# Universiti Teknologi MARA

# An Implementation of JUnit Test Framework to Support Mobile Application Testing

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**Thesis submitted in fulfillment of the requirements
for Bachelor of Information Technology (Hons.)
Information Systems Engineering Faculty of
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# SUPERVISOR'S APPROVAL


## AN IMPLEMENTATION OF JUNIT TEST FRAMEWORK TO SUPPORT MOBILE APPLICATION TESTING

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This report was prepared under the supervision of project supervisor, Hazlifah binti Mohd Rusli. It was submitted to Faculty of Computer and Mathematical Sciences and was accepted in partial fulfilment of the requirements for the degree of Bachelor of Information Technology (Hons) Information Systems Engineering.



Approved by



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Hazlifah binti Mohd Rusli

Project Supervisor


FEBRUARY 10, 2015

# STUDENT'S DECLARATION

I certify that this report and the project to which it refer is the product of my own work and that any idea or quotation from other work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

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# ABSTRACT

Mobile application is an application that runs on mobile devices. Mobile testing is more challenging compared with desktop or web based testing as it has smaller footprint in virtual machine as against desktop application. Manually testing mobile applications is tedious and time consuming. Therefore, the aim of this project is to implement an automatic testing approach in testing mobile applications. This project aims to achieve several objectives which are to search for existing mobile application testing tools or technique or frameworks, create test cases based on given specifications, implement and execute test cases using an automatic testing approach and also report the outcomes of the test. An automatic testing framework, JUnit is selected to be used in this project. There are three phases in order to achieve these objectives. Phases for this project are knowledge acquisition, plan and design test cases, and finally execute test cases. Test cases were design using several techniques such as exploratory testing and scenario testing. As it is impossible to conduct 100% automatic testing, testing was executed both manually and automatically for both functional testing and white-box testing. The selected automatic approach which is JUnit was shown to be effective and basis for mobile testing and future tester can improve the result by integrate with other testing tools such as Selenium or Robotium Web Driver. This project reports the experiences of using automated testing approach for undergraduate final year project and can be used as a reference for other students and interested parties.