# Manual Testing
## Session 8

# Test Plan Contents

- A Test Plan is a document that describes the test scope, test strategy, objectives, schedule, deliverables and resources required to perform testing for a software product.

- <span style="color:red">Test plan template contents:</span>
    - Overview
    - Scope
        - Inclusions
        - Test Environments
        - Exclusions
    - Test Strategy
    - Defect Reporting Procedure
    - Roles/Responsibilities
    - Test Schedule
    - Test Deliverables
    - Pricing
    - Entry and Exit Criteria
    - Suspension and Resumption Criteria
    - Tools
    - Risks and Mitigations
    - Approvals

# Use case, Test Scenario & Test Case

- **Use Case**:
    - Use case describes the requirement.
    - Use case contains THREE Items.
        - **Actor**, which is the user, which can be a single person or a group of people, interacting with a process.
        - **Action**, which is to reach the final outcome
        - **Goal/Outcome**, which is the successful user outcome.

- **Test Scenario**:
    - A possible area to be tested (What to test)

- **Test Case**:
    - Step by step actions to be performed to validate functionality of AUT (How to test).
    - Test case contains test steps, expected result & actual result.

Sample Use Case
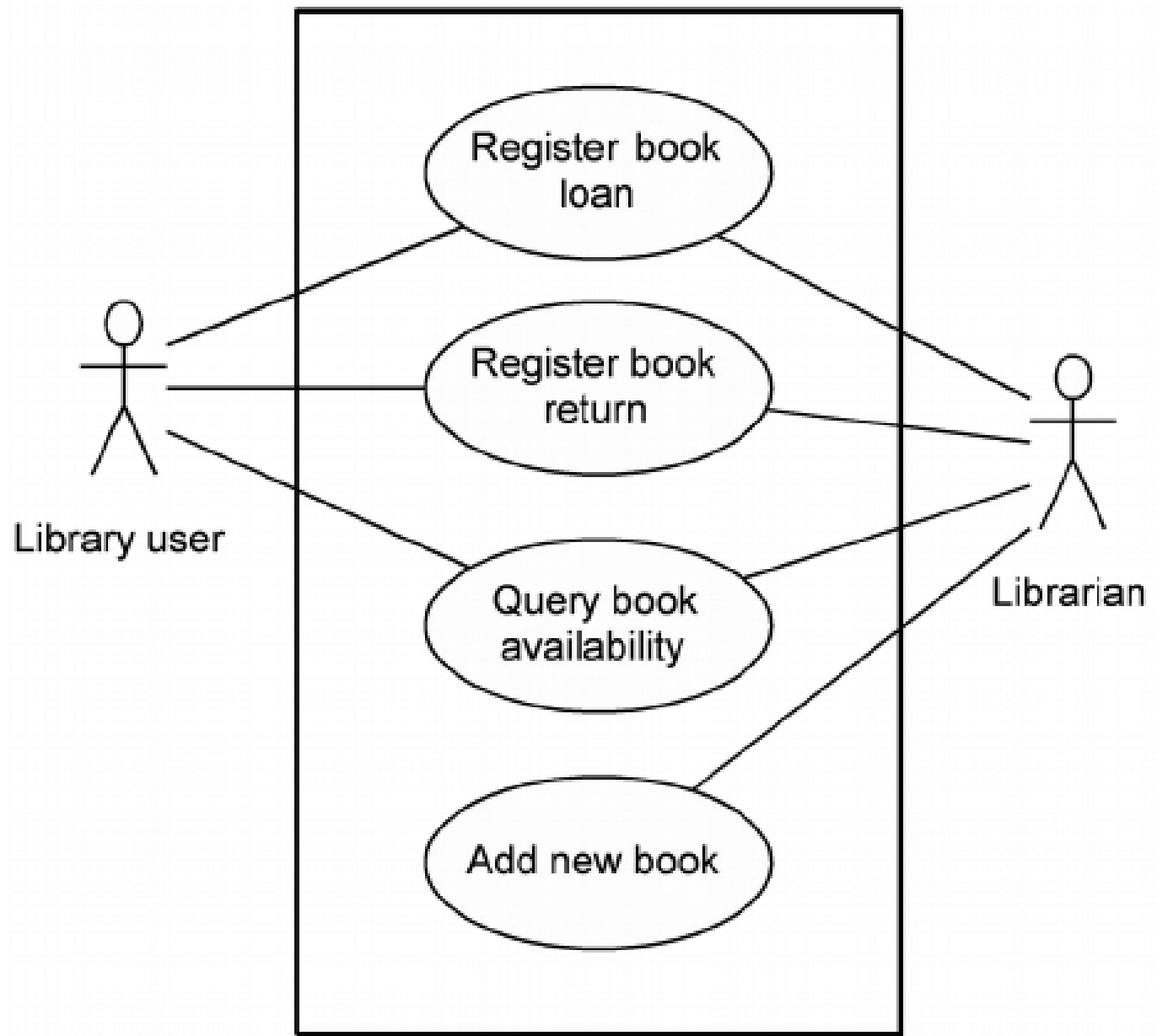
# Use Case V/s Test Case

- **Use Case** – Describes functional requirement, prepared by Business Analyst(BA).


- **Test Case** – Describes Test Steps/ Procedure, prepared by Test Engineer.

# Test Scenario V/s Test Case

- Test Scenario is 'What to be tested' and Test Case is 'How to be tested'.

- **Example:-**

- Test Scenario: Checking the functionality of Login button

  - TC1: Click the button without entering user name and password.

  - TC2: Click the button only entering User name.

  - TC3: Click the button while entering wrong user name and wrong password.

# Test Suite

- **Test** Suite is group of test cases which belongs to same category.
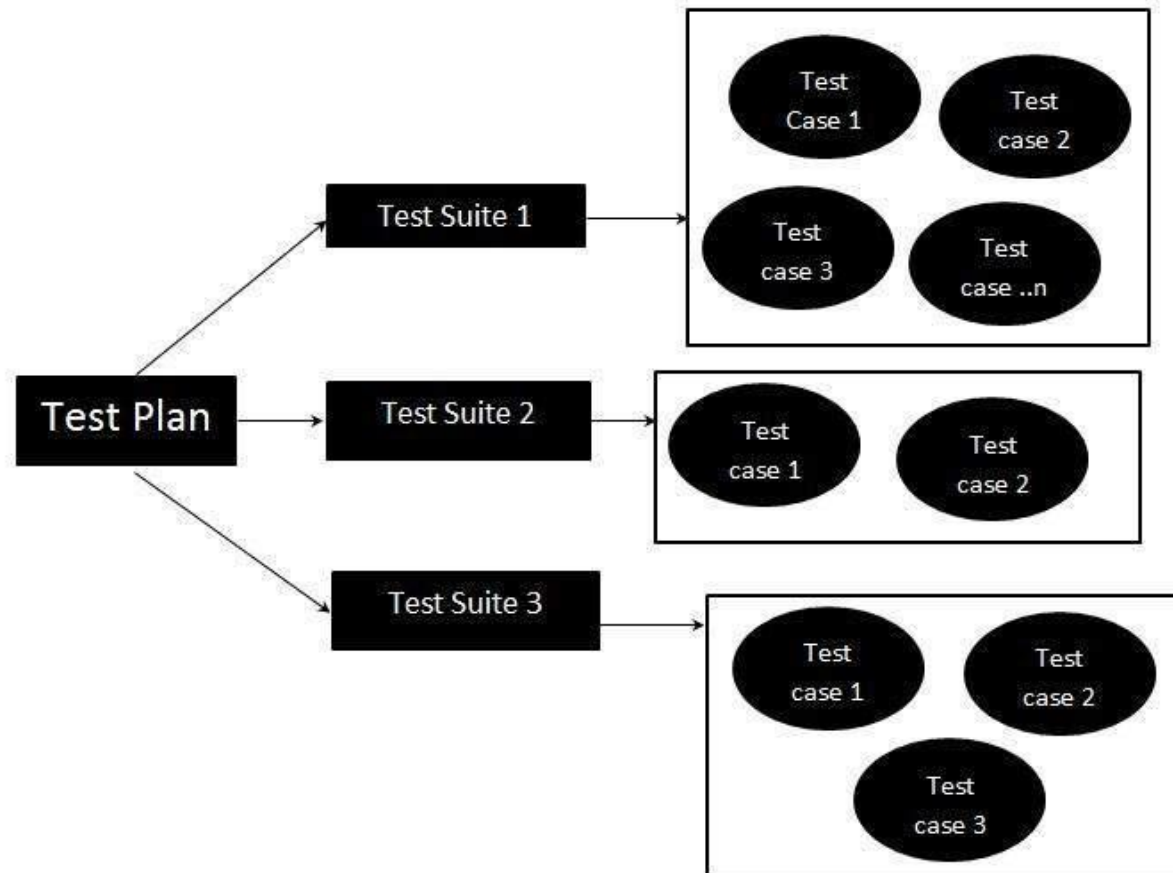
# What is Test case?

- A Test Case is a set of actions executed to validate particular feature or functionality of your software application.

# Test Case Contents

- Test Case ID

- Test Case Title

- Description

- Pre-condition

- Priority ( P0, P1,P2,P3) – order

- Requirement ID

- Steps/Actions

- Expected Result

- Actual Result

- Test data

# Test Case Template



| Module Name | Req ID | TestType | Priority | Test case ID | Test Scenario | Precondition | Testcases / Teststeps | Actual Result | Expected Result | Result |
|---|---|---|---|---|---|---|---|---|---|---|
| Homepage | 1 | +ve | p1 | 1 | Verify the URL of the home page | 1. Open the browser 2. Enter the URL:http://spicejet.com/ Click on Go or Press Enter | 1. Open the browser 2. Enter the URL http://spicejet.com/ 3. Click on Go or Press Enter | | Browser should navigate to the home page | |
| BookaFlight | 2 | GUI | P3 | 1 | Verify the GUI of home page | Open the URL http://spicejet.com | 1. Check the spell of all the fields 2. Check allignment of all the fields 3. Check the font of all the fields 4. Check the color of all the fields 5. Check the look and feel of the page | Application is maintaining the consistancy | Application should maintain the consistancy | Pass |
| BookaFlight | 2 | +ve | P1 | 2 | Verify the fields in bookaflight page | Open the URL http://spicejet.com | Check the below fields in home page<br>Field Name  Field Type<br>Round trip  Radio<br>Oneway  Radio<br>Leaving From  Dropdown<br>Going To  Dropdown<br>Date Picker1  Date Picker<br>Date Picker2  Date Picker<br>Adult  Dropdown<br>Children  Dropdown<br>Infants  Dropdown<br>Indian armed forces personnel Checkbox<br>Student  Check box<br>Find flights  Button | Student discount is displaying instead of sudent | Application should display all the fields in bookaflight page | Fail |

Book a flight | Home page | Homepage test metrics | Book a flight test metrics | DSR | Review Report

# Requirement Traceability Matrix(RTM)

- What is RTM (Requirement Traceability Matrix)?

- RTM describes the mapping of Requirement's with the Test cases.

- The main purpose of RTM is to see that all test cases are covered so that no functionality should miss while doing Software testing.

- Requirement Traceability Matrix – Parameters include
  - Requirement ID
  - Req Description
  - Test case ID's

# Sample RTM

| Req No | Req Desc | Testcase ID | Status |
|--------|----------|-------------|--------|
| 123 | Login to the application | TC01,TC02,TC03 | TC01-Pass<br>TC02-Pass |
| 345 | Ticket Creation | TC04,TC05,TC06,<br>TC07,TC08,TC09<br>TC010 | TC04-Pass<br>TC05-Pass<br>TC06-Pass<br>TC06-Fail<br>TC07-No Run |
| 456 | Search Ticket | TC011,TC012,<br>TC013,TC014 | TC011-Pass<br>TC012-Fail<br>TC013-Pass<br>TC014-No Run |

# Test Environment

- Test Environment is a platform specially build for test case execution on the software product.

- It is created by integrating the required software and hardware along with proper network configurations.

- Test environment simulates production/real time environment.

- Another name of test environment is <span style="color:red">Test Bed</span>.

# Test Execution

- During this phase test team will carry out the testing based on the test plans and the test cases prepared.

- **Entry Criteria:** Test cases , Test Data & Test Plan

- **Activities:**
  - Test cases are executed based on the test planning.
  - Status of test cases are marked, like Passed, Failed, Blocked, Run, and others.
  - Documentation of test results and log defects for failed cases is done.
  - All the blocked and failed test cases are assigned bug ids.
  - Retesting once the defects are fixed.
  - Defects are tracked till closure.

- **Deliverables:** Provides defect and test case execution report with completed results.

# Guidelines for Test Execution

- The Build being deployed to the QA environment is the most important part of the test execution cycle.

- Test execution is done in Quality Assurance (QA) environment.

- Test execution happens in multiple cycles.

- Test execution phase consists Executing the test cases + test scripts( if automation).

# Defects/Bugs

- Any mismatched functionality found in a application is called as Defect/Bug/Issue.

- During Test Execution Test engineers are reporting mismatches as defects to developers through templates or using tools.

- Defect Reporting Tools:
  - Clear Quest
  - DevTrack
  - Jira
  - Quality Center
  - Bug Jilla etc.

# Defect Report Contents

- **Defect_ID** - Unique identification number for the defect.

- **Defect Description** - Detailed description of the defect including information about the module in which defect was found.

- **Version** - Version of the application in which defect was found.

- **Steps** - Detailed steps along with screenshots with which the developer can reproduce the defects.

- **Date Raised** - Date when the defect is raised

- **Reference-** where you Provide reference to the documents like . requirements, design, architecture or may be even screenshots of the error to help understand the defect

- **Detected By** - Name/ID of the tester who raised the defect

- **Status** - Status of the defect , more on this later

- **Fixed by** - Name/ID of the developer who fixed it

- **Date Closed** - Date when the defect is closed

- **Severity** which describes the impact of the defect on the application

- **Priority** which is related to defect fixing urgency. Severity Priority could be High/Medium/Low based on the impact urgency at which the defect should be fixed respectively

# Defect Severity

- Severity describes the seriousness of defect and how much impact on Business workflow.

- **Defect severity can be categorized into four class**
  - Blocker(Show stopper): This defect indicates nothing can proceed further.
    - Ex: Application crashed, Login Not worked
  - Critical : The main/basic functionality is not working. Customer business workflow is broken. They cannot proceed further.
    - Ex1: Fund transfer is not working in net banking
    - Ex2: Ordering product in ecommerce application is not working.
  - Major: It cause some undesirable behavior, but the feature/application is still functional.
    - Ex1: After sending email there is no confirm message
    - Ex2: After booking cab there is no confirmation.
  - Minor: It won't cause any major break-down of the system
    - Ex: Look and feel issues, spellings, alignments.

# Defect Priority

- Priority describes the importance of defect.

- Defect Priority states the order in which a defect should be fixed.

- **Defect priority can be categorized into three class**
  - P0 (High) **:** The defect must be resolved immediately as it affects the system severely and cannot be used until it is fixed.
  - P1 (Medium):  It can wait until a new versions/builds is created
  - P2 (Low): Developer can fix it in later releases.

# High severity, priority and low severity, priority defects

## Priority

| | High | Low |
|---|---|---|
| **Severity** **High** | Login is taking to the blank page. | About Us link is going to blank page. |
| **Low** | After user is logged into application, he can see Home Page. But there is spelling mistake in Home Page. | User opened contact page. Email ID has spelling mistake. |

# More examples…

- **Low priority-Low severity** - A spelling mistake in a page not frequently navigated by users.

- **Low priority-High severity** - Application crashing in some very corner case.

- **High priority-Low severity** - Slight change in logo color or spelling mistake in company name.

- **High priority-High severity** - Issue with login functionality.(user is not able to login to the application)

- **High Severity- Low Priority** - Web page not found when user clicks on a link (user does not visit that page generally)

- **Low Priority- Low Severity** - Any cosmetic or spelling issues which is within a paragraph or in the page

# Defect Resolution

- After receiving the defect report from the testing team, development team conduct a review meeting to fix defects. Then they send a Resolution Type to the testing team for further communication.

- **Resolution Types:-**
    - Accept
    - Reject
    - Duplicate
    - Enhancement
    - Need more information
    - Not Reproducible
    - Fixed
    - As Designed