

Community wealth: Co-creating digital infrastructure for economic justice

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ABSTRACT

This research addresses economic inequality by investigating community wealth building (CWB) through digital tools for collaborative funding, employing an interdisciplinary approach merging insights from feminist economics, solidarity economy and human-computer interaction design (HCID). Through qualitative studies, the research explores participatory design methods like subversion and remix to foster grassroots involvement, advocating for cooperative principles and ethical considerations in DIS/HCI to promote economic justice, ultimately offering pathways for inclusive digital infrastructure and transformation in DIS/HCI research.

Author Keywords

Economic inequality; Community wealth building; Blockchain; Participatory design

CSS Concepts

•Human-centered computing~Interaction design

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INTRODUCTION

Extreme economic inequality demands urgent action and exploration how compelling but under-explored economic practices may help establish and sustain local economic development. Digital technology in this context may play pivotal role in addressing asymmetry of power to collect, exchange, distribute and redistribute funds by those who seldom have the opportunity to do so. Emerging digital infrastructure for collaborative funding, based on cooperative principles and feminist approaches with aspirations to greater grassroots involvement, offer promising pathway to remedy this problem [8, 9]. This research focuses on community wealth building (CWB) as an economic development strategy, questions the suitability of DLTs and advocates for grassroots participation in the design process to ensure inclusivity and accessibility. It proposes infusing HCI design with cooperative principles to support progress in the access, ownership and control of such digital infrastructure. Moreover, by exploring conventional software design methods' subversion & remix, the study seeks to empower communities to take ownership of technology, leading to tangible improvements in economic stability, power distribution and community well-being. The research emphasizes the importance of continual commitment in HCI and DIS communities to democratisation of the design process that in turn enables marginalised populations to claim ownership over digital infrastructures.

RESEARCH APPROACH

HCI's increasing awareness and accountability for its social impact [2, 6, 14, 15, 21, 29], along with the adoption of feminism as a methodology [1, 3, 4, 5], have helped me shape design and reflect on the direction of this research. They have informed decisions regarding design, data collection and analysis [7], helping to better understand emerging technologies for collaborative funding [13, 27, 28, 30, 31, 23]. This interdisciplinary perspective encompasses exploring general principles, specific characteristics, actors, and their motivations [16, 17, 19, 20]. It helped delineating boundaries and determining the economic theories and practices. Furthermore, it facilitated the examination of how feminist economics and solidarity economy (SE) align, helping me evaluate their compatibility as an entry point [10, 11, 22, 25].

STUDY DESIGN

The overarching study design encompasses a qualitative exploration into the intersection of feminist HCI, feminist economics and emerging digital infrastructure for collaborative funding, with a specific focus on their implications for how their design may play out in local economic development establishment and maintenance. I build on investigation of role the DLT may have in local economy followed by question how can co-design of emerging infrastructures support fair, inclusive, cooperative economies?

CWB+HCID



Scoping Study:

The qualitative scoping study, conducted from March to November 2022, aimed to understand the design processes and participatory aspects of projects such as Culture Stake, Circles UBI and Open Collective, which utilise innovative approaches to address economic inequalities. Eight expert interviews were conducted online to investigate grassroots participation in the design and development processes. I used Thematic analysis (TA) as the primary data analysis framework to generate themes through which to articulate follow-up research stage. The findings uncovered challenges in team dynamics and decision-making, tensions regarding grassroots involvement in software development, with facilitation emerging as crucial for promoting fair collaboration, all of which suggest avenues for deeper exploration.

Empirical Study:

Building upon the insights gained from the scoping study, the ongoing empirical study focuses on enhancing the design process and fostering inclusive participation and co-design practices. It emphasizes co-design facilitation and the subversion of traditional software design methods. Subversion and remix in this context involve critically examining existing design paradigms, identifying their limitations and

exploring alternative approaches that better align with the diverse needs and perspectives of users. Through 3 workshops since October 2023, the study actively involves participants in careful collective scrutiny of design methods for the collaborative design and development of digital infrastructures for community wealth building (CWB). Drawing on principles of cooperative movement and copyleft approach, this part of research explores modes of subversion and remix of existing design methods useful for widening participation in this design space. Preliminary data analysis employ TA to assess challenges and possibilities in participation, as well as to evaluate design approaches aligned with feminist and cooperative movement values.

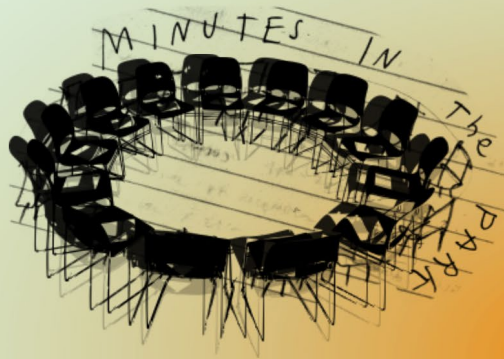
**CULTURE
STAKE**

open collective

COMMUNITY+CAPACITY BUILDING

Minutes in the park, inspired by Theatre of the Oppressed, encourages grassroots examination of government data. Developed by Augusto Boal in Brazil during the 1960s, this method engages the public in analysing power and governance, regardless of formal education or political experience, influenced by Paolo Freire. **Coin stickers**, based on mapping methods for deliberation documentation, aid collective planning and community vision building. They facilitate capacity building for identifying needs and problems, leading to radical participatory design.

Wheel-o-values, inspired by Mary Flanagan's Radical game design methods, serve as agenda setting play tool.



CWBHCID

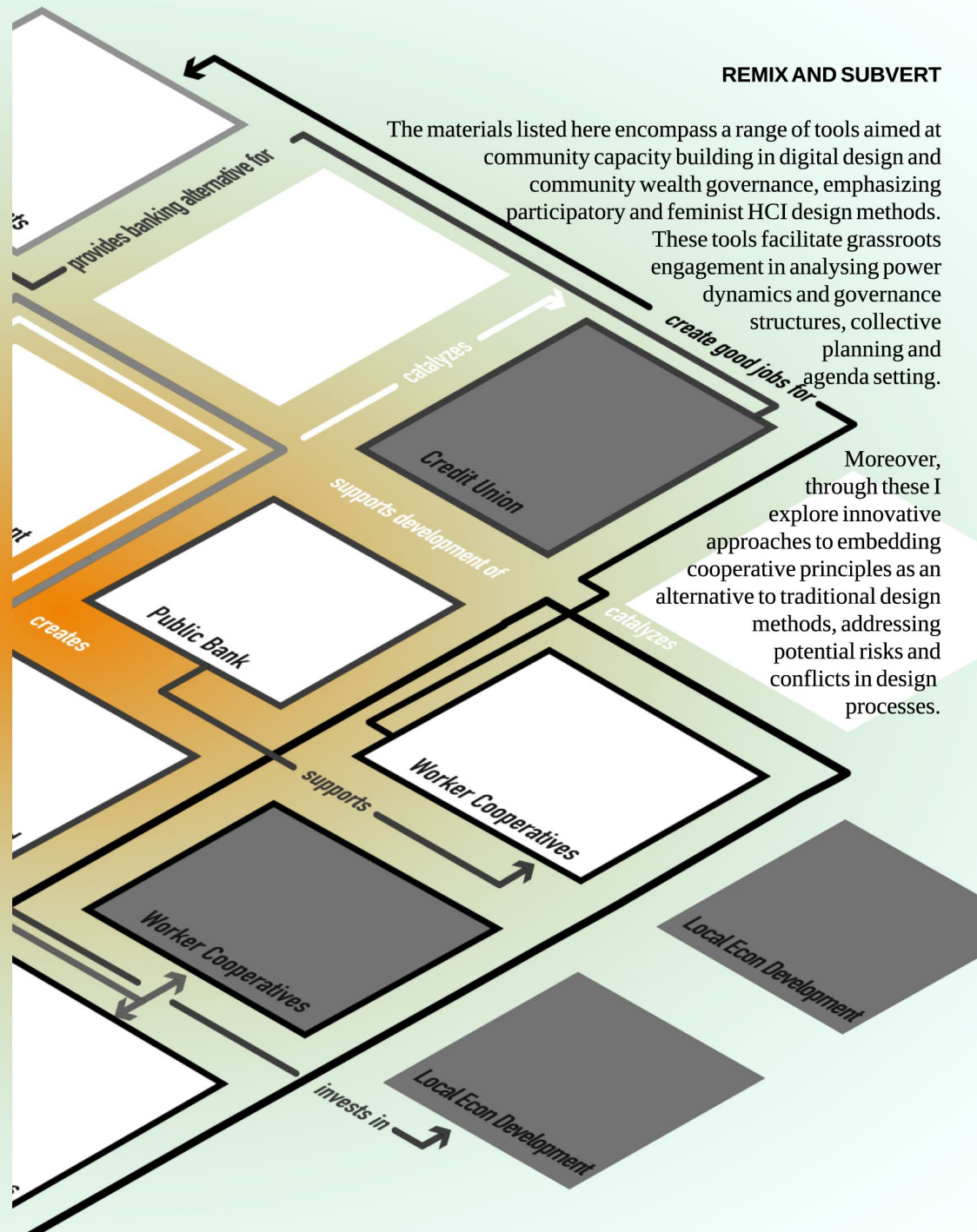
Example mapping for CWB modifies activity to embed COOP principles, aiding software design and local economic development. Not seen as a traditional design method, thus under-explored in HCID.

Nested dolls illustrate relationships and infrastructure in local economic development.

Pick a pebble proposes Sprint method alternative, addressing risks of negative impact on team wellbeing and technology misappropriation due to conflicting values in design sprints.

Story	Example(s)	Question(s)
Rule		

COMMUNITY+WEALTH BY DESIGN



SUMMARY AND EXPECTED CONTRIBUTION

In summary, in this extended pictorial abstract, I present completed and ongoing studies as the research enters its final stages of data collection and transitions fully to data analysis. Aiming to systematically engage in collective scrutiny of conventional design approaches, I presented the process through which those have been identified in the scoping study. The methods highlighted are currently being critically examined through participatory workshops, and alternative methods are being devised and tested to better align with cooperative principles and feminist approaches. These efforts ultimately aim to address extreme wealth inequality and promote community ownership of technology in the pursuit of economic justice through design.

Expected contributions are in form of methodological innovation, ethical considerations, practical insights as pathways for transformation. By employing interdisciplinary approaches, the research demonstrates novel methodologies for studying emerging technologies and grassroots participation. Preliminary findings from the scoping and empirical studies suggest actionable insights for designing inclusive and participatory digital platforms. Highlighting the importance of equitable participation and facilitation, the research raises ethical standards in HCI design processes. By positioning design as a force for economic justice, the doctoral research offers pathways for transforming digital infrastructures towards inclusivity and cooperation.

NEXT STEPS & LONG-TERM GOALS

The next steps for this PhD study involve completion of empirical study and ongoing literature review to deepen understanding of the design process and participation in collaborative funding platforms. This includes identifying unconventional strategies for enhancing inclusivity and collaboration, with a focus on fostering fair and equitable participation [15, 21].

During the DIS doctoral consortium, my focus will be on data analysis of final workshop activities, particularly in the context of community land trust and the application

of subversion methods in design workshops. In my final year, I intend to consolidate insights from these studies into a cohesive methodological framework that integrates ethical considerations into design practices for community led digital infrastructures and interactive systems.

The long-term aspiration is to contribute to the advancement of DIS research by further advancing discussions on ethics in technology through practical implementations. My aim, as an early career researcher, is to establish myself as an expert in the field of DIS, collaborative funding and platform cooperatives, in partnership with the cooperative movement, publishing findings in open access academic journals and presenting at conferences to disseminate knowledge and foster further research in this area.

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