

Title

Obstacles and Opportunities in Introducing - Automatic GUI Test Generation to Smartphone Application Testing

Speaker(s)

Tuula Pääkkönen / Nokia, Finland

Mika Katara / Tampere University of Technology, Finland

To whom is the presentation addressed?

Test Engineers, Test Automation Engineers, Test Managers

Keywords

Automated test generation, smartphone, GUI testing, application testing, model-based testing

Abstract

Automatic test generation technologies such as model-based testing are slowly making their way from research into practice. While there are obvious benefits from replacing manual test design phase with automated test generation, deployment faces both technical and non-technical challenges. In order to find out what the real obstacles to wider industrial deployment are, we conducted a survey among Finnish smartphone software testing professionals. After carefully designing the questionnaire document, and organizing events in five different cities, we managed to get valid answers from 49 people with experience in test automation. In this presentation, we will share the results of this survey. First, it seems that the industry, at least in this domain, is eager to try out automatic test generation in practice, so that is not an obstacle. However, there are obstacles related to modeling and model maintenance that need to be addressed. Moreover, it seems that the fast pace of product creation in this domain hinders the usage of test automation tools on immature development platforms, including mobile operating systems and GUI libraries. However, modeling, which reveals defects effectively, can start long before the platform is mature enough to enable automatic test execution. In addition, there is a need to develop metrics that are compatible with conventional metrics, in order to enable comparison between different methods; this issue is relevant to so called on-line testing. Furthermore, debugging very long test runs ending in failures is seen challenging. The main conclusion of the survey is that successful pilot projects addressing these issues are vital in introducing this technology to wider industrial usage. The presentation provides important information on where to focus to anyone planning to deploy automatic test generation in this domain. We believe that these insights can also be useful in other domains. This presentation is joint work with Marek Janicki (currently with Nokia Siemens Networks) and Mika Katara (Tampere University of Technology).

Biography

Mika Katara is an Adjunct Professor at Tampere University of Technology, Department of Software Systems where he is in charge of software testing research and education. He earned his doctorate from the same institution in 2001. He has published 30+ papers on model-driven development and testing.

Contact information

Tuula Pääkkönen

Visiokatu 3

P.O.Box 1000

Tampere

Finland
