

## Preface

Truly personal handheld and wearable technologies should be small and unobtrusive and allow access to information and computing most of the time and in most circumstance. Complimentary, environment-based technologies make artifacts of our surrounding world computationally accessible and facilitate use of everyday environments as a ubiquitous computing interface. The International Symposium on Handheld and Ubiquitous Computing, held for the first time in September 1999, was initiated to investigate links and synergies in these developments, and to relate advances in personal technologies to those in environment-based technologies.

The HUC'99 Symposium was organised by the University of Karlsruhe, in particular by the Telecooperation Office (TecO) of the Institute for Telematics, in close collaboration with ZKM Karlsruhe, which generously hosted the event in its truly inspiring Center for Arts and Media Technology. The symposium was supported by the Association of Computing Machinery (ACM) and the German Computer Society (Gesellschaft für Informatik, GI) and held in cooperation with a number of special interest groups of these scientific societies.

HUC'99 attracted a large number of paper submissions, from which the international programme committee selected 23 high-quality contributions for presentation at the symposium and for inclusion in these proceedings. In addition, posters were solicited to provide an outlet for novel ideas and late-breaking results; selected posters are also included with these proceedings. The technical programme was further complemented by four invited keynote addresses, and two panel sessions. In addition, a tutorial and workshop day was organised, with half-day tutorials on the most recent developments and workshops on topics of special interest.

Submitted papers and posters came from a large variety of fields ranging, for instance, from middleware to interaction techniques, and from collaborative work to wearable computing. Balanced reviewing was not always an easy task, and I would like to express my sincere thanks to the members of the programme committee and the many additional reviewers for their very careful reviews, and for constructive comments towards improvement of the papers.

I extend special thanks to Prof. Peter Weibel, director of the ZKM Karlsruhe and symposium co-chair, for turning HUC'99 into a co-production of the University and ZKM; to Prof. Gerhard Krüger, head of the Institute for Telematics, for backing the HUC'99 organisation; to Joachim Schaper, director of SAP's CEC Karlsruhe, for tutorial arrangements and other support; and to Michael Beigl, Albrecht Schmidt, Birgit Schmidt, and Christian Segor for their efforts in taking care of all those additional issues that are essential for a successful symposium.

## Symposium Organisation

### Supporting Societies

Association for Computing Machinery (ACM) with the special interest groups:

- SIGAPP (Applied Computing)
- SIGCHI (Computer-Human Interaction)
- SIGGROUP (Group Work, CSCW)
- SIGMOBILE (Mobile Computing)

German Computer Society / Gesellschaft für Informatik (GI) with the special interest group APS+PC (*Arbeitsplatzrechnensysteme und Personal Computing*)

### Symposium Chairs

Hans-W. Gellersen	TecO, University of Karlsruhe, Germany
Peter Weibel	Center for Arts and Media (ZKM), Karlsruhe, Germany

### Programme Committee

Hans-W. Gellersen (Chair)	TecO, University of Karlsruhe, Germany
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Joachim Schaper	SAP AG, CEC Karlsruhe, Germany
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Ralf Steinmetz	GMD-IPSI and Darmstadt University of Technology
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Terry Winograd	Stanford University, U.S.A.

## List of Reviewers

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Walter Van de Velde	Starlab, Belgium
Leon Watts	Université Joseph Fourier, France

## **Publication and Local Organisation**

Michael Beigl	TecO, University of Karlsruhe, Germany
Hans-W. Gellersen	TecO, University of Karlsruhe, Germany
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Albrecht Schmidt	TecO, University of Karlsruhe, Germany
Birgit Schmidt	Hochschule für Gestaltung (HfG), Karlsruhe
Christian Segor	TecO, University of Karlsruhe, Germany