Test Plan and sample Test Cases

on

Library Management System

Course Module: (VLC-SCFSD10-25-0650)

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# 1. Introduction

This test plan outlines the strategy, scope, and test cases for the system features, including User Registration & Authentication, User Management, Book Management, and Lending Management.

# 2. Scope

The scope covers functional testing for the user registration process, authentication, user management, book management, and lending management.

# 3. Test Strategy

Testing Type: Functional Testing, UI Testing, Database Testing

Test Execution: Manual Testing

Test Environment: Web-based system (or application platform)

Test Data: Sample users, books, and lending records

# 4. Test Cases

## 4.1 User Registration & Authentication

### 4.1.1 Registration

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case ID** | **Test Scenario** | **Steps** | **Expected Result** |
| URA-001 | User Registration with valid details | 1. Navigate to the registration page  2. Enter valid user details  3. Click Register | User is successfully registered |
| URA-002 | User Registration with existing email | 1. Navigate to registration page  2. Enter an email that already exists  3. Click Register | System displays an error message "User already exists" |

### 4.1.2 Login

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case ID | Test Scenario | Steps | Expected Result |
| URA-003 | Login with valid credentials | 1. Navigate to login page  2. Enter valid id and password  3. Click Login | User is successfully logged in |
| URA-004 | Login with invalid credentials | 1. Navigate to login page  2. Enter invalid id/password  3. Click Login | Error message "Invalid username or password" displayed |

### 4.1.3 Reset Password

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case ID | Test Scenario | Steps | Expected Result |
| URA-005 | Reset password with valid email | 1. Navigate to Reset Password  2. Enter registered email /password  3. Click Reset Password | Password updated successfully else  Error message “Error: Not able to update Password” |

## 4.2 User Management

### 4.2.1 Main User List

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case ID | Test Scenario | Steps | Expected Result |
| UM-001 | View user list | 1. Login as admin 2. Navigate to user management | System displays all users |

### 4.2.2 Add User

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case ID | Test Scenario | Steps | Expected Result |
| UM-002 | Add a new user | 1. Login as admin 2. Navigate to Add User 3. Enter details 4. Click Save | User is successfully added |

### 4.2.3 Search User

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case ID | Test Scenario | Steps | Expected Result |
| UM-003 | Search for a user | 1. Login as admin 2. Enter username/email in search box 3. Click Search | Matching users are displayed |

## 4.3 Book Management

### 4.3.1 Main Book List

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case ID | Test Scenario | Steps | Expected Result |
| BM-001 | View book list | 1. Navigate to book management | System displays all books |
| BM-002 | Borrow a book | 1. Select available book  2. Click Borrow | Book status updates to "Borrowed" |

### 4.3.2 Add Book

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case ID | Test Scenario | Steps | Expected Result |
| BM-003 | Add a new book | 1. Login as admin  2. Navigate to Add Book  3. Enter details  4. Click Add Book | Book is successfully added |

### 4.3.3 Search Book

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case ID | Test Scenario | Steps | Expected Result |
| BM-004 | Search book by title | 1. Enter title in search box  2. Click Search | Matching books are displayed |

## 4.4 Lending Management

### 4.4.1 Main Lending List

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case ID | Test Scenario | Steps | Expected Result |
| LM-001 | View lending list | 1. Navigate to lending section | System displays all lending records |

### 4.4.2 Return Book

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case ID | Test Scenario | Steps | Expected Result |
| LM-002 | Return borrowed book | 1. Select borrowed book  2. Click Return | Lending status updates to "Returned", book status updates to "Available" |

### 4.4.3 Release Book Reservation

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case ID | Test Scenario | Steps | Expected Result |
| LM-003 | Release reserved book | 1. Select reserved book  2. Click Release | Lending status updates to "Released", book status updates to "Available" |

# 5. Conclusion

The test plan ensures all system functionalities work as expected. Any defects found will be reported and fixed before deployment.