

2010 36th EUROMICRO Conference on Software Engineering and Advanced Applications

(SEAA 2010)

**Lille, France
1 – 3 September 2010**



**IEEE Catalog Number: CFP1092A-PRT
ISBN: 978-1-4244-7901-6**

2010 36th EUROMICRO Conference on Software Engineering and Advanced Applications

SEAA 2010

Table of Contents

Message from the General Chairs.....	x
Message from the Program Chair.....	xi
Organising Committee.....	xii
Program Committee and Reviewers.....	xiii
Steering Committee.....	xvii

MOCS Session 1: Services and Software Quality

Systematic XACML Request Generation for Testing Purposes	3
<i>Antonia Bertolino, Francesca Lonetti, and Eda Marchetti</i>	
Using the UML Testing Profile for Enterprise Service Choreographies	12
<i>Alin Stefanescu, Marc-Florian Wendland, and Sebastian Wieczorek</i>	
Analyzing the Architectural Support of Usability	20
<i>Bettina Biel and Volker Gruhn</i>	

MOCS Session 2: Extra-functional Properties—Modeling and Analysis

The Performance Cockpit Approach: A Framework For Systematic Performance Evaluations	31
<i>Dennis Westermann, Jens Happe, Michael Hauck, and Christian Heupel</i>	
Fuzzy Reliability Model for Component-Based Software Systems	39
<i>Aleksandar Dimov and Sasikumar Punnekkat</i>	
Ontology-Based Model Driven Engineering for Safety Verification	47
<i>Konstantinos Mokos, George Meditskos, Panagiotis Katsaros, Nick Bassiliades, and Vangelis Vasiliades</i>	

MOCS Session 3: Domain-Specific Modeling

A Component Model for On-board Software Applications	57
<i>Marco Panunzio and Tullio Vardanega</i>	
Improving Design of Ground Control Station for Unmanned Aerial Vehicle: Borrowing from Design Patterns	65
<i>Mladen Jovanović, Dušan Starčević, and Zoran Jovanović</i>	
Deployment Modelling and Synthesis in a Component Model for Distributed Embedded Systems	74
<i>Jan Carlson, Juraj Feljan, Jukka Mäki-Turja, and Mikael Sjödín</i>	

MOCS Session 4: Component Composition

Constructing Component-Based Systems Directly from Requirements Using Incremental Composition	85
<i>Kung-Kiu Lau, Azlin Nordin, Tauseef Rana, and Faris Taweel</i>	
Automatic Component Protocol Generation and Verification of Components	94
<i>Andreas Both and Dirk Richter</i>	
A Taxonomy of Software Composition Mechanisms	102
<i>Kung-Kiu Lau and Tauseef Rana</i>	

MOCS Short Papers 5-1

Integrating Behavioral Descriptions into a Component Model for Embedded Systems	113
<i>Aneta Vulgarakis, Séverine Sentilles, Jan Carlson, and Cristina Seceleanu</i>	
Adapting Component Behaviours Using Interface Automata	119
<i>Samir Chouali, Sebti Mouelhi, and Hassan Mountassir</i>	
Integration of Heterogeneous Context Resources in Ubiquitous Environments	123
<i>Daniel Romero, Romain Rouvoy, Lionel Seinturier, and Frédéric Loiret</i>	
A Path Supervision Framework—A Key for Service Monitoring in Infrastructure as a Service (IaaS) Platforms	127
<i>Thomas Voith, Karsten Oberle, Manuel Stein, Eduardo Oliveros, Georgina Gallizo, and Roland Kübert</i>	
An Executable Design Decision Representation Using Model Transformations	131
<i>Matthias Biehl and Martin Törngren</i>	

MOCS Short Paper 5-2

SimpleBPEL: Simplified Modeling of BPEL Workflows for Scientific End Users	137
<i>Ernst Juhnke, Tim Dörnemann, Sebastian Kirch, Dominik Seiler, and Bernd Freisleben</i>	
Automating Software Product Line Development: A Repository-Based Approach	141
<i>Sindolfo Miranda Filho, Heitor Mariano, Uirá Kulesza, and Thais Batista</i>	

MOCS Session 6: Applying Model Driven Engineering

RT-D&C: Deployment Specification of Real-Time Component-Based Applications	147
<i>Patricia López Martínez, César Cuevas, and José M. Drake</i>	
The UML «include» Relationship and the Functional Refinement of Use Cases	156
<i>Sofia Azevedo, Ricardo J. Machado, Alexandre Bragança, and Hugo Ribeiro</i>	
Designing and Applying a Framework for Logic-Based Model Querying	164
<i>Patrick Dohrmann and Sebastian Herold</i>	

MOCS Session 7: Applying SOA Principles

A Template for SOA Design Decision Making in an Educational Setting	175
<i>Qing Gu, Patricia Lago, and Hans van Vliet</i>	
Automated Deployment of a Heterogeneous Service-Oriented System	183
<i>Sander van der Burg and Eelco Dolstra</i>	
Integrating IoT and IoS with a Component-Based Approach	191
<i>Grégory Nain, Francois Fouquet, Brice Morin, Olivier Barais, and Jean-Marc Jézéquel</i>	
A Profile-Driven Environment for Modeling and Analyzing Context-Aware Software Services	199
<i>Luca Berardinelli, Vittorio Cortellessa, and Antiniscia Di Marco</i>	

Self-Adaptation (EDISON + MOCS + ITQA)

SAFDIS: A Framework to Bring Self-Adaptability to Service-Based Distributed Applications	211
<i>Guillaume Gauvrit, Erwan Daubert, and Françoise André</i>	
Inherent Network Management: Support for Traffic Engineering and CAPEX Analysis in Future Internet Scenarios	219
<i>Gerhard Haflinger, Giorgio Nunzi, Catalin Meirosu, Changpeng Fan, and Frank-Uwe Andersen</i>	
SAASHA: A Self-Adaptable Agent System for Home Automation	227
<i>Fady Hamoui, Christelle Urtado, Sylvain Vauttier, and Marianne Huchard</i>	
Components and Aspects Composition Planning for Ubiquitous Adaptive Services	231
<i>Mourad Alia, Mikaël Beauvois, Yann Davin, Romain Rouvoy, and Frank Eliassen</i>	

SPPI 1: Process Management

Choosing an Open Source Software License in Commercial Context: A Managerial Perspective	237
<i>Juho Lindman, Anna Paajanen, and Matti Rossi</i>	
A Reference Framework for Utilization of Software Operation Knowledge	245
<i>Henk van der Schuur, Slinger Jansen, and Sjaak Brinkkemper</i>	
Utilizing GQM+Strategies for an Organization-Wide Earned Value Analysis	255
<i>Vladimir Mandić, Victor Basili, Markku Oivo, Lasse Harjumaa, and Jouni Markkula</i>	

SPPI 2: Product Improvement

Managing Quality Requirements: A Systematic Review	261
<i>Richard Bertsson Svensson, Martin Höst, and Björn Regnell</i>	
Analysis of the Business Effects of Software Architecture Refactoring in an Automotive Development Organization	269
<i>Sara Dersten, Joakim Fröberg, Jakob Axelsson, and Rikard Land</i>	
Systematic Construction of Goal Indicator Trees for Indicator-Based Dependability Inspections	279
<i>Johannes Kloos, Frank Elberzhager, and Robert Eschbach</i>	
An Analysis of the 'Inconclusive' Change Report Category in OSS Assisted by a Program Slicing Metric	283
<i>S. Counsell, T. Hall, E. Nasser, and D. Bowes</i>	

SPPI 3: Process Improvement

A Revelatory Case Study on Scaling Agile Release Planning	289
<i>Ville Heikkilä, Kristian Rautiainen, and Slinger Jansen</i>	
Towards an Approach to Support Software Process Simulation in Small and Medium Enterprises	297
<i>Reinaldo Cabral Silva Filho and Ana Regina Cavalcanti da Rocha</i>	
Size and Complexity Attributes for Multimodel Improvement Framework Taxonomy	306
<i>Andre L. Ferreira, Ricardo J. Machado, and Mark C. Paulk</i>	

SPPI 4: Methods

Foundations for Event-Based Process Analysis in Heterogeneous Software Engineering Environments	313
<i>Wikan Danar Sunindyo, Thomas Moser, Dietmar Winkler, and Stefan Biffel</i>	
AI-Based Models for Software Effort Estimation	323
<i>Ekrem Kocaguneli, Ayse Tosun, and Ayse Bener</i>	
Application of Collaborative Scenarios in a Process-Based Industrial Environment	327
<i>Harald Klein, Andreas Rausch, Martin Künzle, and Edward Fischer</i>	

Software Management 1

The Impact of Model Driven Development on the Software Architecture Process	333
<i>Werner Heijstek and Michel R.V. Chaudron</i>	
Evaluating a Taxonomy of Handover Activities in One Swedish Company	342
<i>Mira Kajko-Mattsson, Ahmad Salman Khan, and Tommy Tyrberg</i>	
Investigating Tabu Search for Web Effort Estimation	350
<i>F. Ferrucci, C. Gravino, R. Oliveto, F. Sarro, and E. Mendes</i>	

Software Management 2

Prioritization of Issues and Requirements by Cumulative Voting: A Compositional Data Analysis Framework	361
<i>Panagiota Chatzipetrou, Lefteris Angelis, Per Rovegård, and Claes Wohlin</i>	
A Clustering Based Functional Similarity Measurement Approach	371
<i>Burak Usgurlu, Özden Özcan Top, Erdir Ungan, and Onur Demirörs</i>	
Exploring the Sources of Waste in Kanban Software Development Projects	376
<i>Marko Ikonen, Petri Kettunen, Nilay Oza, and Pekka Abrahamsson</i>	

Next Generation Web Computing

Concept, Implementation and Evaluation of a Web-Based Software Cockpit	385
<i>Rudolf Ramler, Wolfgang Beer, Claus Klammer, Klaus Wolfmaier, and Stefan Larndorfer</i>	
Simplifying Interactive Programming with Keywords ‘that’ and ‘those’	393
<i>Antero Taivalsaari and Tommi Mikkonen</i>	
An Empirical Evaluation of the Quality of Interoperability Specifications for the Web	398
<i>Jan Gottschick and Hannes Restel</i>	

Dependable Systems

Testing for Dependable Embedded Software	409
<i>Francesca Saglietti</i>	
A Developer-Oriented View of Component-Based Embedded Systems	417
<i>Manel Fredj, Ansgar Radermacher, Sebastien Gerard, and François Terrier</i>	
Adaption of MathWorks Real-Time Workshop for an Unsupported Embedded Platform	425
<i>Øyvind Netland and Amund Skavhaug</i>	
A Load Balancing Approach for Silicon Retina Based Asynchronous Temporal Data Processing	431
<i>Christoph Sulzbachner and Jürgen Kogler</i>	

Open Source

Quality Models for Free/Libre Open Source Software—Towards the “Silver Bullet”?	439
<i>Ruediger Glott, Arne-Kristian Groven, Kirsten Haaland, and Anna Tannenberg</i>	
Finding the Core Developers	447
<i>Jaco Geldenhuys</i>	
Open Source Software in Tunisian Software Business: An Empirical Study	451
<i>Imed Hammouda</i>	

Author Index	455
---------------------------	-----