

# **32<sup>nd</sup> Annual IEEE International Computer Software and Applications Conference**

## **COMPSAC 2008**

**Turku, Finland  
28 July – 1 August 2008**

**Pages 1-691**



**IEEE Catalog Number: CFP08061-PRT  
ISBN: 978-1-4244-3018-5**



# Proceedings

# COMPSAC 2008

## Table of Contents

<b>Message from the Standing Committee Chair</b> .....	xxxii
<b>Message from the General Chairs</b> .....	xxxiii
<b>Message from the Program Chairs</b> .....	xxxiv
<b>Conference Organization</b> .....	xxxv
<b>Program Committee</b> .....	xxxviii
<b>Reviewers</b> .....	xl

---

### VOLUME 1 KEYNOTES

Leveraging Distributed Computing Concepts in Mobile <i>Lee Williams, Senior Vice President, Nokia, Finland</i>	
Medical Robotics and Computer-Integrated Surgery .....	1
<i>Russell H. Taylor, Johns Hopkins University, USA</i>	
Generation Y: Understanding the Trend and Planning for the Impact .....	2
<i>Jean Holley, Executive Vice President and Chief Information Officer, Tellabs, USA</i>	

## PANELS

### **Panel 1: How Well Technology Supports Software Evolution**

Moderator: *Carl K. Chang*

Panelists: *Rajesh Subramanyan, Mikio Aoyama, Tiberiu Seceleanu, and Jan Bosch*

Position Statement: How Well Technology Supports Software Evolution.....3  
*Rajesh Subramanyan*

### **Panel 2: Software Testing for Large Globally Distributed Projects**

Moderator: *Rajesh Subramanyan*

Panelist: *Juergen Kazmeier, Peter Zimmerer, Di Cao, and Sumit Kumar Popli*

Panel Description: Software Testing for Large Globally Distributed Projects.....4  
*Rajesh Subramanyan*

Position Statement: Oil-Field Services' Data Acquisition System—  
A Globally Distributed Development.....5  
*Di Cao*

### **Panel 3: Location Based Services—Back to Future**

Moderator: *Sumi Helal*

Panelist: *Axel Küpper and Elisa Bertino*

### **Panel 4: Computing Education in the Coming Decade**

Moderator: *Pradip Srimani*

Panelists: *Nancy Mead, Stephen S. Yau, and Liang-Jie Zhang*

Position Statement: The Impact of Software Assurance on Computing Education.....6  
*Nancy R. Mead*

### **Plenary Panel: 40 Years of Software Engineering**

Panel Description: 40 Years of Software Engineering .....7  
*Fevzi Belli and Cristina Seceleanu*

### **Part I: How Far Have We Come?**

Moderator: *Fevzi Belli*

Position Statement: How Far Have We Come?.....8  
*Brian Randell*

Position Statement: Advances and Challenges of Software Engineering.....9  
*Stephen S. Yau*

Position Statement  
*Jean-Claude Laprie*

Position Statement  
*Michael Fagan*

## Part II: How Far Can We Go in the Next 40 Years?

Moderator: *Cristina Seceleanu*

Position Statement: On the Evolution of Adversary Models in Computer Systems and Networks.....	10
<i>Virgil D. Gligor</i>	
Position Statement: Ceaselessly-Analyzing Development Environments, One Direction for the Next 40 Years of Software Engineering.....	11
<i>K. Rustan M. Leino</i>	

### SECURITY TRACK

#### Session 1: Security Analysis and Monitoring

A Probabilistic Attacker Model for Quantitative Verification of DoS Security Threats .....	12
<i>Stylianos Basagiannis, Panagiotis Katsaros, Andrew Pombortsis, and Nikolaos Alexiou</i>	
Embedding Rule-Based Security Monitors into Java Programs.....	20
<i>Tomi Karlstedt, Ville Leppänen, and Sanna Tuohimaa</i>	
A UML-Based Framework for Design and Analysis of Dependable Software .....	28
<i>Jun Kong and Dianxiang Xu</i>	
An Algorithmic Approach to Authorization Rules Conflict Resolution in Software Security .....	32
<i>Weider D. Yu and Ellora Nayak</i>	

### EMBEDDED SYSTEMS TRACK

#### Session 1: Software Architecture of Cyber-Physical Systems

Embedded Architecture Description Language .....	36
<i>Juncao Li, Nicholas T. Pilkington, Fei Xie, and Qiang Liu</i>	
An Open Framework for Highly Concurrent Real-Time Hardware-in-the-Loop Simulation.....	44
<i>Ryan C. Underwood, Bruce M. McMillin, and M. L. Crow</i>	
Parallel Table Lookup for Next Generation Internet.....	52
<i>Li-Che Hung and Yaw-Chung Chen</i>	

#### Session 2: Embedded Systems in Mobile Environment

A Proxy Design for Nearest-Neighbor Query Processing in Mobile Environments .....	60
<i>Hsin-Han Huang, Ching-Huey Wang, Jiun-Long Huang, and Feng-Jian Wang</i>	
Executable Semantics for Hybrid Systems—The Hybrid Low-Level Framework.....	64
<i>Stefan Bisanz, Ulrich Hannemann, and Jan Peleska</i>	

A Zone-Based Distributed Key Management Scheme for Wireless Mesh Networks .....	68
<i>Yingfang Fu, Jingsha He, Liangyu Luan, Rong Wang, and Guorui Li</i>	
Virtual Reality for 2.5 G Wireless Communication Modem Software Development .....	72
<i>Alain Pegatoquet, Filip Thoen, and Denis Paterson</i>	

## **SOFTWARE QUALITY TRACK**

### **Session 1: Software Quality Measurement, Monitoring, and Analysis**

Behavioral Dependency Measurement for Change-Proneness Prediction in UML 2.0 Design Models .....	76
<i>Ah-Rim Han, Sang-Uk Jeon, Doo-Hwan Bae, and Jang-Eui Hong</i>	
Collaborative Web Services Monitoring with Active Service Broker .....	84
<i>Xiaoying Bai, Shufang Lee, Wei-Tek Tsai, and Yinong Chen</i>	
Ontology Model-Based Static Analysis on Java Programs .....	92
<i>Lian Yu, Jun Zhou, Yue Yi, Ping Li, and Qianxiang Wang</i>	

### **Session 2: Software Non-functional Property Specification and Monitoring**

Modeling and Checking for Non-functional Attributes in Extended UML Class Diagram .....	100
<i>Yan Zhang, Yi Liu, Le Zhang, Zhiyi Ma, and Hong Mei</i>	
Pattern and Policy Driven Log Analysis for Software Monitoring.....	108
<i>Ali Razavi and Kostas Kontogiannis</i>	
A PSC-Based Approach to Monitor the Timed Properties in Web Service Compositions.....	112
<i>Pengcheng Zhang, Bixin Li, Mingjie Sun, and Xufang Gong</i>	

### **Session 3: Software Quality Improvement Technique**

Quantifying Trust Based on Service Level Agreement for Software as a Service .....	116
<i>Lin Tan, Chi-Hung Chi, and Jianming Deng</i>	
A Systematic Approach for Integrating Fault Trees into System Statecharts.....	120
<i>Omar El Ariss, Dianxiang Xu, W. Eric Wong, Yuting Chen, and Yann-Hang Lee</i>	
An Input Adjustable Tree Algorithm for Evolutionary Testing.....	124
<i>Hsin-yi Jiang, Katsunori Oyama, and Carl K. Chang</i>	

## TESTING TRACK

### Session 1: Software Fault Detection and Tracking

Debugging through Evaluation Sequences: A Controlled Experimental Study.....	128
<i>Zhenyu Zhang, Bo Jiang, W. K. Chan, and T. H. Tse</i>	
Implicit Social Network Model for Predicting and Tracking the Location of Faults.....	136
<i>Ing-Xiang Chen, Cheng-Zen Yang, Ting-Kun Lu, and Hojun Jaygarl</i>	
Superfit Combinational Elusive Bug Detection.....	144
<i>R. Barzin, S. Fukushima, W. Howden, and S. Sharifi</i>	

### Session 2: Testing Technique

Avoiding Program Failures through Safe Execution Perturbations.....	152
<i>Sriraman Tallam, Chen Tian, Rajiv Gupta, and Xiangyu Zhang</i>	
A Transformation-Based Approach to Generating Scenario-Oriented Test Cases from UML Activity Diagrams for Concurrent Applications.....	160
<i>Chang-ai Sun</i>	
Constraint Reasoning in Path-Oriented Random Testing.....	168
<i>Arnaud Gotlieb and Matthieu Petit</i>	

### Session 3: Software Testing and Re-engineering

QA/Testing Bi-directional Languages Software: Issues and Challenges.....	172
<i>Sameer Abufardeh and Kenneth Magel</i>	
Refactoring Steps, Java Refactorings and Empirical Evidence.....	176
<i>S. Counsell and S. Swift</i>	
Fault Propagation in Tabular Expression-Based Specifications.....	180
<i>Xin Feng, David Lorge Parnas, and T. H. Tse</i>	

## INFORMATICS TRACK

### Session 1: Intelligent Applications

On the Use of Fuzzy Logic in a Seller Bargaining Game.....	184
<i>Kostas Kolomvatsos, Christos Anagnostopoulos, and Stathes Hadjiefthymiades</i>	
Rule Discovery and Matching in Stock Databases.....	192
<i>You-min Ha, Sanghyun Park, Sang-Wook Kim, Jung-Im Won, and Jee-Hee Yoon</i>	
Hybrid Strategies for Attribute Relation Learning from Candidates.....	199
<i>Fu Kui, Guihua Nie, and Huimin Wang</i>	

## FORMAL METHODS TRACK

### Session 1: Formal Specification and Model Checking

Specifying Behavioural Features of Design Patterns in First Order Logic.....	203
<i>Ian Bayley and Hong Zhu</i>	
Live and Fair Constraint Automata and Their Linear Temporal Logic of Steps .....	211
<i>Sara NavidPour, Mohammad Izadi, and Ali Movaghar</i>	
Model Checking C Programs with Dynamic Memory Allocation.....	219
<i>María del Mar Gallardo, Pedro Merino, and David Sánan</i>	

### Session 2: Formal Specification and Software Verification

A Formal Approach to Developing Reliable Event-Driven Service-Oriented Systems .....	227
<i>Ramesh Bharadwaj and Supratik Mukhopadhyay</i>	
A Maximum Weight Heuristic Method for Abstract State Computation .....	231
<i>Li Li, Xiaoyu Song, Ming Gu, and Jianmin Wang</i>	
A New Temporal Logic CTL[k-QDDC] and Its Verification .....	235
<i>Jiaqi Zhu, Hanpin Wang, and Zhongyuan Xu</i>	

## REQUIREMENTS TRACK

### Session 1: Requirements Pattern, Traceability, and Specification

Modelling Requirements Patterns with a <i>Goal</i> and <i>PF</i> Integrated Analysis Approach.....	239
<i>Jingwei Yang and Lin Liu</i>	
MV - TMM: A Multi View Traceability Management Method .....	247
<i>Hamid El ghazi</i>	
So/M: A Requirements Definition Tool Using Characteristics of Existing Similar Systems .....	255
<i>Naoyuki Kitazawa, Akira Osada, Kazuyuki Kamijo, Haruhiko Kaiya, and Kenji Kaijiri</i>	

### Session 2: Process Analysis and Service Management

Two-Level Variability Analysis for Business Process with Reusability and Extensibility .....	263
<i>Mikyeong Moon, Minwoo Hong, and Keunhyuk Yeom</i>	
Software Engineering Interpretation of Information Processing Regulations .....	271
<i>Sabah S. Al-Fedaghi</i>	
A Concurrency Control Mechanism for Composite Service Supporting User-Defined Relaxed Atomicity .....	275
<i>Zongtao Zhao, Jun Wei, Li Lin, and Xiaoning Ding</i>	

# SOFTWARE AND SYSTEM EVOLUTION TRACK

## Session 1: Context-Aware Software Analysis

Towards Context Modeling for Algorithm Animation .....	279
<i>Xiao-cong Zhou, Wen-jun Li, Han-jun Xian, Tai-zong Lai, and Hui Liang</i>	
A Human-Machine Dimensional Inference Ontology that Weaves Human Intentions and Requirements of Context Awareness Systems .....	287
<i>Katsunori Oyama, Hojun Jaygarl, Jinchun Xia, Carl K. Chang, Atsushi Takeuchi, and Hiroshi Fujimoto</i>	
Facilitating Software Traceability Understanding with ENVISION .....	295
<i>Xin Zhou, Zhenzhong Huo, Yaowen Huang, and Jian Xu</i>	

## Session 2: Modularization, Composition and Reuse

Transformation of Legacy Software into Client/Server Applications through Pattern-Based Rearchitcturing .....	303
<i>Sascha Hunold, Matthias Korch, Björn Krellner, Thomas Rauber, Thomas Reichel, and Gudula Rünger</i>	
Evolution Shelf: Reusing Evolution Expertise within the Component-Based Software Architectures .....	311
<i>Olivier Le Goaer, Dalila Tamzalit, Mourad Oussalah, and Abdelhak-Djamel Seriai</i>	
Searching for Opportunities of Refactoring Sequences: Reducing the Search Space .....	319
<i>Eduardo Piveta, João Araújo, Marcelo Pimenta, Ana Moreira, Pedro Guerreiro, and R. Tom Price</i>	

## Session 3: Analysis of Software Updates

Analyzing Software Evolvability .....	327
<i>Hongyu Pei Breivold, Ivica Crnkovic, and Peter J. Eriksson</i>	
Modeling by Form Transformation for End-User Initiative Development.....	331
<i>Takeshi Chusho and Noriyuki Yagi</i>	
WiFi Radar: Design and Implementation of an Infrastructure-Less Location Tracking System for Pervasive Environment .....	335
<i>Sheikh I. Ahamed, Nilothpal Talukder, and Mehrab Monjur</i>	



## SOFTWARE ARCHITECTURE TRACK

### Session 1: Software Architecture Development and Evaluation

Ensuring Architecture Conventions in Multi-site Development.....	339
<i>Jakub Rudzki, Imed Hammouda, and Tommi Mikkonen</i>	
XQPE: A Partial Evaluation System for XQuery .....	347
<i>Hang Su and Husheng Liao</i>	
Logical Partitioning without Architectural Supports.....	355
<i>Taku Shimosawa, Hiroya Matsuba, and Yutaka Ishikawa</i>	

### Session 2: Software Architecture Specification and Analysis

An Architecture Description Language for Verification in Component-Based Software .....	365
<i>Ahcene Bouzoualegh, Dominique Marcadet, Frédéric Boulanger, and Christophe Jacquet</i>	
An Adaptive Software Architecture Model Based on Component-Mismatches Detection and Elimination .....	369
<i>Shan Tang, Xin Peng, Yiming Lau, Wenyun Zhao, and Zhixiong Jiang</i>	
Analyzing BPEL Compositionality Based on Petri Nets.....	373
<i>Guisheng Fan, Huiqun Yu, Liqiong Chen, and Dongmei Liu</i>	

### Session 3: Software Architecture Design

On the Performance of Transactional Remote Invocations over Commonly Used Transports.....	377
<i>Ivan Silva Neto and Francisco Reverbel</i>	
Dealing with the Crosscutting Structure of Software Architectural Styles.....	385
<i>Sam Malek</i>	
Extending Team Automata to Evaluate Software Architectural Design.....	393
<i>Mehran Sharafi</i>	

### Session 4: Domain Specific Software Architecture Design

Advanced Grid Programming with Components: A Biometric Identification Case Study.....	401
<i>Thomas Weigold, Peter Buhler, Jeyarajan Thiyagalingam, Artie Basukoski, and Vladimir Getov</i>	
A Cost-Effective Guarantee of Security and Scalability on HVEM DataGrid with Active Disk.....	409
<i>Im Y. Jung, In S. Cho, and Heon Y. Yeom</i>	

Defining a Strategy to Select Either of Closed/Open World Assumptions on Semantic Robots.....	417
<i>Atilla Elçi, Behnam Rahnema, and Saman Kamran</i>	

## **Session 5: Distributed and Service-Oriented Architecture**

Reflective Design for Component-Based Distributed Systems with Timing Constraints.....	424
<i>Jing Huang, Wei Zhang, Yansheng Lu, and Qin Yang</i>	
The Application of Distributed Virtual Machines for Enterprise Computer Management: A Two-Tier Network File System for Image Provisioning and Management .....	428
<i>César S. Aguiar, Daniel I. Cruz, Roberta S. Ulson, and Marcos A. Cavenaghi</i>	
FPCS: A Formal Approach for Privacy-Aware Context-Based Services.....	432
<i>Nilothpal Talukder and Sheikh Iqbal Ahamed</i>	

## **EDUCATION TRACK**

### **Session 1: Education**

Teaching Team Software Process in Graduate Courses to Increase Productivity and Improve Software Quality.....	440
<i>Bayona O. Sussy, Jose A. Calvo-Manzano, Cuevas Gonzalo, and San Feliu Tomás</i>	
Advancing Industry-Related Elements: The Meat on the Curricula Bones.....	447
<i>J. Barrie Thompson and Helen M. Edwards</i>	
An Immersion Program to Help Students Understand the Impact of Cross Cultural Differences in Software Engineering Work.....	455
<i>Nancy R. Mead, Dan Shoemaker, Antonio Drommi, and Jeff Ingalsbe</i>	
IP2 Model—Content Recommendation in Web-Based Educational Systems Using User’s Interests and Preferences and Resources’ Popularity.....	460
<i>Reginaldo A. Gotardo, Cesar A. C. Teixeira, and Sérgio D. Zorzo</i>	

## **BEST PRACTICE TRACK**

### **Session 1: Best Practice**

Automated Code Generation for Industrial-Strength Systems .....	464
<i>Thomas Weigert, Frank Weil, Aswin van den Berg, Paul Dietz, and Kevin Marth</i>	
Editable Replay of IDE-Based Repetitive Tasks.....	473
<i>Ying Zhang, Gang Huang, Nuyun Zhang, and Hong Mei</i>	
Contraindications, Precautions, Overdoses, and Adverse Reactions: What Software Engineering Can Learn from Pharmaceuticals .....	481
<i>Alan M. Davis</i>	

## FAST ABSTRACT

Utilising Located Functions to Model and Optimise Distributed Computations.....	488
<i>Stephen Crouch, Peter Henderson, and Robert John Walters</i>	
Automating Software FMEA via Formal Analysis of Dependence Relations.....	490
<i>Wei Dong, Ji Wang, Changzhi Zhao, Xian Zhang, and Jie Tian</i>	
Scenario-Based Automatic Prototype Generation .....	492
<i>Shinpei Ogata and Saeko Matsuura</i>	
AIDDES—Distributed Intelligent Pair-Software Development Environment .....	494
<i>Eustáquio São José de Faria, Keiji Yamanaka, Josimeire do Amaral Tavares, Geraldo Henrique Lacerda Pinto, and Lowghan Henrique Sudário de Melo</i>	

## DOCTORAL SYMPOSIUM

Small Steps Approach to Tackling Software Quality in a Commercial Setting .....	496
<i>Jakub Rudzki and Tarja Systä</i>	
An Optimised Runtime Reconfiguration of Component-Based Software Systems.....	499
<i>Jasminka Matevska</i>	

## WORKSHOPS

### The 3rd IEEE International Workshop on Engineering Semantic Agent Systems (ESAS 2008)

Message from the Workshop Organizers.....	502
Workshop Organization.....	503

### Session 1: Software Agents and Mobile Agents

Facilitator Agent Design Pattern of Procurement Business Systems.....	505
<i>Faiz M. Al-Shrouf</i>	
A Contract Net Model Based on Agent Active Perception .....	511
<i>Meisheng Wang, Qingshan Li, Chenguang Zhao, and Yingqiang Wang</i>	
Intelligent Software Agents Mediating the Pair Participation in a Distributed Intelligent Pair-Software Development Environment.....	517
<i>Eustáquio São José de Faria, Keiji Yamanaka, Josimeire do Amaral Tavares, Geraldo Henrique Lacerda Pinto, and Lowghan Henrique Sudário de Melo</i>	
VERSAG: Context-Aware Adaptive Mobile Agents for the Semantic Web.....	521
<i>Kutilla Gunasekera, Arkady Zaslavsky, Shonali Krishnaswamy, and Seng Wai Loke</i>	

## Session 2: Ontology for Agents & MAS

Keynote: Towards an Ontological Foundation for Evolving Agent Communities.....	523
<i>Pieter De Leenheer, Vrije Universiteit Brussel, Belgium</i>	
OTAGen: A Tunable Ontology Generator for Benchmarking Ontology-Based Agent Collaboration .....	529
<i>F. Ongenaes, S. Verstichel, F. De Turck, T. Dhaene, B. Dhoedt, and P. Demeester</i>	
An Ontology to Support Adaptive Agents for Complex Manufacturing Systems.....	531
<i>Lars Mönch and Jens Zimmermann</i>	
Fabrication of Ontology for Security in Health Care Systems .....	537
<i>J. Indumathi and G. V. Uma</i>	

## Session 3: Semantic Agent Systems

An Ontology of Environments, Events, and Happenings .....	539
<i>Vadim Ermolayev, Natalya Keberle, and Wolf-Ekkehard Matzke</i>	
Towards Engineering Ontologies for Cognitive Profiling of Agents on the Semantic Web.....	547
<i>Amna Basharat and Gabriella Spinelli</i>	
SDISSASA: A Multiagent-Based Web Mining via Semantic Access to Web Resources in Enterprise Architecture.....	553
<i>Kiavash Bahreini and Atilla Elci</i>	
The Challenges along the Road to the Realisation of a Factory Automation Lifecycle .....	559
<i>F. Ubis, T. Kirkham, B. Matthews, J. L. Martinez Lastra, R. Harrison, V. Villaseñor Herrera, and A. Chowdrey</i>	

## Session 4: Multi-agent Systems

A Multi-agent Architecture for NATO Network Enabled Capabilities: Enabling Semantic Interoperability in Dynamic Environments (NC3A RD-2376).....	563
<i>Brenda Powers</i>	
Design of Multiagent System Architecture.....	565
<i>Juan Carlos González Moreno and Luis Vázquez López</i>	
Shared Storage in J2ME: A Multi-agent System Approach .....	569
<i>Muhammad Ainan Sadiq and Syed Muhammad Ali Shah</i>	
Multi-agent Approach to Electrical Distribution Networks Control.....	575
<i>Sébastien Rumley, Elvira Kägi, Hugh Rudnick, and Alain Germond</i>	
From AUML Protocol Diagrams to Event B for the Specification and The Verification of Interaction Protocols in Multi-agent Systems .....	581
<i>Leila Jemni Ben Ayed and Fatma Siala</i>	

## **Session 5: Ambient Intelligence**

The Similarity Computing of Documents Based on VSM .....	585
<i>Qinglin Guo</i>	
Swarm Intelligence in the Optimization of Software Development Project Schedule .....	587
<i>Tad Gonsalves, Atsushi Ito, Ryo Kawabata, and Kiyoshi Itoh</i>	
A Knowledge Management Framework for Software Configuration Management .....	593
<i>Nikiforos Ploskas, Michael Berger, Jiang Zhang, and Gert-Joachim Winterle</i>	

## **The 2nd IEEE International Workshop on Requirements Engineering for Services (REFS 2008)**

Message from the Workshop Organizers .....	599
Workshop Organization .....	600

## **Session 1: Services Requirements Modelling and Specification**

**Chair:** *Colette Rolland*

Using the Friction between Business Processes and Use Cases in SOA Requirements .....	601
<i>Eric Knauss and Daniel Lübke</i>	
Service-Oriented Modeling: An Extensive Reuse Method .....	607
<i>Budan Wu and Zhi Jin</i>	
Intentional Services Specification Enhancement with Scenario-Based Techniques to Analyze Security Threats .....	613
<i>Ménel Lassoued</i>	

## **Session 2: Keynote Address**

**Chair:** *Eric Yu*

Service Oriented Software: From Requirements to Design-Time Compositions and to Run-Time Monitoring .....	
<i>Paolo Traverso</i>	

## **Session 3: Methods for Requirements Engineering for Services**

**Chair:** *Alan Davis*

A New Methodology Based on Kano Model for the Evaluation of a New Product Acceptability during the Front-End Phases .....	619
<i>Helmi Ben Rejeb, Vincent Boly, and Laure Morel-Guimaraes</i>	
Requirements Analysis Using Feedback from Context Awareness Systems .....	625
<i>Katsunori Oyama, Hojun Jaygarl, Jinchun S. Xia, Carl K. Chang, Atsushi Takeuchi, and Hiroshi Fujimoto</i>	

The Role of Service Abstraction and Service Variability and Its Impact on Requirements Engineering for Service-Oriented Systems.....	631
<i>Sebastian Adam and Joerg Doerr</i>	

## **Session 4: Incorporating RE with Services**

**Chair: Zhi Jin**

Requirements Change: What’s the Alternative?.....	635
<i>Alan M. Davis, Nur Nurmuliani, Sooyong Park, and Didar Zowghi</i>	
SCCM: Service-Oriented Community Coordinated Multimedia Architecture.....	639
<i>Jiehan Zhou, Mika Rautiainen, and Mika Ylianttila</i>	
From UML Activity Diagrams to Event B for the Specification and the Verification of Workflow Applications.....	643
<i>Ahlem Ben Younes and Leila Jemni Ben Ayed</i>	
Synthesis of Actor Dependency and Business Motivation for Service Requirements Engineering.....	649
<i>Soo Ling Lim, Eric Platon, and Karl Cox</i>	

## **Session 5: Workshop Panel**

**Chair: Lin Liu**

Requirements Engineering for Services: Future Directions <i>Panelists: Paolo Traverso, Colette Rolland, Eric Yu, Chi-hung Chi, Alan Davis, Zhi Jin, and Jian Yang</i>
--

## **The 3rd IEEE International Workshop on Security, Trust, and Privacy for Software Applications (STPSA 2008)**

<b>Message from the Workshop Organizers</b> .....	653
<b>Workshop Organization</b> .....	654

## **Session 1: Identification and Access Control**

**Chair: Mohammad Zulkernine**

Access Control Framework for Secure Network Computing Environment .....	655
<i>Manpreet Singh and Manjeet S. Patterh</i>	
Trade-Off Analysis of Identity Management Systems with an Untrusted Identity Provider.....	661
<i>Golnaz Elahi, Zeev Lieber, and Eric Yu</i>	
Using Responsibilities for Early Identification of Hot Spots Reused in Frameworks Modeling.....	667
<i>Simone N. Matos and Clovis T. Fernandes</i>	

## **Session 2: RFID and Secure Services**

Chair: *Lingyu Wang*

A Lightweight Protocol for Dynamic RFID Identification.....	673
<i>Stelvio Cimato</i>	
RED-Transaction and Goal-Model Based Analysis of Layered Security of Physical Spaces .....	679
<i>Rajiv Ramnath, Vasudha Gupta, and Jay Ramanathan</i>	
An Improved Calculus for Secure Dynamic Services Composition.....	686
<i>Dong-Hong Xu, Yong Qi, Di Hou, Gong-Zhen Wang, and Ying Chen</i>	

## **VOLUME 2**

## **Session 3: Attack Detection**

Chair: *Sheikh Iqbal Ahamed*

Preserving Privacy in E-health Systems Using Hippocratic Databases.....	692
<i>Yuan Hong, Shuo Lu, Qian Liu, Lingyu Wang, and Rachida Dssouli</i>	
Measuring Network Security Using Bayesian Network-Based Attack Graphs .....	698
<i>Marcel Frigault and Lingyu Wang</i>	
A Naive Bayes Approach for Detecting Coordinated Attacks.....	704
<i>Salem Benferhat, Tayeb Kenaza, and Aicha Mokhtari</i>	

## **The 2nd IEEE International Workshop on Quality Oriented Reuse of Software (QUORS 2008)**

Message from the Workshop Organizers .....	710
Workshop Organization .....	711

## **Keynote Address**

Chair: *Hongji Yang*

Quality Oriented Reuse of Software <i>Rajesh Subramanyan, Siemens Corporate Research, USA</i>
--

## **Session 1: MDE and Aspect**

Chair: *Xiaodong Liu, Napier University, UK*

A Requirement Tool to Support Model-Based Requirement Engineering .....	712
<i>Chih-Wei Lu, Chih-Hung Chang, William C. Chu, Ya-Wen Cheng, and Hsin-Chien Chang</i>	
Combining MDE and UML to Reverse Engineer Web-Based Legacy Systems .....	718
<i>Jianjun Pu, Hongji Yang, Baowen Xu, Lei Xu, and William Cheng-Chung Chu</i>	
A Taxonomy of Interactions Introduced by Aspects .....	726
<i>Mario Luca Bernardi and Giuseppe Antonio Di Lucca</i>	

## **Session 2: Software Performance**

Chair: *Barbara Gallina, Luxembourg University*

RUP Extension for the Software Performance .....	732
<i>Carlos Eduardo de Barros Paes and Celso Massaki Hirata</i>	

## **Session 3: Software Reuse**

Chair: *Hongji Yang, De Montfort University, UK*

A Product Line Perspective for Quality Reuse of Development Frameworks for Distributed Transactional Applications.....	739
<i>Barbara Gallina and Nicolas Guelfi</i>	
Software Reuse in Design and Development of Aspects.....	745
<i>Deepak Dahiya and Sudha Dahiya</i>	
Semantics-Based Component Repository: Current State of Arts and a Calculation Rating Factor-Based Framework.....	751
<i>Chengpu Li, Xiaodong Liu, and Jessie Kennedy</i>	

## **Session 4: Software Evolution**

Chair: *William C. Chu, Tunghai University, Taiwan*

Framework for Computer-Aided Evolution of Object-Oriented Designs.....	757
<i>Selim Ciraci, Pim van den Broek, and Mehmet Aksit</i>	
Business Intelligence Recovery from Legacy Code .....	765
<i>Jian Kang, Jianjun Pu, Jianchu Huang, and Hongji Yang</i>	
Delay Front and Skip Interval—Assessing Open Source Software Maintenance of System Vendors and Computer Centers.....	771
<i>Hiroiyuki Sato</i>	

# **The 1st IEEE International Workshop on Barriers Towards Internet-Driven Information Services (BINDIS 2008)**

Message from the Workshop Organizers .....	777
Workshop Organization .....	778

## **Session 1: Service Engineering**

Chair: *Sandeep Karamongikar*

Object Oriented Design Based on Role and Rule.....	779
<i>Qing Wang, Yong Zhang, and Chunxiao Xing</i>	
Reengineering Legacy Systems with RESTful Web Services.....	785
<i>Yan Liu, Qingling Wang, Mingguang Zhuang, and Yunyun Zhu</i>	
Challenges of Building High Performing On-Demand Software .....	791
<i>Ashutosh Shinde</i>	



## **Session 2: Service Marketing and Interoperability**

Chair: *Chunxiao Xing*

Entropy-Based Age Estimation of Blog Authors.....	795
<i>Masataka Izumi, Takao Miura, and Isamu Shioya</i>	
Semantic-Oriented Ubiquitous Learning Object Management System SULOMS .....	801
<i>Lili Su, Shenggang Yang, Yushun Li, Xiaochun Cheng, and Ronghuai Huang</i>	

## **Session 3: Service Innovation**

Chair: *Yong Zhang*

Service Productivity Improvement and Software Technology Support.....	807
<i>Yang Li</i>	
Digital Library—Information and Knowledge Services in China (Invited Talk)	
<i>Chunxiao Xing, Tsinghua University, China</i>	
Innovation in IT Services for the Flat World (Invited Talk)	
<i>Sandeep Karamongikar, Infosys Technologies, India</i>	

## **Session 4: Panel Discussions**

### **The 5th IEEE International Workshop on Software Cybernetics: Control Approaches for Software Engineering (IWSC 2008)**

Message from the Workshop Organizers.....	813
Workshop Organization .....	814
Keynote: Hierarchical Fault Detection in Embedded Control Software.....	816
<i>C. Zhou, R. Kumar, and S. Jiang</i>	

## **Session 1: Process**

Chair: *Ron Kenett*

An Intelligent Control Architecture for Adaptive Service-Based Software Systems with Workflow Patterns.....	824
<i>Chang-Hai Jiang, Hai Hu, Kai-Yuan Cai, Dazhi Huang, and Stephen S. Yau</i>	
Quantitative Modeling for Incremental Software Process Control.....	830
<i>Scott D. Miller, Raymond A. DeCarlo, and Aditya P. Mathur</i>	
Decision Support for User Interface Design: Usability Diagnosis by Time Analysis of the User Activity .....	836
<i>Avi Harel, Ron S. Kenett, and Fabrizio Ruggeri</i>	

## **Session 2: Testing**

Chair: *Fevzi Belli*

Performance Analysis of Concurrent Programs Using Ordinary Differential Equations .....	841
<i>Zuohua Ding and Kao Zhang</i>	
Testing Optimization for Mission-Critical, Complex, Distributed Systems .....	847
<i>Marek G. Stochel and Radek Sztando</i>	
Adaptive Software Testing in the Context of an Improved Controlled Markov Chain Model .....	853
<i>Hai Hu, Chang-Hai Jiang, and Kai-Yuan Cai</i>	

## **Session 3: Panel**

Control Approaches for Software Engineering

Chair: *Kai-Yuan Cai, Beijing University of Aeronautics and Astronautics, China*

Panelists: *Fevzi Belli, University of Paderborn, Germany*

*William Chu, TungHai University, Taiwan*

*Ratnesh Kumar, Iowa State University, USA*

*Qianxiang Wang, Peking University, China*

# **The 1st IEEE International Workshop on Engineering Open Complex Systems: Metasynthesis of Computing Paradigms (EOCS-MCP 2008)**

Message from the Workshop Organizers .....	859
Workshop Organization .....	860

## **Invited Speech**

The Development of Meta-synthetic Engineering

*Ruwei Dai*

## **Session 1: Methodologies of Meta-synthetic Computing**

Chair: *Ferenc Szidarovszky*

Paradigms of Meta-synthetic Computing .....	862
<i>Yaodong Li, Xia Cui, and Ruwei Dai</i>	
Meta-synthetic Computing Formula of Situation Assessment in Social Interactions .....	868
<i>Xia Cui and Ruwei Dai</i>	

## **Session 2: Integration of Computing Paradigms**

Chair: *Yaodong Li*

Towards Four-Layer Framework of Combinatorial Problems .....	873
<i>Mark Sh. Levin</i>	

Design More Usable and Reliable Large-Scale Software Systems: A New Approach Based on P2P, SOA and Web 2.0.....	879
<i>Jinlei Jiang, Johann Schlichter, and Guangwen Yang</i>	
An Effective Communication Platform Based on XMPP for HWME.....	885
<i>Gang Cheng, Ruwei Dai, Mingchang Zhao, and Yaodong Li</i>	
A Dynamic Model and Simulation of Industrial Clusters.....	890
<i>Jijun Zhao and Ferenc Szidarovszky</i>	

### **Session 3: Software Engineering of Open Complex Systems**

**Chair: Ruwei Dai**

Metasynthetic Computing for Solving Open Complex Problems.....	896
<i>Longbing Cao</i>	
A New Software Architecture for J2EE Enterprise Environments via Semantic Access to Web Sources for Web Mining by Distributed Intelligent Software Agents .....	902
<i>Kiavash Bahreini and Atilla Elci</i>	
Modern Distance Education: A Special Open Complex Giant System .....	908
<i>Hui Li, Zhen Li, and Xia Cui</i>	

### **Session 4: Implementation and Applications of Metasynthetic Computing**

**Chair: Atilla Elçi**

An Opinions Expression and Induction System of Experts in Hall for Workshop of Meta-synthetic Engineering .....	913
<i>Yanyan Chai, Lei Fan, Yaodong Li, and Mingchang Zhao</i>	
A Novel Scheme Producing and Evaluation System in HWME .....	918
<i>Minhua Li, Ruwei Dai, and Yaodong Li</i>	
News Analysis Based on Meta-synthesis Approach.....	923
<i>Wei Wang, Xia Cui, and Ai Wang</i>	
Extracting Social Network among Various Entities from Chinese News Stories by Content Analysis.....	929
<i>Weijie Yang, Ruwei Dai, and Xia Cui</i>	

# **The 2nd IEEE International Workshop on Security in Software Engineering (IWSSE 2008)**

Message from the Workshop Organizers .....	935
Workshop Organization .....	936

## **Session 1: Security in Software Engineering— Requirements and Modeling**

Chair: *Mohammad Zulkernine*

On the Adequacy of Statecharts as a Source of Tests for Cryptographic Protocols .....	937
<i>K. R. Jayaram and Aditya P. Mathur</i>	
A QoS and Security Adaptation Model for Autonomic Pervasive Systems .....	943
<i>Mourad Alia and Marc Lacoste</i>	
Incorporating Security Requirements Engineering into the Dynamic Systems Development Method .....	949
<i>Nancy R. Mead, Venkatesh Viswanathan, and Deepa Padmanabhan</i>	
Quantifying Security in Secure Software Development Phases .....	955
<i>Muhammad Umair Ahmed Khan and Mohammad Zulkernine</i>	

## **Session 2: Security in Software Engineering— Detection and Protection**

Chair: *Judy Fu*

A System to Prevent Multi-users and Multi-sessions Attack to Breach Privacy Policies in a Trust-End Filter .....	961
<i>Gerardo Canfora and Corrado Aaron Visaggio</i>	
Botnet Research Survey .....	967
<i>Zhaosheng Zhu, Guohan Lu, Yan Chen, Zhi Judy Fu, Phil Roberts, and Keesook Han</i>	
Information Security of Remote File Transfers with Mobile Devices .....	973
<i>Sami Noponen and Kaarina Karppinen</i>	
Mutation-Based Testing of Buffer Overflow Vulnerabilities .....	979
<i>Hossain Shahriar and Mohammad Zulkernine</i>	

## **The 1st IEEE International Workshop on Semantics for Business Process Management (SemBPM 2008)**

Message from the Workshop Organizers.....	985
Workshop Organization.....	986

### **Session 1: Semantics**

Semantic Enterprise Description for the Needs of Business Process Automation.....	987
<i>Agata Filipowska, Monika Kaczmarek, Monika Starzecka, Piotr Stolarski, and Adam Walczak</i>	
Semantic QoS Model for Extended IOPE Matching and Composition of Web Services.....	993
<i>Duygu Çelik and Atilla Elçi</i>	
A Temporal Semantics for Workflow Control Patterns.....	999
<i>Denis Gagné and André Trudel</i>	

### **Session 2: Process Management**

Putting Business into Business Process Models.....	1005
<i>Ken Decreus and Geert Poels</i>	
A Meta Modeling Framework for Domain Specific Process Management.....	1011
<i>Stefan Jablonski, Bernhard Volz, and Sebastian Dornstauder</i>	
An Approach for Matching Functional Business Requirements to Standard Application Software Packages via Ontology.....	1017
<i>Rolf Kluge, Thomas Hering, Roman Belter, and Bogdan Franczyk</i>	

### **Session 3: Technology**

How to Enhance UDDI with Dependability Capabilities.....	1023
<i>Anatoliy Gorbenko, Alexander Romanovsky, and Vyacheslav Kharchenko</i>	
Towards Distributed Management of Service-Oriented Computing Infrastructures.....	1029
<i>Roman Belter and Rolf Kluge</i>	

## **The 2nd IEEE International Workshop on Software Engineering Challenges in Automotive Domain (SECAD 2008)**

Message from the Workshop Organizers.....	1035
Workshop Organization.....	1036

### **Keynote**

The Role of Process Standards in Automotive Systems Development.....	1037
<i>Alec Dorling, Impronova AB</i>	

## **Session 1: Overview and Trends**

**Chair:** *Risto Nevalainen, FISMA, Finland*

Software Engineering in the European Automotive Industry: Achievements and Challenges.....	1039
<i>Fabrizio Fabbri, Mario Fusani, Giuseppe Lami, and Edoardo Sivera</i>	
From CMMI to SPICE—Experiences on How to Survive a SPICE Assessment Having Already Implemented CMMI.....	1045
<i>Bhaskar Vanamali, Fabio Bella, and Klaus Hörmann</i>	
Safety in Automotive Software: An Overview of Current Practices .....	1053
<i>Paolo Panaroni, Giovanni Sartori, Fabrizio Fabbri, Mario Fusani, and Giuseppe Lami</i>	
Service-Oriented Modelling of Automotive Systems.....	1059
<i>Laura Bocchi, José Luiz Fiadeiro, and Antónia Lopes</i>	

## **Session 2: Innovation and Experience**

**Chair:** *Bhaskar Vanamali, KUGLER MAAG CIE, Germany*

Configuration and Change Management of the Outcomes of an Automotive Engine Control Model Based Software Design Process.....	1065
<i>Stefano Monti, Walter Nesci, Serino Angellotti, Claudio Schellino, Massimo Seminara, and Rainer Wuestenhagen</i>	
Visual Configuration in Automotive Software Product Lines.....	1070
<i>Goetz Botterweck, Steffen Thiel, Ciarán Cawley, Daren Nestor, and André Preußner</i>	
Security Policy Enforcement in the OSGi Framework Using Aspect-Oriented Programming .....	1076
<i>Phu H. Phung and David Sands</i>	
Control IP's Sharing: From Configurable Mechatronic Control to Autosar SW-C Package. A New Model Business Scenario across Automotive OEMs and Component Supplier and the New Roles of SW IP's Supplier and SW IP's Integrator .....	1083
<i>Serino Angellotti, Stefano Monti, Walter Nesci, Alessandro Peciarolo, Giovanni Prodi, Claudio Schellino, Massimo Seminara, and Rainer Wuestenhagen</i>	

**The 1st IEEE International Workshop on  
Model-Driven Development  
of Autonomic Systems (MDDAS 2008)**

Message from the Workshop Organizers .....	1089
Workshop Organization .....	1090

**Session 1: Models and Methods**

Chair: *Sven van der Meer*

Metamodeling Autonomic System Management Policies—Ongoing Works.....	1091
<i>Benoît Combemale, Laurent Broto, Alain Tchana, and Daniel Hagimont</i>	
A Context-Aware Policy Model to Support Autonomic Networking.....	1097
<i>John Strassner, Yan Liu, and Jing Zhang</i>	
Semantic Integration of User Data—Models and Processes Enabling Seamless Mobility .....	1103
<i>Ray Carroll and Sven van der Meer</i>	

**Session 2: Architectures and Applications**

Chair: *John Strassner*

Model-Driven Engineering for Autonomic Provisioned Systems .....	1110
<i>Bogdan Solomon, Dan Ionescu, Marin Litoiu, and Mircea Mihaescu</i>	
Enabling Dynamic Co-evolution of Models and Runtime Applications .....	1116
<i>Prawee Sriplakich, Guillaume Waignier, and Anne-Françoise Le Meur</i>	
Design Methodology for a Modular Component Based Software Architecture .....	1122
<i>Michael Caragiozidis, Nikos Mouratidis, Christoforos Kavadias, Michael Loupis, and Michael Berger</i>	
An Enhanced Autonomic Multiclass Multithreaded Web Server: A Performance Model Approach.....	1128
<i>Ali Doostmohammadi</i>	

**The 1st IEEE International Workshop on  
Real-Time Service-Oriented Architecture  
and Applications (RTSOAA 2008)**

Message from the Workshop Organizers .....	1134
Workshop Organization .....	1135

**Session 1: Infrastructure**

Chair: *Fevzi Belli*

Predicting Performance on a Loosely Controlled Event System.....	1136
<i>S. Rooney and L. Garcés-Erice</i>	

Towards Real-Time Data Transformation Services over Grids..... 1143  
*Alfredo Cuzzocrea*

A Functional Data Service Framework for Integrating Heterogeneous Data Sources..... 1150  
*Zhan Cui, Nick Godwin, Kuo-Ming Chao, Jen-Yao Chung, and Chen-Fang Tsai*

## **Session 2: Methodology**

**Chair: I-Ling Yen**

Matching Service Requirements to Empirical Capability Models  
in Service-Oriented Architectures ..... 1156  
*Juha Savolainen and Anssi Karhinen*

Application Generation Framework for Real-Time Complex Event Processing..... 1162  
*Yonit Magid, Asaf Adi, Maya Barnea, David Botzer, and Ella Rabinovich*

Event-Driven Modeling and Testing of Web-Services..... 1168  
*Fevzi Belli and Michael Linschulte*

## **Session 3: Model**

**Chair: Alfredo Cuzzocrea**

Service Composition for Real-Time Assurance ..... 1174  
*Tong Gao, Hachem Moussa, I-Ling Yen, Farokh Bastani, and Jun-Jang Jeng*

WS-TemporalPolicy: A WS-Policy Extension for Describing Service Properties  
with Time Constraints ..... 1180  
*Markus Mathes, Steffen Heinzl, and Bernd Freisleben*

A Verification Method for Temporal Consistency of Service Flow..... 1187  
*Rujuan Liu, Guilan Dai, Changjun Hu, ChongChong Zhao*

## **Session 4: Application**

**Chair: Kuo-Ming Chao**

A Model-Based Approach to Implementing Real-Time Mobile Services..... 1193  
*Michael Jiang, Zhihui Yang, and Anant Athale*

Real-Time Service-Oriented Architectures to Support Remote Critical Care:  
Trends and Challenges..... 1199  
*Carolyn McGregor and J. Mikael Eklund*

PACTS: A Service Oriented Architecture for Real-Time Peer-Assisted Content  
Delivery Service ..... 1205  
*Zhenghua Fu, Chai Wah Wu, Jun-Jang Jeng, and Hui Lei*



# The 1st IEEE International Workshop on Quality and Architectural Concerns in Open Source Software (QACOS 2008)

Message from the Workshop Organizers .....	1211
Workshop Organization .....	1212

## Session 1: Product and Process Models for Using Open Source Software

Chair: *Bjorn Lundell, University of Skovde, Sweden*

Towards a Process Maturity Model for Open Source Software .....	1213
<i>Marcus Ciolkowski and Martín Soto</i>	
A Model of Open Source Software-Based Product Line Development.....	1215
<i>Faheem Ahmed, Luiz Fernando Capretz, and Muhammad Ali Babar</i>	
Managing Libre Software Distributions under a Product Line Approach .....	1221
<i>Israel Herraiz, Gregorio Robles, Rafael Capilla, and Jesus M. Gonzalez-Barahona</i>	

## Session 2: Software Architecture and Open Source Software

Chair: *Faheem Ahmed, United Arab Emirates University, Abu Dhabi, UAE*

Architectural Issues in Opening Up the Advantages of Open Source in Product Development Companies .....	1226
<i>Christian Lennerholt, Brian Lings, and Björn Lundell</i>	
OntoArch Approach for Reliability-Aware Software Architecture Development.....	1228
<i>Jiehan Zhou, Eila Niemelä, Antti Evesti, Anne Immonen, and Pekka Savolainen</i>	
Software Architecture Relevance in Open Source Software Evolution: A Case Study.....	1234
<i>Elisa Yumi Nakagawa, Elaine Parros Machado de Sousa, Kiyoshi de Brito Murata, Gabriel de Faria Andery, Leonardo Bitencourt Morelli, and José Carlos Maldonado</i>	

## Session 3: Software Quality and Open Source Software

Chair: *Marcus Ciolkowski, Fraunhofer IESE, Kaiserslautern, Germany*

Improving the Quality of GNU/Linux Distributions .....	1240
<i>Jaap Boender, Roberto Di Cosmo, Jérôme Vouillon, Berke Durak, and Fabio Mancinelli</i>	
Applied Quality Assurance Methods under the Open Source Development Model.....	1247
<i>Tobias Otte, Robert Moreton, and Heinz D. Knoell</i>	

## Session 4: Working Session

**The 1st IEEE International Workshop on  
Software Engineering for Context-Aware Systems  
and Applications (SECASA 2008)**

Workshop Organization ..... 1253

**Session 1: Context-Aware Applications and Software**

Keynote: The Automatic Generation of Context-aware Documents  
*William W. Wadge, University of Victoria, Canada*

uNavi: Implementation and Deployment of a Place-Based Pedestrian  
Navigation System..... 1254  
*Masahiro Bessho, Shinsuke Kobayashi, Noboru Koshizuka,  
and Ken Sakamura*

Designing Simulated Context-Aware Telephone in Pervasive Spaces..... 1260  
*Qi Yong, Zhang Qinsheng, He Hui, and Niu Yujie*

**Session 2: Languages for Context-Aware Systems**

Sequential Demand-Driven Evaluation of Eager TransLucid ..... 1266  
*John Plaice, Blanca Mancilla, Gabriel Ditu, and William W. Wadge*

A Multithreaded Implementation for TransLucid..... 1272  
*Toby Rahilly and John Plaice*

Design and Implementation of Context Calculus in the GIPSY Environment ..... 1278  
*Joey Paquet, Serguei A. Mokhov, and Xin Tong*

**Session 3: Context-Aware Communities**

Synchronous Communities ..... 1284  
*John Plaice and Blanca Mancilla*

Towards Syntax and Semantics of Hierarchical Contexts in Multimedia  
Processing Applications Using MARFL ..... 1288  
*Serguei A. Mokhov*

# The 1st IEEE International Workshop on Component-Based Design of Resource-Constrained Systems (CORCS 2008)

Message from the Workshop Organizers .....	1295
Workshop Organization .....	1296

## Session 1: Component Modeling and Dependability

Chair: *Cristina Seceleanu, Mälardalen University, Sweden*

Valentine: A Dynamic and Adaptive Operating System for Wireless Sensor Networks.....	1297
<i>Natasha Hoang, Nicolas Belloir, Cong-Duc Pham, and Séverine Sentilles</i>	
A Component-Based Model and Language for Wireless Sensor Network Applications.....	1303
<i>Alan Dearle, Dharini Balasubramanian, Jonathan Lewis, and Ron Morrison</i>	
Error Modeling in Dependable Component-Based Systems .....	1309
<i>Hüseyin Aysan, Sasikumar Punnekkat, and Radu Dobrin</i>	

## Session 2: Resource-Oriented Embedded Systems Modeling and Analysis

Chair: *Paul Pettersson, Mälardalen University, Sweden*

A (Re)Configuration Mechanism for Resource-Constrained Embedded Systems .....	1315
<i>Yu Guo, Krzysztof Sierszecki, and Christo Angelov</i>	
Embedded Systems Resources: Views on Modeling and Analysis .....	1321
<i>Aneta Vulgarakis and Cristina Seceleanu</i>	
A Resource-Oriented Static Analysis Approach to Adaptable Java Applications.....	1329
<i>M. Autili, P. Di Benedetto, P. Inverardi, and Fabio Mancinelli</i>	

## Session 3: Design and Validation Techniques for Real-Time Systems

Chair: *Hans Hansson, Mälardalen University, Sweden*

Validation of Temporal Simulation Models of Complex Real-Time Systems .....	1335
<i>Farhang Nemat, Johan Kraft, and Christer Norström</i>	
Joint SW/HW Modelling and Design Exploration Using P-WARE .....	1341
<i>Ismail Assayad</i>	
An Overrun Method to Support Composition of Semi-independent Real-Time Components.....	1347
<i>Moris Behnam, Insik Shin, Thomas Nolte, and Mikael Nolin</i>	

# The 1st IEEE International Workshop on Industrial Experience in Embedded System Design (IEESD 2008)

Message from the Workshop Organizers .....	1353
Workshop Organization .....	1354

## Session 1: Systems and Tools

Simulation of Process Control with WirelessHART Networks Subject to Clock Drift.....	1355
<i>Mauro De Biasi, Carlo Snickars, Krister Landernäs, and Alf Isaksson</i>	
Dynamically Optimized Production Planning Using Cross-Layer SOA .....	1361
<i>Domnic Savio, Stamatis Karnouskos, Daniel Wuwer, and Thomas Bangemann</i>	
The On-Board Control Procedures Subsystem for the Herschel and Planck Satellites .....	1366
<i>Massimo Ferraguto, Tim Wittrock, Mark Barrenscheen, Matti Paakko, and Ville Sipinen</i>	

## Session 2: Models and Development

Model Driven Development Challenges in the Automation Domain .....	1372
<i>Detlef Streitferdt, Georg Wendt, Philipp Nenninger, Alexander Nyßen, and Horst Lichter</i>	
MeDUSA—A Model-Based Construction Method for Embedded and Real-Time Software.....	1376
<i>Alexander Nyßen, Horst Lichter, Detlef Streitferdt, and Philipp Nenninger</i>	
Implementing Program Model with Agile Principles in a Large Software Development Organization .....	1383
<i>Maarit Laanti</i>	

## Author Index