Contents

Testing Methodologies

Conformance Testing with Respect to Partial-Order Specifications .............. 3
Gregor von Bochmann

Back-to-Back Testing of Self-organization Mechanisms ......................... 18
Benedikt Eberhardinger, Axel Habermaier, Hella Seebach,
and Wolfgang Reif

Test Generation by Constraint Solving and FSM Mutant Killing ............... 36
Alexandre Petrenko, Omer Nguena Timo, and S. Ramesh

Risk-Based Interoperability Testing Using Reinforcement Learning .......... 52
André Reichstaller, Benedikt Eberhardinger, Alexander Knapp,
Wolfgang Reif, and Marcel Gehlen

A Combinatorial Approach to Analyzing Cross-Site Scripting (XSS)
Vulnerabilities in Web Application Security Testing ......................... 70
Dimitris E. Simos, Kristoffer Kleine,
Laleh Shikh Gholamhossein Ghandehari, Bernhard Garn, and Yu Lei

Heuristics and Non-determinism in Testing

Controllability Through Nondeterminism in Distributed Testing ............. 89
Robert M. Hierons, Mercedes G. Merayo, and Manuel Núñez

Parallelizing Heuristics for Generating Synchronizing Sequences .......... 106
Sertaç Karahoda, Osman Tufan Erenay, Kamer Kaya,
Uraz Cengiz Türker, and Hüsnü Yenigün

Resolving the Equivalent Mutant Problem in the Presence
of Non-determinism and Coincidental Correctness ....................... 123
Krishna Patel and Robert M. Hierons

On-the-Fly Construction of Adaptive Checking Sequences for Testing
Deterministic Implementations of Nondeterministic Specifications .......... 139
Nina Yevtushenko, Khaled El-Fakih, and Anton Ermakov
Practical Applications

Mutation-Based Test Generation for PLC Embedded Software
Using Model Checking ........................................... 155
   Eduard P. Enoiu, Daniel Sundmark, Adnan Čaušević, Robert Feldt,
   and Paul Pettersson

STIPI: Using Search to Prioritize Test Cases Based on Multi-objectives
Derived from Industrial Practice .................................. 172
   Dipesh Pradhan, Shuai Wang, Shaukat Ali, Tao Yue, and Marius Liaaen

From Simulation Data to Test Cases for Fully Automated Driving
and ADAS ............................................................. 191
   Christoph Sippl, Florian Bock, David Wittmann, Harald Altinger,
   and Reinhard German

Short Contributions

Searching Critical Values for Floating-Point Programs ............... 209
   Hélène Collavizza, Claude Michel, and Michel Rueher

UTTOS: A Tool for Testing UEFI Code in OS Environment ........... 218
   Eder C.M. Gomes, Paulo R.P. Amora, Elvis M. Teixeira,
   Antonio G.S. Lima, Felipe T. Brito, Juliano F.C. Ciocari,
   and Javam C. Machado

Towards Model Construction Based on Test Cases and GUI Extraction .... 225
   Antti Jääskeläinen

Set-Based Algorithms for Combinatorial Test Set Generation ........ 231
   Ludwig Kampel and Dimitris E. Simos

Automated Localisation Testing in Industry with Test* ............. 241
   Mireilla Martinez, Anna I. Esparcia, Urko Rueda, Tanja E.J. Vos,
   and Carlos Ortega

Distribution Visualization for User Behavior Analysis on LTE Network.... 249
   Masaki Suzuki, Quentin Plessis, Takeshi Kitahara, and Masato Tsuru

Author Index ........................................................ 257
Testing Software and Systems
28th IFIP WG 6.1 International Conference, ICTSS 2016,
Graz, Austria, October 17-19, 2016, Proceedings
Wotawa, F.; Nica, M.; Kushik, N. (Eds.)
2016, XVIII, 257 p. 62 illus., Softcover
ISBN: 978-3-319-47442-7