Journal of Universal Computer Science, vol. 19, no. 8 (2013), 1023-1024
submitted: 15/4/13, accepted: 26/4/13, appeared: 28/4/13 © *J.UCS*

Advances in the Development of Highly Interactive Systems

J.UCS Special Issue

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During the last years, many highly interactive devices have transformed our lives by setting sophisticated devices almost everywhere. Different kind of tablets, laptops, whiteboards, touchable surfaces, sensors, situated displays, mobile devices and other exciting computer systems are present in all our daily activities both professional and spare time ones. Developing this kind of system is a complex process, since it involves different devices, a variety of technologies or tools and different hardware, in a changing and evolving world. Additionally, most of the highly interactive systems have collaborative requirements or usability and accessibility needs.

This Special Issue brings together a selection of articles related to the development of highly interactive systems. These include a selection of the extended versions of the best papers presented at the international conferences Interacción 2012 and MexIHC 2012.

The first article by José L. González Sánchez et al. entitled "Using SWET-QUM to Compare the Quality in Use of Semantic Web Exploration Tools" proposes a method based on the international standard ISO/IEC 25010:2011 that allows evaluation and facilitates comparability of the quality of the user experience when interacting with Semantic Web tools.

The article by Begoña Losada et al. entitled "Applying Usability Engineering in InterMod Agile Development Methodology. A Case Study in a Mobile Application" explains when and how to integrate aspects of usability engineering in the agile development process proposed by the InterMod methodology.

The next paper, authored by Natalia Padilla-Zea et al. entitled "A Method to Evaluate Emotions in Educational Video Games for Children" is focused on the design and evaluation of a method to assess emotions when young children (3-5 years old) play a educational video game.

Arturo S. García et al. in their article entitled "An Evaluation of Targeting Accuracy in Immersive First-Person Shooters Comparing Different Tracking Approaches and Mapping Models" propose to separate view and weapon to improve immersion in a first-person shooter (FPS) game and present the results of an experiment that compares targeting accuracy with other approaches in which position and orientation data are available.

The paper by Juan E. Garrido et al. entitled "Automatic Detection of Falls and Fainting" presents a ubiquitous and context-aware system focused on geriatrics and residential care homes that allows to automatically detect falls and fainting spells, alerting the most appropriate employees to address the emergency.

The article entitled "Website Interactivity and Repeated Exposure, What Influences User Experience?", authored by Ons Al-Shamaileh and Alistair Sutcliffe, reports a study of the influence of website design and repeated exposure to websites on user judgment.

The paper authored by Valeria Herskovic et al. entitled "Pick & Drag & Drop: Augmented Reality for Multiple File Sharing" describes de implementation and evaluation of an augmented-reality based smartphone application that, using "pick and drop" and "drag and drop" mechanisms, allows to transfer files between different devices.

Weidong Huang and Leila Alem in their paper entitled "Gesturing in the Air: Supporting Full Mobility in Remote Collaboration on Physical Tasks", present HandsInAir, a wearable system for remote guidance. This system is designed to support mobility of the collaborators and provide easy access to remote expertise.

Last paper by Amandeep Dhir and Mohammed Al-kahtani is entitled "A Case Study on User Experience (UX) Evaluation of Mobile Augmented Reality Prototypes". It presents a detailed study comprising of a user-experience (UX) evaluation of different augmented reality prototypes through the use of three different UX evaluation methods.

We would like to thank all reviewers for their time and effort and for providing invaluable comments and suggestions to the authors. Certainly, they have specially contributed to improve the quality of this special issue. Special thanks also to Professor Christian Gütl (Managing Editor) and Ms. Dana Kaiser (Assistant Editor) of the Journal of Universal Computer Science (J.UCS) for their help and for providing an opportunity to edit this special issue. Finally we hope the reader will enjoy the contents of this special issue and find it useful and informative.

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Elche, Spain, March 2013