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**Online Book Shopping Application**

Test Plan Document

**Assignment 03**

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**Prepared for:**

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### Introduction

* 1. **Purpose**

The purpose of this Test Plan is to outline the testing strategy and approach for the Online Book Shopping application. This document provides a detailed guide to ensure that the application meets the specified functional and non-functional requirements and delivers a seamless user experience. It will serve as a foundation for the testing team to systematically verify that the features and functionalities work as expected, ensuring high quality and performance.

The Online Book Shopping application includes various features such as user authentication, book catalog management, shopping cart functionality, order processing, secure payment handling, and administrative management of books, users, and orders. This test plan covers all aspects of the system, ensuring that each component is tested thoroughly.

The plan will address:

* The scope of testing, including features and functionalities to be validated.
* The testing objectives, goals, and approach.
* Roles and responsibilities of the testing team.
* Test deliverables and timelines.
* Types of tests to be performed, including functional, non-functional, and regression testing.
  1. **Scope**

The Online Book Shopping application is a web-based platform that provides users with the ability to browse, search, and purchase books online. The application supports different user roles, including guest users, registered users, and administrators. Registered users can manage their profiles, add books to the shopping cart, proceed to checkout, and view order histories. Administrators have the ability to manage the book catalog, users, and orders.

The scope of this testing effort includes:

* **User Authentication & Profile Management**: Verification of user registration, login/logout, password recovery, and profile management.
* **Book Catalog Management**: Testing the catalog browsing, searching, and filtering capabilities.
* **Shopping Cart & Checkout**: Ensuring that users can add/remove books to/from their cart, update quantities, view summaries, and proceed to secure checkout.
* **Payment Processing & Order Confirmation**: Verifying the integration of multiple payment methods, application of discount codes, and secure processing of transactions.
* **Reviews & Ratings**: Testing the process for leaving reviews, rating books, and reporting inappropriate content.
* **Admin Features**: Ensuring that administrators can manage books, users, and orders efficiently, with proper access control and functionality.

### Test Items

The following items are part of the Online Book Shopping application that will be tested. These components include the key features and functionalities to be validated to ensure that the system meets the business requirements and user expectations.

User Authentication & Profile Management

* Book Catalog Management
* Shopping Cart & Checkout
* Payment Processing & Order Confirmation
* Order Management & Tracking
* Reviews & Ratings
* Admin Features (Book Management)
* Admin Features (Order Management)
* Admin Features (User Management)

### Features to be Tested

* 1. **User Authentication & Profile Management**
* User Registration, Login, Logout, Password Recovery, Profile Management
  1. **Book Catalog Management**
* Browsing, Searching, Sorting, and Filtering Books
* Viewing Book Details and Availability
* Recommended and Popular Books
  1. **Shopping Cart & Checkout**
* Adding, Removing, and Updating Items in the Cart
* Viewing Cart Summary (Total Price, Discounts, Estimated Delivery)
* Proceeding to Secure Checkout
  1. **Payment Processing & Order Confirmation**
* Multiple Payment Methods Integration (Credit/Debit Cards, PayPal, Digital Wallets)
* Applying Discount Codes or Coupons
* Secure Payment Processing
* Order Confirmation and Email Notification
  1. **Order Management & Tracking**
* Viewing Order History, Status, and Details
* Tracking Order Status (Processing, Shipped, Delivered)
* Order Cancellation and Refund Requests
* Reordering Previously Purchased Books
  1. **Reviews & Ratings**
* Leaving Reviews for Books
* Rating Books
* Viewing Average Ratings and User Reviews
* Reporting Inappropriate Reviews
  1. **Admin Features (Book Management)**
* Adding, Editing, and Removing Books from the Catalog
* Managing Book Categories & Genres
* Updating Pricing & Stock Levels
  1. **Admin Features (Order Management)**
* Managing User Orders (Approve, Ship, Cancel)
  1. **Admin Features (User Management)**
* Viewing and Managing Registered Users
* Assigning and Revoking User Roles

### Features Not to be Tested

* 1. **Third-Party Payment Gateway Integration**
* Testing of payment gateways such as PayPal or external digital wallets will be excluded (since it's handled externally).
  1. **Performance Testing**
* Performance-related testing such as load testing or stress testing will not be part of the test plan at this stage.
  1. **Compatibility Testing with External Devices**
* Testing the system's compatibility with external devices like barcode scanners, POS systems, or printers is out of scope.
  1. **End-to-End User Experience Testing**
* While functional tests will be conducted, comprehensive UX testing (user feel and navigation) will not be covered.
  1. **Mobile Application Testing**
* This test plan excludes testing for mobile apps, as it focuses on the web-based version of the online book shopping system.

### Test Approach

The testing approach for the Online Book Shopping Application will follow a **risk-based, iterative strategy**, focusing on core features first, followed by edge cases, integrations, and non-functional areas. The approach ensures that all critical functionalities such as user authentication, catalog browsing, shopping cart, secure payment, and order management are thoroughly tested to deliver a high-quality user experience.

* 1. **Types of Testing to be Performed**

1. **Functional Testing**: To validate that each feature works according to the requirements (e.g., user login, book search, cart operations).
2. **Regression Testing**: To ensure that new updates or features do not break existing functionalities.
3. **Smoke Testing**: Conducted after each build to verify the critical path and major functionalities are working correctly.
4. **Integration Testing**: To test the interaction between different modules and interface communication (e.g., payment gateway integration with checkout).
5. **Usability Testing**: To verify ease of use, clarity, and navigation of the app for end-users.
6. **Performance Testing**: To assess system responsiveness and stability under load (e.g., high traffic during sales).
7. **Security Testing**: To ensure secure data handling, access control, and protection against vulnerabilities like XSS or SQL injection.
8. **Compatibility Testing**: To check the app's performance across various browsers, OS, and devices.
9. **Acceptance Testing**: To verify that the application meets business and user requirements.
   1. **Test Levels**

* **Unit Testing** (by developers)
* **System Testing** (QA team)
* **User Acceptance Testing (UAT)** (Product Owner/Client)
  1. **Test Design Approach**

1. Test cases will be derived from the functional requirements, user stories, and acceptance criteria.
2. Test scenarios will be documented using the **Gherkin syntax** where applicable for behavior-driven testing.
3. Test data will include both **valid and invalid inputs** to cover positive and negative test cases.
4. Exploratory testing will be done during later phases to uncover hidden bugs.
   1. **Test Automation**
5. Core regression flows (Login, Search, add to Cart, Checkout) will be automated using tools like **Cypress**.
6. Automation will be executed for every sprint build to ensure consistency and save manual effort.
   1. **Test Environment**
7. Separate environments will be maintained for **Development**, **QA**, and **Staging/UAT**.
8. Sample user accounts (Guest, Registered, Admin) and mock payment gateway setups will be used for testing purpose.

### Entry and Exit Criteria

* 1. **Entry Criteria**

The following conditions must be met before testing can begin:

1. All functional and non-functional requirements are clearly defined and approved.
2. Test plan, test cases, and test scenarios are reviewed and signed off.
3. Development team has completed the build and unit testing of the modules to be tested.
4. The test environment is configured and available (including database, APIs, frontend/backend components).
5. Required test data is prepared and available.
6. Access to the system under test (SUT) is granted to the testing team.
7. No critical or high-priority open defects exist in previous builds that could block testing.
   1. **Exit Criteria**

Testing will be considered complete when the following conditions are satisfied:

1. All planned test cases have been executed.
2. All critical and high-severity defects are resolved and verified.
3. Defect retesting and regression testing are completed with no major issues.
4. Test coverage has reached the agreed-upon percentage.
5. The test summary report is prepared and reviewed with stakeholders.
6. UAT (User Acceptance Testing) has been successfully completed and signed off by the client or product owner.
7. All open medium/low-priority defects have been documented and deferred (if acceptable) for future releases.

### Test Deliverables

The following artifacts will be created and delivered as part of the testing process:

* **Test Plan Document** – Outlines the test strategy, scope, objectives, approach, resources, and schedule.
* **Test Scenarios and Test Cases** – Detailed documentation of all functional and non-functional test scenarios and corresponding test cases.
* **Test Data** – Prepared data sets used during test execution.
* **Test Execution Report** – Daily/weekly status updates showing test progress, pass/fail status, and execution metrics.
* **Bug Report** – Documented list of defects found during testing, including severity, status, and resolution.
* **Final Test Summary Report** – A comprehensive summary of testing activities, defect status, coverage, and test results.
* **Sign-off Document** – Approval from stakeholders indicating testing completion and readiness for deployment.

### Approvals

The following individuals have reviewed and approved this Test Plan:

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Designation** | **Role** | **Approval Date** |
| Ms. Anum Yasin | Staff Test Engineer | Technical Mentor | April 12, 2025 |
| Mr. Taimoor Liaqat | Principal Test Engineer | Technical Mentor | April 12, 2025 |
| Mr. Muhammad Hamza Ali | Senior Test Consultant | Technical Mentor | April 12, 2025 |