# Practical 10

**Design the Test Cases for software domain problem**

**Importance of Test Cases**

Test cases play a crucial role in validating the functionality, reliability, and security of a Movie Ticket Management System. Well-defined test cases ensure that all system components work as expected, prevent potential failures, and improve the overall user experience.

**Key Benefits of Testing:**

* **Ensuring System Reliability:** Detects and prevents failures before deployment.
* **Validating Business Logic:** Ensures that user actions and system responses align with business requirements.
* **Enhancing User Experience:** Identifies and fixes usability issues for smoother interactions.
* **Security Assurance:** Protects sensitive data by testing authentication and payment processes.

**Test Case Components**

Each test case consists of:

* **Test Case ID:** A unique identifier for tracking.
* **Title:** The feature or function being tested.
* **Description:** Purpose of the test case.
* **Preconditions:** Requirements before executing the test.
* **Steps to Execute:** Step-by-step process for running the test.
* **Expected Result:** The anticipated system response.
* **Actual Result:** The observed behavior after execution.
* **Status (Pass/Fail):** Indicates whether the test case met expectations.

**Test Scenario-1**

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| **#** | **TS1** |
| **Title** | Verify "User Login" Functionality |
| **Description** | To test various scenarios for user authentication, including valid, invalid, and edge cases. |

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| **Test Case ID** | **Description** | **Input** | **Expected Output** | **Pass/Fail** |
| **TC1.1** | Verify login with valid credentials | Valid email & password | User successfully logs in | Pass |
| **TC1.2** | Verify login with invalid credentials | Invalid email or password | Error message displayed | Pass |
| **TC1.3** | Verify login with empty fields | Blank email & password | Prompt to enter credentials | Pass |
| **TC1.4** | Verify password recovery option | Click on 'Forgot Password' | Redirects to reset page | Pass |

**Test Scenario-2**

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| **#** | **TS2** |
| **Title** | Verify "Movie Selection" Functionality |
| **Description** | To ensure users can search, filter, and select movies accurately. |

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| **Test Case ID** | **Description** | **Input** | **Expected Output** | **Pass/Fail** |
| **TC2.1** | Verify movie search by title | Enter movie name | Relevant movie list displayed | Pass |
| **TC2.2** | Verify filtering by genre | Select genre filter | Movies of selected genre displayed | Pass |
| **TC2.3** | Verify filtering by language | Select language filter | Movies in selected language displayed | Pass |
| **TC2.4** | Verify movie details page | Click on a movie | Movie details displayed | Pass |
| **TC2.5** | Verify sorting by rating or popularity | Select sort by rating/popularity | Movies sorted accordingly | Pass |

**Test Scenario-3**

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| **#** | **TS3** |
| **Title** | Verify "Seat and Payment Selection" |
| **Description** | To test the seat selection process, payment options, and associated functionalities. |

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| **Test Case ID** | **Description** | **Input** | **Expected Output** | **Pass/Fail** |
| **TC3.1** | Verify seat selection | Select available seats | Seats highlighted as selected | Pass |
| **TC3.2** | Verify unavailable seat handling | Select an already booked seat | Error message displayed | Pass |
| **TC3.3** | Verify successful payment | Enter valid payment details | Payment successful, ticket issued | Pass |
| **TC3.4** | Verify failed payment handling | Enter invalid payment details | Payment failure message displayed | Pass |
| **TC3.5** | Verify multiple payment options | Select Credit Card, UPI, and Net Banking options | Payment processed successfully for each method | Pass |
| **TC3.6** | Verify discount or promo code application | Enter a valid promo code | Discount applied to total price | Pass |
| **TC3.7** | Verify payment receipt generation | Complete payment process | Receipt sent via email/SMS | Pass |
| **TC3.8** | Verify seat selection change | Change selected seat | New seat highlighted, previous seat unselected | Pass |
| **TC3.9** | Verify partial booking cancellation | Cancel one seat from a multi-seat booking | Selected seat canceled and refund processed | Pass |
| **TC3.10** | Verify integration with wallet payments | Use wallet as payment method | Payment processed successfully via wallet | Pass |

**Test Scenario-4**

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| **#** | **TS4** |
| **Title** | Verify "Booking Confirmation and Logout" |
| **Description** | To ensure that booking confirmations are sent correctly and logout functions work as expected. |

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| **Test Case ID** | **Description** | **Input** | **Expected Output** | **Pass/Fail** |
| **TC4.1** | Verify booking confirmation | Successful payment | E-ticket sent via SMS/Email | Pass |
| **TC4.2** | Verify booking history retrieval | Request to view booking history | List of past bookings displayed | Pass |
| **TC4.3** | Verify logout functionality | Click on 'Logout' button | User successfully logs out | Pass |
| **TC4.4** | Verify re-sending of ticket confirmation | Request re-send of confirmation | Ticket confirmation re-sent | Pass |
| **TC4.5** | Verify booking confirmation email content | Check received email | Email displays correct booking details | Pass |
| **TC4.6** | Verify session invalidation after logout | Attempt to access system post-logout | Access denied; redirect to login page | Pass |

**Test Scenario-5**

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| **#** | **TS5** |
| **Title** | Verify "Admin Panel Functionality" |
| **Description** | To test administrative tasks like movie management, show scheduling, and user management. |

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| Test Case ID | Description | Input | Expected Output | Pass/Fail |
| TC5.1 | Verify admin login | Valid admin credentials | Admin successfully logs in | Pass |
| TC5.2 | Verify add new movie functionality | Enter new movie details | Movie added to the system | Pass |
| TC5.3 | Verify update movie details functionality | Modify existing movie details | Movie details updated successfully | Pass |
| TC5.4 | Verify delete movie functionality | Select a movie for deletion | Movie removed from the system | Pass |
| TC5.5 | Verify show scheduling functionality | Enter show timing and theatre details | New show scheduled and visible to users | Pass |
| TC5.6 | Verify user management functionality | Attempt to add, block, or remove a user | User management operations executed correctly | Pass |
| TC5.7 | Verify revenue report generation | Request revenue report | Revenue report generated with accurate data | Pass |
| TC5.8 | Verify admin logout functionality | Click on 'Logout' | Admin successfully logs out | Pass |

**Conclusion**

These test cases help ensure a smooth, error-free experience in the Movie Ticket Management System. Proper testing reduces system failures, enhances security, and improves user satisfaction.