

Preface

This volume contains the proceedings of Pervasive 2002, the first in a series of international conferences on Pervasive Computing. The conference took place at ETH Zurich from August 26 to 28, 2002. Its objective was to present, discuss, and explore the latest technical developments in the emerging field of pervasive computing, as well as potential future directions.

Pervasive Computing is a cross-disciplinary area that extends the application of computing to diverse usage models. It covers a broad set of research topics such as low power, integrated technologies, embedded systems, mobile devices, wireless and mobile networking, middleware, applications, user interfaces, security, and privacy. The great amount of interest we are witnessing in Pervasive Computing is driven by relentless progress in basic information technologies such as microprocessors, memory chips, integrated sensors, storage devices, and wireless communication systems that continue to enable ever smaller, lighter, and faster systems. Such systems are also becoming affordable due to their high integration and mass production, paving the way for their adoption.

Over the past five years, Pervasive Computing has emerged as an area with tremendous potential where new computing models and associated applications and usage scenarios are driving many new research topics as well as business models. We are entering an era beyond large hosts, PCs, and laptop computers where we find computers in every aspect of our lives. Computers are becoming so ubiquitous that they are integrated inside all sorts of appliances or can be worn unobtrusively as part of clothing and jewelry. Pervasive Computing is the catalyst for the Internet being extended to billions of new hosts. This explosive game-changing phenomenon can be compared to the spread of electric motors over the past century, but promises to revolutionize life much more profoundly than, say, elevators ever did. While this transition is exciting, it bears profound and tremendous new challenges including technical, safety, social, legal, political, and economic issues. We hope to have covered at least some of these topics with a diverse collection of papers here.

Pervasive Computing has become an active and popular research area, which is witnessed by the 162 submissions we received from authors all over the world. The program committee chose 21 papers for inclusion in the conference. It was a difficult choice, based on several hundred reviews produced by the program committee and many outside referees, where each paper was typically reviewed by three reviewers.

In addition to the papers contained in these proceedings, the conference program included a special short-paper session presenting late-breaking results, a demo and exhibition track, and a panel discussion on security and privacy. We also had two invited presentations: Randy Katz, from the University of California, Berkeley, delivered the invited talk on the first day titled “Pervasive Computing: It’s all about Network Services”. Ralf Guido Herrtwich from Daim-

lerChrysler Research gave the second invited talk on “Ubiquitous Computing in the Automotive Domain”.

Moreover, the conference offered six half-day tutorials:

- Data Management for Pervasive Computing (Anupam Joshi, University of Maryland Baltimore County)
- Personal Privacy in Pervasive Computing (Marc Langheinrich, ETH Zurich)
- Developing i-mode Services and Mobile Applications with Java Technologies (Olivier Liechti, Karim Mazouni, Kim Kauffmann, Sun Microsystems/Mobile Webzone)
- Context Aware Communication (Bill Schilit, Intel Research Lab Seattle)
- Introduction to Wearable Computing (Thad Starner, Georgia Tech)
- Pervasive Portals and WebServices (Martin Welsch, IBM Boeblingen Development Lab)

In closing, we would like to express our sincere appreciation to all authors who submitted papers. We deeply thank all members of the program committee and the external reviewers for their time and effort as well as their valuable input. Finally we would like to thank Springer-Verlag for their excellent cooperation, our sponsoring institutions, and the organizing committee, in particular Jürgen Bohn, Vlad Coroama, Phil Janson, and Marc Langheinrich.

June 2002

Friedemann Mattern
Mahmoud Naghshineh