Human Interfaces for Civic and Urban Engagement: HiCUE '13

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Abstract

How should citizens and communities interact with and in their city? Leveraging urban resources for civic purposes, such as citizen participation and community engagement, has been gaining interest in HCI. Essentially, citizens can be empowered to be heard and engage the city better through the use of modern technology. Examples of these technologies are mobile phones, public displays, sensor networks, digital art installations, or any other type of urban technology. This workshop seeks to investigate the progress in creating public human interfaces for interactive urban engagement. We wish to discuss issues such as citizen participation in public life and decision-making, informing citizens, and civic engagement in all its various forms.

Author Keywords

Urban computing; civic engagement; citizen participation; user interfaces

ACM Classification Keywords

H.5.0 Information Systems: General

Introduction

The proliferation of computational resources in our everyday environments enables new types of interaction and communication. Understanding the

natural dialogue of users of such technology is crucial to the success of future urban computing deployments in settings where people use and appropriate the new technologies as they wish.

This workshop is particularly focused on understanding the interfaces needed to inform citizens and foster civic engagement. The concept of informed citizen is centuries old: for citizens to be able to participate in local issues and voice out their sophisticated opinions, they must first be effectively informed about the issues. Many governments today are fairly active in making information publicly available, but relatively little attention has been focused on effective information dissemination, or informing citizens [20]. Especially today, electronic information can be distributed in many ways other than the traditional libraries and government offices with endless archives of meeting minutes and blueprints. This is the first issue that HiCUE as a workshop is interested in. How can we distribute information that matters and has topical relevance to the lives of the citizens using urban technologies, or human interfaces?

Information dissemination is an integral part of broader civic engagement. Previous research shows that civic engagement is beneficial for individuals, institutions and communities as well as for the surrounding society [5]. Further, decisions made through broader civic participation are better and more likely to be accepted [10]. The benefits include not only material advantages but also psychological satisfaction for participants, i.e. citizens [11]. Civic engagement has a broad motif. It is about enhancing communication between locals and City officials. It is about equality: everyone should be able to participate in or at least be informed of local decision making and issues of the surrounding community. It can be about the collective action to identify and address issues of public concern. We ask: how can the human interfaces of a modern city help in solving these issues? HiCUE calls for research on ubicomp technologies that can be used to foster civic engagement in its many different forms.

The technology used to inform citizens and promote civic engagement does not need to be dedicated for that purpose alone. For example, modern smartphones have a plethora of use cases today. Interactive public displays may offer several applications, including ones tailored to civic engagement, to its users [7, 16]. How to best integrate civic engagement as one of the services offered by our everyday environments is a fascinating research opportunity. HiCUE provides an opportunity to discuss this as well as other emerging topics in this research domain.

Background

Ubicomp researchers have long been interested in designing such deployments for urban environments, where ubicomp technology is envisioned to seamlessly assist humans in their mundane, daily tasks. On the one hand, urban technology can be understood as a strategic device to encompass urban production factors in a common framework and to highlight the importance of Information and Communication Technologies for enhancing the competitive profile of a City [4]. Others may understand it as a more technology-laden connected community utilizing ubiquitous high-speed networks, flexible computing infrastructure based on open industry standards and new innovative services to provide added value to citizens and visitors alike [14].

In this workshop we seek to investigate how urban technologies can be built first and foremost for citizens. Essentially, we seek to understand how to better reach out to and connect with the citizens in a city using ubicomp technologies. Although the majority of recent research on civic engagement technologies takes place in cities and urban areas, research conducted in less-populated, rural areas is also welcome to HiCUE.

Also tech companies are investing in R&D to create "smart" cities, with the goal of making our lives more efficient, better informed and hassle-free. Pike Research estimates that $16 billion USD will be spent annually by 2020 on core technologies in pursuit of this goal. We feel that it is very important to consider the impact of new urban technological developments on the quality of life – will all the so-called smart technology make city folk feel happier, more productive and connected? Or might the converse happen, where the accumulation of vast amounts of city data starts to be overwhelming, making people feel disempowered or even disengaged? For example, in Australia consumers are worried about the possibility of health hazards caused by the electromagnetic fields emitted by smart meters; an increasing number of people are reporting illnesses, such as high-pitched ringing in the ears, disturbed sleep, regular nosebleeds, pressure in the head and difficulty concentrating after smart meters were installed in their homes [6]. What this suggests is that people's perceptions, fears and concerns need to be taken into account from the inception of design ideas to implementation.

Engaging humans for a given purpose, such as the ones in the focus of this workshop, in their natural habitat with new technology is never easy. For example,

uncontrolled users have a strong tendency to appropriate new deployments for their own personal uses, often way beyond the purpose planned by their designers [9]. In general, approaching public shared technology can be socially awkward, because users are afraid to make mistakes or "look stupid" [2]. Finally, the long-term sustainability and maintenance of the technology sets a number of challenges to the administrator organizations [16, 17].

Finally, such studies are challenging to evaluate and especially replicate [3]. However, we see them integral in creating an understanding of what kind of public human interfaces are truly functional in engaging citizens in their daily lives. It is becoming painfully clear that user studies conducted with only a small group of controlled users do not always yield the optimal results, and researchers have been calling for wider deployments to understand the impact of the environment on technology and vice versa [18]. Some of the technologies that have been utilized for engaging citizens in authentic settings include projectors and mobile phones [1, 8], public displays [12, 13, 19], 3D technologies [15], and a number of different wireless technologies [21].

Objectives of the Workshop
Text formatting

The first objective of this workshop is to provide a shared forum for researchers interested in public human interfaces in urban environments. This includes researchers who are interested in building novel interfaces as well as researchers who utilize already existing and deployed interfaces for fostering civic engagement and information dissemination.

We hope this workshop will make an impact as a venue for urban computing researchers to join and share their knowledge, experience reports and, perhaps most importantly, frustrations in engaging users in authentic settings for civic purposes.

The long-term objective of the HiCUE workshop is to foster a community interested in how to provide interfaces to the human inhabitants of a City, how they can effortlessly interact with it while going about their daily lives, and what we can learn from the appropriation of the provided technology and services.

Expected outcomes

We encourage contributions especially in the following key areas:

- Applications: applications that have a civic purpose and are evaluated in authentic settings with real users

- Experience reports: user evaluation or descriptive reports of long-term installations that inform or promote civic engagement in urban environments

- Methodologies: methods and methodologies for evaluating human interfaces for civic purposes

- User-centered analytic tools and interactive visualizations of a City and its information in a user friendly form

- Systems and architectures: middleware, databases and system architectures for information storing and dissemination in urban environments

Note that we plan for accepted manuscripts to be included in the ACM Digital Library and supplemental proceedings of the main conference. All workshop papers must be up to 4 pages long in the SIGCHI archival (landscape) format, and be ready for inclusion into ACM digital library and the supplementary proceedings by June 30, 2013.

Further, after the workshop the organizers will compose a journal article of the most prominent contributions of the accepted submissions to report on the state of the art of public human interfaces for civic purposes.

Organizers

Simo Hosio is a doctoral candidate in the Department of Computer Science and Engineering at the University of Oulu and a member of the MediaTeam Oulu research group. His research interests include social computing, particularly leveraging public displays and mobile devices for engaging citizens in public settings. Hosio received an MSc in information engineering from the University of Oulu. Contact him at simo.hosio@ee.oulu.fi.

Jorge Goncalves is a doctoral candidate in the Department of Computer Science and Engineering at the University of Oulu and a member of the MediaTeam Oulu research group. His research interests include eliciting feedback and human input in authentic settings. Goncalves received an MSc in information engineering from the University of Madeira under the Portugal | Carnegie Mellon partnership. Contact him at jorge.goncalves@ee.oulu.fi.

Vassilis Kostakos is a professor of computer engineering and the associate director of the MediaTeam Oulu research group in the Department of Computer Science and Engineering at the University of

Oulu. His research interests include ubiquitous computing, human-computer interaction, and social systems. Kostakos received a PhD in computer science from the University of Bath, UK. He is a member of ACM. Contact him at vassilis@ee.oulu.fi.

Keith Cheverst is a Reader in HCI at Lancaster University. His research over the last decade has focused on exploring the obdurate problems associated with the user-centred design of interactive systems (typically systems that utilise mobile and/or ubicomp technologies) that support communities in complex or semi-wild settings and the deployment and longitudinal study of these systems in order to gain insights into issues of user adoption and appropriation.

Yvonne Rogers is the director of the Interaction Centre at University College London and UCL's PI of the recently established Intel Collaborative Research Institute on Sustainable Connected Cities. She has been awarded a prestigious EPSRC dream fellowship to rethink the relationship between ageing, computing and creativity. She is passionate about designing computers to be engaging, exciting and even provocative and has pioneered an approach to innovation and ubiquitous learning that combines indoors experimentation with outdoors scientific inquiry.

Estimated attendance

We will accept around 10 papers through review by HiCUE technical program committee to be presented in the workshop. In total we expect to attract up to 30 participants (including the presenters and organizers).

Conducting the workshop

Pre-workshop preparations
The workshop website at http://hicue2013.blogspot.fi/ will go live before the call for participation is sent to all the major ubicomp mailing lists. The organizers will also publicize the call in their home organizations and among their peers.

Important dates
Deadline for submissions: May 31st, 2013
Response to authors: June 10th, 2013
Camera ready submission deadline: June 30th, 2013

Workshop structure & schedule
The workshop consists of a single paper-track, with participants presenting his/her workshop paper during maximum of 10 minutes, followed by a 5 minutes discussion. After the second paper session, the organizers will give a 30 minute presentation about the original motivations and reasons for organizing the HiCUE workshop and about their personal ongoing work on the topic as well. Finally there will be a one-hour long panel discussion, led by the organizers. The workshop will conclude with a coffee to continue informal discussion and to network with other researchers.

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09:00 - 10:00 - Paper presentations
10:00 - 11:00 - Coffee break
11:00 - 12:00 - Paper presentations
12:00 - 13:30 - Lunch
13:30 - 14:00 - Paper presentations
14:00 - 15:00 - Organizers' presentation and open discussion
15:00 - 16:00 - Coffee and end of workshop (including discussion regarding special issue and potential future events)

Summary

In a nutshell, the workshop of Human Interfaces for Civic and Urban Engagement solicits contributions and discussion about the possibilities afforded by the new ubicomp technologies and their use in shared urban spaces, and their potential role in engaging communities and citizens and better connecting them with the City itself.

The organizing committee has a strong background in urban and social computing, conducting and evaluating longitudinal field trials in authentic environments, and organizing experience. We hope this workshop is a valuable addition to the UbiComp conference.

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