



# Book Bazar

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This project report has been submitted in fulfilment of the requirements for the degree of **Bachelor of Science in Software Engineering**

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I hereby declare that I have checked this project and, in my opinion, this project is adequate in terms of scope and quality for the award of the degree of Bachelor of Science.

 15.01.25

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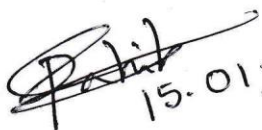
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## STUDENT'S DECLARATION

I hereby declare that the work in this project is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at Daffodil International University or any other institution.

  
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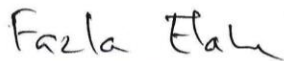
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## APPROVAL

This Project titled on “**Book Bazar**”, submitted by **Rahib Chowdhury (ID: 171-35-2032)** to the Department of Software Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Science in Software Engineering and approval as to its style and contents.

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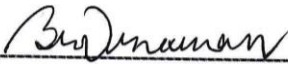
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First of all, I am very much grateful to The Almighty Allah for making me eligible to complete this project. I am deeply thankful to my supervisor, Ms. Bohnishikha Halder, for her invaluable support, advice, and encouragement throughout this journey. Her expertise and thoughtful guidance have been instrumental in shaping this work. I would also like to thank all the faculty members of the Department of Software Engineering for their helpful suggestions, support, and encouragement, which greatly contributed to the success of this project.

Finally, I want to express my heartfelt thanks to my parents for their endless love, sacrifices, and encouragement. Their support has been my strength, and I could not have achieved this without them.

## DEDICATION

I therefore declare that I have done this project under the oversight of “**Ms. Bohnishika Halder**”, “Lecturer”, Department of Software Engineering, Daffodil International University. Also declare that neither entire record nor any portion of this record has been submitted somewhere else for my degree.

## **ABSTRACT**

This document describes the design, concept, and functionality of Book Bazar an e-commerce platform dedicated to providing an easy and efficient online marketplace for buying and selling books. The platform aims to offer a user-friendly and engaging experience with a wide variety of books, from fiction and non-fiction to academic texts and specialized genres. Key features include an intuitive user interface, advanced search, and filtering options to help users find the books they desire quickly. The website is built with a focus on security, ensuring safe transactions for buyers and sellers alike, as well as scalability to accommodate growing traffic and inventory. The platform also prioritizes customer satisfaction with features such as live chat support, hassle-free returns, and real-time order tracking. For sellers, "Book Bazar" provides an easy-to-use interface, efficient book management tools, and analytics to help optimize sales and enhance customer interactions. With the use of modern web technologies and a customer-cantered approach, "Book Bazar" aims to offer convenience, reliability, and innovation in the online book marketplace, providing both buyers and sellers with a seamless experience.

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# CHAPTER 1 INTRODUCTION

## 1.1 Background

"Book Bazar" is a comprehensive digital platform aimed at bringing together book lovers, independent authors, and sellers. The project focuses on building a user-friendly marketplace that caters to buying, selling, and exchanging books, including rare and second-hand options. The lab manual provides a step-by-step guide for the project's development phases, from user interface design to system architecture.

### 1.1.1 Context and Relevance

This project is part of the growing online marketplace industry. Nowadays, more people prefer shopping online for convenience. In the world of books, many readers are looking for used, rare, or special editions, but it can be hard to find these in regular online stores. Challenges like poor search options, lack of book variety, and limited access for small authors make it difficult for people to get what they want.

"Book Bazar" addresses these problems by offering a user-friendly platform that makes it easy to find and buy the books people are looking for. It also gives independent authors a space to sell their books directly to readers.

### **1.1.2 Problem Identification**

Many online platforms only focus on new books, leaving little support for used or rare books. Additionally, independent authors struggle to reach readers because they don't have the tools to showcase their work. Current systems lack proper search options, personalized recommendations, and secure payment methods.

"Book Bazar" solves these issues by providing advanced search filters, personalized suggestions, and tools to help independent authors connect with buyers.

### **1.1.3 Purpose and Justification**

The main goal of this project is to make buying and selling books easy and enjoyable. It aims to:

- Create a simple and clear interface for users.
- Help readers discover books they will enjoy.
- Support small authors in selling their books.
- Ensure all transactions are safe and reliable.

This project is important because it fills a gap in the market. It helps book lovers find what they need while supporting authors and sellers, making the entire process smoother.

#### 1.1.4 Scope

The "Book Bazar" project includes:

- Registering, logging in, and managing user accounts.
- Searching and filtering books by category, author, and more.
- Personalized suggestions based on user preferences.
- Secure payment options and order tracking.
- A dashboard for admins to manage users, books, and transactions.
- Features for authors to upload and sell their books.

This wide range of features ensures that everyone, from readers to sellers, can use the platform easily.

### 1.2 Project Planning and Initiation

#### Feasibility Study (Step-by-Step)

The feasibility study ensures that the "Book Bazar" project is practical, viable, and sustainable. It assesses various factors such as the project scope, market demand, technology requirements, and financial aspects to ensure successful implementation.

### **Phase 1 Preliminary Analysis & Project Scope Definition:**

The initial step in the "Book Bazar" project is to establish clear goals and outline the scope of the platform. This e-commerce site will allow users to buy and sell books easily. It will include basic features such as user registration, product catalog management, shopping cart functionality, secure checkout, and order tracking. The platform will be designed to accommodate various types of users, including buyers, sellers, and admins, ensuring it is simple and easy to navigate.

The project will focus on essential functionalities to make sure the platform is effective without unnecessary complexity. By using Servlet JSP and MySQL, the platform will be designed to handle both small-scale and medium-scale user traffic. The scope also includes ensuring the platform is secure, with reliable authentication and payment systems.

### **Phase 2 Market Feasibility Analysis (or Market Research):**

The market feasibility analysis helps assess whether there is enough demand for the platform and how it will fit in the current market. Online book shopping continues to grow, especially as people seek convenience and affordability. However, many small booksellers struggle to reach their audience because of the high costs and complexity of bigger platforms. "Book Bazar" aims to bridge this gap by providing a simple and cost-effective solution for users to sell and buy books online.

Consumer trends show that people are looking for platforms that offer both new and second-hand books, while ensuring a safe and easy shopping experience. Market research will help identify key user needs and allow the platform to offer distinct features such as easy book searches, user-friendly navigation, and secure transactions. By focusing on providing an uncomplicated platform for small businesses and individual sellers, "Book Bazar" can carve out its place in the market.

### **Phase 3 Technical Feasibility Analysis:**

The technical feasibility analysis ensures that the technology used to build "Book Bazar" can support the system's functionality, growth, and security. The project will use Servlet JSP for the server-side logic and MySQL for database management, both of which are reliable and efficient technologies for building scalable e-commerce platforms.

Servlet JSP will handle user requests, process business logic, and display content dynamically, while MySQL will store user data, book listings, and transaction records. These technologies are widely used and provide good performance even with increasing data or user traffic. The platform will be optimized to work seamlessly across both desktop and mobile devices, offering a responsive user interface.

For security, the platform will implement strong user authentication and encryption for sensitive data such as user passwords and payment information. Payment gateways like PayPal or Stripe will be integrated to enable secure transactions. The use of Servlet JSP and MySQL ensures that the system is both scalable and secure for handling user transactions and data.

## **Phase 4 Financial Feasibility Analysis:**

The financial feasibility analysis evaluates the cost of developing and maintaining the "Book Bazar" platform. Since this is a varsity project, the primary goal is to keep the costs low while ensuring the platform meets the essential features. Costs will primarily include web hosting, domain registration, and the integration of payment gateways. Development tools and software required for building the platform will also be factored into the budget.

A simple cost-benefit analysis will consider potential future revenues from premium features, such as charging sellers a small fee to list their books or offering advanced services for buyers. While the project may not generate immediate revenue, it will focus on building a solid foundation that can be expanded and monetized over time.

The financial feasibility study ensures that the project can be developed within budget, and that the platform can be maintained affordably while continuing to meet user needs.

### 1.3 Target User Profile and Tentative Elicitation Process

#### Target Users

For the "Book Bazar" platform, we have identified two core groups of users: Consumers (Book Shoppers) and Sellers (Book Vendors). Both groups have distinct needs and preferences that shape the design, functionality, and user experience of the platform.

#### 1. Consumers (Book Shoppers)

Consumers are the primary users who will browse and purchase books on the "Book Bazar" platform. These users come from various demographics but share an interest in purchasing books conveniently and affordably.

**Regular Book Buyers:** This group consists of readers who frequently purchase books for personal reading, academic purposes, or professional growth. These individuals often look for a broad range of books, from bestsellers to niche academic titles. They value access to comprehensive catalogs and seamless browsing.

**Occasional Buyers:** These users are not frequent book shoppers but visit the platform when looking for a specific title or gift. They prefer a user-friendly, hassle-free shopping experience and expect fast delivery and secure payment options.

**Students and Young Adults:** University students and young readers are a key target audience. They often seek affordable books for both academic purposes and leisure reading. This group is highly tech-savvy, comfortable navigating online platforms, and expects smooth transactions and mobile accessibility.

## Key Expectations of Consumers:

**Effortless Browsing Experience:** A user-friendly interface with clear categorization of books, filtering options, and an intuitive search feature. Consumers should be able to easily find what they are looking for by author, genre, price range, or book title.

**Secure and Reliable Payment Options:** Ensuring all payment transactions are processed securely with trusted gateways like PayPal, Stripe, or credit card options. Consumers expect to see clear indications of security during checkout.

**Mobile-Friendly Design:** As many users will shop from their smartphones or tablets, the platform must be responsive, ensuring that all features work seamlessly across devices.

**Comprehensive Book Collection:** A wide range of genres including fiction, non-fiction, academic texts, and children's books. Consumers will appreciate the platform's ability to offer books across different categories and formats (e-books, audiobooks, physical copies).

**Fast and Efficient Checkout:** Consumers expect a quick and easy checkout process with minimal steps. The system should remember their shipping details for future purchases, making it faster to buy again.

## 2. Sellers (Book Vendors)

Sellers are individuals or businesses that will list and manage books for sale on the "Book Bazar" platform. These sellers can range from independent authors to large bookstores and publishers.

- **Independent Authors:** Authors who have self-published or want to promote their own work. These individuals typically seek platforms that allow them to reach a wider audience without hefty fees.
- **Small Publishers:** Small publishing houses that want to sell their catalog of books without engaging in complicated contracts with larger e-commerce platforms.

- **Local and Independent Bookstores:** Independent bookshops that wish to move from in-store sales to e-commerce to extend their reach. These sellers require a straightforward and affordable solution to manage their books online.
- **Educational Institutions:** Universities or libraries offering academic books for students or teachers, who may be interested in listing textbooks or reference materials.

#### Key Expectations of Sellers:

**Simple Product Listing and Management:** Sellers expect an easy-to-use interface that allows them to upload book details (title, author, ISBN, description, price) with minimal effort. The system should also allow bulk uploads for larger catalogs.

- **Inventory and Order Management Tools:** Sellers require the ability to manage their inventory effectively, track sales, and fulfill orders. The platform should support easy order processing, shipment tracking, and handling customer inquiries.
- **Affordable Platform Fees:** Sellers want a cost-effective solution that enables them to reach a wide audience without significant upfront investment. The pricing structure should be transparent, with no hidden fees, and offer flexibility in terms of commissions or subscription models.
- **Promotional Tools:** Many sellers will appreciate features that allow them to offer discounts, promotional codes, or special offers to attract customers and boost sales.
- **Security and Data Privacy:** Sellers need assurance that their data (business information, transaction details) will be protected. The platform must adhere to data protection regulations to ensure that both seller and consumer information is safe.

## Stakeholders

Several parties are involved in the development, operation, and growth of the "Book Bazar" platform. Each stakeholder plays a crucial role in the successful development and operation of the project.

- **Project Development Team:** This team includes the developers, designers, and technical experts responsible for building, testing, and maintaining the platform. The team works to ensure that the platform is functional, secure, and scalable.
- **University Supervisors and Mentors:** These are academic faculty members who oversee the project to ensure that it meets academic standards, serves as a practical learning experience for students, and aligns with the goals of the university.
- **Consumers (Book Shoppers):** These are the end users who will interact with the platform to browse books and make purchases. Their satisfaction is paramount, and their feedback will be crucial for the platform's ongoing improvements.
- **Sellers (Book Vendors):** Businesses or individuals who list and sell books on the platform. They are crucial to the platform's success, as their inventory is what drives the marketplace. Sellers also provide valuable feedback to improve platform features, such as inventory management and sales reporting.
- **Payment Gateway Providers:** Third-party services like PayPal, Stripe, or other financial institutions that enable secure online payments. They are critical for ensuring the financial transactions on the platform are smooth and safe for both buyers and sellers.
- **Web Hosting Providers:** Companies responsible for hosting the platform, ensuring it is accessible online. They offer the essential support and resources needed to maintain the platform's functionality and security.

- **Potential Investors and Partners:** These could be individuals or organizations interested in funding or expanding the platform in the future. Investors could provide capital to support the growth of "Book Bazar" and help introduce new features, while strategic partnerships could offer mutual benefits in terms of market reach or technological enhancements.
- **Customer Support and Logistics Providers:** This includes third-party services or teams responsible for handling customer support, resolving queries, and assisting with issues related to orders or payments. Additionally, logistics companies that manage the shipping and delivery of books are important stakeholders for ensuring a positive experience for consumers.

### 1.3.2 User profile

Table 1.1: User Profile for Buyer

User Class	Notes on Characteristic	Requirement Implied
Type of User	Buyer	Verification
Age Range	18-60	Verification
Frequency of Use	Occasionally (during book purchases)	Performance, Operation
Mandatory	Yes	Documentation
Computer Experience	Moderate	Usability, Documentation
Education	High school and above	Documentation, Usability
Goals	Purchase books easily and securely	Resource, Security, Acceptance
Language Skills	Varies (English, other local languages)	Acceptance
Number of Users	Large (10,000+)	Performance, Scalability
Training	No training required	Usability
Other System Used	Other e-commerce platforms	Operation, Integration
Ways of Working	Full support from the system	Security, Safety, Maintenance

Table 1.2: User Profile for Seller

User Class	Notes on Characteristic	Requirement Implied
Type of User	Seller	Verification
Age Range	25-50	Verification
Frequency of Use	Regular (manage listings/sales)	Performance, Operation, Security
Mandatory	Yes	Documentation
Computer Experience	Moderate to High	Usability, Documentation
Education	Bachelor's degree or relevant experience	Documentation
Goals	List and sell books effectively	Resource, Security, Scalability
Language Skills	English, Local Language	Acceptance
Number of Users	Medium (500-1000 sellers)	Performance, Scalability
Training	May need basic onboarding	Usability
Other System Used	Other e-commerce systems	Operation, Integration
Ways of Working	Support and self-service options	Security, Maintenance

Table 1.3: User Profile for Admin

User Class	Notes on Characteristic	Requirement Implied
Type of User	Admin	Verification, Access Control
Age Range	25-45	Verification
Frequency of Use	Daily	Performance, Operation
Mandatory	Yes	Documentation
Computer Experience	Expert	Documentation
Education	IT/Management background	Security, Scalability
Goals	Ensure smooth operation of the platform	Performance, Security, Operation
Language Skills	English	Documentation
Number of Users	Limited (5-10 admins)	Security, Performance
Training	Requires training for system management	Documentation, Usability
Other System Used	Admin management tools	Operation, Maintenance
Ways of Working	Direct access to system tools	Security, Maintenance

### 1.3.3 Elicitation Process

To create a user-friendly and efficient "Book Bazar" platform, understanding the needs of all users is essential. A well-structured process is required to gather accurate information about the preferences, challenges, and expectations of key stakeholders, including administrators, buyers, and sellers. Below is an outline of the elicitation methods designed specifically for this project:

#### 1. Interviews

##### Description:

Interviews are essential for gaining in-depth knowledge about the needs, challenges, and expectations of potential users. By having one-on-one discussions, developers can understand the specific requirements of both buyers and sellers using the platform.

##### Implementation:

Prepare a set of flexible questions to ensure that users can share detailed feedback while keeping the conversation focused.

Conduct interviews with book buyers, asking about their preferences for browsing and purchasing books, such as, "What features make it easier to discover new books?"

For sellers, explore their challenges in listing books and managing inventory, for instance, "What functionalities would simplify your sales process?"

Include administrators to understand their perspective on managing the platform effectively.

##### Outcome:

Interviews provide direct and personalized feedback that can help identify critical features, pain points, and expectations, laying a strong foundation for platform design.

## 2. Surveys

### Description:

Surveys are used to gather feedback from a broad audience quickly and cost-effectively. They help identify common preferences, behaviors, and issues faced by buyers and sellers.

### Implementation:

Design online surveys with simple, clear questions that focus on specific areas, such as user experience, payment preferences, and book browsing habits.

Include simple questions like: “when you buy books online?” or “What payment methods do you prefer?”

Distribute surveys via email, social media, or through universities to reach a diverse group of potential users.

### Outcome:

Surveys will highlight common preferences and challenges that users face.

### 3. Focus Groups

#### Description:

Focus groups involve gathering a small group of users to discuss their experiences and expectations regarding online book shopping and selling. This method encourages collaboration and helps uncover unique insights. Means it will be a Small group discussions that allow users to share ideas and talk about their experiences.

#### Implementation:

Organize separate sessions for buyers, sellers, and administrators to focus on their specific needs.

Facilitate open discussions about book search challenges, preferred payment methods, and ideal seller tools.

Encourage participants to share their past experiences with online platforms and suggest improvements for Book Bazar.

#### Outcome:

Focus groups provide collective insights and foster idea-sharing, which often reveals hidden requirements and innovative suggestions for improving the platform. So we can watch how users interact with existing platforms or prototypes can reveal where they face issues.

#### 4. Observation

##### Description:

Observing users as they interact with similar platforms provides real-time insights into their behavior, struggles, and habits, which may not be evident through direct questioning.

##### Implementation:

Watch buyers as they navigate existing online book stores to identify usability issues, such as difficulties in finding books or completing transactions.

Monitor sellers as they manage product listings or respond to customer inquiries to understand their operational challenges.

Record behaviors like time taken to search for a book, the ease of adding it to the cart, and the smoothness of completing purchases.

##### Outcome:

Observation helps find areas to improve the platform's usability.

## 5. Use Case Analysis

### Description:

This involves understanding the steps users take to achieve specific tasks on the platform.

### Implementation:

Develop use cases for each user type. For buyers, outline tasks like “searching for a specific book,” “reading reviews,” and “completing a purchase.”

For sellers, include actions such as “listing a book,” “editing inventory,” and “responding to customer inquiries.”

Define potential challenges users may face in each scenario and the platform features needed to address them.

### Outcome:

Use case analysis ensures the platform supports all essential user tasks and aligns with their practical needs, reducing the risk of missing critical functionality.

## 6. Competitor Analysis

### Description:

Analyzing existing book-selling platforms helps understand user expectations, common features, and areas for differentiation.

### Implementation:

Study platforms like Amazon and Rokomari to identify popular features, such as advanced search filters, personalized recommendations, and secure payment options.

Analyze their strengths, such as robust customer service, and weaknesses, like a lack of localized content or high seller fees.

Compare these insights with Book Bazar's goals to develop unique features that address gaps in the market.

### Outcome:

Competitor analysis guides the design and feature prioritization, ensuring Book Bazar offers competitive advantages while meeting user expectations.

### Summary of Methods:

Interviews: Direct feedback for personalized feature development.

Surveys: Broad data collection to understand common trends.

Focus Groups: Collaborative discussions to refine ideas.

Observation: Real-time user interaction insights for improvement.

Use Case Analysis: Mapping user tasks to essential platform features.

Competitor Analysis: Learning from existing platforms to enhance "Book Bazar."

By applying these methods, "Book Bazar" will be tailored to meet user needs and offer a seamless, secure, and enjoyable experience for buying and selling books.

## 1.4 Project Block Diagram

### BUYER

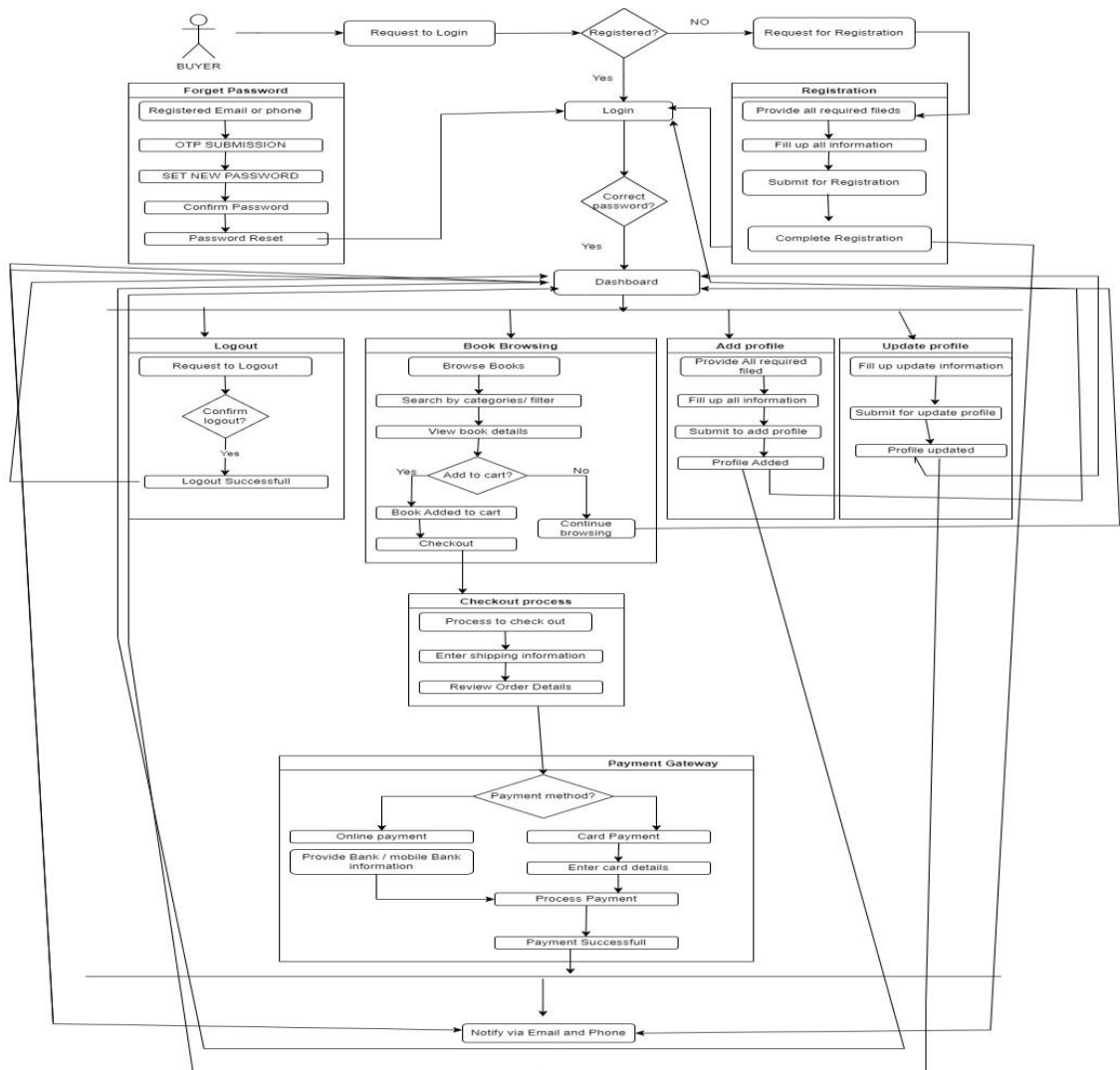


Figure 1.1: Block Diagram For Buyer

## Block Diagram 2: SELLER

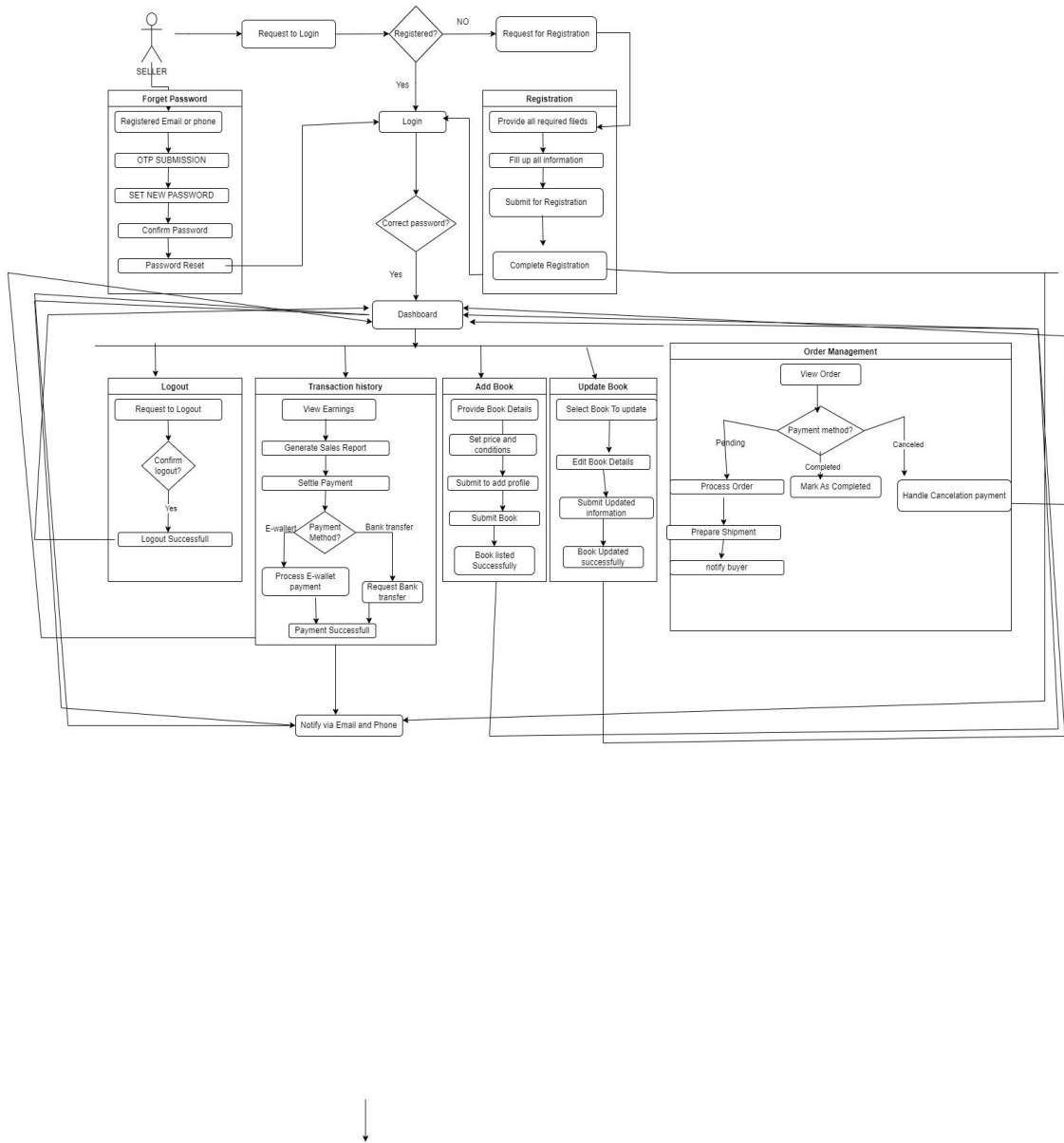


Figure 1.2: Block Diagram For Seller

Bock Diagram 3: ADMIN

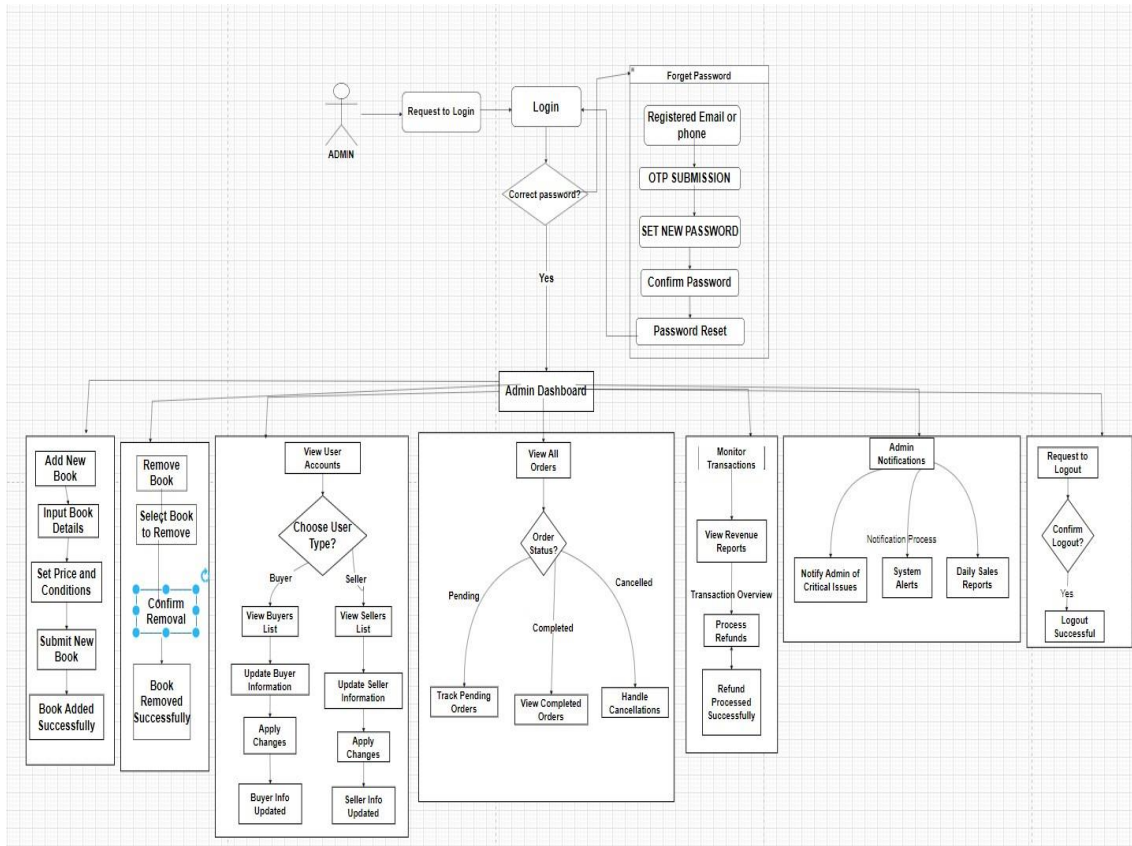


Figure 1.3: Block Diagram For Admin

## 1.5 System Requirements

### 1.5.1 Hardware Requirements

The following hardware requirements are essential to support the development, testing, and deployment of "Book Bazar," an e-commerce platform developed using HTML, JSP, Bootstrap, CSS, J2EE, Servlet, JDBC, and MySQL.

#### Development Workstations

**Processor (CPU):** Intel Core i5 or AMD Ryzen 5 (or higher) for smooth multitasking and handling local servers.

**RAM:** Minimum 8 GB; 16 GB recommended for running multiple tools, development environments, and databases simultaneously.

**Storage:** 256 GB SSD minimum for fast read/write operations; 512 GB SSD or higher recommended for storing project files, databases, and other resources.

**Graphics:** Integrated graphics sufficient for UI development and testing.

**Operating System:** Windows 10/11, macOS, or Linux (Ubuntu recommended for Java development).

**Network:** Reliable internet connection for accessing APIs, managing database servers, and collaborating via version control platforms.

#### Web Server (for Deployment)

**Network:** High-speed internet with a minimum of 1 Gbps for seamless user interactions and smooth deployment.

**Backup and Redundancy:** Additional storage for regular backups, ensuring data recovery and disaster management.

#### Database Server (if hosted separately)

**Network:** Stable and fast internet connection to handle database queries effectively.

#### Mobile Devices (for Testing)

**Smartphone/Tablet:** Devices running Android or iOS for testing the mobile responsiveness of the platform.

**Screen Sizes:** Variety of resolutions and screen sizes (e.g., 5.5-inch, 6.5-inch, tablets) to ensure compatibility with all devices.

## Optional Hardware for Advanced Development

Backup Servers/Cloud Storage: For periodic backups of databases and application files.

External Devices: Printers, barcode scanners, or card readers for advanced e-commerce integrations (if required).

### 1.5.2 Software Requirements

To ensure seamless development and deployment of "Book Bazar," the following software setup is required:

#### Operating System

Windows 10/11, macOS, or Linux (Ubuntu is preferred for a stable development environment).

#### Development Tools

Code Editor/IDE: Eclipse IDE for Java EE Developers (to write and manage Servlets, JSP, and J2EE-based components).

Database Management: MySQL Workbench for database design, management, and query execution.

Web Browser: Google Chrome or Mozilla Firefox for testing the platform.

Version Control: Git (with GitHub or GitLab) for tracking project changes and collaborative development.

#### Frontend Development

HTML, CSS, and Bootstrap: For structuring, styling, and ensuring a responsive design.

JavaScript (Optional): To enhance interactivity in the user interface.

#### Backend Development

J2EE Framework: To manage the backend logic and ensure scalability.

Servlets and JSP: Core technologies for handling requests and responses.

JDBC: For seamless interaction with the MySQL database.

## Server Setup

Apache Tomcat 9.0: To deploy and test the web application locally or on the server.

## Database

MySQL: For managing the application's data storage and retrieval needs.

## Testing Tools

JUnit (Optional): For testing Java components in the project.

Postman: For testing API endpoints and server responses.

## Deployment Tools

Hosting Services: Optional deployment on cloud platforms like AWS or DigitalOcean for real-world use.

### 1.5.3 Constraints and Dependencies

#### Constraints

**Time Limitation:** Since "Book Bazar" is a university project, time constraints may limit the inclusion of advanced features like AI-based recommendations or extensive data analytics.

**Simplified Features:** The project focuses on core e-commerce functionalities such as product listings, user registration, shopping cart, and checkout while avoiding overly complex features like multi-vendor support or dynamic pricing.

**Scalability:** As MySQL and Apache Tomcat are used, the project may face challenges scaling for high traffic unless upgraded to distributed architectures in the future.

**Basic Payment Integration:** The payment gateway integration will be straightforward and limited to basic payment methods like credit/debit cards.

## Dependencies

Frontend Libraries: Bootstrap for designing a responsive and user-friendly interface.

J2EE Framework: Provides the foundation for backend logic, including handling requests and data processing.

Apache Tomcat: Critical for running and hosting the application.

MySQL Database: Used for storing and managing user, product, and transaction data.

Version Control Tools: Git ensures smooth collaboration and version management.

External APIs: Payment gateway APIs (like PayPal or Stripe) will be integrated for transaction processing.

By addressing these requirements, constraints, and dependencies, "Book Bazar" ensures a well-rounded and functional e-commerce platform tailored to the needs of its users and sellers.

## 1.6 Project Scheduling

**Table 1.4: Time Frame**

Task	Week1	W2	W3	W4	W5	W6	W7	W8	W9	W10
Project Planning & Research	✓	✓								
Requirement Gathering	✓	✓								
System Design & Database Schema		✓	✓							
Frontend Development (HTML/CSS)			✓	✓	✓					
Backend Development (Servlet/JSP)				✓	✓	✓				
Database Setup & Integration					✓	✓				
User Authentication & Testing						✓	✓			
Payment Integration (API)						✓	✓	✓		
Testing & Debugging							✓	✓		
Deployment (Apache Tomcat)								✓	✓	
Documentation & Reporting									✓	✓

**Table 1.5: Risk Management**

Risk	Impact	Likelihood	Mitigation Strategy
Lack of Clear Requirements	High	Medium	Gather detailed requirements early and confirm with the supervisor.
Delays in Backend Development	High	Medium	Break tasks into smaller milestones and regularly review progress.
Technical Issues (J2EE/MySQL)	Medium	Low	Use official documentation and forums to resolve issues.
Frontend-Backend Integration Issues	High	Medium	Test integration at each stage to ensure smooth functionality.
Lack of Time for Testing	High	High	Allocate time specifically for thorough testing (manual and automated).
Scaling Problems with MySQL	Medium	Medium	Consider the project's scale early, and migrate to another DB (like PostgreSQL) if necessary.
Deployment Issues	Medium	Medium	Deploy on simpler platforms like Heroku to minimize deployment complexity.
Unforeseen Bugs	Medium	High	Regular testing and debugging sessions to catch issues early.
Payment Gateway Integration Errors	High	Medium	Use detailed API documentation and perform multiple rounds of testing for secure and error-free payment transactions.
User Feedback & Satisfaction Issues	Medium	Medium	Continuously collect user feedback during development and post-deployment to refine the platform.

## 1.7 Summary

This chapter focused on the System Requirements for the Book Bazar project, detailing the hardware and software needed for its development, testing, and deployment. The hardware requirements included specifications for development workstations, web servers, and database servers to ensure smooth operations. It also emphasized the importance of having a stable internet connection and backup systems for reliable performance. The software requirements covered the tools and technologies used, such as HTML, JSP, Bootstrap, CSS, J2EE, Servlet, MySQL, Eclipse, and MySQL Workbench. These components were chosen to create a robust and efficient e-commerce platform.

Finally, constraints and dependencies were identified, such as time limitations, simplified features, and reliance on specific software and tools. These factors were considered to ensure the project remains achievable and functional within its scope.

# CHAPTER 2 DESIGN AND IMPLEMENTATION

## 2.1 Introduction

This chapter provides an in-depth overview of the design and implementation process for Book Bazar, outlining its system architecture, user interface, database structure, and core functionality development.

The design process begins with defining the system architecture, which is composed of frontend and backend components. The backend leverages Servlet JSP for server-side processing, while MySQL serves as the database to store and manage data such as user profiles, book listings, and transactions. This ensures a robust and scalable system capable of handling user requests efficiently.

The user interface (UI) has been designed with simplicity and usability in mind to cater to buyers, sellers, and administrators. Features like easy navigation, responsive design, and clear categorization of books ensure a seamless user experience. Core functionalities such as user registration, book listing, shopping cart, and order tracking have been implemented to address the platform's key requirements.

Additionally, this chapter outlines the step-by-step implementation of features, detailing how the frontend and backend components are synchronized to provide a cohesive and functional system. The objective is to create a platform that not only meets the immediate needs of book buyers and sellers but is also flexible enough for future enhancements.

## 2.2 Functional Requirements

The Book Bazar system includes the following essential features:

1. User Registration
2. User Login
3. Profile Management
4. Browse Books
5. Create Book Listings
6. Shopping Cart
7. Order Processing
8. Secure Payment System
9. Review and Feedback

FR01	User Registration
Description:	The system will allow new users to register by entering their personal details such as name, email, and password. Both buyers and sellers must complete this process to use the platform.
Stakeholders:	Buyers, Sellers

FR02	User Login
Description:	Users (both buyers and sellers) will be able to log in using their credentials to access their account and related features.
Stakeholders:	Buyers, Sellers, Admin

FR03	Profile Management
Description:	Users can manage their profiles by adding or editing details such as address, payment methods, and contact preferences.
Stakeholders:	Buyers, Sellers

FR04	Browse Books
Description:	Buyers will be able to search and browse books by categories, genres, price ranges, or keywords. Filters can be applied to refine the results.
Stakeholders:	Buyers

FR05	Create Book Listings
Description:	Sellers will be able to create book listings by adding book details such as title, author, condition, price, and uploading images for each book.
Stakeholders:	Sellers

FR06	Shopping Cart
Description:	Buyers can add selected books to a shopping cart for later checkout. They can adjust quantities or remove items from the cart before finalizing their purchase.
Stakeholders:	Buyers

FR07	Order Processing
Description:	Sellers will manage orders through their panel, handling requests, processing shipments, and updating order statuses. Buyers will be able to track their orders.
Stakeholders:	Sellers, Buyers

FR08	Secure Payment System
Description:	The platform will support secure payment methods, including credit cards, digital wallets, or bank transfers, to ensure safe transactions between buyers and sellers.
Stakeholders:	Buyers, Sellers

FR09	Review and Feedback
Description:	After completing a transaction, buyers can leave reviews and ratings for the books and sellers, helping future buyers make informed decisions.
Stakeholders:	Buyers

FR10	Admin Dashboard
Description:	The admin will have access to a dashboard that allows them to monitor platform activities, manage users, handle complaints, and enforce security measures.
Stakeholders:	Admin

## 2.3 Non-Functional Requirements

Non-functional requirements define the critical attributes of the Book Bazar platform, focusing on areas such as performance, reliability, and portability. These attributes ensure the system operates efficiently and meets user expectations.

### 2.3.1 Performance

In Book Bazar, performance is essential to delivering a fast and reliable experience for all users. The platform focuses on:

**Page Load Time:** All pages, such as book search, category browsing, and product details, must load within seconds. Optimized database queries and well-structured code ensure efficient performance.

**Response Time:** Actions like adding books to the cart, completing purchases, or managing listings must be executed promptly to maintain user satisfaction. Server-side optimizations will enhance response time.

**Concurrency:** The system will support multiple users engaging in various activities simultaneously, such as browsing books and placing orders, without performance degradation.

**Database Optimization:** The MySQL database will be indexed and optimized to handle data efficiently, even as the number of users and book listings grows.

**Server Stability:** Proper server resource allocation will prevent overloads, ensuring uninterrupted performance during peak times.

### 2.3.2 Reliability

Reliability is crucial for Book Bazar to establish trust and provide consistent functionality.

**System Stability:** The platform must operate without unexpected crashes or disruptions. Continuous testing and monitoring will ensure smooth functionality.

**Error Handling:** Clear and user-friendly error messages will guide users in scenarios like failed login attempts or order issues, reducing frustration and enhancing recovery.

**Data Integrity:** All data, such as user profiles, book listings, and transaction histories, must be stored and updated accurately. Regular backups will safeguard data against loss.

**High Availability:** The system will maintain minimal downtime, ensuring buyers, sellers, and administrators can access it whenever needed.

**Security Measures:** Implementing HTTPS protocols, secure authentication mechanisms, and encryption for sensitive data will protect against breaches and unauthorized access.

**Backup and Recovery:** Scheduled database backups and a robust recovery plan will minimize data loss and ensure quick restoration in case of unexpected failures.

### 2.3.3 Portability

Portability ensures that Book Bazar operates seamlessly across various platforms and environments, facilitating easy deployment and use.

**Cross-Platform Compatibility:** The system, developed using Servlet JSP and MySQL, will run efficiently on major operating systems, including Windows, macOS, and Linux.

**Cloud Hosting:** Hosting the platform on cloud services like AWS or Azure will enable flexible access and deployment, supporting scalability and easy maintenance.

**Mobile and Desktop Accessibility:** The platform will feature a responsive design, allowing users to access it on different devices, including smartphones, tablets, and desktops.

**Simplified Setup:** With minimal configurations required, the platform can be deployed effortlessly in different environments, ensuring a consistent experience.

## 2.4 Object-oriented System design using UML

### 2.4.1 Use Case Diagram

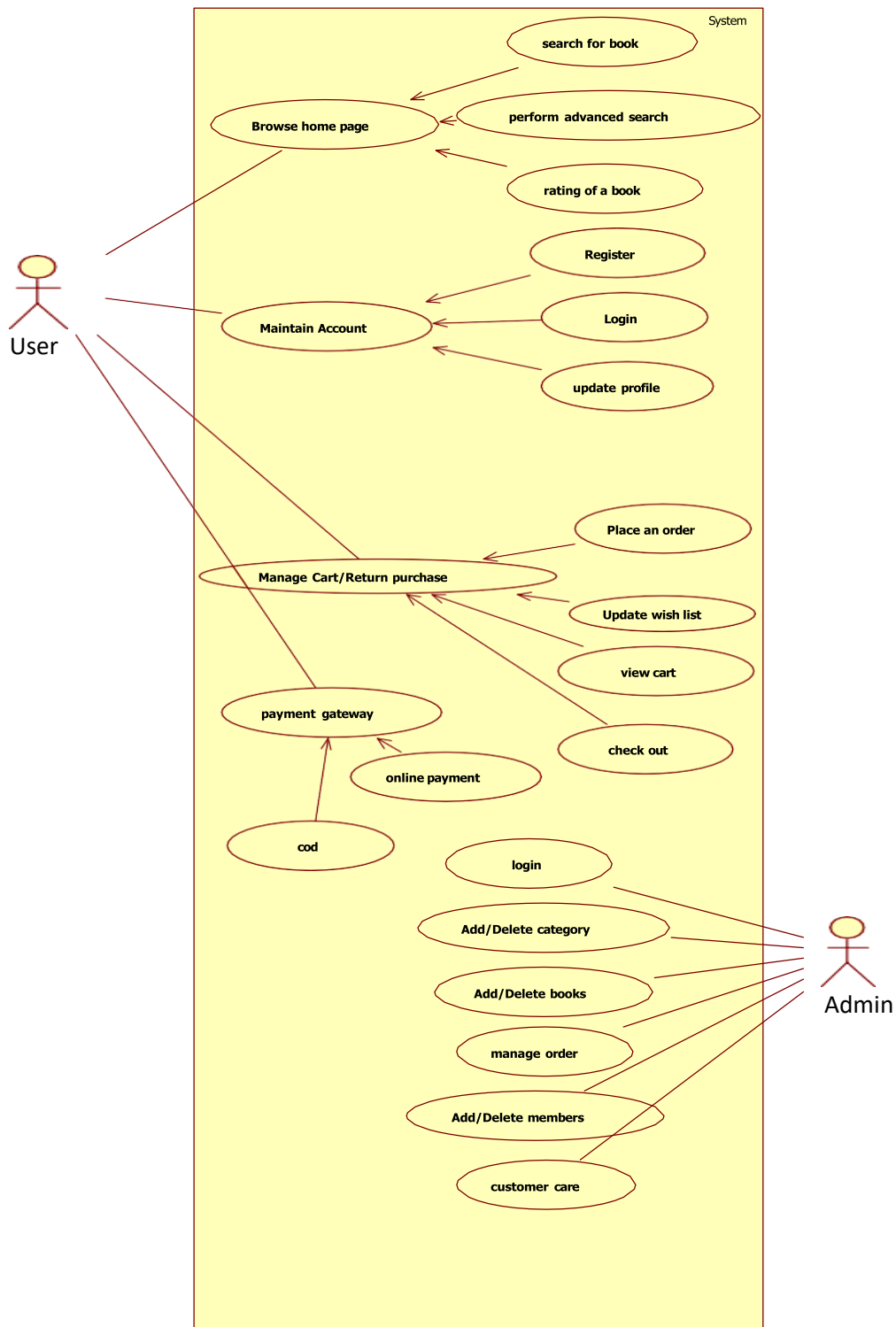


Figure 2.1: Use Case Diagram

## 2.4.2 Case Description

Table 2.1: Case Description-01: Registration

Use Case	Registration																
Goal	Users can register to sign in to the system.																
Precondition	User must access the registration page from the website																
Success End Condition	Notification: "Registration completed successfully!"																
Failed End Condition	"Registration unsuccessful. Please try again later."																
Primary Actors: Secondary Actors:	Customer, Seller																
Trigger	User clicks the "Register" button to start the registration process.																
Description / Main Success Scenario	<table border="1"> <tr> <td>1.</td> <td>Press "Registration" Button</td> </tr> <tr> <td>2.</td> <td>Provide registration form</td> </tr> <tr> <td>3.</td> <td>Enter Information</td> </tr> <tr> <td>4.</td> <td>Press "Submit" Button.</td> </tr> <tr> <td>5.</td> <td>Information saved</td> </tr> <tr> <td>6.</td> <td>The system saves the details and shows them !!! Successfully Registered!!! Notify</td> </tr> </table>	1.	Press "Registration" Button	2.	Provide registration form	3.	Enter Information	4.	Press "Submit" Button.	5.	Information saved	6.	The system saves the details and shows them !!! Successfully Registered!!! Notify				
1.	Press "Registration" Button																
2.	Provide registration form																
3.	Enter Information																
4.	Press "Submit" Button.																
5.	Information saved																
6.	The system saves the details and shows them !!! Successfully Registered!!! Notify																
Alternative Flows	<table border="1"> <tr> <td>1</td> <td>System Error</td> </tr> <tr> <td></td> <td>Please Try Again!!</td> </tr> <tr> <td>2</td> <td>The user Did not fill up the details!</td> </tr> <tr> <td></td> <td>Checked By the system &amp; Notify by "Please! Fill Up the Box".</td> </tr> <tr> <td>3</td> <td>The system did not respond</td> </tr> <tr> <td></td> <td>Show Error Message.</td> </tr> <tr> <td>4</td> <td>The system Doesn't save the details.</td> </tr> <tr> <td></td> <td>Notification: "Details did not Save"</td> </tr> </table>	1	System Error		Please Try Again!!	2	The user Did not fill up the details!		Checked By the system & Notify by "Please! Fill Up the Box".	3	The system did not respond		Show Error Message.	4	The system Doesn't save the details.		Notification: "Details did not Save"
1	System Error																
	Please Try Again!!																
2	The user Did not fill up the details!																
	Checked By the system & Notify by "Please! Fill Up the Box".																
3	The system did not respond																
	Show Error Message.																
4	The system Doesn't save the details.																
	Notification: "Details did not Save"																
Quality Requirements	The user Will fill up all the details in 30 minutes.																

Table 2.2 : Case Description-02: Login

Use Case	Login																
Goal	Allows registered users (customers or sellers) to access their accounts securely.																
Precondition	The user must have an existing registered account and should be on the login page.																
Success End Condition	Notification: "Login successful!"																
Failed End Condition	"Login failed. Check your credentials."																
Primary Actors: Secondary Actors:	Customer, Seller																
Trigger	The user clicks on the "Login" button to initiate the login process.																
Description / Main Success Scenario	<table border="1"> <tr> <td>1.</td> <td>Press "Login" Button</td> </tr> <tr> <td>2.</td> <td>Provide "Login" form</td> </tr> <tr> <td>3.</td> <td>Enter Information</td> </tr> <tr> <td>4.</td> <td>Press "Submit" Button.</td> </tr> <tr> <td>5.</td> <td>The system verifies the entered credentials</td> </tr> <tr> <td>6.</td> <td>A success message!!! Successfully Log-In!!! will Appear and Notify.</td> </tr> </table>	1.	Press "Login" Button	2.	Provide "Login" form	3.	Enter Information	4.	Press "Submit" Button.	5.	The system verifies the entered credentials	6.	A success message!!! Successfully Log-In!!! will Appear and Notify.				
1.	Press "Login" Button																
2.	Provide "Login" form																
3.	Enter Information																
4.	Press "Submit" Button.																
5.	The system verifies the entered credentials																
6.	A success message!!! Successfully Log-In!!! will Appear and Notify.																
Alternative Flows	<table border="1"> <tr> <td>1</td> <td>Incorrect Credentials:</td> </tr> <tr> <td></td> <td>Invalid username or password. Please try again.!!</td> </tr> <tr> <td>2</td> <td>System Failure:</td> </tr> <tr> <td></td> <td>"Unable to process your login request. Try again later."</td> </tr> <tr> <td>3</td> <td>The system did not respond</td> </tr> <tr> <td></td> <td>Show Error. Try again later!!</td> </tr> <tr> <td>4</td> <td>The User didn't login in time</td> </tr> <tr> <td></td> <td>Time Reached. Try again !!</td> </tr> </table>	1	Incorrect Credentials:		Invalid username or password. Please try again.!!	2	System Failure:		"Unable to process your login request. Try again later."	3	The system did not respond		Show Error. Try again later!!	4	The User didn't login in time		Time Reached. Try again !!
1	Incorrect Credentials:																
	Invalid username or password. Please try again.!!																
2	System Failure:																
	"Unable to process your login request. Try again later."																
3	The system did not respond																
	Show Error. Try again later!!																
4	The User didn't login in time																
	Time Reached. Try again !!																
Quality Requirements	Login should be completed in under 2 minutes																

Table 2.3 : Case Description-03: Add Book (Admin)

Use Case	Login																
Goal	Admins can add new books to the Book Bazar platform to make them available for sale.																
Precondition	The admin must be logged in and have the necessary permissions to manage books.																
Success End Condition	Notification: “Book successfully added!”																
Failed End Condition	“Failed to add the book. Please check your input.”																
Primary Actors: Secondary Actors:	Admin																
Trigger	Admin clicks on the “Add Book” button from the dashboard.																
Description / Main Success Scenario	<table border="1"> <tr> <td>1.</td> <td>Press “Add Book” Button</td> </tr> <tr> <td>2.</td> <td>Provide “Book Details (e.g title, author, price)” form</td> </tr> <tr> <td>3.</td> <td>Fill the details</td> </tr> <tr> <td>4.</td> <td>Press “Submit” Button.</td> </tr> <tr> <td>5.</td> <td>The system saves the book details into the database.</td> </tr> <tr> <td>6.</td> <td>A success message!!!Book added successfully!!! will Appear and Notify.</td> </tr> </table>	1.	Press “Add Book” Button	2.	Provide “Book Details (e.g title, author, price)” form	3.	Fill the details	4.	Press “Submit” Button.	5.	The system saves the book details into the database.	6.	A success message!!!Book added successfully!!! will Appear and Notify.				
1.	Press “Add Book” Button																
2.	Provide “Book Details (e.g title, author, price)” form																
3.	Fill the details																
4.	Press “Submit” Button.																
5.	The system saves the book details into the database.																
6.	A success message!!!Book added successfully!!! will Appear and Notify.																
Alternative Flows	<table border="1"> <tr> <td>1</td> <td>Missing Information</td> </tr> <tr> <td></td> <td>Please complete all required fields before submitting</td> </tr> <tr> <td>2</td> <td>System Failure</td> </tr> <tr> <td></td> <td>An error occurred. Please try again later!!</td> </tr> <tr> <td>3</td> <td>Save Failure</td> </tr> <tr> <td></td> <td>Book could not be saved. Try again!!</td> </tr> <tr> <td>4</td> <td>The Admin take long time to fill</td> </tr> <tr> <td></td> <td>Time Reached. Try again !!</td> </tr> </table>	1	Missing Information		Please complete all required fields before submitting	2	System Failure		An error occurred. Please try again later!!	3	Save Failure		Book could not be saved. Try again!!	4	The Admin take long time to fill		Time Reached. Try again !!
1	Missing Information																
	Please complete all required fields before submitting																
2	System Failure																
	An error occurred. Please try again later!!																
3	Save Failure																
	Book could not be saved. Try again!!																
4	The Admin take long time to fill																
	Time Reached. Try again !!																
Quality Requirements	Adding a new book should not exceed 10 minutes.																

Table 2.4 : Case Description-04: Add Book to Cart (Customer)

Use Case	Add Book to Cart																
Goal	Customer can add books to their shopping cart while browsing the platform.																
Precondition	The user must be logged in.																
Success End Condition	Notification: “Book successfully added to your cart!”																
Failed End Condition	“Failed to add the book to your cart.”																
Primary Actors: Secondary Actors:	Customer																
Trigger	The customer selects the “Add to Cart” button while viewing a book.																
Description / Main Success Scenario	<table border="1"> <tr> <td>1.</td> <td>Press “Add to Cart” Button</td> </tr> <tr> <td>2.</td> <td>The system adds the selected book to the user’s shopping cart.</td> </tr> <tr> <td>3.</td> <td>A success message “Book added to your cart!” will Appear and Notify.</td> </tr> <tr> <td>4.</td> <td>View Cart</td> </tr> <tr> <td>5.</td> <td>Select Quantity</td> </tr> <tr> <td>6.</td> <td>Continue Shopping</td> </tr> </table>	1.	Press “Add to Cart” Button	2.	The system adds the selected book to the user’s shopping cart.	3.	A success message “Book added to your cart!” will Appear and Notify.	4.	View Cart	5.	Select Quantity	6.	Continue Shopping				
1.	Press “Add to Cart” Button																
2.	The system adds the selected book to the user’s shopping cart.																
3.	A success message “Book added to your cart!” will Appear and Notify.																
4.	View Cart																
5.	Select Quantity																
6.	Continue Shopping																
Alternative Flows	<table border="1"> <tr> <td>1</td> <td>Cart Full</td> </tr> <tr> <td></td> <td>“Your cart is full. Please remove items to add more.”</td> </tr> <tr> <td>2</td> <td>System Error</td> </tr> <tr> <td></td> <td>There was an error. Please try again later!!</td> </tr> <tr> <td>3</td> <td>Out of stock</td> </tr> <tr> <td></td> <td>Please select Available Books</td> </tr> <tr> <td>4</td> <td>Cart Error</td> </tr> <tr> <td></td> <td>Try again latter</td> </tr> </table>	1	Cart Full		“Your cart is full. Please remove items to add more.”	2	System Error		There was an error. Please try again later!!	3	Out of stock		Please select Available Books	4	Cart Error		Try again latter
1	Cart Full																
	“Your cart is full. Please remove items to add more.”																
2	System Error																
	There was an error. Please try again later!!																
3	Out of stock																
	Please select Available Books																
4	Cart Error																
	Try again latter																
Quality Requirements	Adding a book to the cart should take less than 2 minutes.																

Table 2.5 : Case Description-05: Edit Profile

Use Case	Edit Profile																	
Goal	Users can update their account information.																	
Precondition	The user must be logged in.																	
Success End Condition	Notification: “Profile updated successfully!”																	
Failed End Condition	“Unable to update profile. Try again.”																	
Primary Actors:	Customer, Seller																	
Secondary Actors:																		
Trigger	The user clicks on the “Edit Profile” button from their dashboard.																	
Description / Main Success Scenario	<table border="1"> <tr> <td>1.</td> <td>Press “Edit Profile” Button</td> </tr> <tr> <td>2.</td> <td>The profile Edit form is displayed.</td> </tr> <tr> <td>3.</td> <td>The user makes changes to their profile (name, email, password, etc.).</td> </tr> <tr> <td>4.</td> <td>The user submits the updated profile information.</td> </tr> <tr> <td>5.</td> <td>Press “Submit” Button.</td> </tr> <tr> <td>6.</td> <td>A success notification is shown: “Profile updated successfully!”</td> </tr> </table>		1.	Press “Edit Profile” Button	2.	The profile Edit form is displayed.	3.	The user makes changes to their profile (name, email, password, etc.).	4.	The user submits the updated profile information.	5.	Press “Submit” Button.	6.	A success notification is shown: “Profile updated successfully!”				
1.	Press “Edit Profile” Button																	
2.	The profile Edit form is displayed.																	
3.	The user makes changes to their profile (name, email, password, etc.).																	
4.	The user submits the updated profile information.																	
5.	Press “Submit” Button.																	
6.	A success notification is shown: “Profile updated successfully!”																	
Alternative Flows	<table border="1"> <tr> <td>1</td> <td>Missing Details</td> </tr> <tr> <td></td> <td>“Please fill out all required fields.”</td> </tr> <tr> <td>2</td> <td>System Error</td> </tr> <tr> <td></td> <td>Profile update failed. Please try again!!</td> </tr> <tr> <td>3</td> <td>The system did not respond</td> </tr> <tr> <td></td> <td>Show Error Message.</td> </tr> <tr> <td>4</td> <td>The system Doesn’t save the details.</td> </tr> <tr> <td></td> <td>Notification: “Details did not Save”</td> </tr> </table>		1	Missing Details		“Please fill out all required fields.”	2	System Error		Profile update failed. Please try again!!	3	The system did not respond		Show Error Message.	4	The system Doesn’t save the details.		Notification: “Details did not Save”
1	Missing Details																	
	“Please fill out all required fields.”																	
2	System Error																	
	Profile update failed. Please try again!!																	
3	The system did not respond																	
	Show Error Message.																	
4	The system Doesn’t save the details.																	
	Notification: “Details did not Save”																	
Quality Requirements	Profile editing should be completed within 15 min.																	

Table 2.6 : Case Description-06: Search for Books (All Users)

Use Case	Search Books																	
Goal	Users can search for books by title or author.																	
Precondition	The user must be logged in to perform a search.																	
Success End Condition	The system displays a list of books matching the search criteria.																	
Failed End Condition	“No results found for your query.”																	
Primary Actors:	Customer, Seller																	
Secondary Actors:																		
Trigger	The user clicks on the search bar and types in a query.																	
Description / Main Success Scenario	<table border="1"> <tr> <td>1.</td> <td>Press “Search Bar” Blank Box</td> </tr> <tr> <td>2.</td> <td>Provide Book Title or Author name.</td> </tr> <tr> <td>3.</td> <td>Click on Search Icon</td> </tr> <tr> <td>4.</td> <td>The system returns relevant search results based on the query.</td> </tr> <tr> <td>5.</td> <td>The results are displayed on the screen for the user to browse.</td> </tr> </table>		1.	Press “Search Bar” Blank Box	2.	Provide Book Title or Author name.	3.	Click on Search Icon	4.	The system returns relevant search results based on the query.	5.	The results are displayed on the screen for the user to browse.						
1.	Press “Search Bar” Blank Box																	
2.	Provide Book Title or Author name.																	
3.	Click on Search Icon																	
4.	The system returns relevant search results based on the query.																	
5.	The results are displayed on the screen for the user to browse.																	
Alternative Flows	<table border="1"> <tr> <td>1</td> <td>Search Box Empty</td> </tr> <tr> <td></td> <td>“Please Enter Keyword to search”</td> </tr> <tr> <td>2</td> <td>System Error</td> </tr> <tr> <td></td> <td>Search failed. Please try again!!</td> </tr> <tr> <td>3</td> <td>The system did not respond</td> </tr> <tr> <td></td> <td>Show Error Message.</td> </tr> <tr> <td>4</td> <td>No Results</td> </tr> <tr> <td></td> <td>“No books found for your search. Try different keywords.”</td> </tr> </table>		1	Search Box Empty		“Please Enter Keyword to search”	2	System Error		Search failed. Please try again!!	3	The system did not respond		Show Error Message.	4	No Results		“No books found for your search. Try different keywords.”
1	Search Box Empty																	
	“Please Enter Keyword to search”																	
2	System Error																	
	Search failed. Please try again!!																	
3	The system did not respond																	
	Show Error Message.																	
4	No Results																	
	“No books found for your search. Try different keywords.”																	
Quality Requirements	Searching for books should take no longer than 3 minutes.																	

### 2.4.3 Activity Diagram

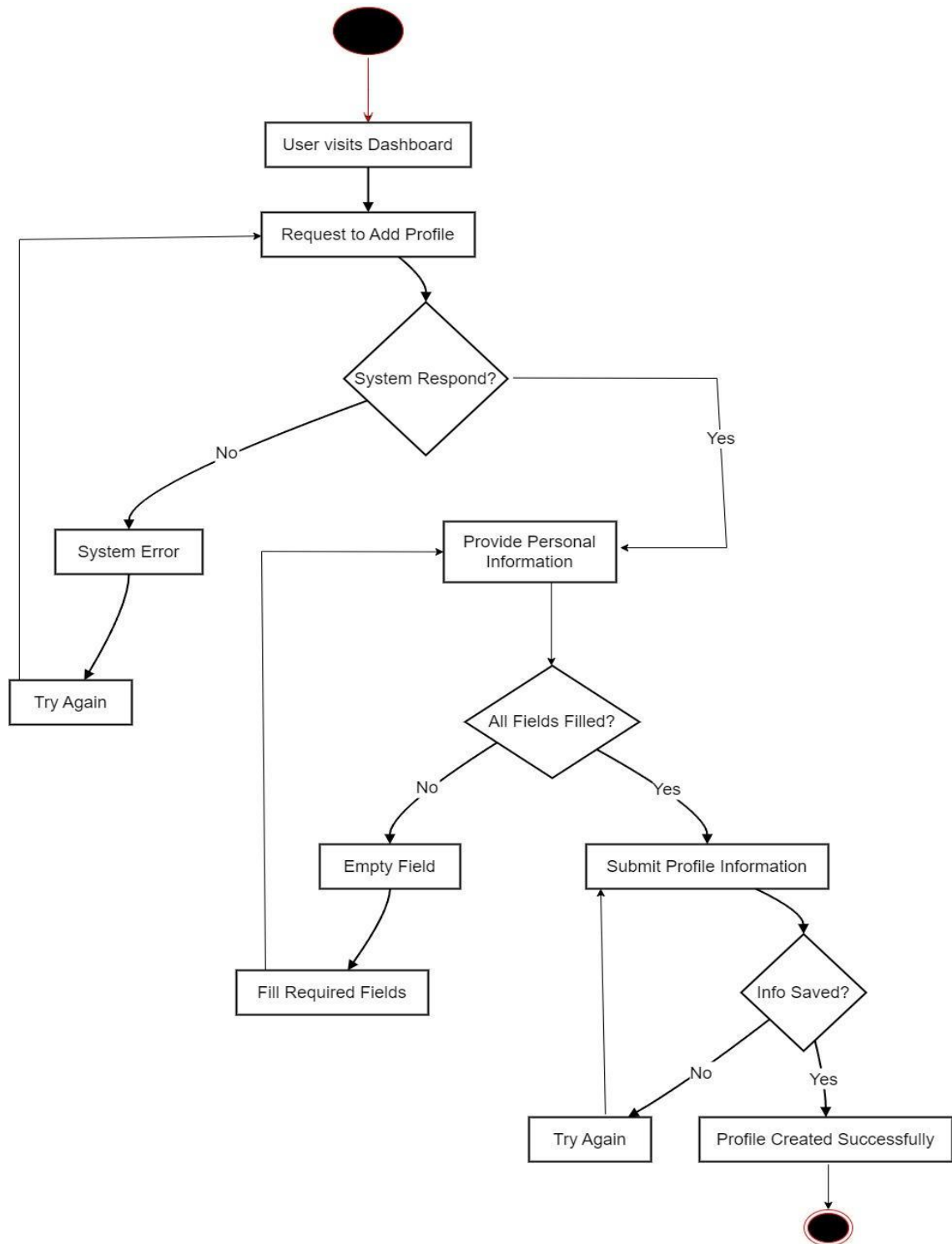


Figure 2.2: User Profile Creation

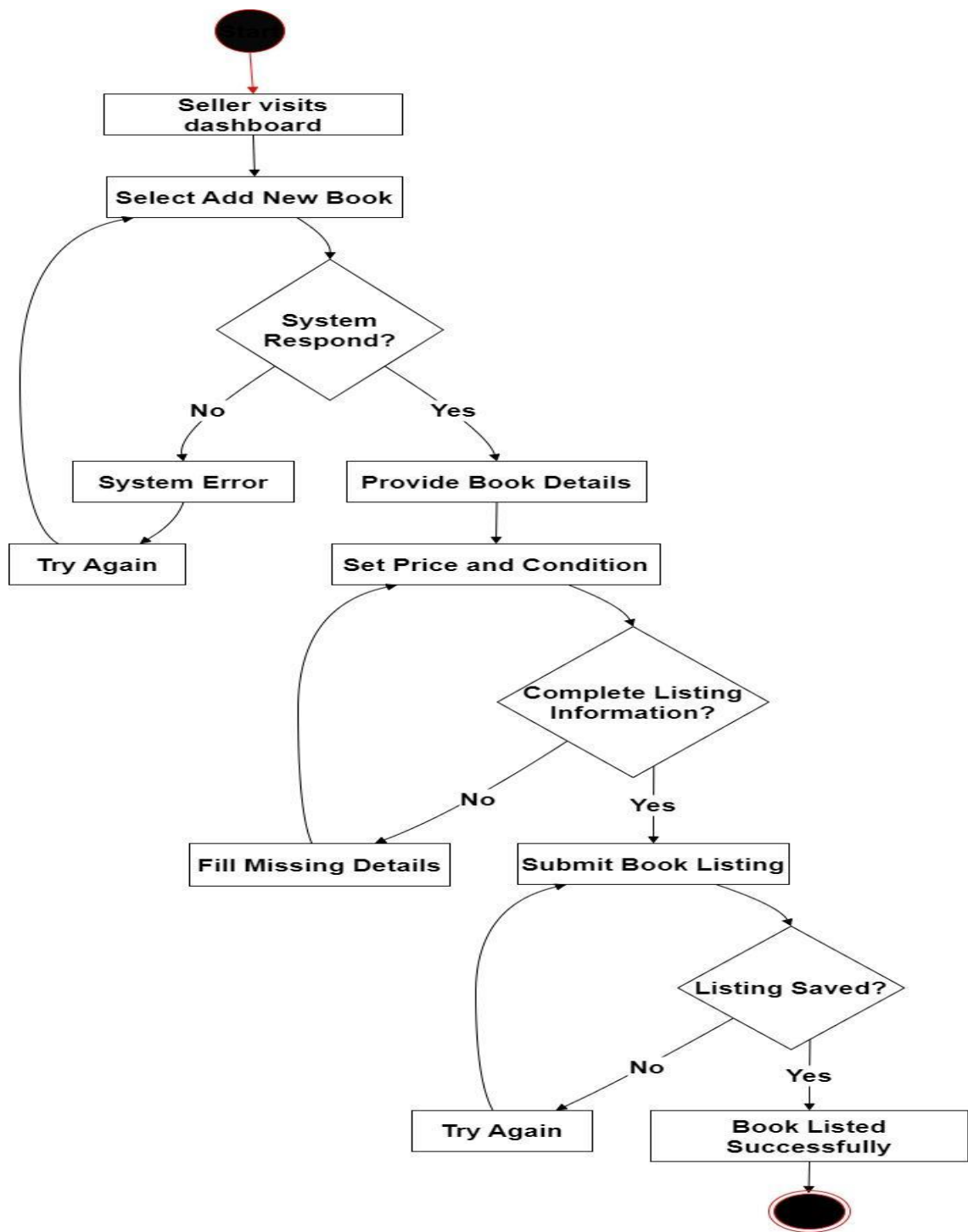


Figure 2.3: Book Add/ update

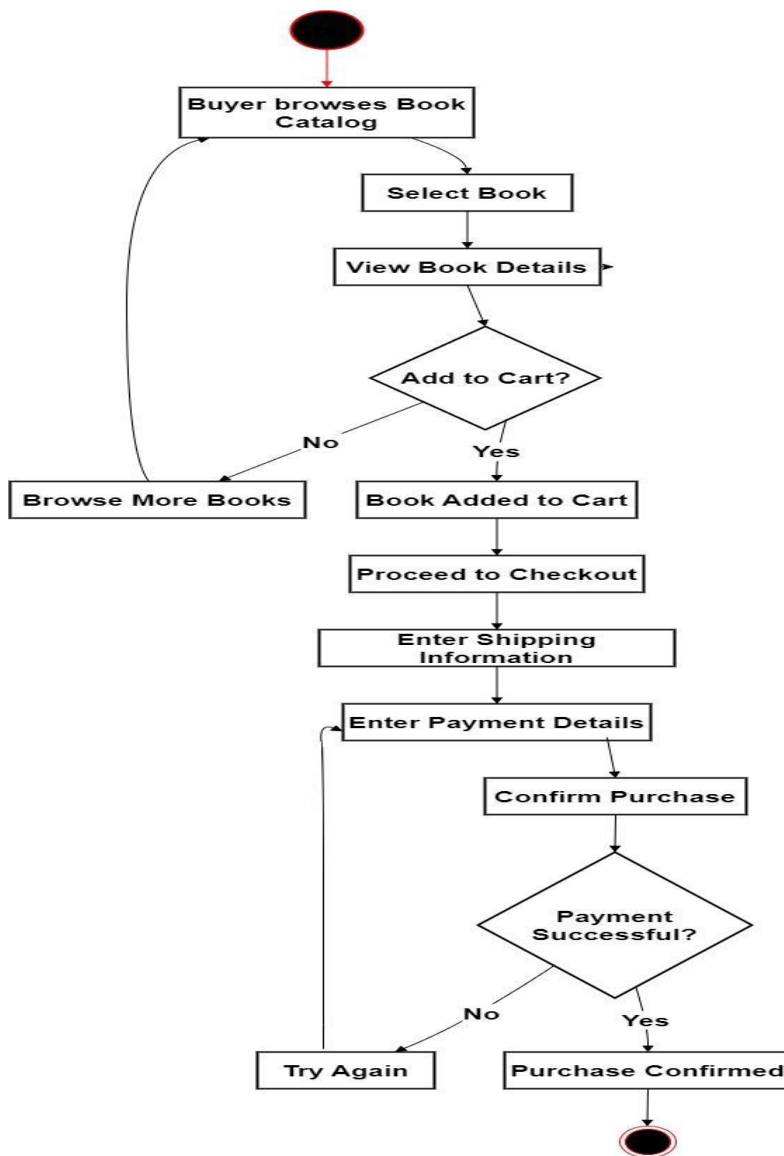


Figure 2.4: Book Purchase

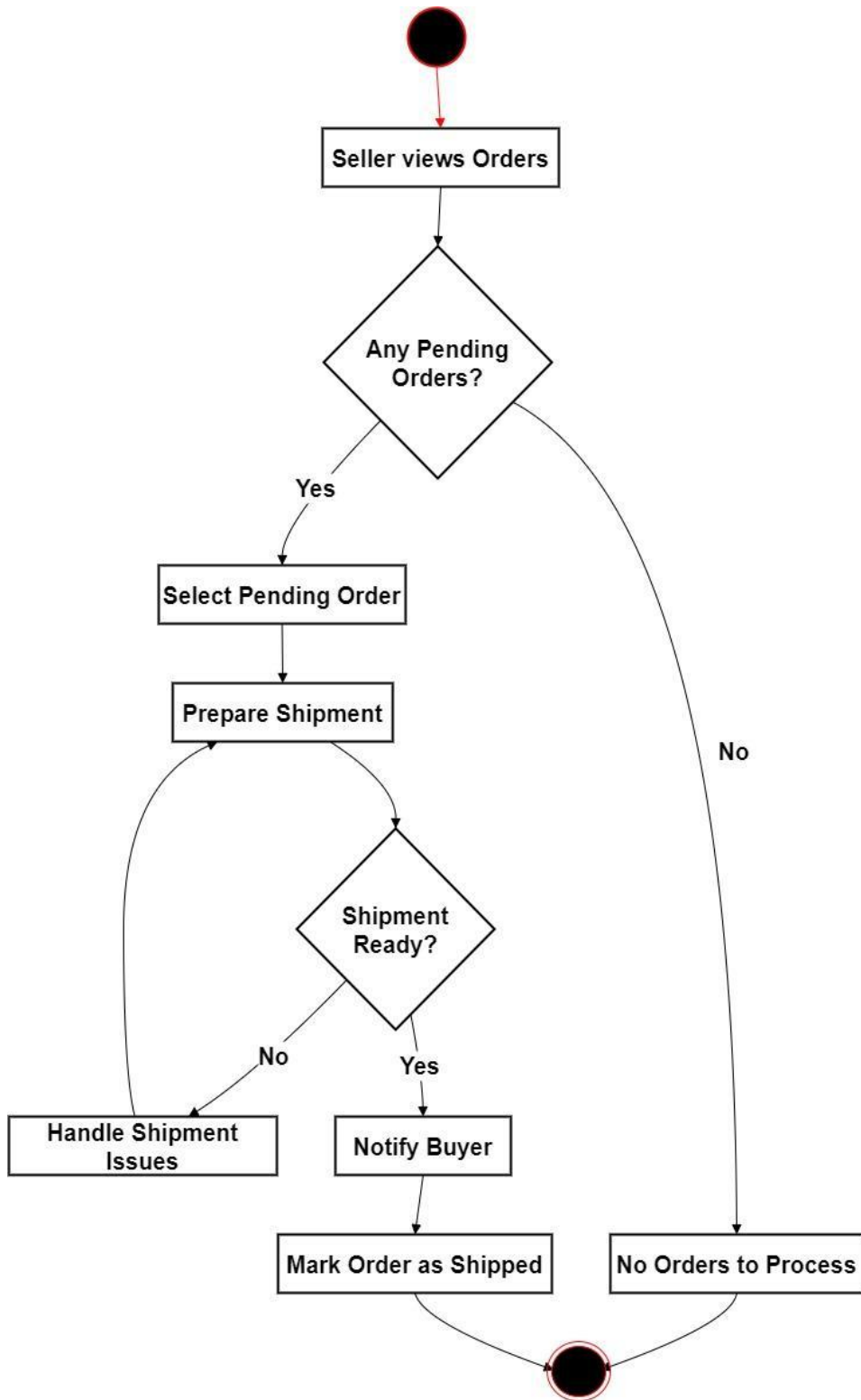


Figure 2.5: Order Management

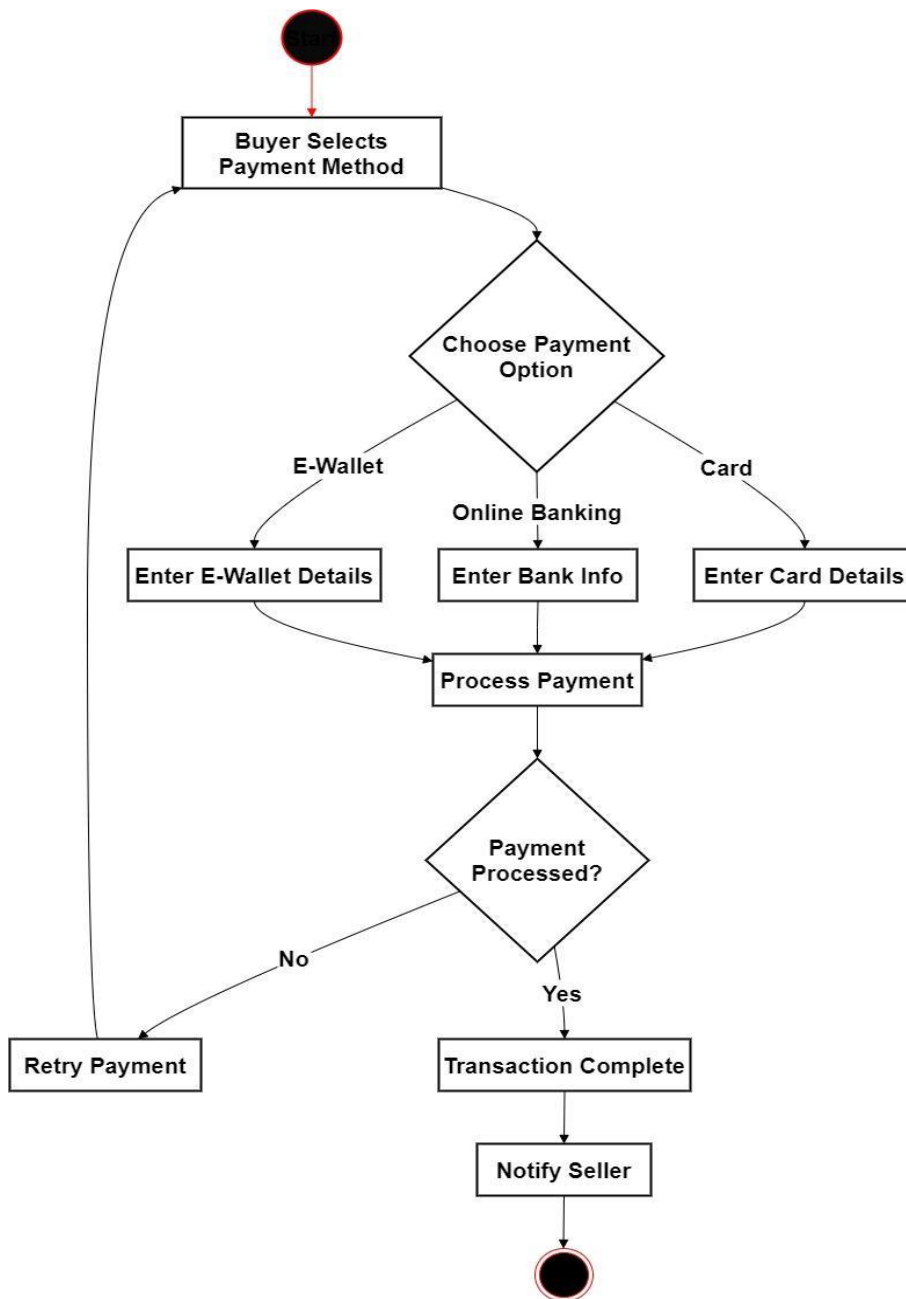


Figure 2.5: Payment and Transaction Process

## 2.4.4 Sequence Diagram

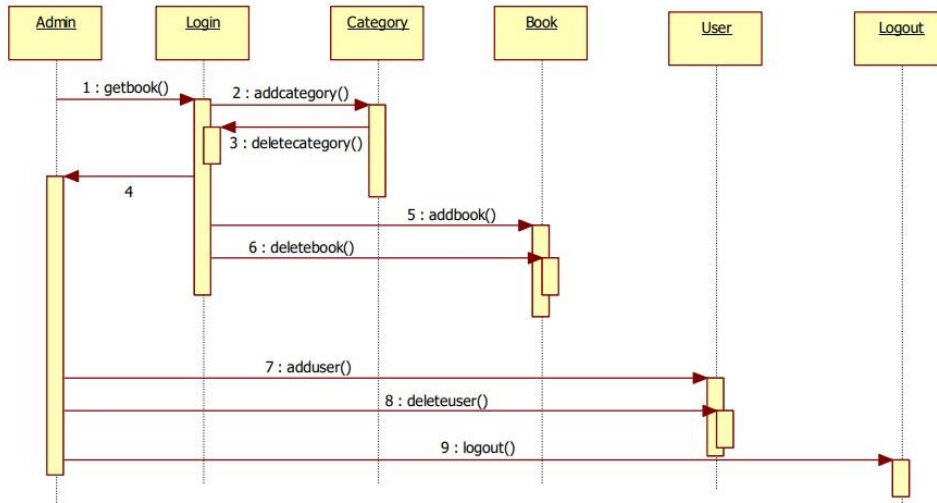


Figure 2.6: Admin login Sequence Diagram

## User login Sequence Diagram

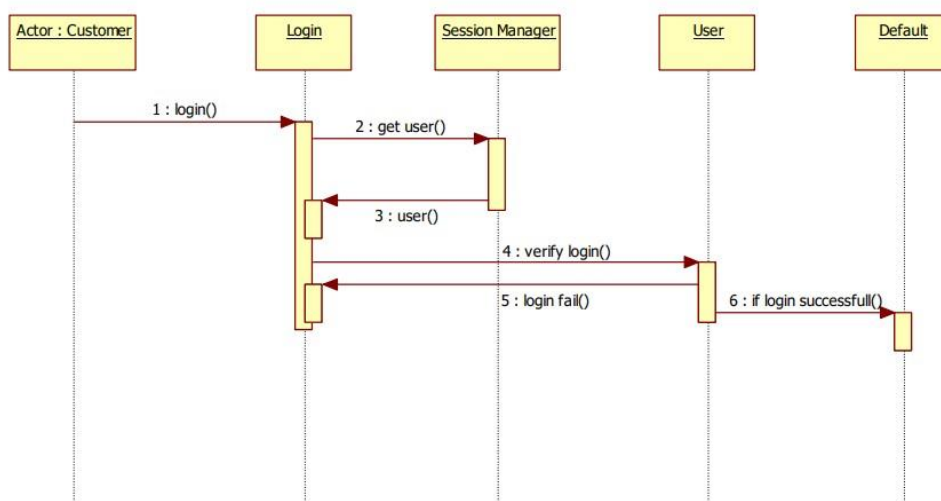


Figure 2.7: User login Sequence Diagram

## Book Search Sequence Diagram

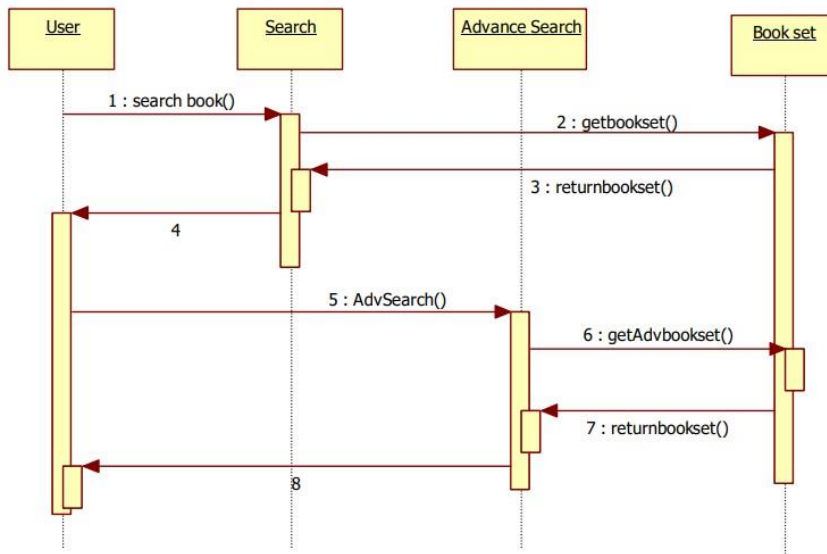


Figure 2.8: Book Search Sequence Diagram

## Add to cart Sequence Diagram

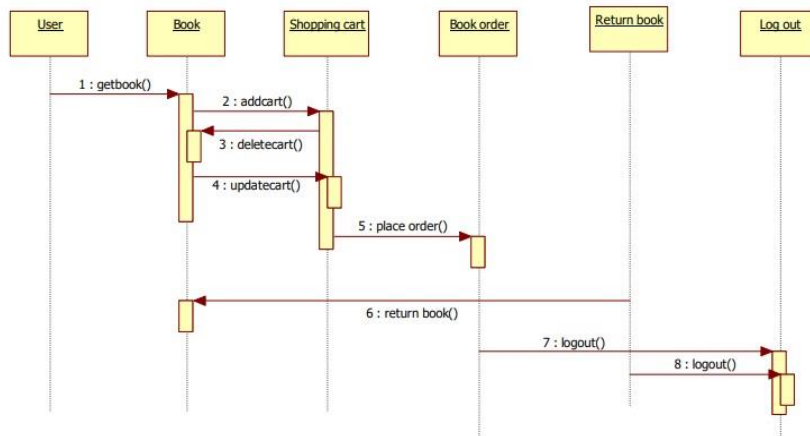


Figure 2.9: Add to cart Sequence Diagram

## 2.4.5 Class Diagram

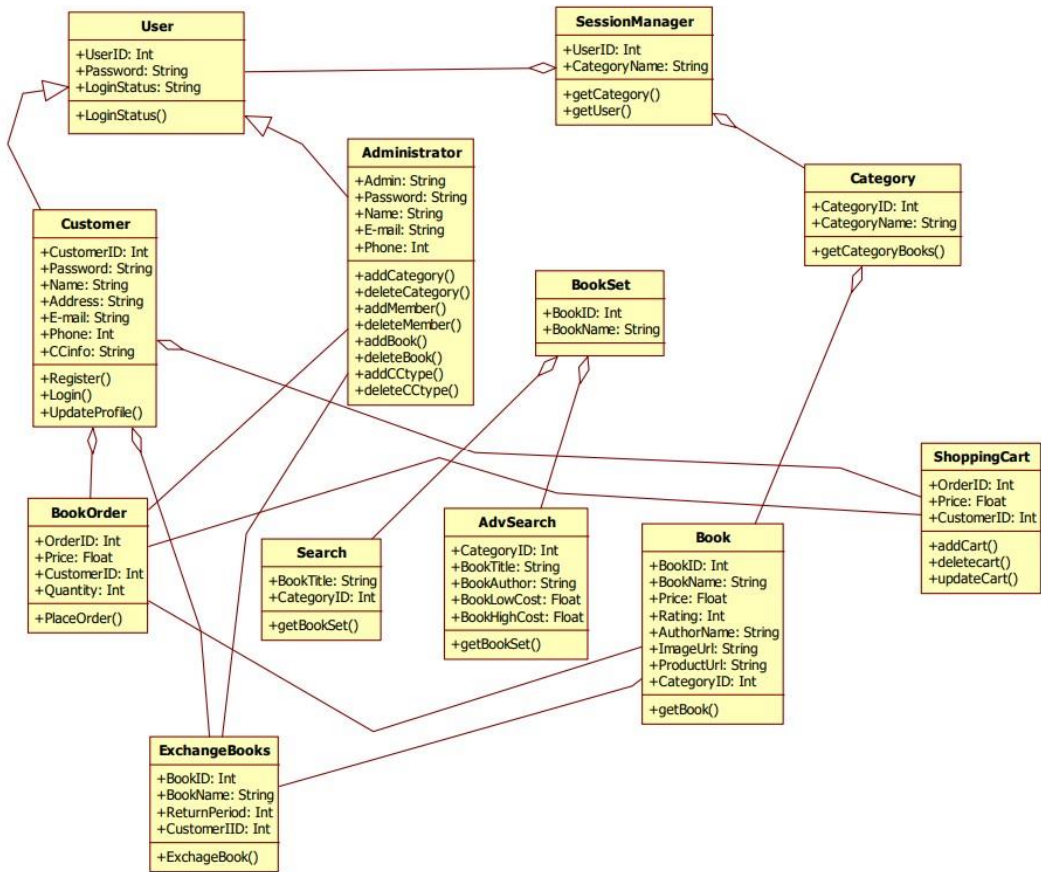


Figure 2.10: Class diagram

## 2.4.6 ER Diagram

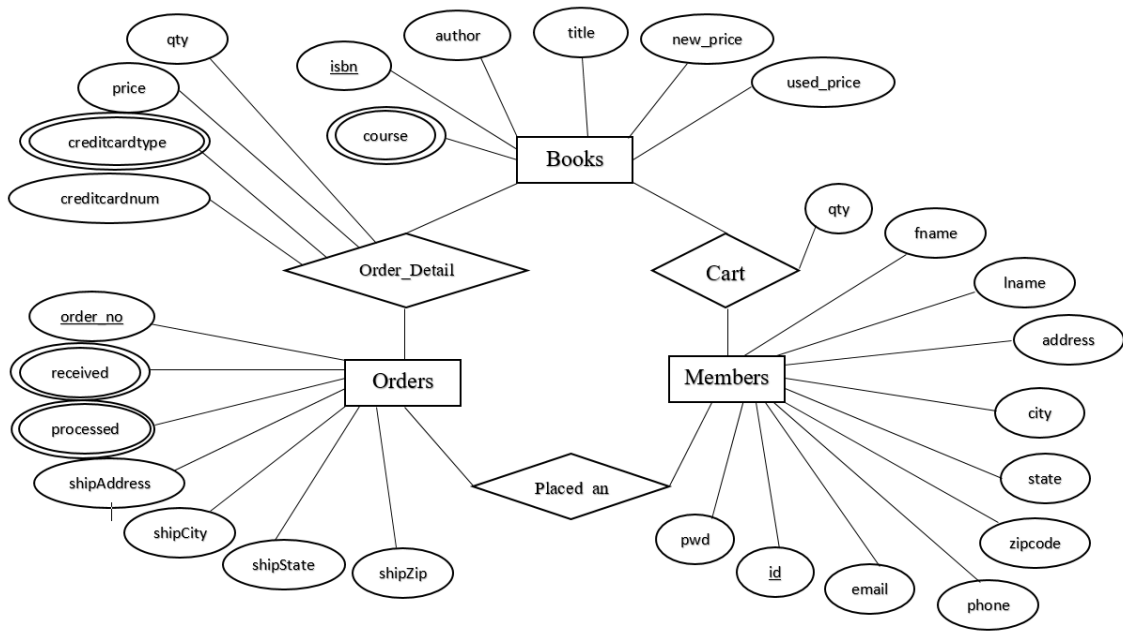


Figure 2.11: ER diagram

## 2.5 Coding: Appendix A

```
1 <%@ page language="java" contentType="text/html; charset=ISO-8859-1"
2   pageEncoding="ISO-8859-1"%>
3 <%@ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core"%>
4 <%@page isELIgnored="false"%>
5 <!DOCTYPE html>
6 <html>
7 <head>
8 <meta charset="ISO-8859-1">
9 <title>EBook: Register</title>
10 <%@include file="all_component/allCss.jsp"%>
11 <style type="text/css">
12 .paint-card {
13   box-shadow: 0 0 6px 0 rgba(0, 0, 0, 0.3);
14 }
15
16 .error {
17   color: red;
18 }
19 </style>
20 </head>
21 <body style="background-color: #f0f1f2;">
22 <%@include file="all_component/navbar.jsp"%>
23 <div class="container p-2">
24   <div class="row">
25     <div class="col-md-4 offset-md-4">
26       <div class="card paint-card">
27         <div class="card-body">
28           <h4 class="text-center">Registration Page</h4>
29
30           <c:if test="${not empty succMsg}">
31             <p class="text-center text-success">${succMsg }</p>
32             <c:remove var="succMsg" scope="session" />
33           </c:if>
34
35           <c:if test="${not empty failedMsg}">
36             <p class="text-center text-danger">${failedMsg }</p>
37             <c:remove var="failedMsg" scope="session" />
38           </c:if>
39
40           <form action="register" method="post" id="register" novalidate>
41
42             <div class="form-group">
43               <label for="exampleInputEmail1">Enter Full Name</label>
44               <input
45                 type="text" class="form-control" name="fname">
46             </div>
47
48             <div class="form-group">
49               <label for="exampleInputEmail1">Email address</label> <input
50                 type="email" class="form-control" name="email">
51             </div>
52
53             <div class="form-group">
54               <label for="exampleInputEmail1">Phone No</label> <input
55                 type="number" class="form-control" name="phno">
56             </div>
57
58             <div class="form-group">
59               <label for="exampleInputPassword1">Password</label> <input
60                 type="password" class="form-control" id="exampleInputPassword1"
61                 required="required" name="password">
62             </div>
63             <div class="form-check">
64               <input type="checkbox" class="form-check-input" name="check"
65                 id="exampleCheck1"> <label class="form-check-label"
66                 for="exampleCheck1">Agree terms & Condition</label>
67             </div>
68             <div class="text-center p-2">
69               <button type="submit" class="btn btn-primary btn-block btn-sm">Register</button>
70             </div>
71           </form>
72         </div>
73       </div>
74     </div>
75   </div>
76 </body>
77 </html>
```

In my Book Bazar project, I created a register.jsp file to design the registration form. The form is integrated with the backend using Servlets, where user inputs are processed and validated. Data entered in the form, such as name, email, phone number, and password, is captured using request parameters and stored in the database. This approach ensures seamless interaction between the frontend (JSP) and backend (Servlets).

## 2.6 Summary

Design and implementation are included in this documentation. It covers Functional Requirements, Non-Functional Requirements, System Performance, Reliability, and Portability. Additionally, it provides the Use Case Diagram, Case Description, Activity Diagram, Sequence Diagram, ER Diagram, Class Diagram, and Coding Sample.

# Chapter 3 Software Testing

## 3.1 Introduction

This chapter explains the software testing process carried out for the "Book Bazar" project. The main goal of testing is to make sure the system works correctly, is reliable, and performs well. Testing is an important step in development as it helps find and fix problems before the system is used.

The "Book Bazar" project, developed using Servlet JSP and MySQL, went through different types of testing to check its features, security, and performance. The testing ensures that the system is user-friendly, keeps data accurate, and works smoothly on various devices and platforms.

We used methods like unit testing to test small parts of the system, integration testing to check how different parts work together, and user acceptance testing (UAT) to see if the system meets user needs. Key features, such as searching for books, purchasing them, managing user accounts, and ensuring secure transactions, were carefully tested.

The goal of testing the "Book Bazar" system is to make it error-free, safe to use, and easy for customers and administrators. By solving problems like data accuracy and integration with payment systems, the testing ensures a smooth and enjoyable experience for everyone who uses the platform.

## 3.2 Testing Features

### 3.2.1 Feature to Be Tested

- a. User Registration
- b. User Login
- c. Book Search
- d. Admin Login
- e. Add Book (Admin)
- f. Cart Management
- g. Book Checkout

### 3.3 Testing Strategies

#### 3.3.1 Test Approach

The testing strategy for the "Book Bazar" system includes multiple layers of testing:

**Unit Testing:** Focuses on testing individual components in isolation, such as user authentication, book catalog management, and shopping cart functionality.

**Integration Testing:** Verifies how different modules work together, ensuring seamless communication between user login, the shopping cart, and the checkout process.

**System Testing:** Involves testing the entire system end-to-end. We simulate actual user interactions, such as browsing books, adding them to the cart, and completing the purchase.

**User Acceptance Testing (UAT):** A real-world simulation where actual users (admins, customers) interact with the system to confirm that the platform meets their needs and expectations.

**Security Testing:** Testing will focus on securing user data and ensuring the system is resistant to common attacks such as SQL injection and cross-site scripting (XSS).

**Performance Testing:** Evaluating how well the system performs under load. We will simulate multiple users accessing the platform simultaneously to measure response times and system stability.

### 3.3.2 Pass/Fail Criteria

The following criteria are used to determine whether each test passes or fails:

#### Functional Tests:

Pass: If the feature functions as expected, e.g., user registration successfully creates an account, the book search returns relevant results.

Fail: If the feature fails to meet expectations, e.g., user cannot log in due to invalid credentials or the cart fails to update.

#### Security Tests:

Pass: If no vulnerabilities such as SQL injection, cross-site scripting, or weak encryption are found, and all sensitive data is handled securely.

Fail: If security vulnerabilities are found, such as exposed passwords or poor data encryption.

#### Performance Tests:

Pass: If the platform performs well under load, e.g., pages load within 3 seconds and the system can handle 100 or more concurrent users.

Fail: If the system crashes, slows down, or experiences significant delays when multiple users are accessing the platform at once.

#### User Acceptance Testing (UAT):

Pass: If users report no critical issues and are able to complete their tasks (registering, purchasing, etc.) without problems.

Fail: If users report significant usability issues, such as being unable to navigate the platform or complete purchases.

### 3.4 System Testing (Test Cases with Report)

Table 3.1 Test Case For Register

<b>Test case #1</b>		<b>Test case name: User Registration</b>					
<b>System:</b> Book Bazar		<b>Subsystem:</b> User Authentication					
<b>Designed by:</b> Rahib Chowdhury		<b>Designed date:</b> 31/12/2024					
<b>Executed by:</b> Rahib Chowdhury		<b>Executed date:</b> 31/12/2024					
		<b>Short description:</b> The user registers in the Book Bazar system by providing their name, email, password, and confirming the password.					
		<b>Pre-conditions:</b> The user accesses the registration page and all required fields are displayed.					
Step	Name	Email	Password	Re-type password	Response	Pass/Fail	Comment
1	Rahib	Rahib35-2032@diu.edu.bd	Diu12345	Diu12345	Registration successful	Pass	Registration completed successfully
2	Rahib		Diu12345	Diu12345	Email field empty	Fail	User must input a valid email.
3		Rahib35-2032@diu.edu.bd	Diu12345	Diu12345	Name field empty	Fail	User must input Name field
4	Rahib	Rahib35-2032@diu.edu.bd	Diu12345	Diu12388	Password mismatch	Fail	Passwords must match exactly.
		<b>Post-conditions:</b> The user is registered successfully or receives an appropriate error message indicating the specific issue.					

Table 3.2: Test Case For User Login

<b>Test case #2</b>		<b>Test case name: User Login</b>			
<b>System:</b> Book Bazar		<b>Subsystem:</b> User Authentication			
<b>Designed by:</b> Rahib Chowdhury		<b>Designed date:</b> 31/12/2024			
<b>Executed by:</b> Rahib Chowdhury		<b>Executed date:</b> 31/12/2024			
<b>Short description:</b> The user logs into the Book Bazar system by providing their email and password.					
<b>Pre-conditions:</b> The user access the log-in page					
<b>Step</b>	<b>Email</b>	<b>Password</b>	<b>Response</b>	<b>Pass/Fail</b>	<b>Comment</b>
1	Rahib35-2032@diu.edu.bd	Diu12345	Login successful	Pass	User successfully logged into the system.
2		Diu12345	Email field empty	Fail	User must input a valid email.
3	Rahib35-2032@diu.edu.bd		Name field empty	Fail	User must input Name field
4	Rahib35-2032@diu.edu.bd	Diu12345	Password mismatch	Fail	Passwords must match exactly.
<b>Post-conditions:</b> The user is registered successfully or receives an appropriate error message indicating the specific issue.					

Table 3.3: Test Case For Search Books

<b>Test case #2</b>		<b>Test case name: Search Books</b>		
<b>System:</b> Book Bazar		<b>Subsystem:</b> Search System		
<b>Designed by:</b> Rahib Chowdhury		<b>Designed date:</b> 31/12/2024		
<b>Executed by:</b> Rahib Chowdhury		<b>Executed date:</b> 31/12/2024		
		<b>Short description:</b> The user searches for books using keywords such as title, author, or Book Name.		
		<b>Pre-conditions:</b> The user is logged into the system and navigates to the search bar.		
<b>Step</b>	<b>Action</b>	<b>Response</b>	<b>Pass/Fail</b>	<b>Comment</b>
1	User types in a book title	System displays matching books	Pass	Search results are accurate and relevant.
2	User searches with invalid keywords	No results are displayed	Pass	System handles invalid inputs appropriately.
3	User uses a specific filter	System displays books matching the selected filter	Pass	Filters work as expected.
<b>Post-conditions:</b> The user is able to view search results based on the entered criteria or receive an appropriate "No results found" message.				

Table 3.4: Test Case For Add to Cart

<b>Test case #4</b>		<b>Test case name: Add to Cart</b>		
<b>System:</b> Book Bazar		<b>Subsystem:</b> Shopping Cart		
<b>Designed by:</b> Rahib Chowdhury		<b>Designed date:</b> 31/12/2024		
<b>Executed by:</b> Rahib Chowdhury		<b>Executed date:</b> 31/12/2024		
<b>Short description:</b> The user adds a selected book to their shopping cart for checkout.				
<b>Pre-conditions:</b> The user is logged in and viewing a book's details page.				
<b>Step</b>	<b>Action</b>	<b>Response</b>	<b>Pass/Fail</b>	<b>Comment</b>
1	User clicks "Add to Cart" button	Book is added to the cart	Pass	The cart updates successfully.
2	User adds the same book again	System updates the quantity in the cart	Pass	System handles invalid inputs appropriately.
3	User adds a book with no stock	System displays an out-of-stock message	Pass	Filters work as expected.
<b>Post-conditions:</b> The user is able to view search results based on the entered criteria or receive an appropriate "No results found" message.				

Table 3.5: Test Case For Book Checkout

<b>Test case #5</b>		<b>Test case name: Book Checkout</b>		
<b>System:</b> Book Bazar		<b>Subsystem:</b> Checkout Process		
<b>Designed by:</b> Rahib Chowdhury		<b>Designed date:</b> 31/12/2024		
<b>Executed by:</b> Rahib Chowdhury		<b>Executed date:</b> 31/12/2024		
<b>Short description:</b> The user completes the purchase of the books added to their cart.				
<b>Pre-conditions:</b> The user is logged in, has items in their cart, and navigates to the checkout page.				
<b>Step</b>	<b>Action</b>	<b>Response</b>	<b>Pass/Fail</b>	<b>Comment</b>
1	User clicks "Proceed to Checkout"	Navigates to the payment gateway	Pass	System correctly redirects to the payment page.
2	User enters valid payment details	Payment is processed and confirmation is shown	Pass	Payment processed without issues.
3	User enters invalid payment details	Error message is displayed	Pass	System handles payment failures gracefully.
<b>Post-conditions:</b> The order is placed, and the user receives a confirmation email or message, or an appropriate error message is displayed.				

Table 3.6: Test Case For Admin Login

<b>Test case #6</b>		<b>Test case name: Admin Login</b>		
<b>System:</b> Book Bazar		<b>Subsystem:</b> Admin Authentication		
<b>Designed by:</b> Rahib Chowdhury		<b>Designed date:</b> 31/12/2024		
<b>Executed by:</b> Rahib Chowdhury		<b>Executed date:</b> 31/12/2024		
<b>Short description:</b> The admin logs in with their credentials to access the admin dashboard.				
<b>Pre-conditions:</b> The admin is registered and navigates to the admin login page.				
<b>Step</b>	<b>Action</b>	<b>Response</b>	<b>Pass/Fail</b>	<b>Comment</b>
1	Admin enters correct email and password	Login successful and admin is redirected to the dashboard	Pass	Admin login works as expected.
2	Admin enters invalid credentials	Displays an error message: "Invalid credentials."	Pass	Invalid login attempts are blocked.
3	Admin enters correct email but leaves the password blank	Displays an error message: "Password is required."	Pass	Fields must not be empty.
<b>Post-conditions:</b> The admin is logged in or receives an error message for invalid inputs.				

Table 3.7: Test Case For Add Book

<b>Test case #7</b>		<b>Test case name: Add Book</b>		
<b>System:</b> Book Bazar		<b>Subsystem:</b> Book Management		
<b>Designed by:</b> Rahib Chowdhury		<b>Designed date:</b> 31/12/2024		
<b>Executed by:</b> Rahib Chowdhury		<b>Executed date:</b> 31/12/2024		
<b>Short description:</b> The admin adds a new book to the catalog.				
<b>Pre-conditions:</b> The admin is logged in and navigates to the "Add Book" page.				
<b>Step</b>	<b>Action</b>	<b>Response</b>	<b>Pass/Fail</b>	<b>Comment</b>
1	Admin fills all fields correctly	Book is added successfully to the catalog	Pass	Valid inputs result in successful addition.
2	Admin leaves a mandatory field blank	Displays an error message: "Field is required."	Pass	System ensures mandatory fields are filled.
3	Admin enters an invalid price	Displays an error message: "Enter a valid price."	Pass	System validates price format.
<b>Post-conditions:</b> The book is added to the catalog or the admin receives an appropriate error message.				

### 3.5 Summary

The testing phase of the Book Bazar project was focused on ensuring the system operates as intended and fulfills user requirements effectively. All major features were examined to confirm they function properly and are user-friendly.

Test Objectives:

- To verify that the system performs all expected functions.
- To identify and address any issues within critical features.

Key components, such as user registration, login, book browsing, adding books to the cart, managing orders, and administrative tools, were tested thoroughly. This process ensures that the Book Bazar platform is dependable, easy to use, and meets the needs of both users and administrators.

# Chapter 4 Deployment and Maintenance

## 4.1 Introduction

This chapter focuses on the deployment process and maintenance plan for the Book Bazar project. Deployment involves transferring the completed project from the development environment to a live server, making it accessible to end-users. Maintenance ensures the system remains operational, secure, and up-to-date after its launch. For Book Bazar, deployment will involve hosting the application on an Apache Tomcat server, configuring the MySQL database, and setting up the necessary environment settings. Post-deployment tasks will include monitoring performance, addressing security issues, and gathering user feedback. Maintenance activities will focus on fixing bugs, implementing feature updates, and ensuring compatibility with evolving technologies. This chapter outlines the structured approach for deployment and long-term system run.

## 4.2 Try to follow the SRLC (software release life cycle)

The deployment and maintenance process for Book Bazar follows the Software Release Life Cycle (SRLC) methodology, which provides a systematic framework for launching, maintaining, and improving the application over time.

### Pre-Alpha (Development Stage)

During this stage, the core functionalities of Book Bazar were developed. Key features, including user registration, book browsing, shopping cart functionality, and admin tools, were implemented and tested in a local development environment using J2EE, Servlet, JSP, and MySQL.

### Alpha (Initial Testing)

The alpha phase focused on internal testing to identify and fix major bugs. Basic functionality, such as book management and checkout processes, was evaluated. Feedback from this phase ensured that the primary features were stable before moving to broader testing.

### Beta (User Testing)

The beta phase involved sharing the platform with a small group of testers, including prospective buyers, sellers, and admins. This phase aimed to test the system's usability and gather feedback to refine the user experience and address any usability challenges.

### Release Candidate (Staging)

In this phase, a near-final version of Book Bazar was deployed to a staging environment on an Apache Tomcat server. Database connections, environment variables, and server configurations were tested. Performance testing was conducted to verify the platform's stability under simulated live conditions.

### Production (Live Deployment)

During the production phase, the platform was deployed to a live server, making it publicly accessible. The MySQL database was initialized with essential data, and all configurations were finalized. At this stage, Book Bazar became fully functional and available for users.

### Post-Release Maintenance

After deployment, maintenance activities ensure the platform remains reliable and user-friendly:

**Bug Fixes:** Addressing any issues reported by users.

**Security Updates:** Applying updates to safeguard the system from vulnerabilities.

**Feature Enhancements:** Adding new functionalities based on user feedback and evolving requirements.

**Monitoring:** Regularly observing system performance and uptime to maintain seamless functionality and address potential issues promptly.

# Chapter 5 User Manual

## 5.1 Introduction

This User Manual provides clear and easy-to-follow instructions on how to use the "Book Bazar" e-commerce platform. It is designed for all user types—customers, sellers, and administrators. The manual explains how to navigate the platform and perform essential tasks such as creating accounts, managing products, and handling administrative responsibilities.

The guide is divided into three sections based on user roles:

**Customer:** Steps for signing up, browsing books, adding items to the cart, and completing a purchase.

**Seller:** Instructions for account creation, managing book listings, and tracking orders.

**Admin:** Guidelines for managing user accounts, monitoring transactions, and maintaining the platform's functionality.

## 5.2 Project Functionalities

### Admin Login

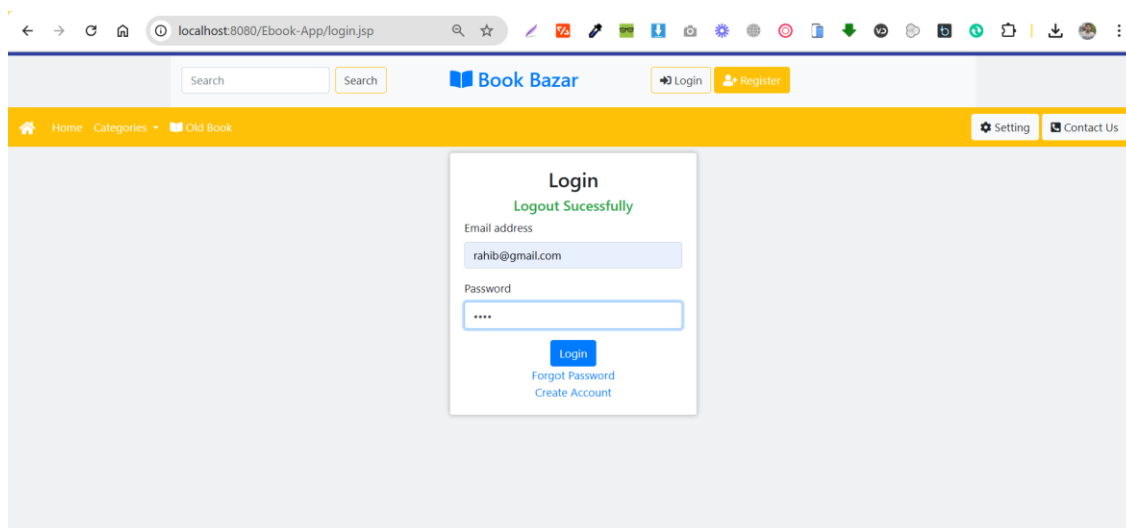


Figure 5.1 : Admin Log-in

## Admin add category

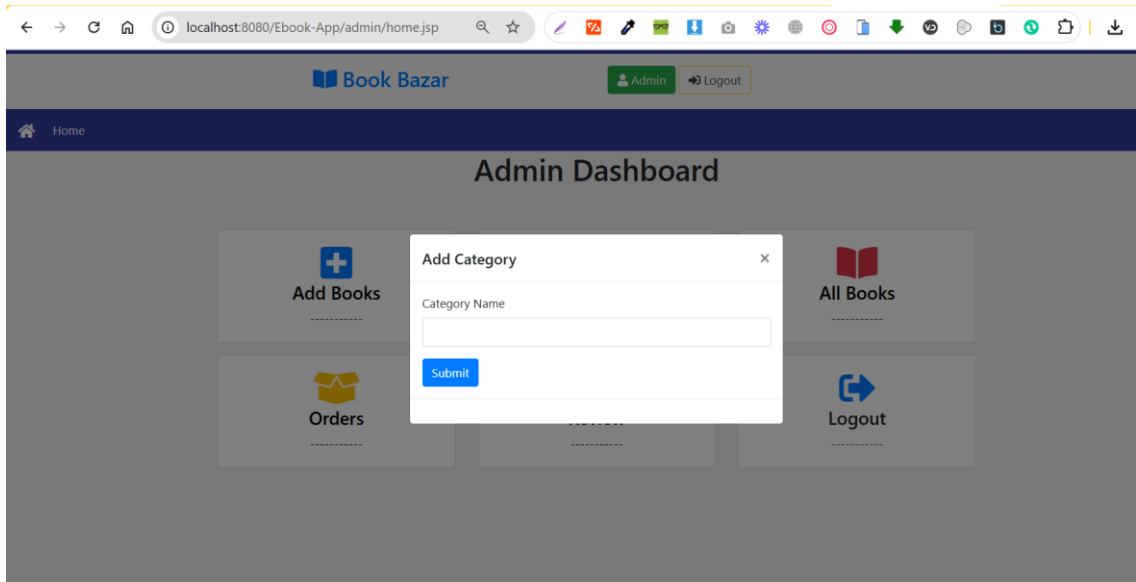


Figure 5.2 : Admin add category

## Admin add Books

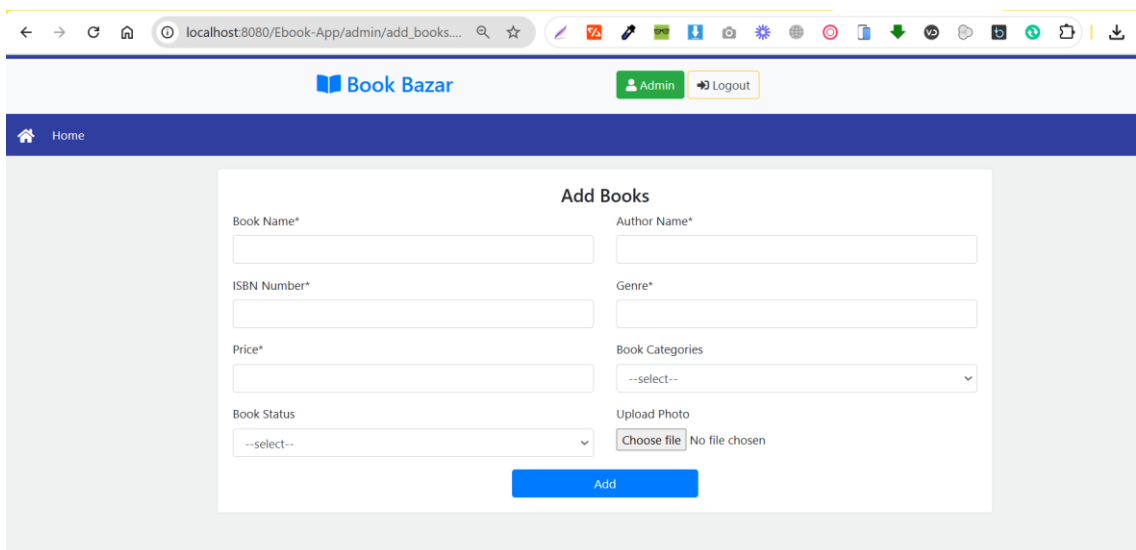


Figure 5.3 : Admin add Books

## Admin Order status update

The screenshot shows the 'Admin Order status update' page. The browser address bar displays 'localhost:8080/Ebook-App/admin/orders.jsp'. The page header includes the 'Book Bazar' logo, 'Admin' and 'Logout' buttons, and a 'Home' link. The main content area is titled 'Orders' and contains a table with the following data:

Order id	User Information	Book Name	Price	Payment type	Status	Action
BOOK-ORD-00916	Rahib Chowdhury rahib@gmail.com 01622257796 227 west nakhalpara,ftb,dhaka,dhaka,2018	The Wild Robot Protects Author: Peter Brown ISBN: sdf	1400.0	COD	Order Processing	<input type="text" value="--select--"/> update

The dropdown menu for the 'Action' column is open, showing the following options: --select--, --select--, Order Processing, Order Received, Order Packed, Out for delivery, and Order delivered.

Design and Developed by Bookbazar.com

Figure 5.4 : Admin Order status update

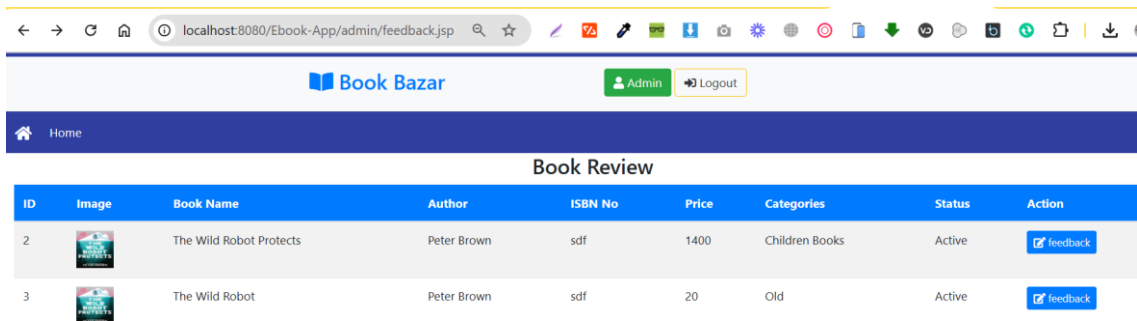
## Admin All book info Delete / Edit

The screenshot shows the 'Admin All book info Delete / Edit' page. The browser address bar displays 'localhost:8080/Ebook-App/admin/all\_books.jsp'. The page header includes the 'Book Bazar' logo, 'Admin' and 'Logout' buttons, and a 'Home' link. The main content area is titled 'Hello Admin' and contains a table with the following data:

ID	Image	Book Name	Author	ISBN No	Genre	Price	Categories	Status	Action
2		The Wild Robot Protects	Peter Brown	sdf	fdfd	1400	Children Books	Active	<a href="#">Edit</a> <a href="#">Delete</a>
4		Girl Moments	Coco Wyo	125458	Fe	1600	Children Books	Active	<a href="#">Edit</a> <a href="#">Delete</a>
5		Cozy Friends	Coco Wyo	258595	fe	2500	Children Books	Active	<a href="#">Edit</a> <a href="#">Delete</a>
6		Fuzzy Hygge	Vivi Tinta	254896	Fe	6300	Children Books	Active	<a href="#">Edit</a> <a href="#">Delete</a>
7		Programming Languages	Norman Ramsey	569855	mel	2500	Programming	Active	<a href="#">Edit</a> <a href="#">Delete</a>
8		Concepts in Programming	John C. Mitchell	854566	programming	5200	Programming	Active	<a href="#">Edit</a> <a href="#">Delete</a>
9		Python Programming for Beginners	codeproress	452100	paython	3650	Programming	Active	<a href="#">Edit</a> <a href="#">Delete</a>

Figure 5.5 : Admin All book info Delete / Edit

## Admin Feedback on review





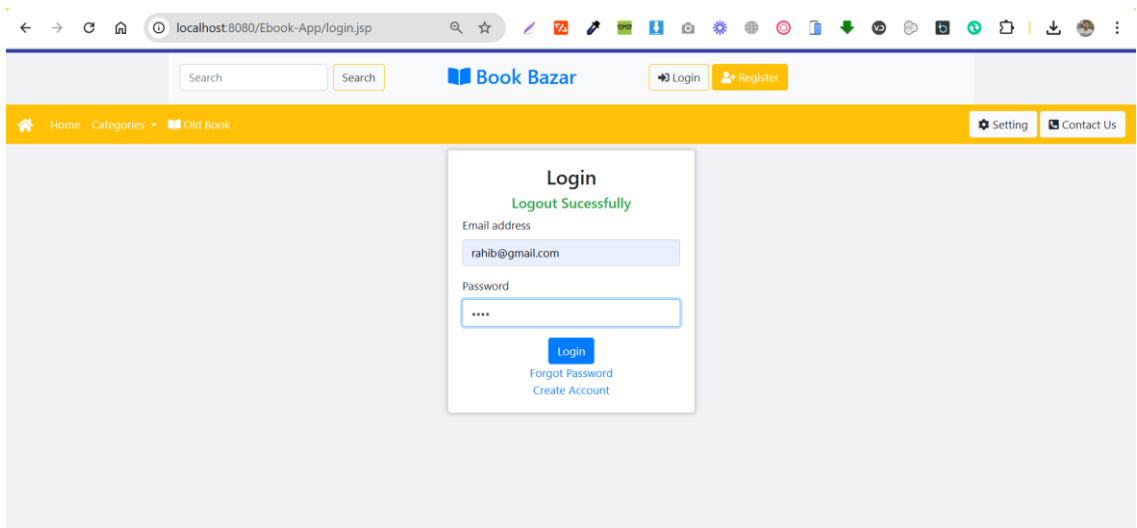
ID	Image	Book Name	Author	ISBN No	Price	Categories	Status	Action
2		The Wild Robot Protects	Peter Brown	sdf	1400	Children Books	Active	<a href="#">feedback</a>
3		The Wild Robot	Peter Brown	sdf	20	Old	Active	<a href="#">feedback</a>

Figure 5.6 : Admin Feedback on review

## User Login



Search  Search

Book Bazar [Login](#) [Register](#)

Home Categories Old Book [Setting](#) [Contact Us](#)

### Login

Logout Successfully

Email address

Password

[Login](#)

[Forgot Password](#)  
[Create Account](#)

Figure 5.7 : User Login

Figure 5.10.1 : User Edit profile

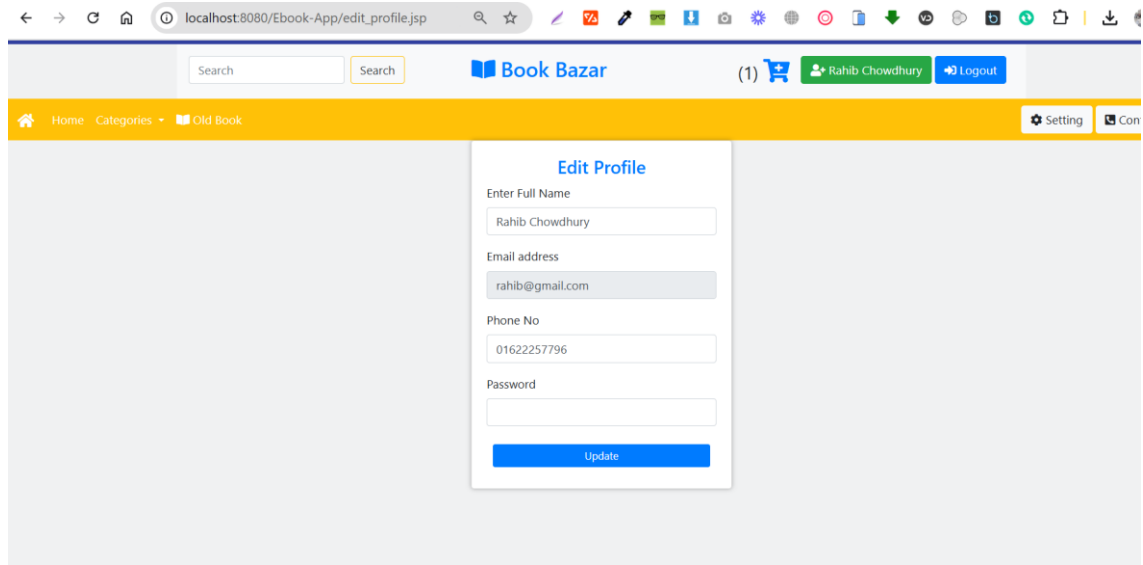


Figure 5.8 : User Edit profile

### User All book view

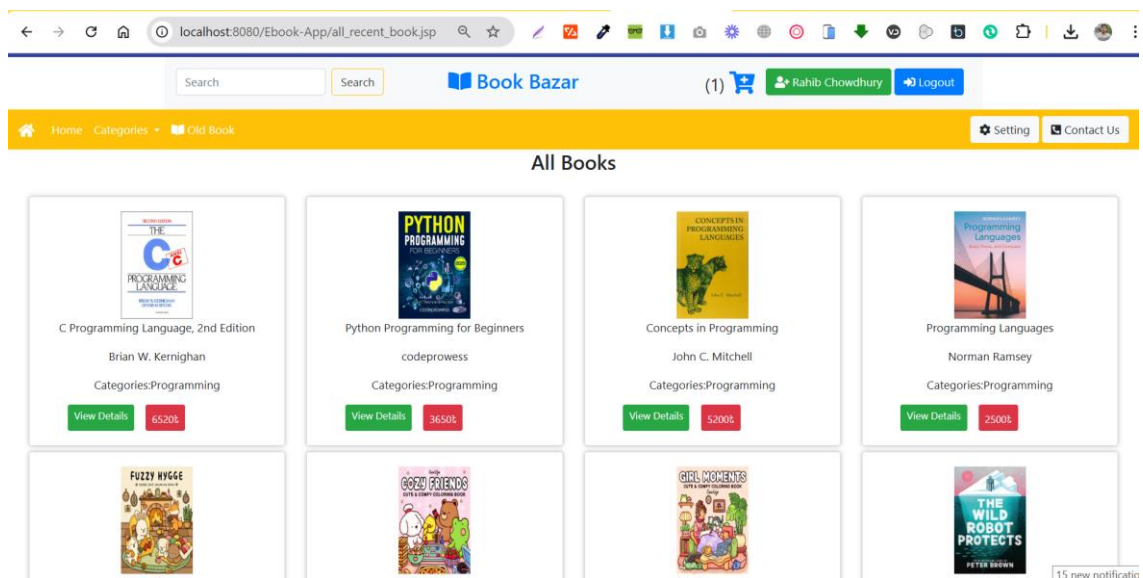


Figure 5.9 : User All book view

### Add to cart

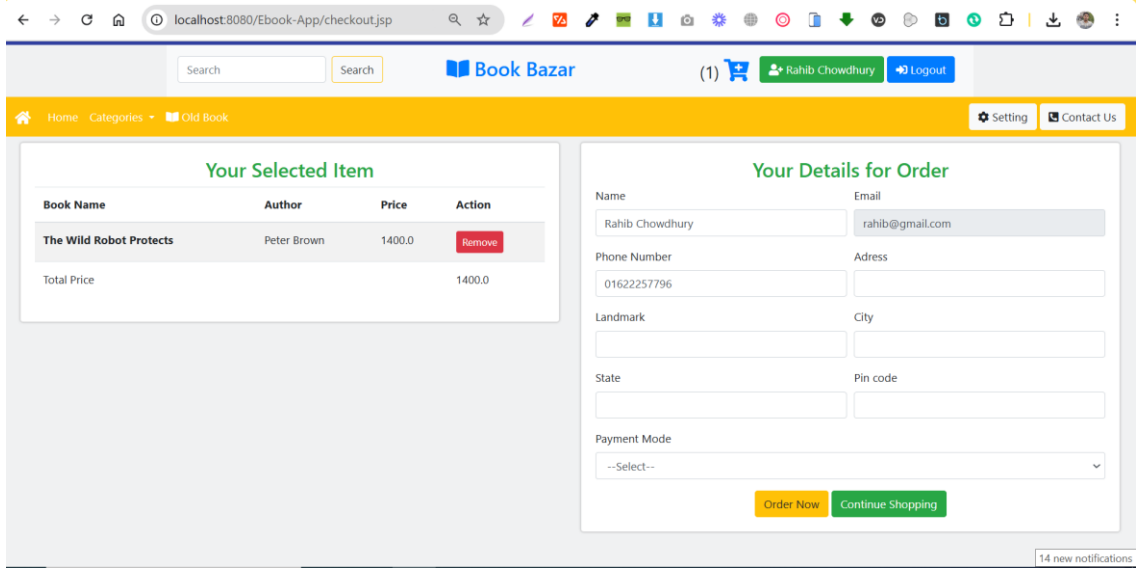


Figure 5.10 : Add to cart

### 5.3 Summary

The "Book Bazar" platform supports three types of users—Customer, Seller, and Admin—each with specific features to meet their needs. Overview of the roles and their functionalities are given below

#### User Roles and Functionalities

##### Admin:

- **Log-In:** Securely access the admin panel to manage the system.
- **Manage Products:** Add, update, or remove books from the catalog with details like title, price, description, and cover image.
- **User Management:** Monitor and manage customer and seller accounts.

##### Seller:

- **Profile Management:** Update personal and business details for an accurate seller profile.
- **Manage Listings:** Add, edit, or remove books from their inventory.
- **Order Tracking:** View and track customer orders for efficient delivery.

##### Customer:

- **Registration and Log-In:** Create and access accounts for browsing and shopping.
- **Product Browsing:** Explore available books by category or search feature.
- **Add to Cart:** Select books to add to a shopping cart for future purchase.
- **Checkout:** Complete the purchase process securely.
- **Profile Management:** Update personal details for account accuracy.

#### Project Functionalities

The platform provides essential e-commerce features like product management by admins, user account controls for all roles, and shopping functionalities for customers. These features work together to create a smooth and user-friendly experience for all users of the platform.

# Chapter 6 Project Summary

## 6.1 Introduction

It's a project summary of "Book Bazar," an e-commerce platform created to make buying and selling books online simple and easy. The platform lets customers browse books, make purchases, and manage their accounts. Sellers can add and manage their books, while administrators manage users, orders, and system activities.

The project was developed using J2EE, Servlets, and JDBC for the backend, with MySQL as the database. The aim was to build a secure, user-friendly, and flexible platform for customers, sellers, and administrators.

This summary explains the main features, successes, challenges, and the steps taken to test and deploy the platform to ensure it works smoothly and safely.

## 6.2 Project Limitations

Even though "Book Bazar" is a working platform, it has some limits due to time, budget, and technology:

- **Time Limits:** Because the project had to be finished quickly, some advanced features like payment gateways, personalized book suggestions, and a detailed admin panel could not be included.
- **Budget Limits:** Since this is an academic project, no funds were available for paid tools or services. The work was done with basic resources and free tools.
- **Technology Limits:** While MySQL worked well for this project, it may not handle very large data or many users at once in a real-world setting. Other features, like real-time notifications and a mobile app, were not included due to technology challenges.
- **Incomplete Features:** Some features, such as advanced book searches, user reviews, and order history, were planned but not fully built because of time and project size.

## 6.3 Scope

"Book Bazar" is designed to connect customers, sellers, and administrators on a single platform. The key features include:

1. **Customer Features:**
  - **Account Creation:** Customers can sign up, log in, and update their profiles.
  - **Book Browsing:** Customers can search for books and view details.
  - **Shopping Cart:** Customers can add, update, or remove books from their cart.
  - **Checkout:** Customers can place orders (payment options not included).

## 2. Seller Features:

- Account Management: Sellers can sign up and manage their profiles.
- Book Management: Sellers can add, update, and remove books.
- Order Management: Sellers can view and manage customer orders.

## 3. Admin Features:

- User Management: Admins can view, approve, or remove accounts for customers and sellers.
- Order Management: Admins can view and manage customer orders.
- Book Management: Admins can add or remove books if needed.

### Exclusions:

- Payment gateway integration is not included.
- Advanced features like customer reviews, real-time updates, and mobile apps are not included.

## 6.4 Future Work

The "Book Bazar" project provides a good starting point, but it can be improved with more features:

- Payment Gateways: Adding payment systems like PayPal or Stripe to allow real purchases.
- Advanced Search: Adding filters like price, category, and author to help users find books easily.
- User Reviews: Letting customers rate and review books to help other users and sellers.
- Order History: Adding an order history and tracking system for better customer experience.
- Mobile App: Creating a mobile app for easier use on smartphones.
- Better Admin Tools: Adding reports and graphs to help administrators understand sales and system performance.
- Improved Scalability: Using a stronger database like PostgreSQL to handle more users and books.
- Better Security: Adding features like two-factor login and encrypted connections to make the platform safer.
- Support for Global Users: Allowing multiple languages and currencies to reach more users.

## 6.5 Conclusion

"Book Bazar" successfully meets its goal of building an online platform for buying and selling books. It provides key features for customers, sellers, and administrators, such as account creation, book management, and order handling.

Main achievements include:

- Secure account registration and login for all users.
- Easy tools for sellers to list and manage books.
- Basic features for admins to manage users and orders.

The project shows how to build a simple e-commerce platform for books, meeting the basic needs of users while leaving room for future improvements.

Lessons learned include:

- Time Management: It is important to focus on the most important features when time is short.
- Technology Choices: Choosing tools that match the size of the project is important for success.
- User-Friendly Design: Testing and feedback help make the platform better for all users.

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## APPENDICES

### Appendix B: Edit profile

```
16 </head>
17 <body style="background-color: #f0f1f2;">
18   <%@include file="all_component/navbar.jsp"%>
19
20   <div class="container">
21     <div class="row">
22       <div class="col-md-4 offset-md-4">
23         <div class="card paint-card">
24           <div class="card-body">
25
26             <h4 class="text-center text-primary">Edit Profile</h4>
27
28             <c:if test="{not empty failedMsg }">
29               <h5 class="text-center text-danger">${failedMsg}</h5>
30               <c:remove var="failedMsg" scope="session" />
31             </c:if>
32
33             <c:if test="{not empty succMsg }">
34               <h5 class="text-center text-success">${succMsg}</h5>
35               <c:remove var="succMsg" scope="session" />
36             </c:if>
37
38
39             <form action="update_profile" method="post">
40               <input type="hidden" value="{userobj.id }" name="id">
41               <div class="form-group">
42                 <label for="exampleInputEmail1">Enter Full Name</label> <input
43                 type="text" class="form-control" id="exampleInputEmail1"
44                 aria-describedby="emailHelp" required="required" name="fname"
45                 value="{userobj.name}">
46
47               </div>
48
49               <div class="form-group">
50                 <label for="exampleInputEmail1">Email address</label> <input
51                 type="email" class="form-control" id="exampleInputEmail1"
52                 aria-describedby="emailHelp" required="required" name="email"
53                 value="{userobj.email }">
54
55               </div>
56               <div class="form-group">
57                 <label for="exampleInputEmail1">Phone No</label> <input
58                 type="number" class="form-control" id="exampleInputEmail1"
59                 aria-describedby="emailHelp" required="required" name="phno"
60                 value="{userobj.phno }">
61
62               </div>
63
64             </form>
65           </div>
66         </div>
67       </div>
68     </div>
69   </div>
70 </body>
```

## Appendix C: Forget password

```
1 <%@ page language="java" contentType="text/html; charset=ISO-8859-1"
2   pageEncoding="ISO-8859-1"%>
3 <%@ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core"%>
4 <%@page isELIgnored="false"%>
5 <!DOCTYPE html>
6 <html>
7 <head>
8 <meta charset="ISO-8859-1">
9 <title>Edit Profile</title>
10 <%@include file="all_component/allCss.jsp"%>
11 <style type="text/css">
12 .paint-card {
13     box-shadow: 0 0 6px 0 rgba(0, 0, 0, 0.3);
14 }
15 </style>
16 </head>
17 <body style="background-color: #f0f1f2;">
18   <%@include file="all_component/navbar.jsp"%>
19
20   <div class="container">
21     <div class="row">
22       <div class="col-md-4 offset-md-4">
23         <div class="card paint-card">
24           <div class="card-body">
25
26             <h4 class="text-center text-primary">Edit Profile</h4>
27
28             <c:if test="${not empty failedMsg }">
29               <h5 class="text-center text-danger">${failedMsg}</h5>
30               <c:remove var="failedMsg" scope="session" />
31             </c:if>
32
33             <c:if test="${not empty succMsg }">
34               <h5 class="text-center text-success">${succMsg}</h5>
35               <c:remove var="succMsg" scope="session" />
36             </c:if>
37
38             <form action="update_profile" method="post">
39               <input type="hidden" value="${userobj.id }" name="id">
40               <div class="form-group">
41                 <label for="exampleInputEmail1">Enter Full Name</label> <input
42                 type="text" class="form-control" id="exampleInputEmail1"
43                 aria-describedby="emailHelp" required="required" name="fname"
44                 value="${userobj.name}">
45               </div>
46             </form>
47
48           </div>
49         </div>
50       </div>
51     </div>
52   </div>
```

## Book

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