

**PROCEEDINGS OF
THE 2011 INTERNATIONAL CONFERENCE ON
SOFTWARE ENGINEERING RESEARCH & PRACTICE**

SERP 2011

Volume I

Editors

**Hamid R. Arabnia
Hassan Reza, Leonidas Deligiannidis**

Associate Editors

**Austin Melton, Vince Schmidt
Ashu M. G. Solo**



WORLDCOMP'11

July 18-21, 2011

Las Vegas Nevada, USA

www.world-academy-of-science.org

©CSREA Press

This set of volumes contain papers presented at The 2011 International Conference on Software Engineering Research & Practice (SERP'11). Their inclusion in this publication does not necessarily constitute endorsements by editors or by the publisher.

Copyright and Reprint Permission

Copying without a fee is permitted provided that the copies are not made or distributed for direct commercial advantage, and credit to source is given. Abstracting is permitted with credit to the source. Please contact the publisher for other copying, reprint, or republication permission.

Copyright © 2011 CSREA Press
ISBN: 1-60132-199-6, 1-60132-200-3 (1-60132-201-1)
Printed in the United States of America

CSREA Press
U. S. A.

Foreword

It gives us great pleasure to introduce this collection of papers to be presented at the 2011 International Conference on Software Engineering Research and Practice (SERP'11), July 18 through 21, 2011, at Monte Carlo Resort, Las Vegas, USA.

The Academic Co-Sponsors of this year's conference include:

The Berkeley Initiative in Soft Computing (BISC), University of California, Berkeley, USA; Biomedical Cybernetics Laboratory, HST of Harvard University and Massachusetts Institute of Technology (MIT), USA; Intelligent Data Exploration and Analysis Laboratory, University of Texas at Austin, Austin, Texas, USA; Collaboratory for Advanced Computing and Simulations (CACs), University of Southern California, USA; Minnesota Supercomputing Institute, University of Minnesota, USA; Knowledge Management & Intelligent System Center (KMIS) of University of Siegen, Germany; UMIT, Institute of Bioinformatics and Translational Research, Austria; BioMedical Informatics & Bio-Imaging Laboratory, Georgia Institute of Technology and Emory University, Atlanta, Georgia, USA; Hawkeye Radiology Informatics, Department of Radiology, College of Medicine, University of Iowa, Iowa, USA; NDSU-CIIT Green Computing and Communications Laboratory, USA; Supercomputer Software Department (SSD), Institute of Computational Mathematics & Mathematical Geophysics, Russian Academy of Sciences, Russia; SECLAB (inter-university research groups at University of Naples Federico II, the University of Naples Parthenope, and Second University of Naples, Italy); Medical Image HPC & Informatics Lab (MiHi Lab), University of Iowa, Iowa, USA; Intelligent Cyberspace Engineering Lab., ICEL, Texas A&M University (Com./Texas), USA; and Model-Based Engineering Laboratory, University of North Dakota, North Dakota, USA.

Corporate Co-Sponsors, Co-Sponsors At-Large and Organizers include:

A number of university faculty members and their staff (names appear below and also on the cover of the proceedings); Microsoft Research; Altera Corporation; Pico Computing; World Academy of Science (www.world-academy-of-science.org/); Computer Science Research, Education, and Applications Press; High Performance Computing for Nanotechnology (HPCNano); International Society of Intelligent Biological Medicine; World Academy of Biomedical Sciences and Technologies; The International Council on Medical and Care Compunetics; The UK Department for Business, Enterprise & Regulatory Reform, UK; Scientific Technologies Corporation; and HoIP - Health without Boundaries. In addition, several publishers of computer science and computer engineering books and journals, chapters and/or task forces of computer science associations/organizations from 8 countries, and developers of high-performance machines and systems provided significant help in organizing the conference as well as providing some resources.

An important mission of WORLDCOMP (a federated congress to which this conference is affiliated with) includes "Providing a unique platform for a diverse community of constituents composed of scholars, researchers, developers, educators, and practitioners. The Congress makes concerted effort to reach out to participants affiliated with diverse entities (such as: universities, institutions, corporations, government agencies, and research centers/labs) from all over the world. The congress also attempts to connect participants from institutions that have **teaching** as their main mission with those who are affiliated with institutions that have **research** as their main mission. The congress uses a quota system to achieve its institution and geography diversity objectives."

The program committee would like to thank all those who submitted papers for consideration. About 52% of the submissions were from outside the United States. Each paper was peer-reviewed by two experts in the field for originality, significance, clarity, impact, and soundness. In cases of contradictory recommendations, a member of the conference program committee was charged to make the final decision; often, this involved seeking help from additional referees by using a double-blinded review process. In addition, papers whose authors included a member of the conference program committee were evaluated using the double-blinded review process. The only exception to the above evaluation process was for papers that were submitted directly to chairs/organizers of approved sessions/workshops; in these cases, the chairs/organizers were responsible for the evaluation of such submissions. The overall paper acceptance rate for regular papers was 24%; 19% of the remaining papers were accepted as poster papers.

We are very grateful to the many colleagues who helped in organizing the conference. In particular, we would like to thank the members of the SERP'11 Program Committee who we hope will offer their help again in organizing the next year's conference (SERP'12). The SERP'11 Program Committee members were:

- *Dr. Selim Aissi, (Steering Committee - WORLDCOMP), Chief Strategist - Security, Manageability and Virtualization, Ultra Mobile Group, Intel Corporation, USA*
- *Dr. Mohammad Alanazi, Imam University, Riyadh, Saudi Arabia*
- *Prof. Hamid R. Arabnia, (Steering Committee - WORLDCOMP), Elected Fellow, ISIBM; Editor-in-Chief, The Journal of Supercomputing; Advisory Board, IEEE TC on Scalable Computing; University of Georgia, Georgia, USA*
- *Prof. Ruzena Bajcsy (Steering Committee - WORLDCOMP), Member, National Academy of Engineering; IEEE Fellow; ACM Fellow; University of California, Berkeley, California, USA*
- *Prof. H-P. Bischof, Rochester Institute of Technology, Rochester, New York, USA*
- *Dr. Junaïd Chaudhry, University of Hail, Hail City, Saudi Arabia*
- *Dr. Long Chen, Senior Engineer, Qualcomm Incorporated, San Diego, California, USA*
- *Prof. Hyunseung Choo, (Steering Committee - WORLDCOMP), ITRC Director of Ministry of Information and Communication; Director, Korea Information Processing Society; Associate Editor, ACM Transactions on Internet Technology; Sungkyunkwan University (SKKU), Korea*
- *Prof. Ping-Tsai Chung, Chair, Computer Science Department, Long Island University, Brooklyn, New York, USA*
- *Dr. Lopez-Martin Cuauhtemoc, Guadalajara, University, Mexico*
- *Prof. Kevin Daimi, Director, Computer Science and Software Engineering Programs, University of Detroit Mercy, Detroit, Michigan, USA*
- *Prof. Leonidas Deligiannidis, Wentworth Institute of Technology, Boston, Massachusetts, USA*
- *Prof. Youping Deng, Director of Cancer Bioinformatics, Rush University Cancer Center, Rush University Medical Center, Chicago, Illinois, USA*
- *Prof. George Dimitoglou, Hood College, Frederick, Maryland, USA*
- *Prabu Dorairaj, NetApp, Sr. Performance Specialist, Bangalore, India*
- *Dr. Mohsen Doroodchi, Cardinal Stritch University, Milwaukee, Wisconsin, USA*
- *Dr. Ylies Falcone, INRIA Laboratory, Rennes Bretagne, France*
- *Prof. (Winston) Wai-Chi Fang, (Steering Committee - WORLDCOMP), IEEE Fellow; Director, System-on-Chip Research Center; TSMC Distinguished Chair Professor; National Chiao Tung University, Hsinchu, Taiwan*
- *Dr. Haishan Gong, eBay Inc., Sunnyvale, California, USA*
- *Prof. George A. Gravvanis, Democritus University of Thrace, Greece*
- *Dr. Pankaj Gupta, Microsoft Corporation, Washington, USA*
- *Dr. Dongfeng Han, University of Iowa, Iowa City, Iowa, USA*
- *Prof. Xiangjian (Sean) He, Director of Intelligent Image Processing & Computer Vision; Deputy Director of Research Centre for Innovation in IT Services and Applications (iNEXT); University of Technology, Sydney, Australia*
- *Dr. Mohamad Jaber, Verimag Laboratory - Group DCS, Grenoble University, France and Research Visitor at Microsoft Research Redmond, Washington, USA*
- *Dr. Vitus S. W. Lam, The University of Hong Kong, Hong Kong*
- *Prof. Kun Chang Lee, (Steering Committee - WORLDCOMP), Professor of MIS and WCU Professor of Creativity Science, Sungkyunkwan University, Seoul, South Korea*
- *Dr. Qingzhong Liu, Computer Science and Digital Forensics, Department of Computer Science, Sam Houston State University, Huntsville, Texas, USA*
- *Dr. Shaoshan Liu, Microsoft, one Microsoft Way, Redmond, Washington, USA*
- *Dr. Yan Luo, National Institute of Standards and Technology (NIST), Maryland, USA*
- *Prof. Andy Marsh, (Steering Committee - WORLDCOMP), Director HoIP; Director HoIP Telecom, UK; Secretary-General WABT; Vice-president ICET; Visiting Professor University of Westminster, UK*
- *Prof. Hamid Mcheick, Universite du Quebec a Chicoutimi, Chicoutimi, Quebec, Canada*
- *Dr. Armin Mehran, Islamic Azad University, Tehran, Iran*
- *Dr. Austin Melton, Kent State University, Kent, Ohio, USA*
- *Prashant R. Nair, Vice-Chairman - Information Technology, Amrita Vishwa Vidyapeetham University, Coimbatore, India*
- *Dr. Nitin, Distinguished Adjunct Professor, University of Nebraska at Omaha, Omaha, Nebraska, USA*

- *Dr. R. Ponalagusamy, Professor and Head, Department of Mathematics, National Institute of Technology, Tiruchirappalli, India*
- *Dr. B. V. A. N. S. S. Prabhakar Rao, Miracle Educational Society Group of Institutions, Miracle City, Andhra Pradesh, India*
- *Prof. Junfeng Qu, Clayton State University, Morrow, Georgia, USA*
- *Prof. Hassan Reza (Co-Chair, SERP'11), University of North Dakota, Grand Forks, North Dakota, USA*
- *Prof. Kishore R. Sakharkar, Professor, Infectious Disease Cluster, Advanced Medical & Dental Institute (AMDI), University Sains Malaysia, Malaysia*
- *Dr. Vince Schmidt, Wright Patterson Air Force Base, Ohio, USA*
- *Dr. Akash Singh, IBM, Sacramento, California, USA*
- *Dr. Brajesh Kumar Singh, Reader, Department of C.S.E, FET, RBS College, Bichpuri, India*
- *Prof. R. K. Singh, Uttarakhand Technical University, Dehradun, Uttarakhand, India*
- *Sunil Kr. Singh, Uttarakhand Technical University, Dehradun, Uttarakhand, India*
- *Ashu M. G. Solo, (WORLDCOMP Publicity Chair), Fellow of British Computer Society, Principal/R&D Engineer, Maverick Technologies America Inc.*
- *Dr. Robert Tairas, AtlanMod Team, Institut National de Recherche en Informatique et en Automatique (INRIA) and Ecole des Mines de Nantes (EMN), France*
- *Dr. Jie Tang, University of California Irvine, California, USA*
- *Prof. Dr. Qurat-ul-Ain Tariq, Chairperson, Department of Computer and Information Systems Engineering, NED University of Engineering & Technology, Karachi, Pakistan*
- *Dr. Vladimir Volkov, The Bonch-Bruевич State University of Telecommunications, Saint-Petersburg, Russia*
- *Dr. Guanghui Wang, Department of Systems Design, University of Waterloo, Canada*
- *Prof. Layne T. Watson, (Steering Committee - WORLDCOMP), IEEE Fellow; NIA Fellow; ISIBM Fellow; Fellow of The National Institute of Aerospace; Virginia Polytechnic Institute & State University, USA*
- *Prof. Lotfi A. Zadeh, (Steering Committee - WORLDCOMP), Member, National Academy of Engineering; IEEE Fellow, ACM Fellow; AAAS Fellow; AAAI Fellow; IFSA Fellow; Director, BISC; University of California, Berkeley, California, USA*
- *Dr. Amir Zeid, Program Leader, Computer Science and Information Systems, American University of Kuwait, Kuwait*
- *Dr. Songfeng (Andy) Zheng, Missouri State University, Springfield, Missouri, USA*

We express our gratitude to keynote and invited speakers of WORLDCOMP and individual conference/tracks and tutorial speakers - the list of speakers appears on the conference web site.

We would also like to thank the followings: UCMSS (Universal Conference Management Systems & Support, California, USA) for managing all aspects of the conference; Dr. Tim Field of APC for managing the printing of the proceedings; and the staff of Monte Carlo Resort in Las Vegas for the professional service they provided. Last but not least, we would like to thank the Co-editors and Associate Editors of SERP'11: Drs. Hassan Reza, Leonidas Deligiannidis, Austin Melton, Vince Schmidt, and Ashu M. G. Solo.

We present the proceedings of SERP'11.

Hamid R. Arabnia, Ph.D.
 Professor, Computer Science, University of Georgia, USA
General Chair & Coordinator, SERP'11

Contents

SESSION: SOFTWARE MODELING, DESIGN METHODOLOGIES AND MODEL DRIVEN ENGINEERING

Application of a Communication Protocol Methodology to Embed a Collaborative Virtual Reality Environment in Building Industry Game	3
<i>Lacey Duckworth, Tulio Sulbaran, Andrew Strelzoff, Hal Johnston</i>	
Development and Evaluation Process of Model Transformation	10
<i>Shekoufeh Kolahdouz Rahimi, Kevin Lano</i>	
Modeling and Analysis of Agent Oriented System: Petri Net Based Approach	17
<i>Rajib Kumar Chatterjee, Anirban Sarkar, Swapan Bhattacharya</i>	
Graph Semantic Based Conceptual Model of Semi-structured Data: An Object Oriented Approach	24
<i>Anirban Sarkar, Sesa Singha Roy</i>	
Adopting Knowledge Based Security System for Software Development Life Cycle	31
<i>Jalal Alowibdi</i>	
Construction of Quality Prediction Model Based on Peer Review Performance Data	38
<i>Mutsumi Komuro, Norihisa Komoda</i>	
FWA - A Framework for Developing Web-Atlas Applications	45
<i>Mark Rop, Yi Liu , Michael Wimberly</i>	
Software Infrastructure for Grid Computing	51
<i>Opeyemi Adesina, Dayo Aremu</i>	
Intelligent Conceptual Message Routing in Enterprise Service Bus (ESB)	57
<i>Amir Massoud Bidgoli, Payam Nabhani</i>	
O2OOD: A Methodology for Converting Objective-Based Requirements into Object-Oriented Design	63
<i>Manu Goel</i>	
Recovering Activity Diagrams from Object Oriented Code: an MDA-based Approach	67
<i>Liliana Martinez, Claudia Pereira, Liliana Favre</i>	
Harris Hierarchy of Software Development Support Needs	74
<i>Michael Harris, Thomas Cagley</i>	

(Dis)economies of Scale in Business Software Systems Development and Enhancement Projects	80
<i>Beata Czarnacka-Chrobot</i>	
Atomic Domains of Java Library Classes	87
<i>Hisham Haddad, Woranuch Kaensaksiri, Arjun Vasudevan</i>	
Modeling Virtual Machine Packing Factor using a Third Party Tool and other Strategies	94
<i>Carl De Pasquale</i>	
Engineering a University-Wide Event Calendar System	101
<i>Jon Whitener, Kevin Daimi</i>	
Table-based Software Designs: Bounded Model Checking and Counterexample Tracking	112
<i>Noriyuki Katahira, Weiqiang Kong, Wanpeng Qian, Masahiko Watanabe, Tetsuro Katayama, Akira Fukuda</i>	
Agile Methodology for Designing and Improving Enterprise Scenarios	119
<i>Lukasz Budnik, Henryk Krawczyk</i>	
A Distributed Chess Playing Software System Model Using Dynamic CPU Availability Prediction	126
<i>Khondker Shajadul Hasan</i>	
EYEVISION: An Innovative Framework for the Development of Artificial Vision Systems	133
<i>Maura Pasquotti, Marco Del Pin</i>	
A Petrinet Realization Of An Urban Traffic System	138
<i>Kuhelee Roy, Ranjan Dasgupta</i>	
Designing an Online Conference Management System	143
<i>Kevin Daimi, Luming Li</i>	
SESSION: SOFTWARE AND SYSTEM REQUIREMENTS ENGINEERING	
Nurturing Systems Thinking: An Empirically Based Framework to Improve Systems Development Processes	153
<i>Arjun Vijayanarayanan, Kelly Neville</i>	
A Practice of UML for Web Development	160
<i>Kuang-Nan Chang, Peter Henderson</i>	

The Merging of Diverse Perspectives: Management, Customer, and Developer in an Iterative Development Planning Process 166

Robert Roggio, James Comer

Capturing Dynamic Behavior in Relational Model 172

Tulika Narang, Dharmendra K. Yadav

Towards a Shared Platform for Virtual Collaboration Analysis 176

Thomas Kowark, Matthias Uflacker, Alexander Zeier

Refactoring Catalog for Legacy Software using C and Aspect Oriented Language 181

S. A. M Rizvi, Zeba Khanam

SESSION: SOFTWARE ARCHITECTURE AND DESIGN PATTERNS

Design Patterns - A Modeling Challenge 191

Vojislav Radonjic, Soheila Bashardoust, Jean-Pierre Corriveau, Dave Arnold

On the Exploration of Lightweight Reverse Engineering Tool Development for C++ Programs 198

Yan Liang

An Approach for Generating Architectures for Pervasive Systems from Selected Features 205

Mostafa Hamza, Sherif Aly, Hoda Hosny

An Architectural Framework for the Improvement of the Ultra-Large-Scale Systems Interoperability 212

S. Shervin Ostadzadeh, Fereidoon Shams

Visualization Architecture for User Interaction with Dynamic Data Spaces in Multiple Pipelines 220

Sattiraju Prabhakar

Product Line Architectures for SOA 227

Mercy N. Njima, Maurice H. Ter Beek, Stefania Gnesi

On Choosing Program Refactoring and Slicing Re-engineering Practice Towards Software Quality 233

Obeten O. Ekabua, Bassey E. Isong

Runtime Prediction of Software Service Availability 239

Davide Lorenzoli, George Spanoudakis

Applying the Theory of Structuration in Enterprise Architecture Design 246

Dominic M. Mezzanotte, Sr., Josh Dehlinger, Suanajan Chakraborty

An Analysis of Business Agility Indicators for SOA Deployments 253
Mamoun Hirzalla, Peter Bahrs, Jane Huang, Craig Miller, Rob High

Toward Security Analysis of Service Oriented Software Architecture 260
Hassan Reza, Washington Helps

Efficient Aspect Assignment in Heterogeneous Distributed Systems 266
Samet Bulu, Feza Buzluca

Using ATL Transformations to Derive RSL Specifications from Feature Models 273
Laura Felice, Marcela Ridaio, Maria Virginia Mauco, Maria Carmen Leonardi

A Model-Driven Development Approach for Modeling Business Transactions at the Computation Independent Model Level 280
Jose Bocanegra, Diego Castano

SESSION: SOFTWARE QUALITY

Coupling Detection to Facilitate Maintenance of Database Applications 289
Paul Bergstein, Ashwin Buchipudi

Functional-Object-Oriented Hybrid Programming with FOBS 295
James Gil de Lamsdrid, Jill Zimmerman

Secure Reliability of Measurement Data through Application of Mechanism Design Theory 300
Sang-Pok Ko, Woo-Bok Yi

Development of E-tutorial for open source UML Tool (ArgoUML) Using Drupal as a CMS 307
Avishek Saha, Ameer Lakhani

SESSION: SOFTWARE TESTING

Generating Verifiable Test Scenarios 315
Jean-Pierre Corriveau, Wei Shi

Performance Evaluation of Testing for Maintaining Software-Quality 322
Rajat Sheel Jain, Amit Gupta

Evaluation of the Test Methods in Agent-Oriented Software Engineering 326
Saeed Zamani, Ramin Nassiri, Sam Jabbehdari

Modeling of Object Oriented Software Testing Cost 333
Dinesh Kumar Saini, Moinuddin Ahmad

Software Defect Taxonomy, Analysis and Overview 340
Ali Asghary Karahroudy, M. H. N. Tabrizi

Enhanced Economic Modeling for Software Quality Failure Analysis 346
Dinesh Kumar Saini, Moinuddin Ahmad

New Trials on Test Data Generation: Analysis of Test Data Space and Design of Improved Algorithm 352
So-Yeong Jeon, Yong-Hyuk Kim

SESSION: SOFTWARE METRICS, PROCESS, AND ALGORITHMS

Selection of Software Estimation Models Based on Analysis of Randomization and Spread Parameters in Neural Networks 359
Cuauhtemoc Lopez-Martín, Arturo Chavoya, Maria Elena Meda-Campana

Effects of Culture on Software Project Team Management 365
Mohammad Alkandari, Shawn Bohner

Agent-Based CMMI for Software Maintenance Process Measurement Model 372
Haneen AL-Ahmad, Rodziah Atan, Abdul Azim Abd Ghani, Masrah Murad

Code Rocket: Seeking Improvements in Detailed Design Support for Non-Model Driven Approaches to Development 380
Craig Ramsay, Steve Parkes, Alan Spark

Model Transformation for a System of Systems Dependability Safety Case 386
Judy Murphy, Steve Driskell

A Design of Software Metric Tool for Improving Reliability and Usability 393
Won Shin, Tae-Wan Kim, Doo-Hyun Kim, Chun-Hyon Chang

SESSION: SOFTWARE PROJECT MANAGEMENT + EDUCATION

Evaluation of Business Software Systems Development and Enhancement Projects Effectiveness and Economic Efficiency on the basis of Functional Size Measurement 401
Beata Czarnacka-Chrobot

Estimating and Decision Making for Design Projects and Cognitive Bias of Hyperbolic Discounting 408
Neha Srivastava

Usability Evaluation of Indian Academic Web Application	415
<i>Manju Pandey, Priyanka Tripathi, S.C. Shrivastava</i>	
Software Project Change Management Using Event Calculus	419
<i>Petros Petrides, Andreas Gregoriades, Vicky Papadopoulou Lesta</i>	
Software Safety Engineering Education	425
<i>David Coe, Joshua Hogue, Jeffrey Kulick</i>	
Project Success as an Evolving Concept	432
<i>Kadir Alpaslan Demir</i>	
On the Shortest Path to Satisfy Software Projects' Core Requirements	437
<i>Jie Liu, Ted Beers</i>	
AGILE Burndown Chart deviation - Predictive Analysis to Improve Iteration Planning	443
<i>Dhruba Jyoti Chaudhuri, Aditi Chaudhuri</i>	
SESSION: FORMAL SPECIFICATION, VERIFICATION, AND VALIDATION METHODS	
A Practical 4-coloring Method of Planar Graphs	453
<i>Mingshen Wu, Weihu Hong</i>	
A Mathematical Model for Prediction of the Human Performance Based on the Personal Features	459
<i>Konstantina Georgieva, Reiner Dumke, Anja Fiegler</i>	
A Proof-Based Approach to Detect Vulnerabilities in C Programs	464
<i>Amel Mammar, Liu Penfei</i>	
The Edge-Pushing LR(k) Algorithm	471
<i>Xin Chen, David Pager</i>	
Weighted Method Signatures Fingerprints	478
<i>Stephane Leblanc, Dwight Deugo</i>	
Search the Best Greedy Algorithm with Hill Climbing Experiments for Covering Array Generation	485
<i>Jing Jiang, Changhai Nie</i>	
LR(1) Parser Generator Hyacc	490
<i>Xin Chen, David Pager</i>	

Lightweight Formal Verification for Tail Recursive Loops	496
<i>A. Ricardo Morales, J. Nelson Rushton</i>	
Formal Modeling of Navigation System of Autonomous Mobile Robots using Graphs, Automata and Z	499
<i>Nazir Ahmad Zafar, Fahad Alhumaidan, Javed Iqbal Iqbal</i>	
Comparative Study of Software Complexities of Tree Search Algorithms	505
<i>Rotimi Salako, Dayo Aremu</i>	
 SESSION: BATTLESPACE REPRESENTATION FOR AIR, SPACE, AND CYBER	
Exploring the Fourth Dimension: a Computer Scientist's Experience in Temporal Display Development	513
<i>Patrick Dudenhofer</i>	
A Semi-automated Display for Geotagged Text	520
<i>Vincent Schmidt, Jane Binner</i>	
 SESSION: SOFTWARE MEASUREMENT - THEORY AND PRACTICE	
WAESM: Web Accessibility Educational Specific Model	529
<i>Talal Albalawi, Abdulelah Algozaibi, Khalid Aljohani</i>	
Best Practices for Project Management: A Further Study	534
<i>Kathleen Stirbens, Rafael Feijo</i>	
Improving Organizational Performance Using Academic Assessment Techniques	540
<i>Binamra Dutta</i>	
Extended Cyclomatic Complexity Metric for XML Schemas	544
<i>Reem Alshahrani</i>	
An Improved Model of Configuration Complexity	551
<i>Moheeb Alwarsh</i>	
Role of Function Point as a Reuse Metric in a Software Asset Reuse Program	557
<i>Johns Joseph</i>	
What Software Measurement Can Learn from Classical Measurement and Measurement Theory	564
<i>Amruta Sakhrani, Austin Melton</i>	

**SESSION: NOVEL APPLICATIONS + REQUIREMENTS ENGINEERING +
PRODUCTIVITY + SECURITY + WORKFLOWS + VALIDATION +
CERTIFICATION + TESTING + OO + CLOUD COMPUTING + RISK
MANAGEMENT**

Local Independence Transformation and Its Application to Removing Nonduplicate Statements in Code Clones	571
<i>Chung Yung, Yen-Chang Lai, Qin-Xin Tu</i>	
Patterns-Based Assistance for Temporal Requirement Specification	578
<i>Ahmed Mekki, Mohamed Ghazel, Armand Toguyeni</i>	
SDP: Software Development Platform for Improving Software Productivity	585
<i>Zih-Jyun Song, Dyi-Rong Duh, Yi-Jung Chen</i>	
Security Specifications for a Multi-disciplinary Research Project	592
<i>Syed Rahman, Michael Peterson</i>	
Monitoring Errors in Integration Workflows	598
<i>Rafael Z. Frantz, Rafael Corchuelo, Carlos R. Rivero, Carlos Molina-Jimenez</i>	
Feature Model Validation: A Constraint Propagation-Based Approach	605
<i>Guoheng Zhang, Huilin Ye, Yuqing Lin</i>	
A Software Certification of Embedded Vehicle Platform Using Integrated Test	612
<i>Hyun Chul Jo, Shiquan Piao, Hui-Sup Cho</i>	
Requirements Engineering and Management for Software Product Line	617
<i>Waraporn Jirapanthong</i>	
Characters of a Successful Project Team: Anatomy of a Capstone Software Engineering Project	624
<i>Xiaohong Wang, Daniel Wheeler, Andrew Boyd, Omar Ejaz</i>	
On Using High-level Structured Queries for Integrating Deep-web Information Sources	630
<i>Carlos R. Rivero, Rafael Z. Frantz, David Ruiz, Rafael Corchuelo</i>	
Using Degree of Impact on Software Artifacts to Define Priority for Handling Inconsistencies	637
<i>Randa Ali Numan Khaldi</i>	
Coverage-Based Test Sequences for FSM/EFSM Models	643
<i>Ali Duale, Umit Uyar</i>	
Towards a Secure Service Oriented Product Line	649
<i>Ines Achour, Sheima Khadouma, Lamia Labed, Henda Ben Ghezala</i>	

Cooperative Object-Oriented Programming in Python	656
<i>Albert Chan</i>	
Cloud Computing and Security Attributes of Cloud Architecture	660
<i>Atif F. Mohammad, Hassan Reza</i>	
Cloud Computing: Past, Current and Future	667
<i>Hamid Mcheick, Fady Obeid, Haidar Safa</i>	
Model Based Engineering of Ground Based Risk Mitigation System	673
<i>Hassan Reza, Feifei Gu, Mark Askelson</i>	
Software Maintenance Supported by Refactoring	682
<i>Gustavo Villavicencio</i>	
Towards Intermediate-Agile Model Based on Agile Through Requirement Management and Development Enhancements	686
<i>Amr Rekaby, Maha Soliman</i>	

