**‎April ‎02, ‎2025**

The purpose of this document is to analyze and define the requirements for the **Online Book Shopping System**. It serves as a detailed guide for stakeholders, developers, testers, and designers to ensure the system meets user needs and business objectives.

This document will cover the following aspects:

* **User Requirements** – Identifying user expectations and preferences for online book shopping.
* **Acceptance Criteria** – Defining clear conditions to determine when a feature is complete and meets user needs.
* **Functional Requirements** – Outlining core system functionalities, including user authentication, book catalog management, search capabilities, shopping cart, and order processing.
* **Non-Functional Requirements** – Specifying system performance, security, usability, and scalability expectations.
* **User Stories and scenarios** – Describing how different users interact with the system using the Gherkin syntax to write the scenarios.
* **Scope**

The **Online Book Shopping System** is a web-based platform that enables registered users to browse, search, and purchase books online. The system will offer an amazing shopping experience, allowing users to explore a wide variety of books, add them to their cart, and securely complete their purchase. Additionally, administrators will have access to a management dashboard to maintain book listings, manage registered user orders, and handle promotions.

* **User Requirements:**
* **User Roles:**

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| **User Classes/Role** | **User Actions/ Features** |
| Guest user | An unregistered visitor who can browse the book catalog and view book details but must sign up or log in to add books to the cart, make a purchase, or leave reviews. |
| Registered user | A registered user who can browse books, search by various filters, add books to the cart, make secure purchases, track orders, leave reviews, and manage their profile information. |
| Admin | The admin is responsible for managing the online bookstore, including adding, updating, and removing books, handling registered user orders, managing discounts, and moderating user reviews. |

* **Features**
* **User Authentication & Profile Management**
* User Registration (Sign up with email & password)
* User Login & Logout
* Password Reset & Recovery
* Profile Management (Edit name, email, address, payment methods)
* Admin Login & Role-Based Access Control
* **Book Catalog Management**
* Browse Books by Category, Author, or Genre
* Search Books by Title, Author, ISBN, or Keywords
* Filter & Sort Books (Price, Genre, Ratings, Bestsellers)
* View Book Details (Description, Price, Reviews, Stock Availability)
* View Recommended & Popular Books
* **Shopping Cart & Checkout**
* Add Books to Shopping Cart
* Remove Books from Cart
* Update Book Quantity in Cart
* View Cart Summary (Total Price, Discounts, Estimated Delivery)
* Proceed to Secure Checkout
* **Payment Processing & Order Confirmation**
* Multiple Payment Methods (Credit/Debit Card, PayPal, Digital Wallets)
* Apply Discount Codes / Coupons
* Secure Payment Processing
* Order Confirmation & Email Notification
* **Order Management & Tracking**
* View Order History & Details
* Track Order Status (Processing, Shipped, Delivered)
* Order Cancellation & Refund Request
* Reorder Previously Purchased Books
* **Registered user Reviews & Ratings**
* Leave a Review on Purchased Books
* Rate Books (Star Rating System)
* View Average Ratings & User Reviews
* Report Inappropriate Reviews
* **Admin Features**
* Add, Edit, and Remove Books from Catalog
* Manage Book Categories & Genres
* Update Pricing & Stock Levels
* Manage Registered User Orders (Approve, Ship, Cancel)
* **Functional requirements:**
* **User Authentication & Profile Management**

FR-1: The system shall allow registered users to sign up using an email and password.

FR-2: The system shall allow registered users to log in using registered credentials only.

FR-3: The system shall provide an option for social media login (Google, Facebook, etc.).

FR-4: The system shall automatically log out users after a period of inactivity for security purposes.

FR-5: The system shall allow registered users to update their profile information such as name, email, address, and payment method.

FR-6: The user shall be able to reset their password via email.

FR-7: The admin shall be able to login with admin credentials for book store management access.

* **Book Catalog Management**

FR-1: The system shall allow registered users to view a list of books available.

FR-2: The system shall allow registered user to search for a book by title, author, genre, or keyword.

FR-3: The system shall allow registered user to filter books by category, price, author, and rating.

FR-4: The registered user shall be able to view detailed information about a book such as title, author, price, description, rating, total purchases, and reviews.

FR-5: The user shall be able to view book reviews.

FR-6: The registered user shall be able to view book ratings.

FR-7: The admin shall be able to add, edit, delete books from the catalog.

FR-8: The admin shall be able to modify the book price and availability.

FR-9: The admin shall be able to allocate books under different categories and genres.

FR-10: The system shall display trending, new arrivals, and best-selling books on the homepage.

* **Shopping Cart & Checkout**

FR-1: The registered user shall be able add a book to the shopping cart.

FR-2: The registered user shall be able to remove books from the cart.

FR-3: The registered user shall be able to view total items in the cart.

FR-4: A guest user shall not be able to checkout.

FR-5: The registered user shall be able to proceed to checkout from the shopping cart.

FR-6: The registered user shall be able to select from a payment method.

FR-7: The system shall complete the payment process securely.

FR-8: The system shall confirm transaction upon successful payment processing.

FR-9: The system shall generate an order id for every book purchase.

FR-10: The system shall send an order confirmation email to registered users after successful payment.

FR-11: The registered user shall receive an order confirmation email.

FR-12: The system shall allow users to apply a promo code/discount during checkout.

FR-13: The system shall provide estimated delivery time before confirming the order.

FR-14: The system shall display shipping charges before finalizing the payment.

* **Order Management & Tracking**

FR-1: The registered user shall be able to view their order history and details.

FR-2: The registered user shall be able to track the status of their orders (Processing, Shipped, Delivered).

FR-3: The admin shall be able to view and manage registered user orders.

FR-4: The admin shall be able to update the order status.

FR-5: The registered user shall be notified upon order status change.

FR-6: The system shall notify registered users if an out-of-stock book is restocked.

FR-7: The system shall allow registered users to reorder previously purchased books with a single click.

* **Registered user Reviews & Ratings**

FR-1: The system shall allow registered users to edit or delete their reviews within a specific time frame.

FR-2: The system shall allow admins to moderate and remove inappropriate reviews.

FR-3: The system shall allow registered users to up vote/down vote helpful reviews.

FR-4: The registered user shall be able to leave a review on a purchased book.

FR-5: The registered user shall be able to rate a purchased book.

FR-6: The system shall display the average ratings.

FR-7: The registered user shall be able to view reviews of other registered users.

* **Payment Processing & Order Confirmation**

FR-1: The system shall support multiple currencies for international registered users.

FR-2: The system shall allow users to save payment methods securely for future transactions.

FR-3: The system shall provide an option for cash-on-delivery (if applicable).

FR-4: The system shall send SMS and email notifications for successful payments.

FR-5: The system shall allow users to download invoices in PDF format.

* **Admin Features**

FR-1: The admin shall be able to view reports on top-selling books and registered user trends.

FR-2: The admin shall be able to view and analyze monthly/annual revenue reports.

FR-3: The admin shall be able to set up automated discounts based on purchase behavior.

* **Non-Functional Requirements (NFRs)**
* **Performance Requirements**
* The website should load in under 3 seconds for a smooth user experience.
* The system shall respond to user actions (e.g., search, add to cart) within 2 seconds to ensure a smooth user experience.
* The system shall be capable of performing database queries (e.g., book search, filtering) in less than 2 second under normal load.
* The system shall be able to process a minimum of 500 transactions per minute during peak shopping hours.
* The system shall load all pages, including the homepage, book catalog, and checkout page, in under 3 seconds.
* The system should support at least 9000 concurrent users without performance degradation.
* The book search functionality should return results in less than 2 seconds**.**
* The system should process checkout transactions within 6 seconds**.**
* **Security Requirements**
* All sensitive user data (passwords, payment details) should be encrypted using AES-256 encryption**.**
* The system must use HTTPS (SSL/TLS) for secure communication.
* User sessions should automatically expire after 30 minutes of inactivity**.**
* Implement role-based access control (RBAC) to prevent unauthorized access.
* **Usability Requirements**
* The interface should be responsive and mobile-friendly.
* Users should be able to complete a book purchase in less than 5 steps**.**
* The system should provide clear error messages for incorrect inputs.
* **Compatibility Requirements**
* The system should be compatible with all major browsers (Chrome, Firefox, Edge, Safari).
* The mobile app should work on Android and iOS devices.
* The system should support integration with third-party APIs (e.g., payment gateways, book databases).
* **User Stories**

User stories define the key actions and expectations of users in the online book shopping platform. Each story represents a specific feature or functionality that enhances the shopping experience. These stories guide the development of features and help in defining acceptance criteria.

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| **Feature** | **User Registration** |
| **User Stories** | **US-01:** As a new user, I want to register using my email and password so that I can create an account.  **US-02:** As a user, I want to receive an email verification link after I sign up successfully so that I can activate my account. |

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| **Feature** | **User Login and Logout** |
| **User Stories** | **US-03:** As a registered user, I want to log in using my email and password so that I can access my account.  **US-04:** As a logged-in user, I want to log-out so that I can secure my account on shared devices. |

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| **Feature** | **Password reset and recovery** |
| **User Stories** | **US-05:** As a user, I want to request a password reset link so that I can regain access to my account in case I forget my password.  **US-06:** As a user, I want to reset my password using the link so that I can create a new password and log in again. |

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| **Feature** | **Profile Management** |
| **User Stories** | **US-07:** As a user, I want to edit my profile information (username, email, address, phone number, etc.) so that I can update my details. |

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| **Feature** | **Admin Login** |
| **User Stories** | **US-08:** As an admin, I want to log in using my admin credentials so that I can manage users and system settings.  **US-09:** As an admin, I want to view all the registered users so that I can manage their accounts.  **US-10:** As an admin, I want to assign or revoke roles (user, admin) so that I can control the system access. |

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| **Feature** | **Browse Books** |
| **User Stories** | **US-11:** As a user, I want to view a list of books by category (Fiction, Sci-Fi, Fantasy, etc.) so that I can explore books based on my interest.  **US-12:** As a user, I want to filter books by popularity so that I can find best books. |

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| **Feature** | **Searching Books** |
| **User Stories** | **US-13:** As a user, I want to search for books by author’s name so that I can find all the books written by same author.  **US-14:** As a user, I want to search for books by Title so that I can quickly find a specific book.  **US-15:** As a user, I want to search a book by ISBN so that I can find the exact edition of the book.  **US-16:** As a user, I want to search for a book by keywords so that I can find books related to specific topics. |

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| **Feature** | **Filter & Sort Books** |
| **User Stories** | **US-17:** As a registered,I want to filter and sort books based on price, genre, ratings, and bestsellers, so that I can quickly find books that match my preferences.  **US-18:** As a guest user, I want to apply filters and sorting options while browsing books, so that I can explore available books without signing in. |

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| **Feature** | **View Book Details** |
| **User Stories** | **US-19:** As a registered user, I want to view the details of a book, including its description, price, reviews, and availability, so that I can make an informed purchasing decision.  **US-20:** As a guest user, I want to access book details without logging in, so that I can decide whether to create an account and purchase the book. |

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| **Feature** | **View Recommended & Popular Books** |
| **User Stories** | **US-21**: As a registered user, I want to see recommended books based on my past searches and purchases, so that I can discover books that align with my interests.  **US-22**: As a guest user**,** I want to view trending and popular books, so that I can explore bestsellers and highly rated books without creating an account |

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| **Feature** | **Add Books to Shopping Cart** |
| **User Stories** | **US-23:** As a registered user, I want to add books to my shopping cart so that I can review and purchase them later.  **US-24:** As a guest user, I want to add books to my cart without signing in so that I can continue shopping.  **US-25:** As an admin, I want to ensure that the "Add to Cart" functionality works correctly for both registered and guest users.  **US-26:** As a registered user, I want to be notified when I successfully add a book to my cart so that I can proceed with my shopping. |

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| **Feature** | **Remove Books from Cart** |
| **User Stories** | **US-27:** As a registered user, I want to remove books from my shopping cart so that I can adjust my order.  **US-29:** As an admin, I want to verify that books can be removed from the cart without any errors or issues.  **US-30:** As a registered user, I want to see the updated cart immediately after removing a book so that I can confirm my changes. |

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| **Feature** | **Update Book Quantity in Cart** |
| **User Stories** | **US-31:** As a registered user, I want to update the quantity of books in my cart so that I can adjust my order before checkout.  **US-32:** As a guest user, I want to change the quantity of books in my cart without signing in so that I can modify my selection.  **US-33:** As an admin, I want to ensure that the cart updates the book quantity correctly and shows the updated total price.  **US-34:** As a registered user, I want to see the updated cart total immediately after changing the quantity of a book so that I can verify my order. |

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| **Feature** | **View Cart Summary (Total Price, Discounts, Estimated Delivery)** |
| **User Stories** | **US-35:** As a registered user, I want to view a summary of my cart including the total price, discounts, and estimated delivery so that I can review my order before proceeding to checkout.  **US-36:** As an admin, I want to ensure that the cart summary shows accurate information, including any discounts and delivery estimates.  **US-37:** As a registered user, I want the cart summary to be updated automatically when I add or remove items from the cart so that I always see the correct totals. |

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| **Feature** | **Proceed to Secure Checkout** |
| **User Stories** | **US-38:** As a registered user, I want to securely proceed to checkout so that I can complete my purchase safely.  **US-39:** As an admin, I want to make sure the checkout process is secure and properly integrates with payment gateways.  **US-40:** As a registered user, I want to review my order summary at checkout to confirm that all items and prices are correct before submitting my order.  **US-41:** As a guest user, I want to be prompted to create an account during checkout for a smoother future purchase experience. |

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| **Feature** | **Choose from Multiple Payment Methods** |
| **User Stories** | **US-42:** As a registered user, I want to select from multiple payment methods (Credit/Debit Card, PayPal, Digital Wallets) so that I can choose the most convenient option for payment.  **US-43:** As an admin, I want to ensure that multiple payment options are securely integrated and functional for all users.  **US-44:** As a registered user, I want to securely store my preferred payment method for future purchases to make the checkout process faster. |

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| **Feature** | **Apply Discount Codes / Coupons** |
| **User Stories** | **US-45**: As a registered user, I want to apply discount codes or coupons at checkout to receive a discount on my order.  **US-46:** As an admin, I want to manage and create discount codes and coupons to offer promotions to users.  **US-47:** As a registered user, I want to see a confirmation message after applying a discount code to ensure its valid and applied correctly. |

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| **Feature** | **Secure Payment Processing** |
| **User Stories** | **US-48:** As a registered user, I want my payment information to be securely processed to ensure that my financial data is protected.  **US-49:** As an admin, I want to monitor and ensure that the payment gateway meets security standards, including encryption and fraud prevention.  **US-50:** As a registered user, I want to receive a confirmation that my payment was securely processed so I can be confident my transaction is safe. |

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| **Feature** | **Order Confirmation & Email Notification** |
| **User Stories** | **US-51**: As a registered user, I want to receive an order confirmation notification by email after completing my purchase so I can confirm my order details. |

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| **Feature** | **Leave a Review on Purchased Books** |
| **User Stories** | **US-52:** As a registered user, I want to leave a review on purchased books so that I can share my opinion with other registered users. |

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| **Feature** | **View Average Ratings & User Reviews** |
| **User Stories** | **US-53:** As a registered user, I want to view the average rating and user reviews of a book so that I can gauge its quality before purchasing.  **US-54:** As a guest user, I want to see the average rating and reviews of a book before deciding whether to purchase it. |

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| **Feature** | **Report Inappropriate Reviews** |
| **User Stories** | **US-55:** As a registered user, I want to report inappropriate reviews so that the platform can review and take necessary action. |

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| **Feature** | **Add, Edit, and Remove Books from Catalog** |
| **User Stories** | **US-56:** As an admin, I want to add new books to the catalog so that users can browse and purchase them.  **US-57:** As an admin, I want to edit the details of existing books in the catalog to keep information accurate and up to date.  **US-58:** As an admin, I want to remove books from the catalog that are no longer available or in stock to avoid confusion. |

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| **Feature** | **Manage Book Categories & Genres** |
| **User Stories** | **US-59:** As an admin, I want to create new categories and genres for books to help organize the catalog better.  **US-60:** As an admin, I want to remove or merge categories and genres when they become redundant or need restructuring. |

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| **Feature** | **Update Pricing & Stock Levels** |
| **User Stories** | **US-61:** As an admin, I want to update the pricing of books to reflect sales or price changes.  **US-62:** As an admin, I want to update the stock levels for books to ensure registered users are only able to purchase items that are in stock.  **US-63:** As an admin, I want to apply discounts to books and manage pricing rules to offer promotions. |

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| **Feature** | **Manage Registered user Orders (Approve, Ship, Cancel)** |
| **User Stories** | **US-64:** As an admin, I want to approve or reject registered user orders to ensure all purchases are legitimate before processing.  **US-65:** As an admin, I want to update the status of orders to shipped or cancelled so that registered users are informed of their order progress.  **US-66:** As an admin, I want to cancel orders when necessary, such as in the case of out-of-stock items, and inform the registered users accordingly. |

* **Scenarios**

Scenarios outline the possible interactions and outcomes for each user story in the online book shopping platform. They define step-by-step conditions using Gherkin syntax to ensure proper functionality and validation. These scenarios help in testing and verifying system behavior under different conditions.

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| **Feature** | **User Registration** |
| **User Story ID** | **US-01, US-02** |
| **Scenarios** | **Scenario 1:** Successful registration with valid email and password  Given I am a new user  When I enter a valid email and password  And I click on “Sign up” button  Then I should receive an email verification link  And my account should be created  **Scenario 2:** Registration fails with invalid email  Given I am a new user  When I enter an invalid email and a valid password  And I click on "Sign Up"  Then I should see an error message indicating "Invalid email format"  And my account should not be created |

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| **Feature** | **User Login and Logout** |
| **User Story ID** | **US-03** |
| **Scenarios** | **Scenario 1:**  User successfully logs in with a valid email and password  Given I am a registered user  When I enter a valid email and password  And I click on the "Login" button  Then I should be successfully logged in  And I should be redirected to my dashboard  **Scenario 2:**  User fails to log in due to an incorrect password  Given I am a registered user  When I enter a valid email but an incorrect password  And I click on the "Login" button  Then I should see an error message "Invalid email or password"  And I should not be logged in  **Scenario 3:** User fails to log in using an unregistered email  Given I am not a registered user  When I enter an unregistered email and any password  And I click on the "Login" button  Then I should see an error message "Account does not exist"  And I should be given an option to register  **Scenario 4:**  User tries to log in without entering credentials  Given I am on the login page  When I click on the "Login" button without entering an email or password  Then I should see an error message prompting me to fill in both fields  And I should not be logged in  **Scenario 5:**  User gets locked out after multiple failed login attempts  Given I have entered incorrect credentials 5 times in a row  When I try to log in again  Then I should see a message "Your account has been temporarily locked due to multiple failed attempts"  And I should be prompted to reset my password or try again later  **Scenario 6:**  User logs in with "Remember Me" enabled  Given I am a registered user  When I enter my valid email and password  And I check the "Remember Me" option  And I click on the "Login" button  Then I should be logged in successfully  And my session should remain active even after closing and reopening the browser |

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| **Feature** | **User Logout** |
| **User Story ID** | **US-04** |
| **Scenarios** | **Scenario 1:**  User logs out successfully  Given I am a logged-in user  When I click on the "Logout" button  Then I should be logged out of my account  And I should be redirected to the login page  **Scenario 2:**  User logs out from all active sessions  Given I am logged into my account on multiple devices  When I select the option to "Logout from all devices"  Then all my active sessions should be terminated  And I should be required to log in again on all devices  **Scenario 2:**  User is automatically logged out after session timeout  Given I am a logged-in user  And I have been inactive for 30 minutes  When I try to perform an action  Then I should be redirected to the login page  And I should see a message "Your session has expired, please log in again" |

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| **Feature** | **Password Reset and Recovery** |
| **User Story ID** | **US-05** |
| **Scenarios** | **Scenario 1:**  User requests a password reset link successfully  Given I am on the "Forgot Password" page  When I enter my registered email address  And I click on the "Send Reset Link" button  Then I should receive an email containing a password reset link  And the system should display a confirmation message "A reset link has been sent to your email."  **Scenario 2:**  User requests a password reset link with an unregistered email  Given I am on the "Forgot Password" page  When I enter an email that is not registered in the system  And I click on the "Send Reset Link" button  Then I should see an error message "No account found with this email address."  And I should not receive any password reset email  **Scenario 3:**  User tries to request a password reset link without entering an email  Given I am on the "Forgot Password" page  When I click on the "Send Reset Link" button without entering an email  Then I should see an error message "Please enter your registered email address."  And the system should not proceed with the request  **Scenario 4:**  User attempts to reset password using an expired link  Given I have received a password reset email  And the reset link is valid for only 24 hours  When I try to reset my password after 24 hours  Then I should see an error message "This reset link has expired."  And I should be given an option to request a new reset link |
| **Feature** | **Password Reset and Recovery** |
| **User Story ID** | **US-06** |
| **Scenarios** | **Scenario 1:**  User successfully resets password using a valid reset link  Given I have received a valid password reset link  When I click on the link  And I enter a new password that meets the security criteria  And I confirm the new password  And I click on the "Reset Password" button  Then my password should be updated successfully  And I should see a confirmation message "Your password has been reset successfully."  And I should be redirected to the login page  **Scenario 2:**  User enters a weak password during password reset  Given I have received a valid password reset link  When I enter a new password that does not meet the security criteria (e.g., too short, lacks special characters)  And I confirm the new password  And I click on the "Reset Password" button  Then I should see an error message "Password must be at least 8 characters long and contain special characters."  And my password should not be updated  **Scenario 3:**  User tries to reset password with a previously used password  Given I have received a valid password reset link  When I enter a password that I have used before  And I confirm the new password  And I click on the "Reset Password" button  Then I should see an error message "You cannot reuse an old password."  And my password should not be updated |

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| **Feature** | **Profile Management** |
| **User Story ID** | **US-07** |
| **Scenarios** | **Scenario 1:**  User successfully updates profile information  Given I am logged into my account  And I navigate to the "Profile Settings" page  When I update my username, email, address, and phone number with valid details  And I click on the "Save Changes" button  Then my profile information should be updated successfully  And I should see a confirmation message "Your profile has been updated successfully."  **Scenario 2:**  User tries to update profile with an email that is already registered  Given I am logged into my account  And I navigate to the "Profile Settings" page  When I enter an email that is already associated with another account  And I click on the "Save Changes" button  Then I should see an error message "This email is already in use. Please enter a different email."  And my profile should not be updated  **Scenario 3:**  User enters an invalid email format while updating profile  Given I am logged into my account  And I navigate to the "Profile Settings" page  When I enter an email that does not follow a valid format (e.g., "user@hhhcom" or "dummy.com")  And I click on the "Save Changes" button  Then I should see an error message "Please enter a valid email address."  And my profile should not be updated  **Scenario 4:**  User enters an invalid phone number while updating profile  Given I am logged into my account  And I navigate to the "Profile Settings" page  When I enter a phone number that contains letters or is too short/long  And I click on the "Save Changes" button  Then I should see an error message "Please enter a valid phone number."  And my profile should not be updated  **Scenario 5:**  User tries to update profile without filling required fields  Given I am logged into my account  And I navigate to the "Profile Settings" page  When I clear my username, email, or phone number fields  And I click on the "Save Changes" button  Then I should see an error message "All required fields must be filled."  And my profile should not be updated  **Scenario 6:**  User enters an invalid username format while updating profile  Given I am logged into my account  And I navigate to the "Profile Settings" page  When I enter a username that contains special characters or spaces  And I click on the "Save Changes" button  Then I should see an error message "Username can only contain letters, numbers, and underscores."  And my profile should not be updated  **Scenario 7:**  Unauthenticated user tries to access profile settings  Given I am not logged into any account  When I try to navigate to the "Profile Settings" page  Then I should be redirected to the "Login" page  And I should see a message "Please log in to access your profile settings." |

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| **Feature** | **Admin Login and User Management** |
| **User Story ID** | **US-08** |
| **Scenarios** | **Scenario 1:**  Admin logs in successfully with valid credentials  Given I am on the "Admin Login" page  When I enter a valid admin email and password  And I click on the "Login" button  Then I should be redirected to the "Admin Dashboard"  And I should see a message "Welcome, Admin!"  **Scenario 2:**  Admin enters incorrect login credentials  Given I am on the "Admin Login" page  When I enter an invalid admin email or password  And I click on the "Login" button  Then I should see an error message "Invalid email or password."  And I should remain on the "Admin Login" page  **Scenario 3:**  A regular user attempts to log in as an admin  Given I am on the "Admin Login" page  When I enter valid user credentials that do not have admin privileges  And I click on the "Login" button  Then I should see an error message "Access denied. Admin credentials required."  And I should remain on the "Admin Login" page  **Scenario 4:**  Admin logs out of the system  Given I am logged into the admin panel  When I click on the "Logout" button  Then I should be logged out successfully  And I should be redirected to the "Admin Login" page  And I should see a message "You have been logged out." |

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| **Feature** | **User Management** |
| **User Story ID** | **US-09** |
| **Scenarios** | **Scenario 1:**  Admin views the list of all registered users  Given I am logged into the admin panel  When I navigate to the "User Management" section  Then I should see a list of all registered users  And each user should have details such as name, email, role, and account status  **Scenario 2:**  Admin searches for a specific user  Given I am logged into the admin panel  And I navigate to the "User Management" section  When I enter a user's name or email in the search bar  And I click on the "Search" button  Then I should see the matching user(s) in the search results |

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| **Feature** | **User Management** |
| **User Story ID** | **US-10** |
| **Scenarios** | **Scenario 1:**  Admin assigns a regular user as an admin  Given I am logged into the admin panel  And I navigate to the "User Management" section  When I select a user from the list  And I change their role to "Admin"  And I click on the "Save Changes" button  Then the user’s role should be updated to "Admin"  And I should see a confirmation message "User role updated successfully."  **Scenario 2:**  Admin revokes admin privileges from another admin  Given I am logged into the admin panel  And I navigate to the "User Management" section  When I select an admin user from the list  And I change their role to "User"  And I click on the "Save Changes" button  Then the user’s role should be updated to "User"  And I should see a confirmation message "User role updated successfully."  **Scenario 3:**  Admin tries to revoke their own admin privileges  Given I am logged into the admin panel  And I navigate to the "User Management" section  When I try to change my own role from "Admin" to "User"  And I click on the "Save Changes" button  Then I should see an error message "You cannot revoke your own admin access."  And my role should remain as "Admin"  **Scenario 4:**  A non-admin user tries to access the admin dashboard  Given I am logged in as a regular user  When I try to navigate to the "Admin Dashboard" URL  Then I should be redirected to the homepage  And I should see an error message "Access denied. Admin privileges required." |

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| **Feature** | **Browse Books** |
| **User Story ID** | **US-11** |
| **Scenarios** | **Scenario 1:**  User selects a book category to browse  Given I am on the "Books" page  When I select a category from the category list (e.g., "Fiction")  Then I should see a list of books that belong to the selected category  And each book should display its title, author, and price  **Scenario 2:**  User selects a category with no available books  Given I am on the "Books" page  When I select a category that has no books available  Then I should see a message "No books available in this category."  **Scenario 3:**  User changes the selected book category  Given I am browsing books in the "Fiction" category  When I select a new category, such as "Science Fiction"  Then I should see the book list update to show books from the "Science Fiction" category |

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| **Feature** | **Browse Book** |
| **User Story ID** | **US-12** |
| **Scenarios** | **Scenario 1:**  User applies the "Most Popular" filter  Given I am on the "Books" page  When I apply the filter "Most Popular"  Then I should see a list of books sorted by popularity  And books with the highest ratings and most sales should appear at the top  **Scenario 2:**  No books match the applied popularity filter  Given I am on the "Books" page  When I apply a filter that excludes all books (e.g., only books with 5-star ratings)  Then I should see a message "No books match your filter criteria." |

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| **Feature** | **Book Searching** |
| **User Story ID** | **US-13** |
| **Scenarios** | **Scenario 1:**  User searches for books by a specific author  Given I am on the "Books" search page  When I enter "J.K. Rowling" in the search bar  And I select the "Author" filter  Then I should see a list of books written by J.K. Rowling  **Scenario 2:**  No books found for a given author  Given I am on the "Books" search page  When I enter "Unknown Author" in the search bar  And I select the "Author" filter  Then I should see a message "No books found for this author." |

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| **Feature** | **Book Searching** |
| **User Story ID** | **US-14** |
| **Scenarios** | **Scenario 1:**  User searches for a book by its title  Given I am on the "Books" search page  When I enter "How to Train your Dragon" in the search bar  And I select the "Title" filter  Then I should see the book " How to Train your Dragon " in the search results  **Scenario 2:**  No book found with the entered title  Given I am on the "Books" search page  When I enter "Nonexistent Book" in the search bar  And I select the "Title" filter  Then I should see a message "No books found with this title." |

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| **Feature** | **Book Searching** |
| **User Story ID** | **US-15** |
| **Scenarios** | **Scenario 1:**  User searches for a book using a valid ISBN  Given I am on the "Books" search page  When I enter "348-3-16-000410-0" in the search bar  And I select the "ISBN" filter  Then I should see the exact book matching that ISBN in the search results  **Scenario 2:**  Scenario: No book found for the given ISBN  Given I am on the "Books" search page  When I enter "000-0-00-000000-0" in the search bar  And I select the "ISBN" filter  Then I should see a message "No books found with this ISBN." |

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| **Feature** | **Book Searching** |
| **User Story ID** | **US-16** |
| **Scenarios** | **Scenario 1:**  User searches for books using a relevant keyword  Given I am on the "Books" search page  When I enter "Vikings" in the search bar  And I select the "Keywords" filter  Then I should see a list of books related to "Vikings"  **Scenario 2:**  No books found for the given keyword  Given I am on the "Books" search page  When I enter "RandomNonsenseWord123" in the search bar  And I select the "Keywords" filter  Then I should see a message "No books found for this keyword." |

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| **Feature** | **View Book Details** |
| **User Story ID** | **US-19** |
| **Scenarios** | **Scenario 1:**  Registered user views book details  Given I am logged in as a registered user  When I navigate to a book’s details page  Then I should see the book title, description, price, and availability  And I should see user reviews and ratings for the book  **Scenario 2:**  Registered user views an out-of-stock book  Given I am logged in as a registered user  When I navigate to a book’s details page for a book that is out of stock  Then I should see a message "Currently out of stock"  And I should not see an "Add to Cart" button  **Scenario 3:** Registered user views a book with a discount  Given I am logged in as a registered user  When I navigate to a book’s details page  And the book has an active discount  Then I should see the original price struck through  And I should see the discounted price displayed |

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| **Feature** | **View Book Details** |
| **User Story ID** | **US-20** |
| **Scenarios** | **Scenario 1:**  Guest user views book details  Given I am not logged in  When I navigate to a book’s details page  Then I should see the book title, description, price, and availability  And I should see user reviews and ratings for the book  **Scenario 2:**  Guest user views book details but does not see member-exclusive discounts  Given I am not logged in  When I navigate to a book’s details page  And the book has a special discount for registered users  Then I should only see the regular price  And I should see a message "Sign up to access exclusive discounts!" |

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| **Feature** | **View Recommended & Popular Books** |
| **User Story ID** | **US-21** |
| **Scenarios** | **Scenario 1:**  Registered user sees book recommendations based on past activity  Given I am logged in as a registered user  And I have previously searched for or purchased books  When I visit the "Recommended for You" section  Then I should see a list of books related to my past searches and purchases  **Scenario 2:**  Registered user with no history sees general recommendations  Given I am logged in as a registered user  And I have not made any searches or purchases  When I visit the "Recommended for You" section  Then I should see a message "Start exploring to receive personalized recommendations!"  And I should see a list of popular books instead |

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| **Feature** | **View Recommended & Popular Books** |
| **User Story ID** | **US-22** |
| **Scenarios** | **Scenario 1:**  Guest user views trending and popular books  Given I am not logged in  When I visit the homepage or the "Popular Books" section  Then I should see a list of bestsellers and highly rated books  **Scenario 2:**  Guest user does not see personalized recommendations  Given I am not logged in  When I visit the "Recommended for You" section  Then I should see a message "Log in to get personalized book recommendations!"  And I should only see general trending and popular books |

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| **Feature** | **Add Books to Shopping Cart** |
| **User Story ID** | **US-23** |
| **Scenarios** | **Scenario 1:**  Registered user adds a book to the cart  Given I am logged in as a registered user  When I view a book’s details  And I click on the "Add to Cart" button  Then the book should be added to my cart  And I should see a notification confirming the book was added to my cart |

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| **Feature** | **Add Books to Shopping Cart** |
| **User Story ID** | **US-24** |
| **Scenarios** | **Scenario 1:**  Guest user adds a book to the cart  Given I am not logged in  When I view a book’s details  And I click on the "Add to Cart" button  Then the book should be added to my cart  And I should see a notification confirming the book was added to my cart |

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| **Feature** | **Add Books to Shopping Cart** |
| **User Story ID** | **US-25** |
| **Scenarios** | **Scenario 1:**  Admin verifies "Add to Cart" for registered users  Given I am logged in as an admin  When I view the "Add to Cart" button on a book page as a registered user  Then I should see that clicking the button adds the book to the registered user's cart |

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| **Feature** | **Add Books to Shopping Cart** |
| **User Story ID** | **US-26** |
| **Scenarios** | **Scenario 1:**  Registered user is notified after adding a book to the cart  Given I am logged in as a registered user  When I click the "Add to Cart" button for a book  Then I should see a notification confirming that the book has been added to my cart |

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| **Feature** | **Remove Books from Cart** |
| **User Story ID** | **US-27** |
| **Scenarios** | **Scenario 1:**  Registered user removes a book from the cart  Given I am logged in as a registered user  And I have at least one book in my cart  When I click on the "Remove" button next to a book  Then the book should be removed from my cart  And I should see a confirmation message that the book has been removed |

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| **Feature** | **Remove Books from Cart** |
| **User Story ID** | **US-29** |
| **Scenarios** | **Scenario 1:**  Admin verifies book removal functionality for registered users  Given I am logged in as an admin  When I test the "Remove" button on a registered user's cart  Then the book should be removed from the cart  And the system should not produce any errors |

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| **Feature** | **Remove Books from Cart** |
| **User Story ID** | **US-30** |
| **Scenarios** | **Scenario 1:**  Cart updates instantly after removing a book  Given I am logged in as a registered user  And I have multiple books in my cart  When I remove a book from my cart  Then my cart should update immediately  And the removed book should no longer be displayed  And the total price should be recalculated accordingly |

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| **Feature** | **Update Book Quantity in Cart** |
| **User Story ID** | **US-31** |
| **Scenarios** | **Scenario 1:**  Registered user increases book quantity in cart  Given I am logged in as a registered user  And I have at least one book in my cart  When I increase the quantity of a book  Then the updated quantity should be reflected in my cart  And the total price should be recalculated accordingly  **Scenario 2:**  Registered user decreases book quantity in cart  Given I am logged in as a registered user  And I have more than one quantity of a book in my cart  When I decrease the quantity of the book  Then the updated quantity should be reflected in my cart  And the total price should be recalculated accordingly  **Scenario 3:**  Registered user sets book quantity to zero  Given I am logged in as a registered user  And I have at least one book in my cart  When I set the quantity of the book to zero  Then the book should be removed from my cart  And the total price should be updated |

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| **Feature** | **Update Book Quantity in Cart** |
| **User Story ID** | **US-32** |
| **Scenarios** | **Scenario 1:**  Guest user updates book quantity in cart  Given I am a guest user  And I have at least one book in my cart  When I increase the quantity of a book  Then the updated quantity should be reflected in my cart  And the total price should be recalculated accordingly |

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| **Feature** | **Update Book Quantity in Cart** |
| **User Story ID** | **US-33** |
| **Scenarios** | **Scenario 1:**  Admin verifies book quantity updates correctly  Given I am logged in as an admin  And I have access to system logs for cart updates  When a user updates the quantity of a book in their cart  Then the system should log the change  And the total price should be recalculated correctly  **Scenario 2:**  Admin verifies incorrect quantity entry is handled  Given I am logged in as an admin  And a user tries to enter a negative quantity or an invalid number  When the system processes the request  Then the system should prevent the update  And display an appropriate error message to the user |

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| **Feature** | **Update Book Quantity in Cart** |
| **User Story ID** | **US-34** |
| **Scenarios** | **Scenario 1:**  Registered user sees immediate cart updates  Given I am logged in as a registered user  And I have at least one book in my cart  When I change the quantity of a book  Then the updated quantity should be displayed immediately  And the total price should be recalculated instantly  And the cart summary should reflect the updated item count |

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| **Feature** | **View Cart Summary** |
| **User Story ID** | **US-35** |
| **Scenarios** | **Scenario 1:**  Registered user views cart summary  Given I am logged in as a registered user  And I have items in my cart  When I navigate to the cart page  Then I should see a summary displaying the total price, applied discounts, and estimated delivery time  **Scenario 2:**  Registered user views cart summary with no items  Given I am logged in as a registered user  And my cart is empty  When I navigate to the cart page  Then I should see a message indicating that my cart is empty  And the total price should be displayed as zero |

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| **Feature** | **View Cart Summary** |
| **User Story ID** | **US-36** |
| **Scenarios** | **Scenario 1:**  Admin verifies total price and discounts in cart summary  Given I am logged in as an admin  And a user has multiple items in their cart with discounts applied  When I inspect the cart summary  Then the total price should be calculated correctly after applying discounts  And the discount breakdown should be visible |

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| **Feature** | **View Cart Summary** |
| **User Story ID** | **US-37** |
| **Scenarios** | **Scenario 1:**  art summary updates after adding an item  Given I am logged in as a registered user  And I have items in my cart  When I add a new item to my cart  Then the cart summary should update instantly to reflect the new total price, discounts, and estimated delivery time  **Scenario 2:**  Cart summary updates after removing an item  Given I am logged in as a registered user  And I have multiple items in my cart  When I remove an item from my cart  Then the cart summary should update immediately  And the total price should be recalculated accordingly  **Scenario 3:**  Cart summary updates after applying a discount code  Given I am logged in as a registered user  And I have items in my cart  When I apply a valid discount code  Then the discount should be reflected in the cart summary  And the total price should be updated accordingly |

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| **Feature** | **Proceed to Secure Checkout** |
| **User Story ID** | **US-38** |
| **Scenarios** | **Scenario 1:**  Registered user proceeds to secure checkout  Given I am logged in as a registered user  And I have items in my cart  When I click on the "Proceed to Checkout" button  Then I should be redirected to the secure checkout page  And my cart items, total price, and payment options should be displayed  **Scenario 2:**  Registered user proceeds with an empty cart  Given I am logged in as a registered user  And my cart is empty  When I click on "Proceed to Checkout"  Then I should see an error message saying "Your cart is empty"  And I should not be able to proceed further |

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| **Feature** | **Proceed to Secure Checkout** |
| **User Story ID** | **US-39** |
| **Scenarios** | **Scenario 1:**  Admin ensures checkout is secured  Given I am logged in as an admin  When I inspect the checkout process  Then all payment transactions should be securely encrypted  And sensitive user data should not be stored in plaintext |

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| **Feature** | **Proceed to Secure Checkout** |
| **User Story ID** | **US-40** |
| **Scenarios** | **Scenario 1:**  Registered user reviews order summary at checkout  Given I am logged in as a registered user  And I have items in my cart  When I navigate to the checkout page  Then I should see an order summary displaying item details, quantity, prices, discounts, and total amount  And I should have the option to edit my cart before confirming the purchase |

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| **Feature** | **Proceed to Secure Checkout** |
| **User Story ID** | **US-41** |
| **Scenarios** | **Scenario 1:**  Guest user is prompted to create an account at checkout  Given I am a guest user  And I have items in my cart  When I click on "Proceed to Checkout"  Then I should see a prompt to create an account or continue as a guest  And if I choose to create an account, I should be redirected to the registration page before proceeding to checkout |

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| **Feature** | **Choose from Multiple Payment Methods** |
| **User Story ID** | **US-42** |
| **Scenarios** | **Scenario 1:**  Registered user selects a payment method during checkout  Given I am logged in as a registered user  And I have items in my cart  When I navigate to the payment options section at checkout  Then I should see multiple payment methods including Credit/Debit Card, PayPal, and Digital Wallets  And I should be able to select my preferred payment method before proceeding with the purchase |

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| **Feature** | **Choose from Multiple Payment Methods** |
| **User Story ID** | **US-43** |
| **Scenarios** | **Scenario 1:**  Admin verifies that multiple payment methods are available and working  Given I am logged in as an admin  When I inspect the payment integration  Then all payment options should be available and functional  And transactions should be processed securely without exposing sensitive information  **Scenario 2:**  Admin ensures failed payments are handled properly  Given I am logged in as an admin  When a user’s payment fails due to insufficient funds or technical issues  Then an appropriate error message should be displayed  And the user should be given an option to retry with a different payment method |

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| **Feature** | **Choose from Multiple Payment Methods** |
| **User Story ID** | **US-44** |
| **Scenarios** | **Scenario 1:**  Registered user saves a preferred payment method  Given I am logged in as a registered user  And I have successfully completed a payment  When I choose to save my payment details for future purchases  Then my payment details should be securely stored  And I should be able to select my saved payment method for future transactions  **Scenario 2:**  User views and manages saved payment methods  Given I am logged in as a registered user  When I navigate to my account settings under "Saved Payment Methods"  Then I should see a list of my saved payment options  And I should have the option to delete or update any saved payment method |

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| **Feature** | **Apply Discount Codes** |
| **User Story ID** | **US-45** |
| **Scenarios** | **Scenario 1:**  Registered user applies a valid discount code  Given I am logged in as a registered user  And I have items in my cart  When I enter a valid discount code at checkout  And I click on "Apply"  Then the discount should be applied to the total order price  And the updated total price should be displayed  **Scenario 2:**  Registered user applies an expired or invalid discount code  Given I am logged in as a registered user  And I have items in my cart  When I enter an expired or invalid discount code at checkout  And I click on "Apply"  Then I should see an error message stating "Invalid or expired discount code"  And the total price should remain unchanged |

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| **Feature** | **Apply Discount Codes** |
| **User Story ID** | **US-46** |
| **Scenarios** | **Scenario 1:**  Admin creates a new discount code  Given I am logged in as an admin  When I navigate to the discount code management section  And I create a new discount code with a specific discount percentage and expiration date  Then the discount code should be successfully saved and available for users to apply  **Scenario 2:** Admin removes an existing discount code  Given I am logged in as an admin  And there are active discount codes in the system  When I select a discount code and choose the "Delete" option  Then the discount code should be removed from the system  And users should no longer be able to apply it |

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| **Feature** | **Apply Discount Codes** |
| **User Story ID** | **US-47** |
| **Scenarios** | **Scenario 1:**  Registered user receives confirmation after applying a discount code  Given I am logged in as a registered user  And I have successfully applied a discount code  When I proceed to checkout  Then I should see a confirmation message stating "Discount successfully applied!"  And the discount amount should be deducted from the total price |

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| **Feature** | **Secure Payment Processing** |
| **User Story ID** | **US-48** |
| **Scenarios** | **Scenario 1:**  Registered user completes a secure payment  Given I am logged in as a registered user  And I have selected items and proceeded to checkout  When I enter my payment details  And I confirm the payment  Then my payment information should be securely transmitted  And I should receive a confirmation of successful payment processing |

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| **Feature** | **Secure Payment Processing** |
| **User Story ID** | **US-49** |
| **Scenarios** | **Scenario 1:**  Admin verifies that payment gateway meets security standards  Given I am logged in as an admin  When I review the payment gateway security settings  Then I should see encryption protocols, fraud detection, and security measures enabled  And all transactions should be logged for monitoring |

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| **Feature** | **Secure Payment Processing** |
| **User Story ID** | **US-50** |
| **Scenarios** | **Scenario 1:**  Registered user receives payment confirmation  Given I am logged in as a registered user  And I have completed my payment  When my payment is successfully processed  Then I should receive an email and on-screen confirmation of the payment  And my order should be marked as "Paid"  **Scenario 2:**  Registered user fails a payment due to security verification issues  Given I am at the checkout page  When I attempt to make a payment with incorrect or suspicious details  Then my payment should be declined  And I should receive an error message stating "Payment failed due to security verification issues" |

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| **Feature** | **Order Confirmation & Email Notification** |
| **User Story ID** | **US-51** |
| **Scenarios** | **Scenario 1:**  Registered user receives an order confirmation notification  Given I am logged in as a registered user  And I have completed my purchase  When the order is processed  Then I should receive an order confirmation for my completed order  And the email should contain my order details.  **Scenario 2:**  Order confirmation is only sent after successful payment  Given I am a registered user  When my payment processing fails  Then my payment should be declined  And I should not receive an order confirmation email |

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| **Feature** | **Leave a Review on Purchased Books** |
| **User Story ID** | **US-52** |
| **Scenarios** | **Scenario 1:**  A registered user leaves a review for a purchased book  Given I am a registered user  And I have purchased a book  When I read the book  And I click on the “Write a Review” button  Then I should be able to write a review with a rating  And I should be able to submit the review.  **Scenario 2:** A guest user tries to write a review  Given I am a guest user  When I try to write a review for a product  Then the system should redirect me to login page.  **Scenario 3:** Review includes a rating and test  Given I am a registered user  And I am on the “Write a Review “page  When I write a review and provide a rating  Then my review should include both rating and text  And I should be able to submit my review successfully  **Scenario 4:** A review is displayed only after successful submission  Given I am a registered user  And I have submitted a review for a purchased book  When I view the reviews for a book in its details section  I should be able to see my review text and rating  **Scenario 5:** Review with inappropriate text is rejected  Given I am a registered user  And I write a review with inappropriate text  When I click the “submit” button  Then the system should reject my review  And display a message like “Inappropriate text”  **Scenario 6:** Registered user can make changes to their review  Given I am a registered user  When I visit review section of a book  And I click “Edit/Delete” button  Then my review should be edited or deleted accordingly  And the changes should be updated accordingly |

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| **Feature** | **View Average Ratings and Reviews** |
| **User Story ID** | **US-53** |
| **Scenarios** | **Scenario 1:**  Registered users can view average rating of a book  Given I am a registered user  When I go to book details section  Then I should see average book rating in five stars’ format  **Scenario 2:**  Book with no reviews display a message  Given I am a registered user  When I visit a book’s detail page  And the book has no reviews  Then I should see a message saying “No reviews yet. Be the first to review this book!” |

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| **Feature** | **View Average Ratings and Reviews** |
| **User Story ID** | **US-54** |
| **Scenarios** | **Scenario 1:**  Guest users can also view book rating and reviews  Given I am a guest user  When I visit a book’s detail page  And I click on review section  Then I should see reviews  And I should see ratings left by other registered users |

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| **Feature** | **Report inappropriate Reviews** |
| **User Story ID** | **US-55** |
| **Scenarios** | **Scenario 1:**  Registered users can report an inappropriate comment  Given I am a registered user  And I see a review with inappropriate words  When I click on “Report” button  And I write a reason for reporting  And I submit the report  Then I should see a confirmation message saying “Your report has been submitted successfully”  **Scenario 2:** A guest user cannot report an inappropriate review  Given I am a guest user  And I am viewing a book’s review  When I click on the “Report” button  Then I should see a message saying “Login to report”  And I should be redirected to login page |

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| **Feature** | **Add, Edit, and Remove Books from Catalog** |
| **User Story ID** | **US-56** |
| **Scenarios** | **Scenario 1:**  Admin successfully add a new boo to the catalog  Given I am an admin user  And I am logged in to the system  When I navigate to “Add a new book section”  And I enter valid book details  And I click on the “Save” button  Then the book should be added to the catalog  And I should see a confirmation message saying “Book added successfully”  **Scenario 2:** Admin attempts to add a book with missing required details  Given I am logged in as an admin  When I navigate to the "Add New Book" section  And I leave mandatory fields (title, author, ISBN) blank  And I click on the "Save" button  Then I should see an error message indicating "Required fields cannot be left blank."  And the book should not be added to the catalog |

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| **Feature** | **Add, Edit, and Remove Books from Catalog** |
| **User Story ID** | **US-57** |
| **Scenarios** | **Scenario 1:**  Admin successfully edits book details  Given I am logged in as an admin  And there is an existing book in the catalog  When I navigate to the book’s edit page  And I update the book details (e.g., price, stock availability, description)  And I click on the "Save" button  Then the book details should be updated  And I should see a confirmation message "Book details updated successfully." |

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| **Feature** | **Add, Edit, and Remove Books from Catalog** |
| **User Story ID** | **US-58** |
| **Scenarios** | **Scenario 1:**  Admin successfully removes a book from the catalog  Given I am logged in as an admin  And there is an existing book in the catalog  When I navigate to the book’s management page  And I click on the "Remove" button  And I confirm the deletion  Then the book should be removed from the catalog  And I should see a confirmation message "Book removed successfully."  **Scenario 2:** Admin attempts to remove a book that is in a user’s cart  Given I am logged in as an admin  And the book I want to remove is currently in at least one user's shopping cart  When I click on the "Remove" button  Then I should see a warning message "This book is in an active cart and cannot be removed."  And the book should remain in the catalog |

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| **Feature** | **Manage Book Categories & Genres** |
| **User Story ID** | **US-59** |
| **Scenarios** | **Scenario 1:**  Admin successfully creates a new book category  Given I am logged in as an admin  When I navigate to the "Manage Categories" section  And I click on the "Add New Category" button  And I enter a unique category name  And I click on the "Save" button  Then the new category should be added to the catalog  And I should see a confirmation message "Category added successfully."  **Scenario 2:**  Admin attempts to create a duplicate book category  Given I am logged in as an admin  And an existing category named "Science Fiction" exists  When I navigate to the "Manage Categories" section  And I click on the "Add New Category" button  And I enter "Science Fiction" as the category name  And I click on the "Save" button  Then I should see an error message "Category name already exists."  And the duplicate category should not be added to the catalog  **Scenario 3:**  Admin attempts to create a duplicate book genre  Given I am logged in as an admin  And an existing genre named "Cyberpunk" exists  When I navigate to the "Manage Genres" section  And I click on the "Add New Genre" button  And I enter "Cyberpunk" as the genre name  And I click on the "Save" button  Then I should see an error message "Genre name already exists."  And the duplicate genre should not be added to the catalog |

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| **Feature** | **Manage Book Categories & Genres** |
| **User Story ID** | **US-60** |
| **Scenarios** | **Scenario 1:**  Admin successfully removes an existing book category  Given I am logged in as an admin  And a category named "Outdated Category" exists  When I navigate to the "Manage Categories" section  And I select "Outdated Category"  And I click on the "Delete" button  And I confirm the deletion  Then the category should be removed from the catalog  And I should see a confirmation message "Category removed successfully."  **Scenario 2:**  Admin attempts to remove a category that has associated books  Given I am logged in as an admin  And a category named "Popular Category" exists  And there are books associated with "Popular Category"  When I navigate to the "Manage Categories" section  And I select "Popular Category"  And I click on the "Delete" button  Then I should see a warning message "Cannot delete category with associated books. Please reassign or remove books first."  And the category should not be removed from the catalog  **Scenario 3:** Admin successfully removes an existing book genre  Given I am logged in as an admin  And a genre named "Obsolete Genre" exists  When I navigate to the "Manage Genres" section  And I select "Obsolete Genre"  And I click on the "Delete" button  And I confirm the deletion  Then the genre should be removed from the catalog  And I should see a confirmation message "Genre removed successfully." |

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| **Feature** | **Update Pricing & Stock Levels** |
| **User Story ID** | **US-61** |
| **Scenarios** | **Scenario 1:**  Admin updates the price of a book  Given I am logged in as an admin  And a book titled "Jannat ke Patte" exists with a price of Rs. 800  When I navigate to the "Manage Books" section  And I select " Jannat ke Patte "  And I update the price to Rs. 899  And I click on the "Save" button  Then the book price should be updated to Rs. 899  And I should see a confirmation message "Book price updated successfully."  **Scenario 2:**  Admin tries to update the book price to an invalid value  Given I am logged in as an admin  And a book titled "Mulan" exists with a price of Rs.1499  When I navigate to the "Manage Books" section  And I select "Mulan"  And I update the price to "-500"  And I click on the "Save" button  Then I should see an error message "Invalid price. Please enter a valid amount."  And the book price should remain Rs.1499 |

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| **Feature** | **Update Pricing & Stock Levels** |
| **User Story ID** | **US-62** |
| **Scenarios** | **Scenario 1:**  Admin updates the stock levels of a book  Given I am logged in as an admin  And a book titled " One Piece Vol 108" exists with a stock quantity of 5  When I navigate to the "Manage Books" section  And I select "One Piece Vol 108"  And I update the stock quantity to 10  And I click on the "Save" button  Then the stock quantity should be updated to 10  And I should see a confirmation message "Stock level updated successfully."  **Scenario 2:**  Book is automatically marked as out of stock when inventory reaches zero  Given I am logged in as an admin  And a book titled "One Piece Vol 10" exists with a stock quantity of 1  When I navigate to the "Manage Books" section  And I update the stock quantity to 0  And I click on the "Save" button  Then the book should be marked as "Out of Stock"  And registered users should not be able to add it to their cart  And I should see a confirmation message "Stock updated. Book is now out of stock."  **Scenario 3:**  Admin tries to update stock quantity with an invalid value  Given I am logged in as an admin  And a book titled "Alchemist" exists with a stock quantity of 5  When I navigate to the "Manage Books" section  And I select " Alchemist "  And I update the stock quantity to "-3"  And I click on the "Save" button  Then I should see an error message "Invalid stock quantity. Please enter a non-negative number."  And the stock quantity should remain 5 |

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| **Feature** | **Update Pricing & Stock Levels** |
| **User Story ID** | **US-63** |
| **Scenarios** | **Scenario 1:**  Admin applies a discount to a book  Given I am logged in as an admin  And a book titled "Mob Psycho 100" exists with a price of RS.1000  When I navigate to the "Manage Discounts" section  And I select " Mob Psycho 100"  And I apply a 10% discount  And I click on the "Save" button  Then the book price should be updated to Rs.900  And the discount should be reflected in the cart and checkout  And I should see a confirmation message "Discount applied successfully." |

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| **Feature** | **Manage Registered user Orders** |
| **User Story ID** | **US-64** |
| **Scenarios** | **Scenario 1:**  Admin approves a valid order  Given I am logged in as an admin  And a pending order exists with Order ID "ORD123" from a registered user  When I navigate to the "Manage Orders" section  And I select Order ID "ORD123"  And I approve the order  Then the order status should be updated to "Approved"  And the registered user should receive a notification "Your order ORD123 has been approved and is being processed." |

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| **Feature** | **Manage Registered user Orders** |
| **User Story ID** | **US-65** |
| **Scenarios** | **Scenario 1:**  Admin marks an order as shipped  Given I am logged in as an admin  And an approved order exists with Order ID "ORD125"  When I navigate to the "Manage Orders" section  And I select Order ID "ORD125"  And I update the status to "Shipped"  And I enter a tracking number "TRACK123456"  Then the order status should be updated to "Shipped"  And the registered user should receive a notification "Your order ORD125 has been shipped. Tracking Number: TRACK123456."  **Scenario 2:**  Admin tries to mark a non-approved order as shipped  Given I am logged in as an admin  And an order exists with Order ID "ORD126" with the status "Pending"  When I navigate to the "Manage Orders" section  And I attempt to update the status to "Shipped"  Then I should see an error message "Order must be approved before shipping."  And the order status should remain "Pending" |

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| **Feature** | **Manage Registered user Orders** |
| **User Story ID** | **US-66** |
| **Scenarios** | **Scenario 1:**  Admin cancels an order due to out-of-stock items  Given I am logged in as an admin  And an approved order exists with Order ID "ORD127" containing an out-of-stock book  When I navigate to the "Manage Orders" section  And I select Order ID "ORD127"  And I cancel the order with the reason "Item out of stock"  Then the order status should be updated to "Cancelled"  And the registered user should receive a notification "Your order ORD127 has been cancelled due to out-of-stock items. A refund will be processed."  **Scenario 2:**  Admin cancels an order upon registered user request  Given I am logged in as an admin  And an approved order exists with Order ID "ORD128"  And the registered user has requested order cancellation  When I navigate to the "Manage Orders" section  And I select Order ID "ORD128"  And I cancel the order with the reason "Registered user requested cancellation"  Then the order status should be updated to "Cancelled"  And the registered user should receive a notification "Your order ORD128 has been cancelled as per your request. A refund will be processed." |

* **Sprints**

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| **Sprint No** | **User Stories** | **Feature** |
| Sprint 1 | US-01, US-02, US-03, US-04, US-05, US-06, US-07 | User Authentication & Profile Management |
| Sprint 2 | US-11, US-12, US-13, US-14, US-15, US-16, US-17, US-18, US-19, US-20, US-21, US-22 | Book Catalog Management |
| Sprint 3 | US-23, US-24, US-25, US-26, US-27, US-29, US-30, US-31, US-32, US-33, US-34, US-35, US-36, US-37 | Shopping Cart & Checkout |
| Sprint 4 | US-38, US-39, US-40, US-41, US-42, US-43, US-44, US-45, US-46, US-47, US-48, US-49, US-50, US-51 | Payment Processing & Order Confirmation |
| Sprint 5 | US-52, US-53, US-54, US-55 | Reviews & Ratings |
| Sprint 6 | US-56, US-57, US-58, US-59, US-60, US-61, US-62, US-63 | Admin Features (Book Management) |
| Sprint 7 | US-64, US-65, US-66 | Admin Features (Order Management) |
| Sprint 8 | US-08, US-09, US-10 | Admin Features (User Management) |

For questions or collaboration opportunities, feel free to reach out to me:  
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