

## OEP

AIM: Assume that you are software engineer you have been assigned a task of constructing a website for a specific company with your team. Design a priorities test cases using test case templates for this project.

Test lead/manager: A test lead is responsible for:

- Defining the testing activities for subordinates – testers or test engineers.
- All responsibilities of test planning.
- To check if the team has all the necessary resources to execute the testing activities.
- To check if testing is going hand in hand with the software development in all phases.
- Prepare the status report of testing activities.
- Required Interactions with customers.
- Updating project manager regularly about the progress of testing activities.

Test engineers/QA testers/QC testers are responsible for:

- To read all the documents and understand what needs to be tested.
- Based on the information procured in the above step decide how it is to be tested.
- Inform the test lead about what all resources will be required for software testing.
- Develop test cases and prioritize testing activities.
- Execute all the test case and report defects, define severity and priority for each defect.
- Carry out regression testing every time when changes are made to the code to fix defects.

### Overview Of Software Engineering Team

How a software application shapes up during the development process entirely depends on the how the software engineering team organizes work and implements various methodologies. For an application to develop properly, it is important that all processes incorporated during the software development are stable and sustainable. Many times, developers come under pressure as the delivery date approaches closer this often affects the quality of the software. Rushing through the processes to finish the project on time will only produce a software application which has no or minimal use for the customers. Hence, work organization and planning is important and sticking to the plan is very important. The project manager should ensure that there are no obstacles in the development process and if at all there is an issue it must be resolved with immediate attention.

### Overview Of Software Testing Team

How soon and how well you can achieve your testing goals depends solely on the capabilities of the testing team. Within the testing team itself it is important to have the correct blend of testers who can efficiently work together to achieve the common testing goals. While forming a team for testing, it is important to ensure that the members of the team jointly have a combination of all the relevant domain knowledge that is required to test the software under development.

It is very important to ensure that the software testing team has a proper structure. The hierarchy and roles should be clearly defined, and responsibilities too should be well defined and properly distributed amongst the team members. When the team is well organized the work can be handled well. If every team member knows what duties he or she has to perform then they will be able to finish their duties as required well within the time limit. It is important to keep track of the testers' performance. It is very important to check what kind of defects the tester is able to uncover and what kind of defects he tends to miss. This will give you a fair idea about how serious your team is about the work.

All the team members should work together to prepare a document that clearly defines the roles and responsibilities of all the team members. Once the document is prepared the role of each member should be communicated clearly to everyone. Once the team members are clear about who is going to handle which area of the project, then in case of any issue it will be easy to determine who needs to be contacted.

Each member of the team should be provided with the necessary documents that provide information on how the task would be organized, what approach will be followed, how things are scheduled, how many hours have been allocated to each member and all details related to applicable standards and quality processes.

### Software Tester Role

A Software tester (software test engineer) should be capable of designing test suites and should have the ability to understand usability issues. Such a tester is expected to have sound knowledge of software test design and test execution methodologies. It is very important for a software tester to have great communication skills so that he can interact with the development team efficiently. The roles and responsibilities for a usability software tester are as follows:

1. A Software Tester is responsible for designing testing scenarios for usability testing.
2. He is responsible for conducting the testing, thereafter, analyze the results and then submit his observations to the development team.
3. He may have to interact with the clients to better understand the product requirements or in case the design requires any kind of modifications.
4. Software Testers are often responsible for creating test-product documentation and also has to participate in testing related walk through.

A software tester has different sets of roles and responsibilities. He should have in depth knowledge about software testing. He should have a good understanding about the system which means technical (GUI or non-GUI human interactions) as well as functional product aspects. In order to create test cases, it is important that the software tester is aware of various testing techniques and which approach is best for a particular system. He should know what various phases of software

testing are and how testing should be carried out in each phase. The responsibilities of the software tester include:

1. Creation of test designs, test processes, test cases and test data.
2. Carry out testing as per the defined procedures.
3. Participate in walkthroughs of testing procedures.
4. Prepare all reports related to software testing carried out.
5. Ensure that all tested related work is carried out as per the defined standards and procedures.

#### Software Test Manager Role

Managing or leading a test team is not an easy job. The company expects the test manager to know testing methodologies in detail. A test manager has to take very important decisions regarding the testing environment that is required, how information flow would be managed and how testing procedure would go hand in hand with development. He should have sound knowledge about both manual as well as automated testing so that he can decide how both the methodologies can be put together to test the software. A test manager should have sound knowledge about the business area and the client's requirement, based on that he should be able to design a test strategy, test goal and objectives. He should be good at project planning, task and people coordination, and he should be familiar with various types of testing tools. Many people get confused between the roles and responsibilities of a test manager and test lead. For a clarification, a test lead is supposed to have a rich technical experience which includes, programming, handling database technologies and various operating systems, whereas he may not be as strong as Software Test Manager regarding test project management and coordination. The responsibilities of the test manager are as follows:

1. Since the test manager represents the team he is responsible for all interdepartmental meetings.
2. Interaction with the customers whenever required.
3. A test manager is responsible for recruiting software testing staff. He has to supervise all testing activities carried out by the team and identify team members who require more training.
4. Schedule testing activities, create budget for testing and prepare test effort estimations.
5. Selection of right test tools after interacting with the vendors. Integration of testing and development activities.
6. Carry out continuous test process improvement with the help of metrics.
7. Check the quality of requirements, how well they are defined.
8. Trace test procedures with the help of test traceability matrix.

#### Software Test Automator Role

Software test Automator or an automated test engineer should have very good understanding of what he needs to test- GUI designs, load or stress testing. He should be proficient in automation of software testing, and he should be able to design test suites accordingly. A software test Automator

should be comfortable using various kinds of automation tools and should be capable of upgrading their skills with changing trends. He should also have programming skills so that he is able to write test scripts without any issues. The responsibilities of a tester at this position are as follows:

- 1.He should be able to understand the requirement and design test procedures and test cases for automated software testing.
- 2.Design automated test scripts that are reusable.
- 3.Ensure that all automated testing related activities are carried out as per the standards defined by the company.

#### Interactions between Software Test Team And Business Teams

If at all a customer has any issues related to testing activities and operational matters of the project then it is the software testing manager who is responsible for communicating the details to the client regarding how things are being managed. The software testing manager not only answers the queries of the customers but also ensures that the project is completed on time as per the requirement of the customer.

#### Interactions between Software Test Team And Development Teams

In order to produce good software applications, it is important that software testing and software development teams work together with good understanding. For this it is important that the testers and developers are comfortable with each other's role and understand well that they have a common goal and it is wise to listen each other. A good communication skill is very important both for testers and developers.

Before getting started with testing work it is important to discuss the basic guidelines and expectations so that there is no confusion in later stages. Criticism should be taken in a positive sense. It is important to understand that developers and testers have a common goal of producing high quality software. A tester is not discovering bugs to show someone down, the idea is to learn from mistakes and avoid repeating them in future. A culture of constructive criticism can be of great help.

#### Interactions between Software Test Team And Release Management Teams

The release management teams are responsible for moving the software from development into production. This team is responsible for planning the releases for hardware, software and testing. It is also responsible for development of software development procedures and for coordinating interactions and training of releases. Software testing is considered to be a very important aspect of software engineering life cycle, but it does not get over with development. Testing and verification is a very important part of release management exercise.

Interactions between Software Test Manager And Software Project Manager. The job of a software test manager is not an easy one. He has to recruit testing team and take responsibility for getting them trained. A software manager has to perform ongoing analysis of various testing processes and ensure that the testing team is carrying out all the processes correctly. This job is of great responsibility as the software testing manager is the one who selects, introduces and implement various tools for testing. A software test manager is responsible for finalizing templates for testing documents, test reports and other procedures.

Since a software tester manager has to deal with all the details of various testing activities, it is very important for him to be in constant touch with the project manager and provide necessary support in project planning and scheduling so that the project can be successfully completed in time within the specified financial budget limits.

The screenshot displays the 'Testing Center' interface for 'Test Case 77755'. The top navigation bar includes 'Plan', 'Test', 'Track', and 'Organize'. The 'Plan' tab is active, showing a 'Contents' and 'Properties' view. The 'Properties' view is divided into 'Status' and 'Classification' sections. The 'Status' section includes fields for 'Assigned To', 'State' (Design), 'Priority' (1), and 'Automation Status' (Automated). The 'Classification' section includes 'Area', 'Iteration', 'Test Plan' (Automation Test Plan), 'Test Suite' (Acceptance Tests), and 'Test Categories' (EndToEnd;ProdNet;Acceptance). Below these sections are tabs for 'Steps', 'Summary', 'Tested Functionality', 'All Links', 'Attachments', 'Associated Automation', and 'Automation Statistics'. The 'Automation Statistics' tab is selected, showing a table of automation run data. The table has columns for 'Last Run Date', 'Last Run Result', 'Last Run Duration (sec)', 'Recent Average Passrate (%)', and 'Recent Average Run Duration (sec)'. The data row shows a successful run on 8/12/2011 with a duration of 850 seconds, a passrate of 12%, and a recent average run duration of 768 seconds.

Last Run Date:	Last Run Result:	Last Run Duration (sec):	Recent Average Passrate (%):	Recent Average Run Duration (sec):
8/12/2011	Passed	850	12	768