Requirements Reflection: Requirements as Runtime Entities .......................... 199
Nelly Bencomo1, Jon Whittle1, Pete Sawyer1, Anthony Finkelstein2, Emmanuel Letier2; 1Lancaster University, UK; 2University College London, UK

Adinda: A Knowledgeable, Browser-Based IDE ........................................... 203
Arie van Deursen1, Ali Mesbah1, Bas Cornelissen5, Andy Zaidman1, Martin Pinzger1, Anja Guzzi1; 1Delft University of Technology, The Netherlands; 2Software Improvement Group, The Netherlands

Code Canvas: Zooming Towards Better Development Environments .................. 207
Robert DeLine, Kael Rowan, Microsoft Research, USA

Knowledge Transfer in Global Software Development — Leveraging Acceptance Test Case Specifications ................................................................. 211
Prank Salger1, Gregor Engels2; 1Capgemini sd&m, Germany; 2University of Paderborn, Germany

Dynamic Symbolic Data Structure Repair .................................................... 215
Ishtiaque Hussain, Christoph Csallner, University of Texas at Arlington, USA

Towards Better Support for the Evaluation of Safety Requirements via the Model Monitoring Approach .......................................................... 219
Zhe Chen, Gilles Motet, Université de Toulouse, France

Supporting Program Comprehension with Source Code Summarization .............. 223
Sonia Haiduc1, Jairo Aponte2, Andrian Marcus1; 1Wayne State University, USA; 2Universidad Nacional de Colombia, Colombia

Detecting Recurring and Similar Software Vulnerabilities ............................... 227
Nam H. Pham, Tung Thanh Nguyen, Hoan Anh Nguyen, Xinying Wang, Anh Tuan Nguyen, Tien N. Nguyen, Iowa State University, USA

Bridging Lightweight and Heavyweight Task Organization: The Role of Tags in Adopting New Task Categories ....................................................... 231
Christoph Treude, Margaret-Anne Storey, University of Victoria, Canada

Formal Research Demos

COLLABORATIVE SOFTWARE DEVELOPMENT

Syde: A Tool for Collaborative Software Development .................................... 235
Lile Hattori, Michele Lanza, University of Lugano, Switzerland

StakeSource: Harnessing the Power of Crowdsourcing and Social Networks in Stakeholder Analysis ............................................................. 239
Soo Ling Lim1, Daniele Quercia2, Anthony Finkelstein1; 1University College London, UK; 2MIT, USA

CoDesign — A Highly Extensible Collaborative Software Modeling Framework ...... 243
Jae young Bang1, Daniel Popescu1, George Edwards1, Nenad Medvidovic1, Naveen Kulkarni2, Girish M. Rama2, Srinivas Padmanabahuni1; 1University of Southern California, USA; 2Infosys Technologies Limited, India

SOFTWARE MAINTENANCE

Flexible Architecture Conformance Assessment with ConQAT .......................... 247
Florian Deissenboeck, Lars Heinemann, Benjamin Hummel, Elmar Juergens, Technische Universität München, Germany

Visualizing the Java Heap .............................................................................. 251
Steven P. Reiss, Brown University, USA

FLAT3: Feature Location and Textual Tracing Tool .......................................... 255
Trevor Savage, Meghan Revelle, Denys Poshvyvanyk, College of William & Mary, USA

SOFTWARE COMPONENTS AND REUSE

Exemplar: Executable Examples Archive ....................................................... 259
Mark Grechanik1, Chen Fu1, Qing Xie1, Collin McMillan2, Denys Poshvyvanyk2, Chad Cumby1; 1Accenture Technology Labs, USA; 2College of William & Mary, USA
LSdiff: A Program Differencing Tool to Identify Systematic Structural Differences .................................. 263
Alex Loh, Miryung Kim, University of Texas at Austin, USA

Legacy Component Integration by the Fujaba Real-Time Tool Suite .................................................. 267
Stefan Henkler1, Jan Meyer1, Wilhelm Schäfer1, Markus von Detten1, Ulrich Nickel2; 1University of Paderborn, Germany; 2Hella KGaA Hueck & Co., Germany

TESTING

BPGen: An Automated Breakpoint Generator for Debugging ............................................................... 271
Cheng Zhang1, Dacong Yan4, Jianjun Zhao1, Yuting Chen1, Shengqian Yang1; 1Shanghai Jiao Tong University, China; 2Ohio State University, USA

Runtime Repair of Software Faults Using Event-Driven Monitoring ....................................................... 275
Chris Lewis, Jim Whitehead, University of California at Santa Cruz, USA

TestFul: Automatic Unit-Test Generation for Java Classes ........................................................................ 281
Luciano Baresi, Matteo Miraz, Politecnico di Milano, Italy

SOFTWARE DEVELOPMENT ENVIRONMENTS

End-User Requirements Blogging with iRequire .................................................................................. 285
Norbert Seyff, Florian Graf, Neil Maiden, City University London, UK

The Small Project Observatory — A Tool for Reverse Engineering Software Ecosystems .............. 289
Mircea Lungu, Michele Lanza, University of Lugano, Switzerland

A Research Demonstration of Code Bubbles ....................................................................................... 293
Andrew Bragdon1, Steven P. Reiss1, Robert Zeleznik1, Suman Karumuri1, William Cheung1, Joshua Kaplan1, Christopher Coleman1, Ferdi Adeputra1, Joseph J. LaViola Jr.2; 1Brown University, USA; 2University of Central Florida, USA

Informal Research Demos

A Flexible Tool Suite for Change-Aware Test-Driven Development of Web Applications ............... 297
Esteban Robles Luna1, Juan Burella2, Julián Grígera1, Gustavo Rossi1; 1Universidad Nacional de La Plata, Argentina; 2Universidad de Buenos Aires, Argentina

Reverse Engineering with the Reclipse Tool Suite ............................................................................... 299
Markus von Detten, Matthias Meyer, Dietrich Travkin, University of Paderborn, Germany

SOABench: Performance Evaluation of Service-Oriented Middleware Made Easy .......................... 301
Domenico Bianculli1, Walter Binder1, Mauro Luigi Drago2; 1University of Lugano, Switzerland; 2Politecnico di Milano, Italy

SM@RT: Representing Run-Time System Data as MOF-Compliant Models ....................................... 303
Hai Song, Gang Huang, Franck Chauvel, Yan Chun Sun, Hong Mei, Peking University, China

Eliminating Dead-Code from XQuery Programs ................................................................................. 305
Pierre Genevès11, Nabil Layaida2; 1CNRS, France; 2INRIA, France

EMFStore — A Model Repository for EMF Models ............................................................................ 307
Maximilian Koegel, Jonas Helming, Technische Universität München, Germany

CUTS: A System Execution Modeling Tool for Realizing Continuous System Integration Testing ...... 309
James H. Hill, Indiana University-Purdue University Indianapolis, USA

SSG: A Model-Based Development Environment for Smart, Security-Aware GUIs ......................... 311
Miguel A. García de Dios1, Carolina Danía1, Michael Schlöpfer2, David Basín2, Manuel Clavel1, Marina Egea2; 1IMDEA Software Institute, Spain; 2ETH Zürich, Switzerland

Managing Iterations with UNICASE ................................................................................................. 313
Jonas Helming, Maximilian Koegel, Technische Universität München, Germany

JDF: Detecting Duplicate Bug Reports in Jazz .................................................................................... 315
Yoonki Song1, Xiaoyin Wang2, Tao Xie1, Lu Zhang2, Hong Mei2; 1North Carolina State University at Raleigh, USA; 2Peking University, China
Using Invariant Functions and Invariant Relations to Compute Loop Functions

Lamia Labed Jilani1, Olfa Mrathi1, Asma Louhichi2, Wided Ghardallou3, Ali Mili4; 1ISG Tunis, Tunisia; 2University of Manouba, Tunisia; 3Université de Tunis El Manar, Tunisia; 4New Jersey Institute of Technology, USA

LM: A Miner for Scenario-Based Specifications

Tuan-Anh Doan1, David Lo2, Shahar Maoz3, Siau-Cheng Khoo1; 1National University of Singapore, Singapore; 2Singapore Management University, Singapore; 3RWTH Aachen University, Germany

RAW: Runtime Automatic Workarounds

Antonio Carzaniga, Alessandra Gorla, Nicolò Perino, Mauro Pezzè, University of Lugano, Switzerland

Software Engineering in South Africa

Software Engineering In South Africa

Derrick G. Kourie1, Bruce W. Watson2; 1University of Pretoria, South Africa; 2Stellenbosch University, South Africa

Early Phase

Portable Secure Identity Management for Software Engineering

Christopher Staite, University of Birmingham, UK

Dynamic Service Quality and Resource Negotiation for High-Availability Service-Oriented Systems

Nicholas May, RMIT University, Australia

Zenet: Generating and Enforcing Real-Time Temporal Invariants

Chris Lewis, University of California at Santa Cruz, USA

Balancing Collaboration and Discipline in Software Development Processes

Andréa Magalhães Magdaleno, Federal University of Rio de Janeiro, Brazil

A Proposal for Consistency Checking in Dynamic Software Product Line Models Using OCL

Fabiana G. Marinho, Federal University of Ceará, Brazil

Behavioural Validation of Software Engineering Artefacts

Guido de Caso, Universidad de Buenos Aires, Argentina

Umple: A Model-Oriented Programming Language

Omar Badreddin, University of Ottawa, Canada

An Incremental Methodology for Quantitative Software Architecture Evaluation with Probabilistic Models

Indika Meedeniya, Swinburne University of Technology, Australia

Synthesize Software Product Line

Xiaorui Zhang, SINTEF, Norway

Choreography of intelligent e-Services

W.L. Ntshinga, Tshwane University of Technology, South Africa

A Framework for Handling Variants of Software Models

Christian Pichler, Research Studios Austria, Austria

Improving Wide-Area Distributed System Availability

Bruno Wassermann, University College London, UK

Risk Assessment on Distributed Software Projects

Adailton Magalhães Lima, Federal University of Pardônia, Brazil

VisAr3D: An Approach to Software Architecture Teaching Based on Virtual and Augmented Reality

Claudia Susie C. Rodrigues, Federal University of Rio de Janeiro, Brazil

Doctoral Symposium

Software Engineering in South Africa

Derrick G. Kourie1, Bruce W. Watson2; 1University of Pretoria, South Africa; 2Stellenbosch University, South Africa
Change Impact Analysis from Business Rules ........................................... 353
Antonio Oliveira Filho, Universidade Federal da Bahia, Brazil

Software Architecture for Systems of Software Intensive Systems (S3): The Concepts and
Detection of Inter-System Relationships .................................................. 355
John Brøndum, University of New South Wales, Australia

MATURE PHASE

Formal Methods for Web Services: A Taxonomic Approach ......................... 357
K.S. May Chan, University of Pretoria, South Africa

Exploratory Study of a UML Metric for Fault Prediction ............................ 361
Ana Erika Camargo Cruz, JAIST, Japan

Feature-Oriented Requirements Modelling ................................................. 365
Pourya Shaker, University of Waterloo, Canada

Automatic Enforcement of Architectural Design Rules ............................... 369
Anders Mattsson, Combitech AB, Sweden

SMT-Based Bounded Model Checking for Multi-Threaded Software in Embedded Systems ............................... 373
Lucas Cordeiro, University of Southampton, UK

Enhancing Collaboration of Multi-Developer Projects with Synchronous Changes ........................................... 377
Lile Hattori, University of Lugano, Switzerland

SOFAS — Software Analysis Services ....................................................... 381
Giacomo Ghezzi, University of Zurich, Switzerland

Informal Software Design Knowledge Reuse ............................................. 385
Gerald Bortis, University of California at Irvine, USA

The Role of Emergent Knowledge Structures in Collaborative Software Development ........................................... 389
Christoph Treude, University of Victoria, Canada

Capturing the Long-Term Impact of Changes ........................................... 393
Kim Sebastian Herzig, Saarland University, Germany

Failure Preventing Recommendations ......................................................... 397
Adrian Schröter, University of Victoria, Canada

Impact Analysis for Event-Based Components and Systems ........................................... 401
Daniel Popescu, University of Southern California, USA

Empirical Evaluation of Effort on Composing Design Models ....................... 405
Meiinner Farias, Pontifical Catholic University of Rio de Janeiro, Brazil

Analysis of Execution Log Files ............................................................. 409
Meiyappan Nagappan, North Carolina State University at Raleigh, USA

Towards End-User Enabled Web Service Consumption for Mashups .................. 413
Marcus Roy, University of New South Wales, Australia

Constraint Solving Techniques for Software Testing and Analysis .................. 417
Feifei Ma, Chinese Academy of Sciences, China

A Methodology to Support Load Test Analysis ....................................... 421
Haroon Malik, Queen’s University, Canada

Emerging Faculty Symposium

Emerging Faculty Symposium 2010 .......................................................... 425
Hausi Müller¹, Andreas Zeller², ¹University of Victoria, Canada; ²Saarland University, Germany
Workshop Introductions

SUITE 2010: 2nd International Workshop on Search-Driven Development — Users, Infrastructure, Tools & Evaluation 427
Sushil Bajracharya1, Adrian Kuhn2, Yunwen Ye3; 1University of California at Irvine, USA; 2University of Bern, Switzerland; 3Software Research Associates Inc., Japan

Grace A. Lewis1, Andreas Metzger2, Marco Pistore3, Dennis Smith1, Andrea Zisman4; 1Carnegie Mellon Software Engineering Institute, USA; 2University of Duisburg-Essen, Germany; 3FBK-irst, Italy; 4City University London, UK

New Horizons in Multicore Software Engineering 431
Victor Pankratius1, Michael Philippsen2; 1Karlsruhe Institute of Technology, Germany; 2University of Erlangen-Nuremberg, Germany

The 6th International Workshop on Software Engineering for Secure Systems (SESS’10) 433
Seok-Won Lee1, Mattia Monga2, Jan Jürjens3; 1University of North Carolina at Charlotte, USA; 2Università di Milano, Italy; 3Technische Universität Dortmund, Germany

Cooperative and Human Aspects of Software Engineering (CHASE 2010) 435
Yvonne Dittrich1, Cleidson de Souza2, Mikko Korpela3, Helen Sharp4, Janice Singer5, Helke Winschiers-Theophilus6; 1IT University of Copenhagen, Denmark; 2IBM, Brazil; 3University of Eastern Finland, Finland; 4Open University, UK; 5NRC-IRAP, Canada; 6Polytechnic of Namibia, Namibia

Fifth International Workshop on Sharing and Reusing Architectural Knowledge (SHARK 2010) 437
Patricia Lago1, Paris Avgierou2, Philippe Kruchten3; 1VU University Amsterdam, The Netherlands; 2University of Groningen, The Netherlands; 3University of British Columbia, Canada

First International Workshop on Product Line Approaches in Software Engineering (PLEASE 2010) 439
Julia Rubin1, Goetz Botterweck2, Mira Mezini3, Itay Maman1, Andreas Pleuss2; 1IBM Haifa Research Lab, Israel; 2Lero, Ireland; 3Technische Universität Darmstadt, Germany

Flexible Modeling Tools (FlexiTools 2010) 441
Harold Ossher1, André van der Hoek2, Margaret-Anne Storey3, John Grundy4, Rachel K.E. Bellamy1; 1IBM T.J. Watson Research Center, USA; 2University of California at Irvine, USA; 3University of Victoria, Canada; 4Swinburne University of Technology, Australia

SESENA 2010: Workshop on Software Engineering for Sensor Network Applications 443
Kurt Geihs1, Stefan Grüner1, Kay Römer3; 1University of Kassel, Germany; 2University of Pretoria, South Africa; 3University of Lübeck, Germany

Bridging the Gap Between the Theory and Practice of Software Test Automation 445
Christof J. Budnik1, Wing Kwong Chan2, Gregory M. Kapfhammer3; 1Siemens Corporation, USA; 2City University of Hong Kong, China; 3Allegheny College, USA

Betty H.C. Cheng1, Rogério de Lemos2, David Garlan3, Holger Giese4, Marin Litou5, Jeff Magee6, Hausi Müller7, Mauro Pezzè8, Richard N. Taylor9; 1Michigan State University, USA; 2University of Kent, UK; 3Carnegie Mellon University, USA; 4Hasso Plattner Institute, Germany; 5York University, Canada; 6Imperial College London, UK; 7University of Victoria, Canada; 8University of Lugano, Switzerland; 9University of California at Irvine, USA

Second International Workshop on Software Research and Climate Change 449
Steve Easterbrook1, Kim Mens2, Steffen Zscharer3; 1University of Toronto, Canada; 2Université Catholique de Louvain, Belgium; 3Lancaster University, UK
First International Workshop on Quantitative Stochastic Models in the Verification and Design of Software Systems (QUOVADIS 2010) .................................................. 451
Carlo Ghezzi1, Lars Grunske2, Raffaela Mirandola1; 1Politecnico di Milano, Italy; 2Swinburne University of Technology, Australia

2nd International Workshop on Software Engineering in Health Care (SEHC 2010) ........................................ 453
Lori A. Clarke1, Jens Weber-Jahnke2; 1University of Massachusetts at Amherst, USA; 2University of Victoria, Canada

RSSE 2010: Second International Workshop on Recommendation Systems for Software Engineering ............................................................. 455
Reid Holmes1, Martin P. Robillard2, Robert J. Walker3, Thomas Zimmermann4; 1University of Washington, USA; 2McGill University, Canada; 3University of Calgary, Canada; 4Microsoft Research, USA

Web2SE: First Workshop on Web 2.0 for Software Engineering ............................................................................. 457
Christoph Treude1, Margaret-Anne Storey1, Kate Ehrlich2, Arie van Deursen3; 1University of Victoria, Canada; 2IBM T.J. Watson Research Center, USA; 3Delft University of Technology, The Netherlands

Workshop on Emerging Trends in Software Metrics (WETSoM 2010) ............................................................ 459
Gerardo Canfora1, Giulio Concas2, Michele Marchesi2, Ewan Tempero3, Hongyu Zhang4; 1University of Sannio, Italy; 2University of Cagliari, Italy; 3University of Auckland, New Zealand; 4Tsinghua University, China

1st International Workshop on Replication in Empirical Software Engineering Research (RESER) .................. 461
Charles D. Knutson1, Jonathan L. Krein1, Lutz Prechelt2, Natalia Juristo3; 1Brigham Young University, USA; 2Freie Universitat Berlin, Germany; 3Universidad Politecnica de Madrid, Spain

Software Development Governance (SDG) Workshop ..................................................................................... 463
Yael Dubinsky1, Philippe Kruchten2, Anthony Finkelstein3, Len Bass4, Sunita Chulani5; 1IBM Haifa Research Lab, Israel; 2University of British Columbia, Canada; 3University College London, UK; 4Carnegie Mellon Software Engineering Institute, USA; 5University Systems, USA; 6Pontificia Universidade Catolica do Rio Grande do Sul, Brazil

Fourth International Workshop on Software Clones (WSC) ................................................................. 465
Katsuro Inoue1, Stan Jarzabek2, James R. Cordy3, Rainer Koshke4; 1Osaka University, Japan; 2National University of Singapore, Singapore; 3Queen’s University, Canada; 4Universitat Bremen, Germany

2010 ICSE International Workshop on Advances and Applications of Problem Orientation (WAAPO 2010) ......................... 467
Jon G. Hall1, Lucia Rapanotti1, Liping Zhao2, James Naish2; 1Open University, UK; 2University of Manchester, UK

Tutorials

Analysing "People" Problems in Requirements Engineering ................................................................. 469
Alistair Sutcliffe, Sarah Thew, University of Manchester, UK

Software Architecture: Foundations, Theory, and Practice ............................................................................. 471
Nenad Medvidovic1, Richard N. Taylor1; 1University of Southern California, USA; 2University of California at Irvine, USA

Generative Software Development .............................................................................................................. 473
Bernhard Rumpe, Martin Schindler, Steven Völkel, Ingo Weisemöller, RWTH Aachen University, Germany

Cloud Service Engineering .......................................................................................................................... 475
Stefan Tai1, Jens Nimis2, Alexander Lenk2, Markus Klems1; 1Karlsruhe Institute of Technology, Germany; 2FZI, Germany

Bayesian Methods for Data Analysis in Software Engineering .................................................................. 477
Mohan Sridharan, Akbar Siami Namin, Texas Tech University, USA
Providing Support for Creating Next Generation Software Architecture Languages .................. 517
Ivano Malavolta, Università dell’Aquila, Italy

STORM: Static Unit Checking of Concurrent Programs ...................................................... 519
Zvonimir Rakamaric, University of British Columbia, Canada

Making Program Refactoring Safer .................................................................................. 521
Gustavo Soares, Federal University of Campina Grande, Brazil

Staying Aware of Relevant Feeds in Context ................................................................. 523
Thomas Fritz, University of British Columbia, Canada

Developing and Evaluating the Code Bubbles Metaphor .............................................. 525
Andrew Bragdon, Brown University, USA

Summarizing Software Concerns .................................................................................. 527
Sarah Rastkar, University of British Columbia, Canada

Commit 2.0: Enriching Commit Comments with Visualization ...................................... 529
Marco D’Ambros, University of Lugano, Switzerland

Helios: Impact Analysis for Event-Based Components and Systems .............................. 531
Daniel Popescu, University of Southern California, USA

List of Student Volunteers

Student Volunteers ........................................................................................................ 533