Int. J. Human-Computer Studies 72 (2014) 44

Contents lists available at ScienceDirect

Int. J. Human-Computer Studies

journal homepage: www.elsevier.com/locate/ijhcs

Editorial

Distributed user interfaces: Usability and collaboration

Distributed User Interfaces (DUIs) have recently become a new field of research and development in Human–Computer Interaction (HCI). The DUIs have brought about drastic changes affecting the way interactive systems are conceived. DUIs have gone beyond the fact that user interfaces are controlled by a single end user on the same computing platform in the same environment. Traditional interaction is focused on the use of mobile devices such as smartphones, tablets, laptops, and so on, leaving aside other environmental interaction resources such as large screens and multi-tactile displays or tables. Under a collaborative scenario, users sharing common goals may take advantage of DUIs to carry out their tasks because DUIs provide a shared environment where users can manipulate information in the same space at the same time. Under this hypothesis, collaborative DUIs scenarios open up new challenges to usability evaluation techniques and methods. Therefore, this Special Issue contributes the research discussion about Distributed User Interfaces focusing mainly on usability and collaboration aspects of DUI.

This Special Issue includes six relevant contributions offering complementary perspectives on DUI, which have been maturing during more than a year of intense and productive research work of revision and improvement, and all this work has culminated in the present manuscripts. Next lines present a brief introduction to each work.

The article entitled “Electronic Sketching on a Multi-platform Context: A Pilot Study with Developers” by Sangiorgi, discusses the topic of prototyping by means of DUI. This work tries to help designers determine the most important requirements of a sketching system for prototyping interfaces.

In the article “An Approach for Supporting Distributed User Interface Orchestration over the Web” by Winckler et al., the collaboration dimension of DUI is addressed. The authors propose a DUI-based solution to help users manage web-based collaborative tasks.

The next article introduces DUI in the field of critical systems. In “A Multi-Formalism Approach for Model-Based Dynamic Distribution of User Interfaces of Critical Interactive Systems” by Martinie de Almeida et al., the authors propose a model-based approach to support the evolution and adaptation of user interfaces in critical systems.

The article “Designing the Distributed User Interface: Case Studies on Building Distributed Applications” by Fisher et al., authors address how technical challenges as synchronization, resource management, and data transfer are managed in the process of building user interfaces in a distributed setting.

Tesoriero et al., in their article “Evaluating Distributed User Interfaces based on RFID Panels in Public Environments”, describe a users' survey grounded in a DUI-based prototype that combines social software with context awareness to allow users' interaction in public environments.

The article “Sharing your view: A Distributed User Interface Approach for Reviewing Emergency Plans” by Díez et al., presents a computer-based collaborative environment aimed at supporting unstructured team discussion during the post-hoc review of emergency plans, by means of the distribution of user interface components.

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 to the Editor in Chief, Dr. Enrico Motta and all the technical staff of the International Journal of Human–Computer Studies for their help and assistance and for providing the opportunity to edit this special issue.

Guest Editors
Jose A. Gallud, María D. Lozano, Jean Vanderdonckt

1071-5819/$ - see front matter
http://dx.doi.org/10.1016/j.ijhcs.2013.10.006