UNIVERSITI TEKNOLOGI MARA

DEFECT DETECTION EFFICIENCY: INTEGRATING EXPLORATORY AND TEST CASE BASED TESTING APPROACH FOR MIMOS BERHAD.

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requirements for the degree of
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ABSTRACT

Software testing is an integral part of software development life cycle. To improve the quality of software there are different testing approaches practiced over the years. Testing objectives corresponds to the discovery and detection of faults, which can be obtained by utilizing manual or automated testing approaches. This thesis mainly concerned with the manual test approaches. The most commonly used manual testing approaches in the software industry are the Exploratory Testing (ET) approach and the Test Case Based Testing (TCBT) approach.

This research study primarily deals with the strengths and weaknesses of both the TCBT approach and ET. These strengths and weaknesses are identified through a systematic literature review and interviews with testers in software industries. The aim of this research is to manipulate those strengths and weaknesses to develop and validate the new mix method approach for software testing that can lead to effectiveness and efficiency in the testing process. One (1) IT project was selected as a case study to validate the new approach by conducting an experiment conducted by professional tester at MIMOS Berhad.

The results showed that there exists a gap amongst the perceived strengths and weaknesses of ET and TCBT keeping industrial and the theoretical perspectives in context. It was also observed that there was no formal process of MT being used in the MIMOS BERHAD in order to collect benefit from the both approaches. For this reason, in the second step these indentified weaknesses and strengths of both test approaches were mapped to each other to define a MT process that incorporates the strengths of both ET and TCBT.

Keywords: Test case based testing, Exploratory testing, Merge testing, Process, Experiment, Test bed, Manual testing.

CANDIDATE'S DECLARATION

I declare that the work in this Thesis was carried out in accordance with the regulations of Universiti Teknologu MARA. It is original and is the result of my own work, unless otherwise indicated or acknowledged as reference work. This topic has not been submitted to any other academic institution or non-academic institution for any other degree or qualification.

In the event that my thesis is found to violate the conditions mentioned above, I voluntarily waive the right of conferment of my degree and agree to be subjected to the disciplinary rules and regulations of Universiti Teknologu MARA.

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