

Tatsanee Chuaphet 2012: Interruption Models for Testing Android Mobile Applications. Master of Science (Computer Science), Major Field: Computer Science, Department of Computer Science. Thesis Advisor: Miss Usa Sammapun, Ph.D. 115 pages.

The objective of this research is to create a model for designing test cases of an Android application to verify functional correctness and some aspects of non-functional correctness such as inefficient resource usage. The model is based on Android activity life cycle where applications are viewed as state machines. Test cases are then extracted from the model following two main scenarios (1) normal scenarios and (2) interrupted scenarios, resulting in sequences of actions to be tested. After the sequences of actions are executed on the actual Android applications, failures can then be detected and analyzed directly or by reviewing log files. In this research, ten Android applications are used as case studies. As an experiment, the approach is used to test a number of Android applications and detect a number of defects. The results are validated by reviewing applications' bug reports which show the same bugs as discovered in this research. The approach also found new defects that are not already in the bug report and found defects relating to resource inefficiency.

---

Student's signature

---

Thesis Advisor's signature