Tribhuvan University

Faculty of Humanities and Social Studies

ONLINE BOOK STORE

A PROJECT REPORT

Submitted to:

Department of Computer Application

Prime College

In the partial fulfillment of the requirements for the Bachelors in Computer Application

Submitted by:

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January 2025 A.D

Under the supervision of

Er. Rolisha Sthapit

TRIBHUVAN UNIVERSITY

Faculty of Humanities and Social Sciences

Prime College

SUPERVISOR'S RECOMMENDATION

I hereby recommend that this project is prepared under my supervision by Aditi Shrestha entitled "**Online Book Store**" in the partial fulfillment for the degree of Bachelor of Computer Application is recommended for the final evaluation.

Er. Rolisha Sthapit

SUPERVISOR

Prime College

TRIBHUVAN UNIVERSITY

Faculty of Humanities and Social Sciences

Prime College

LETTER OF APPROVAL

This is to certify that this project is prepared by Aditi Shrestha entitled "**Online Book Store**" in the partial fulfillment for the degree of Bachelor of Computer Application has been evaluated. In our opinion it is satisfactory in the scope and quality as a project for the required degree.

Er. Rolisha Sthapit **Supervisor** **Prime College, Khusibun**	**Er. Rolisha Sthapit** **BCA Co-Ordinator/ Internal Examiner** **BCA Department** **Prime College, Khusibun**
	External Examiner

ABSTRACT

The online Bakery Management System is an e-commerce website for a bakery, enabling online ordering through a user-friendly interface. Utilizing HTML, CSS, JavaScript, PHP, and MySQL, the website provides a platform for customers to browse and purchase a variety of bakery products conveniently from the comfort of their homes. The website offers a seamless user experience, incorporating essential features such as user authentication, registration, product categorization, and direct contact options. The implementation of these features aims to enhance user engagement, foster customer trust, and streamline the ordering process. The site includes features such as product categorization, shopping cart functionality, and online ordering. By automating the ordering process and offering a no-contact delivery option, the website enhances customer experience and ensures safety. The admin panel provides authorized personnel with exclusive access to manage product listings, view and process orders, and monitor customer interactions. This project also has features of online payment and order confirmation via email integration which helps user pay and check their order. This functionality enhances operational efficiency by centralizing administrative tasks and streamlining order management processes. This project not only streamlines bakery operations but also significantly increases profitability by reducing overhead costs and expanding the market reach. The website's design and functionality were carefully crafted to ensure ease of use, with a focus on user experience.

Keywords: Bakery, Order, CSS, MySQL, order confirmation via email, online payment using Khalti.

ACKNOWLEDGMENT

I would like to take this opportunity to express my gratitude and appreciation to everyone who has contributed to this Online Bakery System project.

I would like to extend my gratitude to **PRIME COLLEGE**, who provided the platform for us to share our knowledge and expertise on this subject. I express our heartfelt gratitude to our supervisor and coordinator **Er. Rolisha Sthapit** for her invaluable assistance at every stage and in every way. Your support and encouragement have been instrumental in this success of this project.

Finally, I would like to express my appreciation to everyone who has taken the tie to read this report. I hope the information provided has been useful, and it has provided a comprehensive understanding of the topic.

Thank you all for your invaluable contributions.

Sincerely,

Aditi Shrestha

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LIST OF ABBREVIATIONS

CSS	Cascading Style Sheet
DFD	Data Flow Diagram
ERD	Entity Relational Diagram
HTML	Hypertext Markup Language
JS	JavaScript
PHP	Hypertext Preprocessor
SQL	Structure Query Language

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CHAPTER 1
INTRODUCTION

1.1 Introduction

The online book store is a web-based application for users to purchase books online. An Online Book Store is a virtual store on the internet from where customers can browse a wide variety of books and shop for books of their choice. Online Book Store is a user-friendly and convenient platform for book enthusiasts to browse, search, and purchase their desired books from the comfort of their homes.

The admin dashboard simplifies handling customer details and book information, streamlines order processing, and manages book stock effectively, enabling you to handle a large volume of books and users efficiently and in a well-organized fashion.

Our online bookstore provides easy registration or logging in to the website for customers to buy their chosen books online and also provides very helpful search and filter options so that customers can quickly find the exact books they are looking for and get detailed information about them.

Recognizing the growth that is happening in online purchasing, our online book store aims at serving the needs of all enthusiastic book lovers and at the same time offers book store owners easy management of books, records of customers, stock management, and customer ordering with great efficiency.

In the process of development of this application, we have used HTML and CSS to create a user interface, providing a visually appealing and intuitive experience for users. JavaScript is used for handling the client-side interactivity and PHP is used for managing server-side processing and database interactions. And MySQL is used for storing, retrieving, and managing data for this webpage development.

1.2 Problem Statement

Traditional brick-and-mortar stores have a number of limitations that seriously hamper their ability to adequately serve the customer of today. Their physical space directly restricts the variety of books they can carry, thus limiting customer choice and creating dissatisfaction with customers when searching for specific titles. Further, such stores

are limited to an area of location and hence cannot easily be accessed by people who live far away or have problems with movement. All these contribute to high operation costs regarding rent and utility bills, translating to higher prices and inability to offer personalized services.

The inconvenience provided by a physical bookstore is really one of the main obstacles in consumer appeal nowadays. Quite often, clients are constrained to have to travel to the store during less-than-convenient business hours, which for many people will be impossible in relation to lack of time or traveling opportunities. Besides, dependence on manual processes of keeping records brings inefficiency, which makes it hard for the bookstore to accurately keep inventory, analyze sales trends, and give information about books on offer. These ultimately limit the reach, affecting profitability and keeping them from reaching out to more people, customers, who might have been interested in the services provided, besides failure to adapt to trends and growing markets.

The online bookstore system seeks to overcome the challenges faced by traditional stores by providing a user-friendly and efficient online platform. Leveraging HTML, CSS, and JavaScript, this project aims to create a visually appealing and intuitive interface for customers to browse products, place orders, and make secure online payments. Automation of order processing and inventory management will reduce errors and enhance the overall efficiency of bakery operations. By integrating modern web technologies, the project aims to empower bookstore to expand their reach, attract a broader customer base, and stay competitive in the digital marketplace.

1.3 Objectives

- To create a user-friendly online platform for convenient book shopping.
- To enable fast and efficient management and retrieval of information.
- To offer a wide variety of books to readers.

1.4 Scopes and Limitations

1.4.1 Scopes

The online bookstore will capitalize on Nepal's rapidly growing online market offering a wide selection of Nepali and international books. It will facilitate easy browsing, buying, and tracking of orders. The system will also support local payment options such as Khalti. It will empower Nepali authors and publishers. A basic admin dashboard will enable authorized users to manage products, orders, and customer details. The current version will have partial payment, less support, and reporting features. And, of course, a mobile app is excluded from the first release. The website will be designed for accessible use across different devices, aiming for broader reach.

1.4.2 Limitations

- The system will focus on national shipping initially, and will not support international shipping.
- The system will not support multiple languages in the first instance.
- The online bookstore will launch with a limited collection of books, focusing on popular books and well-known authors.
- Customers may not be able to modify or cancel orders once they are placed, thus it is important to check all details are correct before purchase.

1.5 Development Methodology

A development methodology is a systematic approach or framework used in software development to guide the process of creating software or web applications. It provides a structured and organized way for a team to plan, design, develop, test, and deliver a software product. Development methodologies define the processes, tasks, roles, and responsibilities that team members need to follow throughout the project's lifecycle. There are different models or methods used or followed during software development life cycle (SDLC) processes such as the waterfall model, prototyping model, spiral model and others based on the nature or objective of the software. As maximum requirements for the project were discussed and finalized before starting working on the project and one stage would come after the completion of the previous steps, the author decided to use the waterfall model for the completion of the project.

It requires the following stages:

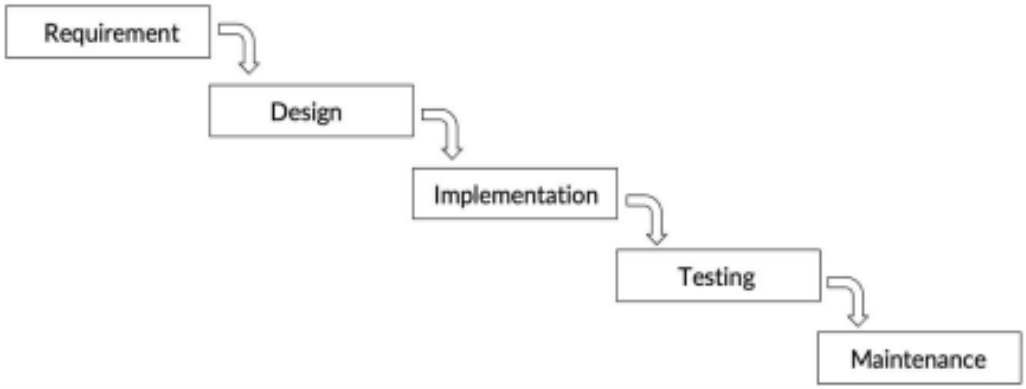

Figure 1.1 Waterfall Software Development Model

Requirement

All possible requirements of the system to be developed are captured in this phase. During this step, it was focused on the technical requirement of the project. This includes functional requirements (what the system should do) as well as non-functional requirements (performance, security, scalability, etc.).

System Design

Based on the requirements specification, the system design phase focuses on creating the architectural design of the system. This system design helps in specifying hardware and system requirements and helps in defining the overall system architecture.

Implementation

With inputs from the system design, the system is first developed in small programs called units, which are integrated in the next phase. Each unit is developed and tested for its functionality, which is referred to as Unit Testing.

Testing

Once the implementation is complete, the system undergoes testing to verify that it meets the specified requirements. All the units developed in the implementation phase are integrated into a system after testing of each unit. Post integration the entire system is tested for any faults and failures.

Maintenance

There are some issues which come up in the client environment. To fix those issues, patches are released. Also to enhance the product some better versions are released. Maintenance is done to deliver these changes in the customer environment.

1.6 Report Organization

Chapter 1 introduces the Online Book Store system, highlighting the ease of booking and accessing books online. It addresses the problem statement, outlines the report's organization, objectives, scopes, and project limitations, along with detailing the methodology employed for system development.

Chapter 2 delves into the background study of the project, emphasizing the necessity of such a system within the country's context. It includes a literature review of similar projects undertaken by others.

Chapter 3 entails system analysis as well as design and represent development process and provides architectural design, database schema design and interface design using different structure diagrams. This encompasses Use Case Design, Gantt Chart, Entity Relationship Diagram, Process Modeling (Level 0 and Level 1 DFD), System Architecture, database schema design, interface design, and Physical DFD.

Chapter 4 elaborates on the implementation and testing phases of the online book system project. It introduces the tools employed for front-end and back-end development, as well as their purposes. Additionally, it outlines the testing procedures and module details.

Chapter 5 concludes the report, summarizing the project's accomplishments, findings, and potential future enhancements. It provides recommendations for further improvements and reflects on the project's objectives, scopes, and limitations.

CHAPTER 2

BACKGROUND STUDY AND

LITERATURE REVIEW

2.1 Background Study

The Internet has been favored by more and more people for its high efficiency and richness, and e-commerce has emerged. "Ecommerce" or "electronic commerce" is the trading of goods and services on the internet. With the widespread availability of internet access and the proliferation of electronic devices, there has been a notable shift in consumer preferences towards online shopping for goods including books. This trend is further accelerated by the convenience, accessibility, and diverse offerings provided by online bookstores. The online bookstore is a form of e-commerce and book sales industry.

With the online bookstore system, customers no longer need to visit multiple physical locations in search of specific books. Instead, they can simply log on to the online bookstore system from a computer connected to the Internet. Using the search box, they can efficiently look up information about the book they're interested in. This allows them to quickly determine whether the site has the book available for purchase. This significantly streamlines the process for every customer, saving them time and effort. Also, to the store owners they can easily manage record of books, customers, sales and many more with the help of this system. It plays significant role to save time and labor of both store owner and customer.

2.2 Literature review

The rise of online bookstores marks a significant shift in how people buy and access books. Early research highlighted the convenience and accessibility offered by these platforms, allowing customers to browse a vast selection from the comfort of their homes. Studies explored how online bookstores disrupt traditional brick-and-mortar establishments, offering lower prices and greater variety, while also impacting the publishing industry with new avenues for book distribution. A significant body of work has focused on user experience within online bookstores, looking at how elements like search functionalities, user-friendly interfaces, and book recommendation systems

influence purchasing decisions. This research showed that effective search algorithms and personalized suggestions greatly enhance user satisfaction and lead to higher sales.

Chen and Chang conducted an analysis of the impact of e-commerce on the bookstore industry in Taiwan. Their study revealed a significant shift in market share from traditional brick-and-mortar stores to online platforms. This trend highlights the growing preference among consumers for the convenience and accessibility offered by online bookstores. [1]

Technological advancements play a crucial role in enhancing the user experience and driving sales in online bookstores. Hu et al. explored the application of personalized recommendation algorithms based on machine learning techniques. Their research demonstrated the effectiveness of such algorithms in providing tailored book recommendations to users, thereby improving customer satisfaction and engagement. [2]

Consumer behavior is another key area of study in understanding the dynamics of online bookstores. Li et al. investigated the factors influencing consumers' online book purchasing behavior. Their findings emphasized the importance of price, convenience, product variety, and user reviews in shaping consumers' decisions to buy books online. This insight underscores the need for online bookstores to prioritize these factors to attract and retain customers. [3]

In the context of the internet era, Zheng et al. examined the development and innovation of online bookstores. Their research highlighted the challenges and opportunities faced by online retailers in adapting to the changing digital landscape. The study emphasized the importance of continuous innovation and adaptation to remain competitive in the dynamic online marketplace. [4]

The COVID-19 pandemic has further accelerated the shift towards online book sales. Smith and Johnson conducted a case study on the impact of the pandemic on online book sales, focusing on major platforms. Their research documented a significant increase in online book purchases during the pandemic, as consumers turned to online channels for their reading needs amidst lockdowns and social distancing measures. [5]

CHAPTER 3

SYSTEM ANANLYSIS AND DESIGN

3.1 System Analysis

System analysis is one of the significant phases in the software development process. It deals with studying and making sense out of the proposed software system requirements and specifications. It is the process of studying, identifying, and defining what the intended users and other stakeholders want from a new or existing system. The principal aim of the system analysis is to make sure that the software system built will meet the desired objectives. It also ensures that the system will effectively address the identified needs.

3.1.1 Requirement Analysis

The initial phase involves a comprehensive analysis of the requirements for the Online Bookstore System. This includes understanding the specific needs of the bookstore, such as book browsing, shopping cart functionality, user accounts, and payment processing. Gathering input from stakeholders, including bookstore owners and potential customers, will be crucial to defining the functional and non-functional requirements of the system. In addition, they should be clearly documented so the development team has clear expectations and understands required specifications from the beginning. The output of the requirement analysis serves as the basis for subsequent phase of software development, including system design, coding, testing, and deployment. It is essential to invest time and effort in thorough requirement analysis to improve the chances of project success.

i. Functional Requirement

The Online Bookstore System is a web application designed for interactions between customers, staff, and administrators. It will feature a user-friendly interface enabling customers to browse books, find titles, view details, add items to a cart, and securely order. The system will support efficient order processing, allowing staff to manage orders, update inventory, and generate sales reports.

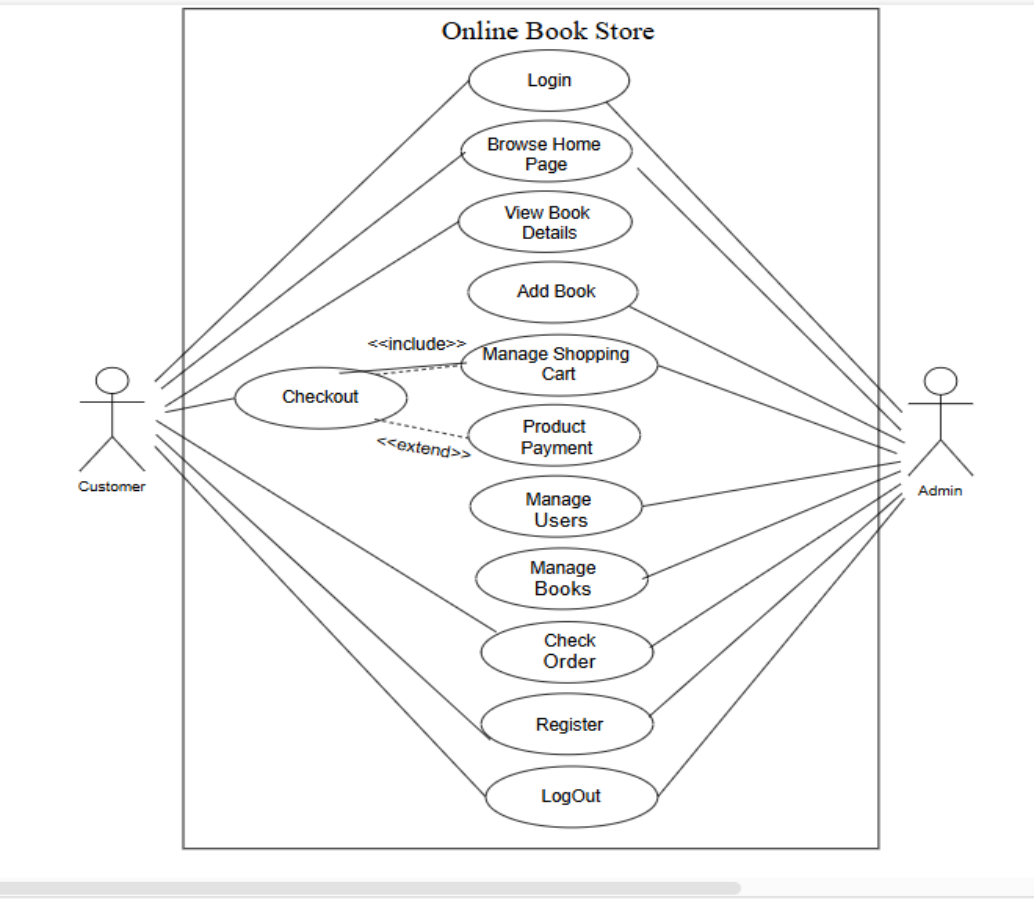

Figure 3. 1 Use case diagram of Online Book Store

Admin:

Admin must be authenticated before accessing system. They'll be able to access admin dashboard.

Customer:

Customer will be able to view/search books on the website. Also, they can register on the website. They can't place order without logging in to the system.

ii. Non-functional Requirement

a. **Performance and Responsiveness:** The website should load quickly and respond promptly to user interactions. Users should be able to navigate through the website smoothly without any lag or delay. · The website should be able to

handle a large number of visitors and transactions without slowing down or crashing.

b. **Easy Access:** The system is accessible from any location at any given time with the help of a stable internet connection.
c. **Response Time:** The system should provide quick response times for actions such as page loading, product searches, and order processing. Response times should be within acceptable limits to ensure a seamless user experience.
d. **Simple and easy to use**: The system uses a simple design as well as simple language to improve the user friendliness of the web application.
e. **Availability and Reliability:** The website should be available 24/7 with minimal downtime. It should be secure and protect user data, including payment information.

3.1.2 Feasibility Study

After doing the project 'Online bakery management system', study and analyzing all the existing or requires functionalities of the system, the next task is to do the feasibility study for the project. It includes all the consideration of all the possible ways to provide a solution to the given problem.

a. **Economic feasibility**

   The specific requirements and solutions have been identified to weight the cost and benefits of the alternatives. The hardware and software used are simple and there is no other additional requirement. It is based on the existing system, so the cost will be minimum. The only cost that will be encountered are printing cost, paper costs and internet and electricity expenses.

b. **Technical Feasibility**

   This study is carried out to check the technical requirements of the system. We can strongly say that it is technically feasible, since there will not be much difficulty in getting required resources for the development and maintaining the system as well. All the resources needed for the development of the software are easily collected. HTML and CSS will be used to create a responsive design, ensuring that the Book Online System adapts to various screen sizes, including

experience and accessibility. JavaScript will be leveraged to enhance the user interface, providing dynamic content and interactive features. This will enable a seamless and engaging experience for users, such as real-time updates on cart contents and interactive product displays.

c. **Operational feasibility**

System is easy to operate with the basic knowledge of computation and internet. User can easily access the system as it is user friendly in many aspects.

d. **Schedule feasibility**

This project is doable within a set timeframe using a Waterfall model. This helps us avoid confusion and delays, making sure we finish on time. The plan we have lets us work on each part one after the other, so things should stay on track.

Table 3. 1 Gantt Table

Task	Start Date	Duration	End Date
Documentation	10/3/2024	56	1/13/2025
Requirements	7/2/2024	6	10/8/2024
Design	10/8/2024	20	10/28/2024
Implementation	10/28/2024	35	12/10/2024
Testing	10/10/2024	21	12/31/2024
Maintenance	1/31/2024	9	1/8/2025

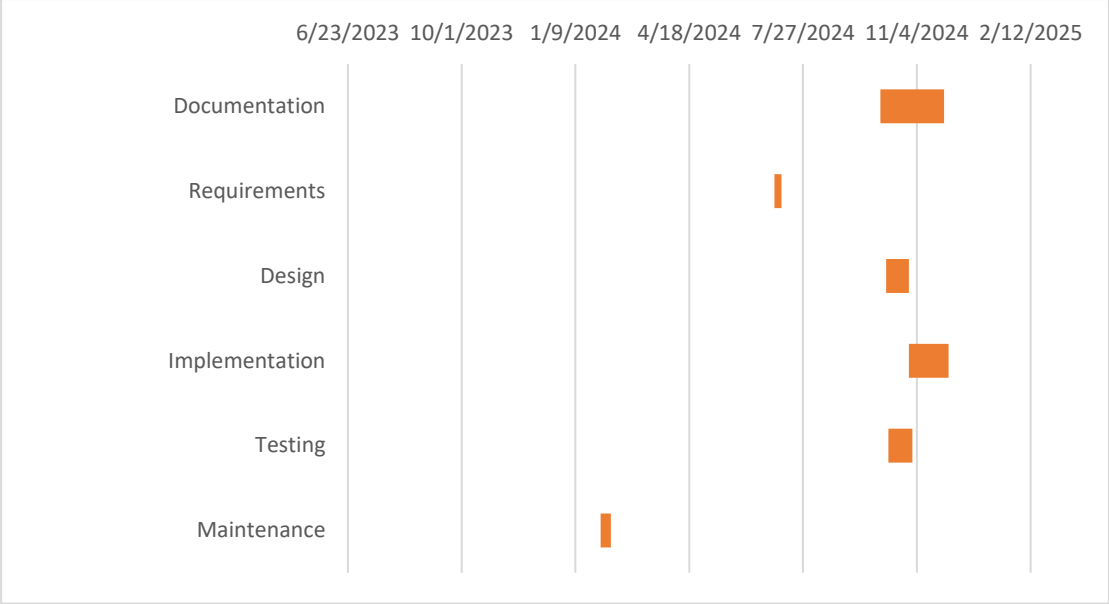

Figure 3. 2 Gantt Chart of Online Book Store

3.1.3 Data Modeling

Data modeling is a crucial process for planning how data will be organized and used within a system. It involves defining the different types of data, their relationships, and the rules that govern them. In the development of such a conceptual representation, data models provide the optimal architecture or schema that developers could follow to efficiently build systems. Usually, they are visualized using tools like Entity-Relationship Diagrams. These diagrams help the stakeholders to communicate and collaborate in showing the structure of data and relationships within. A good data model forms the basis of any solid and efficient system.

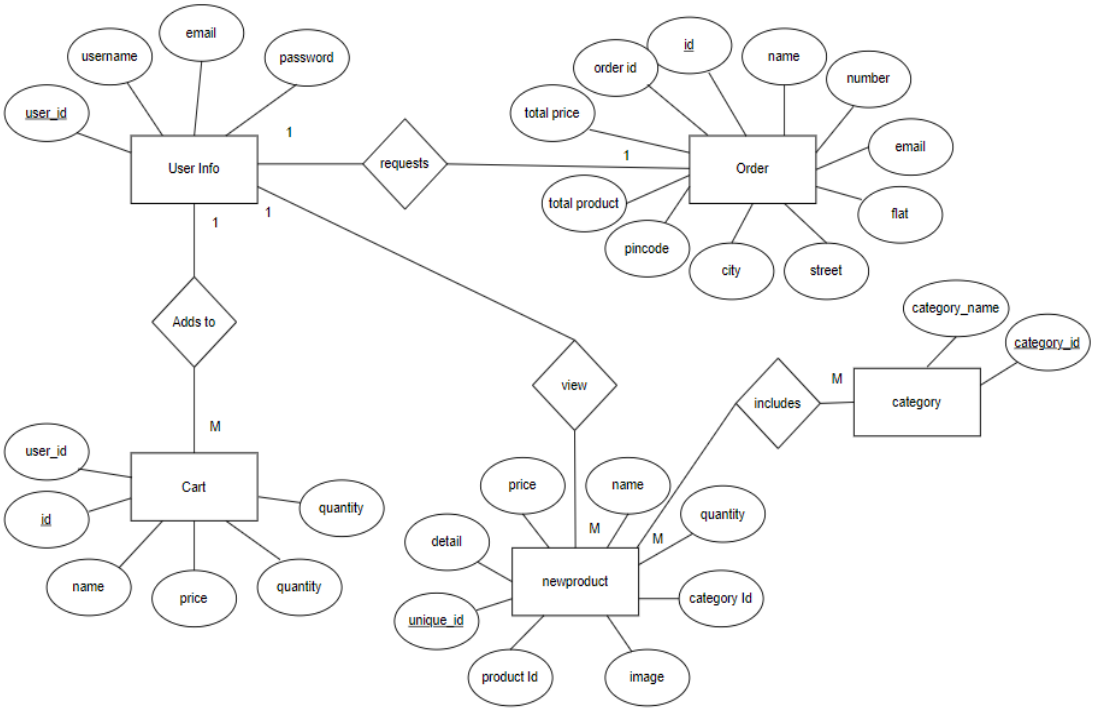

Figure 3. 3 Entity Relationship Diagram of Online Book Store

Figure 3.3 ER diagram for the online bookstore system provides a visual representation of the relationships and interactions between various entities such as "User," "Product," "Order," "Payment," and "Admin." It showcases how users can register, log in, browse products, place orders, and make payments, highlighting the connections between these entities and the associated attributes. Additionally, the diagram illustrates the functionalities available to administrators, including product management, order tracking, and administrative tasks. By visually mapping out the database schema and the relationships between different components of the system, the ER diagram serves as a valuable tool for understanding the underlying structure and functionality of the online bookstore system's database.

3.1.4 Process Modeling

Process modelling involves graphically representing the processes, or actions, that capture, manipulate, store, and distribute data between a system and its environment and among components within a system. Although several different tools have been developed for process modelling, we focus solely on data flow diagrams because they are useful tools for process modelling. Dataflow diagram is one of several structured analysis techniques used to increase software development productivity.

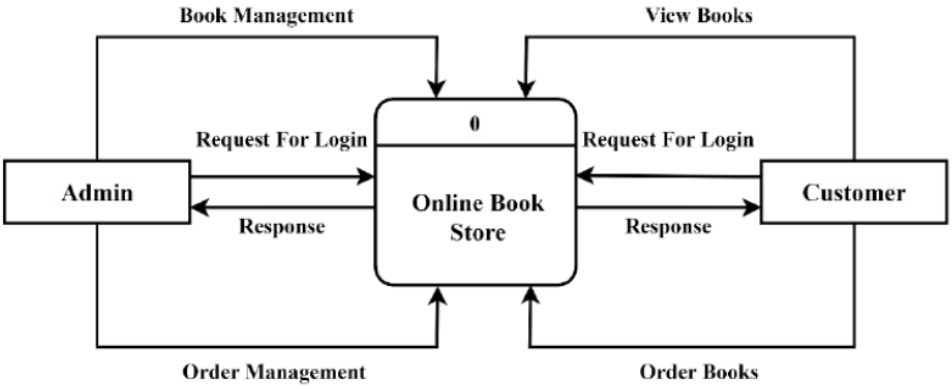

Figure 3. 4 Context level Diagram of Online Book Store

The Level 0 Data Flow Diagram for the Online Book Store shows two external entities, "Admin" and "Customer," interacting with the central "Online Book Store" process. Both the Admin and Customer send a "Request for Login" to the system and receive a "Response." The admin interacts with the store to perform "Book Management" and "Order Management." The Customer interacts with the store to "View Books" and "Order Books." The diagram illustrates the high-level data flow between these entities and the Online Book Store system.

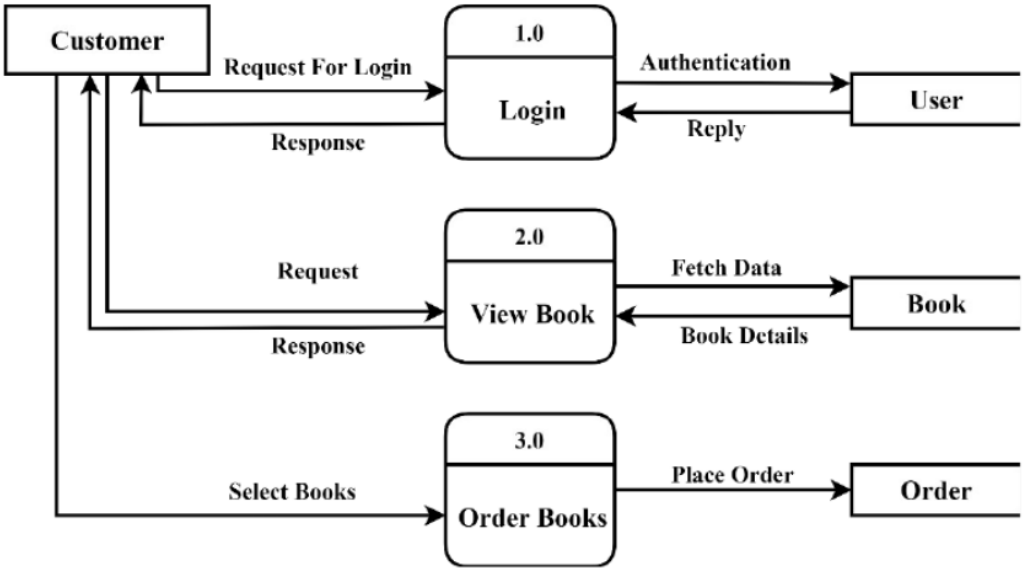

Figure 3. 5 Customer Level 1 Data Flow Diagram of Online Book Store

Level 1 Data Flow Diagram for online bookstore expands the processes as viewed by the customer. The customer interacts with the three main subprocesses: "Login", "View Book", and "Order Books." "Login" involves the customer sending a "Request for Login" that, after verification through authentication with the "User" data store, sends a reply to the Customer. Book browsing is handled by the "View Book" process, which the customer requests, fetching book details from the "Book" data store, returning the "Book details" back to the "View Book" process. The "Order Books" process allows the customer to "Select Books" which sends a "Place Order" to the "Order" data store. The DFD illustrates how data flows between the customer, the system's core functions, and its data storage.

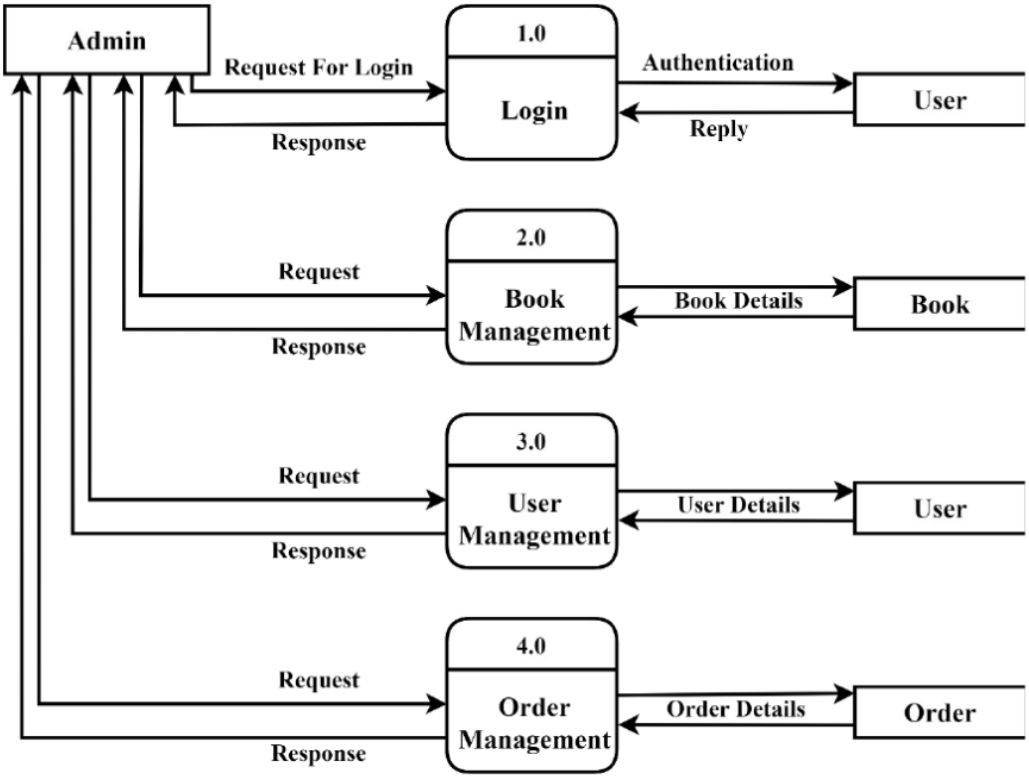

Figure 3. 6 Admin Level 1 Data Flow Diagram of Online Book Store

Figure 3.6 data flow diagram for the online bookstore at the Admin Level 1 depicts the administrative functions. It includes the interaction of the "Admin" with four sub-processes, namely "Login", "Book Management", "User Management", and "Order Management". The "Login" process receives a "Request for Login" from the admin, authenticates with the "User" data store, and sends back a "Reply". The other processes

include a "Request" and a "Response." The "Book Management" process interfaces with the "Book" data store by the use of "Book Details." In addition, the "User Management" process communicates with the "User" data store to provide "User Details" for user management. Lastly, "Order Management" makes use of "Order Details" with the "Order" data store. This diagram depicts an admin interacting with core data by way of these management processes.

3.2 System Design

Systems design is the process of defining a system's components, including modules, architecture, components, their interfaces, and data, depending on the requirements that have been given. Design is the bridge between system analysis and system implementation. Several designs were created in the design phase of the project such as system architecture, database schema design, UI Interface and Interface Structure diagram, physical DFD.

3.2.1 System Architecture

The system architecture of Online Book store can be divided into three main layers: presentation layer, application layer, and database layer.

Presentation Layer: In presentation tier, it receives requests from clients and provide them with information. It uses a web browser to interact with other layers and displays output there. Web-based layers are created using programming languages like HTML for the structure, CSS for styling, and JavaScript for interactivity and dynamic behavior. Together, these technologies enable the creation of responsive and intuitive interfaces that enhance user interaction.

Application Layer: In application tier, the request obtained through the presentation layer is processed in-depth in this tier of the architecture, which is also known as the logic tier. Additionally, it communicates with the server that hosts the data. The client's request is processed, formatted, and sent back to the client. We've used PHP language in the development which facilitate robust and secure processing of data and implementation of business logic.

Database Layer: The last tier of the architecture, commonly referred to as the database tier, is the data tier. This layer is responsible for storing all the data related to the online bookstore system. In order to make the processed data retrievable at a later time, it is employed to store the data. It is designed using a database management system such as MySQL.

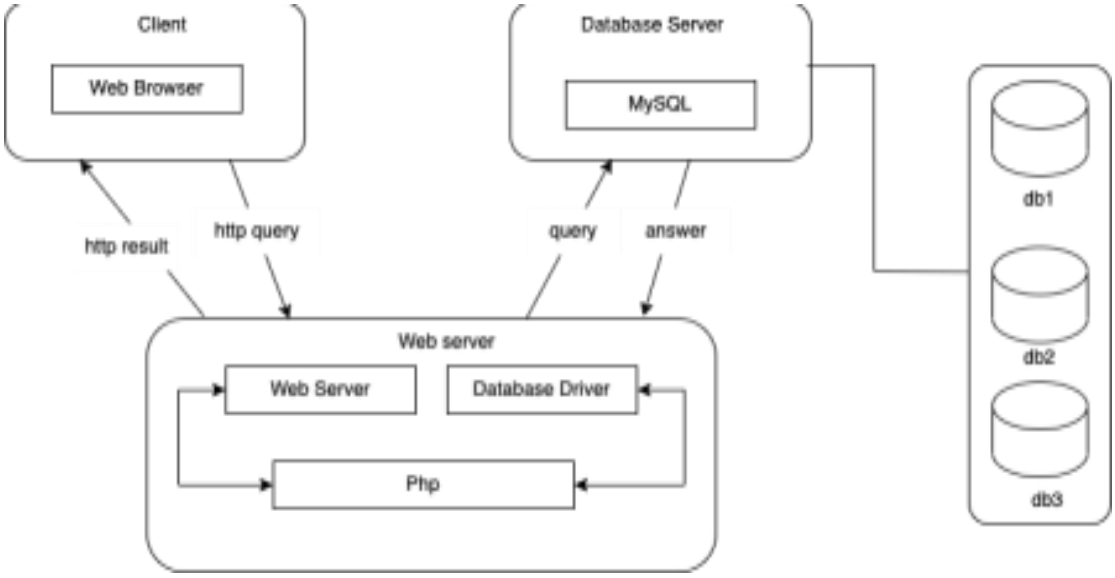

Figure 3. 7 System Architecture of Online Book Store

3.2.2 Database Schema Design

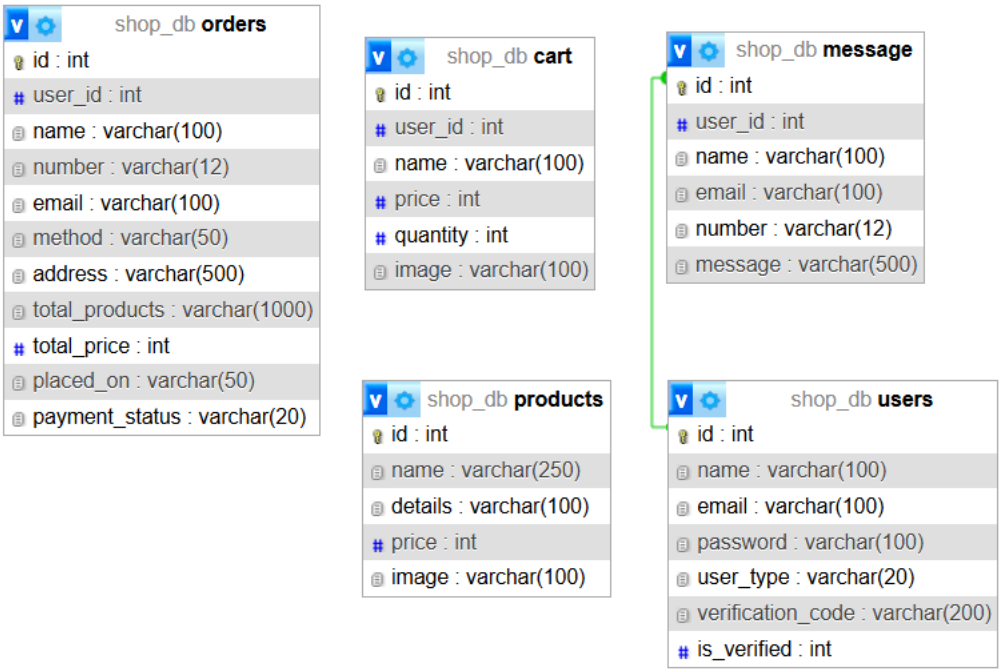

Figure 3. 8 Database Schema Design of Online Book store

The image depicts a database structure for a shop, illustrating interconnected tables like orders, carts, products, messages, and users, each with specified data fields to organize information. The relational database schema design manages shop orders, shopping carts, products, user messages, and users. Key tables include Orders (with attributes for order details), Cart (for shopping cart information), Product (for product information), Message (for user messages), and User (for user information). Relationships are established between these tables using foreign keys. Overall, the design facilitates efficient storage and retrieval of data for the system's functionalities.

3.2.3 Interface Design (UI Interface/ Interface Structure Diagrams)

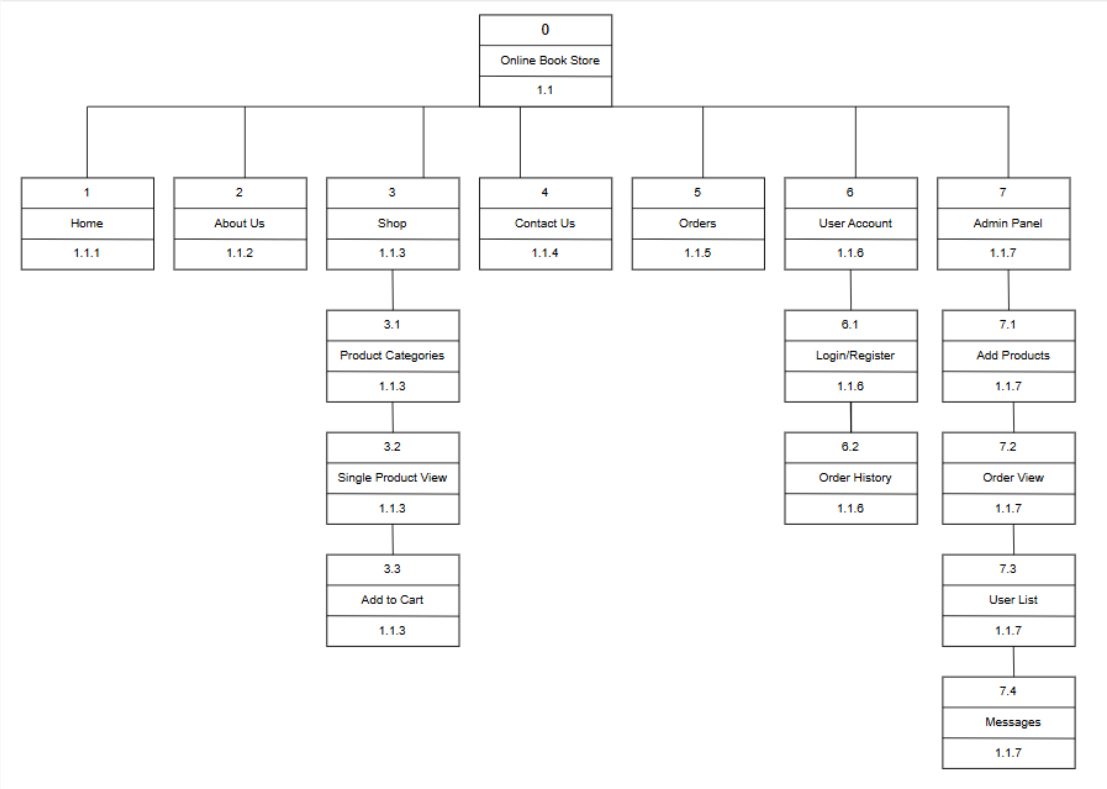

Figure 3. 9 Interface Design of Online Book Store

The site map for the online bookstore outlines a hierarchical navigation structure, with top-level sections like Home, About Us, Shop, Contact Us, Orders, User Account, and Admin Panel. Subsections are defined for Shop (including Product Categories, Single Product View, and Add to Cart), User Account (with Login/Register and Order History), and Admin Panel (with Add Products, Order View, User List, and Messages). This structure demonstrates clear relationships and navigation pathways throughout the online bookstore system.

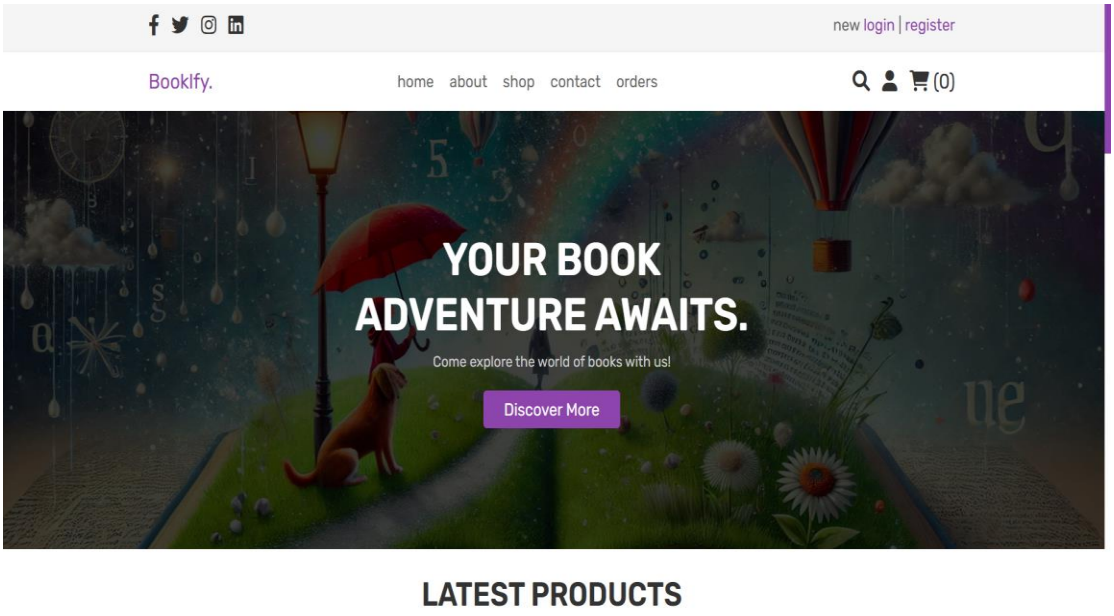

Figure 3. 10 UI Interface of Online Book Store

3.2.4 Physical DFD

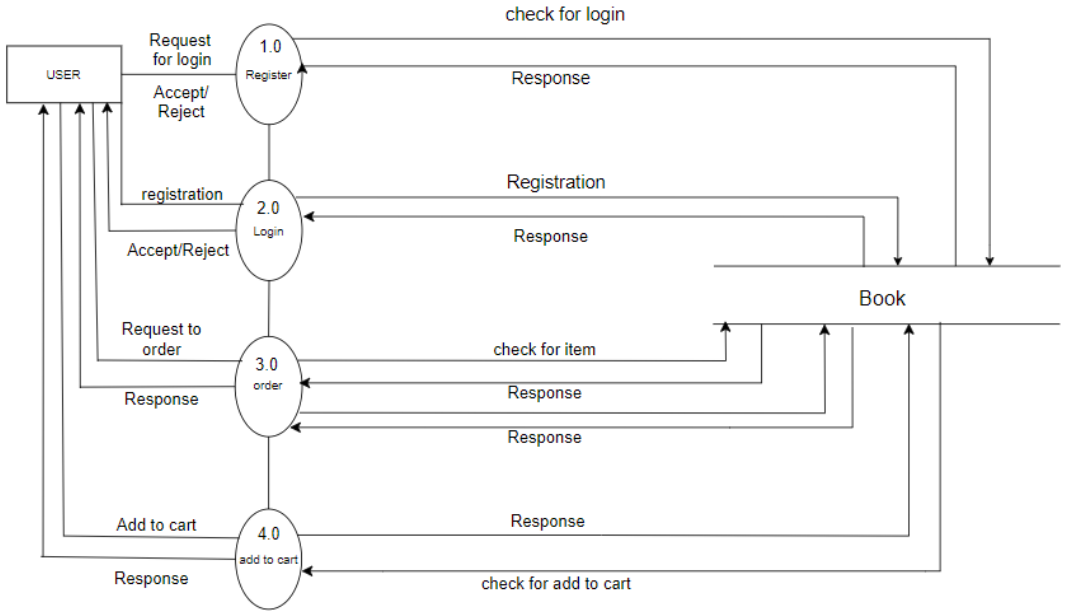

Figure 3. 11 Physical Diagram of Online Book Store

Unlike logical DFDs, which focus on the system's functionality, physical DFDs provide a detailed view of the system's implementation, showing the actual components and devices involved in the data flow.

CHAPTER 4

IMPLEMENTATION AND TESTING

4.1 Implementation

4.1.1 Tools Used (CASE tools, Programming Languages, Database Platforms)

The mostly used tools used in this application are HTML, CSS, JavaScript, PHP, MySQL.

4.1.1.1 Front End Tools

HTML:

HTML is the standard markup language that is used to design the structure and content of this application. This tool has been used in the project for displaying text, images, and other form of multimedia on the webpage.

CSS:

CSS is used in this page to provide the visual style to the pages. It has been used in this project to create a consistent look which can improve user experience. It used to control the layout, font, color and visualize the aspect of project.

JavaScript:

JavaScript web framework is one of the best ways to stack backend and frontend frameworks and has been used for the same in the project. It has been used for adding interactivity to the user interface, validate user input and perform calculations in this project.

4.1.1.2 Backend Tools

PHP: It is a server-side scripting language that is used to create a dynamic web page which can interact with databases. It has been useful to handle the server-side processing of data, such as storing and retrieving data from the database like MySQL.

MySQL: MySQL is an open-source relational database management system (RDBMS). It is used MySQL to store and manage data related to books. It has been used in this project to perform operations like data insertion, deletion, and modification.

4.1.2 Implementation Details of Modules (Description of Procedures/ functions)

There are different modules descriptions. They are described below:

- **Login Module**: The primary purpose of a login module is to verify the identity of a user attempting to access a system or application. It handles the authentication process, confirming that a user is who they claim to be. This typically involves verifying a username (or email) and password, or other credentials.
- **Admin Module**: The admin module is a critical component of the online bookstore, designed for internal staff to manage various aspects of the platform includes maintaining the accuracy, security, and quality of the online bookstore's services and offerings. The admin module ensures the smooth operation of the online bookstore by providing the necessary controls and tools for content, user, and transaction management. When it comes to managing books, administrators can add categories and subcategories of books to the online bookstore.
- **User Management Module**: This module handles user registration, login, and authentication processes for both customers and book administrators. It includes functionalities such as account creation, password management, and profile updates.
- **Product Management Module**: The product management module allows book administrators to manage their product catalog. It includes features for adding new products, updating existing ones, setting prices, managing categories, and uploading images and descriptions.
- **Email Module**: In an online bookstore, the email module's primary purpose is to enable automated communication with customers, keeping them informed and engaged throughout their buying experience. It’s essential for sending immediate order confirmations, letting customers know their purchase was successful.

4.2 Testing

Testing is the process of detecting the errors. It performs a very crucial role for quality assurance and for ensuring the reliability of the software. The results of testing are used later during maintenance also. Testing requires a lot of time and labor.

4.2.1 Unit Testing

Unit testing is a software development process in which the smallest testable parts of an application, called units, are individually and independently scrutinized for proper operation. Online bookstore contains different types of individual parts that are tested. For example, if we have a button that's supposed to add items to a shopping cart, we test just that button to make sure it adds items correctly. Unit testing helps catch mistakes early and makes sure each piece of the software does its job correctly Some of the test cases are:

Table 4. 1 User Registration

S.no.	Action	Input	Expected Outcome	Actual Outcome	Test Result
1	Login	Enter valid username and password	User is successfully logged in	User is successfully logged in	Pass
2	Login	Enter invalid username/password	Error message displayed; login unsuccessful	Error message displayed; login unsuccessful	Pass
3	Registration	Enter valid registration details	User account is successfully created	User account is successfully created	Pass

4	Password Confirmation	Enter matching passwords	Passwords match and validation passes	Passwords match and validation passes	Pass
5	Email Validation	Enter valid email format	Email format is valid and passes validation	Email format is valid and passes validation	Pass
6	Password Verification	Enter password with special characters	Password meets validation criteria	Password meets validation criteria	Pass

Table 4. 2 Add to Cart

S.no.	Action	Input	Expected Outcome	Actual Outcome	Test Result
1	Add Item to Cart	Click "Add to Cart" button	Item is added to the shopping cart	Item is successfully added to the shopping cart	Pass
2	Remove Item from Cart	Click "Remove" button	Item is removed from the shopping cart	Item is successfully removed from the shopping cart	Pass
3	Adding same item	Add same items to the cart	Item already in cart.	Item already in cart.	Pass
4	Add to cart without login	Click “Place Order" button	Please login first. Redirect to login form	Redirect to login form	Pass

Table 4. 3 Checkout form

S.no.	Action	Input	Expected Outcome	Actual Outcome	Test Result
1	Fill Name	Enter valid name	Name is entered and validated	Name is entered and validated	Pass
2	Fill Email Address	Enter valid email address	Email address is entered and validated	Email address is entered and validated	Pass
3	Fill Shipping Address	Enter valid shipping address	Shipping address is recorded and validated	Shipping address is recorded and validated	Pass

4.2.2 System testing

System testing is a type of software testing that evaluates the overall functionality and performance of a complete and fully integrated software solution.

Table 4. 4 User Interface

S.no.	Action	Input	Expected Outcome	Actual Outcome	Test Result
1	Access Login Page	Navigate to the login page	Login page is displayed with username and password fields	Login page is displayed with username and password fields	Pass
2	Enter Valid Credentials	Input valid username and password	User is logged into the system	User is successfully	Pass

				logged into the system	
3	Enter Invalid Credentials	Input invalid username or password	Error message is displayed indicating login failure	Error message is displayed indicating login failure	Pass
4	Access Dashboard	Direct on dashboard link after successful login	Dashboard page is displayed with relevant information	Dashboard page is not displayed with relevant information	Fail
5	View Product Catalog	Navigate to product catalog	Product catalog is displayed with available bakery items	Product catalog is displayed with available bakery items	Pass
6	Add Item to Cart	Click "Add to Cart" button for a product	Product is added to the shopping cart	Product is successfully added to the shopping cart	Pass
7	View Shopping Cart	Navigate to the shopping cart	Shopping cart page is displayed with added items and total price	Shopping cart page is displayed with added items and total price	Pass
8	Proceed to Checkout	Click "Checkout" button	Checkout page is displayed with order summary and payment options	Checkout page is displayed with order summary and payment options	Pass

9	Place Order	Click "Place Order" button	Order is successfully placed	Order is successfully placed	Pass

Table 4. 5 Admin Interface

Sno.	Action	Input	Expected Outcome	Actual Outcome	Test Result
1	Log in as Admin	Enter valid admin credentials	Admin successfully logs in	Admin successfully logs in	Pass
2	Navigate to Product Page	Click on "Add Product" option	Redirects to the product addition page	Redirects to the product addition page	Pass
3	Fill Product Details	Enter valid product information	Product details are entered correctly	Product details are entered correctly	Pass
4	Upload Product Image	Select image file for the product	Image is uploaded successfully	Image is uploaded successfully	Pass
5	Set Product Price	Enter valid price for the product	Price is set and validated	Price is set and validated	Pass
6	Add Product to Inventory	Click "Add Product" button	Product is added to the inventory	Product is added to the inventory	Pass
7	View Added Product	Navigate to product listing page	Newly added product is displayed in the inventory	Newly added product is displayed in the inventory	Pass

CHAPTER 5

CONCLUSION AND FUTURE RECOMMENDATIONS

5.1 Lesson learnt/ Outcome

Creating an online bookstore taught some important stuff. Author found out that making the website easy to use is super important. People want to find books easily and check out without any hassle. Having good search and filter options helps a lot too. It makes it easier for customers to find what they're looking for. Author also learned that the website needs to work well on phones and tablets, not just computers. And making sure the payment process is safe and secure is a big deal. Lastly, keeping track of how many books are in stock is crucial. These lessons helped make this project better and more successful.

5.2 Conclusion

This project focused on creating an e-commerce website for selling books, aiming for a design that was both simple and appealing, as per the project requirements. The core objective of this coursework was to demonstrate our grasp of fundamental web technologies and our ability to design and develop a user-friendly and visually attractive website.

This online bookstore website is a web-based platform that offers customers an accessible way to purchase a variety of books. Author also added a way for people to pay using Khalti and set up email to keep in touch with customers. Although the project met the authors' initial expectations, there is a strong desire to refine and improve certain functions in the future to make the application more user-friendly and competitive.

Looking ahead, the authors are eager to continue growing and exploring, deepening their understanding of the technology and honing their skills to better serve the application's users.

5.3 Future Recommendation

Looking ahead to the future of online bookstores in Nepal, there are several recommendations to be consider. Firstly, focusing on improving the accessibility

and user-friendliness of our websites is crucial, especially considering the diverse range of customers we serve. Many varieties of book need to be added of different genre/language which makes website more useable as Nepal has different language and culture.

- **User Feedback**: integrate a robust user feedback system to gather insights and continually improve the platform based on customer experiences. the system will support rating and review functionalities for each product, allowing users to share their opinions about specific books and potentially influence other customers' purchasing decisions.
- **Expanded Payment Options:** Offer a wider range of payment options to accommodate diverse customer preferences and improve conversion rates. This could include integrating popular payment gateways, digital wallets, and alternative payment methods.
- **Author Interactions:** Host online Q&A sessions or virtual book signings with Nepali authors or authors of books popular in Nepal. This adds value and creates unique experiences for customers. These interactive events will provide a platform for customers to directly engage with their favorite authors, fostering a stronger connection with both the writers and the books.
- **Localization and Multi-Language Support:** Implement localization features to support multiple languages and currencies, catering to a diverse global audience. This would enhance accessibility and usability for users from different regions and cultural backgrounds.

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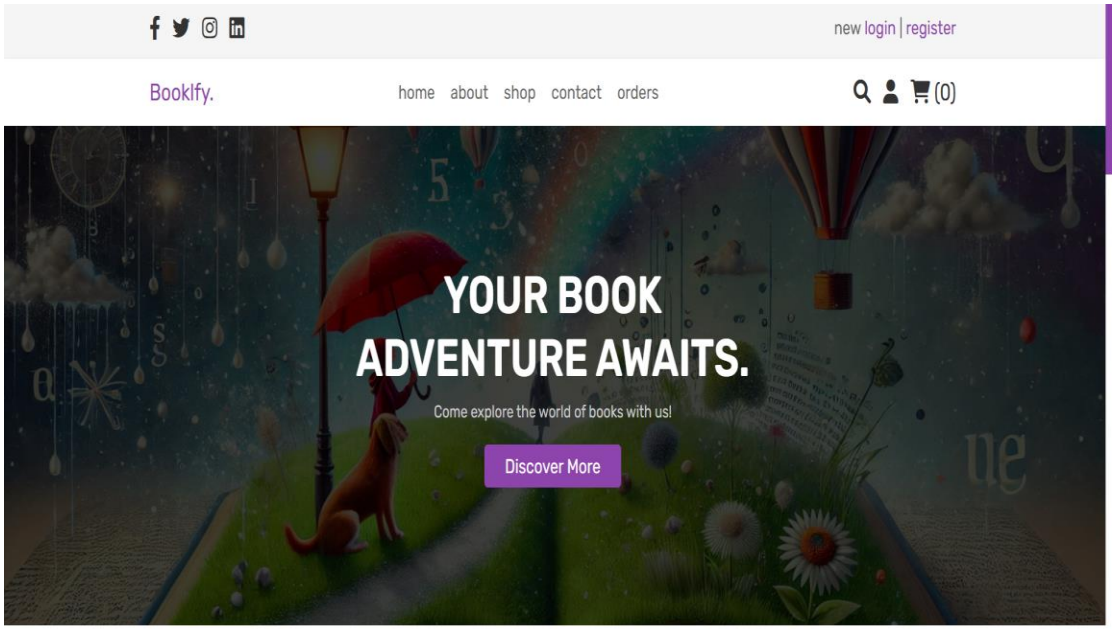
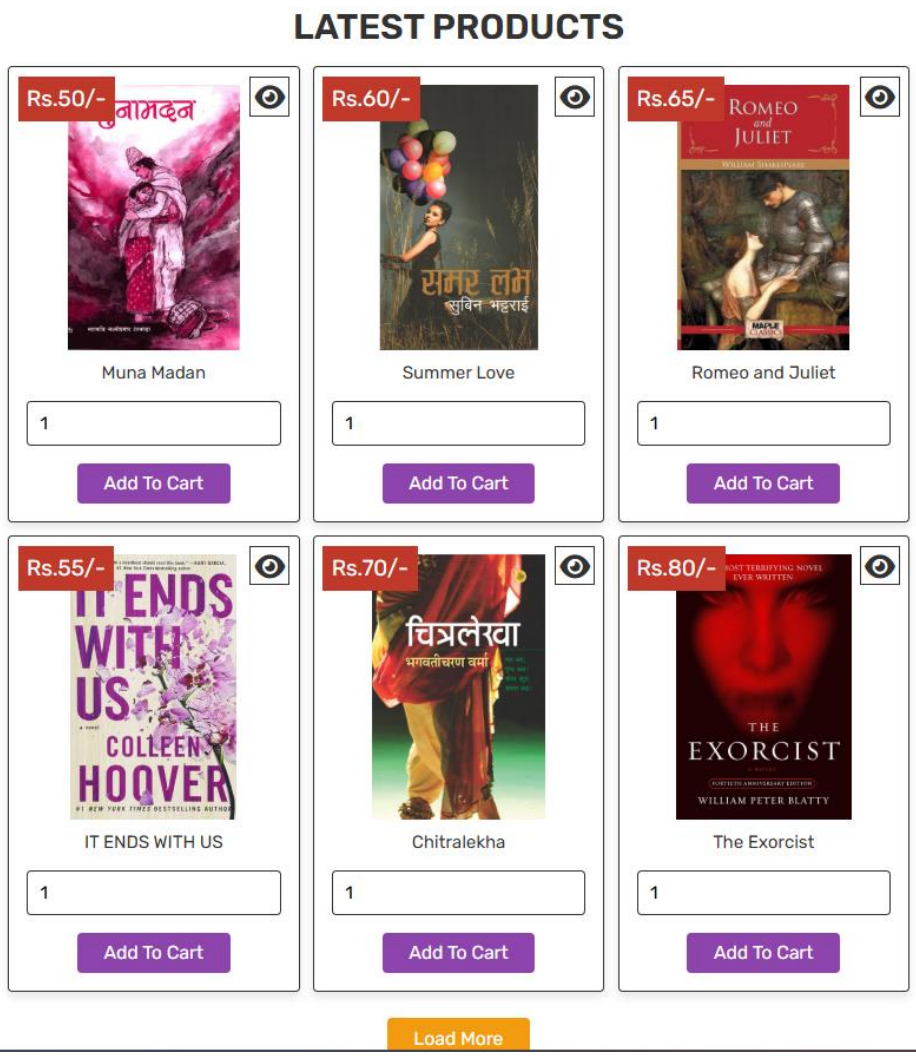
APPENDIX

1.Home Page

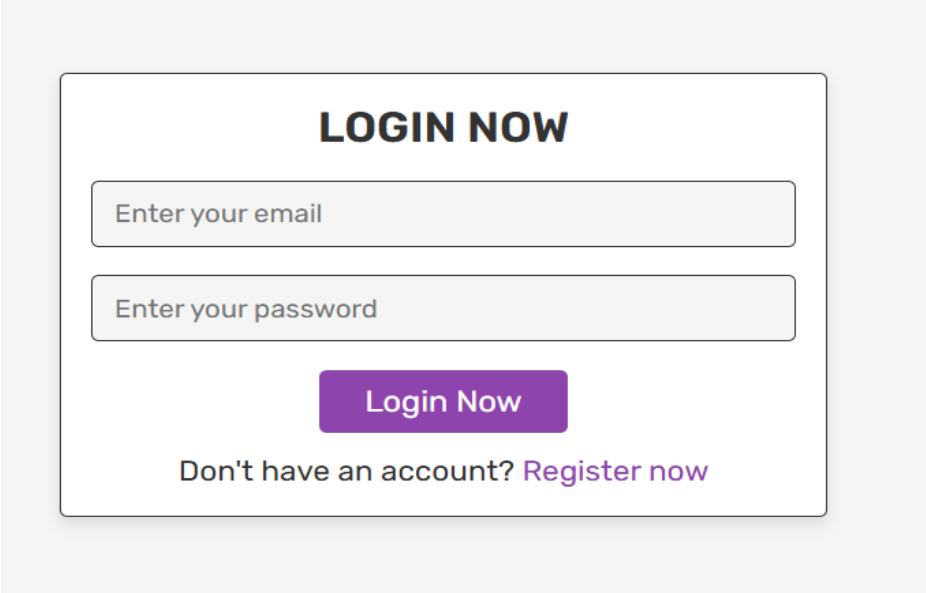


LATEST PRODUCTS

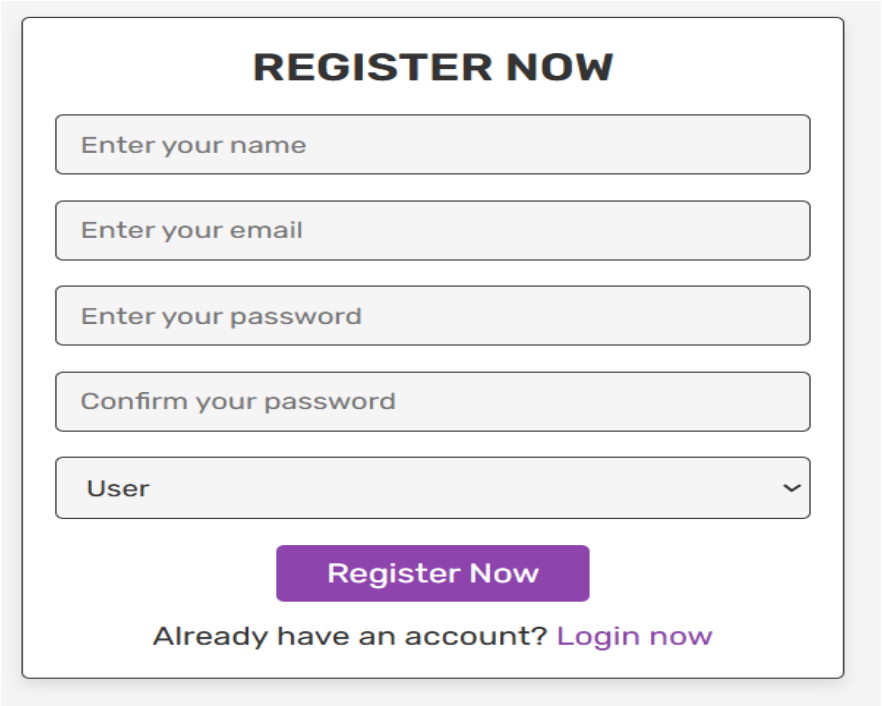
2.Shop



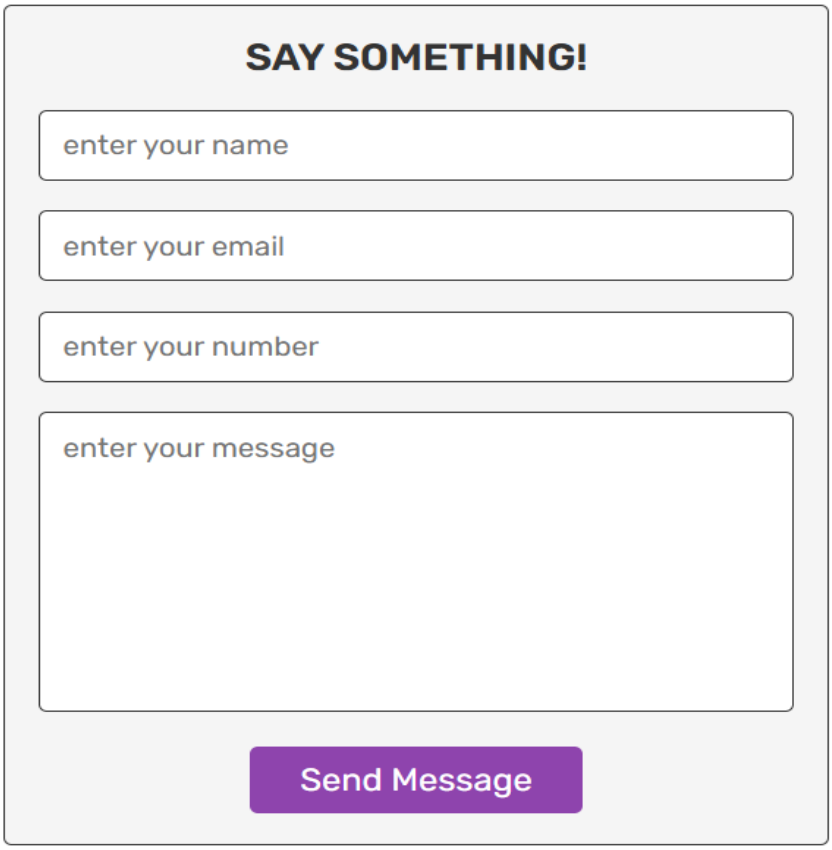
3.Login Page



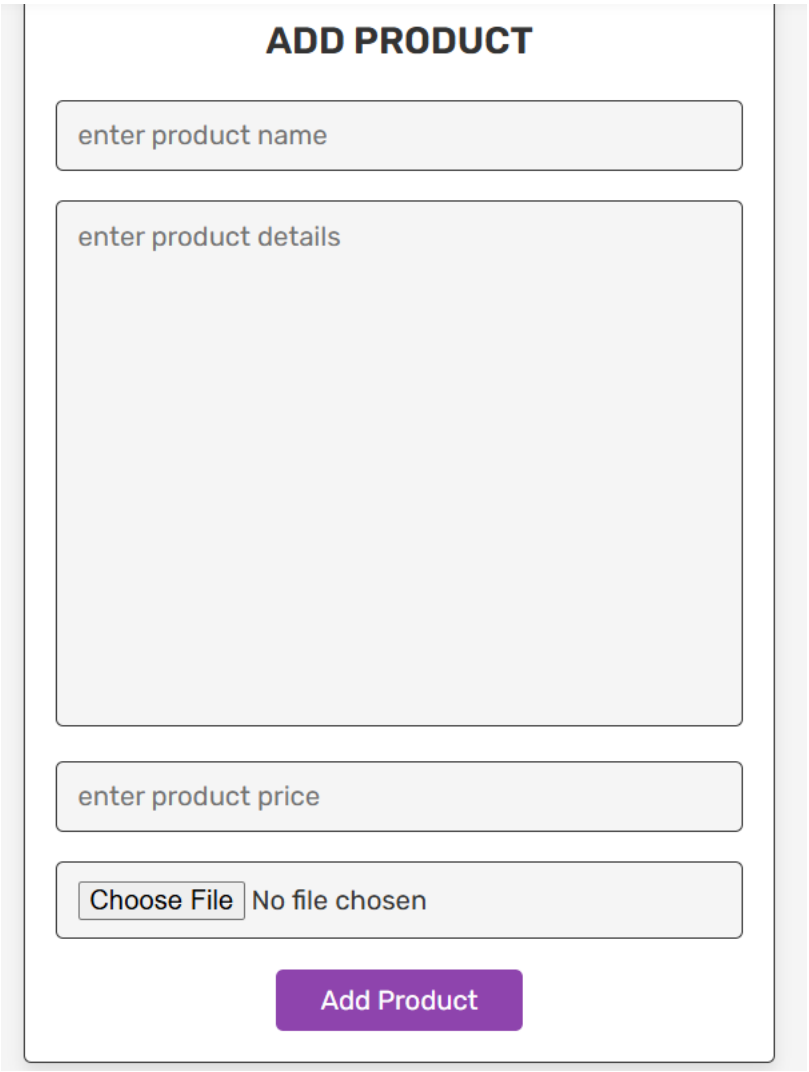
4.Register Page



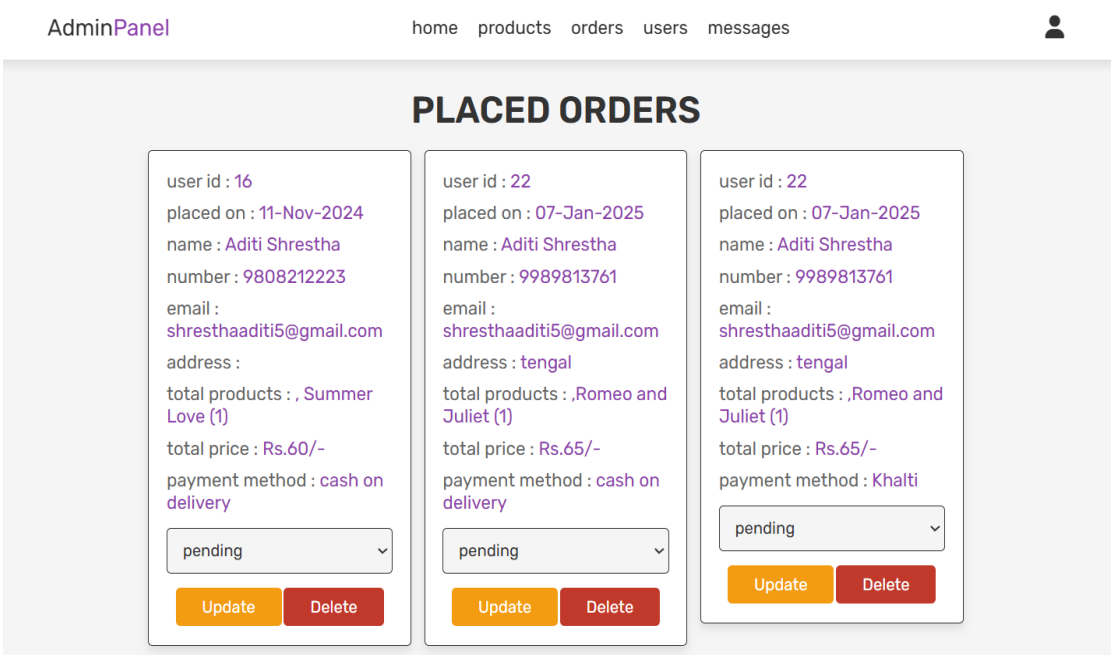
5.Contact



6.admin_products



7.admin_orders



CLIENT'S REVIEWS

This bookstore has an impressive selection of books,I always find something interesting to read here. One of my favourite bookstore of all time.

★★★★½

Aditi Shrestha

I've been a loyal customer of this bookstore for years,and it never dissapoints.This is my favourite go-to-go place.

★★★★½

Urgen Munikar

Absolutely love this bookstore! I could apend hours exploring their shelves filled with unique finds and hidden treasures.

★★★★½

Rubina Kunwar

AUTHORS

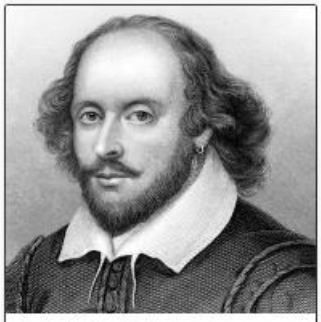
Laxmi Prasad Devkota

Colleen Hoover

William Peter Blatty

Subin Bhattarai

Bhagwati Charan Verma



William Shakespeare