In-between Theory and Practice: Dialogues in Design Research

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Abstract
Why Wait? and *Betwixt* are two of the workshops we have recently run on the theme of in-between-ness. The approach of social computing, where researchers work to understand how the socio-cultural aspects of human life relate to the design of new technologies, was the starting point for our investigation. By observing actual instances of in-between-ness in context we explored how design activities can be used as an opportunity to discuss and take positions on a specific theme, and as a space for narrowing the gap in design research between theoretical and practical thinking.

Keywords
Design research, social computing, in-between-ness, workshop

ACM Classification Keywords
Design, experimentation, theory

Transitions in Social Computing
Research into the process of designing new technologies has undergone considerable changes over the past twenty years. Various trends in the field of Human and Computer Interaction have challenged the traditional engineering-style, top-down approach and

the associated cognitive methodology that regards individuals as making rational decisions and plans according to an abstract model of the world [1]. A number of these trends highlight the need to 'incorporate understandings of the social world into interactive systems' [2]. 'Social computing' is an umbrella-term under which some researchers from different schools of thought (user-centered and participatory design, CSCW among others) have found a common goal in research directed towards understanding how new technologies can be better integrated with, and support, existing social dynamics.

Embracing the multidisciplinary approach of social computing involves various challenges. While facilitating a dialogue among members of a research team can be difficult at times, harder still is forging the dialectic relationship between a theoretical understanding of a concept and a concrete design. The link between theory and practice does not often emerge in a logical sequence during the design process, but it can be better understood if the designers have cause to reflect on this connection and the skill to articulate this to others [3]. In response to Ackerman's formulation of the social-technical gap [4] we suggest that whatever the motivation and goal of a social computing research project, the gap between theory and practice created by this approach can be resolved only through the combination of conceptual, intuitive, experiential and analytical components that constitute the design dialogue.

This is often practised by design schools and companies, as well as some HCI researchers [5,6,7]. While design schools prioritize doing over theorizing, the process of the design 'crit' teaches students to reflect on, and communicate effectively about, their work and its inspirations [8].

Drawing on these approaches, we organized a series of workshops whose goal was to facilitate a dialogue between researchers involved in social computing. Focusing on specific observed situations through discussion and design activities became the glue connecting theoretical and practical thinking. It also highlighted how the peculiarities of a socio-cultural context, together with the motivations, backgrounds and personal experience of researchers influence the emergence of specific themes and design plans. Finally, design, when used as a tool to explore a complex topic of research, can itself give rise to innovative interpretations of current research and design practice.

Exploring in-between-ness through design and contextualization

Design in research often begins with a theme or concept rather than the identification of a 'problem'; the design process becomes therefore open-ended, implying that a design space is constructed and explored rather than a solution sought. Researchers in social computing have so far mainly focused on the household, on the workplace and, to some degree, on what Oldenburg calls "third places" [9]. Though this body of research has led to a better understanding of the socio-cultural context for which new technologies are designed, it only addresses a narrow range of people's daily experience. More specifically, the transitions, both temporal and spatial, between culturally valued activities that structure people's lives as a continuous flow rather than a series of discrete moments have not been greatly considered.

Examples of Tasks

- Find somebody who has planned their waiting

- Persuade someone to wait for you

- Find someone who has augmented their waiting

- Find someone for whom the space is not transitional

- Find someone whose subversion of the space is not socially acceptable

- Find evidence of a technology that has been brought into the space that did not exist when the space was built

Fig. 2: Presenting Design Plans

The identification of this gap in the social computing literature, together with the search for an appropriate methodology for reflecting on the link between theoretical and practical thinking led us to conduct a series of workshops on the theme of "in-between-ness". Our first workshop, *Why Wait?,* took place in London and explored 'public waiting', and how it relates to place, time and future technologies [10]. The second workshop, *Betwixt*, was held in Orange County, California and focused on the spatio-temporal characteristics of being in transition [11]. We organized these workshops around direct observation, personal experience, and concrete design tasks, in an attempt to open up the topic of in-between-ness and expand participants' personal and collective understanding of this theme.

The theme of in-between-ness is, overall, a challenging one to explore on both theoretical and practical levels – not least because in-between-ness as a topic is difficult to grapple with. For the purposes of this paper, however, our main focus will be on the methods we used to explore the topic and not in-between-ness itself.

Why Wait? And Betwixt

For each workshop we selected between ten and twenty participants with an interest in the social aspects of technology design. Participants came from the fields of computer science, architecture, interaction design, social science, art and psychology, reflecting the multi-disciplinary nature of social computing research. Following an informal introduction to the topic there was a session of "speed-dating," (Fig. 1), in which participants faced each other across a table and had two minutes to introduce themselves to the person opposite them before moving on. Following this, participants were divided into three groups and sent out into the surrounding area with identical scavenger-hunt style lists of tasks. The tasks (see insert on the left), which required documentation of some kind, were highly specific yet open to many interpretations – there were meant to be no right answers, forcing groups to discuss and negotiate their interpretations. In each workshop we had participants initially reject the list of tasks, and later discover that they had – intentionally or otherwise – completed them all.

On returning to the workshop venue groups selected the most relevant examples of their documentation for presentation (Fig. 2). Presentations were followed by a discussion on the main topic of the workshop during which we encouraged participants to illustrate their theoretical perspective with concrete examples drawn from the observation exercise.

Groups then undertook a design activity in which they chose a situation documented during the fieldwork session and designed something to enhance, augment, support or subvert it. They were told to disregard all practicalities in coming up with these design plans. The workshops ended with the presentation of these designs and a critique of them by the other participants.

While some of the techniques we used might be applicable in other settings, our workshop focused on, and attempted to leverage, some of the specific challenges that arise when tackling spatially and temporally distributed situations, i.e. public spaces. While it is hard to try and achieve a sociological understanding of an entire city, it is, for instance, much

Fig. 3: Design as *opportunity*; application for mobile phones that shows people where others have been waiting

Fig. 4: Design as *amplification*; Myst-air and the picture that inspired the concept

easier to gain access to and observe activities on a London street corner, than in somone's private bathroom.

The workshops were intended to maximise opportunity for conversation between participants and to open up discussion on the workshop theme in imaginative and unconstrained ways. By being involved in every stage, ethnographers, designers, and computer scientists were able to bring their unique perspectives to the sides of the design process in which they were not usually involved. As our emphasis was on imagination, dialogue and action we did not want participants to be given a passive role at any time – and so we choose a style of introduction that fostered social links, i.e. speed-dating, rather than the more traditional, and less interactive, presentations. The list of tasks for the observation session provided participants with a combination of first-hand experience and defamiliarization [12] of the workshop theme. The identical lists of tasks proved to be an important starting point, as groups had a common frame of reference for understanding the presentations. The constraints of the design 'brief' – to be related to a concrete situation, to disregard technical and financial constraints – guided participants to focus on a single image, resulting in highly contextual, concept-led, designs. For example, one group in 'Why Wait' designed a device to increase personal space after selecting an image of a man who had done this by leaning on street furniture. These constraints also optimized the value of the design 'crit' as all participants shared a visual awareness of the situation being considered. The discussion that followed each activity, provided opportunities for participants to engage with a theoretical concept through shared experience. In Betwixt, for example, the presentation of images of a mall, contrasted with images of a public park, led to a discussion on power relationships in public and semi-public spaces.

The visual speculations created during the design activity formed the tangible outcome of the workshop and became integrated into archival websites [9, 10]. We believe these outcomes might act as inspiration or critique for us as researchers in social computing, providing a fruitful way to grapple with the emerging topic of in-between-ness. More importantly, we believe they open up the conversation on how abstract concepts relate to design through reflection, discussion and construction.

The different facets of design research

Our reflections on the design process undertaken by each the groups yielded two important observations. First, we noted that all of the design sketches addressed at least one of the themes from the discussion. Secondly, we witnessed the emergence of three distinct but related approaches to the notion of design in the context of the workshops: design as *opportunity*, design as *amplification* and design as *statement*.

Some groups identified opportunities to design a technological intervention for specific socio-cultural situations. For example, inspired by a situation where a girlfriend was frustrated by waiting for her boyfriend to consult a map, one group sketched a mobile phone application to project a map onto the floor of the building. It can then be inspected, or interefered with, by a group of people rather than a single individual (Fig. 3). This reflected part of the previous discussion,

Fig. 5: design as *statement*; truckatruck is a vehicle for homeless which they can use to sleep but also to collect and recycle trash to make them accepted and legitimized.

where participants discussed the non-verbal communication people use to express their feelings about their waiting experience.

Design as *amplification* focuses on a specific aspect of a situation and takes it to an extremely improbable conclusion. We saw this approach in the design of one group at *Why Wait?* who sketched a breath-activated tool ('Myst-air') which emitted a spray of water around the person who uses it. The intention of Myst-air was to provide a healthy alternative to the cigarette as social defence from unwanted attention and self-consciousness caused by waiting. The design was inspired by the observation of someone waiting on the street who had appropriated part of the public space as personal waiting space. In the earlier discussion it had been suggested that people use technologies to carve a private space in the public domain as a way to legitimise their waiting in the eyes of others.

Other participants made more overtly political *statements* by expressing critical opinions on specific situations, and using a design sketch to suggest a thought-provoking alternative. A group at *Betwixt*, for instance, used design to make a statement on the power relationships inherent in public spaces, a topic which had been explored during the discussion. They drew up a design for a vehicle for homeless people, where they could sleep, and through which they also could become socially accepted by collecting and recycling trash on the streets (Fig. 5). The group was inspired by the observation of a mall, which was kept in extreme tidiness and seemed not to tolerate behaviour that deviated from that implicitly suggested by its structure. Through design, participants expressed their intent to make the mall more accessible to a broader variety of social classes, by providing them with a way to become legitimised in that particular system. At the same time, the design reflected and supported the transitional aspect of not having a fixed home.

Conclusion

Why Wait? and *Betwixt* constitute the two workshops we conducted on the theme of 'in-between-ness' with the aim to explore this topic and investigate the relationship between theory and design practice. Starting from the workshop experience we attempted to open up a discussion about the possible use of design for exploring theoretical concepts within the multi-disciplinary teams of social computing research. We found that first hand experience of contextual, everyday situations is helpful in creating a common frame of reference for researchers from different disciplines. This particularly applies to themes that relate to the public aspects of everyday life, to which designers can have easy access, but which appear difficult to define. A dialogue focused on these observed situations helps highlight how the specificities of a socio-cultural environment and the motivations, backgrounds and personal experience of researchers influence the emergence and interpretation of specific themes and design plans. Ultimately the design activity became the domain where researchers could confront each other and creatively express their interpretation of the topic.

We also found that design can be used as a tool by researchers to understand, through reflection, negotiation and discussion, how a theoretical concept, such in-between-ness, relates to design practice. And we noted that in these exploratory exercises, design can be interpreted in different ways (*opportunity*,

amplification or *statement*) which can equally support the understanding of the theme explored. These interpretations offer different angles from which to view a specific topic, and reveal opportunities and challenges for the design community.

While our observations are drawn from a specific and short-term method such as a workshop, we suggest that a similar approach can be generalized and applied to longer-term projects within social computing in which researchers collaborate to explore emerging themes within design research. Breaking down a specific theme into conceptual but observable manifestations, and having a multidisciplinary design team conduct first hand observation to create a link between discussions (theoretical thinking) and exploratory design activities (practical thinking), could represent the starting point for design projects that rely on an improved understanding of the situated aspect of everyday life, which is the core motivation of social computing.

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