Workshop on Inconspicuous Interaction

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Abstract

Growing usage of interactive systems in the public space has highlighted the prevalence of conflicts between desired functionality and maintenance of privacy / social comfort. This has inspired researchers and practitioners, in communities concerned with usable security, wearable and mobile interfaces, natural user interfaces, accessibility and social interaction, to employ inconspicuous interaction styles. This workshop will bring these communities together to produce forward-looking insights that can shape the way users interact with tomorrow's computers, in interactive systems that account for the social nomadic contexts where they are bound to be used.

Author Keywords

Smart Devices; Mobile HCI; Privacy; Intimate Interfaces; Social Interaction.

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

General Terms

Design, Experimentation, Human Factors.

Introduction

Computing devices are increasingly used in social contexts. It is not uncommon to find users whose primary device is a smartphone, in detriment of the desktop computer that was used in a secluded setting.

While users are yet to come to grips with the challenges presented by this change [8], wearable computers are coming of age, as smart watches or devices like the Google Glass enter the market.

When people interact with each other in social settings, they can preserve privacy in a number of ways. They can look around to see if someone is eavesdropping and adapt accordingly. They can whisper, glance, wink and nod. Yet, interactions with computing devices are mostly unnatural and public. Even if the content itself is private, the act of interacting is often not [6]. The myriad of computers that we carry (or soon will) create new opportunities to provide more control and flexibility, allowing users to engage in useful or entertaining activity while not publicly showing it [1]. In much the same way, they create concerns over privacy that used to be the stuff of fiction.

In fact, not addressing privacy concerns, and understanding the moving boundaries of what users deem as private or public behavior [2], is perhaps the chief obstacle to bring to market promising technologies that are otherwise already feasible. There is considerable social alarm over the fact that mobile and wearable devices can enable invasion of the privacy of others [4], but little consideration is given to the fact that they could also enable valuable inconspicuous activity that protects our own privacy.

Tensions arising between usage in public space and the personal desire for privacy and social comfort [3] have inspired different communities of researchers and practitioners to employ inconspicuous interaction styles [5,7,8]. But in face of technological and societal changes, ad hoc solutions have limited value. There is a clear opportunity to bring communities together to produce forward-looking insights that can shape the way users interact with tomorrow's computers, with improved control over their circumstances.

This workshop will focus on identifying future opportunities and challenges in creating interactive systems that account for the social nomadic contexts where they are bound to be used. Particularly, it will focus on depicting the current and emergent social usage patterns, the threats to privacy they foster, and the design space for interfaces that empower users to safeguard their privacy while not infringing on norms of social acceptance. Special attention will be given to extreme situations in which exposure of interaction with computing devices hinders access to critical functionality.

Workshop Goals

One of the main goals of this workshop is to bridge cross-disciplinary relationships between researchers and practitioners interested in the design and study of privacy and intimacy of user interfaces in social contexts.

In particular, we hope to bring together the HCISEC, wearable and mobile interfaces, natural user interfaces, accessibility and social interaction communities. Through this workshop participants will share experiences and ideas, and discuss design and technology goals for future research.

Some of the specific areas workshop participants may have experience with include:

- Understanding social, situational and individual interaction constraints;
- Understanding and modelling threats in social contexts;
- Designing intimate and subtle interfaces;
- Providing privacy and security in nomadic HCI settings;
- Evaluation of intimate interfaces;
- Field experiments conducted "in the wild" in the area of usable privacy.

Additional workshop goals include:

- Highlight research challenges for this community to guide future research;
- Identify privacy conflicts in emergent interaction scenarios and contexts;
- Identify opportunities for inconspicuity leveraging novel user interface paradigms and devices;
- Identify guidelines for researchers to reduce the gap between interactivity and privacy;
- Identify extreme situations and user groups where privacy is of special concern;
- Share best practices.

Workshop Topics

The workshop organizers' background is diverse and includes experience on studying and designing methods to deploy privacy in interactive settings, designing alternative wearable and intimate interfaces, and providing inconspicuity in extreme situations (accessibility and cognitive behavioral settings).

Topics for the workshop include:

- Designing and evaluating inconspicuous interfaces;
- Making use of inconspicuous behavior in interactive systems;
- Inconspicuous security mechanisms;
- Privacy-enhancing devices and interaction styles;
- Private interactions in public displays;
- Emerging privacy threats in social contexts;
- Understanding social and cultural issues;
- Understanding contextual (social, individual or situational) interaction restrictions;
- Methodological challenges;
- Conceptual and practical limits to inconspicuous interaction "in the wild";
- Limits and unexplored affordances of current interfaces.

Workshop Format

Discussion between participants around the proposed topics will start long before the workshop, after the notification of acceptance given to the authors. The webpage of the event will soon display all accepted position papers and will comprise an area for discussion (wiki or forum) for each paper. Regularly, between the acceptance and the workshop day, we will send an email to the authors of all papers asking them to read and comment a given paper, fostering the discussion around all accepted papers. This will start the discussion long before the workshop itself and will help us identifying the most prominent topics for discussion.

At the workshop, we will start the day with presentations from the authors of the most discussed papers/topics. The remaining contributions will be presented in an interactive poster session where demos will be encouraged and discussion will be fostered. Following, we will perform round-table discussions focusing on the aforementioned workshop goals. The last part of the workshop will be dedicated to a design exercise where groups will be seeking to provide an inconspicuous solution to an identified emergent socially-challenged interaction setting.

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