Abstract

Software testing is the last phase of the development cycle. The important role in software development is software Testing. In today’s software industry, the design of software tests is mostly based on the tester’s expertise, while test automation tools are limited to execution of preplanned tests only. Testing effort can be classified into three parts, they are test case generation, test execution and test evaluation. This paper presents a novel approach to generate the automated test paths. Due to the delay in the development of software, testing has to be done in a short time. This led to automation of testing because its efficiency and also requires less man power. In this proposed approach, by using one of the most standard Unified Modeling Language (UML) Activity Diagram, construct the Activity Dependency table(ADT), then generate the Test paths. Then the test path are prioritized by using the Tabu search algorithm. The prioritized test path can be used in system testing, regressing testing and integration testing. Then also form the Cyclomatic diagram to check the efficiency of the test scenario.


Bin Lei, Linzhang Wang, Xuandong Li, UML Activity Diagram Based Testing of Java Concurrent Programs for Data Race and Inconsistency, 2008 International Conference on Software Testing, Verification, and Validation.

P. Samuel, R. Mall, A. K. Bothra, 2008 "Automatic test case generation using unified modeling language (UML) state diagrams", Published in IET Software.


Hyungchoul Kim, Sungwon Kang, Jongmoon Baik, Inyoung Ko, "Test Cases
- Santosh Kumar Swain, Durga Prasad Mohapatra, and Rajib Mall, &quot;Test Case Generation Based on Use case and Sequence Diagram&quot;, Int. J. of Software Engineering, IJSE Vol. 3 No. 2 July 2010.

Index Terms

Computer Science

Algorithms

Keywords

Software Testing  Test Cases  Uml (unified Modeling Language)  Activity Diagram  Tabu Search Algorithm

Activity Dependency Table (adt)

Prioritization