Contents

VOLUME III

Design Science Theories and Research Practices

Editor's Introduction: Design Science Theories and Research Practices

Alan R. Hevner vii

A. Design Science Theory and Practice

30. Design Science in Information Systems Research
   Alan R. Hevner, Salvatore T. March, Sudha Ram and Jinsoo Park 1

31. Systems Development in Information Systems Research
   Jay F. Nunamaker, Jr., Minder Chen and Titus D. M. Purdin 34

32. A Design Theory for Systems That Support Emergent Knowledge Processes
   M. Lynne Markus, Ann Majchrzak and Les Gasser 50

B. Information and Data Modeling

33. Semantic Conflict Resolution Ontology (SCROL): An Ontology for Detecting and Resolving Data and Schema-Level Semantic Conflicts
   Sudha Ram and Jinsoo Park 82

34. A Framework for Analysis of Data Quality Research
   Richard Y. Wang, Veda C. Storey and Christopher P. Firth 107

C. Database Systems Design

35. Database Allocation in a Distributed Environment: Incorporating a Concurrency Control Mechanism and Queuing Costs
   Sudha Ram and Sridhar Narasimhan 135

D. Knowledge and Information Integration

36. Context Interchange: New Features and Formalisms for the Intelligent Integration of Information
   Cheng Hian Goh, Stéphane Bressan, Stuart Madnick and Michael Siegel 157

37. On Heterogeneous Database Retrieval: A Cognitively-Guided Approach
   Ramayya Krishnan, Xiaoping Li, David Steier and J. Leon Zhao 179
38. Telos: Representing Knowledge about Information Systems
    *John Mylopoulos, Alex Borgida, Matthias Jarke and Manolis Koubarakis*
    205

E. Data Warehousing and Mining

39. What Makes Patterns Interesting in Knowledge Discovery Systems
    *Avi Silberschatz and Alexander Tuzhilin*
    240

F. Network and Telecommunications Systems

40. SIP-Based Enterprise Converged Networks for Voice/Video-Over-IP:
    Implementation and Evaluation of Components
    *Samir Chatterjee, Bengisu Tulu, Tarun Abhisandani and Haiqing Li*
    251

G. Decision Support Systems

41. Metagraphs: A Tool for Modeling Decision Support Systems
    *Amit Basu and Robert W. Blanning*
    274

H. Workflow Systems

42. Dynamic Routing and Operational Controls in Workflow Management
    Systems
    *Akhil Kumar and J. Leon Zhao*
    304

43. XML-Based Schema Definition for Support of Interorganizational
    Workflow
    *W.M.P. van der Aalst and Akhil Kumar*
    332

I. Electronic Commerce Systems

44. Analysis and Design of Business-to-Consumer Online Auctions
    *Ravi Bapna, Paulo Goes and Alok Gupta*
    366