Call for Papers

Many large-scale software systems (e.g., e-commerce websites, telecommunication infrastructures, enterprise systems, etc.) must service hundreds, thousands or even millions of concurrent requests. Many field problems of these systems originate in their inability to scale to field workloads, rather than feature bugs. In addition to conventional functional testing, these systems must be tested with large volumes of concurrent requests (called the load) to ensure the quality of these systems. Large-scale testing includes all different objectives and strategies of testing large-scale software systems using load. Examples of large-scale testing are live upgrade testing, load testing, high availability testing, operational profile testing, performance testing, reliability testing, stability testing and stress testing.

Large-scale testing is a difficult task requiring a great understanding of the system under test. Practitioners face many challenges such as tooling (choosing and implementing the testing tools), environments (software and hardware setup) and time (limited time to design, test, and analyze). Yet, little research is done in the software engineering domain concerning this topic. Moreover, prior large-scale testing research is largely focused on telecommunication applications and web-based e-commerce systems. Industry is focused primarily on creating tools to automatically drive specified load into the system under test (e.g., LoadRunner or Apache JMeter). In this workshop, we intend to bring together industrial practitioners and researchers to establish and grow an academic research community around this important and practical research topic. Especially as large-scale testing is gaining more importance, due to an increasing number of systems (on-premise and/or cloud-based systems) that need to serve thousands or millions of users.

We solicit the following two tracks of submissions: technical papers (maximum 4 pages) and presentation track for industry or experience talks (maximum 700 words extended abstract). Technical papers should follow the standard ACM SIG proceedings format and need to be submitted electronically via EasyChair. Extended abstracts need to be submitted as “abstract only” submissions via EasyChair. Accepted technical papers will be published in the ICPE 2016 Proceedings. Materials from the presentation track will not be published in the ICPE 2016 proceedings, but will be made available on the workshop website. Submitted papers can be research papers, position papers, case studies or experience reports addressing issues including but not limited to the following:

- Proper and accurate definition of test requirements
- Efficient and cost-effective test execution and test monitoring
- Rapid and scalable analysis of the test results
- Case studies and experience reports on large-scale testing
- Large-scale testing on emerging systems (e.g., adaptive/autonomic systems or cloud services)
- Taxonomies of testing large-scale software systems
- Large-scale testing in different software development contexts (e.g., agile, DevOps, and outsourced)
- Using performance models to support large-scale testing
- Efficient test data management for large-scale testing