



*a collaborative
project by
Heather Barnett*

CROWD CONTROL

exploring the collective behaviour of Hackney Wick

1 - 23 July 2017

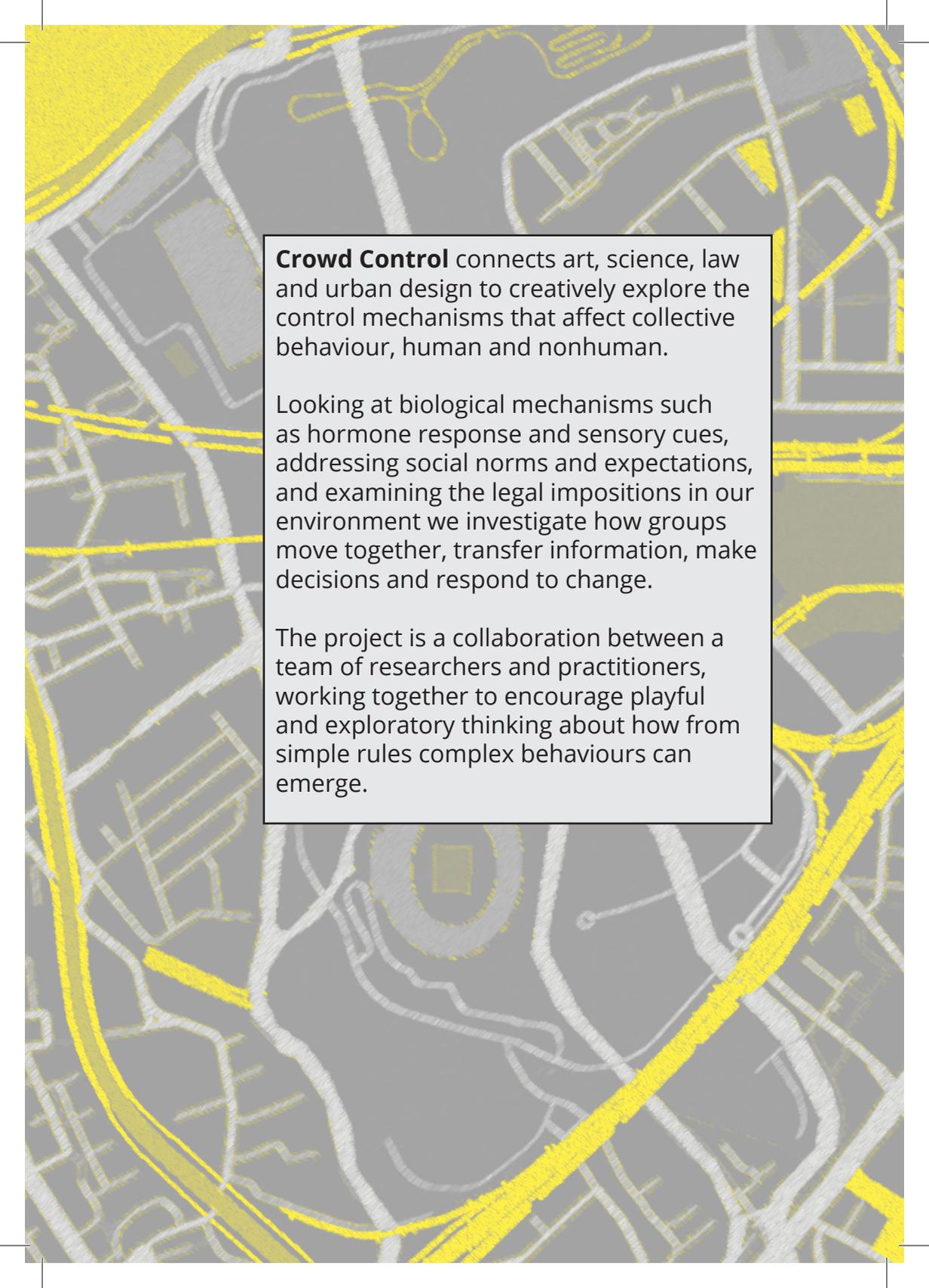
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Hackney Wick becomes playground and laboratory for an interdisciplinary study into the collective interactions between individuals, groups and their environments.



Crowd Control connects art, science, law and urban design to creatively explore the control mechanisms that affect collective behaviour, human and nonhuman.

Looking at biological mechanisms such as hormone response and sensory cues, addressing social norms and expectations, and examining the legal impositions in our environment we investigate how groups move together, transfer information, make decisions and respond to change.

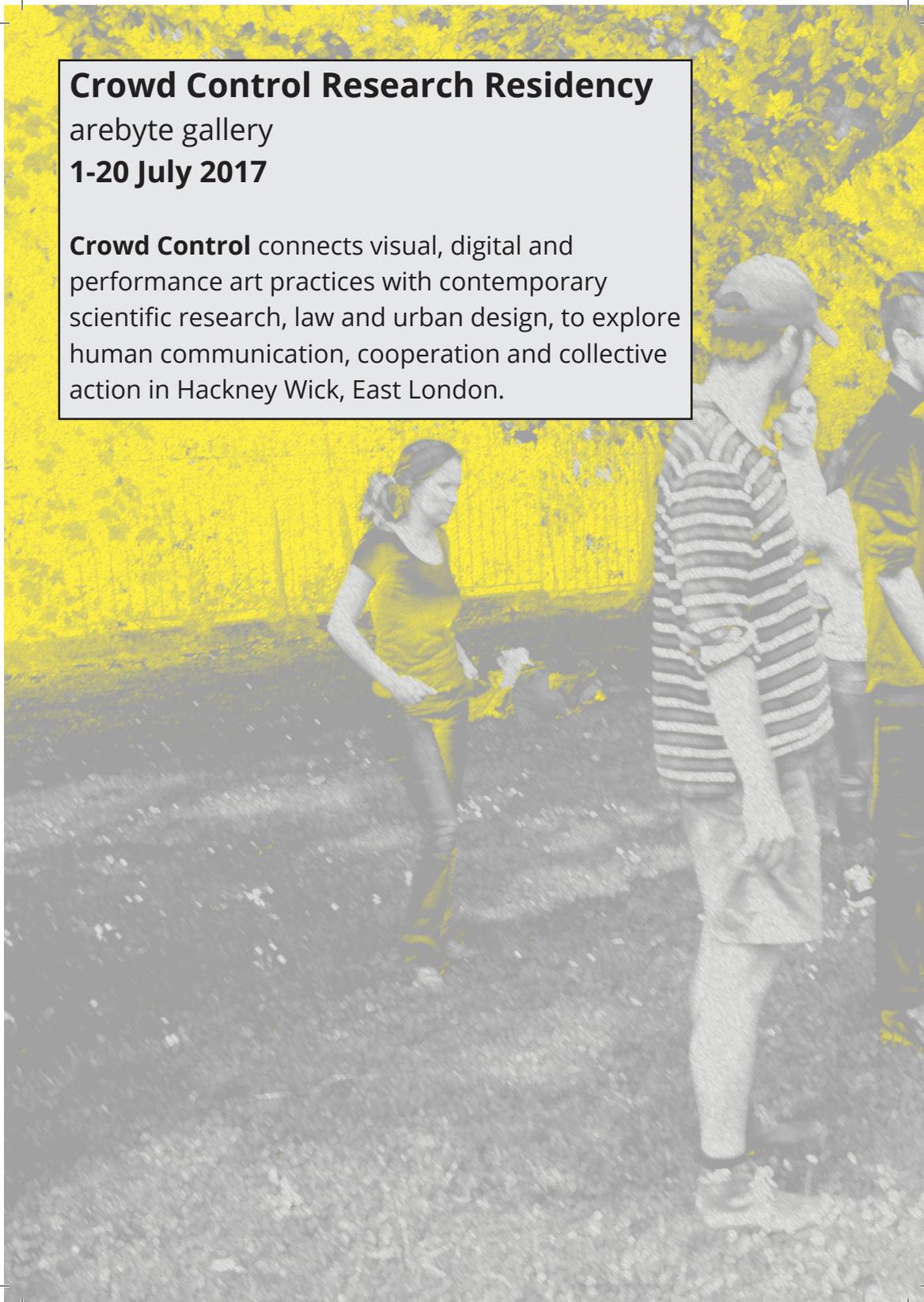
The project is a collaboration between a team of researchers and practitioners, working together to encourage playful and exploratory thinking about how from simple rules complex behaviours can emerge.

Crowd Control Research Residency

arebyte gallery

1-20 July 2017

Crowd Control connects visual, digital and performance art practices with contemporary scientific research, law and urban design, to explore human communication, cooperation and collective action in Hackney Wick, East London.





The project forms part of a Leverhulme Trust funded residency to explore the art and science of collective behaviour - a collaboration between artist **Heather Barnett** and behavioural scientists at Swansea University **Dr Andrew King**, **Dr Ines Fürtbauer**, **Dr Daniel Strömbom**, **Dimitra Georgopoulou**, **Laura Cappelatti**, and **Amanda Fry**.

Other members of the interdisciplinary team joining Crowd Control are: **Professor Andreas Philippopoulos-Mihalopoulos** (law and spatial justice); **Liu Yang** (urban design); **Josh Greenfield** (swarm systems); **Jamie Harper** (theatre and game design); **Julius Colwyn** (art, design), **Annarita Papeschi & Vincent Nowak** (urban design & crowdsourcing), **Melanie Phillips** (interactive theatre) and **Kira Wainstein** (project assistant).

Crowd Control Festival

arebyte galleries & Hackney Wick

21-23 July 2017

Participate in a series of games, walks and experiments that explore collective behaviour, control mechanisms and urban living.



Nesting Groups: a creative game of resource distribution

Saturday 22 July | 11am-1pm (Victoria Park)

Through processes of making and negotiating, explore the complex interconnections between communication, cooperation and competition as you attempt to protect your individual interests whilst maintaining diversity and balance. Social evolution meets environmental sustainability through collective creativity.

Escaping the Lawscape: a game of compliance, deviance and justice

Saturday 22 & Sunday 23 July | 2-4pm (arebyte White Post Lane)

The lawscape is an invisible structure that controls our actions, affects our choices and alters our behaviour. First you will comply, then you will resist, and finally find the space of justice in a series of games winding through the local environment exploring conflicts and cooperations that make up the fabric of Hackney Wick.

Migrations of Cool: live action street game where artists shape the city

Saturday 22 & Sunday 23 July | 3-5pm (arebyte White Post Lane)

The pattern of gentrification is well known: artists seeking low-cost work spaces find a foothold in old industrial areas and gradually, creative communities emerge. But the commodification of cool turns creative scenes into targets of regeneration and, with rising rents, the artists are often forced to up sticks and move on. Is this pattern inevitable? Or are there other ways of operating? This game is an invitation to play your way towards some potential answers.

Animal Collectives: games for grown ups exploring group behaviour

Sunday 23 July | 11am-1pm (Victoria Park)

Inspired by the collective behaviour of other living systems such as birds, sheep and slime mould you are invited to lose individual human ego for a couple of hours and test your capacity to coordinate and cooperate as part of a collective. Data collected will form part of a study on crowd behaviour for Swansea University (SHOAL group) and inform the collaborative work they are doing with Artist in Residence (Heather Barnett).

NESTING GROUPS

Living creatures interact and alter their environments, living collectives do so on a grand scale. Human cities function in the same way as ants nests, slime moulds, bird colonies or brain networks.

These collectives are complex systems of autonomous individuals. They act in concert to affect their environments in ways that they could not achieve alone, and the changes they make to the environment often benefit the collective as much as the individual.

From inorganic matter to highly evolved digital humanities, every single multitude learns by necessity to behave collectively, through communication, co-operation and competition.



COMMUNICATION

In order for collective behaviour to emerge from a group of individuals, communication has to occur in one form or another, alerting danger, signalling resources, locating one another... just keep tweeting...

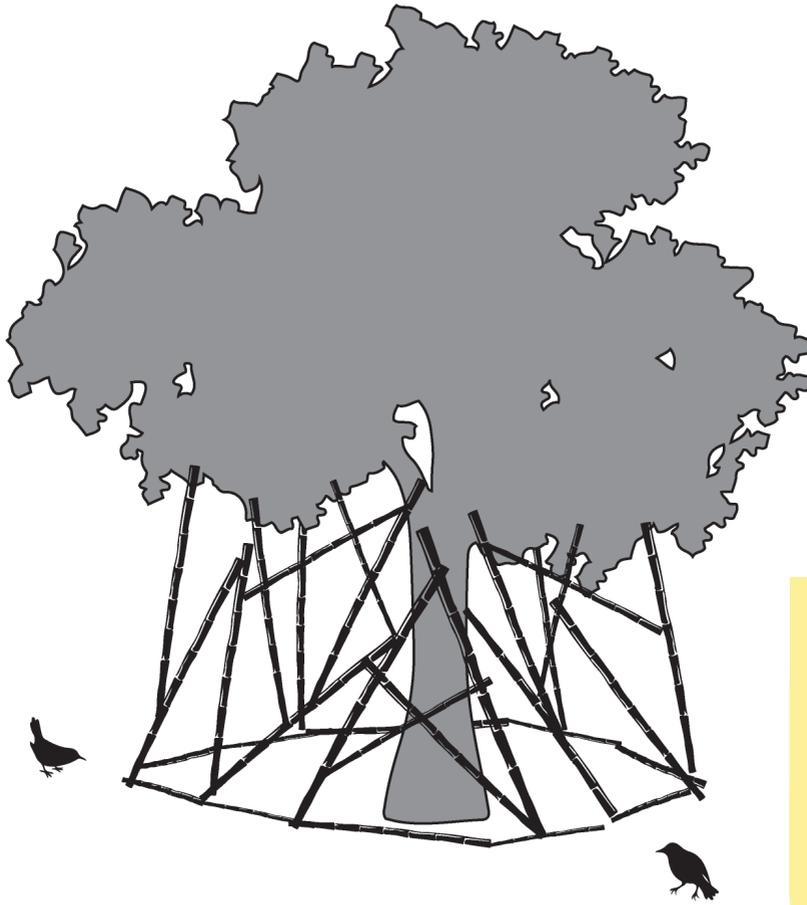
CO-OPERATION

We can only do so much alone... co-operation is a process that helps both the individual and the collective. Whether through the sharing of resources, the division of labour or the conservation of energy...



COMPETITION

In biological and social systems resource scarcity leads to competition. Competition is a major driver of evolution in strategy, conflict and innovation. It can make collective groupings stronger... or break them apart.

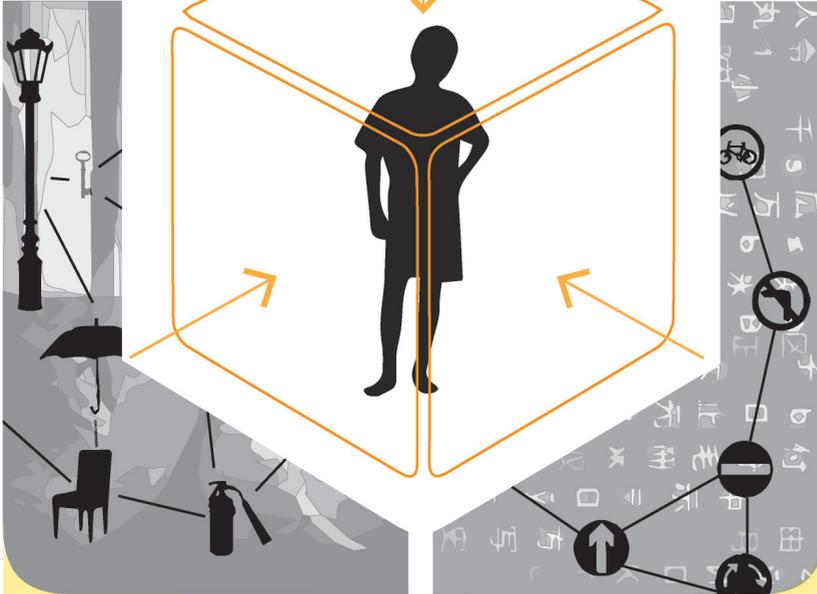


NESTING BEHAVIOURS

Birds of a feather.... The nesting groups game explores den building as a metaphor for collective behaviour and the way that collectives organise and reorder their environments.

Each colony nest is set within its own territory, with rules attached to each strategy. Individuals represent their colony and are assigned parameters to decide how they build their colony alongside their flock mates. This is a collaboration between biology and architecture in an experiential game. The outcome is unpredictable.

ATMOSPHERIC LAWSCAPE



SYMBOLIC LAWSCAPE

MATERIAL LAWSCAPE

THE LAWSCAPE

Welcome to the lawscape, where law and space are one thing, impossible to separate. Is this a metal barrier or the marker of a private property? Is there a law that stops me from walking onto people's canal barges or is it just my own personal ethical positioning about what the law is? Hackney Wick is replete with legal symbols and commands. It is also rich in material lawscaping mechanisms: fences and barriers, barricades and locks, handrails, landscaping tools to facilitate flow between the Olympic Park and the old Hackney Wick. There are also internalised and embodied conflicts, especially when walking along the canal, where pedestrian and cycling traffic share a narrow lane, and territorial behaviour is exhibited on both sides. Whatever you do, you are a body moving through the lawscape, co-constituting it as you move.

ESCAPING THE LAWSCAPE



COMPLIANCE

The symbolic lawscape functions only because we know what to ignore - disrupt it by obeying everything.

DEVIANCE

The material lawscape functions through a consensus as to how we interact with materials, so be a deviant and put those benches to other uses.



JUSTICE

The atmospheric lawscape emerges through expectations and group dynamics, but does not always allow for justice. Break free and find a fairer way.

LAWSCAPING

Now you know the lawscape...edit it. Make a mark and experiment with how symbols, materials and atmospheres alter the behaviour of yourself and those around you.



ANIMAL COLLECTIVES:

Animal Collectives is a series of games that explore how individuals operate within groups and respond to environmental cues. Inspired by the collective behaviour of other living systems such as birds, fish and sheep, participants lose their individual human ego and test their capacity to coordinate and cooperate as part of a collective.

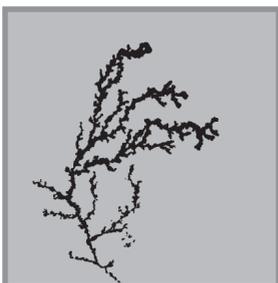


MILLING

Moving around in an agitated or restless manner? If you are in a group, then you might be milling about. It seems aimless, but don't worry, you're just becoming part of the collective.

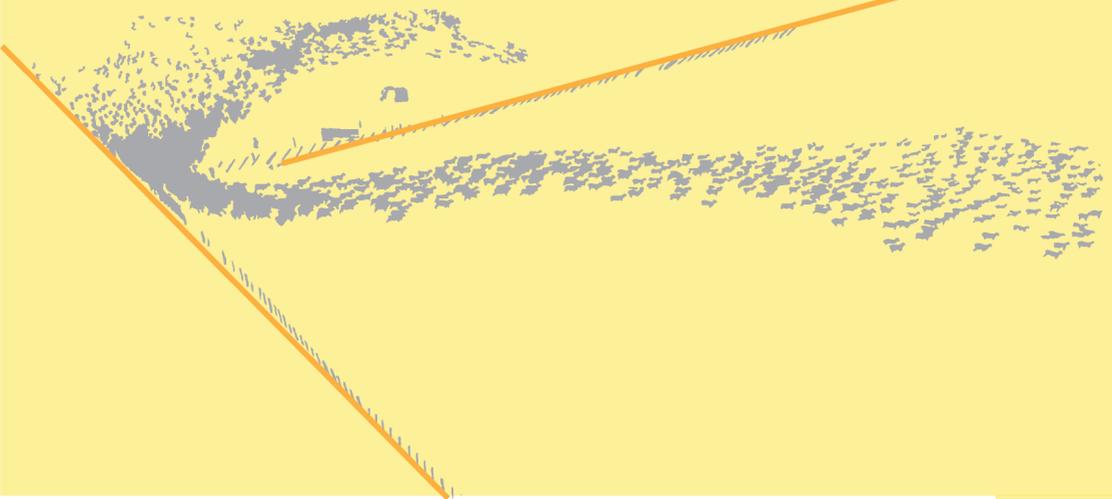
FLOCKING

How can 50,000 birds fly in concert, and not bump into each other? And can humans do it, following the simple instructions that lie at the heart of this behaviour?



SWARMING

Intelligent decisions from a brainless blob? Swarm behaviour can demonstrate collective problem solving without a central brain.



HERDING

Herding is a behaviour in which members of a collective take different roles, working on principles of attraction and repulsion.

COLLECTIVE BEHAVIOUR

Shoals, flocks, herds, swarms, colonies, are all examples of groups composed of individuals that can move and react as one unit. Each individual moves away from others that are too close (repulsion), takes the average heading of others at intermediate distances (orientation), and moves toward others located further away (attraction).

This is not confined to animals. Single celled organisms, such as the slime mould (*Physarum polycephalum*), demonstrate primitive intelligence and an impressive capacity for collective action, despite having no brain or central nervous system.

Computer simulations test the rules observed in nature to create algorithms which can be transferable to other collective systems... robots or humans.



MIGRATIONS OF COOL

Does coolness migrate? When we consider gentrification as a collective behaviour, maybe it does.....

Artists seek out cheap work space and migrate into impoverished areas. These areas start to be perceived as 'cool' as artistic happenings occur. Property developers then seek to capitalise on the aura of cool by building flats next to (or on top of) the artists who have raised the value of the area.

Alongside this process, groups of residents (those who pre-date the arrival of artists or developers), also play their part, perhaps by protesting gentrification, perhaps embracing new opportunities that result from added investment, or maybe just passively letting things happen.

Different roles in the collective, resisting, accelerating, enabling...

Gentrification is a highly documented subject, and often approached from a partisan point of view. The live action game is designed to encourage alternative perspectives, to 'play' the development of the area from different perspectives.

While gentrification might demonstrate systemic properties of collective behaviour it is also a process rich in human interaction and emotion as communities try to protect what they value. Migrations of Cool invites players to create individual characters and, by playing this game in the streets, make a physical connection between progress, people and place.



ARTISTS

Find cheap space, make art!
Make even cooler art when you club together with other artists!

When artists club together in a 'cool zone' this becomes an attractive target for developers.

DEVELOPERS

Find the artists, apply for planning permission! Sell flats to buyers who wish to partake in the aura of cool!

Rents rise for artists and they migrate elsewhere, killing the cool.



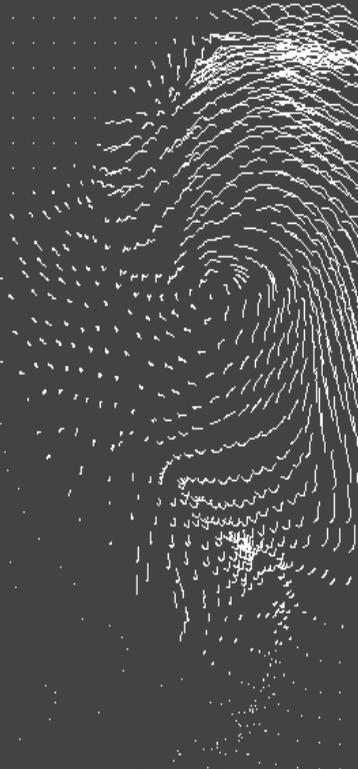
RESIDENTS

As artists and developers flock to the area, protest their arrival!

As artists and developers flock to the area, see what they have to offer!

As artists and developers flock to the area, ignore them...





Crowd Control Exhibition Testing Station

Observations, simulations, visualisations and live experiments exploring the mechanics and aesthetics of collective motion.

arebyte 117 Wallis Road

Opening event: Friday 21 July, 6-9pm

Exhibition continues 22 & 23 July, 12-6pm





Crowd Control Exhibition Testing Station





>> motion fields >> urban picpoetry >> observation studies >> being slime
mould >> herding models >> walking algorithms >> complex systems >>
simulated behaviours >> data mining >> mapping cognitive >>>>



www.arebyte.com
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