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Testing Software and Systems

23rd IFIP WG 6.1 International Conference, ICTSS 2011
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Proceedings

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Preface

Testing has steadily become more and more important within the development of software and systems, motivating an increasing amount of research aimed at trying to solve both new challenges imposed by the advancement in various areas of computer science and long-standing problems. Testing has evolved during the last decades from an ad-hoc and under-exposed area of systems development to an important and active research area.

The 23rd International Conference on Testing Software and Systems (ICTSS) involved the merger of two traditional and important events which have served the testing community as important venues for discussing advancements in the area. Those events, namely, TestCom (the IFIP TC 6/WG 6.1 International Conference on Testing of Communicating Systems), and FATES (International Workshop on Formal Approaches to Testing of Software), together form a large event on testing, validation, and specification of software and systems. They have a long history. TestCom is an IFIP-sponsored series of international conferences, previously also called International Workshop on Protocol Test Systems (IWPTS) or International Workshop on Testing of Communicating Systems (IWTCS). It is devoted to testing communicating systems, including testing of communication protocols, services, distributed platforms, and middleware. The previous events were held in Vancouver, Canada (1988); Berlin, Germany (1989); McLean, USA (1990); Leidschendam, The Netherlands (1991); Montreal, Canada (1992); Pau, France (1993); Tokyo, Japan (1994); Evry, France (1995); Darmstadt, Germany (1996); Cheju Island, South Korea (1997); Tomsk, Russia (1998); Budapest, Hungary (1999); Ottawa, Canada (2000); Berlin, Germany (2002); Sophia Antipolis, France (2003); Oxford, UK (2004); Montreal, Canada (2005); and New York, USA (2006). Fates, Formal Approaches to Testing of Software, is a series of workshops devoted to the use of formal methods in software testing. Previous events were held in Aalborg, Denmark (2001); Brno, Czech Republic (2002); Montreal, Canada (2003); Linz, Austria (2004); Edinburgh, UK (2005); and Seattle, USA (2006). From 2007 on, TestCom and Fates have been jointly held in Tallinn, Estonia (2007), Tokyo, Japan (2008), and Eindhoven, The Netherlands (2009).

This book constitutes the refereed proceedings of the 23rd IFIP International Conference on Testing Software and Systems (ICTSS 2011) held on November 7–10, 2011 in Paris. There were 40 submissions. Each submission was reviewed by at least 3, and on the average 3.6, Program Committee members. After intensive discussions, the committee decided to accept 13 papers, among them 2 papers from the industrial track. The program also included 2 invited talks: Marie-Claude Gaudel with an overview of random-based test generation algorithms and the latest applications to LTL model-checking, and Manuel Núñez on problems in testing combinations of timed and probabilistic finite state machine

formalisms. The conference was preceded by a tutorial day consisting of presentations of industrial tools relevant for the field; the speakers were Bruno Legeard, Jean-Pierre Schoch, and Nikolai Tillmann.

We would like to thank the numerous people who contributed to the success of ICTSS 2011: the Steering Committee, the Program Committee, and the additional reviewers for their support in selecting papers and composing the conference program, and the authors and the invited speakers for their contributions without which, of course, these proceedings would not exist. The conference would not have been possible without the contributions and the support of the following organizations: Microsoft Research, the Institut Henri Poincaré (that generously offered us the facilities for the conference location), INRIA, the LRI of Université de Paris-Sud, the Digiteo Foundation, and the CNRS Scientific Research Group GDR GPL. Moreover, all members of the ForTesSE team helped with the local arrangements of the conference.

August 2011

Burkhart Wolff
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