Abstract Details

Title: Software Testing Prioritization Based on Requirement Using Analytic Hierarchy Process

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Abstract: Software Testing is a process to check the system/software is work properly as per expectation or not. Testing in software may be done at the completion of project or at some intermediate stages. It can be stated as process of validating and verifying that a software program/application meets the requirements and works as expected. To test the complete software is not possible hence we perform exhaustive testing. The testing domain of a software is very large but in exhaustive testing we run a set of test cases that can cover the maximum range of the software. Hence There is a need to select those test cases that can cover the maximum code and branches of software and return the maximum bugs. To select the high priority test cases, there is a need to improve our test cases selecting process. AHP stands for 'Analytic Hierarchy Process' is a systematic decision making method that is fully based on mathematical calculation in which we take pair wise comparison matrix having each unique pair of criteria. We have implemented the technique AHP to prioritize the testing criteria. To select the test cases, we used the previous experience of the employees that works under the testing experience. We performed a survey to collect the data about these testing criteria in various organizations. Gathered data is filtered and then we prepare a pair wise comparison matrix table by the data collected from survey. Using that table we can find the priority vector for various testing criteria used. And with the help of this priority vector, we can set the priority of the testing criteria. After prioritizing criteria we invest cost and time as per requirement, which are giving good results.

Keywords: *Software Testing, CFT, DFT.*