

## Preface

The wait for the year 2000 was marked by the fear of possible bugs that might have arisen at its beginning. One additional fear we had during this wait was whether organising this event would have generated a boon or another bug.

The reasons for this fear originated in the awareness that the design of interactive systems is a fast moving area. The type of research work presented at this unique event has received limited support from funding agencies and industries making it more difficult to keep up with the rapid technological changes occurring in interaction technology.

However, despite our fear, the workshop was successful because of the high-quality level of participation and discussion.

Before discussing such results, let us step back and look at the evolution of DSV-IS (Design, Specification and Verification of Interactive Systems), an international workshop that has been organised every year since 1994.

The first books that addressed this issue in a complete and thorough manner were the collection of contributions edited by Harrison and Thimbleby and the book written by Alan Dix, which focused on abstractions useful to highlight important concepts in the design of interactive systems. Since then, this area has attracted the interest of a wider number of research groups, and some workshops on related topics started to be organised. DSV-IS had its origins in this spreading and growing interest. The first workshop was held in a monastery located in the hills above Bocca di Magra (Italy). The event has been held in Italy, France, Belgium, Spain, U.K, Portugal and Ireland, under the auspices of Eurographics, with proceedings regularly published by Springer-Verlag.

After 10 years of research some considerable results have been achieved: we have built a community working on these topics; several projects (European, National, Industrial) have been carried out; various books, journal publications and other related events have been produced; and first industrial products, automatic tools and applications are also appearing based on such approaches.

However, we must admit that interest is growing less quickly than in other areas (Web, mobile communication, usability, ...). The number of new groups working in this area is increasing gradually. One reason is that time-to-market is a crucial factor in industry (and academia!), and consequently more elaborated approaches are less attractive.

To further promote the event and the related topics, we decided to hold it as an ICSE workshop. ICSE is the major international software engineering conference, and we aimed at expounding the topic to this community in order to facilitate interaction and stimulate multidisciplinary approaches and to reach a wider audience. Our proposal was accepted by the ICSE organising committee.

We received 30 submissions from 13 countries. Each paper was reviewed by at least three members of the Programme Committee, and the final selection was made at a meeting held at CHI'2000. Refined versions of less than half of these submissions were selected for inclusion in this book.

The workshop provided a forum for the exchange of ideas on diverse approaches to the design and implementation of interactive systems. The particular focus of this

year's event was on models (e.g., for devices, users, tasks, contexts, architectures, etc.) and their role in supporting the design and development of interactive systems.

As in previous years, we still devoted considerable attention to the use of formal representations and their role in supporting the design, specification, verification, validation and evaluation of interactive systems. Contributions pertaining to less formal representations of interactive system designs and model-based design approaches were also encouraged.

During the workshop discussion and presentations were grouped according to a set of major topics: Designing Interactive Distributed Systems, Designing User Interfaces, Tools for User Interfaces, Formal Methods for HCI and Model-Based Design of Interactive Systems.

At the end of the sessions participants were split into discussion groups. One aspect that attracted the attention of the participants was the book "What is in the future of software engineering" that was distributed to all ICSE participants: we noticed the complete lack of a chapter addressing human-computer interaction. Thus, we feel that these proceedings also have an additional role: to provide the background information for the missing chapter, that on software engineering for human-computer interaction. This lack underscores how the academic community has not yet completely understood the importance of this subject and the importance of the research area aiming at identifying ergonomic properties and improving the design process so that such ergonomic properties are guaranteed in the software systems produced.

If we consider the HCI map proposed in the HCI curriculum produced by ACM SIGCHI we notice that each component (user, computer, development process, use and context) is evolving very rapidly.

It becomes crucial to identify a design space indicating the requirements, modelling techniques, tools, metrics, architectures, representations and evaluation methods characterising this area.

In addition, the research agenda for this field is dense: it includes extending models to deal with dynamicity (mobile users, ...), develop analysis techniques for making use of the models, more tools for usability evaluation, multi \* approaches (multimedia, multi users, multi modal, ...) and end user programming.

We think that the reader will find the material presented in this book useful in understanding these issues, and we sincerely hope it will also prove to be useful in stimulating further studies and improving current practise.

## Programme Committee

Ann Blandford	University of Middlesex, U.K.
Alan Dix	University of Huddersfield and aQtive Ltd.
David Duce	Oxford Brookes University, U.K.
David Duke	University of Bath, U.K.
Giorgio Faconti	CNUCE-C.N.R., Italy
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Peter Johnson	University of Bath, U.K.
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Fabio Paternò (Co-chair)	CNUCE-CNR, Italy
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The 22nd International Conference on Software Engineering

**ICSE 2000**

Limerick, Ireland