College Name (Example: Government Polytechnic Pune)

Computer Engineering Department

(Academic Year)

Micro Project

on

"Prepare test case for web application"

Subject :-- Software Testing

Submitted By

Roll No	Enroll. No	Name of Student

What is a Test Case?

A Test Case is defined as a set of actions executed to verify a particular feature or functionality of the software application. A test case is an indispensable component of the Software Testing LifeCycle that helps validate the AUT (Application Under Test).

Typical Test Case Parameters:

- Test Case ID
- Test Scenario
- Test Case Description
- Test Steps
- Prerequisite
- Test Data
- Expected Result
- Test Parameters
- Actual Result
- Environment Information
- Comments
- Objectives
- Action
- Test Browser

Types of test cases

There are two types of test cases as mentioned below:

1. Formal test cases: Formal test cases are those test cases which are authored as per the test case format. It has all the information like preconditions, input data, output data, post conditions, etc. It has a defined set of inputs which will provide the expected output.
2. Informal test cases: Informal test cases are authored for such requirements where the exact input and output are not known. In order to test them the formal test cases are not authored but the activities done and the outcomes are reported once the tests are run.

Advantages of writing testcase

1. Test case is a written document which can be referred anytime by anyone in the team to understand the end to end functionality of any feature.
2. It saves time of the team members as no one has to sit and make another person understand about the functionality of the feature.
3. Writing test case ensures the maximum coverage of the product or application as per the customer requirement.
4. Writing test case helps in improving the **software quality**

Disadvantages of writing testcase

1. If any existing feature is changed then the related testcases needs modification which is time consuming as one has to go through the entire list of test cases and find those test cases which requires modification.
2. If any feature becomes obsolete then the associated test cases should be cleaned.

Test Case Best Practices

When writing test cases, consider these things:

- Keep the title short.
- Include a strong description.
- Be clear and concise.
- Include the expected result.

How to write good Test Case Example.

1. Test Cases need to be simple and transparent:

Create test cases that are as simple as possible. They must be clear and concise as the author of the test case may not execute them.

Use assertive language like go to the home page, enter data, click on this and so on. This makes the understanding the test steps easy and tests execution faster.

2. Create Test Case with End User in Mind

The ultimate goal of any software project is to create test cases that meet customer requirements and is easy to use and operate. A tester must create test cases keeping in mind the end user perspective

3. Avoid test case repetition.

Do not repeat test cases. If a test case is needed for executing some other test case, call the test case by its test case id in the pre-condition column

4. Do not Assume

Do not assume functionality and features of your software application while preparing test case. Stick to the Specification Documents.

5. Ensure 100% Coverage

Make sure you write test cases to check all software requirements mentioned in the specification document. Use Traceability Matrix to ensure no functions/conditions is left untested.

6. Test Cases must be identifiable.

Name the test case id such that they are identified easily while tracking defects or identifying a software requirement at a later stage.

7. Implement Testing Techniques

It's not possible to check every possible condition in your software application. Software Testing techniques help you select a few test cases with the maximum possibility of finding a defect.

- **Boundary Value Analysis (BVA):** As the name suggests it's the technique that defines the testing of boundaries for a specified range of values.
- **Equivalence Partition (EP):** This technique partitions the range into equal parts/groups that tend to have the same behavior.
- **State Transition Technique**: This method is used when software behavior changes from one state to another following particular action.
- **Error Guessing Technique:** This is guessing/anticipating the error that may arise while doing manual testing. This is not a formal method and takes advantages of a tester's experience with the application

8. **Self-cleaning**

The test case you create must return the Test Environment to the pre-test state and should not render the test environment unusable. This is especially true for configuration testing.

9. **Repeatable and self-standing**

The test case should generate the same results every time no matter who tests it

10. Peer Review.

After creating test cases, get them reviewed by your colleagues. Your peers can uncover defects in your test case design, which you may easily miss.

Test Case For web-application (www.cwipedia.in)

Test Case Id	Action	Input Data	Test Browser	Expected Result	Actual Result	Status
TC1	Launch Application	https://www.cwipedia.in/	Google Chrome	should open home page	Cwipedia home page	pass
TC2	Click On Download	https://www.cwipedia.in/search/label/Windows	Google Chrome	Should Open Download section	Download Page As expected	pass
TC3	Click On CSE	https://www.cwipedia.in/search/label/MSBTE	Google Chrome	Should Open CSE Page	CSE page	pass
TC4	Click on Programming>Java Programming	https://www.cwipedia.in/search/label/Java%20Programming	Google Chrome	Should Open Java Programming page	Java Programming Page	pass
TC5	Click on Programming>Python	https://www.cwipedia.in/search/label/Python%20Programming	Google Chrome	Should open Python programming page	Python Programming Page	pass
TC6	Click on Programming>VB.Net	https://www.cwipedia.in/search/label/VB.net	Google Chrome	Should Open VB.net page	VB.net page	pass

TC7	Click on about us	https://www.cwipedia.in/p/about-us.html	Google Chrome	Should open About Us page	About Us Page	pass
TC8	Click on Contact us	https://www.cwipedia.in/p/contact-us-demofont-familyarial.html	Google Chrome	Should Open Contact us page	Contact Us	pass
TC9	Click on Terms& Condition	https://www.cwipedia.in/p/terms-and-conditions.html	Google Chrome	Should open Terms And Condition page	Terms And Condition page	pass

Conclusion

Writing test cases takes a little practice and knowledge of the software that's being tested. Well-written test cases can make your testing process smoother, and save you time in the long run and you can manage and organizes your test cases in an efficient way.