A long-term strategy for designing (in) the wild: lessons from the Urban Mediator and traffic planning in Helsinki

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ABSTRACT
This paper addresses the move towards understanding an expanded domain of design for interactive systems. We take up Dourish’s invitation to “designing politics”, and examine, through the long-term study of the design of the Urban Mediator and its outcomes, how and to what extent the design of an interactive system can impact citizen participation in urban planning. The study shows that with the adoption of an expanded approach to the participatory design of technology, it is possible to impact the processes in place for citizen participation, albeit naturally in a modest way. Issues of different timeframes and rhythms in technological development and the practices and politics of citizen participation need to be addressed, as well as new strategic considerations, which go beyond the traditional role of design.

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Design in the wild, design-in-use, participatory design, urban planning, traffic planning, MacroHCI

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INTRODUCTION
In her keynote talk at the DIS 2010 conference, Yvonne Rogers reminded us of the move towards “designing in the wild”, which has taken the context of HCI research and practice out of the lab and into the messiness of everyday life [25]. The “wild” has come to refer to the workplace, the home, and lately, with the rise of mobile and ubiquitous technologies, to cities and urban space. Designing in the wild is different from ethnographic approaches to interactive design in that it is not about observing the reality and suggesting designs that fit this reality, but it is about intervening in a particular context by creating opportunities for action and change [26].

The concerns for “designing in the wild” have so far focused on the in-situ context, and Rogers was calling for better tools for researchers to cope with the “wild”, the new difficult environment for experiments. But, the challenge of the “wild” is larger than that. Real-life experiments may lead from “designing in the wild” towards “designing the wild” itself; experiments may have real-life consequences that start to shape the environment and trigger further changes. There is a need for HCI research to address a wider understanding of “the wild” that would include the socio-political context in which citizen engagement in shaping their living environment materializes.

This understanding of “the wild” has already been recognized by several researchers. For example, the combination of urban computing and Web 2.0 technologies has enabled inquiry into how urban mundane technologies might affect the engagement of citizens in shaping their living environment [12]. It is also apparent in the area of research concerned with HCI for environmental sustainability, where there have been recent calls for bringing the political dimension forward as a way of opening up the design space [1, 7, 10]. Dourish [10] goes even as far as inviting designers to concern themselves with the “design of politics”. He claims that: “Political, social, cultural, economic, and historical contexts have critical roles to play, not only because they shape our experience with information technologies, but also, and even more, because information technologies in contemporary life are sites at which these contexts are themselves developing.” His claims resonate in fact with older ones, such as those of Scandinavian Participatory Design, especially at its beginnings in the 1970’s [11].

In this article, we take up Dourish’s invitation and examine the outcomes of a long-term case of “designing (in) the wild”. In our case the “wild” is the context of regulated urban planning and local governance in the post-industrial cities of democratic countries, where citizen participation is enacted. Acknowledging the socio-political context does not mean designing solutions to fit the procedures in place. On the contrary, we argue that interventions grounded in the collaborative design of interactive systems can trigger change in the context of planning and governance. The aim of this article is to show how and to what extend the design...
of an interactive system has impacted citizen participation in urban planning. We examine in particular the impact of taking an expanded approach to the participatory design of technology, which, in addition to involving stakeholders in the design of the system in the early design phases, also includes considerations for continuing design-in-use [8, 15].

The expanded participatory design approach was used in the design/use of the Urban Mediator (UM), an online platform for sharing, obtaining, and gathering location information. The UM was used and further designed-in-use in several real life cases [e.g. 5, 27] In this article we focus on one: a case of traffic planning in the neighborhood of Malminkartano undertaken in collaboration with the City of Helsinki Planning Department. This case clearly sits in the context of institutionalized citizen participation in urban planning in Helsinki. By examining the design strategy used for the UM, its immediate outcomes in the Malminkartano case in 2008, as well as the outcomes that emerged first two, then four years later, we ask the following questions:

In what ways can the design of technology for citizen participation affect the processes of citizen participation in urban planning? What is the role of the expanded participatory design approach? What can be learned from such an approach and what other strategic considerations need to be taken for designing (in) the wild?

We start by explaining the context of citizen participation in urban planning in Helsinki, then present the initial design process followed for developing the UM, and the way it was embedded in the case of public participation in traffic planning. We then examine the immediate and long-term outcomes of the design and use of the UM, both in terms of the technology developed and the impacts on citizen participation. We conclude by highlighting the need to take into consideration the different time spans and rhythms of designing for HCI and “designing politics”, as well as new strategic considerations that go beyond the traditional role of design. We end by opening up the discussion on the challenges that exist for operating in the expanded domain of HCI research and practice.

WHEN “THE WILD” IS REGULATED: CITIZEN PARTICIPATION IN URBAN PLANNING IN HELSINKI

The planning practice in Finland is still very much influenced by the comprehensive-rationalist approach of 1960s. This means that planners and top-down zoning play an important role. The planning processes and citizen participation are highly centralized and regulated by laws and bureaucratic governance in the name of the public interest of the welfare state. The planners elaborate detailed plans, which are then voted for or against by the members of the elected city council. Nevertheless, the last Finnish Land Use and Building Act [21], which stipulates the role of residents and landowners in the planning process, has been influenced by the communicative turn in planning [24] and other approaches aiming at increasing democratization in general. This law, which became operative in 2000, has pressed the City of Helsinki Planning Department (CPD) to consider strategies for more direct types of citizen participation. Concrete measures were taken, such as naming participation coordinators to act as mediators between the city planners and the residents. Processes were also put in place to ensure that plans are publicized so that concerned citizens can comment them. Much of the focus on enabling citizen participation has remained on zoning plans. Opening similar possibilities for participation, for example in traffic planning, has been left to the discretion of the planners.

Back in 2008, the CPD did not have any specific citizen participation information system. Citizens could (and still can) contact planners directly or file an initiative to the Planning Department’s Registry Office. Both options are available via mail, email or phone calls. An initiative can be a comment or feedback to plans made public by the planners, for example during public presentations or on the CPD’s “Plans-on-the-map” website. The Registry Office forwards the received initiatives to the planners in charge and archives them, along with information regarding whether they had been handled or are still pending, in their own archived system. Later, between 2010 and 2011, the City of Helsinki acquired other tools to support participation [27], but they all act as online feedback channels for issues initially raised up by the CPD, and not by residents.

PLANTING THE SEEDS

The process for developing the UM was at first designer-led and included approaches ranging from Participatory Design (PD) activities that engage users in the design process [13], to end-user development strategies, whose goal is to “empower end-users to develop and adapt systems themselves” [18:2]. The aim was to come up with a technological toolkit that would be flexible enough to be further designed-in-use, in varying contexts of use, after the software and research project would end. This temporally extended approach to participatory design opens up possibilities to plant the seeds for future design activities in situations that cannot be fully anticipated [4].

The Urban Mediator (UM) in brief

In its current version, the UM is a server-based software that provides users (citizens as well as city administrations) the possibility to create, obtain, and share location-based information (Points). This collected information is organized according to topics of interests (the UM Topics), which are set up and maintained by the users themselves. The UM uses a map-portrayal service as a means for representing location-based information and complements it with a set of Tools for users to process, share and organize this information. The UM Widgets are tools that enable some UM functionalities, such as the possibility to add a
point or view the latest points contributed to a topic, to be placed on other websites. The Urban Mediator software, once installed on an appropriate server, provides a customizable instance that is accessible and usable online, through the web, using a normal PC or any browser-enabled mobile device.

![The main components and features of the UM.](image)

The UM was developed as part of a EU-funded research project ICING (Innovative Cities for the Next Generation), exploring Information and Communication Technologies solutions for eGovernment. Through our work on the UM, we wanted to bring forward alternative approaches to eGovernment, not necessarily to address the 'solution to a problem', but rather to enable the exploration of new types of shared infrastructures for interaction between citizens and city officials [6]. It was clear from the beginning that we needed a design strategy that enabled us to engage both citizens and planners, and to design for further adaptations to future contexts of use.

**Towards design-in-use**

The strategy used for developing the UM started with an application of PD methods for stakeholder involvement in the design process. At its beginnings in the 1970s, PD aimed to address the processes of change that digitalization would bring to workplace democracy in industry, and the role of trade unions in acting upon that change [11]. It was clear from the beginning that we needed a design strategy that enabled us to engage both citizens and planners, and to design for further adaptations to future contexts of use.

Commentators have criticized the PD approach for focusing on the initial phases of the design, without addressing that of use [8, 14]. It was important for us to go beyond this limitation because we wanted to enable a possible continuation for the UM, after the limited time-span of the ICING project. We thus borrowed from approaches that have expanded PD into “design-in-use”, where the process of design is understood to continue through use, thus bringing up the importance of adaptability and tailorability in the design of information systems [15]. Dittrich et al. [8] refer to on-going design-in-use as a strategy for “designing for change”; change in the context and practices of use, which can be both anticipated or unexpected. Design for change is an alternative to designing solutions for problems. In our case, the UM dissociates itself from the traditional approaches to eGovernment, where IT solutions in the form of off-the-shelf software packages simply address some issues identified by decision-makers in the processes in place. Our hypothesis was that by designing adaptable tools rather than fixed systems for ICT-mediated citizen participation, the UM could be adapted for use by groups of citizens, local development agencies, or city departments. Such an approach might gradually set the ground for a possible ‘real’ use of the UM in a variety of public participation activities in the future.

The approach followed for designing the UM thus evolved from traditional PD to “PD in the Wild” [8,17], and from systems that they were going to use in the future was thus also a political act. Even though PD has since then lost some of its initial political dimension and might not have fully addressed the complexity at stake [19] it still carries within its discourse a strong link to its original socio-political goal. Since computation has moved beyond the workplace, inquiries into embedding PD in new socio-political domains, such as governance [e.g. 9] and urban planning [e.g. 22, 23, 5, 6] have emerged.

Through the years PD has fostered the development of a rich array of methods for involving future users in the design of information systems, from case-based prototypes and cardboard mock-ups to future workshops and scenario development. The focus of these methods has not only been on the design of the tools themselves, but also on the design of the future workplace practices required [29, 13]. In our case we started by contacting a number of stakeholders that we could identify: active citizens, school children, local developers, and city planners. We engaged them in the initial phases of the design process, through workshops, paper and pen prototype development, and in-situ testing and use of technical prototypes. These initial participatory design activities helped us to identify key stakeholders, collaboratively map practices and needs, collaboratively further conceptualize the UM, develop key features and functionalities, and come up with scenarios of use grounded in concrete examples of the needs of citizens and planners [6, 5].
professional-led design activities to use, adaptation and tailoring activities. In the following section, we will explain the transitional phase in the design process, which included both PD and design-in-use strategies in the wilderness of traffic planning.

ACTING “IN THE WILDERNESS” OF TRAFFIC PLANNING

The transition phase was enacted through our involvement in a case of public participation in traffic planning set up by planners of the CPD. The planners wanted to ask the residents of Malminkartano, a neighborhood in North-Western Helsinki, their opinion about traffic issues in the area, in order to help them draw the new traffic plans; a task they were scheduled to start in the near future. Our ICING project partner from the City of Helsinki had been in contact with the planners, and had proposed to them to try the UM. The successful use of the UM in a previous public participation case with the Public Works Department [5] triggered the interest of the planners in trying it in Malminkartano.

Developing a common language and understanding

The working group set up to inquire the use of UM for public participation in Malminkartano consisted of two participation coordinators responsible for the interaction between the department and citizens, a traffic planner responsible for drafting the traffic plans for Malminkartano, the ICING partner from the City of Helsinki, and the UM design team. After an initial meeting, the CPD planners decided to use the map feature of the UM in order to collect information and opinions regarding specific locations in that part of the city: Where should the traffic speed be lowered? Where should parking along the street be permitted? Where should street bumps be placed? Where is visibility bad? Where are dangerous spots, related to traffic and movement? Moreover, the planners wanted to ask citizens their opinions about opening up an underpass for general traffic. They were interested in knowing, whether the residents of a certain area were pro or con this proposal. Their initial framing of the project was thus in terms of “polls” and “questionnaires”. “Where” was a key issue in all their questions. It was obvious that a map interface could provide an easy entry point for the residents to locate their concerns and to address their questionnaire.

From our point of view the UM was not intended to simply facilitate the setting up of online questionnaires, but rather to offer the possibility to collaboratively gather location information related to a particular issue on an online map. It was important for us not to develop new features just to answer the specific needs of this case, but rather to focus on developing generic tools that would be part of the ‘Urban Mediator toolkit’ we were aiming at. We decided to make the most out of the existing features and to refine them. For example, we planned to continue work on the UM widgets [5] and develop the possibility for topic owners to customize the “add a point” widget to their needs, and embed them in any website.

During the first meetings it appeared that the way the widgets could work remained unclear to the planners. The term ‘web widget’, and even our explanation of this term (“a piece of code that can be included in any webpage and that brings up Urban Mediator functionalities, such as the possibility to add a point on the map”) did not open up the concept to the planners.

We decided to address this in a hands-on participatory design workshop to help us explain the potentials and limitations of the UM to the planners more concretely and to adapt the UM for the project together with the planners. Moreover, we wanted to better understand what were the needs and objectives of the planners. We used paper prototypes and Post-it notes to mimic the steps needed for setting up a particular topic on Urban Mediator, as well as to create the web widgets that would be included in the CPD pages and would prompt the users to give their contributions. The creation of the widgets meant the provision of information, such as the title of the widget, as well as the information that would guide users on how to create a point. This meant that the planners had to come up with examples of point titles and tags, which would be suitable for display in the widget prompt. They also had to decide about hidden tags that could help them categorize the users’ contributions.

The workshop proved useful and we set up a UM topic and generated the UM widgets that were agreed upon, in collaboration with the Webmaster of the CPD. The Webmaster of the CPD created a link on the main page of the website, which lead directly to a news page about the Malminkartano traffic safety project. On this page, she placed the UM widgets that prompted visitors to a) mark parking problems, b) mark dangerous places, and c) mark improvement suggestions for the traffic. Citizens’ contributions would appear as points on the UM map of Malminkartano (see Figure 2), or as comments to existing points (e.g. in the case of the underpass question).

Going public

The scheduling of a public residents’ evening in Malminkartano, where the Mayor of Helsinki and various city planners were to present plans related to the area and answer questions, provided a good occasion to present the project to the residents, and to invite them to participate. This event publicly kick-started the possibility for citizens to participate; explanatory flyers were distributed and an official presentation was made directing the residents to the website of the CPD.

The possibility to send contributions via UM was activated for the period of one month. 73 new points were created (35 dangerous spots, 25 improvement proposals, and 13 indications of parking problems). There were 24 responses
to the underpass question (as comments to the point). Some of the points were also commented by others residents. According to the traffic planner, such a level of participation was higher than usually encountered in similar traffic planning projects, where residents have contacted the department by emails, letters, or phone. The planner followed residents’ contributions as they came in and drew the plans for the area, taking them into consideration when they were relevant. The participatory planner and a Geographic Information System (GIS) specialist from the CPD also transferred the UM data to their GIS system and used both the “hidden tags” categories as well as created new ones, to generate different layers of data.

The immediate outcomes at the micro and meso levels: sharing concepts and building new features and functionalities

The participatory design workshops as well as the adaptability of the tool made it possible for the planners to experiment with new ideas and concepts they were not familiar with and had not been in their own work practices. This has given us new insight in the further development of the tool. We have increased its flexibility and versatility by including features useful in formal public participation projects. Such features could later be used in other similar projects, or could also be adopted and adapted through other uses.

The workshop activities helped the planners to better understand the concept of UM and the set of tools provided (topics, points, widgets, etc.). After the workshop, they started referring to the widgets as either the “buttons” (for the Add a point widgets), or the “windows” (in the case of the other widgets). The workshop in a way ‘de-mystified’ the term “widget” for them, and they were able to focus on how the widgets can help them in the task of asking citizens for contributions. They were thus able to communicate to us what the values for the different parameters of the widgets would be.

As the original idea of UM was that of a system for both citizens and planners to share location-based information, we had not envisaged that it could offer possibilities as online questionnaires. The planners, however, addressed the project with their own set of concepts, which were related to their own work practices. This was the case, for example, with the references to create a “poll” or a “questionnaire”, that would be augmented by a “map software”. Questionnaires are tools that are part of the toolbox planners use for online citizen participation. The map aspect of UM brought in new locative possibilities to the “questionnaire” idea. The idea of the poll and questionnaire led us therefore to experiment with the possibility to refine some of the UM tools, so that the Urban Mediator topic administrators and widget creators could include a pre-defined set of questions that users could answer while creating a point on the UM map. This feature is now added to the customization possibilities offered by the “Add point” widget creation. The questions and their answers can be attached to the points created by using this widget. This makes it possible to use the UM in participatory consultation projects, where online questionnaires are needed.

The collaboration with the planners also permitted us to further refine functionalities associated with the use of tags. For example, in order to implement some of the planners’ ideas related to a controlled categorization of the data, we introduced “hidden tags” as a lightweight approach for
giving the planners a structured possibility to organize the collected data, according to relevant categories. As the “hidden tag” feature proved to be quite flexible and adaptable for various needs, we decided to make it a standard set up feature for UM topics.

Finally, it was rewarding to see that the approach of providing an adaptable toolkit rather than fixed solutions was bearing results. This became apparent as we noticed that the web widgets placed on the website of the CPD had been edited and customized by the Webmaster.

The immediate outcomes at the macro level: planners re-consider certain aspects of the formal participation process

The Malminkartano traffic planning case was the first time CPD planners asked citizens for opinions before any plans were drawn. The CPD has, in response to the Land Use and Building Act of 2000, ensured possibilities for citizens to comment plans produced by planners, but they had not incorporated in the planning processes the possibility for citizens to contribute to the projects already at their very beginning, before any plans are made. After the citizens had given their contributions as a part of the UM trial, the traffic planner mentioned that it had been easier for her to work on this project because she could from the start focus on what was important to the citizens. She also stated that she could focus on details, already at the stage of the preparations of the first plans, without having to wait for the comments of citizens, which she would normally have gotten during or after the scheduled public presentation of the plans. She did not have to reply individually to each comment or proposal, and explain the same things over and over. The UM made it possible to collect all the comments and to make them available for anyone to view. The process did not include the expectation of a response from the planner. Rather, the plans created by the planners would be the response to the suggestions and information provided beforehand by the citizens.

Although the planners could not at first clearly understand, how a tool like the UM, which enables sharing location information, could help their goals for consultation, they ended up appreciating the fact that the information gathered via UM was publicly available to all. Their initial idea for a tool for ICT-mediated consultation was an online questionnaire that would have a map feature. Online questionnaires used by the different departments of the City of Helsinki. They work as a one-way channels that are targeted at interaction between an individual citizen and the city administration. UM offered therefore a new approach to ICT-mediated participation. During a de-briefing session with the planner, the participation coordinators, our ICING partner from the City of Helsinki, and the Webmaster, the planners indicated that it was actually useful to have all the comments publicly available, so that residents can read each other’s contributions. This makes it possible for residents to become aware of the differences of opinions and of the fact that their own needs might clash with the needs of others. The planners indicated that this actually makes visible the difficulty of their own work, which is to ensure solutions that are in a way fair to most residents. People, she said, can now understand that the planner cannot address everyone’s desires. Residents have also expressed their appreciation of the fact that they could read each other’s comments. It was both useful and interesting to them. One respondent also added that she thinks that the opinion of the residents will be taken into consideration in this case, because the UM contributions show that many share the same opinion.

The collaborative design of the UM has therefore made it possible for the planners to reflect on issues related to the participatory planning process in their department, making them aware of the new opportunities that certain technological solutions can bring. Dealing with the UM as a mediating environment rather than a questionnaire enabled planners to address the requirements of the Land Use and Building Act in a new way; one that helps their own work practice. Experimenting with the UM made them realize that having the collected information publicly available for all to see, before the plans are drawn, helps their own work. Conversely it also gave citizens the possibility of comparing and getting a general overview of what others were thinking, opening up new possibilities to influence planning practices.

The delayed outcomes: citizens infiltrate traffic planning and planners advertise new best practices

The ICING project ended in summer 2008, as the traffic planner was preparing the new traffic plans for Malminkartano. The end of the funding meant that we no longer had resources to actively pursue the development of the UM. Much to our surprise, we learned in summer 2010 that the UM Helsinki was being used by a group of active citizens from the neighborhood of Arabianranta in South-Eastern Helsinki. The active citizens wanted to prompt the city authorities to act on safety issues in their neighborhood. For this, they collaborated with a representative from the Helkary NGO that freely provides online platforms for local neighborhood website. The Helkary representative was involved in a EU-funded community development project in the neighborhood, and knew of the UM from previous contacts with us. She introduced the UM to the active residents, who decided that it would be a suitable tool for them to use. The residents, mostly elderly, non-technically-savvy people, set a topic on the UM Helsinki with the support of the NGO representative. The NGO representative wrote instructions on how to add a point to the new UM topic and published them in a news item on the local website. The same news item described the goal of the group of active citizens and invited other residents to contribute with their own observations on traffic safety in the neighborhood. After about two months, the UM topic
on traffic safety in Arabianranta had gathered 83 points from a diverse range of residents.

The group of active residents and the NGO representative went through the gathered data and started thinking of a strategy to analyze it. At that point we proposed to present to them our experience from the Malminkartano case; what we knew about the way the CPD planners had handled the data gathered via the UM, and how they had categorized it in order to view it on their GIS system. The residents also contacted the traffic planners responsible for the Arabianranta area, to inform them about the data gathered and the plans for analyzing it. It was then decided that the residents would go through the data and categorize it with our help and that of the NGO representative, taking some inspiration from the Malminkartano case. To do that, they engaged in ‘adaptation-in-use’, by adapting the tagging system of the UM to their categorization needs. They thus created their own customized tagging system and added these ‘category tags’ to every point on the topic. They then proceeded, after consulting with us, to export groups of UM points, to Google maps that the NGO representative had created for each category. This enabled them to better visualize the outcome of their analysis. In Autumn 2010, they contacted again the traffic planners and sent them, with our help and that of the NGO representative, the following set: the URL of the UM topic, the categorized Google maps, and a CSV (Comma Separated Value) file generated via the UM, which lists all the data gathered in a table format. The active residents then organized a meeting with the planners where they discussed the results of their work and the planners’ reactions to citizens’ concerns.

The planners came prepared to the meeting. They had prepared a PowerPoint presentation, where they showed the decisions regarding some of the issues raised by the citizens, which had already been handled in the CPD, and for which plans already existed. They also showed new proposals they had started working on, based on the concerns raised by the residents. It was decided, at the end of the meeting, that the NGO representative would write a short memo of the meeting, and that the planners would add to it links to the documents and plans that address issues already handled, and that are available (though difficult for outsiders to find) online, on the “Plans-on-the-map” website. Even though it is not yet possible to know if the new proposals will eventually be accepted by the council, it is a fact that one clear outcome of the citizen-led action has been to get all the information regarding the current situation in traffic planning in their neighborhood.

We later asked the group of active citizens what they thought of the process so far. They said that they were happy with the collaboration with the planners, and were especially grateful for the help that the NGO representative and we provided. They said that it was important that we had shared our experience from the Malminkartano case with them, as it helped them address the issue of analyzing the data collected, and how to proceed with it.

When asked about the citizen-led action of the Arabianranta residents, the traffic planners said that they welcomed the residents’ initiative. One of them said: “This way is new ... I have worked with resident groups before in Helsinki, but the fact that they have concretely gathered data, it automatically brings in a new perspective.” The planners particularly appreciated the fact that the outcome represented the voices of a big number of residents, and not just the group of active residents, as is often the case. This reflects the Finnish planners’ understanding of their role, which is that of a neutral and fair guardian of the public good [24].

Our interview with the planners also revealed that the Arabianranta citizen-driven data gathering case had triggered discussion between them and the Registry Office of the City of Helsinki, which is responsible for archiving and mediating feedback received from citizens. The planners wanted to know how they could transfer the data collected via the UM to the City’s own feedback system so that it can be available for future use. The Registry Office acknowledged that they don’t know how to deal with feedback that doesn’t come to them the normal way, i.e. as an initiative communicated via individual phone calls, mail, e-mails, of feedback forms. At the time of the interview, the planners had not yet received further feedback from the Registry Office, other than them investigating the possibility of considering all the data gathered by the residents via the UM topic as one single initiative, which can then be classified as such.

The issue of preserving the collected data in the City’s archive was not brought up in the Malminkartano case, as the planners only focused on viewing the data on their GIS system. However, for the planners in the Arabianranta case, this was an important point to achieve. This reflects a serious desire to treat the data collected by residents as valuable information that should enter the processes and systems in place in the City of Helsinki for citizen participation and planning. On the other hand, this case has also pinpointed areas for further development in the City’s approach, both at the technical level and the organizational one. There is a need to re-think the whole process of citizen participation that is in place and the way it is currently supported by the technology. For example, the Registry Office would need to collaborate with the planners working on the ground and address citizen participation that is enacted through more complex collective activities, such as citizen-driven initiatives for collecting data – a procedure which is not spelled out at all in the Building and Land Use Act, nor is it even envisioned in the formal participation processes in place.

At the end of 2011, the group of Arabianranta residents and some of us received an e-mail from a resident of Pohjois-Haaga in North-Western Helsinki, asking us if we would...
care to present to their own group of active citizens, the process followed in Arabianranta of gathering data on traffic safety from residents. Our coordinates had been given to her by the CPD, more specifically by one of the planner who had been responsible of the Arabianranta area, and with whom the Arabianranta group had collaborated. It is interesting to see how the new kind of citizen participation practices, which have evolved from citizens’ own needs and initiative, have spread, and the pivotal role of the planners in spreading the word and encouraging these activities.

**HARVESTING AND CROSS-POLLINATING**

Looking back at the expanded PD strategy we have followed, we can see a continuous process where the initial designer-led intensive participatory design activities give way to a slower-paced user-led process of adaptation of the technology, which, in turn, is intertwined with the development of new politics (such as addressing possible change in the formal processes in place) and practices (both planners’ and citizens’) of citizen participation (Figure 3). However, change in the socio-political context of use can require a much longer time frame than what is required for technological development. Addressing this issue will be one of the biggest challenges for designing (in) the wild.

In the case of citizen participation in urban planning in Helsinki, the situation when we started working on the UM in 2006 was different from what it is now, even though no new laws have been applied. Contextual changes independent of our involvement are important to acknowledge. The change of generations in the planners at the CPD as well as a general drive toward more openness and collaboration with the citizens has been witnessed. In Malminkartano in 2008, the use of the UM made it possible for residents to share their views on traffic safety in their neighborhood, both with each other and with the planners, before any plans were made. The residents were also invited to comment the proposed plans during a public presentation at the local school one year later. However, there were no additional possibilities for participation. The Finnish Land Use and Building Act of 2000 has pushed the CPD to ensure that citizens are presented with plans that affect their neighborhoods. This type of participation, which in effect is simply a consultation process, is limited [2]. The planners did not keep the citizens informed of the development phases of the project, nor did they explain what were the processes followed. Some residents even used the online research questionnaire that was later set up by one of us, to communicate ideas concerning traffic planning in the hope that it would reach the planners. There was thus no effort put in opening up the basic consultation process to a more collaborative interaction with citizens. On the other hand, in Arabianranta, in 2010, the group of active citizens and the planners did collaborate. First of all, the two parties actually met on several occasions. Second, they worked together in providing information regarding the planning processes under way. This second type of collaboration, which in in line with what is usually addressed by Computer Supported Collaborative Work, was made possible by the use of e-mail and the help of the NGO representative who collected the information and included it in reports that were published on the local neighborhood website [27].

In addition to naturally occurring contextual changes, the citizen-driven participation case in Arabianranta has demonstrated the benefits of its continuity with the Malminkartano one. This continuity fed it with input on how to adapt the technology and, equally importantly, how to engage in the kind of citizen action that can impact existing planning procedures and incur change in practices of participation. In turn, the Arabianranta case is currently affecting the way in which the CPD planners are approaching participation possibilities, and the way citizens are approaching their citizen action in Pohjois-Haaga.

If HCI aims for the “design of politics”, we suggest it takes into consideration the different time spans and rhythms that the changes in the context of use of technology may require. Long-term strategies become essential. These strategies can rely on the initial designer-led interventions that act as potential triggers for later developments [4]. The choice of technology will impact the sustainability of the approach: Open Source, modular, and adaptable technology afford design and adaptations-in-use at later stages. However, as the designer-led phases give way to the realities of “the wild”, new strategic considerations need to be addressed:

- Thinking in terms of ecologies of tools rather than focusing of single technologies, and developing strategies to choose, use, configure and create connections between the different tools at hand [27], e.g. official tools in use in municipalities as well as everyday mundane ones used by citizens.

- Devising ways to share knowledge and best practices related to technological adaptation as well as citizen participation: e.g. through open documentation and the creation of publicly available and co-editable manuals.

- Mediating and forging connections between communities of (potential) users who share interests and goals: e.g. residents of different neighborhoods that are interested in traffic safety issues.

These considerations support the birth of a kind of ‘cross-pollination’ between various cases, and produces new outcomes and new seeds for further developments in the design of the technology and the socio-political context of use. In the cases reported in this paper, our own role as designers shifted from an initial focus limited to the development of the technology, to a wider one that included addressing the new considerations listed above, in collaboration with citizens, planners, webmasters and NGO representatives.
The professional design-led phase gives way to slower-paced and potentially user-led iteration cycles of technology adaptation. These are combined with the development of practices and politics of citizen participation.

Whereas we have shown that the expanded PD strategy has affected, in a modest way, the participation processes followed by the CPD, it limits “design for change” [8] to only one disciplinary context, that of technological design. In order to better position ourselves for designing (in) the wild, the whole approach to citizen participation in local governance and urban planning would need to be addressed, already at the early stages of the design activities. A deeper methodological inquiry into participatory urban planning [16], and its possible links to PD, might have been beneficial at the beginning of the UM design process. This might have enabled more collaborative activities between the planners and citizens, which are not yet supported by the laws and processes followed in Helsinki.

Finally, it is important to keep in mind that the UM was a software developed by the researchers themselves, in the context of academic research. We recognize that the issues related to the affordability and sustainability of the proposed design approach within a commercial setting, and in terms of the procurement processes of the city administration, have not been addressed.

CONCLUSIONS

In the beginning of the article, we have brought forth Dourish’s call for HCI to be concerned with the “design of politics”, which can be understood as integral to designing in the wild. We have asked how and to what extent can the design of interactive systems affect “the wild”, which in our case, was citizen participation in local governance and urban planning. On the basis of the long-term study of the design of the Urban Mediator and its outcomes, we suggest the following: by developing interactive systems that are flexible and versatile, and by enabling an expanded approach to technological participatory design, which goes beyond the professional design project and enables further adaptations of the system by its users, it is possible to impact the processes in place for citizen participation, albeit naturally in a modest way. The timeframe and rhythm of change of the context itself can be out of phase with those of technological design. It is therefore important to leave the possibilities open for delayed actions and outcomes, which can occur at later times and feed the iterative process of design in general, be it of technology, politics, or of both.

New strategic considerations, which are not necessarily bound to the traditional role of design, also need to be acknowledged, such as thinking in terms of ecologies of tools, devising ways to share knowledge and best practices, and mediating and forging connections between communities of users.

One implication of these results is that the way future research on ICT-mediated participation ought to be repositioned to include possibilities to concurrently address the design of technology and the development of new types of citizen participation. What kind of trans-disciplinary research and collaboration settings need to be constructed?

Another implication concerns the role of HCI design and the designers. As the case of the Urban Mediator has shown, the designed system needs not to be the end-point of the design activities, but it can become a trigger for other kinds of changes in its context of use. In a sense, this means going back to the initial goals of Scandinavian Participatory Design (SPD), where the collaborative design of new computer systems together with the workers themselves was seen as a possibility to affect democracy in the workplace. While SPD thus could be a valuable resource for “designing (in) the wild”, its experiences must be now re-contextualized – both the world where the design is taking place and the technology in use have undergone drastic changes during the decades since the initial experiments were made. What are the possibilities, courses of action, and responsibilities of the designers now? This is a discussion within the DIS community we would like to open.

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