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New Trends in Human Computer Interaction

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The Human-Computer Interaction field and all its concerning research areas are constantly changing and evolving to achieve a better perception of computer systems in general from the end-users' point of view. This area is getting more and more importance when developing computer systems of any kind. In this moment we can consider it as a mature field in which we can find very useful and ground breaking research being conducted in such areas as design and development methodologies, intelligent user interfaces, collaborative environments, virtual reality, to name but a few. The desire to improve and innovate, coupled with the impulse to achieve impossible challenges regarding human-computer interaction, makes this area especially attractive.

The Ninth International Conference INTERACCIÓN'08 promoted by the Spanish Association on Human-Computer Interaction (AIPO) was organized in conjunction with the Seventh Edition of the International Conference on Computer-Aided Design of User Interfaces (CADUI'08). This joint event held in Albacete, Spain, was a fruitful and stimulating international forum for exchanging ideas and experiences in the area of Human-Computer Interaction. Many researchers, students and practitioners from all over the world attended the conferences. Of all the technical papers presented in both events, fifteen papers were selected for publication in this special issue. All the selected papers were submitted and followed a round of reviews to assess their quality in line with the requirements of the journal. These fifteen papers present some technological advances and research results in the area of Human-Computer Interaction from different points of view: user-interface modelling and design, virtual and augmented reality, collaborative environments, usability and accessibility, ambient intelligence to name but a few.

This J.UCS issue pays an special attention to the topic of modelling and design collaborative systems. The paper by Wurdel et al., describes the CTML specification language and the related supporting tool for specifying tasks carried out in collaborative settings. Penichet et al. study how to model essential aspects of collaborative systems, as awareness, in a paper that presents a proposal to tackle the design and development of user interfaces for groupware applications. The paper by

Giraldo et al., describes a taxonomy for designing interactive groupware systems, in particular, the taxonomy defines the objectives, methods and principles for classifying models and facilitates their integration. Memmel et al. present a model-based and prototyping-driven user interface specification to support collaboration and creativity.

The paper by Jimenez et al. describes a proposal to use gaze-based interaction in virtual environments, by using a combination of an eye tracking system and a mouse. Ibañez et al. present a new interaction device called Musimage, which displays pictures according to the songs being played at the same time. An innovative interaction system is presented by Palleja et al. in a paper that describes the design of a relative virtual mouse based on the interpretation of head movements and face gesture through a low cost camera and the optical flow of images.

New interaction paradigms, as 3D applications or virtual reality, are also present in this special issue. Capobianco et al. present a preliminary study of two handed manipulation for spatial input tasks in a 3D modelling application. Garcia et al. present a research work connecting virtual reality and collaborative systems design in a paper which presents an interaction model for collaborative virtual environments inspired in the process followed in human communication in the real world.

The paper authored by Guerrero et al. explores a systematic way to define user interfaces for a Workflow Information System. Sousa et al. present a method for the alignment of business processes with user interfaces of systems by adopting a model-driven approach. Traetteberg describes how to integrate dialog modeling and domain modeling and presents the case of using the Diamodl language with the Eclipse Modeling Framework.

Adaptation on hypermedia and Web applications is the topic covered by Rodriguez et al. In this paper they describe the development of a web application called SHARP Online, an adaptive hypermedia system applied to mathematical problem solving.

Accesibility on Web applications is the subject of the research carried out by Leporini et al. This work describes a methodology to be applied for the proper creation and elaboration of alternative image descriptions in museum web pages.

Agents systems are the research topic covered in the paper by Tran et al. which presents a proposal of an electronic informer using Petri Nets for the evaluation of agent-based interactive systems.

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 Hermann Maurer (Managing Editor) and Ms. Dana Kaiser (Assistant Editor) of the Journal of Universal Computer Science (J.UCS) for all the help and providing the 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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