Place and Situated Deliberation in Participatory Planning – A Research Proposal

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Abstract. Within the domain of participatory urban planning, this position paper argues for a focus on the notion of *place* in the design of mobile and/or ubiquitous systems that are used in deliberation processes with central spatial references. I discuss (1) leveraging properties of place as a resource for users in the design of such systems and (2) situating, or merely co-locating, deliberation activities within the places these discussions are concerned with. To support my argument, I outline two exemplary cases that explore this focus on place and situated deliberation to further motivate research in that direction. The first case concerns the different qualities of in-situ reflection and action on proposed changes to the cityscape in contrast to ex-situ reflection and action on those changes. The second case focuses on providing immersive information about citizens' own living environment on the spot for everyone and everywhere through a mobile augmented reality application that visualizes future, planned buildings on capable mobile phones. I conclude with the central questions and problems for future research that focuses on place and situated deliberation.

Introduction

Political deliberation activities at all levels are often characterized by a lack of broad-based citizen participation and engagement. One part of the problem of citizens being frequently uninvolved is that they are not aware of the existence of such discussions in their immediate environment and, even more, often fail to realize the specific implications these may have on their own everyday life. This lack of awareness and the ill-perceived personal relevance of such topics, paired with a perceived powerlessness, leads to a generally low level of participation in deliberation activ-

ities. As a result, a broad spectrum of citizens' interests are not represented to the fullest extent possible and policy-makers are robbed of the perspectives of citizens who may be able to make valuable contributions to policy decisions.

The domain I am primarily concerned with in this paper is participatory planning. As a paradigm in urban planning, participatory planning emphasizes the involvement of the entire community in the municipal urban planning process. Deliberation on and participation in urban planning are an excellent domain to study and develop a notion of place due to their frequent use of spatial references. First mobile applications in this area already exist (e.g., SEECLICKFIX, CITIZEN CONNECT, FIXMYSTREET).

General-purpose, consumer-oriented mobile location-aware technologies and services are increasingly emerging (e.g., GOOGLE MAPS, FOURSQUARE, FACEBOOK PLACES, YELP). They all make use of geographic locations in some form or the other and associate possible actions or information with these locations. You may get directions from GOOGLE MAPS, check in at locations using FOURSQUARE or FACEBOOK PLACES, and get reviews for local businesses from YELP. However, each person invests these locations with different meanings – be it social, cultural, historical, emotional, etc. A specific place embodies different meanings for you than it does for me. If we consider participatory planning, and also other domains, how can we, as designers, leverage the meaning that people invest places with at these locations for discussions involving these locations? Or in short, how can we support the use of place as a resource for users in located deliberation processes? I am proposing to study how people use properties of a place to form opinions about specific locations, in order to leverage this through the design of mobile and ubiquitous systems for located deliberation processes.

Understanding how citizens invest a place with meaning may help us in designing systems that support forming and expression of opinions about future potentials of or proposed changes to places. This aims at an improved embedding of discussion processes about future changes within the actual environment, e.g., simply through co-locating such discussions with the objects they are concerned with. Examples, here, are chance encounters of deliberation topics in citizens' everyday lives through physically embedding topics in the their own living environments and making them hyper-locally available with mobile and/or ubiquitous devices. This may increase awareness and demonstrate potential personal relevance of specific topics to individual citizens.

Bringing deliberation topics into the course of everyday life will, additionally, leverage situational relevance – discussion topics that people are only aware of and interested in exactly when and where they are. It is a matter of catching people in the right moment, of seizing the attention slot in their already very busy everyday lives. Citizens may decide for themselves if a specific topic deserves their attention right now, later, or not at all. So, how can we connect to these situations and capture this ephemeral relevance to feed citizens' spatially motivated input into the policy-making cycle? Which properties of a place can be leveraged when citizens form an opinion about a local matter in-situ? How can discussions be truly embedded

or situated in the environment and co-located with the objects they are concerned with rather than merely pointing them out on a map or notifying citizens of their existence?

Background

Suchman's notion of situated action and Dourish's foundations of embodied interaction form the backdrop for this research proposal. Suchman (2007) criticized the then predominant notion of plans in the Artificial Intelligence domain. AI modeled human activity as the formulation and execution of plans, that is, scripted sequences of action that are decomposed into individual operations to be then executed (and monitored) to reach an overall goal. In contrast to this notion of plans, Suchman stressed the situatedness of human activity. She posited an interaction with the world where actions are active interpretations of the world formed in response to specific settings and circumstances. Active individuals form moment-by-moment responses to the situations in which they find themselves. Actions are organized in response to the features of the setting in which they arise.

Dourish (2001) extends this notion of situated action and draws in elements of phenomenology from Husserl, Heidegger, Schütz, and Merleau-Ponty to build a foundation for embodied interaction. Dourish defines embodiment as "the property of our engagement with the world that allows us to make it meaningful" (Dourish, 2001, p. 126). Embodiment, for him, is not just a physical property, but also has social, cultural, historical, and other aspects to it. It means being grounded in and emerging out of everyday, mundane experience. He stresses the relationship between action and meaning, how embodied practical action is the source of meaning, and how the world shapes and is shaped by the activities of embodied agents (Dourish, 2001).

Dourish (2001) uses three aspects of meaning to further specify the concept: ontology, intersubjectivity, and intentionality. Especially the last one, intentionality, is interesting for my agenda here. Intentionality refers to the *directedness* or *aboutness* of meaning, that is, for example, the intentional reference *directed* from a word to a concept, meaning as a relationship between one entity and another. Dourish posits that intentionality is central to interactive technology as computation is fundamentally about representation: computational systems represent and refer to those elements of the world the software developer has chosen to model. So, he writes, "if the key feature of the computational system is that it refers to elements in the world of human experience, then the key feature of interaction with computation is how we *act through* it to achieve effects in the world" (Dourish, 2001, p. 137; emphasis in original). How may properties of place be represented in computational systems that mediate human activity? How may a citizen act through the system to or be supported in forming an opinion? How may a citizen act through the system when participating in a discussion to achieve an effect in the world?

A central aspect to the research proposed here is the notion of place (Harrison and Dourish, 1996; Dourish, 2006) and how it positions itself towards related con-

cepts such as space and location. The notions of situatedness (Suchman, 2007), context (Dourish, 2004), and embodiment (Dourish, 2001) are furthermore related to a notion of place. How does place relate to all these concepts? Is it one particular aspect of context or situation? A richer picture of location? I hypothesize that place is more interesting in mobile deliberation processes than other aspects of a situation, say for example, temporal aspects.

Two Exemplary Cases

In this section I now present two cases that were conducted as part of the EGOV+ project at AARHUS UNIVERSITY and form a preliminary understanding of the notion of place and situated deliberation in participatory planning.

Mobile Democracy

The overall purpose of the MOBILE DEMOCRACY case is to explore the use of geographical information systems (GIS) and mobile technologies as a means of supporting user involvement in municipal planning through participatory design methods. The emphasis lies on improved cooperation, communication, and democratic engagement within in-situ physical planning through mobile, location-aware technology. The main findings from the case are reported in more detail in Bohøj et al. (2011, to appear).

The case consisted of a number of design activities (interviews, workshops, and walkshops) making use of a number of design artifacts (scenarios, storyboards, personas, mock-ups, and prototypes). One of the central outcomes is the concept of two interconnected prototypes: (1) an Android-based mobile phone prototype for *in-situ* reflection and action, that is, while citizens are physically close to the planning object (see Figure 1); and (2) a browser-based desktop prototype for *ex-situ* reflection and action on proposed plans, when citizens are remote to the planning object, e.g., at home or work (see Figure 2). The case especially explores which distinctly different qualities in-situ reflection and action has as opposed to, and in concert with, ex-situ reflection and action in located deliberation.

The findings from the case take a vantage point in understanding how people may come to different judgements "in place" and "out of place", that is, in-situ and ex-situ with regards to the object of discussion. We explore the various qualities that are attached to a place, and are maybe not graspable elsewhere. In Bohøj et al. (2011, to appear), we argue to strengthen the link between the (physical and located) object under discussion, the discussion itself, and the individuals involved by situating actors in the environment they are discussing about.

We take inspiration for this situated deliberation from Schön's notions of *reflection-in-action* and *reflection-on-action* (Schön, 1983). We hypothesize that reflection-in-action is more dominant in-situ and reflection-on-action more dominant ex-situ. As this is by no means explained by this simple juxtaposition, we take
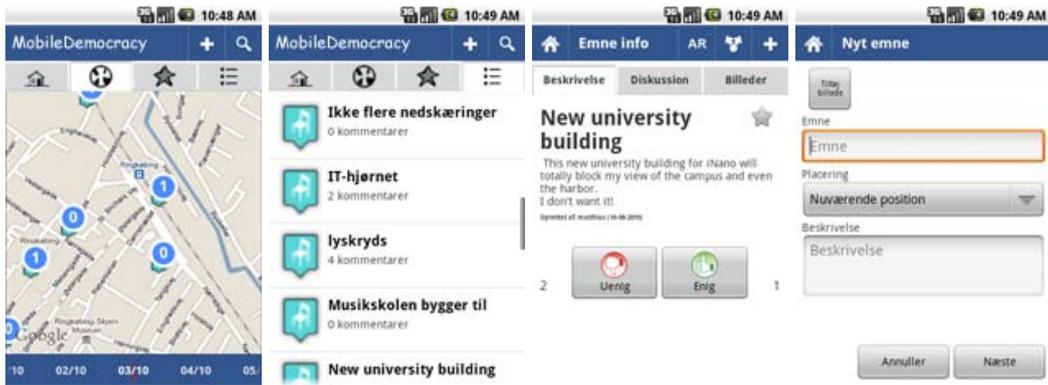
Figure 1. Four screenshots of the mobile prototype showing (from left to right) the map view, the list of topics, viewing topic details, and creating a new topic.
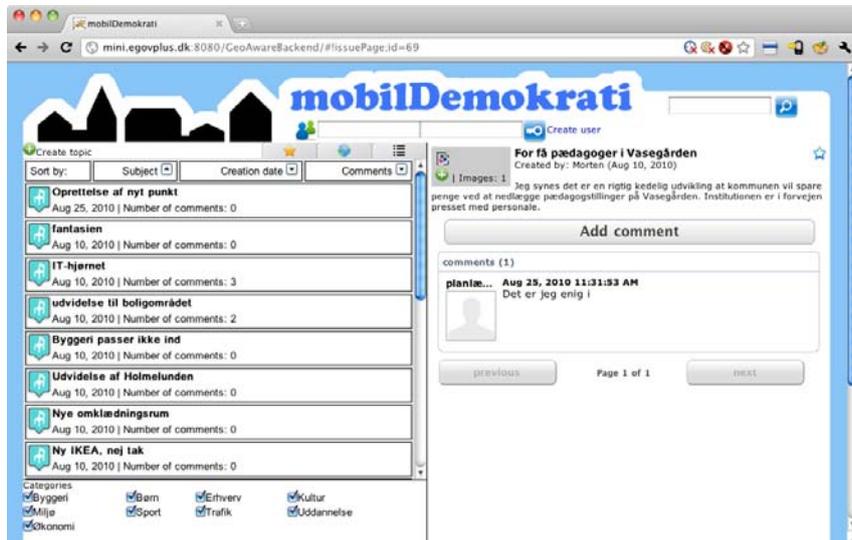

Figure 2. Screenshot of the desktop prototype, here, with a list of topics (left) and a topic detail view with comments (right).

the two to constitute a continuum affected by performed and potential actions connected to the ongoing process of reflection and understanding. We found that *being there* helped fathom the complexity of the planning object through physical and sensual immersion, while remotely collaboration and sharing through community and deliberation spaces was more prevalent.

In our design, we explore such a combination through, firstly, providing an initial trigger by way of in-situ actions through the mobile phone motivated by the spatio-temporal relevance of the planning object. Based on that trigger, a second ex-situ space for reflection and action supports reflective, comprehensive discussions in the form of a desktop application visited remotely. This support of in-situ and ex-situ participation allows citizens to engage in continuous reflection-in and on-action as a collaborative activity with other citizens, hereby inspiring citizens to increase their democratic engagement.

AR City

AR CITY is an augmented reality (AR) application for Android smart phones that visualizes future planned buildings aligned with reality on top of the phone's live camera feed (see Figure 3 for a screenshot). The case connects to this research proposal on two dimensions. First, concerning the application domain of citizen deliberation in land use planning, it explores the aspect of informing citizens about changes to their own living environment on the spot. Providing information must come before any form of opinion making and expression can take place in order to lead to effective deliberation. Second, the case explores the relationship and engagement of citizens with places mediated through the smart phone and the AR CITY application. It deeply integrates with properties of these places and, exemplary, explores properties such as the spatial location and the surrounding environment of a place.
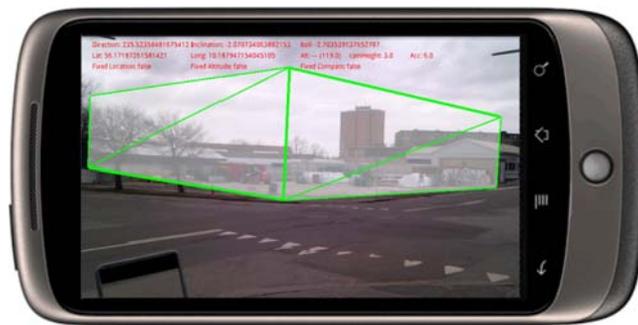
Figure 3. Screenshot of the AR CITY system showing outlines of a planned building through the phone.

The problem in urban planning this case is motivated by is that although changes to the cityscape are usually announced in the press and other outlets by the municipality, citizens are still often unaware of them or the implications they may pose. Architectural drawings and textual descriptions are often unapt or insufficient in communicating these plans to interested residents, who may not always be able to read and fully understand them. Furthermore, they are often published for the city as a whole rather than being filtered according to the areas a citizen may be interested in (e.g., close to home or work). We argue that a mobile AR approach to city planning may improve the awareness and understandability of municipal plans by displaying planned buildings anchored in reality and aligned with the current surrounding cityscape in real-time.

As one result from this case, we found that bringing AR to the masses and placing it in the hand of every user poses the new challenge of developing *instantaneous* AR systems, that is, enabling any user with a capable smart phone to view AR visualizations immediately at any location without the need for manual initialization that requires specific knowledge of the local site. In our system's design, we combine this proposition of *instantaneous* mobile AR (warranted through pure sensor placement of virtual objects) with a facility for closer inspection and deeper engagement

by the user (warranted through an additional manual calibration of virtual objects for better accuracy and stability) in dual-functionality systems.

We are, furthermore, taking into account how to best solicit feedback and facilitate deliberation of citizens on proposed changes to the cityscape. For example, how polished and realistic should visualized building models really be in order to not intimidate users on giving feedback? In which aspects should virtual representations align with physical reality and the laws of physics and when should they rather not in order to facilitate sense-making and opinion forming about these new structures? Such considerations certainly all depend on the kind of feedback and deliberation that is wished for. Within the domain of municipal planning, however, the AR CITY concept potentially offers new alternatives to engage with our living environment by achieving an awareness of and new insights into proposed changes to the cityscape.

Conclusion

Form these two preliminary case studies we can see that *something* can be gained from a focus on the notion of place in designing mobile applications for citizen deliberation. They also demonstrated how deliberation that is situated in the environment it is concerned with may bring up contributions that are qualitatively different from those where deliberation takes place remotely from them. The central question now concerns making aspects of place available for the design of such systems used in deliberation processes with a central spatial reference: How can a design support the use of *place* as a resource for users in located deliberation processes? And more specifically in connection with participatory planning, how can we effectively embed or situate that participation within the place it is concerned with through the use of mobile and/or ubiquitous technologies?

While we have learned that every human activity in the world is situated and embodied, how can we go beyond being aware of the general implications this poses for the design of interactive systems and consider how we can further make use of this insight. We may identify aspects that are common to a number of situations. By leveraging such a common element, e.g., situations that occur at a specific place, we can try to draw in properties of place as a resource for location-aware interactive systems. Specifically in participatory planning with its frequent use of spatial references, we may (re-)gain the perspectives of citizens who will be able to make valuable contributions to policy decisions through a design of deliberation systems that take place and situatedness to be central. A study of place as a resource in located deliberation may thus lead to significant insights on how to design mobile deliberation systems for tomorrow.

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