



SNS COLLEGE OF TECHNOLOGY

Coimbatore-37.

An Autonomous Institution



COURSE NAME : 19CST201-Agile Software Engineering

II YEAR/ III SEMESTER

Topic: Black Box Testing

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Introduction

- Black box testing is a technique of software testing which examines the functionality of software without peering into its internal structure or coding.
- The primary source of black box testing is a specification of requirements that is stated by the customer.
- In this method, tester selects a function and gives input value to examine its functionality, and checks whether the function is giving expected output or not.
- If the function produces correct output, then it is passed in testing, otherwise failed.
- The test team reports the result to the development team and then tests the next function.
- After completing testing of all functions if there are severe problems, then it is given back to the development team for correction.



Steps

- The black box test is based on the specification of requirements, so it is examined in the beginning.
- In the second step, the tester creates a positive test scenario and an adverse test scenario by selecting valid and invalid input values to check that the software is processing them correctly or incorrectly.
- In the third step, the tester develops various test cases such as decision table, all pairs test, equivalent division, error estimation, cause-effect graph, etc.



Techniques



Decision Table Technique

Decision Table Technique is a systematic approach where various input combinations and their respective system behavior are captured in a tabular form.

It is appropriate for the functions that have a logical relationship between two and more than two inputs.

Boundary Value Technique

Boundary Value Technique is used to test boundary values, boundary values are those that contain the upper and lower limit of a variable.

It tests, while entering boundary value whether the software is producing correct output or not.



State Transition Technique

State Transition Technique is used to capture the behavior of the software application when different input values are given to the same function. This applies to those types of applications that provide the specific number of attempts to access the application.

All-pair Testing Technique

All-pair testing Technique is used to test all the possible discrete combinations of values. This combinational method is used for testing the application that uses checkbox input, radio button input, list box, text box, etc.



Cause-Effect Technique

Cause-Effect Technique underlines the relationship between a given result and all the factors affecting the result. It is based on a collection of requirements.

Equivalence Partitioning Technique

Equivalence partitioning is a technique of software testing in which input data is divided into partitions of valid and invalid values, and it is mandatory that all partitions must exhibit the same behavior.



References

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- Mike Cohn, “User Stories Applied: for Agile Software”, Addison Wesley, 2nd Edition,2015.

