

A Novel Prioritized Deciding Factor(PDF) Approach for Directed Acyclic Graph(DAG) Based Test Case Prioritization using Agile Testing Methodology

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Abstract

Software testing consumes one half of the total developmental resources. Many testers understand that IT management tries to save testing time, by giving them unreasonable deadlines. If a scheduled information date has been established, and dynamic testing can occur only after the code is complete, testers feel pressure of that deadline. This problem faced by many developers and testers till who are all working in the old waterfall model. To overcome the problem of time management of projects, many software industries prefer agile methodology, in agile methodology all works are divided into number of modules. Each module contains decision making, planning, coding, testing, implementation, and so on. Each module follows this process and integrates with the previously completed module. Finally the entire work will be integrated and the time duration of work is shorter than other software development models. But testing occupies the major part of the software development- the maximum time of the allotted time is utilized in testing in agile also. The major objective of this work is prioritization of test cases in Directed Acyclic Graph (DAG) based model. For this purpose introduced a new method named Prioritized Deciding Factor(PDF). It is a value, this value is calculated from other two processes such as Dependency value calculation and K-shingles jaccard similarity and distance value calculation. This paper describes about the prioritization of test cases based on Prioritized Deciding Factor(PDF) value, reduce the execution time of test cases, and increase the fault detection using Average Percentage Fault Detection(APFD) method.
