

New Trends on Human–Computer Interaction

José A. Macías · Toni Granollers ·
Pedro Latorre Andrés
Editors

New Trends on Human–Computer Interaction

Research, Development, New Tools
and Methods

Foreword by Angel Puerta

 Springer

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Preface

This book comprises a variety of breakthroughs and recent advances on Human-Computer Interaction (HCI) intended for both researchers and practitioners. Topics addressed here can be of interest for those people searching for last trends involving such a growing discipline. Important issues concerning this book includes cutting-edge topics such as Semantic Web Interfaces, Natural Language Processing and Mobile Interaction, as well as new methodological trends such as Interface-Engineering techniques, User-Centred Design, Usability, Accessibility, Development Methodologies and Emotional User Interfaces. The idea behind this book is to bring together relevant and novel research on diverse interaction paradigms. New trends are guaranteed according to the demanding claims of both HCI researchers and practitioners, which encourage the explicit arrangement of new industrial and technological topics such as the previously cited Interfaces for the Semantic Web, and Mobile Interfaces, but also Multimodal Interaction, Collaborative Interfaces, End-User Development, Usability and User Interface Engineering.

Chapters included in this book comprise a selection of top high-quality papers from *Interacción 2007*, which is the most important HCI conference sponsored by AIPO (the Spanish HCI Association). Papers were selected from a ranking obtained through double-blind peer review and later meta-review processes, considering the best evaluated paper from both the review and presentation session. Such a paper selection constitutes only 33% of the papers published in the conference proceedings.

We would like to thank the reviewers for their effort in revising the chapters included in this publication, namely Silvia T. Acuña, Sandra Baldasarri, Crescencio Bravo, Cesar A. Collazos, Antonio Díaz, Xavier Ferré, Nestor Garay, Francisco García, Roberto García, José L. Garrido, Miguel Gea, Rosa Gil, José M. González, María P. González, Toni Granollers, Francisco L. Gutiérrez, Pedro Latorre, María D. Lozano, José A. Macías, Mari Carmen Marcos, Mario A. Moreno, Roberto Moriyón, Raquel Navarro, Manuel Ortega, Oscar Pastor, Miguel A. Redondo, Arcadio Reyes and Gustavo Rossi.

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Foreword

In its classical role, a scientific congress is a vehicle to understand and analyze the latest advances, discoveries, and findings in a field. Through the chapters in this book, readers will have ample opportunity to explore some of the best contributions presented at *Interacción 2007*, the annual meeting of the human–computer interaction community in Spain. A vast number of subfields are represented in this book including computer-supported collaborative work, user-centered design, user interface tools, and virtual reality among others.

Beyond its classical sense, however, an annual scientific congress such as *Interacción* is the perfect vehicle to take the pulse of a scientific community. What are the most active research areas, what is the nature of the research itself, who drives the work, industry or academia, and how the community compares to others around the world are some of the interesting questions that an analysis of a conference results can answer. Let us therefore examine briefly what are the trends that *Interacción 2007* reveals.

First, we notice the remarkably empirical essence of most of the work. By nature and by its youth as a discipline, human–computer interaction tends to favor empirical over theoretical work. But the tendency here is much stronger. Research projects are clearly directed at applying innovations and testing hypotheses via practical cases. We see more mainstream situations such as collaborative techniques to support education and learning. Notwithstanding the abundance of empirical efforts, there is as well a clear presence for research of a more formal bent especially in the areas of model-based interface development, and user interface specification languages. Overall, we get a picture of a community that emphasizes practical results and in doing so presents a contrast to the work in several other fields in computer science, which most notably in Europe tend to favor formal methods.

Second, we observe a trend to an abundant amount of work in the areas of usability and evaluation. Projects range from the characterization for usability of collaborative environments to the definition of accessibility concerns for users with special needs. In highlighting usability, *Interacción 2007* does conform to recent developments seen in many other user interface conferences. As the field matures, the number of discoveries and inventions of a highly novel nature decreases. This is a natural evolution that takes the field toward advances of an incremental, as opposed to revolutionary character. Progress becomes more measurable, comparative

evaluations are needed in order to show improvements, and users take precedence over systems and techniques. In general, this trend is a mixed bag. On one hand, usability is the ultimate goal of user-interface design efforts and clearly there is little value in creating new, but unusable systems. On the other hand, readers of recent human–computer interaction papers will yearn somewhat for the early days of the field when seemingly each paper presented a brand-new idea.

Third, we see a clear favoritism toward exploring the engineering aspects of user interfaces as opposed to the psychological factors of said interfaces. We find tools to manipulate languages and patterns, virtual reality environments for medical applications, and various methodologies for the design and development of interfaces. It is clear that over the years a certain unease in the field has developed between those who see human–computer interaction as mainly a human activity and those who see it as a system where the human participates. Each perspective leads to significantly different research philosophies and consequently to substantially different research efforts. Large conferences, such as CHI, the annual meeting of the human–computer interaction group of the Association for Computing Machinery, struggle with this issue and end up unsuccessfully trying to accommodate all factions under one roof. For the time being at least, *Interacción* does not suffer from this malady and presents a cohesive front as to the overall philosophy and direction of the research.

Finally, we notice a healthy dose of cooperation, and technology transition, among academia, industry, and government. This aspect is obviously facilitated by the empirical emphasis of the work, which was noted above. Needless to say, such cooperation is far from ideal and where we to ask the actors in each project about this topic we would surely find them wanting much more. However, avenues seem to be open for government to support work and for academia to transition results to industry. It will be definitely interesting in future years to observe whether this appearance of cooperation evolves into a solid framework.

In sum, we present in this book what should be an exciting mix of ideas, proposals, methods, artifacts, and results. An exploration into the philosophy, trends, and concerns of the human–computer interaction community in Spain. A compendium of who is who and what is happening where. And, an archive of reference for future work. May you the reader enjoy!

Redwhale Software, CA USA

Angel Puerta

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