



Software Engineering Seminar (WS 2015)

# Validation of Input-Dependent Behaviour in Android Applications

## Description

Recently there has been growing interest towards validation of behaviour of smartphone applications, especially in the context of application marketplaces that wish to filter out non-quality applications or otherwise malicious ones [2, 3]. Standard testing of these applications faces two main obstacles: first, such applications are heavily graphic-interface intensive, which has proven to be difficult to test. Second, the sheer number of application submissions requires an automated procedure for validation. A first approach at this problem is that of statically extracting an abstract, but comprehensive, model of application behaviour that captures the GUI abstraction [1]. Such a model is amenable to testing analysis such as what Selenium (<http://www.seleniumhq.org>) performs for GUI intensive web sites. Interesting extensions to further automate the process include static analysis of applications to obtain the GUI models.

## References

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- [2] Peter Gilbert, Byung-Gon Chun, Landon P Cox, and Jaeyeon Jung. Vision: automated security validation of mobile apps at app markets. In *Proceedings of the second international workshop on Mobile cloud computing and services*, pages 21–26. ACM, 2011.
- [3] Steffen Lortz, Heiko Mantel, Artem Starostin, Timo Bähr, David Schneider, and Alexandra Weber. Cassandra: Towards a certifying app store for android. In *Proceedings of the 4th ACM Workshop on Security and Privacy in Smartphones & Mobile Devices*, pages 93–104. ACM, 2014.

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