SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A' Grade

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

COURSE NAME : 19CS511 SOFTWARE TESTING

III YEAR / V SEMESTER

Unit 2- TEST CASE DESIGN STRATEGIES

Topic 6 : User documentation testing and domain testing

Cause-effect graphing & Compatibility testing - Problem

- Let's take a real-time example of Microsoft, Microsoft launch every product with proper user guidelines and documents, which are very explanatory, logically consistent and easy to understand for any user. These are all the reasons behind their successful products.

What is Documentation Testing?

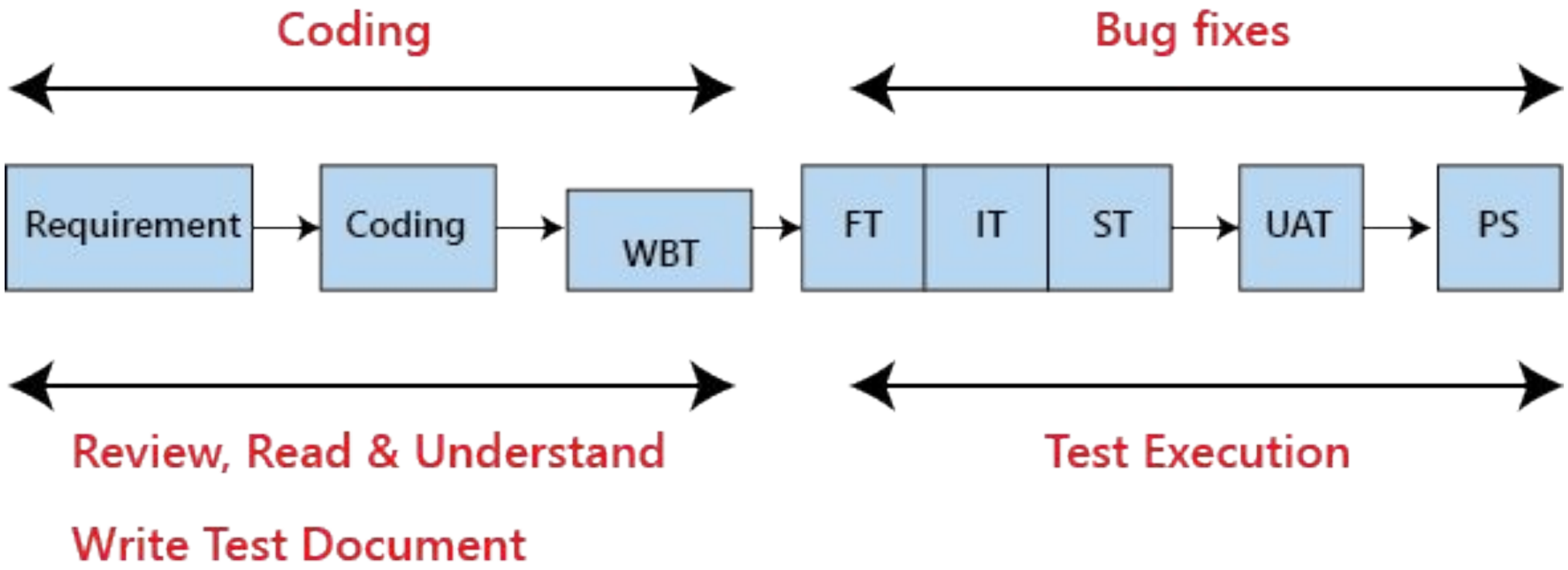
- Documentation Testing involves testing of the documented artifacts that are usually developed before or during the testing of Software.
- Documentation for Software testing helps in estimating the testing effort required, test coverage, requirement tracking/tracing, etc. This section includes the description of some commonly used documented artifacts related to Software development and testing, such as:
- Test Plan
- Requirements
- Test Cases
- Traceability Matrix

Types of test document

In software testing, we have various types of test document, which are as follows:

- Test scenarios
- Test case
- Test plan
- Requirement traceability matrix(RTM)
- Test strategy
- Test data
- Bug report
- Test execution report

Documentation Testing

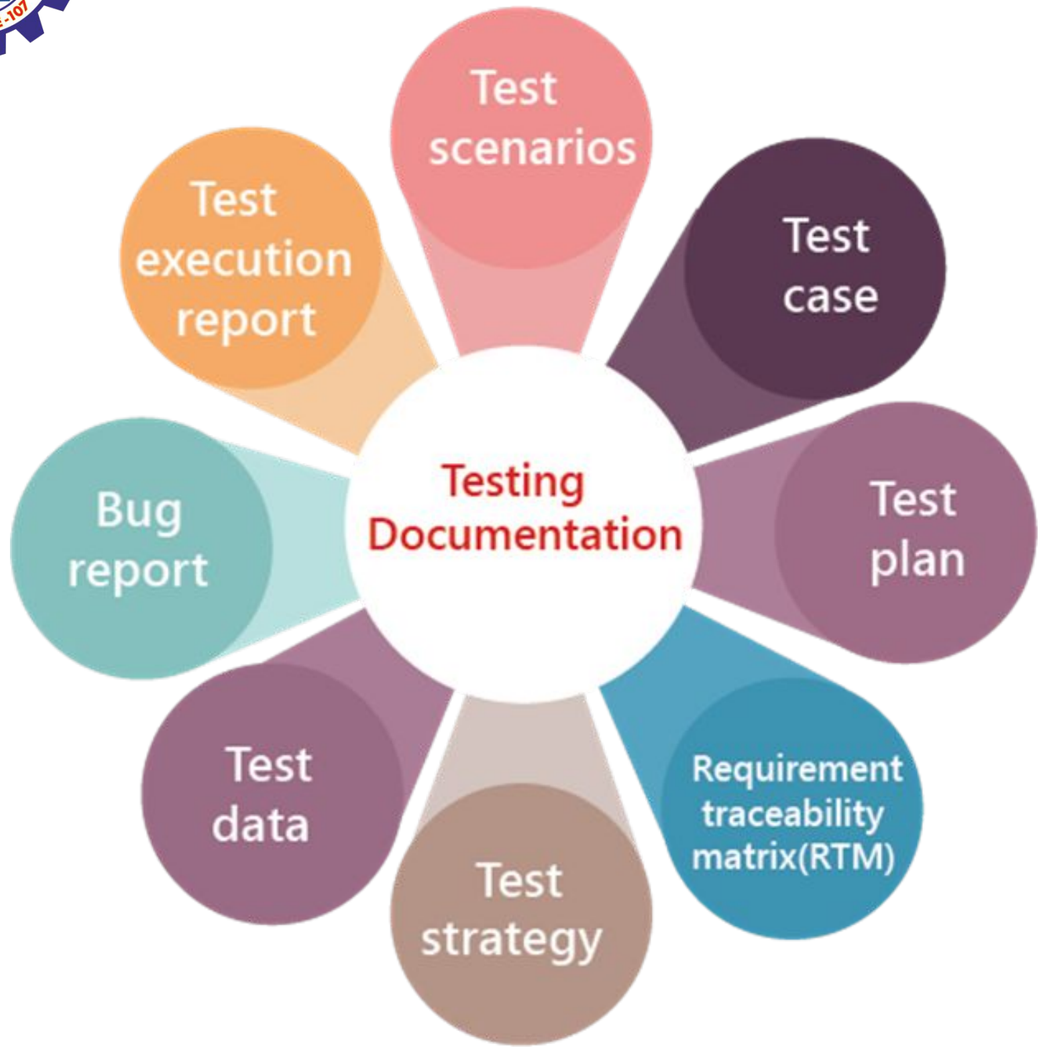


Documentation Testing

Benefits :

- Documentation clarifies the quality of methods and objectives.
- It ensures internal coordination when a customer uses software application.
- It ensures clarity about the stability of tasks and performance.
- It provides feedback on preventive tasks.
- It provides feedback for your planning cycle.
- It creates objective evidence for the performance of the quality management system.
- If we write the test document, we can't forget the values which we put in the first phase.
- It is also a time-saving process because we can easily refer to the text document.
- It is also consistent because we will test on the same value.

Documentation Testing



- ✔ Disadvantages
- ✔ It is a bit tedious because we have to maintain the modification provided by the customer and parallel change in the document.
- ✔ If the test documentation is not proper, it will replicate the quality of the application.
- ✔ Sometimes it is written by that person who does not have the product knowledge.
- ✔ Sometimes the cost of the document will be exceeding its value.

Domain Testing

Domain Testing is a Software Testing process in which the application is tested by giving a minimum number of inputs and evaluating its appropriate outputs. The primary goal of Domain testing is to check whether the software application accepts inputs within the acceptable range and delivers required output.

Domain Testing Structure

- Usually, testers follow the below steps in a domain testing. These may be customized/ skipped according to our testing needs.
- Identify the potentially interesting variables.
- Identify the variable(s) you can analyze now and order them (smallest to largest and vice versa).
- Create and identify boundary values and equivalence class values as above.

Domain Testing Structure -Cont..

- Identify secondary dimensions and analyze each in a classical way. (In the above example, Gender is the secondary dimension).
- Identify and test variables that hold results (output variables).
- Evaluate how the program uses the value of this variable.
- Identify additional potentially-related variables for combination testing.
- Imagine risks that don't necessarily map to an obvious dimension.
- Identify and list unanalyzed variables. Gather information for later analysis.

Domain Testing Strategy

- While domain testing, you need to consider following things,
- What domain are we testing?
- How to group the values into classes?
- Which values of the classes to be tested?
- How to determine the result?

Problem in Domain Test

Consider a games exhibition for Children, 6 competitions are laid out, and tickets have to be given according to the age and gender input. The ticketing is one of the modules to be tested in for the whole functionality of Games exhibition.

- According to the scenario, we got six scenarios based on the age and the competitions:
- Age >5 and <10, Boy should participate in Storytelling.
- Age >5 and <10 , girl should participate in Drawing Competition.
- Age >10 and <15, Boy should participate in Quiz.
- Age >10 and <15 , girl should participate in Essay writing.
- Age<5, both boys and girls should participate in Rhymes Competition.
- Age >15, both boys and girls should participate in Poetry competition.

Determining the results of the example

Scenario	Values to be taken	Test Cases #	Expected results
Age >5 and <=10	**Gender = Boy** **Boundary Values to be taken:** Input age = 6 Input age = 5 Input age = 11 Input age = 10 **Equivalence Partitioning Value to be taken:** Input age = 8	TC #1 Input age = 6	Storytelling
		TC #2 Input age = 5	Rhymes Competition
		TC #3 Input age = 11	Quiz
		TC #4 Input age = 10	Story Telling
		TC #5 Input age = 8	Story Telling
Age >5 and <=10	**Gender = Girl** **Boundary Values to be taken:** Input age = 6 Input age = 5 Input age = 11 Input age = 10 **Equivalence Partitioning Value to be taken:** Input age = 8	TC #6 Input age = 6	Drawing Competition
		TC #7 Input age = 5	Rhymes Competition
		TC #8 Input age = 11	Essay Writing
		TC #9 Input age = 10	Drawing Competition
		TC #10 Input age = 8	Drawing Competition

Activity

Advantages	Disadvantages
Well suited and efficient for large code segments.	Limited coverage, since only a selected number of test scenarios is actually performed.
Code access is not required.	Inefficient testing, due to the fact that the tester only has limited knowledge about an application.
Clearly separates user's perspective from the developer's perspective through visibly defined roles.	Blind coverage, since the tester cannot target specific code segments or errorprone areas.
Large numbers of moderately skilled testers can test the application with no knowledge of implementation, programming language, or operating systems.	The test cases are difficult to design.

Assessment 1

1. List out the Advantages of domain test

a)_____

b)_____

c)_____

d)_____

2. Identify the Disadvantages of domain test

a)_____

b)_____

c)_____

d)_____

TEXT BOOKS:

1. Ricardo Baeza-Yates and Berthier Ribeiro-Neto, —Modern Information Retrieval: The Concepts and Technology behind Search, Second Edition, ACM Press Books, 2011.

2. Ricci, F, Rokach, L. Shapira, B.Kantor, —Recommender Systems Handbook‖, First Edition, 2011.

REFERENCES:

1. C. Manning, P. Raghavan, and H. Schütze, —Introduction to Information Retrieval, Cambridge University Press, 2008.

2. Stefan Buettcher, Charles L. A. Clarke and Gordon V. Cormack, —Information Retrieval: Implementing and Evaluating Search Engines, The MIT Press, 2010.

THANK YOU