Foreword

The Internet, respectively the applications and services known as the Web, is undergoing significant changes. Mobile communication has enabled us with an omnipresent access to the Web and technologies such as grid computing and Web services, which allow us to use the Web far beyond its initial intention of document and information sharing; and intelligent agents and semantic systems aim to automate the tasks and better support us in interacting with the Web. Considering all those advances, one might ask the question: How can users keep pace with all those developments, and more specifically, how can technology itself help us keep pace?

In recent years, there has been a dramatic growth in the number of publicly accessible information sources (i.e., databases, knowledge bases, applications providing structured and/or semistructured data) over the Web, and all indicators suggest that this growth should continue in the years to come. This has been spurred by gateways, protocols like ODBC, and standards like XML as the de facto global information infrastructure, advances in networking and telecommunications, and the emergence of new organizational forms, which creates new ways of sharing and managing information.

With the emerging “anytime, anywhere” computing technologies where billions of machines ranging from stationary supercomputers, clusters, workstations, servers, and PCs to mobile devices such as laptops, PDAs, handhelds, and so forth are interconnected, and the continuing miniaturization of electronic chips and electromechanical devices and their interconnection using wireless communications and the next-generation Internet based on IPv6, the problem of Internet Distributed Computing (IDC) has been transformed to a problem of Service-Oriented Computing (SOC) to build a unified and common platform for Web services, P2P computing, and Grid Computing.

Researchers have approached this problem from different perspectives, giving birth to a plethora of novel but more specific applications and services. In order to avoid increasing complexity and to allow users to concentrate on their tasks, applications and services must be aware of their contexts and automatically adapt to their changing environments—known as context-awareness. By context-awareness, we refer to in-time discovering, processing, adapting, and removing of services according to user profiles within a specific environment. The ultimate goal is to make the environment well organized and the information usable.

I am very pleased to be asked again to write the foreword to the second edition of the handbook of research on mobile multimedia, as its scope, content, and coverage provide a descriptive, analytical, and comprehensive assessment of factors, trends, and issues in the ever-changing field of mobile multimedia. This authoritative research-based publication also offers in-depth explanations of mobile solutions and their specific application areas, as well as an overview of the future outlook for mobile multimedia.
In a convenient format and presentation, the handbook is an essential reference, giving a crisp and substantial view of the domain for the researcher and the student as well as the engineer and the manager. It is an indispensable tool for academics and professionals interested in pursuing the future direction, applying pioneering concepts in practical situations, or looking for the perfect tools.

Gabriele Kotsis  
Vice Rector for Research  
Johannes Kepler University Linz, Austria  
January 2008

**Gabriele Kotsis** received her master’s degree in computer science and economics in 1991, honored with the Award of the Austrian Computer Society; her PhD in 1995, honored with the Heinz-Zemanek Preis; and the venia docendi in computer science (2000) from the University of Vienna. She was visiting professor at the Vienna University for Economics and Business Administration (2001) and at the Copenhagen Business School (2002). Since December 2002, she has held a full professor position and is chairing the Telecooperation Department at the Johannes Kepler University of Linz; since October 2007, she has been the vice rector of research of Johannes Kepler University Linz, Austria. Her research interests include performance evaluation and capacity planning of computer systems and networks, workgroup computing, mobile and Internet computing, multimedia, and cooperative systems. She is author and editor of more than 100 scientific publications in the fields mentioned previously. Selected research projects include the EuroFGI network of excellence (with Kotsis leading JRA 4 on measurements and platforms) or the NoE CRUISE on sensor networks (with Kotsis being the technical director). Kotsis is also actively involved in international workshops and conferences (in roles such as PC member, general chair, PC chair, and keynote speaker), including, for example, WETICE, DAPSYS, PERVASIVE, MASCOTS, IIWAS, MoMM, ICCC, MOCA, and so forth. Kotsis is a member of the ACM, IEEE, and OCG. From 2003 to 2007, she was president of the Austrian Computer Society (OCG).