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Formal Approaches to Software Testing and Runtime Verification

First Combined International Workshops
FATES 2006 and RV 2006
Seattle, WA, USA, August 15-16, 2006
Revised Selected Papers

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Preface

Software validation is one of the most cost-intensive tasks in modern software production processes. The objective of FATES/RV 2006 was to bring scientists from both academia and industry together to discuss formal approaches to test and analyze programs and monitor and guide their executions. Formal approaches to test may cover techniques from areas like theorem proving, model checking, constraint resolution, static program analysis, abstract interpretation, Markov chains, and various others. Formal approaches to runtime verification use formal techniques to improve traditional ad-hoc monitoring techniques used in testing, debugging, performance monitoring, fault protection, etc.

The FATES/RV 2006 workshop selected 14 high-quality papers out of 31 submissions. Each paper underwent at least three anonymous reviews by either PC members or external reviewers selected by them. In addition to the 14 regular papers, the proceedings contain two papers corresponding to the invited talks by Wolfgang Grieskamp (Microsoft Research, USA) and Oege de Moor (Oxford University, UK).

This was the first time that the two workshops, FATES and RV, were held together. The success of this joint edition shows that the integration of these two communities can be profitable for both of them. Previous editions of these two events were held in the following places: FATES 2001 was held in Aalborg (Denmark) and FATES 2002 in Brno (Czech Republic). In both cases, the workshop was affiliated with CONCUR. FATES 2003 and FATES 2004 were held in Montreal (Canada) and Vienna (Austria), respectively, in affiliation with ASE. FATES 2005 was co-located with CAV in Edinburgh (UK). Since 2003, the FATES workshop proceedings have been published by Springer (LNCS series). In parallel, RV 2001 was held in Paris (France), followed by RV 2002 in Copenhagen (Denmark), and RV 2003 in Boulder (USA). These first three editions were affiliated with CAV. RV 2004 was held in Barcelona (Spain), affiliated with TACAS 2004. Finally RV 2005 was held in Edinburgh (UK), co-located with CAV. All previous editions of RV were published in Elsevier's *Electronic Notes in Theoretical Computer Science*. In addition, selected papers from RV 2001 and RV 2002 were published in Springer's journal *Formal Methods in System Design*, in issues 24(2) (March 2004) and 27(3) (November 2005), respectively.

We would like to express our gratitude to all the authors and invited speakers for their valuable contributions. We would also like to thank all members of the FATES/RV 2006 Program Committee and the additional reviewers for their efforts to accurately review the papers on time. Wolfgang Grieskamp supported the organization of the workshop by providing a PC projector and the printouts of these preliminary proceedings. In addition, Microsoft Research gave financial

support for the organization of the workshop. Finally, we would like to thank the local organization of FLoC 2006 for their help.

September 2006

Klaus Havelund
Manuel Núñez
Grigore Roşu
Burkhart Wolff

Table of Contents

Invited Talks

Multi-paradigmatic Model-Based Testing	1
<i>Wolfgang Grieskamp</i>	
Aspects for Trace Monitoring	20
<i>Pavel Augustinov, Eric Bodden, Elnar Hajiyeu, Laurie Hendren, Ondřej Lhoták, Oege de Moor, Neil Ongkingco, Damien Sereni, Ganesh Sittampalam, Julian Tibble, Mathieu Verbaere</i>	

Regular Papers

A Symbolic Framework for Model-Based Testing	40
<i>Lars Frantzen, Jan Tretmans, Tim A.C. Willemse</i>	
A Test Calculus Framework Applied to Network Security Policies	55
<i>Yliès Falcone, Jean-Claude Fernandez, Laurent Mounier, Jean-Luc Richier</i>	
Hybrid Input-Output Conformance and Test Generation	70
<i>Michiel van Osch</i>	
Generating Tests from EFSM Models Using Guided Model Checking and Iterated Search Refinement	85
<i>Juhan-P. Ernits, Andres Kull, Kullo Raiend, Jüri Vain</i>	
Decompositional Algorithms for Safety Verification and Testing of Aspect-Oriented Systems	100
<i>Cheng Li, Zhe Dang</i>	
Model-Based Testing of Thin-Client Web Applications	115
<i>Pieter Koopman, Rinus Plasmeijer, Peter Achten</i>	
Synthesis of Scenario Based Test Cases from B Models	133
<i>Manoranjan Satpathy, Qaisar A. Malik, Johan Lilius</i>	
State-Identification Problems for Finite-State Transducers	148
<i>Moez Krichen, Stavros Tripakis</i>	

Deterministic Dynamic Monitors for Linear-Time Assertions	163
<i>Roy Armoni, Dmitry Korchemny, Andreas Tiemeyer,</i> <i>Moshe Y. Vardi, Yael Zbar</i>	
Robustness of Temporal Logic Specifications	178
<i>Georgios E. Fainekos, George J. Pappas</i>	
Goldilocks: Efficiently Computing the Happens-Before Relation Using Locksets	193
<i>Tayfun Elmas, Shaz Qadeer, Serdar Tasiran</i>	
Dynamic Architecture Extraction	209
<i>Cormac Flanagan, Stephen N. Freund</i>	
Safety Property Driven Test Generation from JML Specifications	225
<i>Fabrice Bouquet, Frédéric Dadeau, Julien Gros Lambert,</i> <i>Jacques Julliand</i>	
Online Testing with Reinforcement Learning	240
<i>Margus Veanes, Pritam Roy, Colin Campbell</i>	
Author Index	255