INTERNATIONAL SOCIETY FOR COMPUTERS
AND THEIR APPLICATIONS

20th International Conference on
Software Engineering and Data Engineering
(SEDE-2011)

June 20 – 22, 2011
Imperial Palace Hotel
Las Vegas, Nevada  USA

TECHNICAL PAPER INDEX

KEYNOTE SPEAKER ADDRESS

A Unifying Theoretical Foundation for Software Engineering
Dewayne E. Perry (The University of Texas at Austin, USA) ................................................................. 1

DATABASES AND THEIR APPLICATIONS

Partitioned or Non-Partitioned Table Storage? Concepts and Performance for
Multi-tenancy in RDBMS
Oliver Schiller, Andreas Brodt, and Bernhard Mitschang (University of Stuttgart, Germany) .................. 7

Events in an Active Rule-Based Fuzzy XML Database System
Ying Jin and Hemal J. Mehta (California State University, USA) .......................................................... 13

CAL: A Generic Query and Analysis Language for Data Warehouses
Ganesh Viswanathan and Markus Schneider (University of Florida, USA) ............................................. 18

A Generalized Platform for Acquisition and Analysis of Heterogeneous Data
Source Views
Lerina Aversano and Maria Tortorella (University of Sannio, Italy) ...................................................... 24

SOFTWARE ENGINEERING APPLICATIONS

Information Demand Model for Software Unit Reuse
Marcus Zinn (University of Plymouth, UK), Klaus Peter Fischer-Hellmann, Alois Schuette (University
of Applied Science Darmstadt, Germany), and Andy Phippen (University of Plymouth, UK) .................. 32

Pattern Matching and Information Extraction in a Software System for a Battlefield
Environment
Sharad Sharma and Shamal Shete (Bowie State University, USA) ...................................................... 40

Modeling Software Engineering Challenges of C4I Systems using Assurance Cases
Tazar Hussain, Abdullah Sharaf Alghamdi, Abdulhameed Alelaiwi, and Abdul Haseeb (King Saud
University, Saudi Arabia) ...................................................................................................................... 45

Integration Tester for Component-Based Software
Abeer Hakeem and Fathy Eissa (King Abdulaziz University, Saudi Arabia) .......................................... 49
Composition of Heterogeneous Web Services for Converting Legacy Codes to SOA based Applications
Shrabani Mallick, Namo Narayan Meena, Dharmendra K. Yadav, Dharmender Singh Kushwaha
(Motilal Nehru National Institute of Technology, India) ................................................................. 54

Angel Blaze Media Player for Children with Client/Server File Sharing
Jingxin Han and Sharad Sharma (Bowie State University, USA) .................................................. 60

Algorithms for Generating a Minimum Set of Paths for all Du-Paths Coverage
Salam N. Salloum and Lei Liu (California State Polytechnic University, USA) ............................... 65

Development of Tsunami Evacuation Simulation of Banda Aceh City Planning
Muzailin Affan, Agussabti (Syiah Kuala University), Yozo Goto (University of Tokyo, Japan), Taufic Fuadi Abidin (Syiah Kuala University, Indonesia), and Shunichi Koshimura (Tohoku University, Japan) .... 69

APPLICATIONS IN SOFTWARE AND DATA ENGINEERING

A Publish/Subscribe System to Realize Service Oriented Architecture in MANET
Prasenjit Choudhury and Subrata Nandi (National Institute of Technology, India) and Narayan C. Debnath (Winona State University, USA) ................................................................. 75

Adaptive Slot Assignment Over Wireless Sensor Networks
Thibault Bernard and H. Fouchal (URCA, France) ........................................................................... 81

A Strategy Based on LSP for the Evaluation of Specific Languages for Business Process Modeling
Narayan C. Debnath (Winona State University, USA), Carlos Salgado, Mario Peralta, Daniel Riesco, Mario Beron, German Montejano, and Lorena Baigorria (Universidad Nacional de San Luis, Argentina) ...... 87

Metrics for Evaluation of Workflow Models: An Experiment for Validation
Narayan C. Debnath (Winona State University, USA), Mario Peralta, Carlos Salgado, German Montejano, Daniel Riesco, and Mario Beron (Universidad Nacional de San Luis, Argentina) ......................... 93

Maximum Likelihood Function used to Calculate Confidence of Association Rules in Market Baskets
Arijit Chatterjee and William Perrizo (North Dakota State University, USA) .................................. 99

Business-Object Oriented Requirements Analysis for Large Scale Information System
Anirban Sarkar (National Institute of Technology-Durgapur, India) and Narayan C. Debnath (Winona State University, USA) ........................................................................................................... 103

Steel Threads: Framework for Developing Software System Architecture
Sada Narayanappa (Jeppesen, Inc., USA), Wan D. Bae (University of Wisconsin-Stout, USA), Shayma Alkobaisi (United Arab Emirates University, UAE) and Narayan C. Debnath (Winona State University, USA) ................................................................. 109

Re-tain-o-logy: A Comprehensive Model for the Development of Early-Warning and Student Retention Systems
Hossein Hakimzadeh (Indiana University South Bend, USA), Cyrus Azarbod (Minnesota State University, USA), and Robert Batsinger (Indiana University South Bend, USA) .............................................. 115

Predicting a Patient Recovery Timeline from a Total Knee Replacement Using Fuzzy Data Mining During Physical Therapy
Robert Azarbod, Cyrus Azarbod and Mahburbur Syed (Minnesota State University Mankato, USA) .... 120

RSS-ARM: Reduced Search Space Based Technique for Association Rule Mining
Ahmed M. Ghanem, Mahmoud S. AwadAllah (Suez Canal University, Egypt) and Hamed M. Sallam (Sinai University, Egypt and Minnesota State University Mankato, USA) ......................................................... 126
DATA STRUCTURES AND THEIR APPLICATIONS

Ask and You Shall Receive: Empirically Evaluating Declarative Approaches to Finding Data in Unstructured Heaps
William F. Jones and Gregory M. Kapfhammer (Allegheny College, USA) .................................................. 132

Fast Attribute-based Unsupervised and Supervised Table Clustering using P-Trees
Arjun G. Roy, Matthew Piehl, Arijit Chatterjee, Mohammad K. Hossain, Bryan Mesich, Tingda Lu, Greg Wettstein, Amal Perera, and William Perrizo (North Dakota State University, USA) ......................... 139

An Extended Technique for R-tree to Manage Multiple Type Objects
Hiroyuki Dekihara (Hiroshima International University, Japan) and Yasuaki Nakamura (Technobits Co., Ltd., Japan) ................................................................. 143

DATA ENGINEERING APPLICATIONS

Achieving Better Cloud Access Experience with Server Virtualization
Wei Hao (Northern Kentucky University, USA), Jicheng Fu (University of Central Oklahoma, USA) and Pochara Prapatanant, Nathan Dixon (Northern Kentucky University, USA) .................................................. 149

Multiple Image Secret Sharing Scheme
Sesha Pallavi Indrakanti and Venkata Vinay Pragada (GVP Degree College (Autonomous), India) and Avadhani P.S (Andhra University College of Engineering (Autonomous), India) ................................. 155

Application of Knowledge Engineering in Strip Layout Design of Progressive Dies
Alan Lin and Dean Sheu (National Taiwan University of Science and Technology, Taiwan) ......................... 160