

# Diploma Thesis

## Concept and Prototype of a Mobile Cross-Device Test Framework

### Student Worker

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### Topic

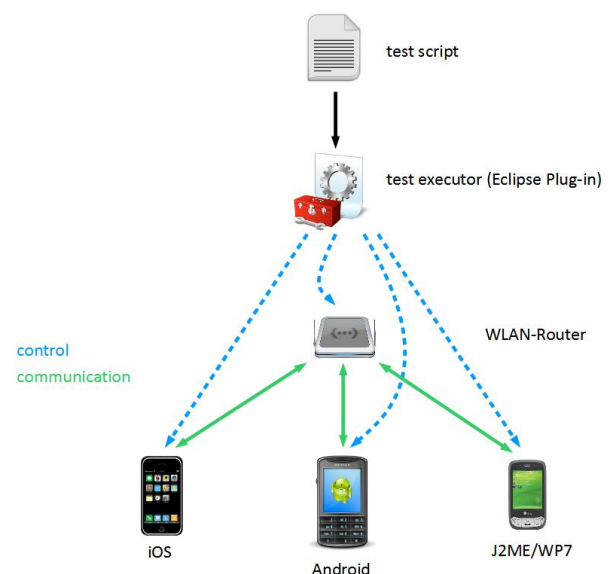
Testing has become a standard part of software development. In general, this means testing a single copy of an application on emulated or real hardware. However, with applications targeting mobile and wirelessly connected devices, testing one application copy on one device simplifies many use cases where at least two devices and the connecting network(s) are involved. What is needed here is a test framework capable of executing test cases which span over at least two devices. With this kind of framework test cases like loss of network connectivity or increased network load are much more convenient to execute.

### Goal

The goal of this diploma thesis is to develop a test framework for Android (and iOS) which is capable of executing test cases with two interacting devices connected by a mobile network. The figure below shows the basic setup.

### Approach

First the basic concepts will be developed with the Android OS. We will be looking at four test scenarios. Testing on one emulator, on two emulators, on one emulator and one real device and testing on two real devices. While executing the test cases we want to influence emulator1/device1, emulator2/device2 or the network in any necessary combination. In a second step the framework shall be extended for testing also iOS devices. The resulting extended framework is capable of cross-platform testing of mobile applications. The test executor shall be realized as an extension of an already existing Eclipse plug-in, which was developed during the diploma thesis of C. Elsemann.



### Supervisor

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