# Table of Contents

Preface ................................................................................................................................................xvi

Chapter 1
Evaluating Semantic Web Service Technologies: Criteria, Approaches and Challenges .............. 1  
Ulrich Küster, Institute of Computer Science, Germany  
Birgitta König-Ries, Institute of Computer Science, Germany  
Matthias Klusch, German Research Centre for Artificial Intelligence, Germany

Chapter 2
Semantic Web Services and Mobile Agents Integration for Efficient Mobile Services ................. 25  
Vasileios Baousis, University of Athens, Greece  
Vassilis Spiliopoulos, University of the Aegean and National Centre of Scientific Research  
“Demokritos”, Greece  
Elias Zavitsanos, University of the Aegean and National Centre of Scientific Research  
“Demokritos”, Greece  
Stathes Hadjiefthymiades, University of Athens, Greece  
Lazaros Merakos, University of Athens, Greece

Chapter 3
Mobile Ontologies: Concept, Development, Usage, and Business Potential .............................. 44  
Jari Veijalainen, University of Jyväskylä, Finland

Chapter 4
Service Provisioning through Real World Objects ........................................................................... 60  
Massimo Paolucci, DoCoMo Communications Laboratories Europe GmbH, Germany  
Gregor Broll, Medieninformatik, Ludwig-Maximilians-Universität, Germany  
John Hamard, DoCoMo Communications Laboratories Europe GmbH, Germany  
Enrico Rukzio, Lancaster University, UK  
Matthias Wagner, DoCoMo Communications Laboratories Europe GmbH, Germany  
Albrecht Schmidt, University of Bonn, Germany
Chapter 5
Semantic-Based Bluetooth-RFID Interaction for Advanced Resource Discovery in Pervasive Contexts
Tommaso Di Noia, Politecnico di Bari, Italy
Eugenio Di Sciascio, Politecnico di Bari, Italy
Francesco Maria Donini, Università della Tuscia, Italy
Michele Ruta, Politecnico di Bari, Italy
Floriano Scioscia, Politecnico di Bari, Italy
Eufemia Tinelli, Politecnico di Bari and Università degli Studi di Bari, Italy

Chapter 6
In Defense of Ambiguity Redux
Patrick J. Hayes, Institute for Human and Machine Cognition, USA
Harry Halpin, University of Edinburgh, UK

Chapter 7
Identity of Resources and Entities on the Web
Valentina Presutti, ISTC National Research Council (CNR), Italy
Aldo Gangemi, ISTC National Research Council (CNR), Italy

Chapter 8
Ontological Indeterminacy and the Semantic Web or Why the Controversy Over Same-Sex Marriage Poses A Fundamental Problem for Current Semantic Web Architecture
Allen Ginsberg, Consultant, USA

Chapter 9
Ontology Driven Document Identification in Semantic Web
Marek Reformat, thinkS²: thinking software and system laboratory, Electrical and Computer Engineering, University of Alberta, Canada
Ronald R. Yager, Machine Intelligence Institute, Iona College, USA
Zhan Li, thinkS²: thinking software and system laboratory, Electrical and Computer Engineering, University of Alberta, Canada

Chapter 10
A Fuzzy Ontology Generation Framework from Fuzzy Relational Databases
Z.M. Ma, Northeastern University, China
Yanhui Lv, Northeastern University, China
Li Yan, Northeastern University, China

Chapter 11
Tightly Coupled Fuzzy Description Logic Programs under the Answer Set Semantics for the Semantic Web
Thomas Lukasiewicz, University of Oxford, UK
Umberto Straccia, ISTI-CNR, Italy
Chapter 12
Evolutionary Conceptual Clustering Based on Induced Pseudo-Metrics........................................... 257
  Nicola Fanizzi, Università degli studi di Bari, Italy
  Claudia d’Amato, Università degli studi di Bari, Italy
  Floriana Esposito, Università degli studi di Bari, Italy

Chapter 13
Nested Optional Join for Efficient Evaluation of SPARQL Nested Optional Graph Patterns.......... 281
  Artem Chebotko, University of Texas - Pan American, USA
  Shiyong Lu, Wayne State University, USA

Chapter 14
An Associative and Adaptive Network Model for Information Retrieval in the Semantic Web....... 309
  Peter Scheir, Styria Media Group AG, Austria
  Peter Prettenhofer, Bauhaus University Weimar, Germany
  Stefanie N. Lindstaedt, Know-Center Graz & Graz University of Technology, Austria
  Chiara Ghidini, Fondazione Bruno Kessler, Italy

Compilation of References .................................................................................................................. 345

About the Contributors ................................................................................................................. 374

Index ............................................................................................................................................... 384