Editorial Preface

Jo Lumsden, Aston University, Birmingham, UK

Welcome to the latest issue of the *International Journal of Mobile Human Computer Interaction* (IJMHCI). As ever, this issue collates a varied and interesting set of articles – in this instance ranging in focus from one-handed target acquisition to heuristics-based evaluation of mobile devices to 'smart' design objects, and finally arriving at an exploration of the adoption of mobile games in China.

The first paper, by Wong Ho Andy Li, Hongbo Fu, and Kening Zhu, is entitled *"BezelCursor: Bezel-Initiated Cursor for One-Handed Target Acquisition on Mobile Touch Screens"*. In this article, based on the argument that users typically prefer one-handed interaction with mobile touch devices, the authors introduce us to BezelCursor – a one-handed, thumb-based interaction technique designed to support target acquisition on mobile touchscreens of varying dimensions. To solve issues associated with limited screen accessibility afforded by the thumb, the authors combine bezel-initiated interaction and pointing gestures. Allowing users to maintain a fixed, comfortable grip of their device, BezelCursor facilities quick and easy access to targets located anywhere on screen via a single, fluid action. BezelCursor, unlike other existing techniques, does not need to be invoked via an explicit mode switch and can be used interleaved with familiar interaction styles such as direct touch and dragging. The authors report on a user study which showed that their interaction technique doesn't require as much by way of grip adjustment and is more accurate as well as faster than state-of-the-art techniques when using a fixed secure grip. The authors conclude that BezelCursor is "*fast, simple to implement, easy to learn, compatible with commonly used interaction styles, scalable to screens of large size, and applicable to mobile environments*".

"A Usability Score for Mobile Phone Applications Based on Heuristics" is by Christiane Gresse von Wangenheim, Adriano Ferreti Borgatto, Juliane Vargas Nunes, Thaisa Cardoso Lacerda, Caroline Krone, and Laís de Oliveira Souza. Despite the challenges associated with delivering usable anywhere, anytime mobile applications, the authors highlight the paucity of research on customization of usability heuristics to suit the specific characteristics of mobile phone applications. Attempting to address this deficit, the authors present a set of bespoke usability heuristics for mobile applications which they have derived on the basis of a systematic literature review. Furthermore, they have designed and validated a measurement instrument and scale to facilitate the effective use of the heuristics. The results of 247 heuristic evaluations were statistically analyzed using Item Response Theory to validate this instrument on which basis the measurement items were calibrated and a standardized measurement scale was developed. The authors suggest that their heuristics and associated instruments can be used to measure the usability of mobile apps even early, and therefore cost-effectively, in the design process, but caution that this is only one form of evaluation and encourage designers to complement the findings from their usability approach with the findings from other approaches (especially usability tests) in order to derive a comprehensive assessment of the usability of a mobile system.

The penultimate paper is entitled "*From Mundane to Smart: Exploring Interactions with 'Smart' Design Objects*" and is by Dhaval Vyas, Alexander Kröner, and Anton Nijholt. The authors introduce us to CAM – a low-tech, internet-of-things technology that can be used "*as a collaborative tool in design studio environments*". An "*object memory technology*", CAM supports designers in collaboratively

storing information onto familiar physical design artefacts, including sketches, storyboards and physical models in the form of messages, annotations, and web links. After conducting a field trial of CAM, the authors found that the technology served as a valuable probe to help understand designers' interaction and experience with augmented design objects in their natural context of work. The authors reflect on their observations of how CAM was integrated into and used within the design process; they conclude that it "*transformed mundane design objects into smart objects*" and, in so doing, shed light on the creative aspects of cooperative design.

The final article – *"The Effect of Flow Experience and Social Norms on the Adoption of Mobile Games in China"* by Shang Gao, John Krogstie, and Zhe Zang – encourages us to consider what factors influence users' intention to play mobile games. Formalizing this thought process, and using structural equation modelling technology, the authors propose a research model which extends the familiar technology acceptance model (TAM) to include flow experience and social norms. The authors discuss the empirical evaluation of this model based on survey data from 565 users in the largest city in central China. The results of their evaluative study indicate that attitude and flow experience account for approximately 66% of users' intention to play mobile games. Although social norms were not found to influence users' intention to play such games, they were found to influence attitude as did flow experience, perceived ease of use and perceived usefulness. On the basis of their findings, the authors stress the importance of flow experience in terms of mobile game adoption.

Each in its own way, the papers in this issue challenge us to take a new look at old problems. I trust that you find them stimulating and useful – enjoy!

Jo Lumsden
Editor-in-Chief
IJMHCI