

Spring 2014 Seminar Series

Presented by the CS Division

SOFTWARE TESTING IN THE CLOUD

FRIDAY APRIL 4, 2014

1:30 PM – HEC 356

A recurring challenge in software testing is lack of time. Cloud computing offers the use of virtualized hardware, effectively unlimited storage, and software services that can aid in reducing the execution time of large test suites in a cost-effective manner. However, migrating software testing to the cloud is not a trivial activity, nor is it necessarily the best solution to all testing problems.

This talk uses real-world case studies to illustrate some of the issues and opportunities with software testing in the cloud. The talk introduces the SMART-T decision framework to support the migration process. The talk also demonstrates how to realize significant time savings using a distributed environment for concurrent execution of test cases in the cloud called HadoopUnit, which builds upon the Hadoop open-source platform.

Lessons learned from the case studies provide insight into the question of when cloud computing is the solution to software testing problems – and when it's not. Our current work using a service-oriented architecture (SOA) to expose the cloud's capabilities to provide software testing as a service (TaaS) is also presented.

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Scott Tilley is a Professor of Software Engineering in the Department of Computer Sciences at the Florida Institute of Technology, a Professor of Information Systems in the College of Business, and an Associate Member of the Harris Institute for Assured Information. He is also a Visiting Scientist at Carnegie Mellon University's Software Engineering Institute. He has a Ph.D. from the University of Victoria. He is Chair of the Steering Committee for the IEEE Web Systems Evolution (WSE) series of events, and a Past Chair of the Association for Computing Machinery's Special Interest Group on Design of Communication (ACM SIGDOC). He was General Chair for the 24th IEEE International Conference on Software Maintenance (ICSM 2008), which took place in Beijing, China. He is an ACM Distinguished Lecturer. He writes the weekly "Technology Today" column for the Florida Today newspaper (Gannett). His most recent books include "Software Testing in the Cloud: Migration & Execution" (Springer, 2012) and "Software Testing in the Cloud: Perspectives on an Emerging Discipline" (IGI Global, 2012). He is the author of the forthcoming book "Systems Analysis & Design" (11th Ed), (Cengage, 2015).

Hosted by: Dr. Gary T. Leavens

