

Social Technologies: Challenges and Opportunities for Participation

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ABSTRACT

This paper is about new forms of participation that are enabled as a result of social technologies. The premise is that social technologies simultaneously create and demand an engagement with the dynamic relations of design and use and that this gives rise to new forms of participation ‘in the wild’. Our aim is to contribute to understandings and practices of participatory design in this emerging context. Underpinning our research is a question of how the understandings of, and commitment to, participation represented by Participatory Design intersect with the notion of participation as a broader cultural phenomenon. Using examples from recent practice-led research we reflect on the potential conditions for participation in early design that social technologies represent, the role of social technologies in enabling these experiences, and the challenges we have faced in embracing such participatory approaches in commercial contexts.

Author Keywords

Community participation, design methods, industry contexts, participatory design, social technologies

ACM Classification Keywords

H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

INTRODUCTION

This paper is about new forms of participation that are enabled as a result of social technologies. Dittrich et al. (2002) explored the multiplicity of ways in which design was taking place beyond the traditional boundaries of IT software development projects. They called for ‘PD in the wild’, highlighting the need for new methods and models that better supported design as ongoing and intertwined with use. They stated:

design and use should not be regarded as two separate and sequential activities, but rather as on-going in parallel, intertwined, overlapping, with shifting foci and agencies. The question this raises is: how might these different, co-existing practices of design be more deliberately and consciously put in dynamic relation to each other (p.124).

The premise of the paper is that social technologies simultaneously create and demand an engagement with

the dynamic relations of design and use and that this gives rise to new forms of participation. We describe evolving practices of ‘PD in the wild’ that take place early in the design project and are made possible by social technologies themselves.

In using the term social technologies we refer to the tools and practices that constitute our increased capacity for personal communication, production, publication, distribution and sharing. We include for example mobile communication technologies such as SMS and picture messaging, social networking platforms such as Facebook and Ning, media sharing sites such as Flickr and YouTube and open source blogging tools such as Wordpress. Terms such as user generated content, crowdsourcing (Howe, 2008) and citizen media (Trogemann & Pelt, 2006) also refer to emerging practices supported by social technologies.

Increasingly commercial, government and not for profit organisations are embracing social technologies as a way to support mass ‘participation’ (Cottam, 2010). Underpinning our research is a question of how the commitment to participation defined in Participatory Design (PD) can be taken up in these environments. How does or can PD’s understandings of, and commitment to, participation intersect with the notion of participation as a broader cultural phenomenon? Leivrow (2006) has pointed out that participatory design in the context of social technologies, (or new media as she describes it) is *necessarily recursive*. Participation is both the means of designing usable and meaningful technologies as well as the outcome of successful systems.

Our aim is to contribute to understandings and practices of participatory design in this emerging context. We examine the dynamic couplings between design and use embedded in social technologies and, using examples from practice-led research, explore how this impacts on how we approach and conceive of participation in their design. Specifically we show how the use of social technologies reconfigured the traditional role of self-reporting to become an opportunity for *socialising the research, bridging existing and future practices and developing seed content*. We reflect on the potential conditions for participation that these three phenomena represent, the role of social technologies in enabling these experiences, and the challenges we have faced in embracing such participatory approaches within commercial contexts. The analysis and discussion is framed and guided by existing discourse within Participatory Design literature. In particular we draw upon related work from within PD that has emerged as a

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result of, and in response to, the nature of social technologies.

The paper begins with a brief summary of our research background and motivations. We then provide an overview of how social technologies are disrupting traditional approaches to, and conceptions of, design and use. The following section explores how new forms of participation in the design of social technologies are already being taken up in PD through a range of projects that have explored prototyping 'in the wild'. We then present some findings from our practice-led work, self-reporting 'in the wild', and reflect on the new opportunities for participation introduced by social technologies. This is followed by a discussion of some of the existing barriers to embracing such participatory approaches within commercial contexts that were highlighted through our work. The final section recognises the importance of the political questions that come with any discussion of participation, in the context of working with social technologies.

RESEARCH BACKGROUND

This paper reports on one aspect of a larger practice-led research project into the impact of social technologies in early design. Interested readers can find a fuller account of the research in (Hagen & Robertson, 2009) and (Hagen, Robertson, & Gravina, 2007). To summarise, the empirical research reported in this paper took place in the context of a commercial design agency committed to social change. Many of their clients were motivated by the potential for social technologies to reach and engage existing and new audiences in ways meaningful to those different stakeholder groups. We were involved in practice-led research into early design methods that would assist the design agency and their clients in developing an understanding of what kinds of community platforms or social media strategies would be appropriate.

Specifically, we experimented with emerging self-reporting techniques that made use of social technologies themselves as tools for self-documentation. Inspired by methods such as Mobile Probes (Hulkko, Mattelmäki, Virtanen, & Keinonen, 2004) we appropriated mobile phones, video cameras and blogs as self-reporting tools. The method, known as Mobile Diaries, was deployed and evaluated over four different studies. Participants representing potential future community members were recruited and asked to complete diaries for a period of between 1 and 3 weeks. The goal was to provide an insight into how the particular topic, e.g., sustainability or personal health, came to have meaning in their lives.

Participants used multi-media picture messages and video to capture and share rich, personal messages and snapshots of their lives as they lived them. In the last two studies the mobile messages were sent to private research blogs or 'participant mobile diaries'. These were a customised version of the open source Content Management System (CMS) Wordpress, a shared platform that could be accessed by participants and researchers for the duration of the study. The blogs allowed for the collation of data, mutual reflection on collected material as well as comments and discussion

between participants and researchers. Importantly, the tools and technologies used in the diaries were often the same as those used for the final, public, custom community platforms that were implemented.

Particular opportunities arose as a result of using social technologies *themselves* to inform the design of social technologies. Using social technologies as the design material opened up the potential to directly engage and connect the practices of design with practices of use. In previous work we have discussed these findings through the concept of seeding (Hagen & Robertson, 2010) which emphasises strategies for embedding the design project in the future context of use. Here we build on this work, discussing our findings from the perspective of how they can be understood as opportunities for participatory design.

SOCIAL TECHNOLOGIES: DESIGN AND USE

Social technologies can be characterised by greater social participation in mediated contexts (boyd, 2007). The phenomenon of social technologies has been made possible in part by the shift in technology ownership from organisations and companies, to everyday people (Battarbee, 2003; Shirky, 2008). The ease with which we can now connect, communicate, produce, share, replicate, locate and distribute information has had, and continues to have, a profound impact on our social, cultural and technological practices (boyd, 2009; Shirky, 2008). In this section we focus on the considerations foregrounded by social technologies as a subject for design. We draw attention to three things in particular, the complex and variable nature of use, the emergent nature of design in this context, and the role of designers in facilitating the participation inherent to these systems. These issues illustrate the tight couplings between design and use visible in social technologies and illustrate aspects to be sensitive to in the consideration and evaluation of new approaches and methods in this context.

Complex and variable contexts of use

The complex and variable contexts of use across which social technologies are manifest presents challenges for designers seeking to apply traditional contextual approaches or methods (Kurvinen, Koskinen, & Battarbee, 2008). The 'social' nature of social technologies can make it difficult to identify *who* exactly the users are and *where* exactly use might take place. Use is mobile, domestic and woven through complex, ongoing social contexts (Isbister & Höök, 2009). 'Users' are heterogeneous (Ehn, 2008), geographically distributed (Bergvall-Kåreborn & Ståhlbröst, 2008) and potentially anonymous or unknown (Clement, Costantino, Kurtz, & Tissenbaum, 2008; Ehn, 2008).

Adequately simulating *what* it is that people are using social technologies for is equally difficult. Rather than task-based behaviours, social technologies support activities like *hanging around* (Hart, Ridley, Taher, Sas, & Dix, 2008), *messing around* (Ito et al., 2009), *looking at*, *looking up*, and *keeping up* (Joinson, 2008). These are dependent on co-experience (Battarbee & Kurvinen, 2003) and prompted by emotional or/and experiential factors such as a shared experience or shared interests

(Battarbee & Kurvinen, 2003; Hess, Offenberg, & Pipek, 2008).

As Isbister & Höök note, “*We can’t rely on re-using pre-existing interface metaphors and strategies because there are too many new variables of use...*” (2009, p.1). It is arguable that our experiences of social technologies are so complex, situated and dependent on the activities of others, that feedback about use only becomes meaningful in context, or ‘in the wild’.

Design is emergent

Another central characteristic of social technologies is that their form emerges over time, through use. The idea that design is completed-in-use is a basic principle of Participatory Design (Henderson & Kyng, 1991). Themes of appropriation, customisation, personalisation and tailoring are central to the work-orientated literature of both PD and CSCW as can be seen in (Balka & Wagner, 2006). However as Battarbee et al. (2008) suggests, “*this phenomenon of open products, open source and user generated innovation is not of merely customization or personalization...*” (p.299).

Social technologies bring a renewed attention to the notion of *design in use* because so much of their form is constituted *through use*. While people do undertake specific acts of personalisation and tailoring, *design in use* also occurs in more implicit ways. In addition to acts of ‘configuration’ the design is determined by the content we add, the messages we leave and the contributions we make.

Examples might include social navigation where links between data and metadata emerge to reflect subjective and collective viewing behaviours (Chalmers, Dieberger, Höök, & Rudström, 2004), folksonomies where the relationships people make between data and metadata form collaborative categorisations or social tagging such as on the social bookmarking site, Delicious, or the photo sharing site, Flickr. When designing social technologies we are effectively creating containers or scaffolds; their shape is formed through participation and user driven contributions and that shape changes over time. Our experiences are affected through our own interactions as well as through the contributions and participation of others.

The evolutionary nature of social technologies is particularly evident in popular technologies such as SMS, Flickr, Twitter and Facebook which all perform radically different functions than those first envisioned by their designers; the purposes of these technologies have in themselves emerged from their use over time.

The designers role

Social technologies also focus designers’ attentions beyond the construction of artefacts. As Brereton & Buur (2008) point out “*participation is predicated upon delivering value to those who participate*” (p.112). Use of social technologies in community settings is voluntary. In designing successful social platforms around which communities grow, evolve and share, our role as designers extends beyond researching, defining, creating and releasing a product. The facilitation of participation

by the ‘future community’ also becomes a central concern.

DiSalvo et al. (2007) argue that how communities and participants actually come to take up the systems of co-production is an obvious, yet under-addressed concern for designers. In discussing motivations for participation Botero & Saad-Sulonen (2008) highlight the value of working with existing communities around issues of community interest, but the role of designers may also extend to bringing the community ‘into being’ as part of the project (DiSalvo, et al., 2007).

Merkel et al. (2004) suggests that it is the responsibility of designers to provide community organisations, who are often under-resourced, with the ability to evolve and maintain the technology themselves, rather than leave them dependent on a design agency for expertise. Developing the skills of participants becomes another aspect of participatory design (Dearden & Light, 2008; Merkel, et al., 2004), as do strategies for transferring ownership of the project from the designers to the user community (Merkel, et al., 2004).

Questions about the role of design and the skills required of designers are further complicated by the use of existing platforms as starting points. Traditionally designers have been responsible for the creation of a range of artefacts (Brereton & Buur, 2008). In the design of social technologies, emphasis is on the recomposition and configuration of existing software and pulling together combinations of existing open and free technologies (Lievrouw, 2006; Twidale & Floyd, 2008).

Design and Use

In the opening quote Dittrich et al. (2002) suggest that design and use should not be considered as separate and sequential activities. In the case of social technologies the diverse contexts of use and their participatory and emergent nature emphasises how use is firmly embedded in design, and vice versa. While we may have always conceptually understood design to be ‘actualised in use’ (Dourish, 2001), social technologies reveal the integrated relationship of design and use in quite literal and visible ways. The close coupling of design and use inherent in social technologies exposes the limitations of some of our traditional approaches to design; it also creates new opportunities for supporting participation in design.

Dittrich et al. (2002) also point out that the malleability of software creates the opportunity for the integrated co-development of design and use. We propose that this approach is particularly suited to social technologies. In the following section we look at examples from PD where this potential for co-development of design and use is being taken up in the context of social technologies.

PROTOTYPING AS ‘PD IN THE WILD’

As a collaborative and experiential method, prototyping has always been an important part of the Participatory Design toolkit e.g., (Bødker & Grønbæk, 1991). In the examples below prototyping is extended ‘into the wild’, becoming a living form of design research.

In the first example, Redhead & Brereton (2008) deployed an electronic-noticeboard prototype into a

community. The prototype was then evolved *in situ*, in response to use and community feedback. The authors reported a lack of success with traditional methods such as workshops which were only attended by a few of the identified stakeholders (Redhead & Brereton, 2008). Instead, installing a functioning prototype in a location that was physically shared by many members of the community (a local store), allowed people to experience the design as part of going about their daily lives. The authors saw this approach as a significant departure from earlier consultative Community Informatics approaches - rather than seek consensus on intended use, stakeholders were able to indicate “*usefulness through use itself*” (Brereton & Buur, 2008, p.111).

Patchwork Prototyping (Twidale & Floyd, 2008), an approach to the design of collaborative software, takes a similar approach, relying on the combination of open source tools, local code and mash ups of existing services. Rudimentary prototypes or ‘patchworks’ are pulled together and immediately integrated and used as part of daily practice: an easy way of supporting real user participation in actual use (ibid). Importantly Jones et al. (2007) note that Patchwork Prototyping was observed as a phenomenon emerging out of practice, rather than being a method designed a priori. The researchers have since formed a research program around the approach.

Botero & Saad-Sulonen (2008) also took a similar but deliberate ‘living research’ approach in the development of the Urban Mediator software. In seeking to understand how social technologies could allow citizens a more active role in shaping council policies and responses to community issues, seed prototypes were used in a co-discovery process with the community. The Urban Mediator allowed citizens to track and contribute data about events in their city. Rather than undertaking traditional usability evaluations of isolated software components, Botero & Saad-Sulonen (2008) re-purposed existing software to create ‘concrete interventions’ that could be co-evolved.

The approaches to prototyping ‘in the wild’ described here are possible because social technologies lend themselves to the deployment of simple prototypes that can be modified and evolved through feedback (Brereton & Buur, 2008). Twidale and Floyd (2008) argue that such approaches only exist as a result of the current ecology of information technologies. The plethora of readily available and open source tools make rapid deployment and reconfigurations feasible and achievable. This supports Lievrouw’s (2006) argument that reconfiguration is a key aspect of participatory design in the context of social technologies.

Floyd et al., (2007) described the advantages of such an approach in the following way:

The development proceeds and design decisions are made based on the users’ collaborative experience of integrating the software into their every-day activities, not based on abstract design principles or predictions of what the users might need (p.3).

Through this experiential process both researchers and community members come to understand how such

technologies become useful and meaningful in people’s lives (Botero & Saad-Sulonen, 2008). Participants are provided with a concrete and visceral experience of use (Twidale & Floyd, 2008) as a way to evolve and participate in design.

As discussed, social technologies foreground a tight coupling between the practices of design and use because so much of their design takes place through use. In the approaches to design described here this dynamic relationship is embraced as a design process in itself, the practice of research and requirements gathering are combined with the practices of design and use, offering a way for members of the public to participate in design.

SELF REPORTING AS ‘PD IN THE WILD’

In this section we draw upon the issues, examples and perspectives presented above to frame and motivate the discussion and analysis about potential opportunities for participation identified as part of our practice-led work using Mobile Diaries. Although our methodological starting point was self-reporting not prototyping, the activities of design and use were still connected, offering experiential forms of participation. Self-reporting became an exploratory hybrid prototyping method. As part of introducing our findings we begin with a brief overview of how participation in self-reporting has been traditionally defined.

Self-reporting is an *in situ* method that takes place over time allowing the exploration of new design contexts from the perspective of those whom future design may impact. Self-reporting methods take a myriad of forms, from electronic sampling methods e.g., (Larson & Csikszentmihalyi, 1983) to diaries e.g., (Carter & Mankoff, 2005) to cultural probes (Gaver, Dunne, & Pacenti, 1999). The nature of participation in self-reporting has been the subject of discussion, with regards to probes in particular, e.g., (Graham & Rouncefield, 2008; Mattelmäki, 2008). To date, taking a participatory approach (meaning supporting active involvement and influence over design by participants) to self-reporting has largely meant two things. Studies should be open-ended and participant-led, allowing participants control over what and how ‘data’ is collected. In this way participants are recognised as experts of their own lives and are encouraged to choose what and how to represent their world. The second aspect is that participants play an active role in interpretation of the material that is collected (Sanders, 2006) as part of their ongoing participation in the design process as a whole. We contribute to this ongoing discussion by identifying additional ways in which participation in design might be supported, through the act of participation, production and ‘use’ enabled by the study itself.

As a contextual method, self-reporting is already located ‘in the wild’. We found the use of social technologies as reporting tools started to blur the boundaries that traditionally define this method as a technique for data collection. It also became an opportunity to *socialise the research, bridge between existing and future practices and develop seed content*. We expand on these overlapping phenomena below, and relate them back to

the concepts and discussion laid out earlier in the paper. We then reflect on the opportunities for participation suggested by these findings, proposing a reconfigured approach to self-reporting that better engages the new potentials for participation outlined in previous sections.

Socialising the research

The focus on self-reporting as a research method is most often as a personal activity where individual participants record, reflect and share aspects of their lives with researchers, as a precursor to design. While there are studies that document self-reporting as a shared activity, for example studies have been conducted with households (Gaver, et al., 1999), 'friendship groups' (March & Fleuriot, 2006) and pairs (Isomursu, Kuutti, & Väinämö, 2004), these collaborations include recruited participants and are orchestrated as formal parts of the research design. In our use of Mobile Diaries, social aspects of the method emerged that were initiated and defined by the participants themselves. For example, for some participants, the creation of images and video and the review of uploaded materials on the 'private' Mobile Diary blog became a shared process of reflection and play in which other family members, friends and peers were invited to participate. Participants reported back to us that the project (and the method) was often the subject of discussion and at times the experiences of participation were shared across existing networks. For example one participant described her Mobile Diary experiences on her MySpace page while another hoped to post 'self-reporting' diary material to her MySpace profile.

The conditions for 'socialising the research' demonstrated here are made possible by the capacity and expectations of sociability, distribution and sharing inherent in social technologies. In using social technologies as tools for research we appropriated both the technologies as well as the practices of sharing and communication they make possible.

While this raises some ethical questions about confidentiality for the client organisation and consent from 'informal participants' which deserve consideration, it also has important implications from a participatory perspective. For example, as previously noted, Merkel et al. (2004) suggests that in the context of community technologies the role of designers goes beyond that of eliciting project requirements to include finding ways to seed ownership. We propose that the spontaneous inclusion of others in the process of self-reporting reflects a sense of control and ownership by participants over the research process. Participants determined not just when and how documentation took place, but also with whom. In 'socialising the research' participants are exercising a form of ownership over the design project and the topic being investigated. They are giving meaning to the project well beyond the formal research boundaries and the contractual relationship of a research participant. We also propose that it is possible to conceptualise this as a process of appropriation, prior to the creation of any code or system. Even without a finished artefact, the project is becoming "*a public thing open for controversies*" (Ehn, 2008, p. 96).

In light of earlier studies that demonstrate the kinds of social interaction and co-experience that social technologies lend themselves to, this outcome is relatively unsurprising. For example studies into camera phones have shown that the phones themselves become objects around which participation occurs (Ito, Okabe, & Matsuda, 2005). The success of Flickr and YouTube as online communities is attributed to the "*object centred sociality*" (Engeström, 2005) that emerges around the specific photos, videos and collections. Obvious as this relationship may be, it is not accounted for in current methods of self-reporting or particularly supported by our current methodological infrastructures, raising the question of how can we better support and leverage this as a form of participation relevant to social technologies?

Bridging a gap between existing and future practices

For participants, accommodating the activities of self-reporting has always meant altering their daily practices to some extent. The intervention of self-documentation facilitates reflection and at times behaviour change e.g., (Grinter & Eldridge, 2003). In our case, participating in Mobile Diaries involved experiences that were similar to those that characterise participation in community platforms. Participants made videos, sent picture messages, created mobile blog posts (mo-blogs) and commented on blog messages, all actions common to participation in social technologies. In many cases participants were using these technologies for the first time, learning experientially about the technologies and various forms of interaction as they produced 'self-reports'. As a result of the study some participants proposed to buy camera phones or start mobile blogging. For others the Mobile Diary experience enabled them to articulate the things that currently held them back from participating in online forums, such as concerns with privacy or negative interactions with others online.

This has a number of implications from a participatory perspective. Dearden & Light (2008) note that one of the emerging roles for designers working with community platforms is the up-skilling of community members. Mobile Diaries became a playful and safe environment for participants to explore new technologies. By participating in the studies, participants had the opportunity to experiment and develop skills and knowledge relevant to participation *in* social technologies. Botero and Saad-Sulonen (2008) discuss how the use of 'living prototypes' used during the Urban Mediator project created conditions not only for the development of the system but also the practices that would make them viable. We found that Mobile Diaries created a similar 'pathway'. Self-reporting allowed participants to develop the skills necessary to participate in future designs, making them more viable by bridging existing and future practices.

Developing seed content

In social technologies designed for community settings, contributors share stories, images and experiences around topics relevant to them. We found that the Mobile Diary method blurred the distinction between self-reporting and the production of user generated content. This is possible due to the subject matter of the reports i.e., personal

images, stories and videos about a particular topic of interest, as well as the tools and format through which they were produced, i.e., MMS, blog-posts and MPEG-4 video, formats developed for communication, publishing and distribution. For example, Mobile Diary reports such as a tour of a rooftop garden, home cooking experiments, or demonstrations of strategies for reducing household waste that told us something of participants' motivations and interests around sustainability, might also be ideal seed content for a future-planned community site around that same topic.

Social technologies are not about building a database and populating it with content. Rather, contributions by community members are the central, ever evolving, building blocks of design; they bring meaning to, and measure, the success of any scaffolds that we as designers might create. Usually content creation takes place after a system has been in some way formed and released to the public. The use of tools such as videos and camera phones early in the design research means the creation of seed content can begin earlier, opening up the potential for the structure of the future platform to emerge from the 'bottom up' (Twidale & Floyd, 2008). For example, themes, navigation structures and taxonomies can emerge out of the content rather than be defined a priori.

Doing research in the context of social technologies foregrounds a different perspective through which the personal stories or 'data' produced through methods such as self-reporting, and the activities of creating them, can be interpreted, understood, 'read', or put to work. Such material is indicative of how the questions, topics or issues being investigated become relevant to potential future community members, as well as the forms and methods through which they may go about sharing those with others.

The idea that material from self-reporting, usually a private endeavour, could potentially be put to more public uses raises a number of questions about privacy, consent and how data collection is framed. It also offers potential new ways in which participants can actively influence and participate in design through activities related to use early in the design process. As noted earlier, understandings of participation in self-reporting have largely focused on how much control participants have over how 'data' is produced and the degree of influence participants have over the interpretation of that material. Managed appropriately, using self-reporting studies as sources of seed content could be an opportunity for future community members to directly contribute to the design of future platforms.

It is also another possible means through which ownership can be fostered. In reflecting on Contextmapping, a method that makes use of self-reporting, Rijn & Stappers (2008) state that when looking at final research reports "*users will automatically experience results with [their] personal expressions as their belongings*" (p.179). Their research looks at fostering a sense of authorship to the final reports that are created out of their research. We suggest that when designing community platforms there is also an

opportunity for the material to be taken up in the design itself. Inviting participants to take the role of author and contributor prior even to the development or specification of any particular platform creates the potential for a greater personal connection between the design project and participant.

Reflections on designing through use

In an earlier section of the paper we reviewed how PD researchers are extending traditional methods of prototyping, building on the malleability of software to create a process of co-design and co-discovery where design emerges in response to use. In so doing they embrace the integrated nature of design and use present in social technologies and create new ways for people to participate in design, 'in the wild'. We propose that the experiences of self-reporting described above also represent new opportunities enabled by social technologies for participation in design. For example the experiences of *socialising the research* were made possible due to the sharability and sociability of the tools themselves, as well as the emergent set of practices and expectations around sharing and participation that social technologies give rise to. In this way the project became a 'public object' (Ehn, 2008), appropriated into people's daily lives. The methodological connection between the tools used for the research, and the subject of the research also created opportunities to connect design and use, allowing for the *bridging of existing and future practices* and the early *development of seed content*. In doing Mobile Diaries people negotiated, incorporated and appropriated particular physical, social and technical devices and practices into their daily lives, producing and sharing digital artefacts. Participants experienced something of how such technologies might take up physical, technical and social residence in their lives.

In ways similar to the rudimentary Patchwork Prototypes described by Twidale & Floyd (2008), the Mobile Diaries enabled participants a concrete experience of the modes of interaction and self-expression that constitute participation in social technologies. In using social technologies as tools for research into social technologies, an experiential connection between the method of research and the subject of design was created. We have found that this has implications for how we conceive of the potential for participation early in the design process.

Firstly, from a traditional participatory perspective it provides new resources through which participants and researchers can co-construct an understanding of practice (Kensing & Blomberg, 1998). At the heart of PD methods such as scenarios (Bødker, 2000), prototypes (Ehn & Kyng, 1991), and design games (Ehn, 1988) is work to make the 'everyday' accessible to both participants and designers as part of facilitating conversation, exploration and co-design. Botero, Kommonen, Oilinki, & Koskijok (2003) have previously identified the value of 'living research' as a source of shared language between the community and designers which can expose a set of problematics that could be applied in future work. In addition to supporting reflection about a particular topic of interest in people's lives, we found the actual doing of Mobile Diaries also better resourced participants to

explore and articulate their experiences and boundaries around personal publication and mediated participation.

Using social technologies themselves as tools for research into future community platforms also created the potential for roles and activities typically acted out in use, such as the appropriation of design as a public object, or the development of user-generated content, to be brought into the early phases of design and research. This direct engagement of design through use opens up opportunities through which people can actively shape, influence and take ownership over design early in the design process. What were once opportunities to conduct contextual research, became opportunities for participation in design informed through experiences of use.

Embracing this potential extends the role of methods like Mobile Diaries beyond self-documentation; reconfiguring them as exploratory interventions ‘in the wild’, that are in themselves rudimentary prototypes and compositions of existing social software. Our experiences have encouraged us to begin to think of Mobile Diaries less as structured research studies with a finite beginning and end and more as pilot projects or ‘hybrid exploratory prototypes’ that can make visible, and evolve in response to, existing energies and interests within the community. While Mobile Diaries may be the start point of engagement with the future community, rather than close them down at the end of the ‘research phase’, the temporary community and momentum created during the studies can be evolved and built upon. This initial intervention leads the way into the next iteration or configuration.

Participatory Design has long conceptualised design research as going beyond data collection to becoming participatory action research (Ehn, 1988). The inherently participatory nature of social technologies make this kind of proposition more viable in industry sectors that may have previously followed a more traditional waterfall approach. As the above discussion has shown, taking such an approach is both appropriate to, and possible as a result of, the nature of social technologies and their tight coupling between design and use. However, in attempting to integrate what are essentially participatory approaches into our commercial context, we have run into a number of challenges. We report on these in the following section.

BARRIERS TO PARTICIPATION

We began this research in 2006. Since first trialling the method the authors have been directly involved in four other studies using this method and indirectly involved in several other self-reporting studies using similar means. In this time Mobile Diaries have shown themselves to be a powerful way to begin a conversation with future potential community members. Yet we have had little success in implementing other aspects of participation discussed and identified here. Why is that? What is stopping us from reconfiguring Mobile Diaries to embrace the emergent nature of social technologies and their design?

From a participant perspective there are issues of consent. The blurring of boundaries between private and public

participation and the shifting roles of participants require consideration. We have begun this process by including clauses in consent forms that cover the potential to negotiate more public use of material. Technically, we would also need the resources to evolve the platform from the initial ‘diary’ state, into its next, more public form. But, as we have seen, social technologies lend themselves to exactly this sort of recomposition and reconfigurability. The real challenge, as we see it, is how these more “causal and exploratory formats” (Brereton & Buur, 2008) become manageable in a commercial context. In all instances our lack of success has had little to do with the design itself or the ‘technological environment’ (Floyd & Twidale, 2008) and everything to do with organisational culture and politics.

As Beck (2002) argues political and power issues are part-and-parcel of what PD researchers and practitioners do and research that makes reference to the politics of working in commercial environments in particular is readily found in PD literature e.g., (Balka, 2006; Loi, 2008; Rönkkö, Hellman, Kilander, & Dittrich, 2004). Rönkkö, et al., (2004) stress the importance of addressing specifically what it is that prohibits the dissemination of participatory methods into industrial practice. Our experiences with Mobile Diaries drew attention to three aspects in particular that pose challenges to the successful introduction of participation in design, *through use*, to the commercial environments in which we work. They are i) expectations around how projects are conceived and managed; ii) competing interests and commercial constraints to which any design project is subject; and iii) concern for relinquishing control that comes with any genuine commitment to participation. Each of these issues could be addressed as separate issues at length, however we touch here upon some of the key aspects as we have experienced them.

What constitutes a project?

In framing Mobile Diaries as an exploratory intervention, we are proposing to allow the shape of the project to emerge over time and in response to the energies and interests of the participants. This would mean no clear specifications and budget upfront, only an initial commitment to initiate Mobile Diaries as an intervention or engagement. However, this approach is in stark contrast to the research or project management models familiar to most clients. The majority of commercial design projects are brokered with the assumption of specific tangible outputs, at particular milestones, for a particular budget. Compartmentalising aspects of projects in this way is part of managing them. We found that while clients recognised the value of developing systems with have a ‘bottom-up’ motivation, they found it nearly impossible to reconcile such an approach with their internal existing expectations about structures of budgets, business cases and deliverables.

Botero & Saad-Sulonen (2008) found similar issues in working with their local council, who were initially unwilling to invest in seed prototypes, although they embraced the process once the results were demonstrated. Further case studies and appropriate frameworks for budgeting and reporting success can assist clients in

building confidence about more open-ended and emergent approaches where design is participant-led through use.

Project Vulnerability

The instability of a typical project environment also created challenges to extending the role of Mobile Diaries. Continuous and emergent design requires a commitment to ongoing resourcing. The momentum and interest generated with Mobile Diary participants and their networks needed to be acted upon and nurtured. However the project inertia created by standard budget revisions, resourcing limitations and shifting schedules disrupted the continuity of our connection with Mobile Diary participants after the initial studies. As Loi (2008) notes, commercial projects are subject to the constraints of timelines, corporate directions, belief systems and comfort zones. Pauses, reshuffles and changes in priorities are common in design projects and the potential for project downtime is high. A time lag of up to 24 months is not unusual between initial project investment and the next stage of financial commitment. There is a risk that in the time it takes to get moving onto the next phase, any momentum and interest gained in the first stages of the project can be lost and the community has moved on to other things.

Our capacity to maintain and build on the relationships and experiences enabled by the Mobile Diaries was at times also impacted by changing team members. It is not uncommon for key members of the client team to leave or be replaced during the project and this often has a dramatic effect on project direction (Rönkkö, Hellman, & Dittrich, 2008). A new project member on the client side can mean previous commitments and intentions around engagement and relationship building no longer hold. This raises questions about our ability to make commitments to participants and the appropriate management of expectations. What is our obligation to participants who find their 'emergent community platform' withdrawn due to the arrival of a new CEO at the client organisation who has alternative political interests?

A fear of participation

A genuine commitment to participation by an organisation necessarily means relinquishing some control. Taking a participant-led approach that allows design to emerge through use is particularly appropriate for community and local government organisations who have clear responsibilities to serve their constituents. Such approaches allow organisations to gain a concrete understanding of where community interest lies, as well as how people are most likely to go about engaging with it. Mobile Diaries provided the opportunity for project direction to be led by the interests of the community, but this was only of value when client organisations were also willing to be flexible about how their objectives were met, and willing to change those objectives as a result of feedback.

While participation may well be 'the new black', organisations need to be culturally and politically mature enough to take on such approaches and physically

resourced to support the level of engagement required. Twidale and Floyd (2008) are at pains to point out that while it is the malleable nature of technologies that make the Patchwork Prototyping approach possible, the appropriate values and attitudes must also be present in the organisation to allow design to emerge through use.

PARTICIPATION :: THE CHALLENGE OF SOCIAL TECHNOLOGIES

This paper began with a quote from Dittrich et al. (2002) about the need to engage design and use as ongoing parallel and intertwined activities. Dittrich et al. ask how these different, co-existing practices of design might be more deliberately and consciously put in dynamic relation to each other. In this paper we have explored how the tight coupling between design and use inherent in social technologies demands that such a dynamic relation is realised. We have talked about the ways in which social technologies are disrupting traditional design methods and creating new opportunities for participation. We have looked at current discourse in PD around design and use and surveyed other methods evolving in response to, and as a result of, the emergent nature of social technologies. The examples of prototyping in the wild, and our more adhoc experiences with self-reporting suggest ways in which social technologies allow and prompt traditional design methods to be reconfigured to more readily engage design and use and *design through use*. The direct relationship between design and use inherent in social technologies opens up new ways in which participants can have ownership and control over the design, as the shape of design can emerge through their use. Through this, new patterns and approaches to participation are emerging.

In 1993 Greenbaum and Madsen proposed three perspectives for the need for participatory design approaches in technology design that were adaptable to different design environments - the *pragmatic*, *theoretical* and *political*. They suggested that these could support the extension of participatory approaches from their roots within Scandinavian experiences in traditional work environments into new and emerging design contexts. These three perspectives can and have been widely used to sensitise designers to the various issues associated with different situations and to explain the contribution participatory design can make to each e.g., (Bergvall-Kåreborn & Ståhlbröst, 2008; Robertson, 1998; Robertson, Mansfield, & Loke, 2006).

Our exploration and exploitation of the ways social technologies might support and enable participation in design demonstrates the value of the *pragmatic* perspective—we were able to get "the job done better". Greenbaum and Madsen suggested that one strength of their *theoretical* perspective was its focus on building shared understandings between different stakeholders in the design process. The contribution our use of Mobile Diaries in our projects made to the development of deep empathy and connection with our stakeholders was a major and benefit to all involved. The third perspective, the *political*, draws our attention to challenges at the heart of PD that are now being played out in new contexts as

social technologies become central to how we live our community, social, civic, political and professional lives. Whilst social technologies are ‘participatory’ in that they require and rely upon involvement by us to take their form, they are not without power struggles. We might ask who exactly benefits from our participation and how can we as designers, act to maximise the benefits to the participants while avoiding their possible harm and exploitation?

Ongoing issues with privacy, ownership, opting-out and sharing of personal information by major social network providers such as Facebook (Opsahl, 2010) could be seen as indicators of what can occur when participation is not at the core of the development of participatory systems. The risks of not being participatory are not just a failed website with no users, as the non consensual exposure of private data in the case of Google Buzz showed, they can be dangerous to people’s personal safety (Carlson, 2010). If we take as our starting point Greenbaum and Madsen’s (1993) *political* perspective of participatory design—that people have the right to influence their own lives—bringing a participatory approach to the design of such systems is critical to ensuring people have the ability to negotiate, control and understand the implications of participation *as they evolve*.

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