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
  Antonio Bertolino, Francesca Lonetti, and Eda Marchetti
Using the UML Testing Profile for Enterprise Service Choreographies ...................... 12
  Alin Stefanescu, Marc-Florian Wendland, and Sebastian Wieczorek
Analyzing the Architectural Support of Usability ............................................... 20
  Bettina Bie1 and Volker Gruhn

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

The Performance Cockpit Approach: A Framework For Systematic Performance Evaluations ......................................................... 31
  Dennis Westermann, Jens Happe, Michael Hauck, and Christian Heupel
Fuzzy Reliability Model for Component-Based Software Systems .......................... 39
  Aleksandar Dimov and Satikumar Punnekkat
Ontology-Based Model Driven Engineering for Safety Verification ......................... 47
  Konstantinos Mokas, George Meditskos, Panagiotis Katsaras, Nick Bassiliades,
  and Vangelis Vasiliades
MOCS Session 3: Domain-Specific Modeling

A Component Model for On-board Software Applications ................................................................. 57
Marco Pammolli and Tullio Vardanega

Improving Design of Ground Control Station for Unmanned Aerial Vehicle: Borrowing from Design Patterns ................................................................. 65
Mladen Jovanovic, Dušan Starčević, and Zoran Jovanović

Deployment Modelling and Synthesis in a Component Model for Distributed Embedded Systems ................................................................. 74
Jan Carlson, Juraj Felian, Jukka Mäki-Turja, and Mikael Sjödin

MOCS Session 4: Component Composition

Constructing Component-Based Systems Directly from Requirements Using Incremental Composition ................................................................. 85
Kung-Kiu Lau, Azlin Nordin, Tauseef Rana, and Faris Taweel

Automatic Component Protocol Generation and Verification of Components ................................................................. 94
Andreas Both and Dirk Richter

A Taxonomy of Software Composition Mechanisms ................................................................. 102
Kung-Kiu Lau and Tauseef Rana

MOCS Short Papers 5-1

Integrating Behavioral Descriptions into a Component Model for Embedded Systems ................................................................. 113
Aneta Vulgarakis, Séverine Sentilles, Jan Carlson, and Cristina Seceleanu

Adapting Component Behaviours Using Interface Automata ................................................................. 119
Samir Chouali, Sébi Mouelhi, and Hassan Mountassir

Integration of Heterogeneous Context Resources in Ubiquitous Environments ................................................................. 123
Daniel Romero, Romain Rouvoy, Lionel Seinturier, and Frédéric Lochet

A Path Supervision Framework—A Key for Service Monitoring in Infrastructure as a Service (IaaS) Platforms ................................................................. 127
Thomas Voilh, Karsten Oberle, Manuel Stein, Eduardo Oliveros, Georgina Gallizo, and Roland Kübert

An Executable Design Decision Representation Using Model Transformations ................................................................. 131
Matthias Biehl and Martin Törngren

MOCS Short Paper 5-2

SimpleBPEL: Simplified Modeling of BPEL Workflows for Scientific End Users ................................................................. 137
Ernst Juhnke, Tim Dörmann, Sebastian Kirch, Dominik Selier, and Bernd Freisleben

Automating Software Product Line Development: A Repository-Based Approach ................................................................. 141
Sindolfo Miranda Filho, Heitor Mariano, Ulá Kulesza, and Thais Batista

MOCS Session 6: Applying Model Driven Engineering

RT-D&C: Deployment Specification of Real-Time Component-Based Applications ................................................................. 147
Patricia López Martínez, César Cuevas, and José M. Drake

The UML «include» Relationship and the Functional Refinement of Use Cases ................................................................. 156
Sofia Azevedo, Ricardo J. Machado, Alexandre Bragança, and Hugo Ribeiro

Designing and Applying a Framework for Logic-Based Model Querying ................................................................. 164
Patrick Dohrmann and Sebastian Herold
MOCS Session 7: Applying SOA Principles

A Template for SOA Design Decision Making in an Educational Setting .......................................................... 175
  Qing Gu, Patricia Lago, and Hans van Yliet

Automated Deployment of a Heterogeneous Service-Oriented System ............................................................... 183
  Sander van der Burg and Eelco Dolstra

Integrating IoT and IoS with a Component-Based Approach .................................................................................. 191
  Grégory Nain, François Fouquet, Brice Morin, Olivier Barais, and Jean-Marc Jézéquel

A Profile-Driven Environment for Modeling and Analyzing Context-Aware Software Services .......................... 199
  Luca Berardinelli, Vittorio Cortellessa, and Antinisca Di Marco

Self-Adaptation (EDISON + MOCS + ITQA)

SAFDIS: A Framework to Bring Self-Adaptability to Service-Based Distributed Applications .......................... 211
  Guillaume Gavvrit, Erwan Daubert, and Françoise André

Inherent Network Management: Support for Traffic Engineering and CAPEX Analysis in Future Internet Scenarios .................................................................................................................... 219
  Gerhard Haßlinger, Giorgio Nunzi, Catalin Meiroiu, Changpeng Fan, and Frank-Uwe Andersen

SAASHA: A Self-Adaptable Agent System for Home Automation ...................................................................... 227
  Fady Hamoui, Christelle Urtado, Sylvain Vauttier, and Marianne Huchard

Components and Aspects Composition Planning for Ubiquitous Adaptive Services .......................................... 231
  Mourad Alia, Mikaell Beauvais, Yann Davin, Romain Rouvoy, and Frank Eliassen

SPPI 1: Process Management

Choosing an Open Source Software License in Commercial Context: A Managerial Perspective .................. 237
  Juho Lindman, Anna Paajanen, and Matti Rossi

A Reference Framework for Utilization of Software Operation Knowledge ...................................................... 245
  Henk van der Schuur, Slinger Jansen, and Sjaak Brinkkemper

Utilizing GQM+Strategies for an Organization-Wide Earned Value Analysis .................................................. 254
  Vladimir Mandic, Victor Basili, Markku Oivo, Lasse Harjumaa, and Jouni Markkula

SPPI 2: Product Improvement

Managing Quality Requirements: A Systematic Review ....................................................................................... 26
  Richard Berntsson Svensson, Martin Håst, and Björn Regnell

Analysis of the Business Effects of Software Architecture Refactoring in an Automotive Development Organization ................................................................................................................................. 26
  Sara Dersten, Joakim Fredberg, Jakob Axelsson, and Rikard Land

Systematic Construction of Goal Indicator Trees for Indicator-Based Dependability Inspections .................. 279
  Johannes Kloos, Frank Elberzhager, and Robert Eschbach

An Analysis of the ‘Inconclusive’ Change Report Category in OSS Assisted by a Program Slicing Metric ................................................................................................................................. 283
  S. Counsell, T. Holl, E. Nasser, and D. Bowes
SPPI 3: Process Improvement

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

SPPI 4: Methods

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

Software Management 1

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

Software Management 2

Prioritization of Issues and Requirements by Cumulative Voting: A Compositional Data Analysis Framework ......................................................................................................................... 361
Panagiola Chatzipeirou, Lefteris Angelis, Per Røvegard, and Claes Wohlin
A Clustering Based Functional Similarity Measurement Approach ........................................... 371
Burak Usgurlu, Özden Özcan Top, Erdin Ungan, and Onur Demirörs
Exploring the Sources of Waste in Kanban Software Development Projects ............................. 376
Marko Ikonen, Petri Kestunen, Nilay Oza, and Pekka Abrahamsson

Next Generation Web Computing

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