Abstract

Testability is the probability whether tests will detect a fault, given that a fault in the program exists. How efficiently the faults will be uncovered depends upon the testability of the software.
Various researchers have proposed qualitative and quantitative techniques to improve and measure the testability of software. In literature, a plethora of reliability growth models have been used to assess and measure the quantitative quality assessment of software during testing and operational phase. The knowledge about failure distribution and their complexity can improve the testability of software. Testing effort allocation can be made easy by knowing the failure distribution and complexity of faults, and this will ease the process of revealing faults from the software. As a result, the testability of the software will be improved. The parameters of the model along with the proportion of faults of different complexity to be removed from the software have been presented in the paper. We have used failure data of two object-oriented software developed under open source environment namely MySQL for python and Squirrel SQL Client for estimation purpose.

References

- Jin-Cherng Lin, Pu-lin Yeh, Shou-Chia Yang," Promoting the Software Design for Testability Towards a Partial Test Oracle, 8th International Workshop on Software Technology and Engineering Practice (STEP '97) (including CASE,97).
- Book: Bernd Bruegge & Allen H. Dutoit , "Object-Oriented Software Engineering".

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**Index Terms**

Computer Science  
Software Engineering
Keywords

Testability
Open source software

Object oriented software
Software reliability growth model