Beyond Individuals: Exploring Social Experiences Around Wearables

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ABSTRACT

Much of the research in wearable technology focuses on the primary user's experiences and interactions. However, many wearables are inherently social – even public – by nature as they are visible to nearby others. Wearables carry meanings about the wearer (e.g., lifestyle, attitudes, interests, social status). Some wearables are even designed to enable interaction between collocated users or enhance group-experience. While the functions of the technology are often seen to justify its existence, reaching high acceptance of technology requires that also social and cultural aspects are considered. In this workshop, we look into the dynamic and communicative nature of wearable technology designed for both individuals and groups. We are particularly interested in social experiences emerging around personal wearables and the possibilities for technology enhancing group experiences. The goal of this workshop is to bring together a community of researchers, designers, and practitioners who have designed or are interested in designing wearable technology to discuss research agenda and challenges in designing wearable technology as social, communicative artefacts.

KEYWORDS

wearable technology, social experiences, co-experience, interaction beyond individual, design space.

1 BACKGROUND AND MOTIVATIONS

Clothes and accessories serve several functions in people's lives, from physical to social and psychological [2]. Although they are worn by individuals, they are communicative by nature. Choices of clothes and accessories a person makes convey a message about the person, e.g. association with a particular group [4, 5]. Today's digital technology has taken wearable forms, like watches, wristbands, garments or glasses. Clothing and accessory items have become smart and interactive with sensors, actuators, or displays attached to them. As technology becomes wearable, it shares the design space with and faces challenges similar to traditional clothes and accessories [6, 14], where social meanings and culture have important roles in the design [3, 12]. Therefore, the UbiComp and ISWC community should go beyond designing for an individual user's experience or activity and consider the social and cultural functions such technology might have when wearers go about in different activities and contexts in their life [12, 14].

Social Experience Around Wearables

Wearable technology has long been considered as a means to support and enhance interaction and experience between people. Whether, connecting people remotely, e.g. for intimate communication between close peers through touch [13] or between people in the same place for connecting strangers,

encouraging interactions, and facilitating collective interactions [10]. Previous workshops (e.g., [7]) also explore novel interaction techniques wearable technology could support in collaborative tasks and multi-user applications.

However, the previous work mostly focuses on *explicit* and *active* social interaction, that is, users already interacting or being about to interact with each other. Wearable technology already yields social experiences to its wearers even if the wearers are not socially active or are not interacting with anybody. When technology is visibly placed on the body as a clothing or accessory item, it is part of the wearer's appearance and socially influences how the wearer goes about and experiences the world [4, 12]. For example, operating an interactive wearable using touch and gesture on different body locations might clash with cultural norms, leading to discomfort in public[11]. Wearable technology also enables new forms of interaction and social experience of an individual and a group. For example, openly displaying personal physiological data on an individual's clothes in a running race could yield positive running experience to other runners even without any direct interactions between them [9]. An individual's outfit can be changed and manipulated by others who are not wearing it [8]. A group of sports fans can experience a new sensation together as their favourite athletics perform live in a game [1].

2   WORKSHOP AIMS AND THEMES

In this one-day workshop, we will explore different kinds of *social experiences emerging around wearable technology* and *how to design wearable technology that yields positive social experiences*. We aim to bring together researchers, designers, and practitioners to share their insight and experience in designing wearable technology and collectively reflect on them through the lens of social experience. Our discussion during the workshop will be facilitated around, but are not limited to, 4 themes:

Theme 1: Design choices and criteria. We will identify the purpose of different wearable technology and discuss design choices. Why do participants choose to design a wearable device to be in a certain form factor, not the other? Why certain materials, interaction techniques, or visualisations are chosen for the design of the wearable device?

Theme 2: Social and cultural acceptability. We will discuss the characteristics of wearable technology that are challenging for social and cultural acceptability. How do participants consider social and cultural differences in their design of wearable technology? How does culture around wearing technology evolve in contemporary designs?

Theme 3: Social and cultural meanings. We will discuss what social and cultural meanings a wearable device might engender in terms of appearance and interactions. What symbolic meanings are created from integrated technology in everyday outfits?

Theme 4: Interaction and Experience. How using wearable technology could affect social interaction between people? How to design wearable technology that addresses or enhances the social experience? How does such technology balance the needs between an individual and a group?

3   WORKSHOP STRUCTURE

The workshop consists of three parts: *show and tell*, *try-out*, and *a round table discussion*.

Show and Tell. Participants will present and reflect on their own wearable designs through the lens of four themes. The presentations will be done in the form of posters or demo presentations. Discussions will be actively encouraged during and after each presentation.

Try-out. Participants and the organisers try each others' prototypes and individually reflect on the social experiences that might emerge from using the prototypes both as a wearer and an observer. Then, the participants and the organisers share their experiences of using the prototypes and collectively reflect on them with the four workshop themes.

Round Table Discussion. Participants are split into small groups based on their design objectives (e.g., design for individuals or groups). In each group, participants discuss emerging social experience and the three themes from a more generic perspective. The discussion will also cover commonality and differences challenges each participant is facing and approaches to address, support and/or enhance social experience of wearable technology in different context, activities, and/or groups of people.

4   WORKSHOP ORGANISATION

We will use a website to promote the workshop and distribute related news. We will also advertise the call widely through relevant HCI mailing lists, social media, and direct invitations. Participants will be asked to submit a 500-word abstract and a poster design. The submissions will be reviewed by the organisers, ensuring that each submission receives three reviews.

The workshop is open for all UbiComp and ISWC attendees. However, we require participants to submit a position paper and a poster to present in the Show and Tell session.

5   ORGANISERS

Ting Pradthana Jarusriboonchai (main contact) is a postdoctoral researcher at the Faculty of Art and Design, University of Lapland. Her research explores wearable technology

from aesthetics and social perspectives. She is also interested in designing tools that allow users to customise their wearable devices to match own taste and style.

Felix A. Epp is a doctoral candidate in Human-computer Interaction at Aalto University in the Arts & Magic group at Computer Science and the Embodied Design Group at School of Arts, Design and Architecture. His research looks into social aspects of technology in face-to-face scenarios, especially self-expression through wearable technology.

Thomas Olsson is an associate professor at Tampere University, Finland. His research explores the roles of technology in social interaction, focusing on the experiential aspects, behavioural implications, and ethics of novel ICT applications. His inter-disciplinary research approach combines qualitative user research, critical design approaches, and experimentation spanning from lab studies to field studies. He has organized several inter-disciplinary workshops in the field of HCI.

Andrés Lucero is Associate Professor of Interaction Design and leader of EDG (Embodied Design Group) at Aalto University in Finland. His work focuses on the design and evaluation of novel interaction techniques for mobile devices and other interactive surfaces. His research interests include human-computer interaction, design, and play.

Oscar Tomico is head of the Design Engineering Bachelor program at ELISAVA Design and Engineering school, Assistant Professor in the Future Everyday Research Group, working in the Wearable Senses Lab at Eindhoven University of Technology. Current projects focus on the textile industry and involve stakeholders during the design process to create ultra-personalised smart textile services in the form of soft wearables or soft interiors.

Eric Paulos is Director of the Hybrid Ecologies Lab, an Associate Professor in Electrical Engineering Computer Sciences at UC Berkeley, Director of the CITRIS Invention Lab, Chief Learning Officer for the Jacobs Institute for Design Innovation, and faculty within the Berkeley Center for New Media (BCNM). His research interests include Emancipation Fabrication, Cosmetic Computing, Citizen Science, New Making Renaissance, Critical Making Culture, Robotics, Urban Computing, and New Media.

Jonna Häkkilä is a professor for industrial design at the Faculty of Art and Design, University of Lapland, Finland. Her work focuses on user-centric design of mobile and ubiquitous computing. She is currently leading cross-disciplinary research projects addressing TechFashion, wearable displays,

and combining traditional handcraft with HCI, and her works have been exhibited in Milan Design Week'16 and '17, and New York Wanted Design 2018.

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