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Testing Software and Systems

24th IFIP WG 6.1 International Conference, ICTSS 2012
Aalborg, Denmark, November 19-21, 2012
Proceedings



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Preface

It is our pleasure and honor to present the proceedings of the 24th IFIP International Conference on Testing Software and Systems (ICTSS 2012), held during November 19–21, 2012, in Aalborg, Denmark.

Testing is the most important quality assurance technique for the (partial) verification of communication and software systems and their models. Yet, testing remains very challenging in the underlying theory, methods and tools, in industrial use, and in its systematic combined application with other verification techniques. This important topic deserves a persistent and dedicated forum to address the fundamental and practical problems of testing software and systems.

ICTSS is a series of international conferences that aims at being a forum for researcher, developers, and testers to advance, discuss, and learn about new approaches, concepts, theories, methodologies, tools, and experiences of testing software systems in different application domains, including communication protocols, services, distributed platforms, middleware, embedded- and cyber-physical-systems, and security infrastructures.

The previous instances of ICTSS were held in Paris, France (2011), and in Natal, Brazil (2010). The ICTSS conference series is the successor of previous (joint) conferences 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), that together form a traditional and important event on testing, validation, and specification of software and systems. The conferences have a long history: TestCom is an IFIP-sponsored series of international conferences, previously called International Workshop on Protocol Test Systems (IWPTS) and 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 held jointly in Tallinn, Estonia (2007), Tokyo, Japan (2008), and Eindhoven, The Netherlands (2009).

This book contains the refereed proceedings of the 24th instance of the International Conference on Testing Software and Systems (ICTSS 2012). We received 48 submissions. Each submission was thoroughly reviewed by at least three Program Committee members or sub-reviewers. Based on the subsequent discussions, the Program Committee selected 16 contributions for presentation and publication. The accepted papers were revised based on the comments made by the reviewers. These revised papers are presented in this volume. The program also included two invited talks:

- Klaus Havelund, Jet Propulsion Laboratory - Laboratory for Reliable Software, USA: Requirements-Driven Log Analysis
- Frits Vaandrager, Radboud University Nijmegen, The Netherlands: Active Learning of Extended Finite State Machines

We would like to thank all authors for submitting to ICTSS. We also wish to thank the distinguished invited speakers for accepting our invitation and for submitting extended abstracts for the proceedings. We are grateful to the members of the Program Committee and other reviewers for their hard work that made this conference possible. We appreciate their competent handling of the submissions during the summer period.

We would also like to thank the local organizers, staff from the distributed and embedded systems research group at Aalborg University, for arranging and preparing for the conference. In particular, thanks to Rikke W. Uhrenholt for her professional and friendly administrative and practical support. We thank the providers of the EasyChair conference management system, which has been of great value, and the Springer LNCS team for their support. Finally, we gratefully acknowledge the financial support we received from the Centre for Embedded Software System.

September 2012

Brian Nielsen
Carsten Weise

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ICTSS 2012 was organized by the department of Computer Science, Aalborg University and The Centre for Embedded Software Systems (CISS), Denmark.

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