" was not always immediately clear to participants. This ambiguity often stemmed from varying levels of experience with interactive systems design. For those less familiar with speculative or critical design methodologies, the examples may have appeared more as abstract provocations than as concrete design prompts. As such, the interpretive flexibility of these examples, while a strength in terms of fostering political imagination, also introduced challenges in terms of design outcome clarity. This underscores the need for scaffolding strategies that support diverse design literacies, ensuring that examples can operate both as tools through which to develop ideas and as accessible entry points into alternative socio-technical imaginaries.

In conclusion, this theme illustrates how participants leveraged design not to speculate abstractly, but to materialise alternative socio-technical imaginaries, including but not limited to the collaborative funding. These were not utopian fantasies but grounded critiques, scenario-based detailing interventions that provided rich material to ground the future work on subversion. By developing examples explored through the workshops, they created an opportunity for redistribution, participants embedded feminist, co-operative and solidarity economy principles into design method. In doing so, the participants changed a conventional

approach to design into an act of political engagement, one that foregrounds collective agency, local governance and sustainable participation.

The next theme explores how reflective practices embedded within these workshops helped further utilise these political commitments, ensuring that power analysis and accountability remained integral to the design process.

5.3.5 Reflective practices

Sub-themes	Codes
Iterative learning cycles	Cyclical critique
	Embedded reflexivity
	Adaptive structures
Power-aware critique	Unpacking systemic inequalities
	Feminist HCI alignment
	Marginalisation awareness
Political dimensions of participation	Solidarity mapping is political
	Feminist lens in co-design
	Design as activism

Table 20: Reflections instead of questions

In solidarity mapping, the “question,” conventionally defined as an inquiry that clarifies or validates aspects of a user story by addressing uncertainties or assumptions, becomes another site of subversion. Participants politicised technical queries such as “How should this feature behave?” into critical prompts like “Who decides what ‘correct’ behaviour means?”, transforming what appears to be neutral scaffolding into a mechanism for reflection and power redistribution. This reframing aligns with the broader theoretical framework of feminist HCI and PD, as outlined earlier in the chapter. The questions raised during workshops revealed a dual orientation: technical-pragmatic and critical-political. While technical-pragmatic questions (e.g., “How do we build the platform?”) prioritised implementation, they risked reinforcing apolitical norms unless explicitly tied to equity. This critique echoes concerns in the literature about HCI’s neoliberal defaults (Barbrook and Cameron, 1996; Kostakis and Bauwens, 2014a; Pazaitis, De Filippi and Kostakis, 2017; Costanza-Chock, 2018; Lyle, Sciannamblo and Teli, 2018; Schneider, 2018; Sandoval, 2020; Varoufakis, 2024), where tools like example mapping often prioritise productivity and profit over justice. In contrast, critical-political questions (e.g., “How can tech bridge skill gaps for marginalised

residents?”) directly engaged power dynamics, resonating with feminist HCI’s emphasis on pluralism and structural critique.

While these questions interrogated marginalisation and institutional barriers, the data also revealed gaps in explicit power analysis and cyclical critique. In response, the reflection step in SM was redefined as an active, politicised practice rather than passive feedback. Reflection serves three interrelated purposes: fostering critical accountability by interrogating systemic exclusions, sustaining feminist and co-operative values to resist oppressive norms and enabling adaptive learning for a real-time course correction. Unlike conventional design methods, reflection in SM is collective and systemic, with participants asking “Who’s left out?” and co-developing solidarity-driven solutions that addressed inequities through a feminist lens.

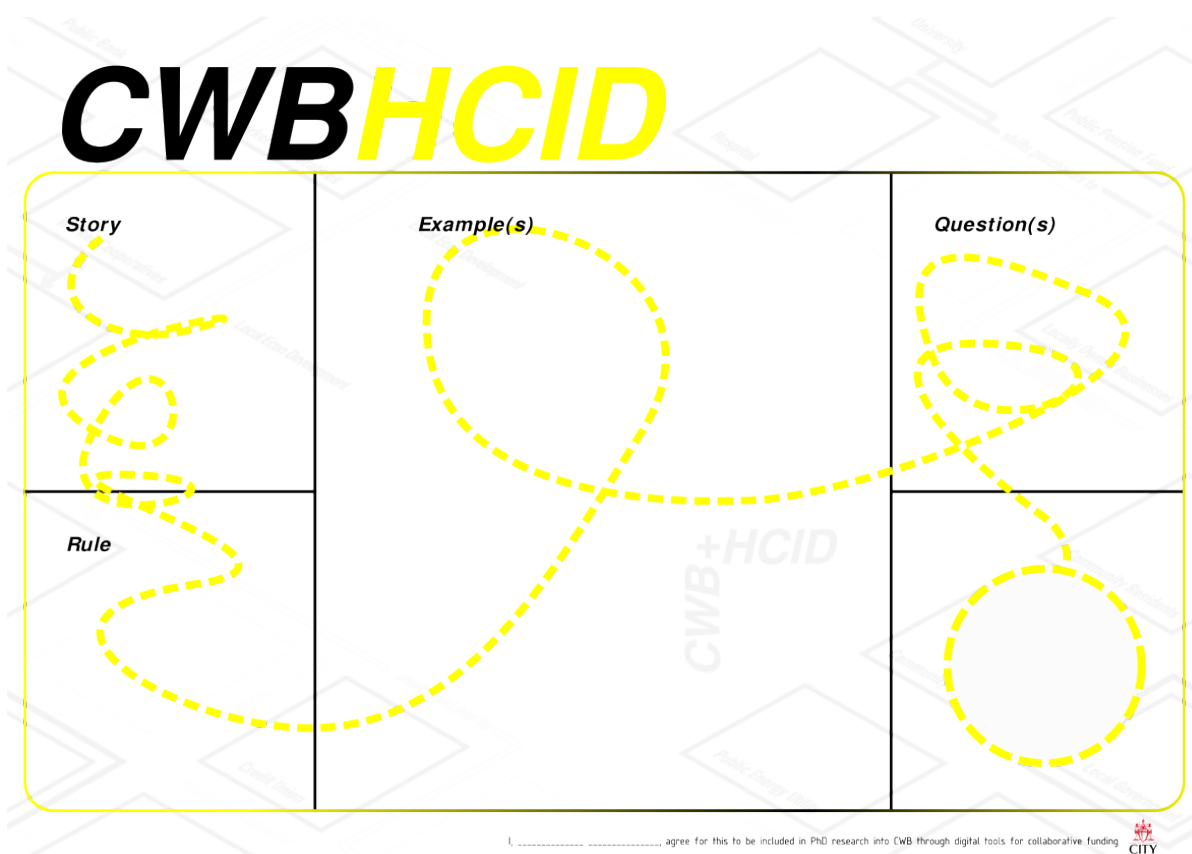


Figure 35: Interim stage of solidarity mapping design – as used in the Sandbox sessions

Reflection in SM emerged as a structured, socio-economic justice-oriented process that challenged traditional design by embedding systemic critique and the principles explored throughout this chapter. Participants anticipated barriers in the way they engaged with this part of example mapping, as reflected in statements like “We’re not just designing tools. We’re designing who gets to be part of the economy.” By rejecting neutrality, they politicised

the design process, embedding equity through practices like rotating facilitation and stipends for under-represented contributors. This approach transformed design into an instrument for a deep change, exposing inequalities and prioritising care, as evidenced by a range of considerations centring on inclusion and equity.

The reframing of questions into reflective prompts also operated as a mechanism for challenging the notion of expertise. In conventional example mapping, queries often emerged from those already in positions of authority: developers, product owners, facilitators, implicitly affirming their control over design outcomes. Through the participants' reflective adaptation in the way example mapping was used, invited those traditionally excluded from technical discourse, such as residents without architectural or land law knowledge, to shape the agenda. This reallocation of discursive space ensured that reflection was driven by grassroots perspectives themselves, articulating needs and visions proactively, rather than being limited by external design prompts. In practice, this meant that a technical query like "How can the user interface be intuitive?" was translated into "How can the interface be co-shaped by those with no prior digital design exposure, so it speaks their language?" shifting both the locus of authorship and the design outcome toward equity.

This approach also transformed the temporal cadence of design, a central focus of my study in Chapter 6. In conventional example mapping, the "question" stage is often a one-off activity situated within a linear workshop flow, privileging rapid resolution over sustained engagement. In the workshops, reflective questioning was iterative and cyclical, forming a feedback loop between emergent community priorities and design decision-making. This aligns with feminist HCI's call for ongoing accountability, ensuring that early inclusivity is not eroded during later technical decisions. For instance, when considering a federation platform for arts education, questions such as "How do we build the platform?" in solidarity mapping were later reframed to include "How will decision-making and benefit distribution remain community-controlled once the platform scales?" embedding a future-facing power analysis within present design choices.

SM's treatment of questions as sites of political intervention also helped open questions around what could be termed solidarity literacy. This literacy extended beyond understanding co-operative structures to recognising the socio-economic forces that shape technological adoption and exclusion. Politicised reflection thus in this new method became part of a community skill development in its own right, transferable beyond the immediate design

process to broader struggles for wealth redistribution, local autonomy and collective self-determination.

Taken together with the above, SM’s subversion of example mapping’s “question” stage crystallises a methodological shift from problem-solving for communities to critical reflection with them. By embedding power-aware prompts, iterative critique and feminist principles into what was once a neutral, productivity-focused design step, SM transforms an efficiency tool into an engine for redistribution, solidarity and agency. This reorientation ensures that design decisions remain anchored in collective priorities rather than institutional convenience, while cultivating the skills and structures needed for long-term community wealth building. In doing so, SM addresses immediate project needs by cementing the political commitment to co-operative futures, showing that the smallest acts of reframing, such as the way we ask a question, can carry the largest potential for systemic change.

5.3.6 Collective action and mutual aid

Sub-themes	Codes
Materialising mutual aid	Co-operative federations, shared platforms
	Community skill pooling
	Meaningful participation, shared ground
	Technology co-creation
Alternative economic practices	Solidarity economy models (e.g., savings circles)
	Democratic business models (e.e co-operatives)
	Leveraging communal assets
Wealth redefined	Redefining wealth as collective capacity
	Accumulating community wealth
	Radical pedagogy (e.g., co-operative schools)

Table 21: Solidarity visibility

This final theme crystallises the ways participants embedded collective action and mutual aid into the very fabric of solidarity mapping, transforming abstract ideals into tangible design principles and infrastructural proposals. Grounded in feminist economics, community wealth building and design justice, this theme directly addresses RQ4: How can co-design support fair, co-operative economies? by rejecting market-centric logics in favour of systems that prioritise co-operative governance, redistributive justice and shared accountability. Below, I

expand the theme through three sub-themes, integrating the codes and examples to highlight both radical aspirations and material constraints.

In Materialising mutual aid sub-theme, participants emphasised collective over individual solutions, designing systems to institutionalise mutual aid. Participants considered concrete systems like CASH's Co-ops Connect, a community-developed software for resource and skill sharing and the example first explored at the Hackathon, “the federation of CO-OPs with shared platform,” demonstrating federated structures, distributed ownership and governance, as practical implementations of mutual aid and collective ownership in action. Time-banks and rotating labour systems, inspired by historical mutual credit networks and critiques of commodified labour, were framed as "living prototypes" for equitable work redistribution. Crucially, technology was seen as a means to sustain relationships, not an end in itself, exemplified by blockchain-enabled P2P finance with community governance to prevent exploitation.

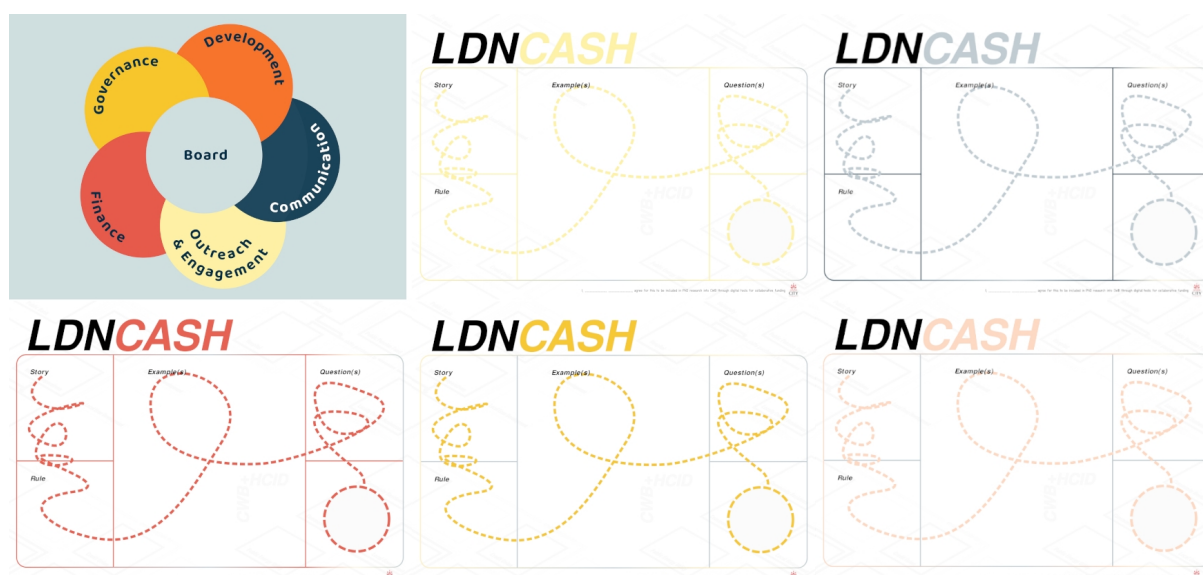


Figure 36: CASH CLT Away day version of the solidarity mapping – based on the colour coding established by CASH, corresponding to circles

The key insight is that mutual aid required tangible infrastructures, ownership models, compensation mechanisms and maintenance rather than just ideological commitment. By embedding care into institutional design, these proposals put solidarity into action, ensuring that mutual aid became a durable, scalable practice rather than a temporary fix. The focus on federated co-operation and relational tools highlighted how systemic change could emerge from decentralised, community-led structures.

The discussions highlighted marginalised economic practices as viable models for equitable design. The research thus surfaced existing but often marginalised practices like informal

savings circles and rotating labour systems. One participant noted: "My grandmother's savings circle ran for 30 years on trust. Why can't tech work like that?" These became models for thinking about co-operative technology design. Furthermore, the participants pointed to informal solidarity economies, such as the trust-based savings circles, as more accountable than mainstream financial technologies, debunking the notion that formal institutions are necessary for trust. Democratic business structures, like co-operative-owned platforms, were proposed as alternatives to Silicon Valley's profit-driven models, with examples such as community land trusts (CLTs) that prioritise collective care and funding. These models align with historical traditions of Black co-operatives (Nembhard, 2014), demonstrating how marginalised communities have long practised equitable economics.

Despite their potential, these grassroots initiatives face systemic challenges. Participants noted the lack of funding and institutional support, leading to burnout among justice-oriented practitioners. While communal assets like CLTs and open-ledger technologies offer scalable transparency, their growth is hindered by structural barriers. The tension between their grassroots success and systemic marginalisation underscores the precarity of alternative economic work, as highlighted by scholars like Costanza-Chock (2020). The session reinforced the need for institutional backing to sustain and scale these just economic practices.

Discussions consistently challenged individualistic notions of wealth. As captured in the Sandbox follow up, participants argued "Wealth is the interwoven strength of knowledge & skills in the community," proposing systems that accumulate community rather than private wealth. Participants effectively redefined wealth as collective capacity, moving beyond individualistic notions to emphasise community strengths. They highlighted the importance of shared knowledge and skills, proposing initiatives like co-operative schools to foster collective wisdom rather than private gain. Redistributive infrastructures, such as participatory budgeting tools and mutual aid dashboards, were discussed with an aim to circulate resources rather than hoard them.

The last theme in this chapter emphasises the political nature of solidarity mapping, focusing on building infrastructures of care within technical, economic and social systems. It highlights the importance of recognising marginalised expertise, such as savings circles and community land trusts, as valid design knowledge. Through this theme I aimed to demonstrate the necessity of power redistribution, asserting that co-design and PD must go beyond tools to dismantle extractive systems. By grounding technology in collective action, participants reclaimed the radical roots of PD, expanding who can design, own and benefit from

technology. This approach supports collective approaches over individualism, with mutual aid practices and resource-sharing platforms serving as key use cases. The findings underscore the potential of PD to reconnect with its political roots, particularly through mutual aid and collective ownership.

5.4 Reflection

This study serves as a call for strategic intervention within Human-Computer Interaction. Through these findings, I argue that HCI, by centring socio-economic equity in its methodologies and evaluations, can facilitate the scaling of alternative economic models, not as marginal or niche experiments, but as viable counterweights to prevailing extractive economies. This reflection bridges theory and evidence, positioning solidarity mapping as both a diagnostic tool and a proposition: a means to materialise the otherwise abstract struggle against inequality.



Figure 37: COOP Hackathon workshop materials showing co-operative principles

The research reveals how participants' critique of conventional example mapping, particularly its exclusion of co-operative principles, prompted the development of solidarity mapping as a subversive alternative. The method's core strength lies in its inherent flexibility,

accommodating the unpredictable realities of grassroots contexts while resisting universalist design traps. Through workshops, participants demonstrated a clear preference for collectivist approaches over individualist paradigms, manifesting in practices such as mutual credit systems, resource-sharing platforms and community-governed asset building. These findings extend Light's work on design subversion by demonstrating how participatory methods can transcend commercial imperatives, while contributing to feminist HCI discourse through an emphasis on care, collective thriving and non-extractive value creation. Similarly, DiSalvo's scholarship on critical and adversarial design underscores the role of design as a political act, emphasising how design practices can surface contested social issues and challenge dominant power structures.

This study makes three key contributions that advance participatory design within HCI. First, it re-politicises participatory design by reconnecting its practice to feminist and economic justice agendas, shifting focus from neutral or efficiency-driven processes to explicitly emancipatory goals. Second, it offers a novel methodological approach by subverting both the form and content of a traditional design method, *example mapping*, transforming it into *solidarity mapping* through copyleft-licensed, adaptable tools that communities can freely modify. This approach embeds co-operative and feminist principles and, in doing so, empowers grassroots groups to shape the design process itself, fostering transparency, accountability and shared ownership. Third, the study points to a pressing gap in HCI, the missing sustained discourse about technology design and its relationship to economic and social equity.

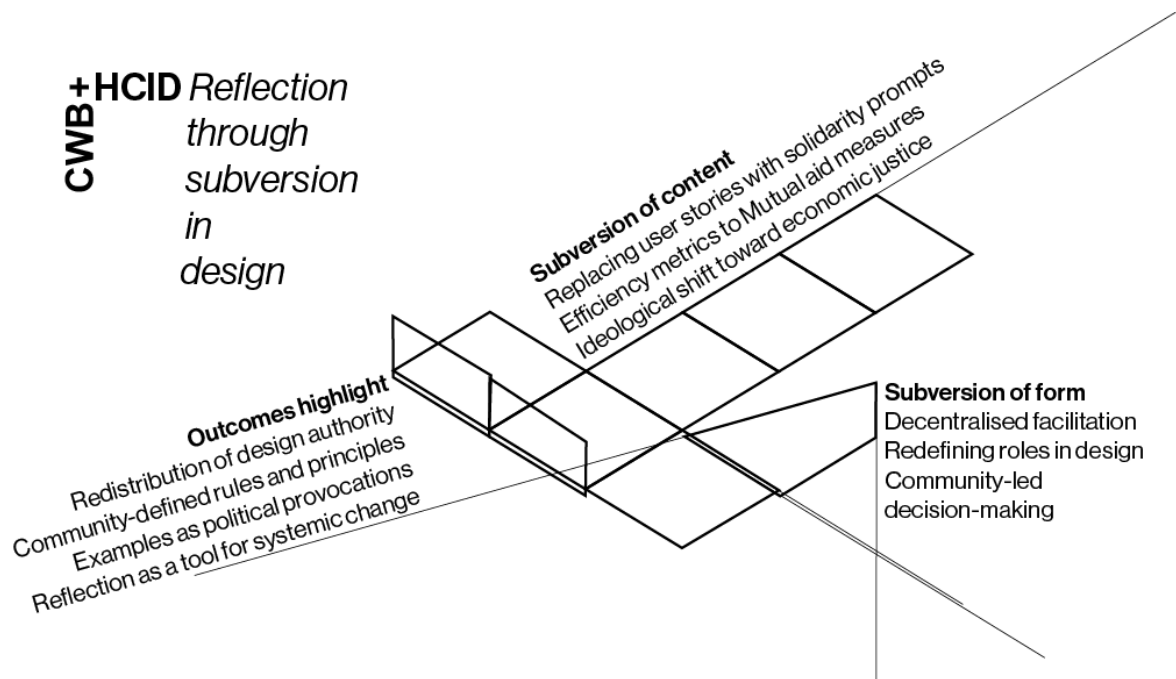


Figure 38: This diagram unpacks the transformation of a conventional UX method, *example mapping*, into a tool for solidarity mapping. By subverting both its form and content, the method becomes a site of political intervention, enabling participatory design practices that foreground collective agency, mutual aid and economic justice.

While the solidarity mapping prototype demonstrates promising potential to support community wealth building (addressing RQ2 and RQ4), limitations in data collection and scope reveal the need for further longitudinal research with groups such as CASH. Ultimately, this work opens new possibilities for unorthodox participatory design approaches that frame design not just as a technical activity but as a political act and a training ground for collective technology-making. It shows how the socio-economic dimensions of decolonial and feminist praxis can become actionable in the development of digital infrastructures, advancing a more just and inclusive HCI.

In this chapter I presented empirical evidence that subverting traditional design methods is not an academic exercise alone, but a necessary intervention to address extreme economic inequality. The findings demonstrate how solidarity mapping, as both a method and a mindset, can expand community wealth building by making solidarity visible, productively navigating tensions and building on historical co-operative wisdom. Ultimately, these findings show that just as inequality is designed, so too must be its undoing. The task ahead is to make subversion not an exception but the foundation of HCI practice.

The potential impact of this work is multifaceted: academically, it opens critical debates on the participatory design of digital infrastructures; methodologically, it reorients design goals towards justice; and policy-wise, it advocates for democratised technology ownership. By

focusing on equity, solidarity mapping and related approaches can help dismantle systemic inequalities and redefine HCI's role in socio-economic transformation. Overall, this chapter builds on emerging frameworks in justice, ethics and activist HCI while addressing gaps in co-operative movement research and solidarity economies.

In the next chapter, I expand this work to encompass time as an additional dimension of subversion within design methods in HCI.

CHAPTER 6 METHODOLOGICAL SUBVERSION 2: PICK-A-PEBBLE

6.1 Introduction

In this chapter, I explore how time, often treated as a neutral constraint in design, is in fact a deeply political dimension that shapes inclusion, agency and justice in technology development. Drawing from a year-long engagement with UK-based co-operatives and the CASH community land trust, I examine the tensions between dominant design methodologies and the lived temporal realities of grassroots organising for community wealth building.

I begin by scrutinising the design sprint, a method widely adopted across the tech industry for its purpose of rapid innovation through compressed timelines and centralised facilitation, a logic driven by the “time is money” capitalist profit making imperative. However, as earlier chapters have shown, this accelerated pace often conflicts with the democratic, iterative, deliberative and trust-based processes necessary for equitable development. This chapter turns to the critical question: what happens when communities explicitly reject the tempo imposed by this way of making interactive systems and digital technology?

To think through the ‘why, what and how’ of this stage of my research, I draw on a critical temporal framework. The work of Pschetz et al. (2022) and Bastian's (2014) help me articulate the politics of pace itself. This is combined with the principles of feminist economics (Gibson-Graham, 2006) to think with possibility and difference, helping to articulate a vision of "designing otherwise" (DiSalvo, 2022). Finally, Udeowa's (2022) concept of radical participatory design provides a model for the practical subversion of extractive methodologies. In combination, these theorists provide the foundation for both critiquing the design sprint and constructing the alternative that this chapter presents.

I build the argument gradually, as my own understanding was developed through the process, through empirical findings, collaborative methods and theoretical reflection, rather than offering a definitive critique upfront. I trace how participants in my workshops challenged the sprint's core logic and how their practices crystallised into an alternative temporal framework I call *community time*. This situated concept reimagines time not as a constraint to be optimised, but as a shared resource for building mutual understanding and through it community wealth.

As the chapter unfolds, I introduce the Pick-a-Pebble (PaP) method as a practical manifestation of this principle. This design intervention subverts the sprint's structure by intentionally embedding care, critical reflection and collective agency into the design process. Through this lens, I invite readers to consider how slowing down might not hinder innovation, but instead can open essential space for more justice-oriented design outcomes.

6.1.1 Context

Interactive systems designed to address extreme economic inequality, ones explored in Chapter 4, often rely on methods borrowed from Silicon Valley's playbook, methods driven by productivity, efficiency and profitability; and rooted in a "move fast and break things" philosophy (Vardi, 2018). These methods, such as the design sprint, prioritise compressed timelines, rapid iteration and centralised decision-making, embodying a logic of acceleration that aligns with neoliberal market values rather than addressing extreme economic inequality. Nevertheless, as the scoping study revealed, this approach fundamentally contradicts the goals of interactive systems aimed at fostering justice, and specifically economic justice. The design sprint, widely adopted in technology development, emerged as a key site of critique: its emphasis on speed and deliverables often excludes deliberative participation, reinforces power imbalances and overlooks the labour essential to community-led initiatives.

The research and findings presented in this chapter are historically contextualised as the aftermath of the 2008 financial crisis. This period intensified economic inequality and spurred the creation of economic platforms like Open Collective and Circles UBI. Chapter 4 study examined their relationship to local economic strategies such as community wealth building, which prioritises long-term, collective ownership models, worker co-operatives, housing co-operatives and community land trusts, as sustainable alternatives, building elements of solidarity economy. As identified in the scoping study, these tools, though firmly set in the ideas of solidarity economy and feminist goals, use the same accelerated design methods that perpetuate the inequities they seek to redress. Within this context, I interrogate the design sprint's role: while it claims to democratise innovation (Knapp, Zeratsky and Kowitz, 2016), its speed-centric model clashes with the processes required for design process led by communities seeking to address the economic inequality.

In this chapter I argue that the speed inherent in design sprints, rather than being an unqualified virtue (or, for that matter, an outright vice), represents a critical space for

subversion within HCI. By dismantling the sprint's accelerated logic and reconstructing it through feminist and co-operative principles, I argue we can transform interactive systems design into a practice that actively confronts inequality. This subversion is methodological, but its core is ideological; it challenges the assumption that faster innovation equates to better outcomes. Instead, I propose *community time* as a flexible approach that prioritises reciprocity, reflection and collective agency.

To ground this critique, I continue to rely on Audre Lorde's assertion that "the master's tools will never dismantle the master's house." This feminist lens helps to reveal how dominant design methods replicate the very systems of oppression they claim to address. For instance, the sprint's rigid structure marginalises those who cannot conform to its tempo: volunteers, caregivers, or individuals juggling multiple jobs, effectively excluding the communities these systems are supposed to serve. In response, I advocate for design practices rooted in slow tech (Odom et al., 2012), radical participatory design (Udeowa, 2022) and feminist economics (Gibson-Graham, 2006), where time is reconfigured as a shared resource rather than a corporate constraint.

By subverting the sprint's temporal logic, I introduce PaP as a method, a feminist, co-operative alternative that replaces speed with care, wireframes with tangible pebbles and centralised facilitation with rotating roles. This approach, developed through workshops with co-operatives and a CLT, demonstrates how slowness can function as an act that realigns design with the values of mutual aid and public good. In doing so, I call for HCI to reject extractive temporal logics and embrace time as a dimension of justice, ensuring that interactive systems serve people and not markets.

6.1.2 Gap in HCI/STS

This research addresses critical gaps in HCI and STS by challenging dominant assumptions about time, participation and justice in technology design. While HCI has long prioritised efficiency and speed, exemplified by methods like design sprints, it has largely treated time as a neutral resource rather than a political dimension that shapes inclusion and power. This oversight perpetuates structural inequities, as accelerated design processes exclude those who cannot conform to Silicon Valley's tempo, such as time-poor communities. By introducing community time as a concept, in this work I create a bridge between feminist STS and

participatory design, highlighting collective agency and deliberate slowness as essential to justice-oriented design.

A second gap lies in the disconnect between participatory design's democratic ideals and the realities of economic inequality. Although PD emphasises co-creation, it often fails to address systemic barriers like unpaid labour or the privileging of expert voices. Through this research I confront these limitations by grounding its methodology in community wealth building, co-operatives, land trusts and other solidarity economy entities and practices like time banking and informal savings, where design must align with long-term stewardship rather than short-term innovation. Similarly, while STS critiques capitalist temporality, HCI has under-explored how to implement alternatives like slow tech or feminist ethics in practice. The Pick-a-Pebble method responds by employing subversion through explicit inclusion of co-operative principles and embracing open-ended timelines, a constituting element of community time.

This intervention directly supports the thesis's broader concern with community wealth building (CWB), as introduced in Chapters 2 and 4. Through the Pick-a-Pebble, this work advances subversion from theory to practice. Where HCI often critiques oppressive systems without offering actionable alternatives, the PaP method demonstrates how to dismantle extractive design logics while building solidarity infrastructures in their place. By designing with community rhythms (Harwood, 1999) and co-operative principles, the method directly confronts the temporal incompatibility between the profit seeking imperatives implied in the conventional design methods and the slow, trust-based work of community wealth building. This approach provides a tangible pathway for HCI to prioritise solidarity and stewardship over speed and extraction, ensuring that interactive systems are designed to support long-term economic resilience and shared ownership rather than short-term engagement. In doing so, I call for reimagining of design's temporal foundations, one that considers time in HCI design research as a critical dimension for addressing economic inequality.

6.1.3 Research questions

This chapter advances the study's broader aims by focusing on RQ2 and RQ4, interrogating how feminist and co-operative principles can subvert dominant design paradigms to address economic inequality.

RQ2 examines how feminist HCI may expand design epistemologies by critiquing power relations and politicising participatory processes. Further to the work presented in Chapter 5, I

draw on emerging feminist HCI scholarship, feminist economics, social sciences, digital humanities, media and cultural studies to challenge the design sprint's neoliberal temporality, its glorification of speed, extraction and centralised control; and propose *community time* as a subversive alternative.

RQ4 confronts the material stakes of this tension: How can co-design with solidarity economy organisations (e.g., co-operatives, community land trusts) produce digital infrastructures that make fair, inclusive economies? The chapter demonstrates how PD must actively embed co-operative principles in both process and outcomes, by prioritising community time as its core concept and methodology. This means rejecting speed-driven frameworks, like the design sprint, in favour of rhythms that emerge from collective needs: trust-building, consensus-based pacing and respect for care labour.

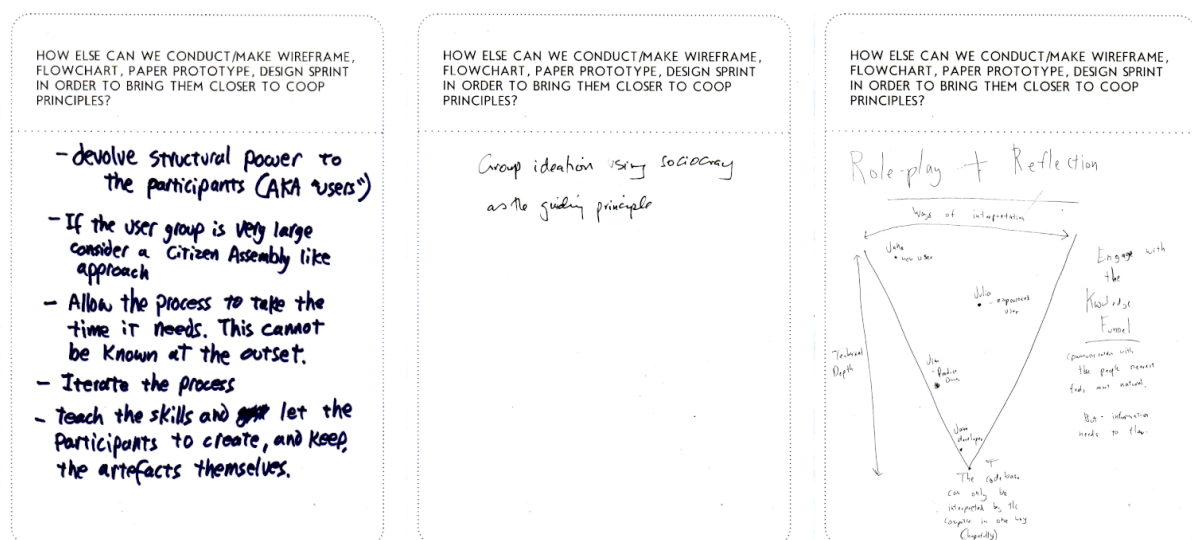


Figure 39: Initial COOP Hackathon workshop materials to collect data on a range of design methods, including early investigation of design sprints, in co-operative tech space

6.2 Pick-a-Pebble overview

Pick-a-Pebble method is a core result of my research, a tangible outcome born from critique and co-creation, I have situated its detailed description within this introduction section, with a full protocol in Appendix C. I acknowledge that this integration of a result may be considered unconventional. Indeed, it took some time to decide on its placement; however, I believe presenting it separately here is crucial to better understand the subsequent findings section. The research method, the workshops and the specific phases of the research as a whole are all detailed in Chapter 3 and exactly mirror the research process presented in the previous chapter. The strategic placement of this novel method overview serves multiple purposes.

Firstly, it provides the information needed to contextualise the key themes as outlined below. Second, it ensures reproducibility; by offering a structured account of PaP’s steps, I invite other researchers and practitioners to test, critique and adapt it. Furthermore, by positioning PaP here, I can highlight its role as an active research intervention I created to subvert extractive temporal logics, rather than presenting it as a neutral tool for data collection. In short, I situate PaP’s summary here to frame it as the deliberate engine that generated the insights I discuss later.



Figure 40: Pick-a-Pebble overview

Overview

Here is a brief summary; for a detailed presentation please see Appendix C:

1. Preparation phase → Setting the foundation

Prior to the activity, participants contribute reflections on priorities and aspirations via a check-in. The group synthesises these inputs and prepares materials that centre the co-operative’s mission and values.

2. Grounding circle → Connecting to values

The session opens with a grounding circle, where members share personal reflections on the co-operative’s meaning. The facilitator revisits the ethical framework, emphasising feminist goals and co-operative principles to set the tone.

3. Vision pebbles → Defining goals

Small groups brainstorm potential goals, selecting one “vision pebble” each, a goal deemed most impactful. These are shared and refined collectively into 3–5 core objectives.

4. Pathways to action → Planning steps

For each vision pebble, members co-develop actionable steps, identify resources and assign responsibilities. Plans are reviewed through a feminist lens to ensure equity, shared leadership and collective care.

5. Pebble placement → Committing to goals

Members make personal pledges toward the goals and symbolically place physical pebbles into a communal bowl, representing their commitment to the collective effort.

6. Reflection and close → Celebrating collective strength

The activity concludes with a reflection circle, where members share insights and hopes. The facilitator summarises key action points and acknowledges the group's contributions.

It is important to note that the bulk of the collaborative testing and evaluation work with participants was focused on parts 3 and 4 of PaP method. Part 5 was prepared for evaluation but remained untested due to constraints of time. Having established this procedural foundation, I now turn to the outcomes of its articulation, creation and application.

6.3 Findings

6.3.1 Introduction

This section presents the key findings that emerged from the iterative development and deployment of the Pick-a-Pebble method across three research phases: the COOP Hackathon, Sandbox sessions, and the CASH CLT Away day. As a design sprint subversion and an alternative to mainstream HCI practices, these findings reflect the lived realities of participants engaged in community-led design processes. Drawing from participant-generated artifacts, field notes, workshop transcripts and thematic analysis of data collected throughout these engagements, the section is structured around five key themes. These themes articulate the tensions between industry design norms and community-based design and outline how the Pick-a-Pebble method emerged as a counter-practice rooted in feminist and co-operative principles.

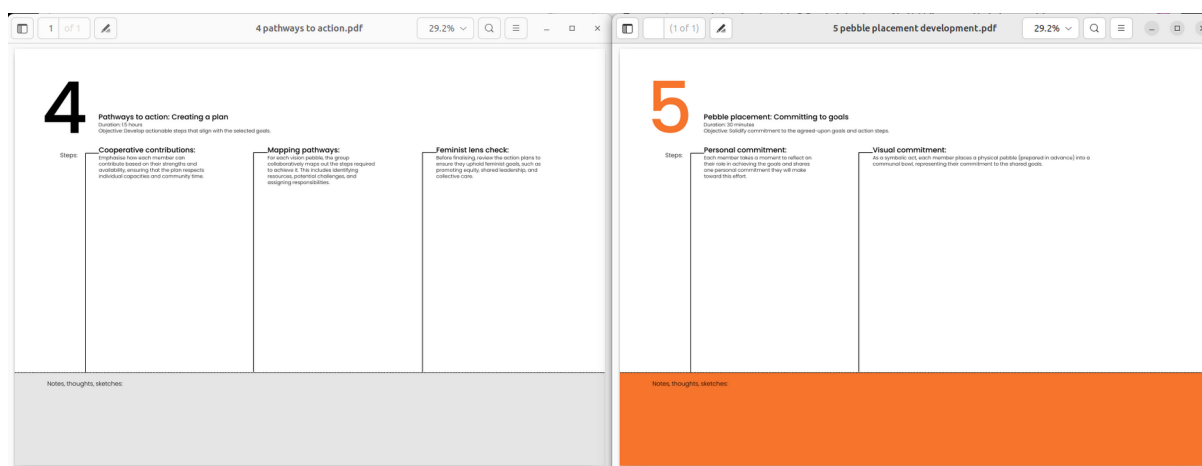


Figure 41: PaP plates as designed for CASH Away day, colours mirror circles – Socioracy organisation mechanism

Key themes:

6.3.2 Temporal incompatibility between design sprints and community needs

One of the most consistent findings across all research phases was a fundamental temporal misalignment between the design sprint model and the working rhythms of community-based organisations. The five-day sprint model, rooted in principles of productivity and efficiency-driven outcomes, was perceived as structurally incompatible with the conditions of community work, particularly where participation is voluntary, time is collectively negotiated and decision-making requires broad consensus.

Sub-Theme	Code
Speed vs. Deliberation	Incompatibility
Unpredictable timelines	Flexibility
Community self-knowledge before speed	Slow design

Table 22: Code extract for temporal incompatibility theme

Across all the three workshop phases, the Co-op Hackathon, Sandbox sessions and the CLT away day, the participants repeatedly emphasised that speed, as valorised in sprint logic, often came at the expense of ethics, inclusion and deliberative depth. I observed how the demand for rapid output overlooked the temporal realities of grassroots groups, where processes of trust-building, conflict resolution and alignment can span weeks or months. As one participant put it, “you can’t design something democratic in five days when people haven’t even met each other properly yet.” This critique echoes the findings from Chapter 4, where platform leaders, designers, developers and organisers expressed frustration with the disconnect

between emancipatory goals and the time constraints imposed by the technical development demands. In both cases, time was not a neutral constraint, it was a site of friction, exclusion and power. Furthermore, this sentiment echoes Gibson-Graham's (2006) argument that duration in community decision-making is inherently uncertain and context-dependent.

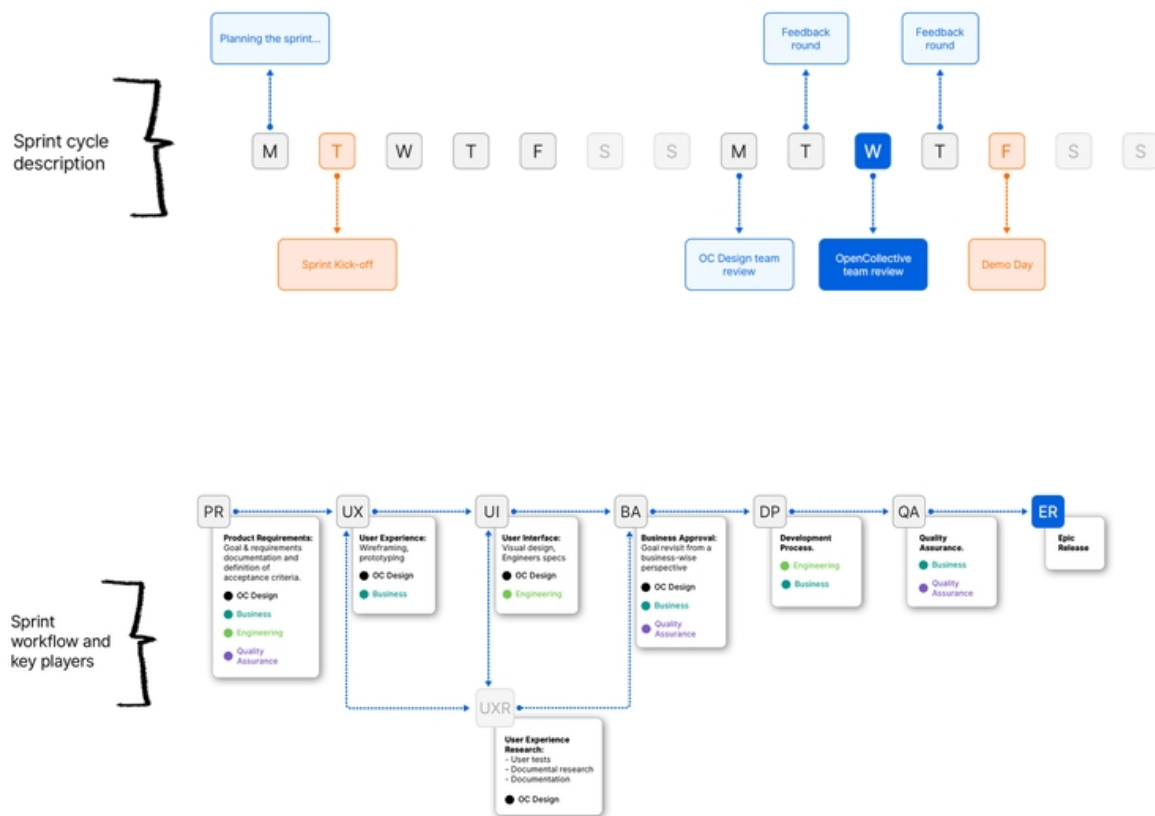


Figure 42: Open Collective's visualisation of their design sprint method

I noticed how the sprint model's rigid adherence to digital deliverables and compressed timelines actively eroded the relational foundations of community organising. As evidenced in the first image above, it depicts a repetitive weekly cycle emphasising rapid iteration and demo-driven outcomes, reinforcing a tempo that prioritises speed over depth. Meanwhile, the second image as displayed in Open Collective's documentation website, outlines a segmented workflow with specialised roles (e.g., UX, UI, BA) and predefined phases, reflecting a hierarchical and efficiency-centred model that often excludes non-expert voices and care-based rhythms. By privileging technical fluency and 'always-on' participation, it excludes those with care responsibilities, precarious work, or neurodivergent collaboration styles, groups central to grassroots movements.

For example, one Sandbox session's participant noted that neurodivergent problem-solving required 'communication conduits beyond written or spoken English,' however, the sprint's default tools (e.g., rapid-fire whiteboarding, digital prototyping) assumed homogeneous capacities. Similarly, the demand for quick consensus marginalised deliberative practices like shared meals or analogue planning, rituals that build trust and align divergent priorities before technical work begins. As another participant stressed, 'explaining technology to non-technical people' became impossible under time constraints, reinforcing a hierarchy where 'expert' voices dominated. This culminated in a stark question: 'Who decides where community-funded money is spent?' Here, the sprint's temporal asymmetry (prioritising speed over equity) mirrored broader power disparities, reducing 'participation' to performative inclusion while systemic barriers remained unaddressed.

This incompatibility is not incidental; it is implicitly ideological. The sprint's structure reflects Silicon Valley's "move fast and break things" ethos, which prioritises disruption over deliberation and centralised control over distributed agency. As I discussed in the literature review, this logic reinforces neoliberal values that treat time as a commodity rather than a collective resource. In contrast, solidarity economy organisations, such as those studied in Chapter 4 and engaged through workshops in Chapter 5, operate on fundamentally different temporal principles. Community wealth building requires long-term stewardship, shared ownership and relational accountability, none of which can be compressed into a five-day sprint.

The CLT away day offered a particularly vivid illustration of this tension. Participants outright rejected the sprint's rigid pacing with the slow, trust-based processes required for land governance and housing equity. As one member noted, "I think at this stage in CASH's 'life' there is a very organic way of collaborating on our current goals, based on the strength of our working relationships." This organic approach, rooted in relational trust, clashed with the imposed urgency of the sprint, echoing the sentiment that the tension between social and computational perceptions of time is a fundamental clash of epistemologies, which runs deeper than a simple mismatch of pace. Where computational systems prioritise efficiency, scalability and discrete increments (sprints, deadlines, milestones), social and relational frameworks treat time as iterative, embodied and rooted in trust. Such reflections underscore the need for HCI to confront its complicity in perpetuating extractive temporal structures, structures that privilege the measurable over the meaningful and the scalable over the sustainable.

To reframe time as a site of justice means putting the rhythms of communities over the demands of systems, honouring the pauses required for meaningful deliberation, the slow cycles of land stewardship and the unpredictable timelines of collective transformation. This aligns with Chapter 5’s call to dismantle dominant design methods in their entirety. Here, in this chapter, I take this further, arguing that justice requires reimagining time’s architecture: its pacing must reflect equity, its structure must enable care and its governance must belong to communities rather than systems of control.

In response, the Pick-a-Pebble method emerged as a counter-temporal intervention. By replacing fixed schedules with open-ended phases, centralised facilitation with rotating roles and deliverables with symbolic artifacts, PaP reconfigures time as a shared, negotiable dimension. Moreover, it challenges the assumption that faster innovation equals better outcomes and instead proposes that slowness, care and collective rhythm are essential to equitable design. As such, temporal incompatibility becomes the starting point for subversion, revealing how time can be reclaimed as a tool for solidarity rather than a mechanism of exclusion.

6.3.3 Community time as a subversive framework

In response to the limitations outlined in previous key theme and through ongoing reflection and data analysis, I began articulating the concept of community time: a flexible, emergent and politically situated temporal framework designed to resist industrial and neoliberal tempos. For me, this concept emerged through the data as a direct challenge to the rigidity of traditional design timelines. Community time, as I came to understand it, is not measured by linear progress or fixed deadlines, but by the relational conditions necessary to co-create meaningful outcomes. It prioritises mutual learning, invisible labour (Daniels, 1987) and the pacing required to build collective trust.

Sub-Theme	Code
Adaptive rhythms	Unknown, undefined
Non-digital focus	Long-term engagement
Consensus-based collective rhythm	Extended, generous

Table 23: Code extract for the community time theme

Community time emerged throughout the workshops not simply as a critique of design sprint pacing, but as a radical reimagining of temporality itself, a subversive framework that

reclaims time as a shared, negotiated and political resource. This concept builds directly on the tensions identified in Chapter 4, where study participants, experts leading, designing and developing multiple collaborative funding interactive systems, described how platform development timelines often made wider participation impossible due to care responsibilities, precarious labour, or the need for consensus-based governance. In response to that, in Chapter 5, I moved to explore subversion through the dismantling of a design method's form and content. Finally, here, I extend this exploration by showing how speed, as a measure that depends on time, can itself be subverted to support justice-oriented design.

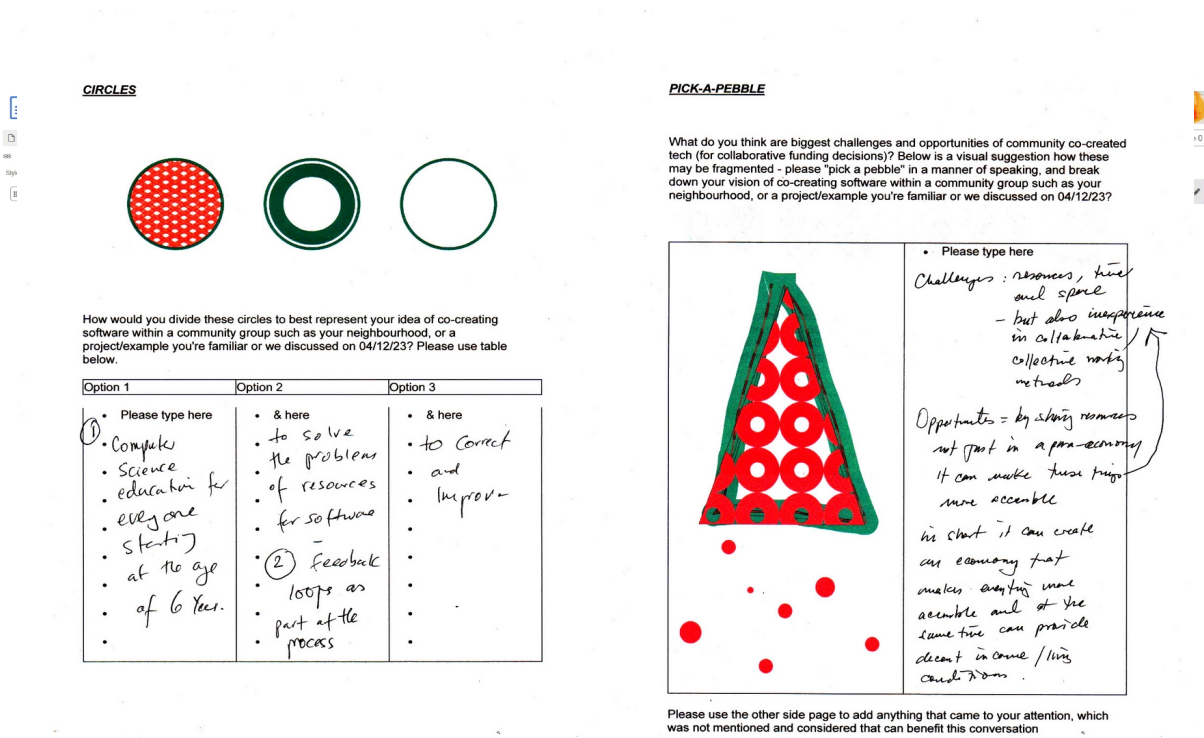


Figure 43: Pages from printed and collaborative CryptPad document used in a Sandbox sessions. Participants mapped out challenges (e.g., decision-making processes, aligning values) and opportunities (e.g., building trust through financial clarity) for community co-created tech. This artifact exemplifies the deliberative, non-linear pace of "community time."

Participants across all three workshop phases articulated an understanding of the need for temporal autonomy: the ability to set their own pace, revisit decisions and engage in design processes that respected their lived rhythms. The Hackathon data explicitly highlights the uncertainty of deliberative processes, noting that the time required for collaborative design "cannot be known at the outset." This observation is critical for the findings, as it frames community time as inherently flexible and mutable, shaped by collective needs rather than predetermined schedules. Community time emerges as a flexible entity, expanding for deliberation, contracting for action and iterating recursively. This temporal fluidity is not a

weakness but a political commitment to inclusivity, reflecting co-operative principles of democratic pacing and shared control over process boundaries.

In the Sandbox sessions, one participant observed, "software is never 'finished' [but] must evolve with the community's needs". This rhythm stood in stark contrast to rigid project timelines, prioritising instead what another termed "long amounts of prototyping in other formats", before digital tools were introduced. The emphasis on slowness was not inefficiency, but a deliberate care. As noted in the Sandbox conversations "the digital part comes really late..." after testing and engagement, ensuring that solutions emerged from trust and collective scrutiny rather than top-down deadlines. The follow-up data reinforced this, framing co-creation as an open-ended circle where "no direction or pattern has been established yet which will need wide consensus before moving forward." Here, time became a tool for inclusion "a mutual cause" required patience to harmonise diverse skills and lived experiences. This reframing challenges HCI's dominant temporal logic, which treats time as a neutral constraint to be optimised. Instead, community time foregrounds time as a site of power negotiation and wealth re-distribution.

The commitment to honouring the community's rhythms was embodied in the very structure of PaP, which begins and ends by integrating the CASH CLT's own established practices. Mirroring how they open and close every general meetings and away day session, we started with a collective check-in ritual: each person reflected on how they feel and shared their reasons for taking part. This practice, which would be deemed inefficient in a speed-oriented design sprint, was crucial. It was not an icebreaker but a foundational act of mutual care and respect, a familiar protocol that set a tone of awareness for the group's emotional and energetic state, ensuring that the 'work' of design and organising would be grounded in the real, embodied conditions of the participants. By deliberately replicating this bookending ritual, the PaP method did not introduce an external structure but plugged into the community's own temporal and relational infrastructure. This immediately subverted the sprint's default position of a neutral, always-ready participant, instead centring the reality that people bring their whole selves into collaborative work and that proper closure is as important as productive action.



Figure 44: CASH Away day group discussing visions, activity preceding the main PaP activity

The concept of ‘community time’ was not an abstract theory but a lived reality observed over a year of engagement with the CASH CLT. This temporality was embodied in the slow, meticulous processes essential to their long-term mission. For instance, the journey to launch a ‘community shares’ investment scheme, a critical step towards acquiring their first property, was not measured in sprint cycles but in the painstaking time required to build widespread understanding and trust among future and present members. This involved months of dedicated work: articulating policies like memorandums of understanding, hosting educational sessions to ensure informed consent and collectively committing to shared resources. Each step was treated not as a delay but as an essential investment in the community's collective capacity and ownership. This pace, which prioritised trust and depth of buy-in over speed of execution, stands as a concrete example of community time in practice, a rhythm dictated by the requirements of democratic stewardship, not market-driven deadlines.

The PaP method put these ideas into practise by replacing fixed schedules with open-ended phases, deliverables with symbolic artifacts and centralised facilitation with rotating roles. These design choices reflect a deliberate shift from extractive to relational temporalities.

Drawing on feminist economics (Kuiper *et al.*, 1995; Gibson-Graham, Cameron and Healy, 2013; Pérez Orozco and Mason-Deese, 2022), temporal design (Bastian, Pschetz) (Bastian, 2014b; Pschetz and Bastian, 2014; Pschetz, Bastian and Speed, 2016) and slow tech and design movements (Hallnäs and Redström, 2001; Fuad-Luke, 2008; Carp, 2011; Odom *et al.*, 2012; Hallnäs, no date; Hallnäs *et al.*, no date), PaP treats time as a constitutive element of justice, moving away from its conventional role as a neutral backdrop to design. This aligns with the literature reviewed in Chapter 2, which critiques capitalist temporality and proposes plural, situated alternatives. In this sense, I propose community time is both a methodological lens and a conceptual intervention, one that enables design processes that are slower and more attuned to the realities of grassroots organising and community wealth building.

I put this temporal logic to test through the PaP method's flexible pacing mechanisms. During the CLT Away day, participants adapted the structure of the method to match the stage of their internal dialogue, engaging only with the components that aligned with their current planning needs. This approach enabled participants to move fluidly between conversation, reflection and action. Furthermore, the away day vividly exemplified "community time" in action. Rather than rushing toward a prototype, participants prioritised reflection on shared values, mapping future steps for a transformative shift in direction. A testament to the generative power of unhurried, collective deliberation, this approach aligns with the CLT's emphasis on "respecting individual capacities," where structured and flexible processes allow for meaningful participation across diverse experience levels.

The group's commitment to feminist goals further anchored their pace, ensuring actions like "fundraising (community shares)" or "building partnerships" emerged from dialogue, not imposition. Challenges like "reproducibility" and "two speeds" surfaced tensions between structured governance (e.g., sociocracy) and self-paced collaboration. Importantly, participants framed community time not as a delay or obstacle, but as a form of temporal autonomy, an assertion of their right to define the conditions and pace of design. This sentiment speaks to a reconfiguration of time as shared, rather than owned, a resource to be stewarded collectively rather than extracted for outcomes.

By slowing down, PaP creates space for care work, emotional labour and informal knowledge exchange, all of which are essential to community wealth building but often erased in sprint and sprint-like approaches. Therefore, community time offers HCI a novel proposition, one that speaks in rhythms of care, pauses for reflection and listening to the slow unfolding of collective agency. It represents a subversive approach that reclaims time from the logics of

extraction and repositions it as a cornerstone of equitable design. Flexible, emergent timelines assert temporal autonomy and collective stewardship of design processes. This reflects community time, a mode of temporality where pacing is co-constructed by participants rather than imposed externally.

In HCI, dominant models often privilege institutional time (e.g., Agile sprints, corporate deadlines) or machine time (e.g., algorithmic optimisation for speed), marginalising communal temporal practices. Community time, by contrast, embraces asynchronous collaboration, seasonal cycles (e.g., free software project work), or culturally specific temporalities (e.g., Indigenous design practices rooted in intergenerational timelines). By focusing on community time, HCI can reject homogenised efficiency metrics in support of pluralistic, equitable temporalities, where speed, slowness and synchronicity are fluid expressions of collective need.

6.3.4 Feminist subversion of design norms

A third set of findings concerns the feminist dimension embedded in the PaP method. Inspired by Audre Lorde’s critique of “the master’s tools” (1979), together with the participants, we questioned whether standard design tools and techniques could be repurposed to support equality-oriented outcomes. This was both a conceptual critique and an enacted one, realised through the introduction of the materials that stood in contrast to disposable wireframes or digital mock-ups.

Sub-Theme	Code
Material resistance	Pebble rituals
Feminist temporality	Care ethics
Methodological disruption	Slow design

Table 24: Code extract for the feminist subversion of design norms theme

Design norms, dominant conventions in mainstream practice, are shaped by capitalist logics such as efficiency and scalability (Teli, 2015; Ekbia and Nardi, 2016; Narayan, 2022), colonial hierarchies (Costanza-Chock, 2020) and institutional power (Dantec and DiSalvo, 2013), while framed as neutral or inevitable (Suchman, 2002). Across all my studies, participants consistently identified these norms as problematic, a critical insight that propelled this research. Their critiques revealed how the conventional design processes employed in interactive systems design undermine care, equity and collective agency. Feminist and

material subversion, like the PaP method, challenges this by critiquing five key areas: (1) valuing speed over depth, which PaP counters with slow, reflective rituals; (2) abstracting labour, whereas PaP uses tactile objects to make work visible; (3) hierarchical expertise, replaced in PaP by rotating facilitation and communal input; (4) apolitical neutrality, countered by explicit feminist and ethical frameworks; and (5) individualism, subverted through collective creation.



Figure 45: CASH members using PaP to organise planning and break down tasks for easier delegation

The PaP method first took shape during the Sandbox sessions. These early experiments, documented in feedback forms and workshop artifacts, revealed how material rituals, like pebble selection, could disrupt conventional prototyping by prioritising embodied knowledge and collective deliberation. For instance, participants reframed tech tools as vehicles for trust-building ("financial clarity and openness") rather than efficiency, while critiques of short-term metrics ("measurement... manipulated") underscored PaP's resistance to exploitative timelines. These acts of tactile slowness and participant-led scaffolding align with feminist critiques of design's exclusionary structures, transforming the workshop itself into a site of counter-hegemonic praxis.

Further developed (see Appendix C), this method was tested during an away-day workshop with CASH CLT. The "Mapping pathways" activity, which became central to participant engagement, acted as a core site of the subversion. This slow process of careful consideration moved the group from high level planning and identifying direction to concrete planning by privileging collective deliberation over individual expertise. The physical act of collaboratively writing out steps on large sheets of paper generated what can be termed productive friction, forcing the group to articulate and sit with nascent, in-progress ideas. This is evident in the slightly messy, hybrid language used to capture complex thoughts, such as "Building partnerships plug into living host happen, local w/v unidentified groups" (see image). This stands in stark contrast to the polished, pre-digested tasks typical of a sprint plan, instead making the process of "thinking aloud" visible and valued. Furthermore, the method redistributed epistemic power by validating different forms of knowledge as equally critical pathway steps. The resulting maps placed high-level strategic work like refining a financial model ("Read to see the financial model for co-op. Exit funding for OKR") directly alongside granular, relational work like "Introducing Moon [co-operative] to the proposal" and "find site/property monitoring relationships" (see Figure 45). By doing so, the method formally recognised that building trust and local connections was hardly supplementary but a fundamental, actionable step toward achieving their goals, challenging the hierarchy that often prioritises technical "expert" knowledge over local and relational know-how.

The CASH CLT subversion of dominant design norms often manifested in practices that mainstream HCI would deem 'inefficient' but that participants understood as foundational to care and inclusion. A potent example of this feminist practice was the unspoken ritual of cooking for all. At every meeting I attended, without fail or fanfare, members would arrive with home-cooked food to share with the group. This act, of nurturing and sustaining the physical bodies engaged in the intellectual and emotional labour of organising, directly subverts the deeply embedded sprint's logic of 'time is money.' It intentionally carves out time for communal care, recognising that meeting basic human needs is not separate from the 'work' of design but is integral to it. This ritual of shared nourishment fostered a sense of kinship and mutual obligation, creating a material conditions of care that stood in stark contrast to the alienating abstraction of digital wireframes and the individualistic focus of energy drinks and pizza-fueled hackathons.

The workshops and conversations in between demonstrated PaP's potential to reclaim design as a co-creative space, embedding feminist principles in tangible rituals. Participants rejected

the alienation of wireframes and sprints, tools that privileged technical fluency over relational knowledge. This subversion was generative and oppositional; it created new grammars of care and plurality. Drawing on Haraway's concept of situated knowledges (1988), the PaP method resists the "god trick" of design, where centralised facilitation and polished deliverables obscure the partial, embodied nature of knowledge production. Instead, PaP foregrounds accountable perspectives through roles and rituals, and the validation of relational and local know-how. This redistribution of epistemic power aligns with Haraway's insistence that objectivity must emerge from located, contested and embodied standpoints, not from abstract neutrality.

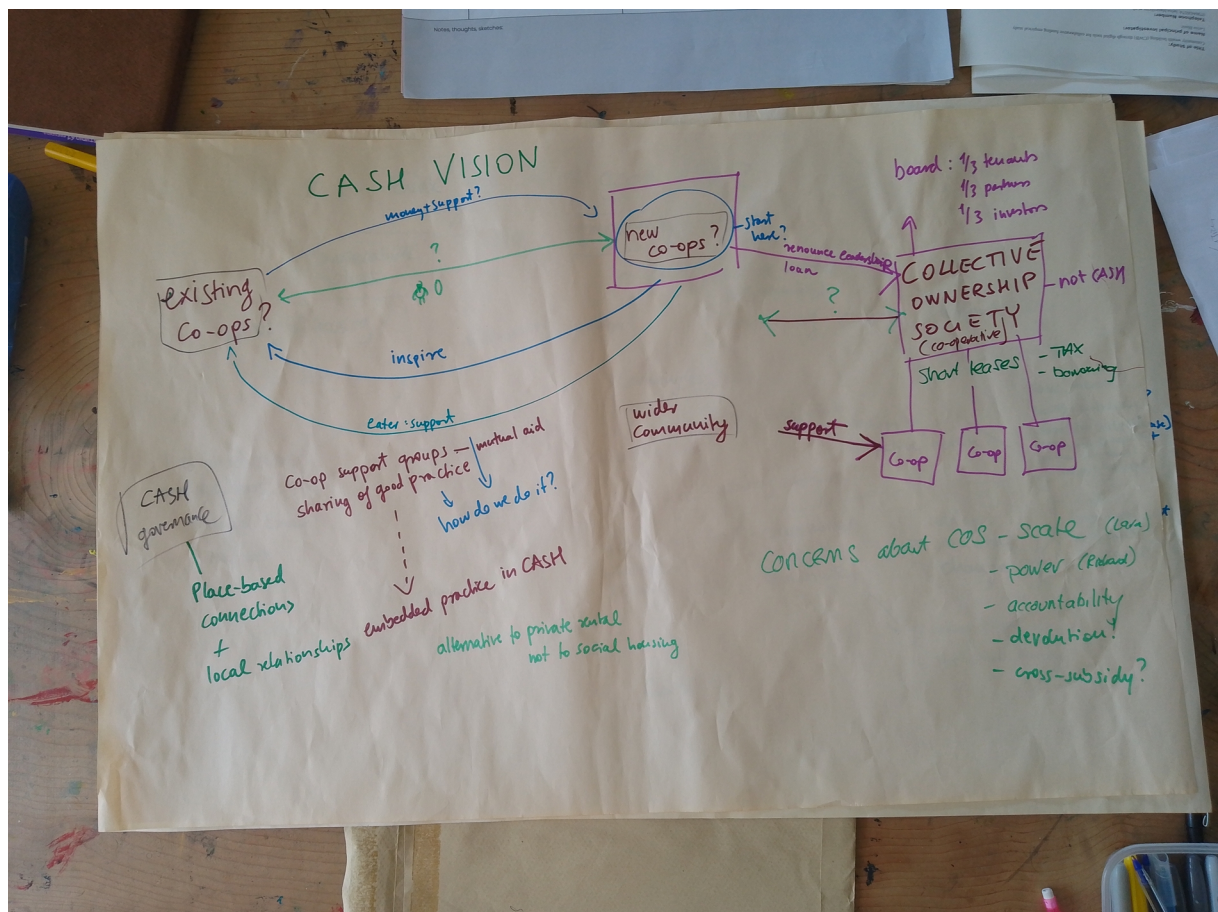


Figure 46: CASH visioning step showing connections to Collective Ownership Society (COS), a newly established mechanism for co-operative housing assets acquisition

By looking at participants' workshop engagement through feminist theory, the analysis shows how PaP's slow practices created alternative temporalities, redistributed responsibility and sustained collective direction, fostering temporal justice, mutual accountability and enduring intent. Furthermore, the evolution of PaP, from the Sandbox experiments to a structured method, mirrors a feminist research process, where knowledge is co-created and reflexively adapted. Initial findings (e.g., neurodivergent engagement through "communication conduits") informed my later work and the refinements like rotating facilitation, demonstrating how

marginalised insights reshape design frameworks. By documenting this progression, from grassroots critiques to the “test in the wild,” the method enacts feminist epistemology, valuing process over product and plurality over prescriptivism. The iterative nature of PaP, grounded in real-world testing and participant authority, ultimately models how design can resist extractive norms by embracing collective iteration.

The feminist subversion of design norms through methods like PaP does not exist in isolation, it is part of a broader reimagining of design as a co-operative practice. While PaP challenges dominant paradigms through tactile resistance and care ethics, its implementation also embeds long-standing co-operative principles, which prioritise democratic participation, shared ownership and redistributed power. This shift from critique to praxis reveals how feminist and co-operative paradigms intersect, transforming design from an extractive process into a site of collective agency. To explore this further through the next key theme, I engage with a question: if feminist and material subversion dismantles the master’s tools, what might it mean to rebuild design through co-operative principles?

6.3.5 Co-operative design in practise

First and foremost, co-operative space is not a clean, abstract design space; it is a human, messy space, fraught with the complexities of lived experience, conflicting priorities and historical baggage. This reality necessitates a design approach built on a foundation of profound flexibility. Embedded within the method and affirmed by participants were key principles of co-operative design: shared power, co-education and procedural flexibility, developed precisely to navigate this messiness. These principles aligned with the values of the co-operative movement and also with feminist commitments to horizontal, rhizomatic decision-making (Deleuze, 1986) and epistemic justice (Anderson, 2024).

Sub-Theme	Code
Distributed power	Rotating facilitators
Skill democracy	Co-education
Malleability	Adaptive use

Table 25: Code extract for the co-operative design principles in practice theme

Here, I arrive at the crux of my research, the fourth theme emerging from this work is the application of co-operative principles in interactive systems design to advance CWB. As

already dissected, traditional HCI often operates under assumptions of speed and efficiency, values that, as data shows in Chapter 4, conflict with the long-term, trust-based work of solidarity economies. In contrast, co-operative principles when applied to design distribute power, allow for co-education and malleable infrastructure, as critical to sociotechnical systems that resist extractive practices. This theme directly responds to RQ4, through which I seek to investigate how HCI methods can support CWB. Through this study I demonstrate that design itself must be reimagined as a practice of solidarity. Rather than optimising for short-term usability, HCI must engage in "design that grows at the speed of trust," redistributing wealth, time, expertise and ownership to communities.

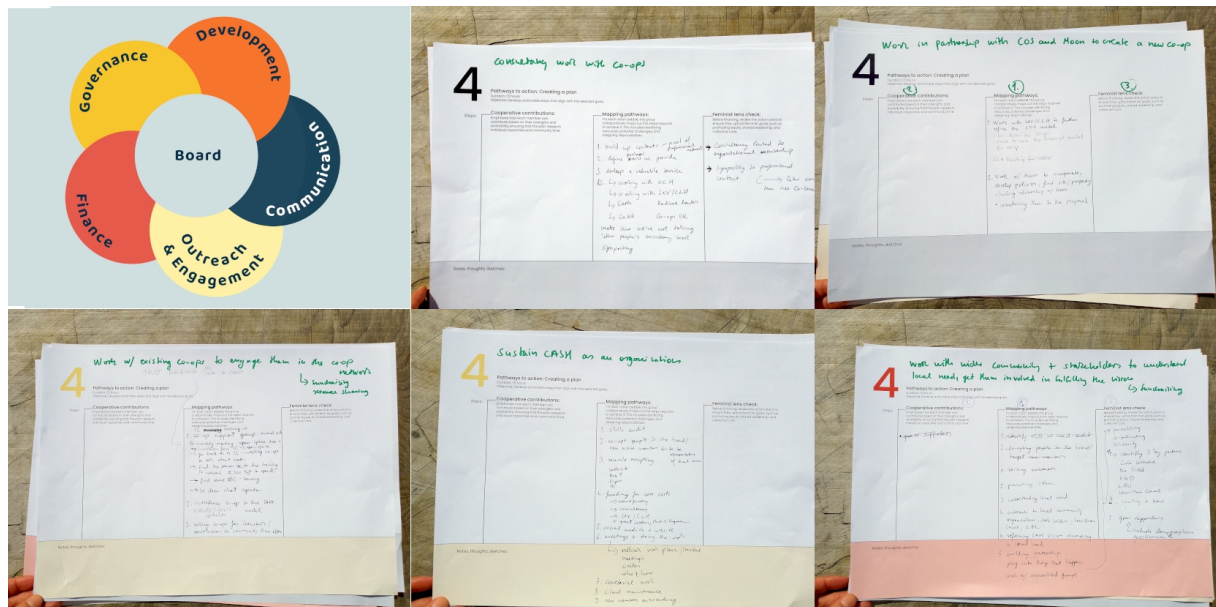


Figure 47: PaP materials after CASH Away day, fragmenting and organising plans as established in visioning step

I settled on this theme after a period of direct observations of all participants, tracking their engagement with the method across different stages, but also through broader reflections on how co-operative principles were embedded in practice, particularly within the CASH CLT work and the hackathon context. In both settings, the interplay of shared decision-making, distributed labour and collective problem-solving revealed how solidarity-driven design may operate beyond theory, whether in the slow, trust-based work of CLTs or the collective prototyping of the COOP Hackathon. These real-world applications underscored that this way of working is not a fixed framework but a living practice, shaped by the tensions and possibilities of each context.

Thus the Pick-a-Pebble method reconfigures design around co-operative principles: shared power, co-education, procedural flexibility and collective stewardship. Throughout all the

workshops power was actively distributed. Participants framed design as a collective act, mirroring co-operative governance models such as "one member, one vote." This contrasted sharply with the top-down hierarchies of traditional design sprints, which participants critiqued as antithetical to their consent-based or consensus-driven work ("Open to all. No direction or pattern has been established yet which will need a wide consensus."). The method's intentional scaffolding, reflection on positionality, open facilitation roles, prevented monopolisation of authority, embodying feminist HCI qualities of pluralism and advocacy (Bardzell, 2010).

Based on this I refined PaP to reject the myth of the "expert designer," instead fostering knowledge-sharing rooted in co-operative principles. In the COOP Hackathon, participants taught each other to adapt tools and document insights, a practice I term "skill democracy" to highlight its foundations in mutual aid economies (Nembhard, 2015) and the co-operative principle of mutual education and training. As one participant noted, "Teach the skills and let the participants create, and keep the artefacts themselves." This co-educational approach builds on slow design's emphasis on reflection (Strauss & Fuad-Luke, 2008) but goes further. By using co-operative models, like Moon Co-op's peer-led learning ("Moon co-op could help... as they've been through this process"), the participants and the PaP method create space for shared, unhurried learning. The demand for ongoing co-education voiced by participants aligns with the co-operative mandate to "develop the co-op and promote the benefits of co-operation" through cyclical skill-sharing. By focusing on the member-led training (e.g., "Co-operative contributions: Employed from each member... on their strengths"), PaP rejects hierarchical expertise in favour of the co-operative ideal that "everyone should be entitled to a free degree at one point in life, that can be 18 or 80."

The method's open structure and copyleft ethos actively encouraged adaptation. Participants didn't just follow the process - they reorganised it to better serve their needs, plans and objectives. A useful demonstration of this occurred during the CASH CLT Away day. The PaP guide suggests a linear flow from Step 3 (Vision pebbles) to Step 4 (Pathways to action). However, after solidifying their vision, the group collaboratively determined they needed to deeply understand the present context of that vision before planning future actions. They chose to adapt the framework, reorienting Step 4 away from the proposed sequence (see image) and instead using it to fragment and interrogate their newly formed vision. They asked: what does this vision mean in practice? What are the practical realities it must contend with? This critical discussion, though not a prescribed scripted exercise, provided crucial grounding. It

ensured that the subsequent action planning was not an abstract leap but a nuanced and informed translation of their vision into a new direction for the organisation. This demonstrated true flexibility, embodying what Costanza-Chock (2020) calls "community-led design" in action. Furthermore, the study demonstrates how the method's malleability enabled what DiSalvo, Clement, & Pipek (2012) frame as a shift from design for to design by communities, where this kind of adaptation itself becomes an assertion of collective agency. Unlike traditional participatory models that instrumentalise local input ("design for"), the CLT's modification of PaP to serve their meeting's agenda, exemplified design with and by communities, redistributing power over process and outcomes.



Figure 48: CASH in discussion about translating planning into actions, PaP Step 4

These modifications reflected deeper principles. The participants prioritised slow co-creation that honoured what Rahm-Skageby & Rahm (2022) term "deep time." Within the CASH CLT work, this meant spending hours running co-operative support events, carefully extending the network and working with the long-term perspective for expanding the co-operative housing sector. This approach materialised two crucial tensions: Bastian's (2014) concept of "community time" (where pacing follows relationships rather than deadlines) and what DiSalvo (2022) critiques as the "innovation imperative" in participatory design. By creating

artifacts that remained purposefully unfinished, we resisted Light's (2022) "extractive design logics" while making space for what matters most in community work - the ongoing conversations between people. Ultimately, this adaptability reinforced the method's usefulness as an evolving infrastructure rather than a fixed template or a toolkit.

The application of co-operative principles was evident not only within the adapted PaP workshops but in the very fabric of the CLT's ongoing operations. Every general meeting I attended served as a masterclass in collective decision-making. The process of deliberating on the best steps toward acquiring their first property, their first collective asset, was never a top-down directive. It was a painstaking, democratic process where every member's perspective was heard. Discussions wove together practical concerns about funding, legal parameters and logistical feasibility with deeper values about community benefit, risk mitigation and long-term resilience. This embodied the co-operative principles of democratic member control and member economic participation, demonstrating that the organisation itself was a living, evolving sociotechnical system designed for collective agency. The 'design' of their future was happening in real-time in these meetings, through a process that valued consent and shared ownership over speed and executive decision-making.

Thus far, even as co-operative principles reimaged participatory and co-design practice, their application surfaced persistent challenges and unresolved tensions, revealing the gaps between solidarity-driven theory and the messy realities of implementation. This is what I explore in the final key theme next.

6.3.6 Challenges and unresolved tensions

Despite its positive reception on the ground, the research also surfaced persistent structural challenges. Chief among these was the issue of voluntary labour. Many participants noted that meaningful engagement in co-design requires time, but that time is unevenly distributed. Without institutional mechanisms, such as grants, universal basic income, or paid facilitation, participation risked being limited to those with the most privilege and flexibility.

The financial reality of this work was explicitly called out in the action points generated by participants themselves, moving this tension from a theoretical critique to a documented challenge. Handwritten notes from the session state: 'need to see the financial model for co-op' and 'CCH funding for CASH'. This is direct evidence that the group was acutely aware their capacity to participate in this kind of deep, reflective design work was contingent on

solving the fundamental question of resources and funding, highlighting the structural barriers that exist outside the method itself.

Sub-Theme	Code
Labour inequities	Unpaid labour
Neurodivergent inclusion	Accessibility gaps
Temporal tensions	Funding cycles

Table 26: Code extract for the challenges and unresolved tensions theme

While the PaP method offers a compelling alternative to extractive design paradigms, its deployment across the three workshop phases revealed a set of persistent challenges and unresolved tensions, many of which reflect broader structural inequities in participatory design and community-led technology development. These tensions, rooted in structural constraints, do not negate the method's value but instead highlight the precarious conditions under which justice-oriented design must operate and the compromises it must navigate. Building on Chapter 4's findings around unpaid labour and Chapter 3's reflections on emergence and unpredictability in research, Chapter 6 surfaces the practical limits of subversion when faced with constraints.

One of the most pressing challenges was time poverty. Across all workshops, participants, especially those from grassroots organisations, reported struggles to commit sustained time to the design process. The data reveals significant evidence of time poverty in grassroots organising, where participants struggle to balance co-operative duties, personal livelihoods and unpaid labour, often leading to de-prioritised or interrupted engagement. Marginalised groups, in particular, require flexible schedules to accommodate care responsibilities and crises, contrasting sharply with rigid neoliberal expectations. Documented consequences include rushed processes, superficial engagement and burnout, as external pressures to deliver within constrained timelines undermine the organic, time-intensive nature of meaningful community organising. The loud and clear message from the data is the necessary slowness of equitable, participatory work.

A recurring tension concerned neurodivergent inclusion. While the tactile and flexible nature of the PaP method was appreciated by some, others noted that additional sensory accommodations (e.g., visuals, haptic-based activities) would have further supported diverse forms of engagement. This feedback resonates with extensive HCI scholarship on neurodivergent accessibility, including sensory-aware interaction design (Tcherdakoff *et al.*,

2025), non-linguistic communication tools (Jeitziner *et al.*, 2024) and critiques of neurotypical biases in participatory methods (Barros Pena *et al.*, 2023). Though integrating these insights was beyond the scope of this study, they highlight a critical trajectory for future research, particularly in adapting PaP's fluid, material-based framework to explicitly focus on neurodivergent epistemologies and facilitation practices.

These unresolved tensions are not failures of participatory design but rather signals, revealing where systemic inequities persist and where infrastructural shifts are most urgently needed. They expose the limits of subversion under existing constraints, such as unpaid labour, institutional speed, and inaccessible structures. Crucially, they point to the necessity of redistribution (of resources, power and time) and reflexivity (continuous learning and adaptation) to sustain justice-oriented work. Ultimately, designing otherwise (Abdulla, 2020; DiSalvo, 2022b) demands more than one-off interventions; it requires a sustained commitment to care, inclusion and collective agency as foundational principles.

6.4 Reflection

Reflecting on the findings presented in Chapter 6, it becomes clear that the subversion of the design sprint constitutes a political and ethical reorientation of design itself, surpassing a simple methodological adjustment. The PaP method, co-developed through iterative workshops with grassroots organisations, embodies a refusal to accept speed as neutral or inevitable. Instead, it reclaims time as a collective resource, materialises care through symbolic artifacts and redistributes power through co-operative principles. These interventions build directly on the tensions surfaced in Chapter 4's scoping study and the subversive practices explored in Chapter 5. Together, they form a coherent arc: from critique to co-creation, from friction to action.

What emerges is a redefinition of design as a relational, justice-oriented practice. Community time, as both a concept and a method, challenges HCI's complicity in neoliberal acceleration and offers a pathway toward inclusive, deliberative and situated design. The findings show that when time is governed collectively, when slowness is embraced as care and when design artifacts invite reflection rather than resolution, new possibilities for solidarity economies and equitable infrastructures begin to take shape. Still, this transformation is not without its tensions. Time poverty remains persistent barrier. This and other challenges explored here underscore the need for continued work in this space.

The findings reveal how the PaP method evolved iteratively across the process of workshop iterations, transforming from a critique of design sprints into a tangible, feminist-co-operative alternative. Beginning with the Hackathon's identification of temporal friction between industrial speed and community rhythms, the work progressed through the Sandbox sessions, where conversations brought first glimpses of community time and the PaP method as thinking around and against speed-driven design. By the CLT Away day, participants adapted the method in real-time, asserting temporal autonomy through fluid, relational pacing.

Furthermore, this research extends beyond the subversion of form and content explored in Chapter 5 by actively creating a new method through the subversion of a core aspect of design practice: temporality. While Chapter 5 interrogated how design methods could be reshaped in their structure and ideological framing, Chapter 6 goes further by dismantling the speed-driven logic of the design sprint, its foundational temporal paradigm and replacing it with community time.

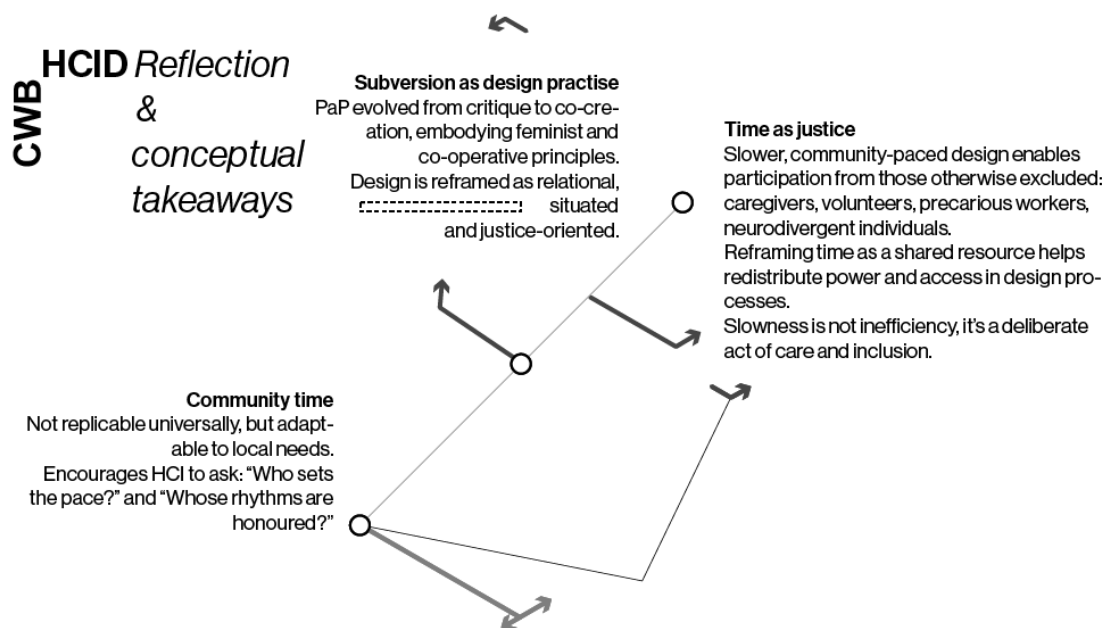


Figure 49: Reclaiming time as a dimension of justice in HCI. This diagram highlights the shift from critique to practise and positions time as central to designing otherwise, designing for solidarity, designing for socio-economic justice.

Ultimately, the PaP method is not a universal solution, it is a situated response to a specific set of injustices. Its value lies not in its replicability but in its capacity to provoke, to invite communities to reimagine design on their own terms. In this way, Chapter 6 opens the inquiry and serves as an invitation. It calls on HCI to treat time not as a constraint to be managed, but as a dimension of justice to be designed with. It invites the HCI community to ask not just what we design, but how long we take, who sets the pace and whose rhythms are honoured. In

doing so, it aligns with the thesis's broader commitment to feminist, co-operative and justice-oriented design aims.

In transitioning to the next chapter, I will delve deeper into the implications of these findings, exploring how they inform future practices and the ongoing dialogue within the HCI community. This discussion chapter synthesises the findings from this entire research to argue that addressing extreme economic inequality requires HCI to challenge not only what we design, but also how, for whom, with whom and at what pace.

CHAPTER 7 DISCUSSION: SUBVERTING DESIGN, RECLAIMING TIME AND BUILDING INFRASTRUCTURES FOR SOLIDARITY

7.1 Introduction

The preceding findings chapters of this thesis have systematically deconstructed the core tensions within technology design for economic justice. In Chapter 4, I established a foundational paradox: that digital platforms like Open Collective and Circles UBI, despite being conceived as emancipatory responses to the 2008 financial crisis, often inadvertently replicate the very inequalities they seek to resolve, constrained as they are by the inherited logics of Silicon Valley's design cultures and economic models. Building on this critical diagnosis, Chapter 5 advanced a methodological intervention, demonstrating how the deliberate subversion of a conventional design method, example mapping, into *solidarity mapping* can repurpose the tools of HCI to prioritise co-operative principles, community ownership and wealth redistribution. Finally, Chapter 6 targeted the temporal dimension of this problem, critiquing the speed-driven logic of the design sprint and introducing the co-created *Pick-a-Pebble (PaP)* method to enact a feminist, co-operative temporality, what I term community time, as a necessary condition for equitable and trustworthy design.

This discussion chapter synthesises these three strands to argue that addressing extreme economic inequality requires HCI to expand its focus beyond what we design to include how, for whom, with whom and at whose pace we design. I contend this necessitates a triple subversion, of design methods' form and content and of design speed, grounded in feminist and co-operative principles to contribute to a scholarship focused on technology development that serves community-owned, democratically governed futures.

This research imperative is rooted in the dual legacy of the 2008 financial crisis, which exposed the profound fragility of the global economic order. In my analysis, this crisis spawned a deeply contradictory inheritance: on one hand, it catalysed a grassroots search for democratic alternatives and economic models rooted in community and solidarity; on the other, it gave rise to distributed ledger technology (DLT), an innovation touted as a tool for emancipation while increasingly harnessed for rampant speculation and wealth centralisation (Bria and Morozov, 2022; Morozov and Bria, 2018). I frame this tension as fundamentally political, concerning who controls our economic infrastructures and whose timelines dictate the pace of innovation. In our current era of persistent inequality, exacerbated by the COVID-

19 pandemic and austerity policies, I argue the pivotal question is no longer whether technology can be used for good, but whether the very tools and speed of interactive systems' design can be reconfigured to build infrastructures of solidarity rather than extraction.

My research moves beyond a techno-solutionist perspective to address this more fundamental question. I interpret empirical findings from DLT, participatory design and solidarity economics through a synthesised lens of feminist HCI, radical participatory design and community wealth building. My purpose is to describe what was found and to articulate a clear argument for its significance to HCI theory, design practice and the broader pursuit of economic justice.

To advance this argument, I weave together three critical strands from the preceding chapters: the historical and case-specific narratives of DLT initiatives from Chapter 4, which reveal a persistent tension between emancipatory rhetoric and barriers to participation; the methodological subversions of participatory design detailed in Chapter 5, which reoriented methods like *solidarity mapping* toward practices of mutual aid and community wealth building; and the temporal interventions from Chapter 6, which directly challenge the accelerated pace of tech development with the deliberate rhythm of "community time." Through this synthesis, this chapter presents a cohesive construct for reconceptualising the interactive systems design process as a foundational practice of building democratic economic justice infrastructure, rather than a service for communities.

To this end, this research has been guided by the following questions, which now serve as a bridge to the implications and contributions that follow:

- **RQ1** What is the role of emerging distributed ledger and peer-to-peer network technologies in the establishment of (micro) hyper-local economies?
- **RQ2** How can feminist scholarship and practice around economics and HCI help inform the design strategies of new digital platforms for collaborative funding?
- **RQ3** How do these technologies compare to other existing grass-roots community accounting platforms based on conventional network technologies?
- **RQ4** How can the co-design of technologies/platforms/prototypes support fair, inclusive co-operative economies?

Having summarised the findings that address these core inquiries, I now turn to their broader significance, outlining the theoretical, practical and political contributions of this work to HCI and the ongoing struggle for economic justice.

7.2 Synthesis of key findings

I conceived this research as a critical intervention at the intersection of participatory design, emerging technology and economic justice. My primary aim was to move beyond techno-optimist rhetoric and empirically investigate how digital platforms, specifically those leveraging *distributed ledger technologies* (DLTs), could be designed to enact the principles of the *solidarity economy* (SE) and support *community wealth building* (CWB). Grounded in the premise that technology must be co-designed with communities to serve equitable ends, through this research I evaluated existing platforms and actively co-developed and co-tested novel participatory methods aimed at redistributing power within the design process itself. The findings from Chapters 4, 5 and 6 provide convergent evidence to answer the four research questions, revealing a core theme: technological potential is ultimately contingent on social, temporal and methodological choices.

7.2.1 On technology: Addressing RQ1 & RQ3

My comparative analysis demonstrates that the digital infrastructure whether a blockchain or a standard database, is not the primary determinant of a platform's sustainability or equity. In answer to RQ1, I found that the technical capabilities of DLTs: decentralisation, transparency, tokenisation; are necessary but insufficient for building sustainable hyper-local economies. The case of Circles UBI illustrates the fragility of technically sophisticated models that lack resilient, community-led governance and aligned temporal rhythms. Despite their decentralised architectures, the DLT projects faltered, their innovative mechanisms like web of trust protocol ('CirclesUBI/whitepaper', 2021) and demurrage feature ('Demurrage: How does it work in the Circles system? – Circles UBI', 2021) ultimately clashing with the long-term requirements that foster sustained community development.

In stark contrast and directly answering RQ3, Open Collective's resilience, despite using conventional technologies, emerged from its deliberate "exit to community" process (*Pathways for Open Collective's "Exit to Community"*, 2021). This process prioritised long-

term stewardship over technical novelty and aligned its ownership and governance with solidarity economy values. My analysis showed that Open Collective's resilience stems from its community-shared governance and its transition to alignment with what I term "community time." This pivotal finding underscores that technical capabilities are meaningless without community control and commitment to long-term engagement, maintenance and support.

7.2.2 On process: Addressing RQ2 & RQ4

Beyond critiquing technological claims, this research demonstrates that feminist HCI scholarship provides a practical, methodological approach fostering change. The findings show that feminist goals are put into practice by actively restructuring the design process itself.

In answer to RQ2, my findings across all three chapters show that feminist HCI and economics provide a crucial approach for subversion and reclamation. Chapter 4 revealed how design methods, even when claiming a feminist grounding, often failed to ensure equitable participation, allowing privilege to shape who could meaningfully contribute. The solution was documented through the deliberate subversion of conventional design methods. In Chapter 5, I worked with participants to transform *example mapping* into *solidarity mapping*, subverting the content of design by shifting prompts from "rules" to "guiding principles" and from "questions" to "reflections." This embedded co-operative and feminist values into the very fabric of design conversations. Simultaneously, Chapter 6 added a crucial dimension through the subversion of speed. We, the research participants and I, co-developed the *Pick-a-Pebble* method to directly contest the accelerated "sprint" logic of tech innovation, introducing ritualised practices of care and deliberation to enact a feminist reclamation of time. By reclaiming time suitable for grassroots deliberation needs this method reframed slowness as a resource for trust-building and inclusion.

Subsequently, these methods respond to RQ4 by demonstrating how that co-design can actively subvert mainstream paradigms to prefigure co-operative economies. It cannot stop at consultation; it must transform the tools, language and rhythms of design practice itself. The development of *solidarity mapping* and *Pick-a-Pebble* provides concrete methodological illustration that the design process can become a site for practising solidarity, democratic governance and collective stewardship. By subverting content, form and time these methods

ensure that values of care, equity and inclusion are embedded from the outset, making the process itself an embryonic form of the fairer future it seeks to create. In doing so, co-design becomes more than a consultation tool; it becomes a site of practice that prefigures the co-operative economies it aims to advance. These interpretations now form the basis for a broader discussion.

7.3 Interpretation and conceptual contribution

7.3.1 Subversion in design practice

I argue that subversion is not simply a tactical deviation from the norm but a foundational political practice within HCI, a praxis that responds directly to Audre Lorde's provocation that "the master's tools will never dismantle the master's house." (Lorde, 1979) This provocation sits at the heart of my research. It demands that I, as a researcher and practitioner, ask: what does it mean to design when the very methods I am trained to use are entangled in neoliberal logics? My position, grounded in the theoretical synthesis of Chapter 2, is that authentic change requires more than repurposing existing techniques. It calls for a re-forging of both form and content of our methods, dismantling values of efficiency and control and replacing them with principles of equity, solidarity and care. This resonates with a growing body of work calling for HCI to take on explicitly political orientations (Cozza, Tonolli and D'Andrea, 2016; Ashby *et al.*, 2019; Abebe *et al.*, 2022). My own praxis, developed in the workshops described in Chapter 5, extends this trajectory by showing how subversion can move from critique into concrete, collaborative design practice.

The "master's tools" in HCI are the dominant methods of participatory design and agile development. These methods are deeply structured by neoliberal values: they prioritise speed, efficiency, scalability and the atomisation of experience into individual user stories. In the literature review I showed how critical and feminist HCI scholarship (Bardzell, 2010; Light, 2022; Biggs and Bardzell, 2024) has offered incisive critiques of these paradigms. Although those critiques often stop at diagnosis, they rarely offer concrete strategies for transformation (Khovanskaya, Baumer and Sengers, 2015; Chordia *et al.*, 2024). When used without sustained critical engagement, these tools can reproduce structural inequalities under the guise of social or economic justice. Lorde's injunction pushes us to challenge the insistent view of methods as neutral and treat them as political artefacts, an insight echoed by scholars in design research (Rust, 2004; Fallman, 2008; Boyd Davis, no date) who remind us that

methods structure knowledge and authority. This framing makes clear that the call is not for better efficiency but for epistemic and political rupture (Cunningham *et al.*, 2023).

Furthermore, these are the methods used to reproduce extraction, exploitation and oppression, as laid out by critical HCI and STS scholars in Chapter 2, yet they are persistently presented under the benevolent cover of being "human-centred" or part of "design thinking." The dominant and prevailing way of working across the tech industry and much of HCI research relies on a specific toolkit: user stories that atomise collective experience into individual transactions; personas that flatten complexity into marketable demographics; journey maps that optimise user pathways toward pre-determined organisational goals; brainstorming sessions designed for rapid idea extraction rather than deep deliberation; sprints that enforce two-week delivery cycles regardless of community rhythms; story points that translate care work into comparable units of output; minimum viable products that embed a logic of extraction over sufficiency; stand-ups that measure contribution through daily individual output; and retrospectives that routinise reflection into formulaic exercises incapable of questioning the framework itself. These methods, taught in every design programme and embedded in every agile workflow, are the everyday mechanisms through which design and development labour is organised and constrained.

For grassroots communities, housing cooperatives, community land trusts, mutual aid networks, the results are devastating. These methods do not simply fail to serve collective, non-extractive organising; they actively foreclose it. The logic embedded in user stories has no vocabulary for shared ownership. The temporality of sprints cannot accommodate the slow, uncertain work of building consensus or sustaining relationships over decades. The metrics of agile, velocity, output, story points, render invisible the care work, the facilitation labour, the institutional memory that holds communities together. What presents itself as neutral technique is in fact ideological capture: the systematic enclosure of design practice within capitalist rationality, such that even projects committed to justice find themselves reproducing the very logics they seek to resist. To design with grassroots communities using these tools is to accept, from the outset, that the only possible outcomes are those compatible with extraction, individuation and speed. This is why Lorde's injunction is not metaphorical but urgently practical: these tools cannot build the worlds grassroots communities need because they were designed, from the ground up, to prevent those worlds from coming into being.

Feature	Example mapping	Solidarity mapping
Goal	Software efficiency	Community equity
Steps	Rules, stories, examples	Principles, scenarios, reflections
Values	Market-driven	Co-operative/feminist

Table 27: Subversion of example mapping to solidarity mapping, summarising the transformation through difference in goal, steps and values

It is in this context that I developed *solidarity mapping*, the method that emerged directly from participants’ frustrations with conventional design tools and is structured around what Amos Vogel (1974) describes as the dialectic of form and content. *Solidarity mapping* embodies what Boland (2018) terms the “political anthropology of subversion”: not resisting dominant structures, but transforming their logics from within. The method enacts a dual subversion. This dual approach navigates a critical tension rooted in feminist critique: the question of whether subversion is primarily an act of resistance, or a generative process that constructs alternative worlds. While resistance is necessary against exploitative systems deeply entrenched in design narratives, the goal extends beyond opposition. Subversion opens spaces for new tools, methods and technologies that enable fairer worlds, through dismantling “the master’s house” to create interactive systems’ design processes founded on the vision of equality in its place. Subversion is therefore uniquely suited to challenge the conventional design methods because it is inherently political, aiming to undermine the dominant narratives. In emergent HCI spaces focused on justice and equity, subversion serves as a strategic tool for reimagining possibilities. It clarifies goals that counter the problems we seek to address, whether extractive capitalism, systemic inequality, or techno-solutionism. In an era of intersecting crises, I see it as a way to think laterally, to test what power obscures and to materialise new ways of doing design that prioritise collective thriving, while actively fostering just alternatives. Therefore, on one hand, we, research participants and I, altered example mapping’s form, its structure, its materials, its protocols, so that it no longer silently encoded exclusionary power dynamics. On the other hand, we transformed its content: its language, its objectives, its epistemological grounding, to shift it away from neoliberal logics and toward principles of solidarity and feminist political economy.

7.3.1.a Subversion of form

In the work I have presented, the changes in form were neither cosmetic nor imposed from above. They arose through dialogue with participants who showed me, often through frustration, silence, or refusal, how conventional tools constrained their participation. In many participatory design traditions, the reliance on standardised formats: sticky notes, whiteboards, digital canvases, creates an illusion of openness while, in practice, disciplining contributions into narrow, text-based and time-pressured categories (Cozza, Tonolli and D’Andrea, 2016; Ashby *et al.*, 2019). These formats subtly privilege those who are literate in dominant (often Western, academic, or corporate) modes of communication, marginalising voices that operate differently, whether through storytelling, drawing, embodied gesture, or oral exchange. In this sense, standard workshop formats can act as what Gonzatto & van Amstel (2022) call tools of user oppression: design artefacts that structure participation in ways that reproduce existing hierarchies of power.

To resist this, I worked with participants to shift from the Post-it note conventions of participatory workshops to a more flexible, multilingual A3 template. This was not a minor methodological adjustment; it represented a political reconfiguration of form. The sheets allowed multiple registers of expression: visual, tactile, oral and textual, to sit alongside each other without being collapsed into a single normative format. Moreover, by designing for multilingual inscription, we rejected the default Anglocentricity of most HCI practice and allowed participants to claim authority in their own linguistic registers (Yule, 2010). This act of linguistic pluralism transformed the workshop into a genuinely heterogeneous space, closer to Bieling’s (2021) call for an “everyday politics of design” that takes seriously the multiple ways of knowing embedded in daily life.

This subversion of form also challenges the implicit temporality of neoliberal design methods, which emphasise speed, iteration and “velocity” as markers of productivity. Post-it notes are effective in agile contexts precisely because they enable rapid breakdown and recombination of ideas (Bartneck, 2008), but this efficiency often comes at the cost of depth, deliberation and slower forms of meaning-making. By slowing down the process and expanding the modalities of participation, *solidarity mapping* introduced what Biggs & Bardzell (2024) describe as disorientation, a methodological strategy that deliberately unsettles normative expectations of design practice. In our case, this disorientation was not confusion for its own sake; it was an opening for alternative rhythms, collective pacing and deeper reflection to emerge.

Importantly, this reworking of form redistributed agency within the design process. The workshop no longer predetermined who could speak, in what mode, or at what tempo. As one participant insisted, it allowed us to move beyond the assumption that “engineers should decide everything.” In this sense, the subversion of form enacted a material feminist pluralism (Bardzell, 2010) that directly confronted the epistemic hierarchy of expertise. Instead of privileging technical fluency or managerial timeframes, the method recognised multiple ways of contributing as equally valid. It is here that the method subversion most clearly resonates with Dix’s (2007) idea of “designing for appropriation”: creating conditions in which participants can bend, reshape and claim design tools for their own ends, rather than filling in predefined slots.

Thus, the subversion of form extended beyond aesthetics and accessibility. It was about dismantling hidden architectures of power within the material structure of design methods. By breaking the procedural and material uniformity of standard, conventional workshops, *solidarity mapping* enacted what Boland (2018) calls the “political anthropology of subversion”: a transformation of everyday practices that might otherwise seem neutral, but in fact carry heavy political weight. In this way, the design method itself became an arena of contestation and resistance, embedding justice and plurality into the very scaffolding of participation.

7.3.1.b Subversion of content

If the shift in form disrupted how people could participate, the transformation of content redefined what they were participating in. Here, participants insisted that the very prompts guiding the activity required reimagining. The original structure: *rule, story, example, question*; felt to them like an imposition, a narrowing of possibility. Together, we re-forged the prompts as “story for community-driven objectives, guiding principle, equity-rooted examples and scenarios and reflections.” This shift, seemingly semantic, carried profound political weight. As one participant put it, “Rules feel like constraints imposed on us.” A “guiding principle” by contrast is adaptive, collective, emergent. A “reflection” opens up critical deliberation rather than closing down conversation with a technical answer. In this linguistic reframing, the method ceased to be about extracting information for product development; it became a space for enacting solidarity economics (Gibson-Graham, 1996; J.K. Gibson-Graham, 2006) and feminist political imaginaries (Pérez Orozco and Mason-

Deese, 2022). It also resonates with Turiel's (2003) notion of everyday resistance and subversion, as well as with Katsiaficas' (1997) framing of subversion as a generative political force.

This dual subversion of form and content goes beyond symbolism, putting design justice (Costanza-Chock, 2020) into tangible practice. It makes the political dimensions of design visible and actionable, following the trajectory of Light (2022), DiSalvo (2012) and Udoewa (2022), but extending their critiques into concrete methodological reform. Through solidarity mapping, the workshops in the empirical studies went beyond gathering community input and enacted forms of community governance. When participants debated questions like "Who decides fund allocation?" the method itself became a prefigurative space for co-operative relations. This aligns with Costanza-Chock's (2020) design justice principles and Sandoval's (2020) analysis of subversion versus co-optation in co-operative practices, showing that methods themselves can embody either domination or emancipation.

From this perspective, grounded in empirical research, I argue that *solidarity mapping* points the way to equitable technological futures through the critical, subversive re-forging of our design tools. To change what we design, we must first change how we design. This means rejecting efficiency as the highest value and instead embedding justice, solidarity and care into the epistemological foundations of our methods. In this, I answer Lorde (1979) not by repurposing the master's tools, but by melting them down and casting them anew in the service of economic justice. My contribution, then, is to move subversion from a marginal and underexplored concept in HCI (CAMPBELL, 2016; Germain, 2018; Chivukula and Gray, 2020; Gonzatto and van Amstel, 2022) into a generative, actionable strategy. With this thesis, I offer a concrete "how-to" for scholars and practitioners seeking to align design practice with the urgent demands of economic justice.

7.3.2 The political nature of time

A central argument of this research is that temporality is a key site of political struggle in design, rather than a neutral logistical constraint to be optimised. Throughout this thesis, I have argued that the temporal structures of design processes carry ideological weight; they configure who can participate, how decisions are made and what kinds of outcomes are possible. The accelerated, rigid tempo of mainstream HCI methods, most notably epitomised by the design sprint, is not simply an efficient procedure but a material manifestation of

neoliberal values that prioritise speed, efficiency and rapid output over care, deliberation and trust. In this sense, design time is political time.

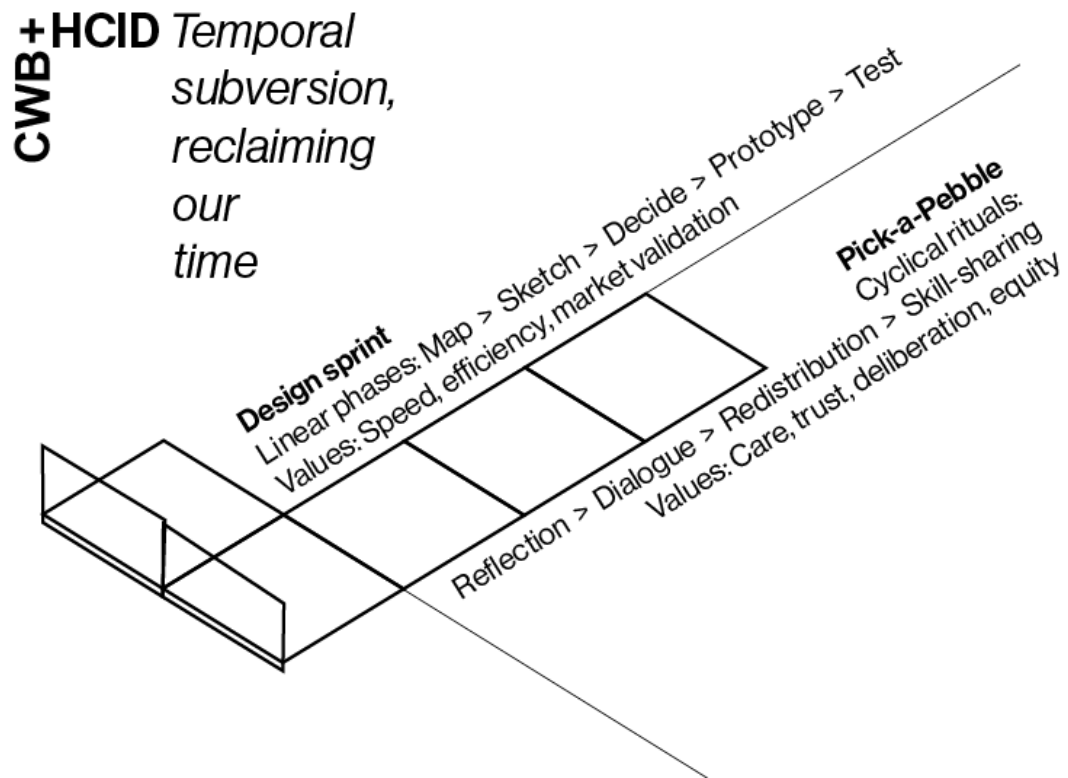


Figure 50: Juxtaposes the accelerated, linear, efficiency-driven design sprint with Pick-a-Pebble's cyclical rituals of reflection, dialogue, redistribution and skill-sharing.

This argument builds on the theoretical critique established in Chapter 2 and is empirically substantiated in Chapter 6. In Chapter 2, I traced how the sprint emerged as a paradigmatic method within HCI, positioned as a best-practice methodology for rapidly moving from problem to solution. In addition, as I showed, its five-day, rigidly phased structure is not neutral. Rather, it is an ideological artifact that enforces a specific political economy of participation. Scholars such as Maze (2007) and Vardi (2018) critique this as an embodiment of "capitalist temporality" and the Silicon Valley ethos of "move fast and break things." Such temporalities assume participants who can dedicate uninterrupted blocks of time, an assumption that privileges those whose lives are already structured around flexibility and autonomy. By contrast, those who juggle care responsibilities, multiple jobs, or the unpaid labour that sustains community organisations (Ferreira and Canedo, 2020) are often excluded from such settings, not because they lack expertise or insight but because their temporal realities do not align with the method's demands.

The empirical findings from Chapter 6 illustrate the consequences of this temporal mismatch. Participants in the Sandbox sessions consistently reported what they described as a "fundamental temporal misalignment." The design sprint's demand for rapid output overlooked the temporal realities of grassroots groups, where trust-building, relationship maintenance and consensus often span months or even years. This mismatch is not simply inconvenient; it creates what Halperin and McElroy (2023) call a "temporal tension," whereby those experiencing time poverty are systematically excluded and design outcomes are disproportionately shaped by those with the economic privilege to participate on Silicon Valley's terms (DiSalvo, 2022b; Udoewa, 2022).

This moment captures the crux of my argument: ignoring temporal asymmetry reproduces inequality under the guise of inclusion. When the schedules of the most privileged become the unspoken benchmark for design processes, the result is not neutral but actively exclusionary. In this way, temporality itself becomes a political infrastructure, one that quietly governs whose voices are centred and whose are silenced.

From this perspective, temporality must be treated as foundational to justice in design. If mainstream HCI reproduces inequity by enforcing neoliberal time, then any justice-oriented alternative must begin by confronting, contesting and reconfiguring how time is structured, shared and valued in participatory practice. It was precisely this recognition that motivated my development of the *PaP* method and my articulation of what I call *community time*.

7.3.2.a Reclaiming our time, embracing unpredictability

The empirical findings from study presented in Chapter 6 fundamentally challenge the imposition of standardised temporal frameworks onto community-led design processes. They suggest that the passage of time in these contexts cannot be predetermined and that this inherent unpredictability must be embraced as a feature, not dismissed as a barrier or inefficiency. Time constraints are especially problematic in co-operative and community land trust (CLT) contexts, where the reliance on volunteer labour means participants often lack the financial resources or flexible income to commit substantial, uninterrupted time to a design process. This is further evidenced by the typical late involvement of digital technologies; the early stages must necessarily focus on understanding complex social dynamics and ensuring all voices are heard, a process that is inherently time-consuming and effortful. The extended timeline necessary for genuine community design underscores a critical need for material

resources to ensure equity of participation, as not all community members can afford to volunteer their time. Consequently, these findings advocate for slowing down design methods to allow for thorough exploration, capacity building and a more deliberate development pace. This deceleration is not a compromise but a strategic approach that can lead to stronger community agency, more deeply embedded skills and outcomes that are truly sustainable and aligned with co-operative values.

The exploration of how a change of speed influences the design process aligns with a growing recognition within HCI of time's multifaceted role, emphasising the need to adapt the pace of design to fit the dynamics of community-led collaborative work better. This engagement builds directly on critiques of rapid, disruption-driven innovation, such as Vardi's (2018) assessment and critique. While such speed has fuelled certain technological advances, it systematically disregards long-term social, ethical and human impacts, a disregard that is particularly detrimental in fragile community ecosystems. Furthermore, Halperin and McElroy (2023) precisely identify the temporal tensions between the urgency of Silicon Valley's fast-paced approaches and the much slower, trust-building processes essential for meaningful, sustainable community design. In complement to these positions, our findings concretely show that the voluntary nature of community participation, coupled with a systemic lack of resources, necessitates a slower approach to design. This slow pace is a prerequisite for a deliberate, reflective process that builds community capacity and ensures technological development aligns with the values of sustainability, collaboration and social justice, as advocated by the slow tech and slow design movements (Patrignani and Whitehouse, 2014; Pereira *et al.*, 2018; Odom, 2024).

To synthesise these empirical and conceptual threads, I introduce *community time* as a comprehensive conceptual and practical frame for rethinking temporality in HCI. Drawing on Bastian's (2014) foundational notion of plural temporalities and Pschetz et al.'s (2016) work on temporal design, I argue that community time reconceptualizes time from a scarce, linear resource into a collective, rhythmic foundation for democratic practice. It is deliberative rather than iterative and it is stewarded collectively by the community rather than dictated by the schedule of an external facilitator. This articulation intentionally draws together strands from feminist economics, which foregrounds the essential, even if often erased, labour of care and reproduction (Gibson-Graham, 2006), with long-standing co-operative traditions that emphasise long-term resilience and mutual aid over short-term growth and shareholder value.

Community time therefore fundamentally rejects the accelerated, efficiency-driven logics embedded in methods like the design sprint. These logics privilege rapid deliverables and relentless iteration at the direct expense of deep relational engagement and consensus-building. They operate on a flawed assumption of homogeneity in temporal capacity among participants, thereby actively, not accidentally, excluding those whose lives are structured around competing demands such as care work, shift work, or community organising. In this sense, design sprint temporalities are not neutral; they actively reproduce socioeconomic inequalities by privileging those who can conform to the rhythms of tech capitalism while marginalising those who cannot.

By contrast, community time intentionally embraces unpredictability, flexibility and slowness as necessary conditions for meaningful and inclusive participation. Trust-building, consensus-making and capacity development are complex social processes that cannot be compressed into five-day sprints; they require flexible, open-ended timelines that align with intrinsic communal rhythms rather than externally imposed deadlines. The empirical evidence from the CLT Away Day powerfully illustrates this principle. Participants adapted the structure of the *Pick-a-Pebble* method to “match the stage of their internal dialogue,” moving fluidly between reflection and action. What might appear as a delay or inefficiency from the perspective of accelerated methods was, in practice, an assertion of what one member aptly called temporal sovereignty, a profound recognition that within a co-operative context, “time is our co-operative currency.”

This reorientation has immediate and essential resource implications. Since community-led initiatives are often underpinned by voluntary labour, where participants’ time is already stretched thin, the issue of time poverty, particularly among low-income and marginalised groups, directly shapes who can engage and whose perspectives are represented. Therefore, embracing the concept of community time necessitates a philosophical shift in relation to speed and mandates the practical redistribution of resources. The provision of stipends, childcare, meals and flexible scheduling are essential forms of material support. Without them, participatory methods risk becoming extractive, demanding time from those least able to give it. This analysis of material conditions resonates deeply with feminist economics and critical participatory design scholarship, which stress that equitable involvement requires redistributing decision-making power, while also addressing the concrete material conditions that make participation possible.

Feature	Design sprint	<i>PaP</i> method
Goal	Rapid innovation and validation of a solution or prototype. Prioritises speed and efficiency.	Building community capacity, trust and consensus. Prioritises long-term community wealth building over speed of execution.
Steps	Linear, rigid phases (map, sketch, decide, prototype, test) executed over five consecutive days.	Cyclical, malleable, pebble-based rituals. Steps are adapted by the community to fit their rhythm and needs (e.g., distributed power, skill-sharing).
Values	Market-driven: efficiency, productivity, scalability and corporate profit.	Co-operative/Feminist: equity, care, safety, solidarity, democratic participation and collective stewardship.

Table 28: Subverting the design sprint, summarising the transformation through difference in goal, steps and values

The *Pick-a-Pebble* method was developed as a practical attempt to materialise the principles of community time. By using tangible pebbles as "symbolic, portable markers of shared intent," the method creates a deliberate ritual that resists acceleration and prompts reflection, care and conversation. Its embedded practices, rotating facilitation, collective agenda-setting and skill-sharing, work to redistribute temporal authority, transforming time from a constraining force into a shared medium for inclusivity. In doing so, *PaP* intentionally disrupts the centralised authority of the sprint master and reorients design processes around collective rhythm rather than external urgency. The slowness of *PaP* is not a deficit but its primary resource: it creates the essential conditions for marginalised voices to be heard and to meaningfully shape the design process from the ground up.

In summary, the implications of adopting a community time framing are threefold. First, it necessitates a principled rejection of homogenised, accelerated tempos in favour of pluralistic rhythms that honour community needs and realities. Second, it requires a commitment to material support to directly address the inequalities of time poverty and ensure equitable participation is genuinely possible. Third, it aligns decisively with co-operative and "slow" values, thereby fostering inclusivity, long-term resilience and the possibility of building alternative socio-technical futures.

Therefore, I contend that embracing community time is not a peripheral adjustment to existing HCI methods but a non-negotiable prerequisite for any justice-oriented design practice. We cannot hope to achieve equitable outcomes through inequitable tempos. By reclaiming time as a collective resource, community time directly challenges the neoliberal underpinnings of mainstream design practice and enables communities to design on their own terms and at their own pace. In this way, the very practice of design is transformed from a tool of extraction into

an infrastructure of solidarity. In an era defined by the relentless acceleration of platform capitalism, perhaps the most radical design intervention we can make is simply, to slow down.

7.3.3 From consultation to redistribution

7.3.3.a The paradox of participation

Participatory design (PD) has always existed at the intersection of methodology and politics. I approach PD as a dynamic and contested space, a site of tension between its radical potential and its often extractive defaults, instead of a settled methodology. While its origins with figures like Ehn and Nygaard (Ehn, 2017) are rooted in a powerful stance of solidarity with labour unions against managerial control, I argue that the rhetoric of participation has too often been neutralised. As Udoewa (2022) cautions, without explicit, structural attention to power, privilege and temporality, PD can inadvertently reinforce the very hierarchies it seeks to dismantle. My research positions this tension as the central paradox of participation: without explicit attention to power, privilege and temporality, as discussed earlier, participatory processes can inadvertently reinforce hierarchies rather than dismantle them.

In this dissertation, I trace how this paradox manifests. Through Chapter 4 scoping study, I observed projects like Circles UBI and Culture Stake, which were born from profound commitments to solidarity, whose design processes still defaulted to conventional methods imbued with neoliberal ideology and expert-led governance. In interviews and focus groups, I documented a telling clash: radical intentions were consistently hamstrung by procedural norms. The aspiration for equitable co-design was there, but key decisions remained centralised and dominated by conventional approaches to interaction design. This revealed a critical insight that anchors my work: even the most emancipatory-driven technology projects will reproduce exclusion if they fail to confront the power asymmetries embedded within the design process itself.

Therefore, I reframe participation as an ethical and political imperative instead of a neutral input or a box-ticking exercise, one that must be situated within broader struggles over ownership, governance and justice. My empirical work with co-operatives (Chapters 5 and 6) illustrates this shift in practice. Here, I saw that participation moved beyond superficial consultation and became a form of co-operative self-determination. Design became a tool for communities to negotiate priorities, steward resources and enact what hooks (1990) calls ‘radical creative agency.’

Perhaps not as fine a transition, but the key focus of my work is building and investigating the conditions for meaningful and lasting participation. I argue that workshops alone are inadequate; they are often fleeting moments of engagement that risk becoming what Marttila et al. (2014) might call an ‘empty gesture.’ My research shows that moving beyond the workshop requires embedding durable mechanisms, like shared intellectual property, commons-based licensing and democratic governance protocols, directly into the scaffolding of our methods. The activities I designed and documented did precisely this: participants weren’t just generating ideas; they were collaboratively building the very methods that would sustain their agency through shared ownership and formalised co-operative structures. This aligns with community wealth building frameworks that identify trust and community leadership as non-negotiable prerequisites for success (The Democracy Collaborative, 2025).

This infrastructural lens allows me to foreground the political dimension of PD. I build on the work of Ehn (2008) and Bødker (2006) to argue that design methods are never neutral; they carry embedded assumptions about time, labour and expertise. By critically examining the tools of PD, I reveal how conventions like rapid prototyping or digital-first engagement can privilege certain forms of knowledge and exclude others (Simonsen and Robertson, 2012). Through methods like *solidarity mapping* and *Pick-a-Pebble*, I offer a way to design with PD to embrace plural epistemologies, foster relational accountability and enable collective stewardship. In this, I find a strong ally in Bardzell’s (2010) feminist HCI framework, with its emphasis on pluralism and advocacy as explored in Chapter 2.

Furthermore, I intervene in debates about scalability by advocating for situated, adaptive practices over universal models. I reject the standardisation of PD and instead embrace its potential as a living methodology, one that evolves through dialogue and reflection. This also means challenging the innovation imperative in HCI; my work shows that meaningful participation often requires slowness and the deliberate cultivation of trust, a reflexive stance that aligns with scholars who position PD as a meta-method (Brandt, Binder and Sanders, 2012; Wong-Villacres *et al.*, 2018).

Essentially, I advocate for a return to PD’s radical roots. In an era of techno-feudalism, I argue we must reclaim PD as an emancipatory practice. This means embedding co-operative principles and feminist goals in our design outcomes by integrating them into the very methods and infrastructures that produce them, a call that resonates with scholars like Stanton (2025) Wacnik et al. (2025) and Vlachokyriakos et al. (2022). My contribution to this

trajectory is to prioritise grassroots agency and resist extractive logics through concrete practices of community-led governance and redistribution.

I therefore reframe participation as a site of struggle and possibility. However, this reimagining is perpetually shadowed by the paradox I began with: the tension between emancipatory intent and the potential for replication of power. It is precisely this paradox that my methodological interventions are designed to confront. To do so, I now turn to repoliticising PD through a fundamental shift: from viewing methods as neutral procedures to recognising them as political instruments. This reorientation positions PD by shifting its role from a solution to the paradox to a self-critical practice for engaging with it in the ongoing pursuit of systemic change and socioeconomic justice.

7.3.3.b Re-politicising PD through methodological intervention

To confront the structural tensions outlined above, I developed, enacted, presented and discussed two methodological interventions. As detailed in prior chapters, *solidarity mapping* actively reframes individualist design exercises into collective, relational practices that surface existing networks of mutual support and co-operative responsibility. *Pick-a-pebble*, by contrast, operationalises what Gonzatto and van Amstel (2022) term “design liberation”: it slows down decision-making, ritualises participation and intentionally creates space for care and deliberation.

In the sessions where these methods were tested and imagined, I observed participants engaging deeply with materials and prompts, using them to represent ideas, responsibilities, or resources and collaboratively negotiating how these might be leveraged to ease the collective effort required for the work ahead. These seemingly simple gestures enacted complex redistributions of responsibility, creating tangible moments where time, attention and authority were explicitly shared. Through these interventions, I implement Udoewa’s (2022) call to re-politicise PD by making participation a deliberate practice of redistributing agency, rather than a neutral or depoliticised facilitation of predefined outcomes.

These methodological moves resonate with broader critical scholarship in HCI and PD. They answer Bardzell’s (2010) advocacy for feminist frameworks that centre pluralism, advocacy and the recognition of marginalised voices; they align with Bødker and Kyng (2018) argument that technology should stay away from imposing predefined structures and advocate for politicising PD to challenge existing power dynamics and promote more equitable and

democratic design processes; they align with DiSalvo's (2012) emphasis on participatory design as a means to empower communities and address social issues; and respond to Ahmed's (2012) critique of conventional participation as unevenly accessible and often complicit in reproducing inequities. By embedding feminist goals and co-operative principles of directly into methodological form, *solidarity mapping* and *Pick-a-Pebble* reclaim PD as a site of practice that actively challenges the extractive logics of conventional design. They counter the twin pressures of superficial engagement and corporate co-optation, demonstrating that participatory methods both yield tangible results in design and contribute to the rethinking and reshaping of social dynamics and ethical considerations; these are moments in which collective agency is renegotiated and enacted.

7.3.3.c Participation in co-operative movement and solidarity economies

It is within the contexts of the co-operative movement and solidarity economies that this reclaimed PD finds particularly fertile ground. Unlike conventional design contexts, these economies are built on principles of co-determination, shared ownership and democratic governance. In these settings, I argue that participation is inherently participation in the democratic process itself. My workshops revealed this vividly: they demonstrated how co-operative members reframed "stories" as a way for defining communal priorities and redistributing resources. The *pick-a-pebble* sessions within the CASH community land trust were especially instructive, as participation here meant actively influencing tangible outcomes, with methods adapting in real time to the group's needs. These practices align directly with Gibson-Graham's (2006) vision of diverse economies that prioritise care and reciprocity over extraction and profit.

Udoewa's (2022) concept of radical participatory design (RPD) offers a critical lens through which I understand and advance these practices. RPD is a transformative meta-methodology that emphasises community-led processes in all phases, from initiation to decision-making. It directly challenges the limitations of traditional participatory design by ensuring that communities are the ultimate leaders and co-leads of any initiative. This approach provides a way-in for implementation of the co-operatives and solidarity economies core principles, where democratic member control and active economic participation are fundamental. By integrating RPD, these communities do more than just design solutions; they reshape the very

processes and structures that govern them, embodying a transformative shift toward deeper, more equitable engagement and ownership.

This approach also effectively bridges Udoewa's radical methodology with DiSalvo's (2022) framing of design as democratic inquiry. DiSalvo argues that design can function as a mode of political inquiry, creating arenas and artefacts that facilitate public discourse and collective decision-making. The practices I documented in Chapters 5 and 6 are quintessential examples of such inquiry. They bring DiSalvo's theoretical framework into the lived reality of the co-operative movement, providing a tangible process for "doing democracy" through design. This fusion, I contend, creates a powerful foundation for the next step in the work supporting solidarity economy: the development of platform co-operatives (Scholz, 2016).

These member-owned digital platforms represent a direct application of this democratic design ethos to the digital realm, moving beyond the concept of "exit to community" as an exercise in participation, to the active construction of community-owned digital infrastructures. The participatory methods I describe here are precisely how such platforms must be conceived and built, to avoid replicating the very extractive governance models they seek to replace. Subsequently, this pathway leads us toward a vision of solidarity infrastructure (Vlachokyriakos *et al.*, 2018): a federated ecosystem of interoperable, co-operatively owned tools designed for care, mutual aid and equitable resource distribution. This infrastructure is "solidarity" because it is built by, for and with the community through radical participatory design, embodying mutual care and shared ownership at every level, from the initial workshop to the final line of code.

7.3.3.d Toward a reclaimed PD

The empirical insights and methodological experiments I have presented throughout this discussion converge into a clear and actionable vision: a reclaimed and radical PD. In my view, this vision is defined by methods that explicitly embed co-operative principles and feminist goals, redistributing ownership and authority along with responsibility and care. By consciously refusing the pervasive pressures of acceleration and efficiency, my work embraces a deliberate slowing of process to accommodate temporal justice, thereby creating the essential space for inclusive and democratic enquiry. Furthermore, I argue that it must emphasise the transfer of governance to communities, ensuring that participation translates

into design processes that manifest as community-owned outcomes rather than externally imposed solutions.

Within co-operative and solidarity economies, I position these principles as more than methodological adjustments; I see them as a practice of community wealth building and systemic transformation. In this context, I have come to understand participation as extending far beyond the conventional understanding of inclusion and consultation. Through this research, I have observed it becoming the very mechanism through which resources are redistributed, infrastructures are collectivised and justice is manifested in both method and outcome. In this sense, I align my approach with Udoewa's (2022) radical community-led praxis of PD using my empirical work to ground these theoretical frameworks in the lived practice of economic democracy. This orientation, I contend, demonstrates how PD can finally bridge the gap between design scholarship and community-led strategies for building durable, collectively owned forms of wealth.

Therefore, I believe that reclaiming PD requires directly confronting its historical and contemporary co-optations, particularly its depoliticisation within institutional and corporate settings. By returning to its roots in labour and democratic movements, I argue that PD can be reconstituted as a deliberately political practice. For me, this entails embedding co-operative principles from our methods to the very interactive systems and digital infrastructures they produce, from platform co-operatives to solidarity networks, thereby transforming PD into service of shared ownership and collective empowerment.

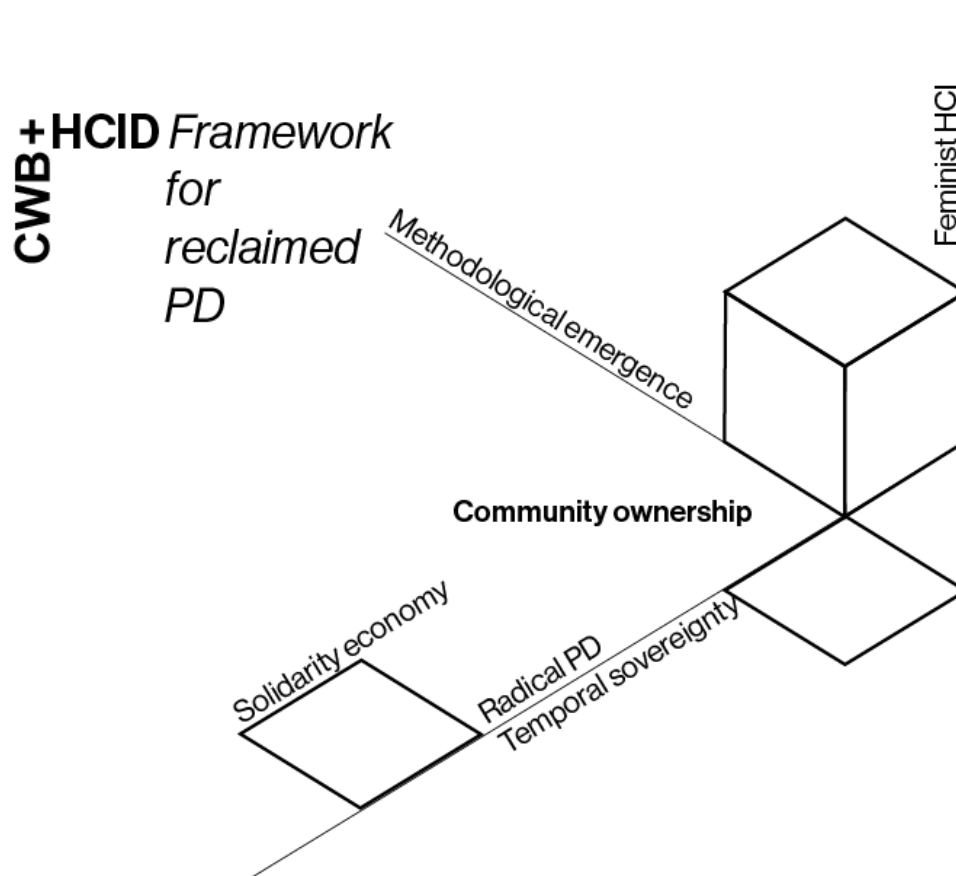


Figure 51: A justice-oriented ecosystem placing community ownership at its core, encircled by Feminist HCI, solidarity economy, radical PD, temporal sovereignty and methodological emergence. Arrows show their reciprocal influence in sustaining democratic, community-led infrastructures.

When practised in this way, as my research has endeavoured to model, PD becomes a profound mode of solidarity. It provides a concrete mechanism for redistributing power, fostering relations of care and reshaping both social and economic relations. In this framing, it emerges as more than a methodology; it is a vital practice for reconfiguring ownership, accountability and collective agency. In doing so, I posit that it contributes directly to the construction of equitable digital systems, embedding community wealth building at the very core of design.

While my discussion has so far focused on reclaiming PD through practices of redistribution, solidarity and democratic governance, I find it equally important to reflect on how these very insights were shaped by the methodological conditions of my research experience itself. If I argue that participation is always entangled with politics, then I must also acknowledge that the methods we use to study and enact it are equally political. In this final part of the chapter, I turn from the external practices of PD to the internal dynamics of my own research process. Here, I consider how methodological emergence and reflexivity became central to navigating the paradoxes I outlined above and how my embrace of unpredictability and messiness allowed the project to more fully align with its own feminist and participatory commitments.

7.3.4 Methodological emergence and reflexivity

Having discussed the subversion as design approach, the dynamics of participation and the key findings of this study, I now turn to a more reflective mode. This section considers how the research process itself unfolded, its methodological commitments, the tensions I encountered and the reflexive stance that shaped what this project could become. Here, I focus on the idea of methodological emergence and reflexivity, examining how my approach developed in practice and how it both challenged and reinforced the feminist goals and participatory aspirations at the heart of the work.

Throughout the research process, I grappled with the idea of my methodology as emergent, a realisation that allowed me to more fully embody the feminist goals I had long sought to integrate. I knew that rigid, predetermined methods often clashed with the lived complexities of participatory work, but it was not until engaging with Gaver et al.'s (2022) framing of emergence in design research that I found a vocabulary to describe what my practice had already been reaching toward: a mode of inquiry where unpredictability is not a failure or compromise but a source of validity. Rather than being just a methodological decision, emergence becomes a way of doing feminist and participatory research, one that embraces multiplicity, indeterminacy and co-created meaning.

Gaver et al. (2022) argue that emergent research depends on an “openness to change,” adaptation and the possibility that research questions and methods may evolve in response to “unfolding situations.” This framing resonated deeply with my own experiences, where carefully planned workshops often took unexpected turns, participants reinterpreted materials and messy, multi-directional processes revealed more than any fixed design could have captured. Rather than treating these moments as disruptions or detours, an emergent stance invited me to see them as vital data, signals of the lived realities, negotiations and tensions that linear methods often erase (Law, 2004). Emergence thus provides a methodological orientation and an ethical stance: a recognition that insisting on controlling the research process may obscure rather than illuminate the complexities of participatory work.

This perspective is deeply informed by feminist STS scholarship, which has long critiqued the myth of “clean” knowledge production, advocating instead for situated, partial and accountable ways of knowing (Haraway, 1988; Puig de la Bellacasa, 2017). In this light, emergence is simultaneously a practical stance and an epistemological one, rejecting the fantasy of methodological universality in favour of methods that acknowledge their own

conditions of production. It aligns with what Lury and Wakeford (2012) call inventive methods, where the messiness of social worlds is not tidied up but centred as the very material of research. For instance, when participants in this research reshaped a workshop's materials or introduced unanticipated concerns, these moments did not undermine the integrity of the research. Rather, they highlighted the collective, often invisible labour that sustains participatory practice (Suchman, 2007), foregrounding the necessity of designing processes that can absorb and value this relational work.

Seen in this way, emergence and reflexivity become inseparable. Reflexivity here moves beyond a gesture of critical distance to become an ongoing practice of attending to how the research itself participates in shaping outcomes. Recognising emergence demanded that I remain accountable to the contingencies of collaboration by being mindful of what was being produced and how knowledge and relationships were being collaboratively constructed in situ. This form of reflexivity disrupts the researcher's presumed authority, situating them as one actor among many in an unfolding field of relations, a position that feminist scholars have long insisted upon but which design research has sometimes struggled to operationalise.

My work therefore points toward a future contribution: treating emergence-aware design as a core principle for interactive systems and digital infrastructures meant to support feminist, participatory, or community-led work. This requires a shift in orientation from controlling outcomes to creating conditions where messiness, uncertainty and redirection are tolerated and actively valued (Law, 2004). Such a shift echoes Puig de la Bellacasa's (2017) call to "care for the trouble" rather than resolve it, foregrounding the ethical imperative of staying with difficulties rather than seeking premature closure. Gaver et al. (2022) hint at this by noting that emergent research often surfaces the "social implications of design possibilities." Extending this insight, designing with emergence in HCI could mean building systems that anticipate reinterpretation, invite repurposing and leave room for collective redirection, systems that are not finalised artefacts but infrastructures for ongoing negotiation.

In this sense, emergence becomes both a methodological and infrastructural principle: a commitment to practices and designs that make space for the unexpected, that hold open possibilities rather than foreclose them and that recognise the generative potential of indeterminacy. Such a reflexive and adaptive approach was a necessary commitment, essential for aligning my methodology with the very co-operative principles and feminist goals I set out to study.

7.4 Implications and future directions

7.4.1 Theoretical contributions

Having explored the conceptual contributions of this research such as the subversion as design practise, political nature of time and participatory design, I now turn to its theoretical implications. These insights lay the groundwork for rethinking how design operates within systems of power, temporality and economic governance. What follows articulates the theoretical contributions that emerge from this foundation, demonstrating how the research advances feminist HCI, participatory design and solidarity economy scholarship. This includes bridging disciplinary boundaries, reconfiguring participatory design as economic praxis and proposing strategy for designing otherwise.

I believe my research makes a three-fold contribution to contemporary debates on economic justice in HCI. Rather than limiting myself to diagnosing the role of technology in perpetuating inequality, I offer constructive, practice-based theories for building equitable socio-technical futures. This work contributes to theory by linking critical HCI scholarship with the grounded realities of co-operative and solidarity economies, offering both conceptual clarity and empirical depth. Central to this is a commitment to examining how technology, design and collective economic practices intersect, particularly when viewed through feminist and participatory lenses.

First, I extend Feminist HCI by implementing its principles into interaction design practise for economic justice. While Feminist HCI offers a powerful normative framework, exemplified by Bardzell's (2010) triad of pluralism, advocacy and participation, my work tackles the critical question of how. How do we enact these principles to confront the political economy of technology? Drawing on Gibson-Graham's (2006) theory of diverse economies, I reject capitalist hegemony as much in method as in critique. This involves designing conditions where plural economic logics: care, reciprocity, mutual aid, can take precedence over extraction. It entails advocating for explicit inclusion of co-operative principles and feminist goals that redistribute epistemic agency, ensuring the 'master's tools' of neoliberal design (Lorde, 1979) are reconstituted instead of being reused, or superficially remodelled. It means framing participation as the mechanism through which marginalised communities enact what hooks (1990) called 'radical creative agency', the power to shape and build their own economic futures. This synthesis generates a pragmatic feminist framework for HCI that engages directly with the material realities of inequality.

Second, I further PD as a practice that shapes economic democracy, building on the radical tradition of Udoewa (2022) and others. My research argues that for PD to function as a justice-oriented methodology, it must go beyond inclusion, it must be transformative. I show how PD can shift from consultation to community self-determination, where the design process becomes a space for enacting the very solidarity economies participants across this research aim to realise. This involves a deliberate subversion of design form and content, ‘doing design otherwise’ (DiSalvo, 2018; Abdulla, 2020) to ensure that methods like *solidarity mapping* actively dismantle existing power structures by redistributing ideas, ownership and authority. By embedding co-operative principles into the method’s scaffolding, I illustrate how PD can provide legitimacy and advocate for collective ownership of both process and outcome. This aligns with Udoewa’s radical methodology, positioning communities as co-leaders and with DiSalvo’s (2022) vision of design as democratic inquiry. In this framing, PD becomes not a service delivered to communities but the very practise through which community wealth is built, design as a method of ‘doing justice’ and a direct response to the persistent paradox of participation.

Third, I challenge techno-solutionism by theorising a shift from fixing communities to building infrastructural mutualism (Swartz, 2018). Much of HCI, especially in the DLT space, remains embedded in solutionist logics that aim to optimise or disrupt community systems through technological fixes. My research offers a theoretical and practical alternative: design for collective ownership and control of technology. Building on the question of limitations of resistance, I push further to propose what comes after critique and beyond resistance: a positive, actionable construct for design otherwise.

Here, my concept of community time is central. It directly resists the “move fast and break things” ethos by theorising slowness, deliberation and temporal sovereignty not as inefficiencies, but as foundational conditions for building trust and sustaining community-owned systems, what Schwartz (2018) terms infrastructural mutualism. This approach moves beyond designing an app for a co-operative; it focuses on co-designing the digital and social infrastructure as a co-operative. It reframes design as a long-term, relational practice grounded in shared temporality and mutual responsibility.

This contribution reframes HCI’s role from designing for communities to designing with, ultimately pushing it to space where technology is designed by community, for community. It contends that the most meaningful intervention in this space may be to slow down, to provide the temporal and material resources that allow communities to build resilient, self-determined

infrastructures. In doing so, my work offers a theoretical bridge between critiques of solutionism and the grounded, ongoing labour of the solidarity economy movement, positioning HCI as a discipline capable of supporting community-controlled futures rather than producing extractive, short-term “solutions.”

These three contributions provide the field with an expanded vocabulary and practical steps. They collectively advance HCI from critique toward the constructive work of building equitable socio-technical systems. Each strand affirms the possibility and necessity of designing otherwise: not by refining dominant systems, but by co-creating alternatives rooted in care, cooperation and community sovereignty. Having established these theoretical contributions, I now turn to a final outline of the methodological contributions and implications for HCI, alongside the research's practical and actionable applications for designers, academics, activists and community organisers. The following section turns to the methodological contributions of this research, detailing how *solidarity mapping* and *Pick-a-Pebble* put these theoretical commitments into action. These methods offer concrete steps for designing technologies that align with co-operative and feminist values.

7.4.2 Methodological contributions

The methodological contributions of my thesis are closely intertwined with its theoretical ambitions. My research simultaneously offer critique or adaptation of existing PD tools and demonstrates how methods themselves can be re-politicised, reclaimed and re-forged to embody feminist, co-operative and solidarity economy principles. By introducing two novel, fully articulated design methods and by adopting an explicitly emergent and reflexive stance, my work makes four interrelated methodological contributions: (1) subversive method innovation, (2) methodological re-politicisation, (3) adaptability and transferability and (4) a stance of emergence and reflexivity as method. Empirical findings from case studies like Circles UBI, Culture Stake, Open Collective, UK co-operatives and CLT initiative, together with conceptual argument, ground these contributions.

Solidarity mapping and *Pick-a-Pebble* were collaboratively developed in the process of this research as deliberate acts of subversion. They intervene in the dominant logics of efficiency, speed and extractive participation that characterise many mainstream design methods. In Solidarity Mapping, I transformed the form and content of example mapping through participant observation who shifted prompts from “rules” to “principles” and from

“questions” to “reflections,” while multilingual templates allowed diverse registers of participation. This move challenged Anglocentric design norms, opening space for oral, visual and embodied contributions. In practice, during session with the COOP Hackathon participants, this subversion created conditions for expressing priorities through storytelling and imagery rather than managerial-style inputs (Chapter 5). *Pick-a-Pebble*, by contrast, reconfigured temporality. As mentioned earlier in this chapter, following Bastian (2014), I redefined time not as a neutral dimension of design process but as a collective, political resource, which I refer to as community time. Rituals of slowness, shared facilitation and the symbolic use of pebbles made it possible to resist the accelerated temporality of design sprints and instead foster trust, deliberation and agency. The CASH CLT Away day (Chapter 6) illustrated this contribution: participants adapted the method to match their own rhythms of dialogue, their aims and objectives.

In these ways, the methods serve to re-politicise participatory design. Much contemporary PD, particularly in corporate or institutional contexts, risks depoliticisation, framing participation as consultation or user-testing rather than as an act of collective governance. By contrast, *solidarity mapping* and *PaP* embed redistribution, solidarity and democratic agency directly into their structure. In the CLT workshop, participants used pebbles both as symbolic tokens of ideas and as markers of responsibility, negotiating who would carry forward tasks in ways that redistributed effort across the group. In Circles UBI, participants described a “fundamental temporal misalignment” between their long-term needs and the accelerated tempo of DLT development. The *PaP* method emerged in part as a corrective to such misalignments, offering a process that validated slower, deliberative approaches. These examples demonstrate how methods can serve as political artefacts that either reproduce or resist hierarchies of participation.

A further contribution lies in the adaptability and transferability of the methods. Both were designed as approaches that communities can adapt and own. *Solidarity mapping* enabled multilingual, multimodal expression, giving participants authority to reshape prompts and formats to suit their context. *PaP*’s cyclical structure and portable artefacts similarly invited reinterpretation and repurposing. This adaptability was apparent across diverse settings, from the Hackathon to community land trust workshops. Even in projects such as Circles UBI, where governance misalignments led to fragility, participants recognised that solidarity-oriented methods might have provided more equitable conditions for decision-making. In contrast, the resilience of Open Collective illustrated how embedding such principles into

governance and infrastructure could sustain long-term community-led stewardship. These cases demonstrate that PD methods can function as pathways through which HCI extends into community-controlled governance protocols and funding structures, which in turn help address extreme economic inequality.

Finally, this research advances a methodological stance of emergence and reflexivity. The research process itself became a site of experimentation that drew validity from its very unpredictability, messiness and redirection, qualities typically dismissed as failures. Drawing on Gaver et al. (2022) and feminist STS, emergence was understood as a feminist epistemological commitment to situated, partial and co-constructed knowledge. In the scoping study of Circles UBI, moments of tension were treated as data in their own right, allowing emergent insights to surface and embracing the complexity inherent in messy, real-world research. Reflexivity also played a central role. My own methodological choices, such as the adoption of multilingual templates, emerged not from prior design but from responding to participant frustrations. This orientation positions the researcher as one actor among many in a shifting field of relations, rather than an external controller. In this way, emergence and reflexivity are advanced as methodological commitments and as foundational principles for design: orientations that invite reinterpretation, appropriation and ongoing negotiation.

Taken together, these contributions chart a forward-looking trajectory for HCI and participatory design, one that moves beyond performance toward practices grounded in solidarity and redistribution. *Solidarity mapping* and *Pick-a-Pebble* illustrate that subversive innovation, re-politicisation and infrastructural adaptability can concretely embody principles of care, equity and democratic governance within the design process itself. Simultaneously, adopting an emergent and reflexive stance demonstrates how design practice can harness unpredictability, so often dismissed as a liability, as a resource for justice.

This work challenges scholars and practitioners to recognise methods as inherently contested arenas of power. In dialogue with DiSalvo's concept of "designing otherwise," these methods deliberately shape alternative socio-technical arrangements. Echoing feminist practices of "designing against the status quo" (Khovanskaya *et al.*, 2018a), they resist extractive and depoliticised logics by actively creating conditions for marginalised voices to influence and reshape design processes. Moreover, this research extends Udoewa's (2022) vision of "radical PD," advancing an explicitly activist approach that seeks systemic transformation rather than inclusion within existing frameworks. By foregrounding acts of co-creation, these practices

demonstrate how participatory design can work to advance post-capitalist futures, making PD a site where more just technological and economic systems are imagined and actively enacted.

Building on the practice of doing design otherwise and consistent with my critique of the fallacy of neutral design methods, I foreground the concrete implications of this work for HCI. If design methods are contested sites of power rather than neutral tools, HCI cannot remain limited to usability, efficiency, or individual user experience; it must engage with the broader political, economic and infrastructural contexts in which technologies are created and deployed. From my perspective, this calls for three fundamental shifts: 1) from a narrow focus on usability to an engagement with political economy, expanding the question from how technologies work to include for whom and to what end; 2) from designing for individual users to fostering collective stewardship, emphasising communal responsibility, trust and shared accountability in technological outcomes; and 3) from building proprietary platforms to embedding co-operative principles in protocol design, materially restructuring technological architectures to prioritise solidarity, care and mutual aid over extraction. In conjunction, these shifts chart a path for HCI that moves beyond technical problem-solving toward practices that I argue are ethically engaged, politically aware and oriented toward more just socio-technical futures.

7.5 Implications for HCI

In this research, I argue for a necessary and urgent pivot in the focus of Distributed Ledger Technology (DLT) research within HCI. Much of the existing literature, as Fröhlich et al. (2022) note, has centered on the usability of individual applications, wallets, voting interfaces, or identity systems, treating blockchain largely as a discrete technical artifact. While these contributions are valuable, I contend that this narrow focus risks isolating the technology from the broader economic and social infrastructures it is poised to reshape. By emphasising individual usability alone, we often overlook the political economy of possibility (Cameron & Gibson-Graham, 2022) encoded in these systems and the potential they hold to transform collective economic life.

7.5.1 From usability to political economy

This research challenges HCI to move beyond its traditional focus on usability, efficiency and individual user experience, toward a more expansive engagement with political economy. While usability remains important, it often obscures deeper questions of ownership, governance and resource distribution. By foregrounding economic justice and community wealth building (CWB), design is reframed as a political intervention into systems of inequality, rejecting false neutrality. It is thus an imperative for HCI to examine a technology's function in conjunction with its political dimensions: whose interests it serves, who controls it and how it shapes economic relations.

This shift requires treating design as a site of economic structuring rather than interaction alone. It demands examining how design practices reinforce or resist extractive logics and how they might instead redistribute agency, time and ownership. HCI must expand its scope to include infrastructural questions: who owns the tools, who governs the protocols and how temporal and material resources are allocated. Far from peripheral, these concerns are central to a field increasingly implicated in shaping digital economies.

Grounded in feminist HCI, participatory design and solidarity economics, through this study I argue that HCI must approach emerging technologies like DLT primarily as a fundamental infrastructure for economic reorganisation: a foundational layer upon which entirely new forms of economic organisation can be built. Such a perspective moves the field beyond techno-solutionist critiques (Morozov, 2013) toward a justice-oriented practice of infrastructural mutualism (Swartz, 2018; Brekke, 2020). In practice, this entails rethinking the questions researchers pose: rather than asking how blockchain can be made usable for individuals, HCI should ask what kinds of economic and social relations these technologies encode and for whose benefit (Scott, 2016; Antoniadis & Martignoni, 2018).

Through this lens, HCI researchers can act as mediators between technical affordances and lived values, enabling genuinely democratic processes in which communities define rules, governance models, ownership structures and value-distribution mechanisms. In doing so, infrastructures can be designed to prioritise community wealth building and the principles of the solidarity economy (Bria, 2022; Cabaña & Linares, 2022) over extraction and speculation.

7.5.2 Designing for collective stewardship

The findings advocate for a reorientation of design practice toward collective stewardship, where technologies are co-developed, co-owned and co-governed by the communities they aim to support. This approach shifts HCI away from designing for individual users or abstract personas and toward designing with real communities, whose temporal rhythms, material constraints and political aspirations must shape the design process. Collective stewardship frames design as an ongoing relational practice, requiring trust, deliberation and shared responsibility.

Designing for stewardship also demands a rethinking of success metrics. Instead prioritising engagement, retention, or scalability, HCI must value resilience, equity and long-term community control. This entails creating slow, iterative and responsive design processes that acknowledge the lived realities of participants. Stewardship is a material practice, not a metaphorical one; it necessitates the redistribution of decision-making power, resources and infrastructural support to sustain meaningful participation.

My research further underscores the need to reframe distributed ledger technologies (DLTs) away from neoliberal narratives of individual sovereignty and toward principles of collective stewardship and mutualism, rooted in co-operative history and feminist economics (Gibson-Graham, 2006). The affordances of transparency and codified trust should be harnessed not for personal gain but to support democratic oversight in worker-owned co-operatives, community land trusts and other key institutions of community wealth-building (Dubb, 2016). For example, tokenisation could be explored as a mechanism for mutual credit systems that foster reciprocity and plural economic practices (Coraggio *et al.*, 2015), as demonstrated by projects like Circles UBI.

In this context, HCI plays a critical role: designing interfaces and interactions that make these complex collective practices legible, accessible and manageable, embodying the relational autonomy central to feminist HCI (Bardzell, 2010). Ultimately, designing for collective stewardship bridges technology, community and governance, centring care, responsibility and shared agency as foundational to meaningful design.

7.5.3 Embedding co-operative principles in protocol design

This research emphasises the imperative of embedding co-operative principles, such as democratic governance, mutual aid and shared ownership, directly into the protocols and infrastructures of digital systems. Achieving this requires moving beyond surface-level participation to fundamentally reconfigure the rules, roles and rhythms that shape technological operation. Protocol design thus becomes a site of political possibility, where values like care, reciprocity and solidarity can be encoded into the very logic of interaction.

In the context of HCI, this represents a methodological and ethical transformation: moving beyond surface-level designs to develop infrastructures that advance economic justice. Researchers and practitioners are invited to treat protocol as a political artifact, capable of enacting or undermining justice depending on its design. This demands new design grammars, ones that prioritise pluralism over standardisation, deliberation over speed and collective governance over centralised control. By doing so, HCI can begin to build technologies that do not just serve communities but are shaped by them, from the protocol layer upward.

The technical architecture of distributed ledger technologies (DLT) is not neutral; it inherently embodies values (Manski and Bauwens, 2020; Rozas *et al.*, 2021). HCI research must therefore move beyond simply applying DLT to co-operative projects and instead explore how the technology itself can be reimagined through a co-operative worldview, drawing on free/libre open-source software (FLOSS) traditions of commoning. This involves embedding co-operative principles, democratic member control, autonomy and concern for community, into protocol design and smart contract logic. Realising this vision may require subverting existing technical paradigms, such as transitioning from energy-intensive Proof-of-Work to more equitable and sustainable consensus mechanisms and designing code that resists centralisation while promoting distributed power. Such interventions can help create the supportive digital infrastructure that contemporary community wealth-building experiments often lack (Prinos, 2021).

I contend that HCI's most meaningful contribution to DLT is not smoothing its rough edges for mass adoption, but interrogating the purpose and ethics of mass adoption itself. By situating DLT within the long-standing traditions of the solidarity economy and co-operative movement and by applying justice-oriented lenses from feminist HCI and participatory design, researchers can guide this technology away from reproducing entrenched inequalities and toward its unrealised potential: functioning as genuine infrastructure for economic

democracy and community time. In this sense, the real contribution of HCI to DLT lies not in usability optimisation but in steering technological development toward just and democratic futures.

In this context, the concept of solidarity infrastructures offers a powerful reimagining of what infrastructure can be: a relational and political construct built through collective stewardship. Solidarity infrastructures position design primarily as a means to sustain the social and economic conditions under which communities thrive, with productivity and efficiency as secondary concerns. They challenge dominant paradigms of scalability and centralised control, offering instead a vision of infrastructure that is slow, situated and co-operatively governed. For HCI, this means treating infrastructure itself as a site of design justice, where protocols, governance models and temporal frameworks are actively shaped to support community-led futures.

The implications of this research extend beyond HCI, offering a blueprint for justice-oriented design across civic tech, urban planning and public sector innovation. In civic tech, the methods developed here provide tools for embedding collective governance and temporal sovereignty into digital infrastructures. In urban planning, they challenge accelerated consultation cycles and offer frameworks for redistributive participation rooted in community time. In education and public sector design, they advocate for participatory processes that honour plural knowledges and redistribute decision-making power. These outward-facing applications underscore the relevance of solidarity-based design across domains, but they also reveal the structural constraints that shape what is possible. As such, it is necessary to reflect on the limitations of this research, not as shortcomings, but as signals of the systemic conditions that participatory design must navigate.

7.6 Conclusion

This chapter has woven together the empirical, conceptual, theoretical and methodological strands of this research to articulate a justice-oriented reimagining of design practice. It began by synthesising findings from Chapters 4, 5 and 6, showing how distributed ledger technologies (DLTs), PD and community-led governance intersect in the pursuit of solidarity economies. Through this synthesis, the chapter argued that technological potential is contingent not on technical architecture alone, but on the social, temporal and methodological choices that shape it.

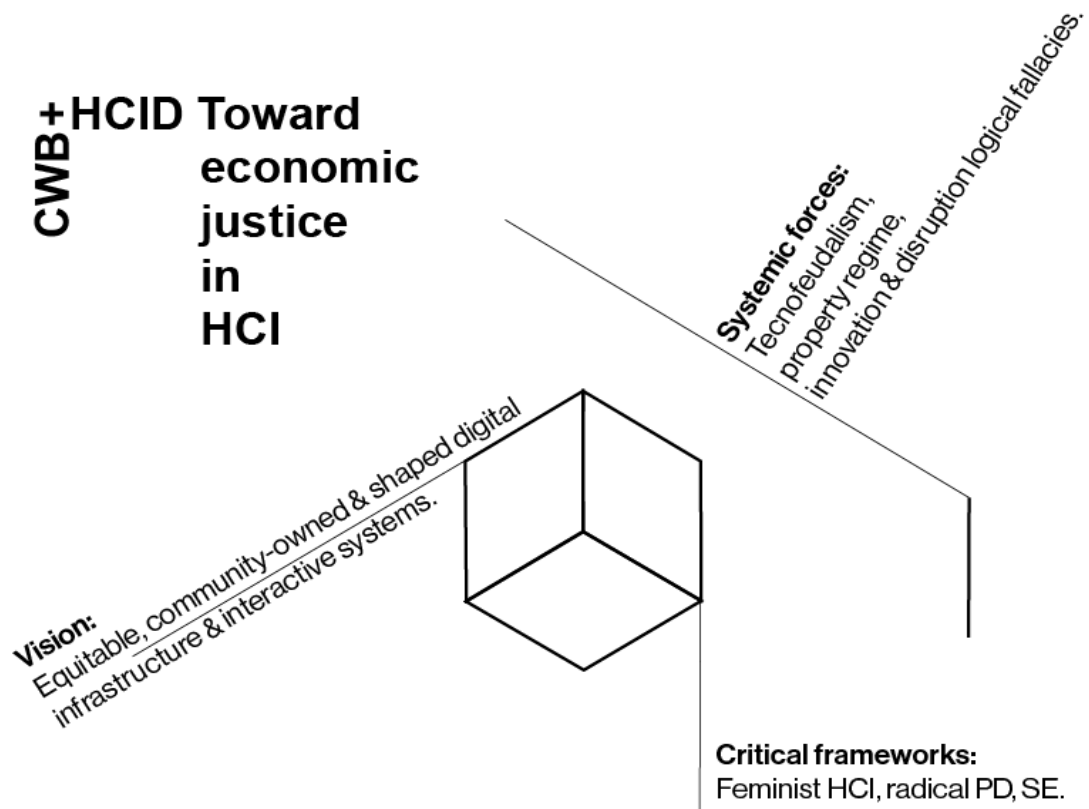


Figure 52: Critical frameworks reject and reimagine systemic forces to realise equitable, community-owned interactive systems.

The chapter then developed a set of conceptual contributions, including the subversion of dominant design methods, the reclamation of time as political infrastructure and the reframing of participation as redistribution. These concepts laid the foundation for a series of theoretical contributions, which positioned PD as economic praxis, introduced community time as a temporal framework and bridged feminist HCI with solidarity economy theory. The idea of designing otherwise emerged as a central thread, challenging extractive norms and proposing new logics rooted in care, co-determination and collective stewardship.

Building on this, the chapter articulated methodological contributions through the development of *solidarity mapping* and *Pick-a-Pebble*. These methods operationalised feminist and co-operative principles, demonstrating how design tools can be re-forged to redistribute agency, embed plural epistemologies and support democratic governance. The discussion of implications for HCI extended these insights outward, calling for a shift from usability to political economy, from user-centred design to collective stewardship and from interface optimisation to infrastructural justice. The concept of solidarity infrastructures was introduced as a blueprint for designing systems that are co-owned, co-governed and sustained by communities.

The chapter also reflected on the limitations of the research, acknowledging the constraints of voluntary labour, time poverty and uneven material support. These limitations were framed not as deficits but as signals of the systemic conditions that participatory design must navigate. Finally, the future directions outlined a path forward, one that includes further development of these methods, adaptation to digital governance contexts and continued collaboration with the CASH CLT through a newly awarded Knowledge Exchange secondment. This partnership will deepen the empirical base and extend the practical relevance of the research.

Finally, this chapter has argued that reclaiming design for economic justice requires more than new tools, it demands a reconfiguration of time, method and infrastructure. By subverting dominant design logics and embedding solidarity into the very structure of participation, this research contributes to a growing movement to build technologies that do not extract from communities but are shaped by them, at their own pace and on their own terms.

CHAPTER 8 CONCLUSION

This final chapter consolidates the research journey and synthesises key findings with the explicit aim of offering actionable insights for HCI researchers and practitioners. It is important to note that the approach presented here is not a singular solution but one of many possible ways to “design otherwise,” a reflection of the thesis’s pluralist commitments and its grounding in interdisciplinary inquiry. The chapter is structured as follows: Section 8.1 revisits the research trajectory, Section 8.2 synthesises answers to the research questions, Section 8.3 consolidates contributions to knowledge, 8.4 Implications for research and practice, 8.5 Critical reflection on limitations, 8.6 Future directions and concluding remarks, with a desire to support those working at the intersection of design, justice and technology.

8.1 Revisiting the research journey

This thesis began from a position of deep concern, articulated through Jason Hickel’s observation on food (and housing) insecurity in the world’s richest nations and David Graeber’s conviction that the world is something we make and can therefore remake. The alarming rise of food bank usage in the UK served as a potent symbol of a systemic economic failure that prioritises market efficiency over human dignity, a failure mirrored in the nation’s deepening housing crisis, a crisis exacerbated by the global flows of capital that have also led to the extreme concentration of wealth among Silicon Valley’s principal beneficiaries of the digital economy. I have made the case that the field of Human-Computer Interaction (HCI) must urgently confront the role it plays in, and its responsibility towards, growing economic inequality. In response, this research was conceived as a critical and constructive inquiry into how the practice of technology design can be reshaped to serve the ends of economic justice, community wealth building (CWB) and the solidarity economy (SE).

The journey across the preceding chapters has moved systematically from establishing a theoretical foundation, through methodological design, to empirical diagnosis and intervention. Chapter 2, the literature review, constructed the essential interdisciplinary framework for this research, arguing that the persistent gap between HCI’s justice-oriented aspirations and its material outcomes can be addressed by integrating feminist HCI, participatory design and feminist economics. It positioned *subversion of form, content and time*, as a critical conceptual lens and methodological strategy for realigning design with the

principles of CWB and solidarity economies. This theoretical groundwork established the necessity of moving beyond the ‘master’s tools’ (Lorde, 1979) of HCI design to create methods that actively foster economic justice.

In Chapter 3, I translated this theoretical commitment into a rigorous methodological practice. Grounded in a feminist HCI orientation and activated through radical participatory design (RPD), the chapter detailed a two-stage, iterative research design. This approach ensured the research process itself embodied the co-operative and feminist values under investigation, from the initial exploratory engagement (Stage 1) to the participatory co-creation workshops (Stage 2). From the start, the methodology was framed as a political and ethical practice, prioritising community leadership, pluralism and a ‘resist and build’ praxis. This approach to research design established the conditions for the empirical work to be both critically insightful and aligned with grassroots agency.

It was on this foundation that the empirical investigation unfolded. Chapter 4, the scoping study, established a foundational paradox and my starting point in the empirical part of the research journey: digital platforms like Open Collective and Circles UBI, despite emancipatory intentions, often inadvertently replicated the inequalities they seek to resolve, constrained by the inherited logics of Silicon Valley's design culture. This diagnosis necessitated a move beyond critiquing technological artifacts to critiquing the processes that produce them. Through Chapter 5 I set out and advanced a methodological intervention, demonstrating how the deliberate subversion of a conventional design method, example mapping, into solidarity mapping could reshape the design processes and methods of HCI to prioritise co-operative principles and community ownership. Chapter 6 targeted the temporal dimension of this problem, critiquing the speed-driven logic of the design sprint and introducing the co-created Pick-a-Pebble (PaP) method to enact a feminist, co-operative temporality, what I term community time.

Finally, Chapter 7 synthesised these strands to argue that addressing extreme economic inequality requires HCI to expand its focus beyond what we design to include how, for whom, with whom and at whose pace we design. This discussion chapter contended that this necessitates a triple subversion, of design methods’ form, content and speed, grounded in feminist and co-operative principles. This concluding chapter now draws together the threads of this entire inquiry. It provides synthesised answers to the research questions, consolidates the thesis’s contributions to knowledge, reflects on its implications for HCI and DLT research, addresses its limitations and points toward essential future work. In doing so, it reaffirms the

core argument of this thesis: that reclaiming design for economic justice is a political and practical endeavour, one that transforms design from a tool of extraction into an instrument of solidarity.

8.2 Answering the research questions

This research has been guided by four interrelated questions. Below, I now return to these questions to offer synthesised answers.

RQ1: What is the role of emerging distributed ledger and peer-to-peer network technologies in the establishment of (micro) hyper-local economies?

The role of DLTs is not deterministic but contingent. My comparative analysis demonstrates that the digital infrastructure, whether a blockchain or a standard database, is not the primary factor in a platform's sustainability or equity. The technical capabilities of DLTs (decentralisation, transparency, tokenisation) are necessary but insufficient for building resilient hyper-local economies. The case of Circles UBI illustrates the fragility of technically sophisticated models that lack resilient, community-led governance and long-term commitment to community development. Its sudden end in Berlin was not a technical failure but a socio-governance one. Therefore, the role of DLTs is potential rather than guaranteed; they can enable hyper-local economies if and only if, their design and governance are subordinated to community-defined principles and rhythms. Their true potential lies not in inherent decentralisation, but in their capacity to be designed for democratic oversight and inclusion in the way they are made. This requires embedding them within a robust social and political shift to community ownership, a move that would also contribute to community wealth building, thus strengthening local economies.

RQ2: How can feminist scholarship and practice around economics and HCI help inform the design strategies of new digital platforms for collaborative funding?

Feminist scholarship provides an indispensable, practical and ethical way of thinking about what it means to subvert dominant design strategies and how to do so. It moves beyond critique to offer concrete mechanisms for change. Feminist HCI, through qualities like pluralism, participation and advocacy (Bardzell, 2010), shifts the focus from usability to power dynamics, ensuring design accommodates diverse voices and redistributes epistemic authority. Feminist economics, particularly Gibson-Graham's (2006) diverse economies

framework, makes visible and viable economic logics of difference, possibility, care, reciprocity and mutual aid, challenging the “capitalocentric” assumptions that often underpin platform design. In practice, this informed the subversion of example mapping into solidarity mapping (subverting form and content) and the design sprint subversion through creation of the Pick-a-Pebble method (subverting time). Feminist scholarship thus informs design strategies by insisting that the process itself must be a site of justice, prefiguring the co-operative relations the platform aims to support.

RQ3: How do these technologies compare to other existing grass-roots community accounting platforms based on conventional network technologies?

The comparison reveals that governance, ownership and temporality outweigh technology. Open Collective’s resilience, despite using conventional technologies, emerged from its deliberate “exit to community” process and in some ways, its alignment with “community time.” Its continued existence, even with a few problems along the way, stems from a lot of effort put in community-shared governance and a commitment to long-term stewardship over technical novelty. In contrast, DLT projects like Circles UBI faltered because they were short-lived. Without sustained financial support, they could not foster the community development necessary for the success. The key finding is that sustainability and equity depend less on technical architecture (e.g., decentralised vs. centralised) and more on social factors: who owns and controls the platform, how decisions are made and whether the design process respects community temporalities. A conventionally designed platform with strong co-operative governance is more likely to succeed than a decentralised platform with weak or misaligned governance.

RQ4: How can the co-design of technologies/platforms/prototypes support fair, inclusive co-operative economies?

Co-design can support fair, inclusive co-operative economies by becoming a prefigurative practice of those very economies. It cannot stop at consultation or requirements gathering. My research demonstrates that for co-design to be effective, it must actively subvert mainstream paradigms. Through methods like solidarity mapping and Pick-a-Pebble, co-design can:

1. Redistribute power: By shifting agency from designers to participants, using multiple modes of engagement (multilingual, visual, etc) and rotating facilitation.

2. Embed ethical integrity: By transforming language from "rules" to "guiding principles" and from "questions" to "reflections," thereby embedding co-operative and feminist values into the fabric of design conversations.
3. Reclaim time: By rejecting accelerated schedules and embracing "community time," creating space for trust-building, deliberation and inclusion.

Thus, the co-design process itself becomes a site for practising solidarity, democratic governance, and collective stewardship. By co-producing a tool and, more importantly, by building the community's capacity for self-determination, it reinforces the social relations that underpin co-operative economies.

8.3 Consolidating the contributions to knowledge

With the research questions addressed, the following section consolidates this thesis's multi-faceted contributions to the intersection of HCI, participatory design and economic justice. My goal is for these theoretical, methodological and empirical contributions to serve as a resource that informs and inspires HCI scholars and practitioners seeking to embed justice and co-operation into their design work.

8.3.1 Theoretical contributions

First, in this research I theorise subversion as a core design approach and strategy for justice-oriented HCI. Drawing on Audre Lorde and Amos Vogel, I frame subversion as a foundational political practice, distinct from a tactical tweak. Design methods subversion here involves a triple re-forging: starting with the form (the structures and materials of methods) and content (their language and objectives). In this thesis, I extend this by arguing for a third, crucial dimension: the subversion of time. This triadic framework provides the coherent theoretical lens I use for analysing and transforming design methods.

Second, it theorises temporality as a political infrastructure. The concept of community time, developed from feminist economics (Bastian, 2014; Gibson-Graham, 2006) and slow tech scholarship, reframes time from a neutral resource to be optimised into a collective foundation for democratic practice. It directly challenges the "move fast and break things" ethos of

Silicon Valley way of doing things, positing slowness, deliberation and temporal agency as necessary conditions for equitable participation and sustainable outcomes.

Third, the thesis bridges disciplinary silos. It creates a robust theoretical framework by synthesising Feminist HCI, RPD and SE theory. This synthesis allows for a more nuanced analysis of socio-technical systems, where technological affordances, design methods and economic principles are understood as interconnected. This bridges the gap between critical technical practice and on-the-ground economic organising.

Finally, it advances the concept of "designing otherwise" (DiSalvo, 2022). It moves beyond critiquing solutionism to propose a positive construct for design grounded in care, co-operation and prioritising community wealth building. It theorises a shift from designing for communities to designing with them and ultimately toward a future where technology is designed by community, for community.

8.3.2 Methodological contributions

The primary methodological contribution is the development, enactment and critical reflection on two novel design methods: solidarity mapping and Pick-a-Pebble.

1. Solidarity mapping introduces the subversion of content and form. It transforms the agile method of example mapping by replacing its product-centric prompts ("rules, stories, examples") with community-oriented ones ("guiding principles, scenarios, reflections"). Its use of multilingual, multimodal A3 templates challenges the Anglocentric and text-based norms of mainstream HCI, enabling a more pluralistic and accessible participation.
2. Pick-a-Pebble tests the subversion of time. It offers a feminist alternative to the design sprint, using tangible pebbles as symbolic markers to ritualise care, deliberation and shared responsibility. Its cyclical, adaptive structure embodies community time, redistributing temporal authority and challenging the accelerated, facilitator-driven tempo of mainstream innovation practices.

Building on each-other, these methods contribute a "how-to" for re-politicising PD. They demonstrate that methods can be consciously designed to embed redistribution, solidarity and democratic agency directly into their structure. Furthermore, the thesis contributes a stance of methodological emergence and reflexivity, treating unpredictability and messiness not as

research failures but as vital sources of validity and insight, in line with feminist STS scholarship.

8.3.3 Empirical contributions

The empirical contributions arise from the in-depth analysis of real-world cases and participatory engagements. The scoping study (Chapter 4) provides a critical analysis of DLT initiatives like Circles UBI and Culture Stake, highlighting the persistent gap between emancipatory rhetoric and socio-technical reality. The detailed study of Open Collective offers a positive counter-model, showing how a focus on community exit and governance leads to resilience. The workshops with co-operatives and community land trusts (Chapters 5 & 6) yield rich, qualitative insights into the practical challenges and possibilities of practising radical PD. They document how participants reinterpret and reclaim design tools, turning them into mechanisms for negotiating resource allocation and defining communal priorities. These empirical findings ground the theoretical and methodological contributions in the lived realities of communities striving for economic democracy.

8.4 Implications for research and practice

By offering new theoretical, methodological and empirical perspectives, as outlined above, this thesis aims to make a positive contribution to HCI, DLT studies and design practice. The following section details actionable steps for applying these contributions.

For HCI, this research necessitates a fundamental pivot. It calls for a shift:

- **From usability to political economy:** HCI must move beyond asking "Is it usable?" to ask "Who owns it? Who governs it? Who benefits from it?" This requires engaging with questions of ownership, resource distribution and economic models.
- **From user-centred design to collective stewardship:** The focus must expand from individual users to communities, framing design as an ongoing relational practice of co-development, co-ownership and co-governance.
- **From interface optimisation to infrastructural justice:** The field's attention should shift from refining UI elements to designing the underlying protocols and governance

models of digital systems, ensuring they encode values of solidarity and mutual aid rather than extraction.

For DLT Research, the implication is to abandon technological determinism. The key question is not how to make blockchain more usable for individuals, but how to harness its affordances for infrastructural mutualism (Swartz, 2018). This means designing DLTs within co-operative frameworks, exploring tokenisation for mutual credit systems and developing consensus mechanisms that are equitable and sustainable. HCI's role is to mediate between technical affordances and community values, guiding DLT away from speculation and toward its potential as an infrastructure for economic democracy.

For PD, this thesis is a call to reclaim its radical roots. Central to this is the RPD meta-methodology, understood not as extremity but in its original etymological sense of *radix*, or 'root.' This research embeds the grassroots in the participatory design, reclaiming its radical potential as a practice rooted in community, care and collective agency. It further argues that PD needs to be considered through its economic dimension, a move from consultation to redistribution. This means embedding mechanisms for shared intellectual property, commons-based licensing, shared ownership and democratic governance directly into the design process. The methods of solidarity mapping and Pick-a-Pebble offer concrete starting points for this reorientation.

8.5 Critical reflection on limitations

While this research charts new pathways for equitable design, it is crucial to acknowledge its limitations, which reflect systemic as well as procedural constraints.

In reflecting on this work, I acknowledge its limitations in scale and scope. The relatively small dataset means the findings are a starting point rather than a definitive conclusion. The methodology itself was a core part of the learning; by co-developing methods in response to immediate tensions, I gained deep, situated understanding but sacrificed some transferability. This is the essential tension I navigated: being truly responsive to a specific community while aiming to produce knowledge that resonates more broadly. I see this not as an endpoint, but as a prototype that requires further iteration and testing across wider co-operative and solidarity economy contexts to validate and refine insights, ultimately, to strengthen the evidence and explore its applicability under diverse conditions.

Another key limitation was the reliance on unpaid labour and limited material support. Like many community-led initiatives, the participatory methods depended on the emotional and intellectual labour of participants, all of which was uncompensated. This dynamic risks reproducing the extractive patterns the research sought to challenge, privileging those with economic security while excluding those for whom participation would be a financial burden. Lack of sustained funding constrained the ability to offer stipends, childcare, or other forms of support, which would have enabled broader and more equitable participation. These challenges underscore the broader structural inequalities that participatory design must contend with.

On the other hand, the research was shaped by my own positionality as a researcher embedded in the process through my membership in the CASH CLT, as well as my familiarity with artists leading the Culture Stake case study. While reflexivity was a core commitment, my proximity to the community and some of the explored case studies, undoubtedly influenced the dynamics of workshops, interviews and the interpretation of data. This highlights the need for future work to incorporate more multi-perspective analysis and long-term co-researcher relationships.

Finally, there are completely unexplored dimensions emanating from the findings due to scope and scale of this research. The research did not fully address neuroinclusion, adapting methods for diverse cognitive and communication styles. Similarly, while facilitation emerged as a critical site of power and care, it could not be investigated in the depth it deserves as a form of feminist infrastructure. While this research charts new pathways for more equitable and community-led design, it also surfaced significant tensions that highlight its core limitations. The issues are not limited to practical or procedural matters; they reflect systemic constraints that methodological innovation cannot resolve on its own. The very act of designing for equity, solidarity and economic justice exposed the structural conditions that continue to shape who can participate, how knowledge is valued and what timelines are feasible.

8.6 Future directions

The limitations identified in the previous section point to clear directions for future research. Addressing the constraints of scale, unpaid labour and structural inequities requires methodological approaches expanded to encompass deeper engagement with the co-operative

movement. Future work can build on the insights of this study by testing the approach in larger and more varied contexts, experimenting with ways to sustain equitable participation and developing strategies that align academic timelines with the slower rhythms of community collaboration. By explicitly attending to these tensions, subsequent research can both strengthen the evidence base and advance more just, inclusive and community-led design practices.

An immediate opportunity for this work is a knowledge exchange (KE) secondment with the CASH community land trust from October 2025 to January 2026. This work will involve further testing and collaborative development of the solidarity mapping and PaP methods, while investigating the use of free software tools. The primary aim is to understand the potential conditions for a digital platform co-operatively owned by the CLT and wider housing co-operative networks of South London. This project will serve as a critical case study for examining the themes of design, participation and engagement levels in a real-world co-operative context.

For the broader HCI and PD communities, this study underscores the critical importance of engaging with the co-operative movement. Co-operatives represent existing, viable models of democratic ownership and governance that directly challenge the extractive logics of platform capitalism. They offer HCI a rich, yet under-explored, domain for studying and designing socio-technical systems rooted in solidarity and equity, rather than surveillance and profit. Future research is urgently needed to develop a robust "HCI for the Solidarity Economy" that can learn from, support and scale these alternatives. Researchers could, for instance, conduct comparative studies of digital platforms across different co-operative sectors (e.g., housing, energy, care) or design tools specifically for managing democratic decision-making at scale.

Finally, one promising avenue for future research lies in the deeper study of facilitation as feminist infrastructure. Too often, facilitation is treated as a logistical necessity in participatory design, but it is rarely examined as a site of political and ethical intervention. Feminist scholarship, particularly in HCI and STS, positions facilitation as a form of invisible labour that mediates access, agency and relational safety (Suchman, 2007; Ahmed, 2017). In this light, facilitation is a central concern in PD and collaborative processes. It shapes who speaks, who feels heard and whose knowledge is legitimised. The CASH CLT secondment will provide a grounded setting to investigate these questions, specifically exploring how different facilitation styles, such as directive, consensus-based, consent-based and emergent models, affect power distribution and engagement, especially in groups with mixed levels of

technical expertise or social capital. Key questions include: What facilitation practices foster epistemic justice, particularly for neurodivergent, racialised, or economically marginalised participants? And how does facilitation shape the collaborative development of a shared digital asset?

Another critical dimension is emotional labour. Facilitators often absorb the affective tensions of group dynamics, managing conflict, soothing anxieties and holding space for vulnerability. This labour is essential to trust-building but frequently goes unrecognised and uncompensated. Research within the secondment could explore how emotional labour is distributed, valued and supported within the co-operative design process of the digital platform, and how it intersects with gender, race and class.

By centring facilitation as feminist infrastructure, future research, exemplified by the work with CASH CLT, can move beyond method to interrogate the process that makes participation meaningful. This work would extend the methodological contributions of this study while helping to institutionalise design justice practices in sustainable, inclusive and emotionally intelligent ways. Through these avenues, future research can move from diagnosing systemic inequities to actively constructing the conditions necessary to overcome them. In doing so, it expands the ambition of this study: to both theorise and document equitable design practices and to build the infrastructures and frameworks that make such practices sustainable, inclusive and materially just.

8.7 Concluding remarks: Reclaiming design as a practice of solidarity

In this thesis I argued that the path to addressing economic inequality through technology does not lie in better or more efficient design, but in a fundamentally different kind of design practice. It requires a conscious and sustained subversion of the methods, logics and tempos that have traditionally defined HCI. By melting down the “master's tools,” the dominant methods of participatory design and agile development and recasting them through the principles of feminism and co-operation, this research has sought to contribute to a new approach for design justice.

The journey from critiquing the paradoxes of DLT platforms to co-creating methods like Pick-a-Pebble demonstrates that another way is possible. It is a way that moves slowly, deliberately and collectively. It prioritises care over efficiency, stewardship over ownership and

deliberation over speed. It understands that building democratic economic futures is not a five-day sprint but a long-term, relational practice.

In an era defined by the relentless acceleration of platform capitalism, perhaps the most radical intervention available to HCI is to simply slow down. To create the temporal and material space for communities to articulate their own needs, on their own terms. This thesis has been an attempt to theorise, methodologically instantiate and empirically ground that slowing down. It concludes with the conviction that reclaiming design for economic justice is not a technical challenge, but a political and ethical one. It is the work of building infrastructures of solidarity, from the first workshop prompt to the final line of code and in doing so, transforming design from a service for communities into a practice of community itself.

APPENDIX A Stage 1: Scoping study

A.1 Interviews ethics approval application

Ethics ETH2122-0778: Ms Larisa Blazic (Low risk)

Date Created	13 Dec 2021
Date Submitted	17 Jan 2022
Date forwarded to committee	02 Feb 2022
Academic Staff	Ms Larisa Blazic
Student ID	210042267
Category	Doctoral Researcher
Supervisor	Dr Alex Taylor
Project	Community wealth building through digital tools for collaborative funding
School	School of Science & Technology
Department	Department of Computer Science
Current status	Approved

Ethics application

Risks

R1) Does the project have funding?

No

R2) Does the project involve human participants?

Yes

R3) Will the researcher be located outside of the UK during the conduct of the research?

No

R4) Will any part of the project be carried out under the auspices of an external organisation, involve collaboration between institutions, or involve data collection at an external organisation?

No

R5) Does your project involve access to, or use of, terrorist or extremist material that could be classified as security sensitive?

No

R6) Does the project involve the use of live animals?

No

R7) Does the project involve the use of animal tissue?

No

R8) Does the project involve accessing obscene materials?

No

R9) Does the project involve access to confidential business data (e.g. commercially sensitive data, trade secrets, minutes of internal meetings)?

No

R10) Does the project involve access to personal data (e.g. personnel or student records) not in the public domain?

No

R11) Does the project involve deviation from standard or routine clinical practice, outside of current guidelines?

No

R12) Will the project involve the potential for adverse impact on employment, social or financial standing?

No

R13) Will the project involve the potential for psychological distress, anxiety, humiliation or pain greater than that of normal life for the participant?

No

R15) Will the project involve research into illegal or criminal activity where there is a risk that the researcher will be placed in physical danger or in legal jeopardy?

No

R16) Will the project specifically recruit individuals who may be involved in illegal or criminal activity?

No

R17) Will the project involve engaging individuals who may be involved in terrorism, radicalisation, extremism or violent activity and other activity that falls within the Counter-Terrorism and Security Act (2015)?

No

Applicant & research team

T1) Principal Applicant

Name

[Ms Larisa Blazic](#)

T2) Co-Applicant(s) at City

T3) External Co-Applicant(s)

T4) Supervisor(s)

[Dr Alex Taylor](#)

[Dr Sara Heitlinger](#)

T5) Do any of the investigators have direct personal involvement in the organisations sponsoring or funding the research that may give rise to a possible conflict of interest?

No

T6) Will any of the investigators receive any personal benefits or incentives, including payment above normal salary, from undertaking the research or from the results of the research above those normally associated with scholarly activity?

No

T7) List anyone else involved in the project.

N/A

Project details

P1) Project title

Community wealth building through digital tools for collaborative funding - Interviews

P1.1) Short project title

Experts interviews

P2) Provide a lay summary of the background and aims of the research, including the research questions (max 400 words).

BACKGROUND

The 2008 financial crises coincided with the invention of the Blockchain technology, a digital ledger for online payments sent directly from one party to another without going through a financial institution (Nakamoto, 2008). While this peer-to-peer infrastructure was supposed to give the "under-banked" access to money thus addressing economic inequality, it created massive concentration of cryptocurrency wealth that reproduces levels of inequality found in traditional forms of capital (Chohan, 2019). To counter this problem, a number of blockchain based projects experimented with collaborative models (Hassan et al, 2017; Catlow et al 2019; Utratel et al, 2019) testing its potential for more equitable economic environment. Simultaneously, a range of projects emerged (Irving et al, 2013) widening this frame to argue the equitable economic models do not require blockchain technology. I will investigate these projects with particular focus on their potential in addressing economic inequality for collective benefit in fair, inclusive, sustainable and accountable ways.

This specific study investigates the use of collaborative and cooperative funding platforms by small community-focused organisations. I will interview participants in 4-8 of these organisations (i.e. experts) to determine how these platforms are being used, what the overall motivations are and whether there are any perceived problems.

AIMS

The purpose of these in-depth interviews is to form a base for more accurate investigation in the next stages of research and help devise co-design experiments through conversations with people making and using platforms identified for study (Culture Stake, Open Collective, CoBudget, Commonfare, Circles UBI).

The interviews are also aimed at community engagement for the later stages of the research.

RESEARCH QUESTIONS

Semi-structured interviews will focus on two main areas:

1. Community wealth:

- How does it connect to collaborative and cooperative funding platforms?

2. Platform:

- How platforms work and how are they made?
- How do they work for people using platforms?
- What is the scope for co-design of such platforms?

RESULTS

Based on these interviews I intend to create a range of empirical studies focused on participatory (i.e. co-design) experiments with general public later this year and in 2023 based on learning from the interviews we make. All generated and collected materials will be later used to theorise around connections between Feminist economics and community wealth building aimed to expand our understanding of human-computer interaction. Some of the materials may be presented in public setting (such as academic conference and/or academic paper).

P4) Provide a summary and brief explanation of the research design, method, and data analysis.

RESEARCH DESIGN

In this stage of PhD research and after initial literature review aimed at analysis and methodological framework development, I will start exploratory qualitative research in form of semi-structured interviews. Due to ongoing pandemic, all interviews will be conducted online (via Zoom or Teams) and recorded for later data analysis. The interview period is planned to last for approximately 7 months – from participant recruitment, data collection, documentation to early stages of data analysis.

- Participants recruitment and scoping interviews with:

- Furtherfield (Culture Stake), Dyne.org (Commonfare), Enspiral (Co-budget), Open Collective, etc.

- Data collection:

- In the period between February and September 2022 we will organise one or two 1-2hrs long recorded online interviews – depending on participants' availability. The first one is to cover introductions and initial conversations about the subject and the second to follow up on issues arising from the first interview/conversation. The second may also take a form of email – if this is preferred method of communication.

- All participants will be provided with Participant Information Sheet and Informed consent form prior to the interviews.

◦ Data will be stored according to GDPR guidelines and destroyed following City's current destruction policy.

RESEARCH METHOD

Individual semi-structured interviews seem most appropriate in the early stages of this research to gather expert insights and make a determination how these platforms are being used, what the overall motivations are and whether there are any perceived problems. It will consist of a set of specified questions, open to following unexpected leads to allow for interviewees' expertise to fully surface. I plan to send questions to interviewees ahead of time, open to feedback, to allow for 'co-construction' of questions Glesne's (2016) thus inviting for a conversation on more equal footing.

DATA ANALYSIS

The video/audio recordings of the interviews analysis follows a well established form of critical qualitative research model, reflective thematic analysis (Braun & Clarke, 2006, 2012, 2013). "The purpose of thematic analysis (TA) is to identify patterns of meaning across a dataset that provide an answer to the research question being addressed. Patterns are identified through a rigorous process of data familiarisation, data coding, and theme development and revision." (ibid) This data analysis method seem to fit well with theoretical framework in focus, by using reflexivity – process well established in Feminist scholarship (Lumsden, 2018) as a vehicle to study power (Ackerly & True, 2008) and power relations as well as keeping researcher in check.

Data familiarisation

1. Watching videos and taking notes to identify themes.
2. If needed, refining questions for the second interview.

Coding:

1. Transcript – I will use Kdenlive software using VOSK speech models for automatic speech recognition that will create first transcription of the interviews. Transcript will then be checked for errors and time stamps. https://docs.kdenlive.org/en/effects_and_compositions/speech_to_text.html
2. Coding videos – I will use QualCoder software that allows for categorising conversations by creating annotations and attributes relevant for the study. <https://github.com/ccbogel/QualCoder/wiki/09-Coding-audio-and-video>
3. Labelling (content analysis) – QualCoder will be also useful to label words, phrases, sentences and sections as well as actions, activities, concepts, differences, opinions, processes.

Theme development:

1. Searching for & reviewing themes – During this part I will seek to understand thinking behind software design and development, how people using are experiencing interaction with platforms, whether there is desire to engage in co-designing those platforms and how, as well as how community wealth building is interpreted in relation to these platforms by all participants. Lastly, this part will be useful to identify important events, persons and situations from which I may be able to draw on in the next stage of research.
2. Defining and naming themes – These will be created according to theoretical framework.
3. Summary – besides describing relationships and connections between categories and information collected in written form, I will draw a figure to summarise results pointing to next stages of research.

Results:

1. A description of results, how they are connected and how they influence study development
2. Discussion of results, how they connect to theories and concepts in the field such as wealth, commons, value, governance, etc.

Reference list:

- Chohan, U.W., 2019. Cryptocurrencies and inequality. Notes on the 21st Century (CBRI).
- Hassan, S. et al, 2017. Decentralized Blockchain-based Organizations for Bootstrapping the Collaborative Economy. Available at: https://www.dropbox.com/s/c9lyx0r6lq3fw7p/whitepaper_p2pmodels.pdf?dl=0 (Accessed: 1 March 2021).
- Catlow et al, 2019. DECAL [online] Available at: <https://decal.furtherfield.org/about/> (Accessed: 10 April 2021)
- Utratel et al, 2019. DisCO [online] Available at: <https://disco.coop/about/> (Accessed: 10 April 2021)
- Glesne, C., 2016. Making Words Fly: Developing Understanding through Interviewing in Becoming qualitative researchers : an introduction. Boston: Pearson.
- Lumsden, K., 2020. Reflexivity: Theory, Method and Practice. 1st ed. London: Routledge.
- Ackerly, B., & True, J., 2008. Reflexivity in Practice: Power and Ethics in Feminist Research on International Relations. *International Studies Review*, 10(4), 693–707. <http://www.jstor.org/stable/25482017>

P4.1) If relevant, please upload your research protocol.

P5) What do you consider are the ethical issues associated with conducting this research and how do you propose to address them?

Besides data anonimisation, data storage and future use of data in research and publishing, there are no ethical issues associated with this research.

P6) Project start date

The start date will be the date of approval.

P7) Anticipated project end date

01 Sept 2022

P8) Where will the research take place?

Online.

P10) Is this application or any part of this research project being submitted to another ethics committee, or has it previously been submitted to an ethics committee?

No

Human participants: information and participation

The options for the following question are one or more of:

'Under 18'; 'Adults at risk'; 'Individuals aged 16 and over potentially without the capacity to consent';

'None of the above'.

H1) Will persons from any of the following groups be participating in the project?

None of the above

H2) How many participants will be recruited?

15

H3) Explain how the sample size has been determined.

Sample size is determined by initial scoping of the field, based on which I created the interviewee list.

The number of anticipated interviews is from 10 to 15.

H4) What is the age group of the participants?

Lower Upper

18

H5) Please specify inclusion and exclusion criteria.

No under 18.

No other exclusion.

H6) What are the potential risks and burdens for research participants and how will you minimise them?

Interviews will be limited to 2 hrs with breaks.

H7) Will you specifically recruit pregnant women, women in labour, or women who have had a recent stillbirth or miscarriage (within the last 12 months)?

No

H8) Will you directly recruit any staff and/or students at City?

None of the above

H8.1) If you intend to contact staff/students directly for recruitment purpose, please upload a letter of approval from the respective School(s)/Department(s).

H9) How are participants to be identified, approached and recruited, and by whom?

I have identified participants as leading experts in the field based on literature review, scoping the field of practice as well as proposed PhD research case studies. I will approach and recruit all participants via email.

H10) Please upload your participant information sheets and consent form, or if they are online (e.g. on Qualtrics) paste the link below.

H11) If appropriate, please upload a copy of the advertisement, including recruitment emails, flyers or letter.

H12) Describe the procedure that will be used when seeking and obtaining consent, including when consent will be obtained.

I will obtain consent.

A copy of consent form will be emailed to all invited participants before scheduled interviews.

Participants will receive participant information sheet after initial contact and expression of interest in participation.

Participants will have at between 4 weeks and 2 days from initial contact to receiving consent form (as final stage of agreement before the interview).

H13) Are there any pressures that may make it difficult for participants to refuse to take part in the project?

No

H14) Is any part of the research being conducted with participants outside the UK?

Yes

Human participants: method

The options for the following question are one or more of:

'Invasive procedures (for example medical or surgical)'; 'Intrusive procedures (for example psychological or social)'; 'Potentially harmful procedures of any kind'; 'Drugs, placebos, or other substances administered to participants'; 'None of the above'.

M1) Will any of the following methods be involved in the project:

None of the above

M2) Does the project involve any deceptive research practices?

No

M3) Is there a possibility for over-research of participants?

No

M4) Please upload copies of any questionnaires, topic guides for interviews or focus groups, or equivalent research materials.

M5) Will participants be provided with the findings or outcomes of the project?

Yes

M5.1) Explain how this information will be provided.

Participants will be given the option to receive notification of any published research paper via email or post. Personal data for this purpose will be stored in a password protected document on an encrypted device.

M6) If the research is intended to benefit the participants, third parties or the local community, please give details.

The research is intended to bring together participants knowledge on software design, development and community use cases. This information may be beneficial to all participants to reflect on their software design, development, community engagement and wider economic implications of their work and practice.

M7) Are you offering any incentives for participating?

No

M8) Does the research involve clinical trial or clinical intervention testing that does not require Health Research Authority or MHRA approval?

No

M9) Will the project involve the collection of human tissue or other biological samples that does not fall under the Human Tissue Act (2004) that does not require Health Research Authority Research Ethics Service approval?

No

M10) Will the project involve potentially sensitive topics, such as participants' sexual behaviour, their legal or political behaviour, their experience of violence?

No

M11) Will the project involve activities that may lead to 'labelling' either by the researcher (e.g. categorisation) or by the participant (e.g. 'I'm stupid', 'I'm not normal')?

No

Data

D1) Indicate which of the following you will be using to collect your data.

Interviews

Audio/digital recording interviewees or events

Video recording

D2) How will the the privacy of the participants be protected?

Anonymised sample or data

D3) Will the research involve use of direct quotes?

Yes

D5) Where/how do you intend to store your data?

Password protected computer files

Storage on encrypted device (e.g. laptop, hard drive, USB)

D6) Will personal data collected be shared with other organisations?

No

D7) Will the data be accessed by people other than the named researcher, supervisors or examiners?

Yes

D7.1) Explain by whom and for what purposes.

Interviews, or parts of interviews, may be made publicly available as part of dissemination of the research. This is subject to approval by the interviewees - as part of consent form.

D8) Is the data intended or required (e.g. by funding body) to be published for reuse or to be shared as part of longitudinal research or a different/wider research project now or in the future?

No

D10) How long are you intending to keep the research data generated by the study?

10 years, in line with City's institutional guidelines.

D11) How long will personal data be stored or accessed after the study has ended?

For up to 2 years, to allow participants to be sent details of any research outputs if published.

D12) How are you intending to destroy the personal data after this period?

Following City's current destruction policy.

Health & safety

HS1) Are there any health and safety risks to the researchers over and above that of their normal working life?

No

HS3) Are there hazards associated with undertaking this project where a formal risk assessment would be required?

No

Attached files

ETH2122-0778-050122-Informed-consent.pdf

ETH2122-0778-050122-Participant-Information-Sheet.pdf

ETH2122-0778-recruitment-invitation.pdf

ETH2122-0778-22122021-questions-draft-ethics.pdf

A.2 Consent form

Title of Study:

Community wealth building through digital tools for collaborative funding – interviews

Name of principal investigator:

Larisa Blazic

Telephone Number:

[REDACTED]

REC reference number

ETH2122-0778

Please tick
or
initial box

1.	I confirm that I have read and understood the participant information dated [ETH2122-0778; January 2022] for the above study. I have had the opportunity to consider the information and ask questions which have been answered satisfactorily.	
2.	I understand that my participation is voluntary and that I am free to withdraw without giving a reason without being penalised or disadvantaged.	
3.	I agree to my participation in interviews being audio recorded.	
4.	I agree to my participation in interviews being video recorded.	
5.	I agree to my participation in interviews being photographed/screenshot.	
6.	I give permission for my sound and/or image recording to be used in public settings (e.g. presentations, exhibitions, websites, publications).	
7.	I want my real name used in presentations, exhibitions, websites, publications relating to this work, rather than being anonymised.	
8.	I understand that I will be able to withdraw my data up to two weeks after the recording.	
9.	I agree to City recording and processing this information about me. I understand that this information will be used only for the purpose(s) explained in the participant information and my consent is conditional on City complying with its duties and obligations under the General Data Protection Regulation (GDPR).	
10.	I would like to be informed of the results of this study once it has been completed and understand that my contact details will be retained for this purpose.	
11.	I agree to take part in the above study.	

Name of Participant Signature Date

Name of Researcher Signature Date

A.3 Participant information sheet

ETH2122-0778
January 2022

Title of study

Community wealth building through digital tools for collaborative funding - interviews

Name of principal investigator/researcher

Larisa Blazic

Invitation paragraph

We would like to invite you to take part in a research study. Before you decide whether you would like to take part it is important that you understand why the research is being done and what it would involve for you. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. You will be given a copy of this information sheet to keep.

What is the purpose of the study?

These interviews form a first stage of PhD research study to better understand how collaborative and cooperative funding platforms may be co-designed and developed with grassroots organisations that enable communities to manage resources for collective benefit in fair, inclusive, sustainable and accountable ways.

Semi-structured interviews will focus on two main areas:

1. *Community wealth:*
 - *How does it connect to collaborative and cooperative funding platforms?*
2. *Platform:*
 - *How platforms work and how are they made?*
 - *How do they work for people using platforms?*
 - *What is scope for co-design of such platforms?*

The purpose of these in-depth interviews is to form base for the next stages of research and help devise co-design experiments through conversations with people making and using platforms identified for study (Culture Stake, Open Collective, CoBudget, Commonfare, Circles UBI).

Why have I been invited to take part?

You are being invited to take part as you share an interest in experimenting with technologies for fairer economy, useful in exploration of community wealth building.

Do I have to take part?

Participation in the project is voluntary, and you can choose not to participate in part or all of the project. You can withdraw at any stage of the project without being penalised or disadvantaged in any way. It is up to you to decide whether or not to take part. If you do decide to take part you will be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason.

What will happen if I take part?

In the period between February and September 2022 we will organise one or two 1hrs long recorded online interviews – depending on your availability. The first one to cover introductions and initial conversations about the subject and the second to follow up on issues arising from the first interview/conversation. The second may also take a form of email – if this is preferred method of communication. If you do decide to take part you will be asked to sign a consent form.

Will my taking part in the study be kept confidential?

Your personal details (name, age and place of residence) will not be used in any of this material (unless you explicitly request that we include them). However, you should be aware that you may be identifiable in recordings, whether photographs, audio or video.

We will ask for your consent to collect and use this data. You are under no obligation to agree to any use with which you are uncomfortable. You can choose to specify whether particular forms of recording are acceptable or not (e.g. you can agree to audio recording but refuse consent for video recording). You can choose to limit how your data are used within the study (e.g. you can ask for your images not be used in presentations or publications).

Can I withdraw from the project?

You can withdraw at any stage without being penalised or disadvantaged. You are free to withdraw at any time and without giving a reason.

What are the possible disadvantages and risks of taking part?

I do not foresee any disadvantages or risks of taking part.

What are the possible benefits of taking part?

Your contribution will help create new knowledge and ideas around economic justice and its relationship to digital tools for collaborative funding.

Data privacy statement

City, University of London is the sponsor and the data controller of this study based in the United Kingdom. This means that we are responsible for looking after your information and using it properly. The legal basis under which your data will be processed is City's public task.

Your right to access, change or move your information are limited, as we need to manage your information in a specific way in order for the research to be reliable and accurate. To safeguard your rights, we will use the minimum personal-identifiable information possible (for further information please see <https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/lawful-basis-for-processing/public-task/>).

City will use your name and contact details to contact you about the research study as necessary. If you wish to receive the results of the study, your contact details will also be kept for this purpose. The only people at City who will have access to your identifiable information will be the project team. City will keep identifiable information about you from this study for 10 years after the study has finished.

You can find out more about how City handles data by visiting <https://www.city.ac.uk/about/governance/legal>. If you are concerned about how we have processed your personal data, you can contact the Information Commissioner's Office (ICO) <https://ico.org.uk/>.

What will happen to the results?

I intend to create a range of empirical studies focused on participatory (i.e co-design) experiments with general public later this year and in 2023 based on learning from the interviews we make. All generated and collected materials will be later used to theorise around connections between Feminist economics and community wealth building aimed to expand our understanding of human-computer interaction. Some of the materials may be presented in public setting (such as academic conference and/or academic paper). Your data will be treated in accordance with your specifications, as explained above.

Who has reviewed the study?

This study has been approved by City, University of London, Computer Science and Library & Information Science Proportionate Review Committee, Research Ethics Committee.

What if there is a problem?

If you have any problems, concerns or questions about this study, you should ask to speak to a member of the research team. If you remain unhappy and wish to complain formally, you can do this through City's complaints procedure. To complain about the study, you need to phone 020 7040 3040. You can then ask to speak to the Secretary to Senate Research Ethics Committee and inform them that the name of the project is **Community wealth building through digital tools for collaborative funding - interviews**.

You can also write to the Secretary at: Anna Ramberg, Research Integrity Manager, City, University of London, Northampton Square, London, EC1V 0HB or via email at: Anna.Ramberg.1@city.ac.uk

Insurance

City holds insurance policies which apply to this study. If you feel you have been harmed or injured by taking part in this study you may be eligible to claim compensation. This does not affect your legal rights to seek compensation. If you are harmed due to someone's negligence, then you may have grounds for legal action.

Further information and contact details

Larisa Blazic, [REDACTED]

Thank you for taking the time to read this information sheet.

A.4 Invitation to participate, recruitment

Headed paper

**Department of Computer Science
City, University of London**

PARTICIPANTS NEEDED FOR RESEARCH IN HCI

We are looking for volunteers to take part in a study of *digital tools, collaborative funding & community wealth building*.

As a participant in this study, you would be asked to take part in *an online interview*.

Your participation would involve *max 2 sessions*, each of which is *approximately 60 minutes*.

For more information about this study, or to volunteer for this study, please contact:

Larisa Blazic

at

Email: larisa.blazic@city.ac.uk

Supervisors:

Alex Taylor [REDACTED]

Sara Heitlinger [REDACTED]

This study has been reviewed by, and received ethics clearance through the (*insert name of committee here*), City, University of London.

If you would like to complain about any aspect of the study, please contact the Secretary to the Senate Research Ethics Committee on [REDACTED] or via email: [REDACTED]

City, University of London is the data controller for the personal data collected for this research project. If you have any data protection concerns about this research project, please contact City's Information Compliance Team at dataprotection@city.ac.uk

A.5 Interview questions

ETH2122-0778
January 2022

Academic Staff Ms Larisa Blazic
Student ID 210042267
Category Doctoral Researcher
Supervisors Dr Alex Taylor; Dr Sara Heitlinger
Project Community wealth building through digital tools for collaborative funding
School School of Mathematics, Computer Science & Engineering
Department Computer Science

SEMI-STRUCTURED Interview questions (preliminary)

Introduction:

- Introduce the study
- Introduce City
- Introduce myself
- Inform interviewee of confidentiality
- Inform interviewee of anonymity
- Inform interviewee of right not to answer a question if they do not wish to
- Inform interviewee of right to stop the interview at any time without jeopardy
- Get consent (written) to participate
- Get consent (written) for video/audio recording

Questions sample:

How projects work and how are they made?

- What is motivation behind your project?
- What was/is design process for the software development?
- If there was co-design – how did you include/involve broad range of voices in the development and design process?
- In which ways you've considered deliberation (if yes)?
- In which ways you've considered consensus – decision-making for the people using the software?
- In which ways you've considered ownership of your software/platform and in which way general public may become a shared-owner? I.e can your software be copied and installed on self-hosted hardware?
- Maintenance?
- What are top 3 issues to focus on when investigating human computer interaction within your project & why?

Icebreaker questions – what's your job and below?

Relationship with technology:

- On an average day when do you first start using technology?
- Day in the life – technology habits.

How project work for people using platform (Open Collective (Accountable), CoBudget, Circles)?

- When did you start using the platform?
- Why this platform?
- How did you hear about it?

- How did you know you could trust this platform?
- What need this way of working fulfils?
- What other tools or platforms you used to meet these needs?
- Please tell me a what was learning experience for you and your group members?
- What was difficult?
- What was easy?
- How did the platform help/hinder your & your group's mission?
- Did you make tweaks to your own process as result of using the platform?
- What is room for improvement?
- What are consequences for your economic situation as result of using this platform?

What is scope for co-design of such systems?

- If there was an opportunity to contribute to future development of the platform: what are the ways you see for including people in design & development process?
- Are any specific area you and your group would like to contribute to?
- How much time is needed for meaningful collaboration in software design and development?
- What are skills needed to make a contribution?
- What kind of design methods are employed currently and what is missing?
- Please describe modes of communication during design cycle?
- Please describe modes of deliberation during design cycle?
- How can communities help educate platform developers?
- What is exit to community and how does it effect the technology?
- How would you design for self-governance?
- How would you design for plurality of needs?
- How would you design for flexibility and future-proofing?
- How would you design for transparency and accountability?
- How would you design for shared ownership?
- How would you design for sustainability?
- How would you design for collaboration?
- How would you design for reflexivity and self-disclosure?
- How would you design for solidarity?
- How would you design for care?

Wealth redistribution and economic justice?

- What are the ways in which this platform may contribute to community wealth building and why?
- What is potential for these platforms to address economic inequality?
- What may present a problem?

Closing:

- Concluding statement
- Collect demographic information
- Thank the interviewees
- Inform them of what will happen after the interview
- Provide contact information if they need to contact City about the study

A.6 Focus group ethics approval amendment application

Ethics ETH2223-0344: Ms Larisa Blazic (Low risk)

Date Created	29 Sep 2022
Date Submitted	24 Oct 2022
Date of last resubmission	04 Nov 2022
Date forwarded to committee	01 Nov 2022
Academic Staff	Ms Larisa Blazic
Student ID	210042267
Category	Doctoral Researcher
Supervisor	Dr Alex Taylor
Project	Community wealth building through digital tools for collaborative funding
School	School of Science & Technology
Department	Department of Computer Science
Current status	Approved

Ethics application

Amendments

SA1) Types of modification/s

Change the design and/or methodology of the project, including changing or adding a new research method and/or research instrument

SA2) Details of modification

I seek to make a minor amendment to this study by adding a new research activity for the purpose of consolidating conclusions in the final stages of data analysis. Original study plan and research design: individual, semi-structured, expert interviews with maximum of 10 participants; had revealed the opportunity to set up a small focus group through which I can observe potential overlaps between projects, collect new data and deepen relationships with the participants. Therefore I have revised the expert interviews stage to include an online focus group session during which I will present initial findings from the analysis of the interview data, and evaluate these findings with the focus group participants.

Moreover, focus group to follow on from the initial expert interviews study aims to:

- synthesise body of knowledge after data analysis,
- gather feedback on the results,
- help with consolidation & conclusion of work done in this first study.

The online focus group session will last approximately one hour. Three experts, who already took part in the interviews, are invited to participate & confirmed their availability. The data collection (Teams meeting audio and/or video recording) and subsequent analysis (TA) will remain the same to ensure consistency across the process.

SA3) Justify why the amendment is needed

The amendment is needed because the participants expressed a desire to do a focus group together, and I saw this as an opportunity to co-evaluate and refine my findings in order to inform the future study. Therefore I need ethics approval for the addition to the interview stage.

SA4) Other information

N/A

SA5) Please upload all relevant documentation with highlighted changes

Project amendments

P1) Project title

Community wealth building through digital tools for collaborative funding

P2) Principal Applicant

Name

[Ms Larisa Blazic](#)

P3) Co-Applicant(s) at City

P4) External Co-Applicant(s)

P5) Supervisor(s)

[Dr Alex Taylor](#)

[Dr Sara Heitlinger](#)

Attached files

ETH2122-0778-amendment-supplement.pdf

ETH2122-0778-050122-Informed-consent.pdf

A.7 Preliminary data analysis, TA

Title of study

Community wealth building through digital tools for collaborative funding – interviews

Name of principal investigator/researcher

Larisa Blazic

REC reference number

ETH2122-0778

260922	TA Semi-structured interviews for Community wealth building through digital tools for collaborative funding Themes generated here are based on combination of researcher's interest (deductive) helping data organisation, development of codes as organisational tools, to maintain alignment with research questions, and keeping researchers' focus on theoretical frameworks such as feminist approaches, commons, solidarity economy, etc; and meaning gleaned from data itself (inductive), that help inform and direct theme generation, especially sub-themes.	
Themes	Sub-themes	Codes
Design process	Product design	Conversations (inside and outside projects)
		Wireframes, etc
	Software design	Team roles
		Tech stack
	Currency design	Value/promises
		Inflation
		Web of trust
	Problems	Lack of UX design
		Crisis in collaboration
		Fuzzy boundaries
		Team size & decision-making
Participation & co-design	Possibility for participation	Open Source/forking
		Education
		Community organising
	Resistance, barrier and/or tension	Specialist skills
		Frequent changes in team
		Time & resources shortages
		Difficulties building a good dev team who can support grassroots co-creation
Communication	Online	Clarifying expectations
		Assemblies – Jitsi
		Telegram
		Slack
	In person	Discord
		Design sprint
		Market

		Park
Facilitation & guidance	Positive view or experience	Part of thinking from the start – budget allocation
		Use internally
		Use with community
		Facilitation tools
	Negative view or experience	Lack of facilitation & guidance leading to variety of problems within team & wider community
Motivation & core values		Addressing economic injustice
		Growing Solidarity economy
		Decoupling work from wages
		Infrastructure of the Commons
		Redistribution of wealth
		Public art funding democratisation
		Decentralised financial services

A.8 Consent form

Title of Study:

Community wealth building through digital tools for collaborative funding – interviews (focus group)

Name of principal investigator:

Larisa Blazic

Telephone Number:

[REDACTED]

REC reference number

ETH2223-0344 (amendments)

Please tick
or
initial box

1.	I confirm that I have read and understood the participant information dated [ETH2223-0344; November 2022] for the above study. I have had the opportunity to consider the information and ask questions which have been answered satisfactorily.	
2.	I understand that my participation is voluntary and that I am free to withdraw without giving a reason without being penalised or disadvantaged.	
3.	I agree to my participation in interviews being audio recorded.	
4.	I agree to my participation in interviews being video recorded.	
5.	I agree to my participation in interviews being photographed/screenshot.	
6.	I give permission for my sound and/or image recording to be used in public settings (e.g. presentations, exhibitions, websites, publications).	
7.	I want my real name used in presentations, exhibitions, websites, publications relating to this work, rather than being anonymised.	
8.	I understand that I will be able to withdraw my data up to two weeks after the recording.	
9.	I agree to City recording and processing this information about me. I understand that this information will be used only for the purpose(s) explained in the participant information and my consent is conditional on City complying with its duties and obligations under the General Data Protection Regulation (GDPR).	
10.	I would like to be informed of the results of this study once it has been completed and understand that my contact details will be retained for this purpose.	
11.	I agree to take part in the above study.	

Name of Participant Signature Date

Name of Researcher Signature Date

A.9 Participant information

ETH2223-0344
November 2022

Title of study

Community wealth building through digital tools for collaborative funding – interviews (focus group amendment)

Name of principal investigator/researcher

Larisa Blazic

Invitation paragraph

I would like to invite you to take part in a research study. Before you decide whether you would like to take part it is important that you understand why the research is being done and what it would involve for you. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. You will be given a copy of this information sheet to keep.

What is the purpose of the study?

Following on from and as an extension of expert interviews, this study aims to:

- *synthesise body of knowledge after data analysis,*
- *gather feedback on the results,*
- *help with consolidation & conclusion of work done in the first study.*

The purpose of this focus group is to co-evaluate and refine findings in order to inform the future study.

Why have I been invited to take part?

You are being invited to take part as you share an interest in experimenting with technologies for fairer economy, useful in exploration of community wealth building.

Do I have to take part?

Participation in the project is voluntary, and you can choose not to participate in part or all of the project. You can withdraw at any stage of the project without being penalised or disadvantaged in any way. It is up to you to decide whether or not to take part. If you do decide to take part you will be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason.

What will happen if I take part?

We will convene an online meeting via Teams on 22/11/22 at 11am BST. The meeting will be approximately 60 minutes in length. The meeting will be recorded and automatically transcribed for later analysis. Data collection and analysis will remain the same as with previously conducted expert interviews to ensure consistency across the process.

Will my taking part in the study be kept confidential?

Your personal details (name, age and place of residence) will not be used in any of this material (unless you explicitly request that we include them). However, you should be aware that you may be identifiable in recordings, whether photographs, audio or video.

We will ask for your consent to collect and use this data. You are under no obligation to agree to any use with which you are uncomfortable. You can choose to specify whether particular forms of recording are acceptable or not (e.g. you can agree to audio recording but refuse consent for video recording). You can choose to limit how your data are used within the study (e.g. you can ask for your images not be used in presentations or publications).

Can I withdraw from the project?

You can withdraw at any stage without being penalised or disadvantaged. You are free to withdraw at any time and without giving a reason.

What are the possible disadvantages and risks of taking part?

I do not foresee any disadvantages or risks of taking part.

What are the possible benefits of taking part?

Your contribution will help create new knowledge and ideas around economic justice and its relationship to digital tools for collaborative funding.

Data privacy statement

City, University of London is the sponsor and the data controller of this study based in the United Kingdom. This means that we are responsible for looking after your information and using it properly. The legal basis under which your data will be processed is City's public task.

Your right to access, change or move your information are limited, as we need to manage your information in a specific way in order for the research to be reliable and accurate. To safeguard your rights, we will use the minimum personal-identifiable information possible (for further information please see <https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/lawful-basis-for-processing/public-task/>).

City will use your name and contact details to contact you about the research study as necessary. If you wish to receive the results of the study, your contact details will also be kept for this purpose. The only people at City who will have access to your identifiable information will be the project team. City will keep identifiable information about you from this study for 10 years after the study has finished.

You can find out more about how City handles data by visiting <https://www.city.ac.uk/about/governance/legal>. If you are concerned about how we have processed your personal data, you can contact the Information Commissioner's Office (IOC) <https://ico.org.uk/>.

What will happen to the results?

I intend to create a range of empirical studies focused on participatory (i.e co-design) experiments with general public later this year and in 2023 based on learning from the interviews we make. All generated and collected materials will be later used to theorise around connections between Feminist economics and community wealth building aimed to expand our understanding of human-computer interaction. Some of the materials may be presented in public setting (such as academic conference and/or academic paper). Your data will be treated in accordance with your specifications, as explained above.

Who has reviewed the study?

This study has been approved by City, University of London, Computer Science and Library & Information Science Proportionate Review Committee, Research Ethics Committee.

What if there is a problem?

If you have any problems, concerns or questions about this study, you should ask to speak to a member of the research team. If you remain unhappy and wish to complain formally, you can do this through City's complaints procedure. To complain about the study, you need to phone [REDACTED] You can then ask to speak to the Secretary to Senate Research Ethics Committee and inform them that the name of the project is **Community wealth building through digital tools for collaborative funding**.

You can also write to the Secretary at: Anna Ramberg, Research Integrity Manager, City, University of London, Northampton Square, London, EC1V 0HB or via email at: [REDACTED]

APPENDIX B: Stage 2, Empirical study

B1. Workshops ethics application

Ethics ETH2223-2010: Ms Larisa Blazic (Low risk)

Date Created	17 Apr 2023
Date Submitted	02 Oct 2023
Date of last resubmission	12 Oct 2023
Date forwarded to committee	02 Oct 2023
Academic Staff	Ms Larisa Blazic
Student ID	210042267
Category	Doctoral Researcher
Supervisor	Dr Alex Taylor
Project	Community wealth building through digital tools for collaborative funding
School	School of Science & Technology
Department	Department of Computer Science
Current status	Approved after amendments made

Ethics application

Risks

R1) Does the project have funding?

No

R2) Does the project involve human participants?

Yes

R3) Will the researcher be located outside of the UK during the conduct of the research?

No

R4) Will any part of the project be carried out under the auspices of an external organisation, involve collaboration between institutions, or involve data collection at an external organisation?

Yes

R5) Does your project involve access to, or use of, terrorist or extremist material that could be classified as security sensitive?

No

R6) Does the project involve the use of live animals?

No

R7) Does the project involve the use of animal tissue?

No

R8) Does the project involve accessing obscene materials?

No

R9) Does the project involve access to confidential business data (e.g. commercially sensitive data, trade secrets, minutes of internal meetings)?

No

R10) Does the project involve access to personal data (e.g. personnel or student records) not in the public domain?

No

R11) Does the project involve deviation from standard or routine clinical practice, outside of current guidelines?

No

R12) Will the project involve the potential for adverse impact on employment, social or financial standing?

No

R13) Will the project involve the potential for psychological distress, anxiety, humiliation or pain greater than that of normal life for the participant?

No

R15) Will the project involve research into illegal or criminal activity where there is a risk that the researcher will be placed in physical danger or in legal jeopardy?

No

R16) Will the project specifically recruit individuals who may be involved in illegal or criminal activity?

No

R17) Will the project involve engaging individuals who may be involved in terrorism, radicalisation, extremism or violent activity and other activity that falls within the Counter-Terrorism and Security Act (2015)?

No

Applicant & research team

T1) Principal Applicant

Name

[Ms Larisa Blazic](#)

T2) Co-Applicant(s) at City

T3) External Co-Applicant(s)

T4) Supervisor(s)

[Dr Alex Taylor](#)

[Dr Sara Heitlinger](#)

T5) Do any of the investigators have direct personal involvement in the organisations sponsoring or funding the research that may give rise to a possible conflict of interest?

No

T6) Will any of the investigators receive any personal benefits or incentives, including payment above normal salary, from undertaking the research or from the results of the research above those normally associated with scholarly activity?

No

T7) List anyone else involved in the project.

Project details

P1) Project title

Community wealth building (CWB) through digital tools for collaborative funding empirical study

P1.1) Short project title

P2) Provide a lay summary of the background and aims of the research, including the research questions (max 400 words).

I put forward for ethics approval a plan to conduct a series of co-design workshops as part of my continuing PhD research into CWB through digital tools for collaborative funding.

BACKGROUND

CWB is an approach to economic development that emphasises local ownership, worker empowerment and community well-being. One key component of CWB may be collaborative funding, where communities pool resources to finance local projects and businesses. Emerging technologies such as the blockchain can significantly enhance communities' ability to manage these resources for collective benefit in a fair, inclusive, sustainable and accountable manner. However, little is known about how these tools can be designed to support CWB.

AIMS

Through workshops and co-design activities the empirical study aim is to:

- collect data through which to help researcher build understanding of the design situation,
- gain insights and explore possibilities of co-design in CWB and SE context,
- understand what any proposed design would mean for the people impacted,
- develop approaches to how implications for design might be derived.

RESEARCH QUESTIONS

To address the gap this research phase asks following questions:

1. How can facilitation techniques effectively engage diverse participants in the co-design process of collaborative funding infrastructure for CWB?
2. What facilitation strategies and methodologies can promote inclusivity, equality, and collaboration in the co-design of collaborative funding platforms for CWB, aligning with feminist methodology and cooperative movement principles?
3. How can traditional software co-design methods be adapted to align with Solidarity Economy (SE) principles and feminist methodology in the development of collaborative funding infrastructure for CWB?
4. What challenges and opportunities arise when subverting conventional design methods to foster cooperative decision-making and participatory design processes in the development of collaborative funding platforms for CWB?

The empirical study proposed emphasizes two main aspects: co-design facilitation and subversion of software design methods. Co-design methods and facilitation are considered crucial for successful grassroots software design participation. To answer the above questions, this phase of my PhD research project focuses on participatory and co-design experimentation to address economic inequality and promote CWB through grassroots participation in making and controlling technology.

P4) Provide a summary and brief explanation of the research design, method, and data analysis.

The purpose of the upcoming workshops is to actively involve participants in the collaborative design and development of Distributed Ledger Technologies (DLTs) for CWB with a focus on cooperative and SE principles. The workshops aim to explore the integration of various components from projects like Open Collective, Circles UBI, and Culture Stake to enable CWB through DLT.

Research design and method

To achieve this aim the study will adopt a Participatory Design (PD) approach to explore user interface (UI) design for transparent transactions and exchanges involving social/local currency and Universal Basic Income (UBI), quadratic voting UI design for participatory budgeting, and hybrid marketplace UI co-design. Additionally, drawing on a range of SE modes of organising and exchanges, the study will collaborate with participants to investigate specific cooperative scenarios such as a worker cooperative, a consumer cooperative, a barter club, or a credit union. These scenarios will utilise SE principles in the form of selection controls, for example, to enable varied functionality in support of deliberation and cooperation.

I will run a number, in-person workshops with approximately 10-15 participants that will be conducted as part of the study. In preparation I will utilise the materials collected during the formative studies completed prior to the PhD transfer. These materials include findings from the qualitative scoping study such as interviews and focus group findings as well as various UI screen grabs of all the investigated projects and platforms. The findings will form a base for co-design workshop activities.

The first co-design session will focus on facilitation, which was identified as a critical aspect of successful grassroots software design participation in interviews and focus groups. The second workshop will use the same materials to ensure that evaluation and comparative analysis are possible and that results are consistent. However, this workshop will focus on subverting various design methods, such as example mapping, in the form of a mini design sprint to encourage innovative thinking and exploration of alternative design approaches.

To ensure a range of viewpoints, I will seek participants from mutual aid groups, cooperatives, local authorities, anchor institutions, fiscal hosts, and the general public interested in collaborative funding platforms. Participants will contribute to the workshops, and data will be collected through designed materials for collaboration, prompts, photographic documentation, and short recorded interviews, potentially via Microsoft Teams as a follow-up.

Overall, the study aims to provide insights into the collaborative design and development of DLT-based CWB infrastructure for grassroots benefit through feminist methodology and cooperative movement and SE principles. The study seeks to promote a more collaborative, equitable, and participatory approach to HCI design by employing a PD approach and subverting traditional design methods.

Data analysis & evaluation

Following the earlier phase, I will continue using Thematic analysis (TA) as the primary data analysis framework. The study's data analysis and evaluation phase aims to assess the challenges and possibilities around participation in the design and development of DLTs for collaborative funding in the context of CWB. Additionally, the research will explore possibilities for extending facilitation techniques and explicitly subverting known design approaches, such as design sprint, to align with the SE principles mentioned above. The evaluation process will include an examination of the results from the workshops and interviews with participants to gather feedback on the design approaches and their alignment with feminist and cooperative movement values. These research methods will facilitate the development of design approaches that effectively address the principles of cooperation, solidarity, and mutual aid, as well as evaluation approaches to assess the levels of transparency, accessibility and effectiveness, contributing to advancing the field of HCI.

P4.1) If relevant, please upload your research protocol.

P5) What do you consider are the ethical issues associated with conducting this research and how do you propose to address them?

Data anonymisation, data storage and future use of data in research and publishing are the main areas of ethical concern in this study. All the personal data will follow participant consent and be treated following GDPR and City's current privacy policy.

P6) Project start date

The start date will be the date of approval.

P7) Anticipated project end date

30 Apr 2024

P8) Where will the research take place?

Sandbox, COOP Hackathon and online.

P10) Is this application or any part of this research project being submitted to another ethics committee, or has it previously been submitted to an ethics committee?

No

External organisations

E1) Provide details of the external organisation/institution involved with this project.

As the voice of the UK's co-operative movement, we empower and support co-operative enterprise with specialised knowledge and expertise, to grow the co-operative economy and create a fairer society.

What is Co-operatives UK?

We are a co-operative. As a co-operative we are owned by our members. Our members are co-operative organisations and organisations which support co-operatives and co-operation. We operate for their benefit and the ownership and control of Co-operatives UK lies with our members.

With thousands of members - either direct members or through our federal members - Co-operatives UK is a network of thousands of co-operatives. By promoting shared wealth through member ownership, we are committed to enable anyone in the UK to form, or join, thriving and sustainable co-ops.

Our vision is to build a better world through co-operation.

Our mission is to empower and grow the UK's co-operative economy by being the voice of co-operation and member ownership.

How do we do this?

We promote co-ops by lobbying policy makers and raising awareness of co-ops to the public through our campaigning activities.

We develop co-ops by providing specialist advice to co-operative businesses, and securing funding to support the sector to grow and thrive.

We unite co-ops by organising national events, local workshops and networking sessions so co-ops can connect, learn and do business together.

More here: <https://www.uk.coop/about-us>

E2) If applicable, has permission to conduct research in, at or through another institution or organisation been obtained?

Yes

E2.1) Provide details and attach the correspondence.

Promoting digital innovation in the co-op movement is a major part of our strategy. We want to amplify and increase collaboration around tech – how we develop it, how we share it, how it empowers co-ops across our movement.

The Co-op Hackathon takes place on 19 and 20 October 2023 in London. It will bring together tech co-operators to collaboratively develop digital solutions for the UK co-op movement and beyond.

The Hackathon has three parts:

19 October, 6-8pm: Event launch, initial project pitches and networking

20 October, 9am-5pm: Co-op Hackathon

20 October, 6-8pm: Presentation of projects developed during the day

The Co-op Hackathon is being delivered by Co-operatives UK in partnership with The Co-operative Bank – supporting fair and ethical business together.

Human participants: information and participation

The options for the following question are one or more of:

'Under 18'; 'Adults at risk'; 'Individuals aged 16 and over potentially without the capacity to consent';

'None of the above'.

H1) Will persons from any of the following groups be participating in the project?

None of the above

H2) How many participants will be recruited?

15

H3) Explain how the sample size has been determined.

Size is determined by the facilitator-participant ratio, physical constraints of spaces and times when the workshops are planned to be conducted.

H4) What is the age group of the participants?

Lower Upper

18

H5) Please specify inclusion and exclusion criteria.

No under 18

No other exclusion

H6) What are the potential risks and burdens for research participants and how will you minimise them?

Workshops will be limited to 2.5 - 3hrs with a break, or in case of COOP Hackathon following the same approach including a lunch break.

H7) Will you specifically recruit pregnant women, women in labour, or women who have had a recent stillbirth or miscarriage (within the last 12 months)?

No

H8) Will you directly recruit any staff and/or students at City?

None of the above

H8.1) If you intend to contact staff/students directly for recruitment purpose, please upload a letter of approval from the respective School(s)/Department(s).

H9) How are participants to be identified, approached and recruited, and by whom?

In this study, participants will be recruited to achieve a diverse range of perspectives, and approximately 15 participants will be invited to attend each workshop. To ensure a range of viewpoints, I will seek participants from mutual aid groups, cooperatives, local authorities, anchor institutions, fiscal hosts, and the general public interested in collaborative funding platforms. All participants will receive detailed information and consent forms before the sessions. Various

techniques will be employed throughout the co-design process to ensure that the participants' needs and preferences are effectively represented in the design approaches.

I will approach and recruit all participants via email and through COOP Hackathon.

H10) Please upload your participant information sheets and consent form, or if they are online (e.g. on Qualtrics) paste the link below.

H11) If appropriate, please upload a copy of the advertisement, including recruitment emails, flyers or letter.

H12) Describe the procedure that will be used when seeking and obtaining consent, including when consent will be obtained.

I will obtain consent.

A copy of consent form will be emailed to all invited participants before scheduled workshops or on the day at the COOP Hackathon.

Participants will receive participant information sheet after initial contact and expression of interest in participation or on the day at the COOP Hackathon.

Participants will have at between 4 weeks and 2 days from initial contact to receiving consent form (as final stage of agreement before the workshop) or on the day at the COOP Hackathon.

H13) Are there any pressures that may make it difficult for participants to refuse to take part in the project?

No

H14) Is any part of the research being conducted with participants outside the UK?

No

Human participants: method

The options for the following question are one or more of:

'Invasive procedures (for example medical or surgical)'; 'Intrusive procedures (for example psychological or social)'; 'Potentially harmful procedures of any kind'; 'Drugs, placebos, or other substances administered to participants'; 'None of the above'.

M1) Will any of the following methods be involved in the project:

None of the above

M2) Does the project involve any deceptive research practices?

No

M3) Is there a possibility for over-research of participants?

No

M4) Please upload copies of any questionnaires, topic guides for interviews or focus groups, or equivalent research materials.

M5) Will participants be provided with the findings or outcomes of the project?

Yes

M5.1) Explain how this information will be provided.

Participants will be given the option to receive notification of any published research paper via email or post. Personal data for this purpose will be stored in a password protected document on an encrypted device.

M6) If the research is intended to benefit the participants, third parties or the local community, please give details.

The research is intended to bring together participants knowledge on software design, development and community use cases. This information may be beneficial to all participants to reflect on their software design, development, community engagement and wider economic implications of their work and practice.

M7) Are you offering any incentives for participating?

No

M8) Does the research involve clinical trial or clinical intervention testing that does not require Health Research Authority or MHRA approval?

No

M9) Will the project involve the collection of human tissue or other biological samples that does not fall under the Human Tissue Act (2004) that does not require Health Research Authority Research Ethics Service approval?

No

M10) Will the project involve potentially sensitive topics, such as participants' sexual behaviour, their legal or political behaviour, their experience of violence?

No

M11) Will the project involve activities that may lead to 'labelling' either by the researcher (e.g. categorisation) or by the participant (e.g. 'I'm stupid', 'I'm not normal')?

No

Data

D1) Indicate which of the following you will be using to collect your data.

Interviews

Participant observation

Audio/digital recording interviewees or events

Video recording

Computer-based tasks, screen recording or software instrumentation

Other

D1.1) Provide details if you have selected other.

Paper prototypes, scenarios, example mapping.

D2) How will the the privacy of the participants be protected?

Anonymised sample or data

D3) Will the research involve use of direct quotes?

Yes

D5) Where/how do you intend to store your data?

Password protected computer files

Storage on encrypted device (e.g. laptop, hard drive, USB)

D6) Will personal data collected be shared with other organisations?

No

D7) Will the data be accessed by people other than the named researcher, supervisors or examiners?

No

D8) Is the data intended or required (e.g. by funding body) to be published for reuse or to be shared as part of longitudinal research or a different/wider research project now or in the future?

No

D10) How long are you intending to keep the research data generated by the study?

Until graduation.

D11) How long will personal data be stored or accessed after the study has ended?

For up to 2 years, to allow participants to be sent details of any research outputs if published.

D12) How are you intending to destroy the personal data after this period?

Following City's current destruction policy.

Health & safety

HS1) Are there any health and safety risks to the researchers over and above that of their normal working life?

No

HS3) Are there hazards associated with undertaking this project where a formal risk assessment would be required?

No

Attached files

LB-01-email evidence - Participation in the Co-op Hackathon.pdf

LB-02-email evidence- Re Participation in the Co-op Hackathon.pdf

LB-03-email evidence - Participation in the Co-op Hackathon.pdf

121023-Informed-consent.odt

121023-Participant-Information-Sheet.odt

110623-recruitment-invitation.docx

A3-3-bw.png

A3-2-bw.png

A3-1-bw.png

121023-M4-Short-description.odt

B.2 COOP Hackathon conformations & evidence of communication

Participation in the Co-op Hackathon

From: Terry Tyldesley ([REDACTED])
To: [REDACTED]
Date: Wednesday, 27 September 2023 at 17:14 BST

Hi Larisa

I hope you got my previous email asking for some more info about your proposal.

Thanks for your submission and I'm delighted to confirm that we would like you to be part of the Co-op Hackathon 19 & 20 October.

At the opening event on the 19th we will let the audience know about your project, and encourage people to talk to you and support it.

We have had some great registrations and it should be a very positive event.

We will prepare an announcement and social media post to go out next week, and would like to include you as a participant.

Please can you confirm **by Monday 2nd October**:

1. That you are still able to participate
2. The project title - 1-6 words
3. The tag line - a short summary (up to 10 words)
4. Description - 30 words maximum
5. A photo of you and/or logo - if available
6. Any social links you'd like us to use, website if relevant
7. Where you are based, and whether you wish to apply for a travel bursary (up to £150 for one member of the team).

If you need to register any additional team members please do so now as places are filling up.

We will send you further participation details in the next few weeks.

Best wishes

Terry

Terry Tyldesley

Programme Manager, New Co-op Ventures

████████████████████ | www.uk.coop

Work Days & Hours: Mon, Tues, Thurs, 9am - 5pm

CO-OPERATIVES UK



Co-operatives UK Limited, Holyoake House, Hanover Street, Manchester, M60 0AS.
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Re: Participation in the Co-op Hackathon

From: Iarisa blazic ([REDACTED])
To: [REDACTED]
Cc: [REDACTED]
Date: Monday, 2 October 2023 at 12:25 BST

Hi Terry,
Cc Ludovica,

Great to hear back from you so promptly, thank you.

>> it would be great to have some more details about what you want to achieve at the event, so that I can discuss this further with our Team.

At the moment I'm developing a plan for the day - and it goes something like this:

2 or 3 activities, depending on your plans/lunch break, etc

1st

Intro and background of the Participatory Design (PD) approach to explore user interface (UI) design for transparent transactions and exchanges involving social/local currency and Universal Basic Income (UBI), quadratic voting UI design for participatory budgeting, and hybrid marketplace UI co-design.

2nd

Drawing on a range of SE modes of organising and exchanges, to investigate specific cooperative scenarios such as a worker cooperative, a consumer cooperative, a barter club, or a credit union. These scenarios will utilise SE principles in the form of selection controls, for example, to enable varied functionality in support of deliberation and cooperation.

These two could be morning sessions, something like warm up – with some tools I have made or remixed to use for documenting conversations – papers and pens based – but this can also be done digitally – depending if we ask for participants to bring laptops

3rd, longest, afternoon session, actual co-design of something we agree on in the morning

The integration of various components from projects like Open Collective, Circles UBI, and Culture Stake – something I’ve been exploring and would introduce before lunch break.

This may end up being paper prototype, or some such – open for your suggestions as I’m still thinking about the final output for the presentation at the end.

Overall workshop and co-design activities aim is to:

1. collect data through which to help build understanding of the design situation,
2. gain insights and explore possibilities of co-design in CWB and SE context,
3. understand what any proposed design would mean for the people impacted,
4. develop approaches to how implications for design might be derived.

The aims above are from research writings, and are flexible to align with aims of the hackathon.

>> Regarding participants, we can’t guarantee a certain number to support an individual

>> project, as people will get to choose on the day what they want to work on. Also we have

>> limited space and registration capacity. There are currently 19 projects registered.

No problem. I was thinking 10-15 I should be able to work with myself, without need of additional facilitators, that's all.

>> Do you mean you will want to interview 10 people across all the other projects, or that

>> you will only participate if 10 people want to work with you to develop your own project?

It can be less than 10, it is not a problem at all. Just a heads up for me to be able to manage my own expectation as well as prepare for the day. As I mentioned above, my concern was more about my own ability to work with numbers larger than 10 people.

>> A question too about recording sound. What do you have in mind? Some interviews, or

>> general background noise?

So, for example I would like to record conversations we have while we are engaged in activities, besides pen& paper materials I will bring to the sessions, as form of documentation of our thinking together. I am yet to work out what kind of sound recording equipment I can get.

Hope this makes sense.

Best wishes,
Larisa

From: larisa blazic <[REDACTED]>
Date: Monday, 2 October 2023 at 11:27

To: Terry Tyldesley <[REDACTED]>
Subject: Re: Participation in the Co-op Hackathon

Collaborative funding tools & infrastructure for solidarity economy

4. Description - 30 words maximum

Co-design methods & facilitation are considered crucial for successful grassroots software design participation. This session is an opportunity to explore how strategies and methods can promote cooperative movement principles in the co-design of collaborative funding platforms.

5. A photo of you and/or logo - if available

See attached.

6. Any social links you'd like us to use, website if relevant

<https://e-w-n-s.net/>

7. Where you are based, and whether you wish to apply for a travel bursary

Haggerston. I don't need the travel bursary as it is only a TFL return bus ride.

Best wishes,

Larisa

On Thursday, 28 September 2023 at 10:21:22 BST, Terry Tyldesley
<[REDACTED]> wrote:

Dear Larisa

Thanks for the update and wishing you well. Great that you can join us.

Best

Terry

Terry Tyldesley

Programme Manager, New Co-op Ventures

[REDACTED] | www.uk.coop

Work Days & Hours: Mon, Tues, Thurs, 9am - 5pm

CO-OPERATIVES UK



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From: Larisa Blazic <[REDACTED]>

Date: Thursday, 28 September 2023 at 09:51

To: Terry Tyldesley <[REDACTED]>

Subject: Re: Participation in the Co-op Hackathon

Dear Terry,

That is amazing news! Apologies for slow reply - I'm experiencing some health issues, but will send all requested info on Monday the latest.

Best wishes,

Larisa

On 27/09/2023 5:14 pm, Terry Tyldesley wrote:

>
> Hi Larisa
>
> I hope you got my previous email asking for some more info about your
> proposal.
>
> Thanks for your submission and I'm delighted to confirm that we would
> like you to be part of the Co-op Hackathon 19 & 20 October.
>
> At the opening event on the 19th we will let the audience know about
> your project, and encourage people to talk to you and support it.
>
> We have had some great registrations and it should be a very positive
> event.
>
> We will prepare an announcement and social media post to go out next
> week, and would like to include you as a participant.
>
> Please can you confirm *by Monday 2nd October.*
>
> 1. That you are still able to participate
>
> 2. The project title - 1-6 words
>
> 3. The tag line - a short summary (up to 10 words)
>
> 4. Description - 30 words maximum
>
> 5. A photo of you and/or logo - if available
>
> 6. Any social links you'd like us to use, website if relevant
>
> 7. Where you are based, and whether you wish to apply for a travel
> bursary (up to £150 for one member of the team).
>
> If you need to register any additional team members please do so now
> as places are filling up.
>
> We will send you further participation details in the next few weeks.
>
> Best wishes
>
> Terry
>
> Terry Tyldesley
>
> Programme Manager, New Co-op Ventures
>
> [REDACTED] <[REDACTED]>
>
>
> https://linkprotect.cudasvc.com/url?a=https%3a%2f%2fwww.uk.coop&c=E,1,VZLh1xl4fwfK-VnX_PTJbL64QKdqvFr3SB4rPipcZWbxhdvWODQBICZUGCkZEogVUNdE_P7CetOy4rT_GMnKdskrNkRBNXXOW0r6gA5tg.,&typo=1 <<https://linkprotect.cudasvc.com>


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5tcMQXgO8eqbH1IAK_jSrL21bYmm-WXRb6oHQ8PxXM7_8rFxM,&typo=1>
>
> Work Days & Hours: Mon, Tues, Thurs, 9am - 5pm
> <https://linkprotect.cudasvc.com/ur?l?a=https%3a%2f%2fuk.coop%2f&
c=E,1,Iu8kApVggoXfoUEzCP5sFd3dVVvzCtylFxE3Tovzcl1fQFov_TYAM6vZCsQqnbe
4J0eJFeXe06-TC6jSK15ml76eF0pfba9e47AdYoPsQUcTBnX2WtHPg_&typo=1>
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> <https://www.linkedin.com/company/cooperativesuk/>
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> <https://www.youtube.com/channel/UCBYhi8_6Y7Y2xZZ9RrtuBkg>
>
> <https://www.instagram.com/cooperativesuk>
>
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> and Community Benefit Societies Act 2014. Reg No. 2783R. Vat Reg. 147
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Js9y7mt9xXrb3v_YAfbST7EjVcvNL5RSdGpJXfsSv1LJpcSTtrkw2xAxbDGTD-ttlQ_&
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B.3 COOP Hackathon welcome information

Welcome - Important Information for Co-op Hackathon Team Leaders

Subject: Welcome - Important Information for Co-op Hackathon Team Leaders
From: unfound <unfound@uk.coop>
Date: 06/10/2023, 11:45 am
To: Terry Tyldesley <[REDACTED]>

Dear Hackathon Team Leaders

We are delighted to welcome you to join the first Co-op Hackathon, and to present and work on your projects. We have had a fantastic response, and an exciting mix of submissions and skills.

There's some key info in this email which we ask you **to share** with your teams if you have other members participating.

Our approach for this Hackathon is to bring people together and offer you space and support to progress your work in a collaborative way, and boost co-operative, ethical tech.

We are providing the rooms and tables, the networking and the food, and a schedule (we will send this nearer the time) and in Hackathon spirit we expect that you will self-organise your work and collaboration at the event. If you feel you will need some facilitation support, then please let us know.

If you have been awarded a bursary please go ahead and book your travel/accommodation, we will reimburse you up to the amount awarded, via the form you will be sent.

We will not ask for any IP – we have had some questions about this already. Your work is your own.

With it being the first Co-op Hackathon, it is to some degree experimental, and we will welcome your feedback and possibly if needed, your patience. We are also working on ways to keep the momentum going and to work more closely with participants and other people in tech in future.

News and social media

- Co-operatives UK has just published a news item that includes your submission, please share in your channels: <https://www.uk.coop/news/innovative-projects-announced-co-op-hackathon>
- We will also be sending you some graphics that you can use for your socials to say that you are participating in the Hackathon

Slack

We have set up a Slack for the Hackathon for you to communicate with each other and with people who have joined to contribute their skills and work with the teams. Please join now.



There is a **general channel** and also a **channel for each project, plus one for skills requested and skills offered**. Please browse the channels list and join your one and any others you wish.

If you want to start chatting and organising in Slack in advance of the Hackathon you are very welcome, and may find it very useful for forming your teams, but we know you are busy people, and it is not an expectation.

Hackathon launch and presentations

On Thursday 19 October, 6-8pm, we are hosting the pre-Hackathon event. After the featured project

Welcome - Important Information for Co-op Hackathon Team Leaders

presentations, we will introduce your project and let people know where they can find you in the room to find out more and discuss joining you.

There is then time to talk to other attendees including people who may want to work with you at the Hackathon.

On Friday 20 October (6-8pm, after the hack day) the presentations of your work are more informal, for example from your tables, and this sharing will include all the projects.

Wishing you a wonderful time at the Hackathon.

Best wishes

Terry Tyldesley

B.4 Workshops consent form

Title of Study:

Community wealth building (CWB) through digital tools for collaborative funding empirical study

Name of principal investigator:

Larisa Blazic

Telephone Number: _____

REC reference number

ETH2223-2010

October 2023

Please tick
or
initial box

1.	I confirm that I have read and understood the participant information dated [ETH2223-2010; October 2023] for the above study. I have had the opportunity to consider the information and ask questions which have been answered satisfactorily.	
2.	I understand that my participation is voluntary and that I am free to withdraw without giving a reason without being penalised or disadvantaged.	
3.	I agree to my participation in workshops being audio recorded.	
4.	I agree to my participation in workshops being video recorded.	
5.	I agree to my participation in workshops being photographed/screenshot.	
6.	I give permission for my sound and/or image recording to be used in public settings (e.g. presentations, exhibitions, websites, publications).	
7.	I want my real name used in presentations, exhibitions, websites, publications relating to this work, rather than being anonymised.	
8.	I understand that I will be able to withdraw my data up to two weeks after the recording.	
9.	I agree to City recording and processing this information about me. I understand that this information will be used only for the purpose(s) explained in the participant information and my consent is conditional on City complying with its duties and obligations under the General Data Protection Regulation (GDPR).	
10.	I would like to be informed of the results of this study once it has been completed and understand that my contact details will be retained for this purpose.	
11.	I agree to take part in the above study.	

Name of Participant

Signature

Date _____

Name of Researcher

Signature _____

Date _____

B.5 Workshops participant information sheet

ETH2223-2010
October 2023

Title of study

Community wealth building (CWB) through digital tools for collaborative funding empirical study

Name of principal investigator/researcher

Larisa Blazic

Invitation paragraph

We would like to invite you to take part in a research study. Before you decide whether you would like to take part it is important that you understand why the research is being done and what it would involve for you. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. You will be given a copy of this information sheet to keep.

What is the purpose of the study?

The purpose of the upcoming workshops is to actively involve participants in the collaborative design and development of Distributed Ledger Technologies (DLTs) for Community wealth building (CWB) with a focus on cooperative and Solidarity Economy (SE) principles. The workshops aim to explore the integration of various components from projects like Open Collective, Circles UBI, and Culture Stake to enable CWB through DLT.

Community wealth building (CWB) is an approach to economic development that emphasises local ownership, worker empowerment, and community well-being. One key component of CWB is collaborative funding, where communities pool resources to finance local projects and businesses. Emerging technologies such as the blockchain can significantly enhance communities' ability to manage these resources for collective benefit in a fair, inclusive, sustainable, and accountable manner. However, little is known about how these tools can be designed to support CWB.

To address this gap this research phase asks following questions:

1. How can facilitation techniques effectively engage diverse stakeholders in the co-design process of collaborative funding infrastructure for Community Wealth Building (CWB)?
2. What facilitation strategies and methodologies can promote inclusivity, equality, and collaboration in the co-design of collaborative funding platforms for CWB, aligning with feminist methodology and cooperative movement principles?
3. How can traditional software co-design methods be adapted to align with Solidarity Economy (SE) principles and feminist methodology in the development of collaborative funding infrastructure for CWB?
4. What challenges and opportunities arise when subverting conventional design methods to foster cooperative decision-making and participatory design processes in the development of collaborative funding platforms for CWB?

To answer the above questions, next major phase of my PhD research project focuses on participatory and co-design experimentation to address economic inequality and promote community wealth building through technology. The project employs a participatory design approach, actively involving participants in the design and development process to ensure grassroots participation in making and controlling technology.

The research project emphasizes two main aspects: co-design facilitation and subversion of software design methods. Co-design facilitation is considered crucial for successful grassroots software design participation. Through workshops and collaborative activities, the project aims to empower participants and provide them with the necessary tools and skills to actively contribute to the design process. Additionally, the research project seeks to subvert traditional software design methods. By challenging and exploring alternative approaches the project

encourages innovative thinking and experimentation. This subversion aims to break free from conventional design practices and promote more inclusive and equitable design methodologies.

Why have I been invited to take part?

You are being invited to take part as you share an interest in experimenting with technologies for fairer economy, useful in exploration of community wealth building.

Do I have to take part?

Participation in the project is voluntary, and you can choose not to participate in part or all of the project. You can withdraw at any stage of the project without being penalised or disadvantaged in any way. It is up to you to decide whether or not to take part. If you do decide to take part you will be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason.

What will happen if I take part?

In the period between October 2023 and March 2024 we will organise min 2 and max 4 co-design workshops – aiming to have at least 2 in person and remainder online and depending on your availability. The first co-design session will focus on facilitation, which was identified as a critical aspect of successful grassroots software design participation in interviews and focus groups. The second workshop will focus on subverting various design methods, such as example mapping, in the form of a mini design sprint to encourage innovative thinking and exploration of alternative design approaches.

If you do decide to take part you will be asked to sign a consent form.

Will my taking part in the study be kept confidential?

Your personal details (name, age and place of residence) will not be used in any of this material (unless you explicitly request that we include them). However, you should be aware that you may be identifiable in recordings, whether photographs, audio or video.

We will ask for your consent to collect and use this data. You are under no obligation to agree to any use with which you are uncomfortable. You can choose to specify whether particular forms of recording are acceptable or not (e.g. you can agree to audio recording but refuse consent for video recording). You can choose to limit how your data are used within the study (e.g. you can ask for your images not be used in presentations or publications).

Can I withdraw from the project?

You can withdraw at any stage without being penalised or disadvantaged. You are free to withdraw at any time and without giving a reason.

What are the possible disadvantages and risks of taking part?

I do not foresee any disadvantages or risks of taking part.

What are the possible benefits of taking part?

Your contribution will help create new knowledge and ideas around economic justice and its relationship to digital tools for collaborative funding.

Data privacy statement

City, University of London is the sponsor and the data controller of this study based in the United Kingdom. This means that we are responsible for looking after your information and using it properly. The legal basis under which your data will be processed is City's public task.

Your right to access, change or move your information are limited, as we need to manage your information in a specific way in order for the research to be reliable and accurate. To safeguard your rights, we will use the minimum personal-identifiable information possible (for further information please see <https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/lawful-basis-for-processing/public-task/>).

City will use your name and contact details to contact you about the research study as necessary. If you wish to receive the results of the study, your contact details will also be kept for this purpose. The only people at City who will have access to your identifiable information will be the project team. City will keep identifiable information about you from this study for 10 years after the study has finished.

You can find out more about how City handles data by visiting
<https://www.city.ac.uk/about/governance/legal>. **If you are concerned about how we have processed your personal data, you can contact the Information Commissioner's Office (IOC)** <https://ico.org.uk/>.

What will happen to the results?

All the material collected will be analysed and presented in written form and verbally as part of PhD Viva by September 2025, at the latest. Some of the materials may be presented in public setting (such as academic conference and/or academic paper). Your data will be treated in accordance with your specifications, as explained above.

Who has reviewed the study?

This study has been approved by City, University of London Computer Science Proportionate Review Committee Research Ethics Committee.

What if there is a problem?

If you have any problems, concerns or questions about this study, you should ask to speak to a member of the research team. If you remain unhappy and wish to complain formally, you can do this through City's complaints procedure. To complain about the study, you need to phone 020 7040 3040. You can then ask to speak to the Secretary to Senate Research Ethics Committee and inform them that the name of the project is: Community wealth building (CWB) through digital tools for collaborative funding empirical study.

You can also write to the Secretary at:
Annah Whyton
Research & Enterprise Office
City, University of London
Northampton Square
London, EC1V 0HB
Email: senaterec@city.ac.uk

Insurance

City holds insurance policies which apply to this study. If you feel you have been harmed or injured by taking part in this study you may be eligible to claim compensation. This does not affect your legal rights to seek compensation. If you are harmed due to someone's negligence, then you may have grounds for legal action.

Further information and contact details

Larisa Blazic, [REDACTED]

Thank you for taking the time to read this information sheet.

B.6 Workshops recruitment



Department of Computer Science
City, University of London

PARTICIPANTS NEEDED FOR RESEARCH IN HCI

We are looking for volunteers to take part in a study of *digital tools, collaborative funding & community wealth building*.

As a participant in this study, you would be asked to take part in *a co-design workshop*.

Your participation would involve *min 2 and max 4 sessions*, each of which is *approximately half-day long*.

Remuneration of £50 per session is provided.

For more information about this study, or to volunteer for this study, please contact:

Larisa Blazic

at

Email: [REDACTED]

Supervisors:

Alex Taylor [REDACTED]

Sara Heitlinger [REDACTED]

This study has been reviewed by, and received ethics clearance through the Computer Science and Library & Information Science Proportionate Review Committee, City, University of London.

If you would like to complain about any aspect of the study, please contact the Secretary to the Senate Research Ethics Committee on [REDACTED] or via email: [REDACTED]. City, University of London is the data controller for the personal data collected for this research project. If you have any data protection concerns about this research project, please contact City's Information Compliance Team at dataprotection@city.ac.uk

B.7 Provisional workshop description

M4

Sort description of materials provided

This is an example of design methods subversion used in an earlier project. The A3 Pdfs consist a visualisation of a user experience design method called Example mapping through which product designers engage with targeted audience. This collaborative design method help a cross-functional team (for instance, a product owner, tester, and developer) build up a shared understanding and language for why product features need to be added or changed.

In the case of visual materials provided, I step away from conventional focus on functionality thus opening example mapping collaborative method to thinking about power relations and further articulation around problems of personal data breaches and abusive behaviours by dominant digital data collection platforms. In the case of my current PhD research I will use these as starting point and hybridise these with COOP movement principles, feminist goals, to evaluate how these collaborative design methods can help CWB – as described in the description of this application.

For example:

During the workshop participants are invited to collaborative funding practices in COOP movement tradition through “word&image example mapping” and its possible hybridisation with CWB concepts.

The goal of the workshop is to develop the co-creation with the public and identify imaginative scenarios under which citizens can mobilise and organise for collective & collaborative engagement with HCID.

Indicative timetable of activities:

Intro 15 minutes

PhD research very short introduction

Activity 90 minutes

Example mapping for CWB:

0 – 5 minutes:

- LB presents a few stories and a handful of rules to start the conversation.

15 – 20 minutes:

- Individual/group brainstorming of Stories, Rules, Questions and Examples.

30 – 40 minutes:

- Discussion

B.8 Workshops ethnics approval amendment form

Ethics ETH2324-1531: Ms Larisa Blazic (Low risk)

Date Created	05 Mar 2024
Date Submitted	12 Aug 2024
Date of last resubmission	13 Aug 2024
Date forwarded to committee	13 Aug 2024
Academic Staff	Ms Larisa Blazic
Student ID	210042267
Category	Doctoral Researcher
Supervisor	Prof Stephanie Wilson
Project	Community wealth building through digital tools for collaborative funding
School	School of Science & Technology
Department	Department of Computer Science
Current status	Approved

Ethics application

Risks

R1) Does the project have funding?

No

R2) Does the project involve human participants?

Yes

R3) Will the researcher be located outside of the UK during the conduct of the research?

No

R4) Will any part of the project be carried out under the auspices of an external organisation, involve collaboration between institutions, or involve data collection at an external organisation?

No

R5) Does your project involve access to, or use of, terrorist or extremist material that could be classified as security sensitive?

No

R6) Does the project involve the use of live animals?

No

R7) Does the project involve the use of animal tissue?

No

R8) Does the project involve accessing obscene materials?

No

R9) Does the project involve access to confidential business data (e.g. commercially sensitive data, trade secrets, minutes of internal meetings)?

No

R10) Does the project involve access to personal data (e.g. personnel or student records) not in the public domain?

No

R11) Does the project involve deviation from standard or routine clinical practice, outside of current guidelines?

No

R12) Will the project involve the potential for adverse impact on employment, social or financial standing?

No

R13) Will the project involve the potential for psychological distress, anxiety, humiliation or pain greater than that of normal life for the participant?

No

R15) Will the project involve research into illegal or criminal activity where there is a risk that the researcher will be placed in physical danger or in legal jeopardy?

No

R16) Will the project specifically recruit individuals who may be involved in illegal or criminal activity?

No

R17) Will the project involve engaging individuals who may be involved in terrorism, radicalisation, extremism or violent activity and other activity that falls within the Counter-Terrorism and Security Act (2015)?

No

Applicant & research team

T1) Principal Applicant

Name

[Ms Larisa Blazic](#)

T2) Co-Applicant(s) at City

T3) External Co-Applicant(s)

T4) Supervisor(s)

[Prof Stephanie Wilson](#)

[Dr Sara Heitlinger](#)

T5) Do any of the investigators have direct personal involvement in the organisations

- Gain insights and explore possibilities of co-design in community wealth building (CWB) and Solidarity Economy (SE) context,
- Understand what any proposed design would mean for the people impacted,
- Develop approaches to how implications for design might be derived.

RESEARCH QUESTIONS

This research phase asks the following questions:

1. How can facilitation techniques effectively engage diverse participants in the collaborative funding infrastructure co-design process for CWB?
2. What facilitation strategies and methodologies can promote inclusivity, equality, and collaboration in co-designing collaborative funding platforms for CWB, aligning with feminist methodology and cooperative movement principles?
3. How can traditional software co-design methods be adapted to align with SE principles and feminist methodology in the development of collaborative funding infrastructure for CWB?
4. What challenges and opportunities arise when subverting conventional design methods to foster cooperative decision-making and participatory design processes in the development of collaborative funding platforms for CWB?

The empirical study proposed emphasises two main aspects: co-design facilitation and subversion of software design methods. Co-design methods and facilitation are considered crucial for successful grassroots software design participation. To answer the above questions, this phase of my PhD research project focuses on participatory and co-design experimentation to address economic inequality and promote CWB through grassroots participation in making and controlling technology.

P4) Provide a summary and brief explanation of the research design, method, and data analysis.

The purpose of the upcoming workshops is to actively involve participants in exploration of the collaborative design and development of collaborative funding human-computer interaction (HCI) for community wealth building (CWB) with a focus on cooperative and solidarity economy (SE) principles. The workshops aim to explore and evaluate a range of co-design tools to enable communities to manage resources for collective benefit in fair, inclusive, sustainable and accountable ways.

RESEARCH DESIGN AND METHOD

To achieve this aim the study will adopt a Participatory Design (PD) approach to explore user interface (UI) design for transparent transactions and exchanges involving social/local currency and Universal Basic Income (UBI), quadratic voting UI design for participatory budgeting, and hybrid marketplace UI co-design. Additionally, drawing on a range of SE modes of organising and exchanges, the study will collaborate with participants to investigate specific cooperative scenarios such as a worker cooperative, a consumer cooperative, a barter club, or a credit union. These scenarios will utilise SE principles, for example, to enable varied functionality in support of deliberation and cooperation.

Indicative activities are:

- 1-2 hr activity to explore existing participatory budgeting and collaborative funding platforms, to build shared vocabulary around tech and design

- 1-2 hrs activity to test a range of subversive co-design methods and facilitation techniques, to build design confidence through practice

In preparation, I utilise the materials collected during the formative studies prior to the PhD transfer. These materials include findings from the qualitative scoping study such as interviews and focus group findings as well as various UI screen grabs of all the investigated projects and platforms. The findings form a base for co-design workshop activities.

To ensure a range of viewpoints, I have reached out to participants from community land trusts (CLTs) interested in collaborative funding platforms. Participants will contribute to the workshops, and data will be collected through designed materials for collaboration, prompts, photographic documentation, and short recorded interviews, potentially via Microsoft Teams as a follow-up.

Overall, the study aims to provide insights into the collaborative design and development of DLT-based CWB infrastructure for grassroots benefit through feminist methodology, cooperative movement and SE principles. The study seeks to promote a more collaborative, equitable, and participatory approach to HCI design by employing a PD approach and subverting traditional design methods.

DATA ANALYSIS & EVALUATION

Following the earlier phase, I will continue using Thematic analysis (TA) as the primary data analysis framework. The study's data analysis and evaluation phase aims to assess the challenges and possibilities around participation in the design and development of DLTs for collaborative funding in the context of CWB. Additionally, the research will explore possibilities for extending facilitation techniques and explicitly subverting known design approaches, such as design sprint, to align with the SE principles mentioned above. The evaluation process will include an examination of the results from the workshops and interviews with participants to gather feedback on the design approaches and their alignment with feminist and cooperative movement values. These research methods will facilitate the development of design approaches that effectively address the principles of cooperation, solidarity and mutual aid, as well as evaluation approaches to assess the levels of transparency, accessibility and effectiveness, contributing to advancing the field of HCI.

P4.1) If relevant, please upload your research protocol.

P5) What do you consider are the ethical issues associated with conducting this research and how do you propose to address them?

Data anonymisation, data storage and future use of data in research and publishing are the main areas of ethical concern in this study. All the personal data will follow participant consent and be treated following GDPR and City's current privacy policy.

P6) Project start date

The start date will be the date of approval.

P7) Anticipated project end date

30 Sept 2024

P8) Where will the research take place?

LDN.CASH away day in London and TRIP Space Yoga in London, for in-person (with a possible online follow-up), locations to be confirmed.

P10) Is this application or any part of this research project being submitted to another ethics committee, or has it previously been submitted to an ethics committee?

Yes

P10.1) Please give details and justification for going to separate committees, details of the Secretary of the relevant authority/committee, and attach correspondence and details of the outcome of the application, including any conditions of approval or reasons for rejection.
Amendment to ETH2223-2010 due to change in participants' compensation, delayed end of the study due to additional workshop organisation demands and now resolved complications in participant outreach.

Human participants: information and participation

The options for the following question are one or more of:

'Under 18'; 'Adults at risk'; 'Individuals aged 16 and over potentially without the capacity to consent'; 'None of the above'.

H1) Will persons from any of the following groups be participating in the project?

None of the above

H2) How many participants will be recruited?

15

H3) Explain how the sample size has been determined.

Size is determined by the facilitator-participant ratio, physical constraints of spaces and times when the workshops are planned to be conducted.

H4) What is the age group of the participants?

Lower Upper

18

H5) Please specify inclusion and exclusion criteria.

No other exclusion

H6) What are the potential risks and burdens for research participants and how will you minimise them?

Workshops will be limited to 2hrs with a break. I will provide refreshments as approved in my budget.

H7) Will you specifically recruit pregnant women, women in labour, or women who have had a recent stillbirth or miscarriage (within the last 12 months)?

No

H8) Will you directly recruit any staff and/or students at City?

None of the above

H8.1) If you intend to contact staff/students directly for recruitment purpose, please upload a letter of approval from the respective School(s)/Department(s).

H9) How are participants to be identified, approached and recruited, and by whom?

In this study, participants will be recruited to achieve a diverse range of perspectives, and approximately 15 participants will be invited to attend each workshop. To ensure a range of viewpoints, I have reached out to participants from community land trusts (CLTs) interested in collaborative funding platforms.

All participants will receive detailed information and consent forms before the sessions. Various techniques will be employed throughout the co-design process to ensure that the participants' needs and preferences are effectively represented in the design approaches.

I will approach and recruit all participants via email, with an in-person follow up and through COOP Hackathon follow up (following on from original approved study).

H10) Please upload your participant information sheets and consent form, or if they are online (e.g. on Qualtrics) paste the link below.

H11) If appropriate, please upload a copy of the advertisement, including recruitment emails, flyers or letter.

H12) Describe the procedure that will be used when seeking and obtaining consent, including when consent will be obtained.

I will obtain consent. A copy of consent form will be emailed to all invited participants before scheduled workshops and will be available in print form on the day at the particular workshop. Participants will receive participant information sheet after initial contact and expression of interest in participation or on the day at the workshop. Participants will have at between 2 weeks and 2 days from initial contact to receiving consent form (as final stage of agreement before the workshop) or on the day at the workshop.

H13) Are there any pressures that may make it difficult for participants to refuse to take part in the project?

No

H14) Is any part of the research being conducted with participants outside the UK?

No

Human participants: method

The options for the following question are one or more of:

'Invasive procedures (for example medical or surgical)'; 'Intrusive procedures (for example psychological or social)'; 'Potentially harmful procedures of any kind'; 'Drugs, placebos, or other substances administered to participants'; 'None of the above'.

M1) Will any of the following methods be involved in the project:

None of the above

M2) Does the project involve any deceptive research practices?

No

M3) Is there a possibility for over-research of participants?

No

M4) Please upload copies of any questionnaires, topic guides for interviews or focus groups, or equivalent research materials.

M5) Will participants be provided with the findings or outcomes of the project?

Yes

M5.1) Explain how this information will be provided.

Participants will be given the option to receive notification of any published research paper via email or post. Personal data for this purpose will be stored in a password protected document on an encrypted device.

M6) If the research is intended to benefit the participants, third parties or the local community, please give details.

The research is intended to bring together participants knowledge on software design, development and community use cases. This information may be beneficial to all participants to reflect on their software design, development, community engagement and wider economic implications of their work and practice.

M7) Are you offering any incentives for participating?

Yes

M7.1) Please give details, justifying their type and amount.

I aim to offer £50 compensation per participant in recognition of cost of living crisis. I also aim to provide refreshments at the workshops.

M8) Does the research involve clinical trial or clinical intervention testing that does not require Health Research Authority or MHRA approval?

No

M9) Will the project involve the collection of human tissue or other biological samples that does not fall under the Human Tissue Act (2004) that does not require Health Research Authority Research Ethics Service approval?

No

M10) Will the project involve potentially sensitive topics, such as participants' sexual behaviour, their legal or political behaviour, their experience of violence?

No

M11) Will the project involve activities that may lead to 'labelling' either by the researcher (e.g. categorisation) or by the participant (e.g. 'I'm stupid', 'I'm not normal')?

No

Data

D1) Indicate which of the following you will be using to collect your data.

Interviews

Participant observation

Focus groups

Audio/digital recording interviewees or events

Video recording

Other

D1.1) Provide details if you have selected other.

Paper prototypes, scenarios, example mapping.

D2) How will the the privacy of the participants be protected?

Anonymised sample or data

D3) Will the research involve use of direct quotes?

Yes

D5) Where/how do you intend to store your data?

Password protected computer files

Storage on encrypted device (e.g. laptop, hard drive, USB)

D6) Will personal data collected be shared with other organisations?

No

D7) Will the data be accessed by people other than the named researcher, supervisors or examiners?

No

D8) Is the data intended or required (e.g. by funding body) to be published for reuse or to be shared as part of longitudinal research or a different/wider research project now or in the future?

No

D10) How long are you intending to keep the research data generated by the study?

Until graduation.

D11) How long will personal data be stored or accessed after the study has ended?

For up to 2 years, to allow participants to be sent details of any research outputs if published.

D12) How are you intending to destroy the personal data after this period?

Following City's current destruction policy.

Health & safety

HS1) Are there any health and safety risks to the researchers over and above that of their normal working life?

No

HS3) Are there hazards associated with undertaking this project where a formal risk assessment would be required?

No

Attached files

120824-Informed-consent.odt

120824-Participant-Information-Sheet.odt

120824-M4-Short-description.odt

B.9 Consent form, amendment

Title of Study:
Community wealth building (CWB) through digital tools for collaborative funding empirical study

Name of principal investigator:
Larisa Blazic

Telephone Number:
[REDACTED]

REC reference number
ETH2324-1531
August 2024

Please tick
or
initial box

1.	I confirm that I have read and understood the participant information dated [ETH2324-1531; August 2024] for the above study. I have had the opportunity to consider the information and ask questions which have been answered satisfactorily.	
2.	I understand that my participation is voluntary and that I am free to withdraw without giving a reason without being penalised or disadvantaged.	
3.	I agree to my participation in workshops being audio recorded.	
4.	I agree to my participation in workshops being video recorded.	
5.	I agree to my participation in workshops being photographed/screenshot.	
6.	I give permission for my sound and/or image recording to be used in public settings (e.g. presentations, exhibitions, websites, publications).	
7.	I want my real name used in presentations, exhibitions, websites, publications relating to this work, rather than being anonymised.	
8.	I understand that I will be able to withdraw my data up to two weeks after the recording.	
9.	I agree to City recording and processing this information about me. I understand that this information will be used only for the purpose(s) explained in the participant information and my consent is conditional on City complying with its duties and obligations under the General Data Protection Regulation (GDPR).	
10.	I would like to be informed of the results of this study once it has been completed and understand that my contact details will be retained for this purpose.	
11.	I agree to take part in the above study.	

_____ Name of Participant	_____ Signature	_____ Date	_____
_____ Name of Researcher	_____ Signature	_____ Date	_____

B.10 Participant information sheet, amendment



ETH2324-1531
August 2024

Title of study

Community wealth building (CWB) through digital tools for collaborative funding empirical study

Name of principal investigator/researcher

Larisa Blazic

Invitation paragraph

We would like to invite you to take part in a research study. Before you decide whether you would like to take part it is important that you understand why the research is being done and what it would involve for you. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. You will be given a copy of this information sheet to keep.

What is the purpose of the study?

The purpose of the upcoming workshops is to actively involve participants in the collaborative design and development of Distributed Ledger Technologies (DLTs) for Community wealth building (CWB) with a focus on cooperative and Solidarity Economy (SE) principles. The workshops aim to explore the integration of various components from projects like Open Collective, Circles UBI, and Culture Stake to enable CWB through DLT.

Community wealth building (CWB) is an approach to economic development that emphasises local ownership, worker empowerment, and community well-being. One key component of CWB is collaborative funding, where communities pool resources to finance local projects and businesses. Emerging technologies such as the blockchain can significantly enhance communities' ability to manage these resources for collective benefit in a fair, inclusive, sustainable, and accountable manner. However, little is known about how these tools can be designed to support CWB.

To address this gap this research phase asks following questions:

1. How can facilitation techniques effectively engage diverse stakeholders in the co-design process of collaborative funding infrastructure for Community Wealth Building (CWB)?
2. What facilitation strategies and methodologies can promote inclusivity, equality, and collaboration in the co-design of collaborative funding platforms for CWB, aligning with feminist methodology and cooperative movement principles?
3. How can traditional software co-design methods be adapted to align with Solidarity Economy (SE) principles and feminist methodology in the development of collaborative funding infrastructure for CWB?
4. What challenges and opportunities arise when subverting conventional design methods to foster cooperative decision-making and participatory design processes in the development of collaborative funding platforms for CWB?

To answer the above questions, next major phase of my PhD research project focuses on participatory and co-design experimentation to address economic inequality and promote community wealth building through technology. The project employs a participatory design approach, actively involving participants in the design and

development process to ensure grassroots participation in making and controlling technology.

The research project emphasizes two main aspects: co-design facilitation and subversion of software design methods. Co-design facilitation is considered crucial for successful grassroots software design participation. Through workshops and collaborative activities, the project aims to empower participants and provide them with the necessary tools and skills to actively contribute to the design process. Additionally, the research project seeks to subvert traditional software design methods. By challenging and exploring alternative approaches the project encourages innovative thinking and experimentation. This subversion aims to break free from conventional design practices and promote more inclusive and equitable design methodologies.

Why have I been invited to take part?

You are being invited to take part as you share an interest in experimenting with technologies for fairer economy, useful in exploration of community wealth building.

Do I have to take part?

Participation in the project is voluntary, and you can choose not to participate in part or all of the project. You can withdraw at any stage of the project without being penalised or disadvantaged in any way. It is up to you to decide whether or not to take part. If you do decide to take part you will be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason.

What will happen if I take part?

In September 2024 we will organise max 2 co-design workshops. The workshops will consist of max 2 activities. The first co-design activity will focus on facilitation, which was identified as a critical aspect of successful grassroots software design participation in interviews and focus groups. The second activity will focus on subverting various design methods, such as example mapping, in the form of a mini design sprint to encourage innovative thinking and exploration of alternative design approaches.

If you do decide to take part you will be asked to sign a consent form.

Will my taking part in the study be kept confidential?

Your personal details (name, age and place of residence) will not be used in any of this material (unless you explicitly request that we include them). However, you should be aware that you may be identifiable in recordings, whether photographs, audio or video.

We will ask for your consent to collect and use this data. You are under no obligation to agree to any use with which you are uncomfortable. You can choose to specify whether particular forms of recording are acceptable or not (e.g. you can agree to audio recording but refuse consent for video recording). You can choose to limit how your data are used within the study (e.g. you can ask for your images not be used in presentations or publications).

Can I withdraw from the project?

You can withdraw at any stage without being penalised or disadvantaged. You are free to withdraw at any time and without giving a reason.

What are the possible disadvantages and risks of taking part?

I do not foresee any disadvantages or risks of taking part.

What are the possible benefits of taking part?

Your contribution will help create new knowledge and ideas around economic justice and its relationship to digital tools for collaborative funding.

Data privacy statement

City, University of London is the sponsor and the data controller of this study based in the United Kingdom. This means that we are responsible for looking after your information and using it properly. The legal basis under which your data will be processed is City's public task.

Your right to access, change or move your information are limited, as we need to manage your information in a specific way in order for the research to be reliable and accurate. To safeguard your rights, we will use the minimum personal-identifiable information possible (for further information please see <https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/lawful-basis-for-processing/public-task/>).

City will use your name and contact details to contact you about the research study as necessary. If you wish to receive the results of the study, your contact details will also be kept for this purpose. The only people at City who will have access to your identifiable information will be the project team. City will keep identifiable information about you from this study for 10 years after the study has finished. You can find out more about how City handles personal data by visiting <https://www.city.ac.uk/about/governance/policies/data-protection-policy>. You can also read City's general privacy notice by visiting <https://www.city.ac.uk/about/governance/policies/general-privacy-notice>.

If you are concerned about how we have processed your personal data, you can contact the Information Commissioner's Office (ICO) directly <https://ico.org.uk/>.

What will happen to the results?

All the material collected will be analysed and presented in written form and verbally as part of PhD Viva by September 2025, at the latest. Some of the materials may be presented in public setting (such as academic conference and/or academic paper). Your data will be treated in accordance with your specifications, as explained above.

Who has reviewed the study?

This study has been approved by City, University of London Computer Science Proportionate Review Committee Research Ethics Committee.

What if there is a problem?

If you have any problems, concerns or questions about this study, you should ask to speak to a member of the research team. If you remain unhappy and wish to complain formally, you can do this through City's complaints procedure. To complain about the study, you need to phone 020 7040 3040. You can then ask to speak to the Secretary to Senate Research Ethics Committee and inform them that the name of the project is: Community wealth building (CWB) through digital tools for collaborative funding empirical study.

You can also write to the Secretary at:

Annah Whyton
Research & Enterprise Office
City, University of London
Northampton Square

London, EC1V 0HB
Email: senaterec@city.ac.uk

Insurance

City holds insurance policies which apply to this study. If you feel you have been harmed or injured by taking part in this study you may be eligible to claim compensation. This does not affect your legal rights to seek compensation. If you are harmed due to someone's negligence, then you may have grounds for legal action.

Further information and contact details

Larisa Blazic, [REDACTED]

Thank you for taking the time to read this information sheet.

APPENDIX C

C.1 Solidarity mapping

The *solidarity mapping* method is a subversion of the conventional example mapping method, reimagined to support community wealth building, the solidarity economy and the explicit inclusion of co-operative principles and feminist goals. We propose this method may help co-operatives and other community asset-building groups collaboratively explore and define key aspects of their initiatives that translate into interactive systems design requirements while ensuring these contribute to the goals of equality, solidarity and mutual aid.



Overview of the method:

1. Story: Identifying community-driven objectives

Purpose: Define the core objectives or goals of the initiative, with a focus on community wealth building and solidarity.

Example: An existing community land trust identifies a story like: “We are seeking to set up a free online platform through which co-operative members and other SE London locals can offer and look for jobs, help and connections. In its first phase, the [] platform would only be available to housing/workers co-op members in order to establish a co-operative ethos, and it would be then opened up to all locals.”

Steps:

1. Community wealth goals: Start by identifying the key objectives that contribute to community wealth building. These might include local economic development, sustainable resource management, or equitable distribution of resources.
2. Solidarity economy goals: Define goals that strengthen the solidarity economy, such as promoting cooperative

	ownership, supporting local enterprises, or fostering mutual aid networks. 3. Cooperative and feminist goals: Explicitly include objectives that align with cooperative principles (such as democratic decision-making and member equity) and feminist goals (such as gender equity, care work recognition, and dismantling power imbalances).	
2. Rules: Establishing guiding principles	Purpose: To define the rules or principles that will guide an organisation or initiative, ensuring explicit alignment with co-operative values, feminist principles and the solidarity economy.	Example: A guiding principle could be “We operate using consent-based decision making also known as sociocracy, ensuring that all voices, particularly those from marginalised groups, are heard and valued.” or “We make design decisions which are explored at general meetings, fed back to the platform design working group and documented in publicly available minutes, ensuring transparency and access to the process for all members.”
	Steps: 1. Co-operative principles: Outline key co-operative principles reflected in democratic governance, member participation and concern for the community. 2. Feminist principles: Integrate feminist principles, such as intersectionality, inclusivity, difference, shared leadership, the recognition of care work and working from margins. 3. Solidarity economy principles: Include principles that support the solidarity economy, such as prioritising social over profit motives, fostering collaboration over competition and emphasising ecological sustainability.	
3. Examples: Creating good news scenarios	Purpose: To provide concrete examples or scenarios that illustrate how the goals of an organisation or initiative can be achieved whilst adhering to the guiding principles.	Example: An existing community land trust project proposal: “Our idea is to create a digital [co-operative] platform facilitating service-exchange, [], replacing our off-the-shelf open-source software tested with stakeholders]. Using [the] platform, local housing co-ops and tenant-managed organisations can post jobs ranging from property maintenance to accounting and connect with local sole traders. On the platform users would offer and look for jobs,

skills shares, learning opportunities. These could be for free or a specific budget. For example: maintenance jobs, hairdressing or craft skills, legal services or training, language exchange, recruiting new members for existing/new co-ops.” The co-operative platform partners with local worker co-operatives and freelance service providers, providing them with stable income while offering affordable services to the community. All decisions about pricing and sourcing are made collectively by the co-operative platform’s members. Besides material benefits to the members, these may include the depth of relationships built, the strength of community ties and the positive impact that these connections have on everyone involved.

Steps:

1. Scenario development: Show through specific examples how the community wealth building, solidarity economy, and co-operative/feminist goals can be realised in practice.
2. Good news: In each example articulate what success looks like, ensuring it aligns with the broader principles of equity, sustainability, collective well-being and prosperity.
3. Collaborative examples: From the beginning of the process, encourage members to contribute examples from their experiences or observations, fostering a collective vision of success.

4. Reflection: Addressing challenges and questions

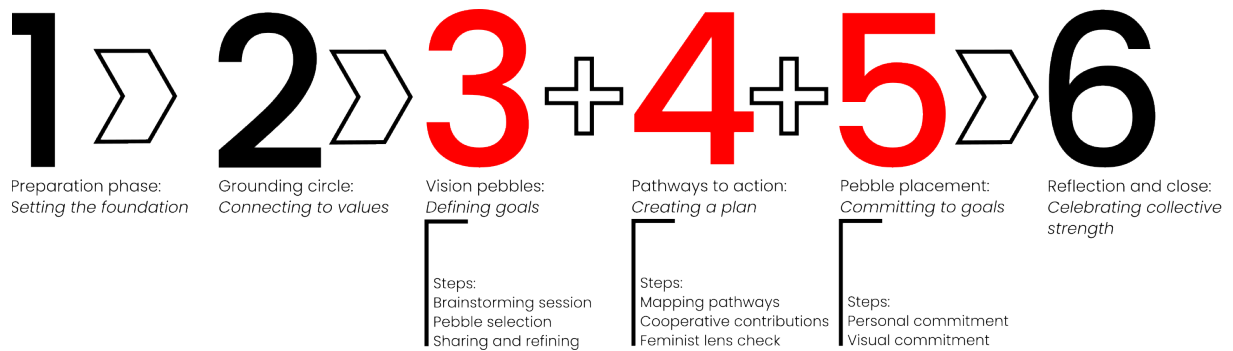
Purpose: To identify potential challenges or questions that may arise and discuss how to address them within the framework of community wealth building, solidarity economy and feminist/co-operative principles.

Example: A challenge based on observation might be “How do we ensure that decision-making remains inclusive and doesn’t privilege those with more time or resources?” The reflection could lead to an agreement like “Implement rotating facilitation roles and provide stipends for members who take on additional responsibilities.”

Steps:

1. Anticipate challenges: Point to obstacles that could arise in achieving the goals in the form of questions. These may be starting points for discussion about resource constraints, power dynamics, or external pressures.
 2. Feminist lens on challenges: Reflect on how and in which ways these identified challenges might differently impact marginalised groups and consider strategies to mitigate any negative effects.
 3. Solidarity tonic: Brainstorm options that emphasise collective action, mutual aid and autonomy, ensuring that an organisation, initiative or platform remains aligned with its guiding principles.
-

C.2 Pick-a-Pebble



The *Pick-a-Pebble* method is a subversion of the traditional design sprint that tailors the process to the unique needs of small to medium size co-operatives, emphasising ethical frameworks, community respect and feminist goals through co-operative principles. This method is designed for an away day goal-setting activity, focusing on meaningful action points that align with the co-operative's values and objectives.

Overview of the method:

1. Preparation phase: Setting the foundation

Duration: decided by group

Objective: Ensure that the session is grounded in the co-operative's principles and values.

Steps:

- Member input collection: Gather input from all members regarding their priorities, concerns, and aspirations. This could be done through a simple survey or individual check-ins.
- Facilitator briefing: A designated facilitator (preferably rotating among members) reviews the input and prepares a summary, highlighting common themes and potential discussion points.
- Materials: Prepare a visual representation of the co-operative's mission, values and principles to have on display during the away day.

2. Grounding circle: Connecting to values

Duration: decided by group

Objective: Create a safe space for open dialogue and reaffirm the co-operative's shared values.

Steps:

- Opening circle: Begin the day with a grounding circle where each member shares a brief reflection on what the co-operative means to them and what they hope to achieve during the session.
- Revisiting principles: The facilitator revisits the co-operative's ethical framework, focusing on feminist goals, community respect and the importance of co-operative principles. This sets the tone for the day.

3. Vision pebbles: Defining goals

Duration: decided by group

Objective: Identify the key goals that will guide the co-operative's actions in the coming period.

Steps:

- Brainstorming session: Break into small groups (3-4 people) and brainstorm potential goals, using the input gathered in the preparation phase. Each group should aim to identify 2-3 key goals.
- Pebble selection: From the brainstormed ideas, each group selects one "vision pebble" – a goal that they believe will have the most significant impact if achieved.
- Sharing and refining: Groups share their vision pebbles with the larger group. Through a facilitated discussion, refine these into a set of 3-5 collective goals.

4. Pathways to action: Creating a plan

Duration: decided by group

Objective: Develop actionable steps that align with the selected goals.

Steps:

- Mapping pathways: For each vision pebble, the group collaboratively maps out the steps required to achieve it. This includes identifying resources, potential challenges, and assigning responsibilities.
- Co-operative contributions: Emphasise how each member can contribute based on their strengths and availability, ensuring that the plan respects individual capacities and community time.
- Feminist lens check: Before finalising, review the action plans to ensure they uphold feminist goals, such as promoting equity, shared leadership and collective care.

5. Pebble placement: Committing to goals

Duration: decided by group

Objective: Solidify commitment to the agreed-upon goals and action steps.

Steps:

- Personal commitment: Each member takes a moment to reflect on their role in achieving the goals and shares one personal commitment they will make toward this effort.
- Visual commitment: As a symbolic act, each member places a physical pebble (prepared in advance) into a communal bowl, representing their commitment to the shared goals.

6. Reflection and close: Celebrating collective strength (courage)

Duration: decided by group

Objective: Reflect on the day's outcomes and celebrate the co-operative's collective strength.

Steps:

- Group reflection: Engage in a round of reflections where each member shares their thoughts on the process, what they learned and any lingering concerns or hopes for the future.
- Closing circle: End the day with a closing circle, where the facilitator summarises the key action points and thanks everyone for their participation and commitment.

Action points to come out of the "Pick a Pebble" method:

- Clearly defined goals: 3-5 key goals that align with the co-operative's mission and values.
- Actionable steps: A detailed plan outlining the steps required to achieve each goal, with specific tasks assigned to individuals or subgroups.
- Commitment pledges: Personal commitments from each member, reinforcing their role in the collective effort.
- Resource and support identification: A list of resources and support needed to accomplish the goals, including internal and external sources.
- Feminist and ethical alignment check: A final review to ensure all goals and actions align with feminist and cooperative principles.

Final thoughts:

The "Pick a pebble" method is designed to be inclusive, participatory and aligned with the co-operative's ethical framework. By focusing on small, actionable goals, this method aspires to respect community time and ensure that the co-operative's work remains grounded in its core values, fostering a sense of collective responsibility and agency.

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