Editorial Preface

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Welcome to the latest issue of the *International Journal of Mobile Human Computer Interaction* (IJMHCI). Common to all articles in this issue is the theme of developing deeper understanding of target users and contexts of use such that we fully appreciate the depth and nuances of the challenges we face in order that our approach to, design of and even political standpoint regarding use of, mobile technology is well-considered and bespoke to what is needed whilst at the same time considering the way in which it can shape the future, for all of us.

The first article is "*A Field Study of Older Adults with Cognitive Impairment using Tablets for Communication at Home: Closing Technology Adoption Gaps using InTouch*" by Aaron Yurkewich, Anita Stern, Rushmita Alam, and Ron Baecker. In this, the authors discuss a study they conducted to explore how a tablet-based communication technology designed for older adults was adopted by its target user group and thereafter impacted family relationships. Their research commenced with interview-based knowledge elicitation focused on understanding "experiences of older adults living with chronic pain and how it affects day-to-day communication." This led to the development of two proof-of-concept communication technology prototypes which were tested with a small group of older adults in order to learn more about their preferences and expectations of such technologies. From this enhanced understanding, and as a consequence of further iterative development and testing, the authors' *InTouch* prototype emerged. The authors subjected *InTouch* to a 12 week field trial, involving 12 participants, 8 of whom had diagnoses of Mild Cognitive Impairment (MCI). Their study was designed to explore the patterns of use of *InTouch* by older adults (including those with MCI), the facilitators and barriers to use of the technology by this population, as well as older adults' perceptions of and experiences with the technology. Results revealed that, in general, participants were, with the aid of guided learning, able to learn to use *InTouch* independently and to integrate it into their daily lives. Results further revealed that, although participants did not find personalized text messaging to be the easiest feature to use, they preferred this mode of communication; the preference for audio expressed by a minority of participants, however, highlighted the importance of customization of technology for older adults. The older adults studied "viewed the simplified tablet-based interface as a valuable means of enhancing communication with friends and family."

In the second article – "*The Study and Design of Collaboration Tools for Flight Attendants*" by Stephanie Wong, Samarth Singhal, and Carman Neustaedter – the authors assert that "collaboration is a core component of work activities amongst flight attendants as they work to promote onboard safety and deliver a high level of customer service," recognizing that miscommunication has potential to be embarrassing and even highly publicized. Despite this, however, the authors observe that little is yet known about precisely how flight attendants collaborate and thus how technology could best be designed to enhance their model of collaborative operation. The authors conducted an interview-based knowledge-elicitation study via which to better understand the collaborative elements of the working practice of flight attendants, looking at where and how technology was used to aid such activities. Despite the fact that interphones and call buttons were identified to function as collaboration tools, they were also identified as not easily fitting within flight attendants' work practice needs and, at times, their usability and functionality actually created barriers to effective and efficient communication, situational awareness, and exchange of information. On this basis, the authors outlined design suggestions/lessons for enabling technologies for enhanced communication and collaboration in the context of aircrafts and flight attendants' work practice. In an attempt to illustrate their design suggestions/lessons in practice, the authors created a smartwatch-based application – *Smart Crew*

– that supports flight attendants in maintaining awareness of each other and to communicate via messaging with haptic feedback.

The third and fourth articles are the latest in a series of invited opinion/position papers whereby we 'open the floor' to senior members of the IJMHCI team – specifically Associate Editors and International Advisory Board members – to personally reflect on and challenge our thinking in areas of interest to the mobile HCI community. In the case of the third article, Associate Editor Mikael Wiberg (and his co-author Charlotte Wiberg) from Umea University, Sweden, introduces us to the concept of an 'inverted digital divide' which he sees as the major challenge for the 3rd wave of mobile HCI. Mikael and Charlotte define the 1st wave of mobile computing as a technology-enabling phase in the development of our research field, focusing on basic connectivity and the development of the hardware itself. They identify the 2nd phase as focusing on the development of mobile content (including services, apps, and cloud-based storage). Finally, they claim that the 3rd phase – into which we are moving – is less about the technology itself and more about viewing the technology as a gateway to society, with all the challenges that brings. They identify one such challenge as the 'inverted digital divide' whereby individuals have the technology but not the societal profile to access services, thus leading to social isolation or segregation of individuals. They discuss what is needed to bridge this divide in order to achieve 'digital integration' and outline the associated implications for future development of mobile services. In so doing, they encourage us to think more holistically about provision of mobile services, especially the barriers to access to such services, and how we need, as a community of researchers, to consider the potential for social isolation if such barriers are not broken down.

The second of the opinion/position papers is by Associate Editor Antti Pirhonen (and his co-author Rebekah Rousi) from University of Jyväskylä, Finland. In this, Antti challenges us to reflect on concepts associated with technology and education. After exploring the concepts in detail, Antti and Rebekah reflect on the case study of education in Finland, and use the analogy of healthy eating initiatives embedded in the Finnish educational system to explore how disruptive mobile technology use should be viewed in the classroom. Viewing mobile HCI as a "future-oriented area of research", Antti argues that technology design should be considered as the design of the future world – a premise about which many of us, I am sure, are already convinced. The authors argue that, if we consider education as having a strong future-focused orientation, then it is critical that design concepts (for educational technology) be considered in the long term. In accord with principles of universal design, whereby design for users with specific needs typically leads to better usability for all, the authors "challenge mobile HCI researchers to [carefully] consider children in the school context when introducing new technology," arguing that this would "force us to consider the long term consequences of given mobile applications and the related use cultures – for all of us."

As always, I trust that you find all the articles thought provoking and useful – enjoy!

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