Preface

The constantly changing landscape of Mobile Computing and Wireless Networks makes it challenging for experts and practitioners to stay informed of the field’s most up-to-date research. That is why Information Science Reference is pleased to offer this three-volume reference collection that will empower students, researchers, and academicians with a strong understanding of critical issues within Mobile Computing and Wireless Networks by providing both broad and detailed perspectives on cutting-edge theories and developments. This reference is designed to act as a single reference source on conceptual, methodological, technical, and managerial issues, as well as provide insight into emerging trends and future opportunities within the discipline.

Mobile Computing and Wireless Networks: Concepts, Methodologies, Tools and Applications is organized into eight distinct sections that provide comprehensive coverage of important topics. The sections are:

1. Fundamental Concepts and Theories;
2. Development and Design Methodologies;
3. Tools and Technologies;
4. Utilization and Application;
5. Organizational and Social Implications;
6. Managerial Impact;
7. Critical Issues; and

The following paragraphs provide a summary of what to expect from this invaluable reference tool.

Section 1, “Fundamental Concepts and Theories,” serves as a foundation for this extensive reference tool by addressing crucial theories essential to the understanding of Mobile Computing and Wireless Networks. Introducing the book is Introduction to Mobile and Wireless Communications Networks by Danda B. Rawat, Bhed Bahadur Bista, and Gongjun Yan; a great foundation laying the groundwork for the basic concepts and theories that will be discussed throughout the rest of the book. Another chapter of note in Section 1 is titled An Aesthetics of Digital Virtual Environments by Adam Nash. Section 1 concludes, and leads into the following portion of the book with a nice segue chapter, A Semantically Enabled Service Delivery Platform: An Architectural Overview by Ioan Toma, José María García, Iker Larizgoitia, and Dieter Fensel.

Section 2, “Development and Design Methodologies,” presents in-depth coverage of the conceptual design and architecture of Mobile Computing and Wireless Networks. Opening the section is The De-
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Section 3, “Tools and Technologies,” presents extensive coverage of the various tools and technologies used in the implementation of Mobile Computing and Wireless Networks. Section 3 begins where Section 2 left off, though this section describes more concrete tools at place in the modeling, planning, and applications of Mobile Computing and Wireless Networks. The first chapter, Web 3.0 Technologies and Transformation of Pedagogical Activities by Tatyana Noskova, Tatyana Pavlova, and Olga Iakovleva, lays a framework for the types of works that can be found in this section. Section 3 is full of excellent chapters like this one, including such titles as Smart Technologies: Augmented Reality Applications in Tourism Marketing by Evrim Çelte; and Network Layer for Cognitive Radio Sensor Networks by Suleiman Zubair, Norsheila Fisal, Mohammed B. Abazeed, Zubair Khalid, Hassan T. Abdulaezeef, and Ahmad Suleiman. The section concludes with MAC Protocol for CRSN by Amna Jamal, Chen-Khong Tham, and Wai-Chong Wong. Where Section 3 described specific tools and technologies at the disposal of practitioners, Section 4 describes the use and applications of the tools and frameworks discussed in previous sections.

Section 4, “Utilization and Application,” describes how the broad range of Mobile Computing and Wireless Networks efforts has been utilized and offers insight on and important lessons for their applications and impact. The first chapter in the section is titled The Use of Web 2.0 Technologies in Formal and Informal Learning Settings written by Lisa A. Best, Diane N. Buhay, Katherine McGuire, Signe Gurholt, and Shari Foley. This section includes the widest range of topics because it describes case studies, research, methodologies, frameworks, architectures, theory, analysis, and guides for implementation. With chapters such as Examining the Impact of Web 2.0 Applications on Knowledge Management Performance written by Scott Buechler, Richard Hartshorne, and Haya Ajian and Environmental Monitoring Based on the Wireless Sensor Networking Technology: A Survey of Real-World Applications by Eirini Karapistoli, Ioanna Mampentzidou, and Anastasios A. Economides; the breadth of topics covered in the chapter is also reflected in the diversity of its authors, from countries all over the globe. The section concludes with Integrating E-Learning 2.0 into Online Courses by Steve Chi-Yin Yuen, a great transition chapter into the next section.

Section 5, “Organizational and Social Implications,” includes chapters discussing the organizational and social impact of Mobile Computing and Wireless Networks. The section opens with Interactive Media Steer in Educational Printing Materials by Burcin Ispir. Where Section 4 focused on the broad, many applications of Mobile Computing and Wireless Networks technology, this section focuses exclusively on how these technologies affect human lives, either through the way they interact with each other, or through how they affect behavioral/workplace situations. The section concludes with The Evolving Value of eTourism for Suppliers and Visitors by João V. Estêvão, Maria João Carneiro, and Leonor Teixeira.

Section 6, “Managerial Impact,” presents focused coverage of Mobile Computing and Wireless Networks in a managerial perspective. This section serves as a vital resource for developers who want to utilize the latest research to bolster the capabilities and functionalities of their processes. The section
begins with Web 2.0 and its Implications on Globally Competitive Business Model by Sudhanshu Joshi. The chapters in this section offer unmistakable value to managers looking to implement new strategies that work at larger bureaucratic levels. The section concludes with Analyzing Online Reviews to Measure Augmented Reality Acceptance at the Point of Sale: The Case of IKEA by Daniel Baier, Alexandra Rese, and Stefanie Schreiber.

Section 7, “Critical Issues,” presents coverage of academic and research perspectives on Mobile Computing and Wireless Networks tools and applications. The section begins with Higher Education and Web 2.0: Theory and Practice by Pedro Isaías, Sara Pfano, and Paula Miranda. Chapters in this section will look into theoretical approaches and offer alternatives to crucial questions on the subject of Mobile Computing and Wireless Networks. The section concludes with Game Theory for Collaboration in Future Networks by José André Moura, Rui Neto Marinheiro, and João Carlos Silva.

Section 8, “Emerging Trends,” highlights areas for future research within the field of Mobile Computing and Wireless Networks, opening with The Ubiquitous Semantic Web: Promises, Progress and Challenges by Yuan-Fang Li, Jeff Z. Pan, Shonali Krishnaswamy, Manfred Hauswirth, and Hai H. Nguyen. This section contains chapters that look at what might happen in the coming years that can extend the already staggering amount of applications for Mobile Computing and Wireless Networks. The final chapter of the book looks at an emerging field within Mobile Computing and Wireless Networks, in the excellent contribution, Using Advanced Approaches in Urban Design Researches: A Mutation from 3D Digital Models to Virtual Reality by Amir Shakibamanesh and Mahshid Ghorbanian.

Although the primary organization of the contents in this multi-volume work is based on its eight sections, offering a progression of coverage of the important concepts, methodologies, technologies, applications, social issues, and emerging trends, the reader can also identify specific contents by utilizing the extensive indexing system listed at the end of each volume. As a comprehensive collection of research on the latest findings related to using technology to providing various services, Mobile Computing and Wireless Networks: Concepts, Methodologies, Tools and Applications, provides researchers, administrators and all audiences with a complete understanding of the development of applications and concepts in Mobile Computing and Wireless Networks. Given the vast number of issues concerning usage, failure, success, policies, strategies, and applications of Mobile Computing and Wireless Networks in countries around the world, Mobile Computing and Wireless Networks: Concepts, Methodologies, Tools and Applications addresses the demand for a resource that encompasses the most pertinent research in technologies being employed to globally bolster the knowledge and applications of Mobile Computing and Wireless Networks.