Advanced Design Approaches to Emerging Software Systems: Principles, Methodologies and Tools

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Recently, rapid and fundamental advances in computing technologies have been driving the role and scope of software systems to a new level. A number of new types of software systems are emerging, among which service based systems, cloud computing, pervasive computing, and Internet of Things are eminent examples. These systems have imposed new challenges on their design, development, testing and maintenance, and are demanding for new appropriate approaches and tools.

Advanced Design Approaches to Emerging Software Systems: Principles, Methodologies and Tools provides relevant theoretical frameworks and the latest empirical research findings in the area. This book will help to clarify the present chaotic and confusing literature of the current state of the art and knowledge in the areas of the design and engineering of the many emerging software systems. This book also facilitates the exchange and evolution of software engineering advances among multiple disciplines, research, industry, and user communities.

Topics Covered:
- Cloud Computing Systems
- Collaborative Systems
- Developing Applications
- Event based Applications
- Information Dispersion Techniques
- Internet of Things
- Interoperable Smart Spaces
- Pervasive Computing Systems
- Service Based Systems
- System Evolution

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Xiaodong Liu received his PhD in Computer Science from De Montfort University, UK. He is a reader and the director of Centre for Information & Software Systems, in the School of Computing, Edinburgh Napier University, UK. As an active researcher, his current research focuses on Context-aware adaptive services, service evolution, mobile clouds, pervasive computing, software reuse, and component-based software engineering. Dr. Liu has led 6 externally funded projects, and published over 50 papers in established international journals and conferences and 2 book chapters. He is the inventor of 1 patent registered in UK, USA and at International Level. He has been the chair, co-chair or PC member of a number of IEEE and IASTED international conferences. He is the editorial board member of 3 international journals and editor of 2 research books. He is a member of IEEE Computer Society and British Computer Society.

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Section 1: Service-Based System

Chapter 1
Service Elicitation Method Using Applied Qualitative Research Procedures
Alkkiomäki Ville (Lappeenranta University of Technology, Finland)
Smolander Kari (Lappeenranta University of Technology, Finland)

Chapter 2
The Design Principles and Practices of Interoperable Smart Spaces
Ovaska Eila (VTI Technical Research Centre of Finland, Finland)
Cinotti Tullio Salmon (Università di Bologna, Italy)
Toninelli Alessandra (INRIA, France)

Chapter 3
Principles for Engineering Service Based System by Swirl Computing
Sugiyama Shigeki (University of Gifu, Japan)
Burgess Lowry (Carnegie Mellon University, USA)

Chapter 4
A Service Component Model and Implementation for Institutional Repositories
Zhang Yong (Tsinghua University, China)
Ding Quansong (Tsinghua University, China)
Sun Yigang (National Library of China, China)
Whitney Michael (University of North Carolina Charlotte, USA)

Section 2: Pervasive Services and Internet of Things

Chapter 5
Service Discovery Architecture and Protocol Design for Pervasive Computing
Zhu Feng (University of Alabama in Huntsville, USA)
Zhu Wei (Intergraph Co, USA)
Maula Matt W. (Michigan State University, USA)
Ni Lionel M. (Hong Kong University of Science and Technology, China)

Chapter 6
A Software Engineering Framework for Context-Aware Service-Based Processes in Pervasive Environments
Jaroucheh Zakwan (Edinburgh Napier University, UK)
Liu Xiaodong (Edinburgh Napier University, UK)
Smith Sally (Edinburgh Napier University, UK)

Chapter 7
High Level Definition of Event-Based Applications for Pervasive Systems
Ortmann Steffen (IHP Microelectronics, Germany)
Maaser Michael (IHP Microelectronics, Germany)
Langendoerfer Peter (IHP Microelectronics, Germany)

Chapter 8
A Methodology for UICC-Based Security Services in Pervasive Fixed-Mobile Convergence Systems
Park Jaemin (Convergence WIBRO BU, KT (Korea Telecom), Republic of Korea)

Section 3: Clouds and Services

Chapter 9
Community Computing
Jung Youna (University of Pittsburgh, USA)
Kim Minsoo (University of Pittsburgh, USA)

Chapter 10
How to Choose the Right Cloud
Bibi Stamati (Aristotle University of Thessaloniki, Greece)
Katsaros Dimitrios (University of Thessaly, Greece)
Baxis Panayiotis (University of Thessaly, Greece)

Chapter 11
Cloud As a Computer
Pendyala Vishnu S. (Santa Clara University, USA)
Holliday JoAnne (Santa Clara University, USA)

Chapter 12
Vaquero Luis M. (Telefónica Investigación y Desarrollo, Spain)
Rodero-Merino Luis (INRIA, France)
Cáceres Juan (Telefónica Investigación y Desarrollo, Spain)
Chapman Clovis (University College London, UK)
Lindner Maik (SAP Research, UK)
Galán Fermín (Telefónica Investigación y Desarrollo, Spain)

Chapter 13
QoS-Oriented Service Computing
Yang Dr. Xiaoyu (University of Southampton, UK)