Editorial

Introduction to the special issue on social networks and ubiquitous interactions

1. Introduction

This special issue of the International Journal on Human–Computer Studies is dedicated to *Social Networks and Ubiquitous Interactions*. For this special issue we invited submissions of original research exploring the interplay between online social networks and ubiquitous technologies. HCI venues have seen an increase in papers looking at online social networks, and how the rich information that users provide can be used to personalize the interaction in these systems. In addition, several research projects in the area of ubiquitous computing are aiming at inferring users' context and adapting to it accordingly. Given these trends, in this special issue we explore how the rich information in online social networks can be leveraged to adapt ubiquitous systems, and conversely how ubiquitous technologies can be used to make online social networks more interactive, and therefore, more interesting and engaging for users.

Our special issue received 22 high-quality submissions. There was great diversity in the manuscripts we received, reflecting the vibrant and active community working at the intersection of social networks and ubiquitous interactions. After two rounds of reviews involving 44 reviewers we were able to select 5 manuscripts to form the special issue that we now present. These five manuscripts represent a very diverse set of research teams, including academic teams from Europe, North America, South America, and Asia, as well as two industrial players: Nokia and Google. This diversity in the topics of the manuscripts was matched by a diverse and experienced set of reviewers to whom we are grateful for donating their time.

2. The contents of this special issue

This special issue essentially covers three main themes. The first theme looks at the motivations behind people sharing with their social network information collected by means of ubiquitous technologies. The second theme considers the kind of support that individuals may obtain by sharing this information. Finally, the third theme considers how smartphone user experience can be improved by presenting data shared in one's social network at the right time on their smartphones.

2.1. Sharing ubiquitous interaction data on social networks

The articles in this theme address the issue of why would individuals choose to share their data on a social network. The first paper takes a holistic approach and investigates the motivations and concerns regarding sharing various types of information. Haein Lee, Hyejin Park and Jinwoo Kim present their paper *Why do people share their context information on Social Network Services?: A qualitative study and an experimental study on users' behavior of balancing perceived benefit and risk*. In this paper the authors argue that while context-aware and ubiquitous technologies are rapidly growing, users remain reluctant in sharing contextual information with their friends on social networks. This in-depth study, informed by a series of experiments, investigates the kinds of risks and benefits that are associated with the sharing of contextual information. Interestingly, the authors report that users' perception of benefit is stronger than their expectation of risk, and also highlight that these perceptions are moderated by the privacy control strategy involved.

The second article on a particular type of ubiquitously sensed information that users choose to share in their online social networks: sleep patterns. Shirazia, Clawson, Hassanpour, Tourian, Schmidt, Chi, Borazio and Laerhoven present their paper *Already Up? Using Mobile Phones to Track & Share Sleep Behavior*, which analyzes the sharing of sleeping patterns on social networks. The paper presents Somnometer, a social alarm clock that allows the authors to investigate whether providing users with the ability to track their sleep behavior over a long time period can empower them to engage in healthier sleep habits, and whether sharing sleep information with social networks impacts awareness and connectedness among friends. In a series of studies they show that providing a way for users to track their sleep behaviors increased awareness of sleep patterns and induced healthier habits. However, they also found that, given the current privacy control mechanisms on existing social networks, users were concerned about how they share their sleep patterns.

2.2. Ubiquitous sensing and support in social networks

This theme considers an important motivation for sharing ubiquitous interaction data on social networks: reaching out and obtaining support. The first paper considers how families can support each other, and particularly their elder adults, through sharing information on social networks. Cornejo, Tentori and Favela present their paper *Enriching in-person encounters trough social media: A study on family connectedness for the elderly*. This paper presents Tlatoque, a situated digital portrait that facilitates two-way sharing of photographs with Facebook. The authors argue that older adults are a minority in social networking sites and, as a consequence, they miss opportunities to stay connected with their families, some of whom might be spending considerable time online using social networking tools. Thus, this digital frame focuses on fostering social capital beyond the desktop environment and into a domestic setting, aiming to support older adults' offline interactions with their family. The paper presents a longitudinal study, uncovering the offline practices surrounding the use of Tlatoque and its social implications towards the existing family ties. The results suggest that the system provided an alternative way of communication for families, enriching face-to-face interactions and telephone conversations, and, therefore, strengthening the social experience. More importantly, the system allowed the older adults to interact and contribute to the family social capital available in Facebook. The participants were positive and enthusiastic about the system, highlighting the importance of providing conversational context for older adults, preventing isolation, enabling asymmetrical awareness and "catalyzing" offline conversations.

The next paper *Good Samaritans on Social Network Services: Effects of Shared Context Information on Social Supports for Strangers* by Bae, Jang and Kim considers how sharing of ubiquitous interaction data, including sensor data, can motivate strangers to help each other in online social networks. The authors aim to investigate how sharing of physical context in online social networks affects supportive behavior between individuals. Hence, they evaluate which types and forms of context information induce high levels of willingness to provide social support among strangers. The paper presents a series of experiments and a theoretical model describing people's perceptions and intentions. Ultimately, the authors find that high level of self-disclosure leads to increased social support. They also find that automated sharing of context (which they refer to as objective) has a weaker effect than sharing context subjectively by adding a human interpretation of the data. This work demonstrates that the sharing of context in online social networks can encourage strangers to offer support to each other.

2.3. Building better tools for smartphones

The third and final theme considers how smartphones can be improved by redesigning how user's information shared on social networks is presented on these devices. Cui and Hokala present the paper *A Novel Mobile Device User Interface with Integrated Social Networking Services*. The paper argues that users may find it difficult to access personally relevant content amid a multiplicity of information feeds. This is particularly true with modern devices that integrate multiple information channels and social networks at the operating system level. To address these issues, they present LinkedUI, an operating system level software running on smartphones that aggregates social network feeds and supports hypertext navigation of this information for the development of intelligent device user interfaces. In this way, social network feeds are made available across a variety of device views. They test their system's adoption, including its automatic filtering mechanisms, and report their findings in terms of participants' practices over a series of longitudinal studies.

List of reviewers

Andrew Raij, University of South Florida in Tampa
Ansgar Scherp, University of Mannheim
Beatrice Cahour, Telecom Paris Tech
Bin Jiang, University of Gävle
Chadwick Wingrave, University of Central Florida
Charles E Hughes, University of Central Florida
Claus Bossen, Aarhus University
Denzil Ferreira, University of Oulu
Derek Hansen, Brigham Young University
Dhiah el Diehn I. Abou-Tair, German Jordanian University
Eamonn O'Neill, University of Bath
Eran Toch, Tel Aviv University
Erik Grönvall, Aarhus University
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Gig Searle, University of Graz
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Mike Massimi, Microsoft Research Cambridge
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