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# Large Displays in Urban Life – from Exhibition Halls to Media Facades

workshop proposal

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**Abstract**

Recent trends show an increasing prevalence of large interactive displays in public urban life. For example, museums, libraries, public plazas, or architectural facades take advantage of interactive technologies that present information in a highly visual and interactive way. Studies confirm the potential of large interactive display installations for educating, entertaining, and providing evocative experiences. This workshop will provide a platform for researchers and practitioners from different disciplines to exchange insights on current research questions in the area. The key questions that the workshop will be focusing on are: how to design large interactive display installations that promote engaging experiences and go beyond playful interaction, and how to evaluate their impact.

**Relevance**

The potential of large interactive display installations has been explored by the disciplines of art, design, architecture, HCI, and social science. However, we still lack consistent frameworks built up by insights from these different disciplines to inform design and evaluation methods for large display installations in urban spaces. As an interdisciplinary venue that brings together researchers and practitioners from the main dis-

ciplines involved in this young research area, we believe that CHI 2011 will be an ideal forum to discuss key questions around the topic and to start conceptualizing interdisciplinary practices and insights.

### **Goals & Contributions**

The goal of the workshop is to cross-fertilize insights from different disciplines, establish a more general understanding of large interactive displays in public urban contexts, and to develop an agenda for future research directions in this area. Workshop discussions will focus on the following topics:

#### *Beyond playful interaction*

A number of studies found that large display installations invite for playful interaction but often fail to convey meaningful experiences related to content. How can we design installations that endure people's attention past the initial novelty effect and direct the interest toward the content? What design strategies can be applied to promote an active individual and social exploration and discussion of the presented information?

#### *Character of interaction*

A number of interaction techniques have been explored for large displays in public spaces ranging from interaction via cell phones to full body interaction. We would like to discuss how different interaction methods shape people's experience of large display installations in urban spaces. How do they differ from each other in terms of triggering interaction and engagement with the presented content.

#### *Evaluation of large display installations*

Different quantitative and qualitative methods have been applied to evaluate people's experience and use of large display installations in public spaces. During the workshop we will discuss different approaches to evalu-

ation, how to evaluate particular aspects of public large display installations such as engagement, and when during the design process and/or installation evaluation methods can be most effective

We see this workshop as an opportunity to start thinking about a general framework that can inform the design and evaluation of large interactive displays in different urban contexts. With a diverse research community present at the workshop we will also discuss an agenda for future research directions in this area. As workshop organizers we plan to summarize the workshop results in a journal paper.

### **Workshop Plan**

This will be a one-day workshop targeted to 16-20 participants. We look for researchers and practitioners from art, design, HCI, social sciences, and architecture who are actively involved in research on large displays in urban spaces. Participants will submit a four page position paper that briefly describes their experiences with the design, development and/or evaluation of large displays in urban spaces, considering in particular one or more of the three discussion topics described above. A website will contain a call for participation including details on the goals of the workshop, discussion topics, as well as workshop activities and results.

#### *Before the Workshop*

Accepted position papers will be made available prior to the workshop through the workshop website to encourage participants to get to know each other's work. Participants will be asked to prepare a 5-minute presentation that summarizes their position paper. We will also ask participants to prepare a poster that illustrates the major points of their paper. These posters will be visi-

ble throughout the workshop and can be used to open the discussion to all CHI conference attendees.

#### *During the Workshop*

This one-day workshop is divided in to four sessions.

*Introduction:* We will introduce the workshop topic, agenda, and goals. Workshop participants will introduce themselves and their motivation to participate in the workshop. The goal of this session is to get to know each other to enable effective collaboration.

*Position Paper Presentations:* Participants will give 5-minute presentations that summarize their position paper. Each presentation will be followed by a 5-minute discussion where questions and/or comments can be raised. During the presentations and discussions, participants can use Presemo, a computer-supported communication tool, to provide comments or take notes. This tool will facilitate summarization of workshop outcomes and after-the-workshop sharing of information.

*Group Discussions:* We will form three groups. Each group will work on one of the topics discussed earlier.

*Group Summary & Wrap-Up:* Groups present a summary of their discussions and outcomes. Generated ideas and approaches will be discussed in terms of similarities or contradictions, how certain research questions can be approached in the future, and how collaborations can continue after the workshop.

#### *After the Workshop*

We will make a summaries and results from the workshop available to all participants (e.g. through the workshop webpage). We hope that this material will seed future community building in form of a blog or wiki focusing on this research area. We will also propose a checkpoint for future conferences to continue the discussions and reflections.

## Workshop Organizers

**Uta Hinrichs** is a PhD candidate in computational media design at the InnoVis Group of the University of Calgary, Canada, under the supervision of Sheelagh Carpendale. Her research focuses on the design and study of large display interfaces to support lightweight information exploration in walk-up-and-use scenarios.

**Nina Valkanova** is doing her PhD at the interaction group of the University Pompeu Fabra in Barcelona, Spain under the supervision of Ernesto Arroyo. Her research interest focuses on the design of urban media facades exploring the intersections between scientific and artistic design knowledge.

**Kai Kuikkaniemi** is a project manager in Helsinki Institute for Information Technology. He is currently leading a national research project focusing on public displays. His earlier research has focused on exploring novel multiplayer game designs ranging from pervasive gaming to biosignal adaptive gaming.

**Giulio Jacucci** is a professor at the University of Helsinki at the Dept. of Computer Science and director of the Network Society Programme at the Helsinki Institute for Information Technology. He leads several interactional projects on interaction design and ubiquitous computing, and is co-founder of MultiTouch Ltd. a company commercializing products for multi-touch screens.

**Sheelagh Carpendale** is a Professor at the University of Calgary where she holds a Canada Research Chair: Information Visualization, an NSERC/iCORE/SMART Industrial Research Chair: Interactive Technologies. She directs Innovations in Visualization research group and her research focuses on information visualization, collaborative visualization, and large interactive displays.

**Ernesto Arroyo** holds an associate teaching position at the Dept. of Information and Communication of the Universitat Pompeu Fabra (UPF). He earned his PhD at MIT Media Lab in 2007. His research at the Interactive Technology Group focuses on interaction design, visualization, and user-centered interfaces, enabling and preserving the fluency of user engagement