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Special Issue on Automated Software Testing: Trends and Evidence
SpringerOpen Journal of Software Engineering Research and Development (JSERD)
Paper Submission: ** February 28, 2017 **

Background

In spite of advanced techniques, methods, and tools employed through the software development process, faults in the final product can still occur. Software testing is one of the most popular Software Verification and Validation techniques used currently in the software industry. When applied effectively, this technique can provide important evidence regarding the quality and reliability of a software system.

The current scenario shows that society and industry are increasingly dependent on software. Software-supported environments can be critical, pervasive, persistent, mobile, distributed, real-time, embedded, and adaptive. Thus, a growing need emerges for providing fast and correct approaches to develop and evolve these systems. This need drives the development of techniques, criteria and supporting tools for software testing considering the different application domains and programming paradigms.

Systematic and automated approaches have shown capable of reducing the overwhelming cost of engineering such systems. Industrial success cases have been openly reported and academic interest continues to grow as observed by the increasing number of researchers in the field. While there exist various trends on evolving the automation in software testing, the provision of sound empirical evidence is still needed on such area.

In this context, this special issue aims to provide a mean for researchers and practitioners to publish their recent advances on automated software testing. Specifically, it is going to welcome papers with solid results and a strong contribution to research trends on automated testing, as well as empirical evidence on such approaches.

Topics

This special issue focuses on bringing together the academic and the industrial software testing community that has been researching on automated software testing. The topics covered include, but are not limited to, the following:

- Environments and Tools
- Cloud computing testing
- Combinatorial testing and random testing
- Distributed and parallel software testing
- Error-based and fault-based testing
- Industrial report on testing automation
- Empirical studies
- Mobile application testing
● Model-based and model-driven testing
● Open source testing
● Performance, load and stress testing
● Software reliability testing and operational profile
● Test adequacy and coverage measurement
● Test case generation and selection techniques
● Test driver, stubs, harness and test script generation
● Test oracle and test result checking techniques
● Regression testing
● Search-based testing
● Symbolic execution
● Combined techniques for automated testing

Submission Instructions

JSERD is an international Open Access journal published by Springer. Several bases index the journal, such as SCOPUS, INSPEC, Academic OneFile, DBLP, DOAJ, EI-Compendex, OCLC, SCImago, and Summon by Serial Solutions. More details on https://jserd.springeropen.com/

Before submitting your manuscript, please ensure you have carefully read the submission guidelines for Journal of Software Engineering Research and Development (https://jserd.springeropen.com/submission-guidelines). The complete manuscript should be submitted through the Journal of Software Engineering Research and Development submission system (https://www.editorialmanager.com/serd). To ensure that you submit to the correct thematic series please select the appropriate thematic series in the drop-down menu upon submission. In addition, indicate within your cover letter that you wish your manuscript to be considered as part of the thematic series on 'Automated software testing: Trends and evidence'. All submissions will undergo rigorous peer review and accepted articles will be published within the journal as a collection.

Important Dates

- Manuscript submission deadline: February 28, 2017
- First notification: April 30, 2017
- Revised manuscript submission: June 30, 2017
- Notification of the final decision: August 31, 2017
- Tentative publication date of special issue: second semester of 2017

Guest Editors

- Andre Takeshi Endo, Universidade Tecnologica Federal do Parana (UTFPR), Brazil
- Antonia Bertolino, ISTI - Istituto di Scienza e Tecnologie dell'Informazione A.Faedo, Pisa, Italy
- José Carlos Maldonado, Universidade de São Paulo (USP), Brazil
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