# PGDAC 0323 – PROJECT DOCUMENT SUBMISSION- PART III

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|---|---|---|---|
| Doc. Name | **SOFTWARE REQUIREMENT SPECIFICATION –Version-3** | | |
| Project Title | **Online Book Store** | | |
| Doc. No. | 230360920055 | Group | 11 |

| | | | |
|---|---|---|---|
| Functional designation of approving authority | **Project Guide**<br>**Name: Mrs. Suraja PK** | Functional designation of issuing authority | **Project Leader**<br>**Name:Prathmesh Kanaskar** |
| | | | |

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Approved By:
(Mrs. Suraja PK) Date of approval: _ _ / _ _/ _ _ _ _

# Functionality Specification

# 1 Introduction

E-commerce is fast gaining ground as an accepted and used business paradigm. More and more business houses are implementing web sites providing functionality for performing commercial transactions over the web. It is reasonable to say that the process of shopping on the web is becoming commonplace.

The objective of this project is to develop a general purpose e-commerce store where any product (such as books, computers, mobile phones, electronic items, and home appliances) can be bought from the comfort of home through the Internet. However, for implementation purposes, this report will deal with an online book store.

An online store is a virtual store on the Internet where customers can browse the catalogue and select products of interest. The selected items may be collected in a shopping cart. At checkout time, the items in the shopping cart will be presented as an order. At that time, more information will be needed to complete the transaction. Usually, the customer will be asked to fill or select a billing address, a shipping address, a shipping option, and payment information such as credit card number. And invoice will be generated.

## 1.1 Name of the product

Title: Online Book-Store

## 1.2 General Description

A customer can create an account, log in, sort books by category, add books to a shopping basket, and pay their bill using their credit card information. When compared to a regular user, the Administrator will have more options. He can edit the author, book categories, book details, and member information, as well as confirm an order.

## 1.3 Product Perspective

The Online Shopping System shall be developed using client server architecture and will be compatible with Microsoft Windows operating system. Front end of the system will be developed using HTML5, CSS, and JavaScript, bootstrap the back and will be developed using Spring Boot app and MySQL database engine is used.

The purpose of an online shopping system would be to achieve the following goals:

• Create a web user interface for adding, viewing, and deleting records in different areas.

• Create a user interface for inputting computer details.

• Provide a user interface for changing computer and accessory details.

• Provide a user interface that allows users to browse the store and select things to purchase.

## 1.4 Product Functions

- Provides the searching facilities based on various factors. Such as Books, Authors, Categories.
- Online Book Store also manages the Bill details online for Order details, Payment details, Books.
- It tracks all the information of Stock, Bill, and Order etc.
- Shows the information and description of the Books, Customers.
- It deals with monitoring the information and transactions of Order.
- Editing, adding and updating of Records is improved which results in proper resource management of Books data.
- Manage the information of Order.
- Integration of all records of Payment.

## 1.5 Product Specification

1. Admin Module.
2. New customer account Registration.
3. Existing customer login.
4. Customer can update their details.
5. Book search (by author name, title, category, or combinations).
6. Add to cart, remove from cart, and place order.
7. Dummy payment option.
8. Invoice

## 1.6 User Characteristics

The typical Online Bookstore user is simply anyone that has access to the Internet and a web browser. It is assumed that the user is familiar enough with a computer to operate the browser, keyboard and mouse and is capable of browsing to, from and within simple websites.

## 1.7 General Constraints:

1. The software does not maintain records of periodicals.
2. There will be only one administrator.
3. The user will not be allowed to update the user id.
4. To reduce the complexity of the system there is no check on delete operation.
5. The administrator should be very careful before editing of any product.
6. Only registered customers can order books and can update their profile.

# 2 Specific Requirements

This section contains the software requirements in detail along with the various forms to be developed

## 2.1 Functional Requirements:

This section provides requirement overview of the system. Various functional modules that can be implemented by the system will be –

### 2.1.1 Functional Requirement 1

- **Use Cases:**

**Browse Catalogue**

**1) Search for a Book**

- **Purpose:** A user can search for a book of his choice by selecting category and title. Then a select query is used to retrieve data from the database and display the selected information.
- **Actor:** User
- **Input:** The user will select a category and enter title in a text box provided.
- **Output:** The system will display the books which matches the selected search criteria. A dataset is created as a result of select query. Later the dataset is binded to the data repeater to display the selected data.

**2) Perform Advanced Search**

- **Purpose:** If the user wants to perform an advanced search he can search for a book of his choice by selecting category, title, author and price range. Then a select query is used to retrieve data from the database and display the selected information.
- **Actor:** User

- **Input:** The user will select a category and enter title, author, and price range in a text box provided.
- **Output:** The system will display the books which matches the selected search criteria. A dataset is created as a result of select query. Later the dataset is binded to the data repeater to display the selected data.

### 2.1.2 Functional Requirement 2-

➢ **Maintain Account**

**1) Register**

- **Purpose:** If the user doesn't have an account then he will be asked to register.
- **Actor:** User
- **Input:** The user will enter details in the registration form according to the required fields. The fields include

  1. Username
  2. Password
  3. Confirm password
  4. First name
  5. Last name
  6. Email
  7. Address
  8. Phone

- **Output:** After registration the user will be directed to the main home page.

**2) Login**

- **Purpose:** If the user wants to get access to all the functionalities of Online Book Store he should login using his username and password.
- **Actor:** User

- **Input:** The user will enter his username and password.
- **Output:** If it is a successful login the user will be directed to the main home page. Else if the user enters invalid information he will be asked to check the entered information.

**3) Update Profile**

- **Purpose:** If the user wants to change his personal account information then he can update his selected fields and the entire data will be updated in the data base through an update query.
- **Actor:** User
- **Input:** The user will update his account information.
- **Output:** The system will update the entered information in the database using an update query.

**4) Logout**

- **Purpose:** If the user wants to end his session and sign out of the website then he can use the logout option.
- **Actor:** User
- **Input:** The user will click the logout button.
- **Output:** The user's account session comes to an end and he should login again if he wants to enter into the website.

## 2.1.3 Functional Requirement3 –

➢ **Manage Shopping Cart**

**1) Place an order**

- **Purpose:** If the user wants to purchase a book then he can place an order by selecting the add to shopping cart button and entering the quantity required under the book description.
- **Actor:** User

- **Input:** The user will enter the quantity required and click the add to shopping cart button.
- **Output:** The order will be added to the user's shopping cart.

**2) Update Shopping Cart**

- **Purpose:** If the user wants to change the quantity of a book or change a book then he can update his shopping cart.
- **Actor:** User
- **Input:** The user will click the details button in the shopping cart summary to edit and update his order details.
- **Output:** The updated order details are reflected in the shopping cart summary.

**3) View Shopping Cart**

- **Purpose:** If the user wants to view the items he added to the shopping cart then he can click the shopping cart link at the top of the page.
- **Actor:** User
- **Input:** The user will click the shopping cart link at the top of every page.
- **Output:** The user's shopping cart summary will be displayed in the form of a tabular format with all the books and their quantity. A total cost of all the items is also displayed at the bottom.

## 2.1.4 Functional Requirement 4 –

➢ **Administrator**

**1) Login**

- **Purpose:** If the Administrator wants to get access to all the functionalities of Online Book Store he should login using his username and password.
- **Actor:** Administrator
- **Input:** The Administrator will enter his username and password.
- **Output:** If it is a successful login the Administrator will be directed to his menu page. Else if the Administrator enters invalid information he will be asked to check the entered information.

**2) Add or Delete Category**

- **Purpose:** If the Administrator wants to add or delete a book category then he can insert or delete a book category using his administration rights and the category table will be updated in the database.
- **Actor:** Administrator
- **Input:** If the Administrator wants to add a book category the he should click the insert link button in the category page else he can delete a particular selected book category.
- **Output:** The updated categories list will be displayed in the main home page.

**3) Add or Delete Book**

- **Purpose:** If the Administrator wants to add or delete a book then he can insert or delete a book using his administration rights and the book table will be updated in the database.

- **Actor:** Administrator
- **Input:** If the Administrator wants to add a book the he should click the insert link button in the book page and fill the following fields related to the book.

  1. Title
  2. Author
  3. Price
  4. Category

- **Output:** The updated books list will be displayed in the main home page under their particular category.

**4) Manage Orders**

- **Purpose:** If the Administrator wants to add or delete an order then he can insert or delete an order using his administration rights.
- **Actor:** Administrator
- **Input:** If the Administrator wants to add an order the he should click the insert link button in the orders page else he can delete a particular selected order
- **Output**: The updated orders list will be processed to the users.

**5) Logout**

- **Purpose:** If the Administrator wants to end his session and sign out of the website then he can use the logout option.
- **Actor:** Administrator
- **Input:** The Administrator will click the logout button.
- **Output:** The Administrator's account session comes to an end and he should login again if he wants to enter into the website.

## 2.2 Non-Functional Requirements:

### ❖ Performance Requirements:

The performance requirements are as follows:-

- System login/logout shall take less than 5 seconds.
- The system should run properly on all browsers.
- The system should be light and run smoothly.

### ❖ Safety Requirements

The safety requirements are as follows:-

- The password should not be visible while typing.
- User records are to be backed up securely across database servers. In case database is hacked by someone, and data is deleted a backup server should be present for such purpose.

### ❖ Security Requirements

The security requirements are as follows:-

- The user (buyers and administrator) require a username and password to login into the system.
- The buyers cannot buy books without logging in.
- The order will not be confirmed until payment process is completed.

### ❖ Software Quality Attributes

- **Reliability**

  The average time of failure for the system is 30 days. In the event that the server crashes, the system will take a week to be running again.

- **Availability**

  The Online Bookstore will be available 24x7, with the exception of being down for maintenance no more than 3 hours a week. If the system crashes, it should be back up within a week.

- **Security**

  Users will be able to access only their own personal information and not that of other users. Purchases will be handled through a secure server to ensure the protection of user's credit card and personal information.

- **Maintainability**

  Any updates or defect fixes shall be able to be made on server-side computers only, without any patches required by the user.

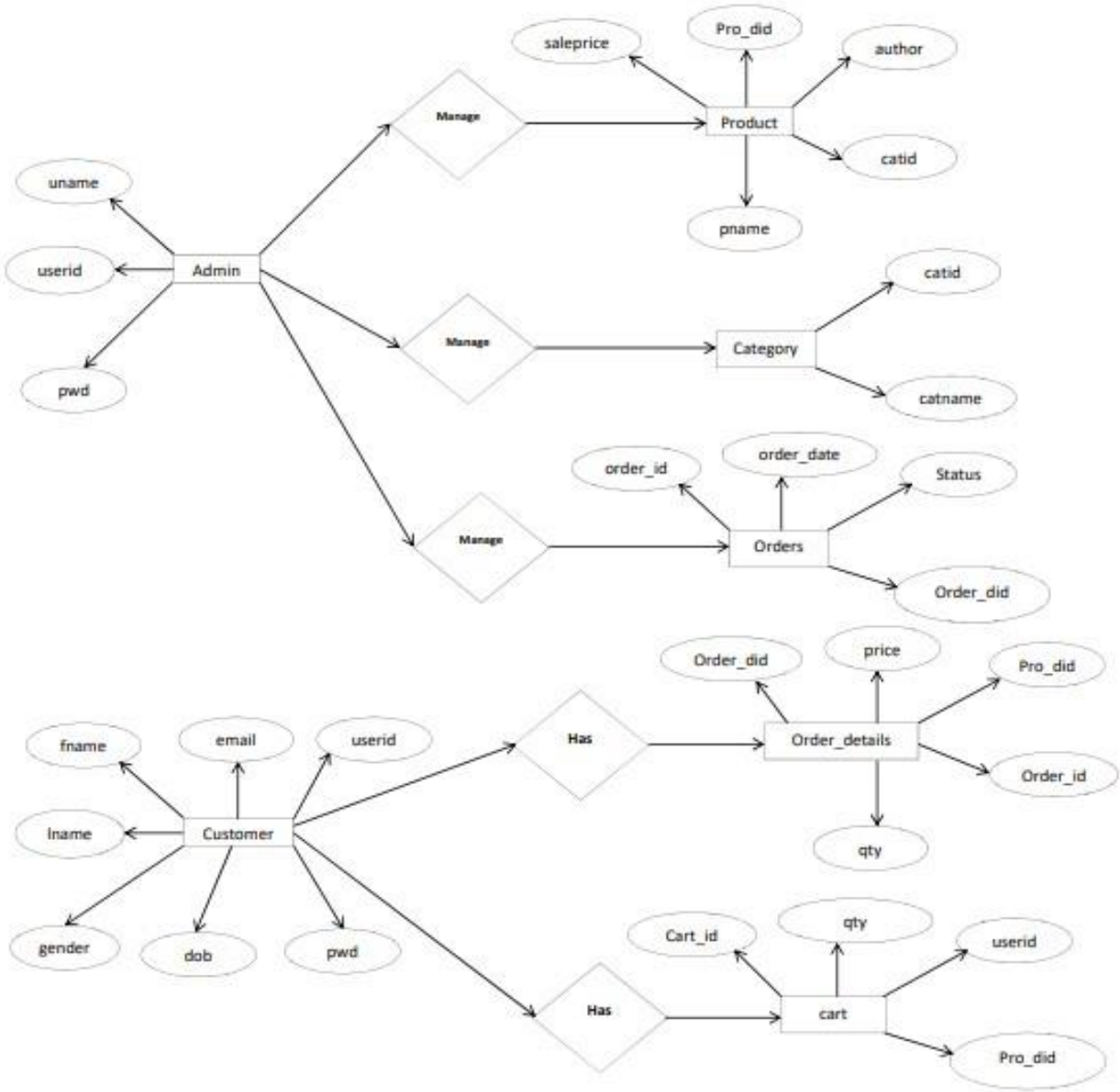
## ❖ Business Rules

The business rules are as follows:

- The administrator cannot be a customer.
- The administrator cannot access the buyer's personal information.

# DB Design:

## Part -1 ER- Diagram



# Part -2 DB table Normalization

## Database tables:-

### Admin :

| Field | Constraints | Type |
|---|---|---|
| userid | Primary Key | varchar(255) |
| pwd | Null | varchar(255) |
| uname | Null | varchar(255) |

### Cart:

| id | Primary Key | int |
|---|---|---|
| prodid | Foreign Key | int |
| qty | Null | int |
| userid | Foreign Key | varchar(255) |

### Category :

| catid | Primary Key | int |
|---|---|---|
| catname | Null | varchar(255) |

## Customer:

| | | |
|---|---|---|
| userid | Primary Key | varchar(255) |
| cpwd | Null | varchar(255) |
| dob | Null | varchar(255) |
| email | Unique | varchar(255) |
| fname | Null | varchar(255) |
| gender | Null | varchar(255) |
| lname | Null | varchar(255) |
| pwd | Null | varchar(255) |

## Order_details :

| | | |
|---|---|---|
| id | Primary Key | int |
| orderid | Foreign Key | int |
| price | Null | float |
| prodid | Null | int |
| qty | Null | int |
| status | Null | varchar(255) |
| vendorid | Null | varchar(255) |

| | | |
|---|---|---|
| order_id | Foreign Key | int |
| product_prodid | Foreign Key | int |

## Orders:

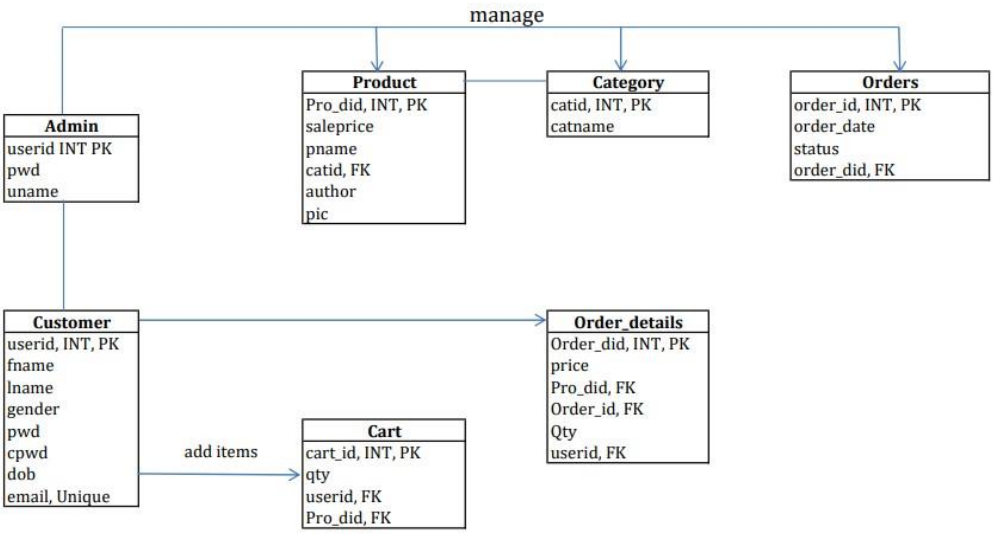
| | | |
|---|---|---|
| id | Primary Key, Not null | int |
| cardno | null | varchar(255) |
| nameoncard | null | varchar(255) |
| order_date | null | datetime |
| status | null | varchar(255) |
| userid | Foreign Key | varchar(255) |

## Product:

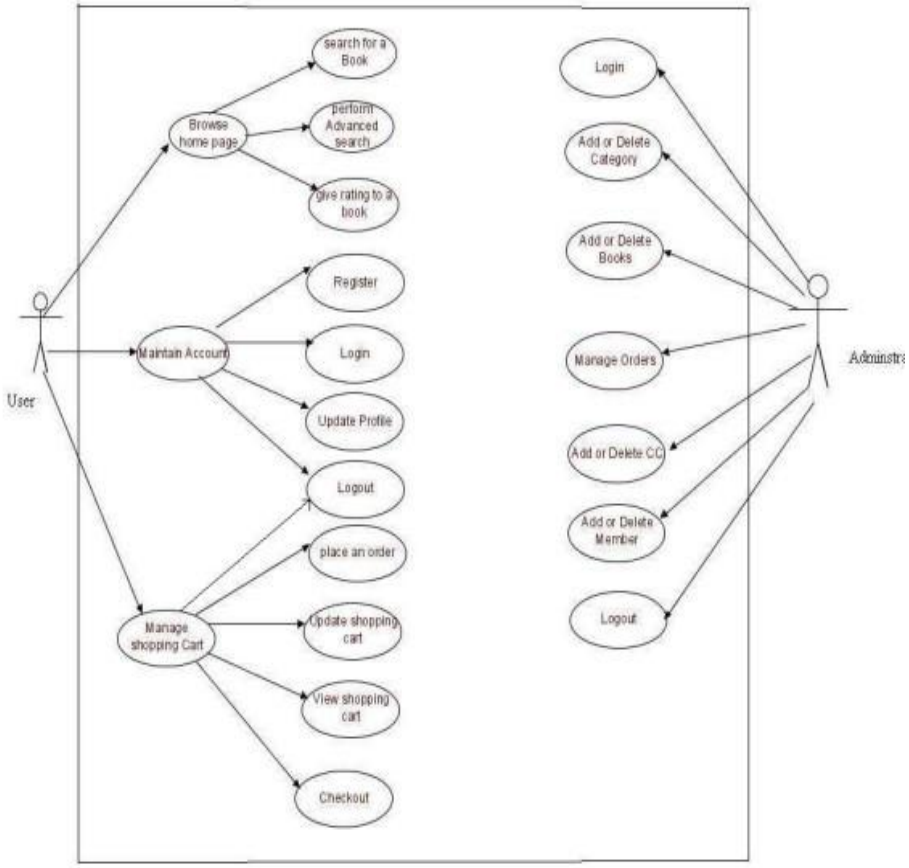
| | | |
|---|---|---|
| pro_did | Primary Key, Not null | int |
| author | null | varchar(255) |
| catid | Foreign Key, Not null | int |
| pic | null | varchar(255) |
| pname | null | varchar(255) |
| saleprice | Not null | float |

# UML Diagrams

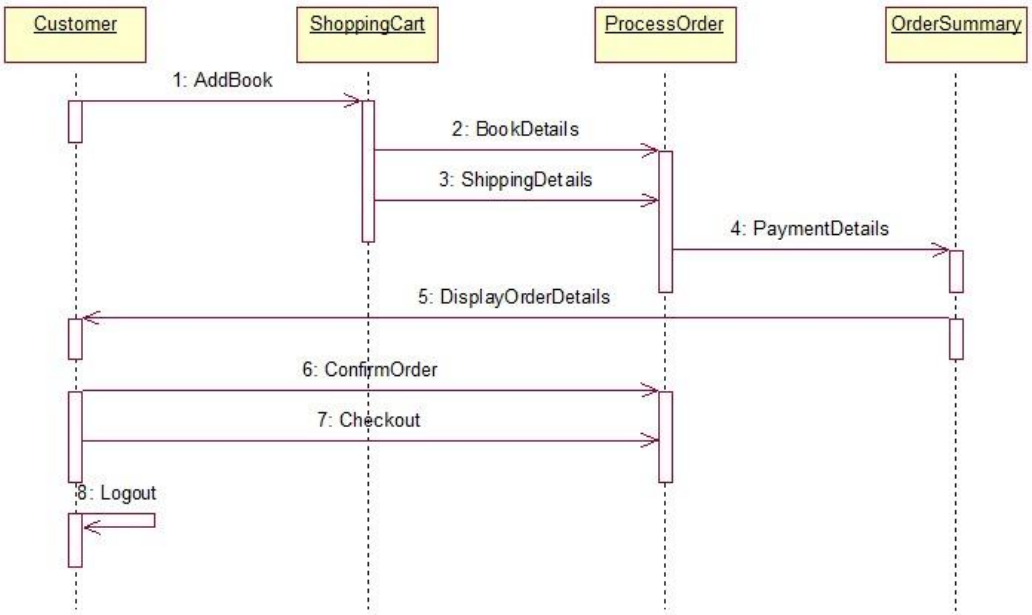
## 1. Class diagram




## 2. Usecase diagram



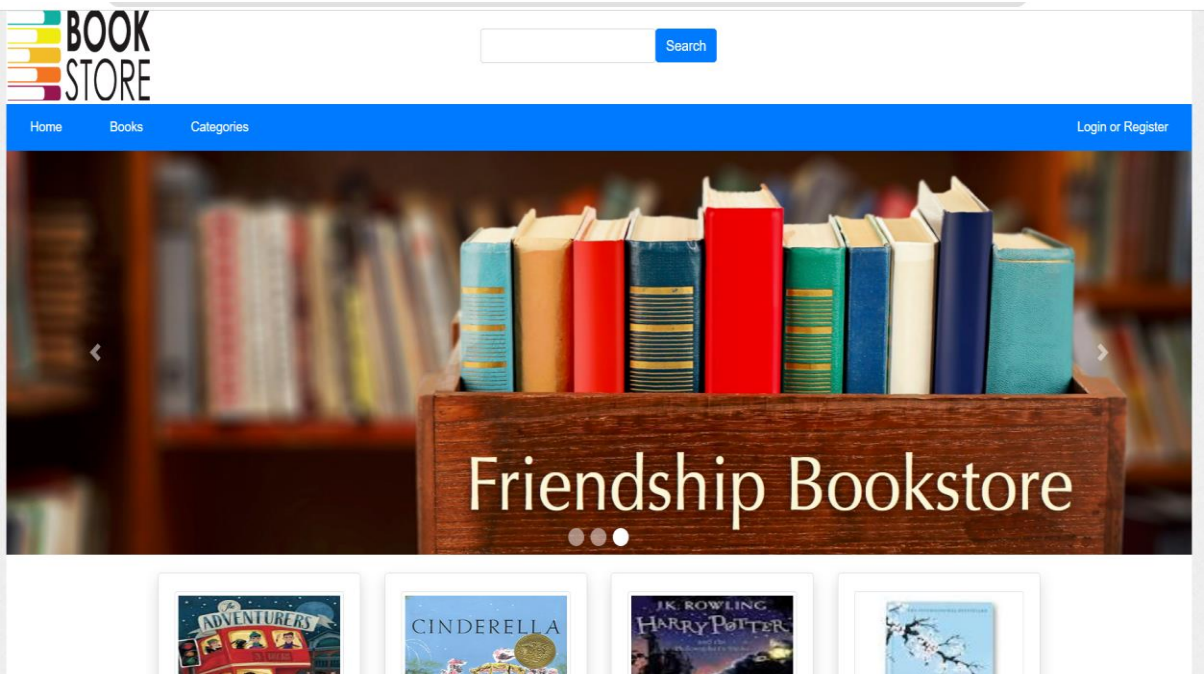
# 3. Sequence Diagram



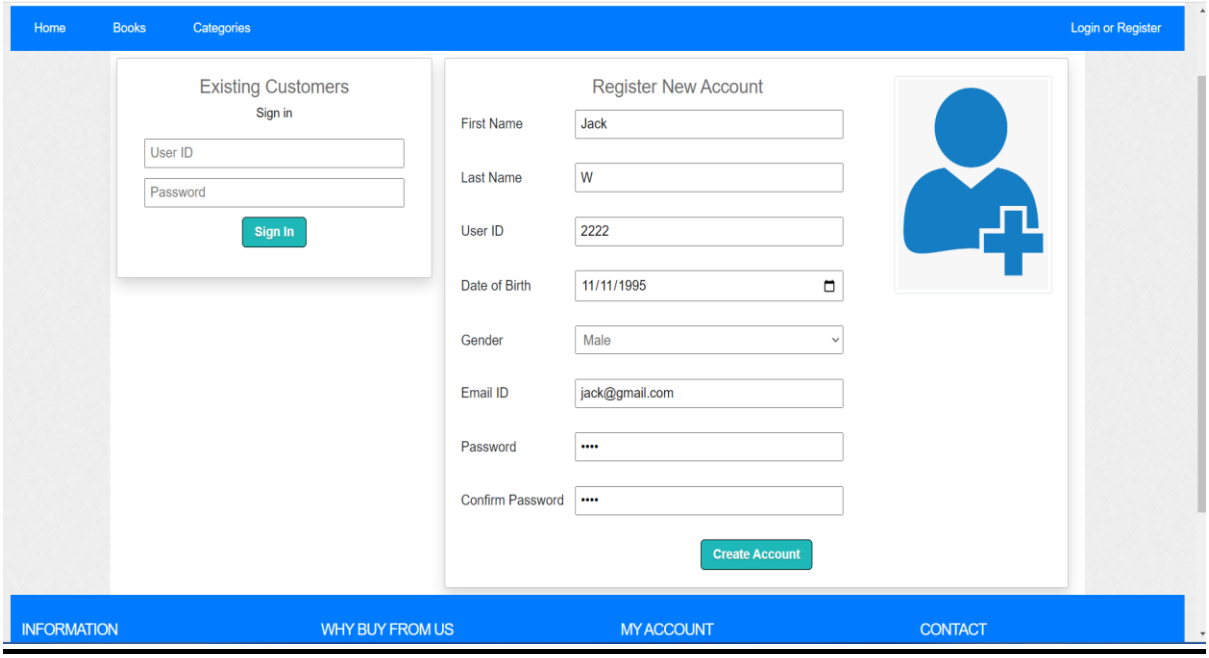
# Screenshots:

## Customer:

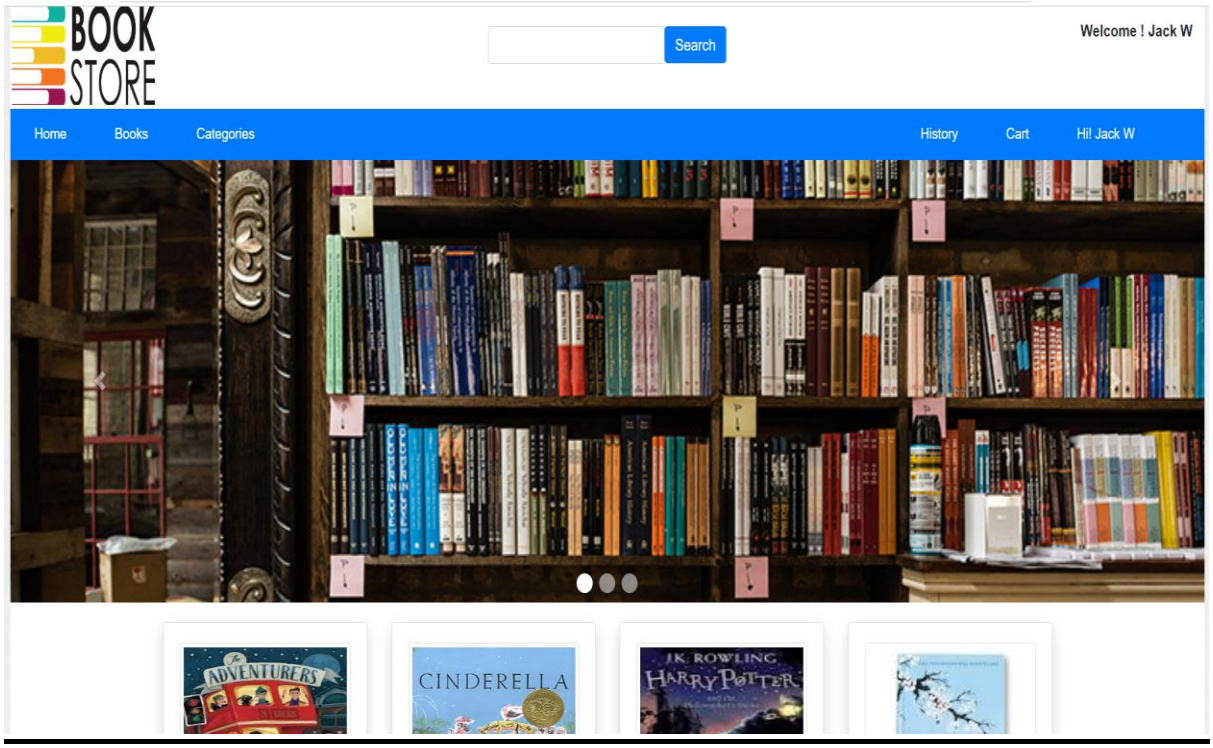
## Home Page:-

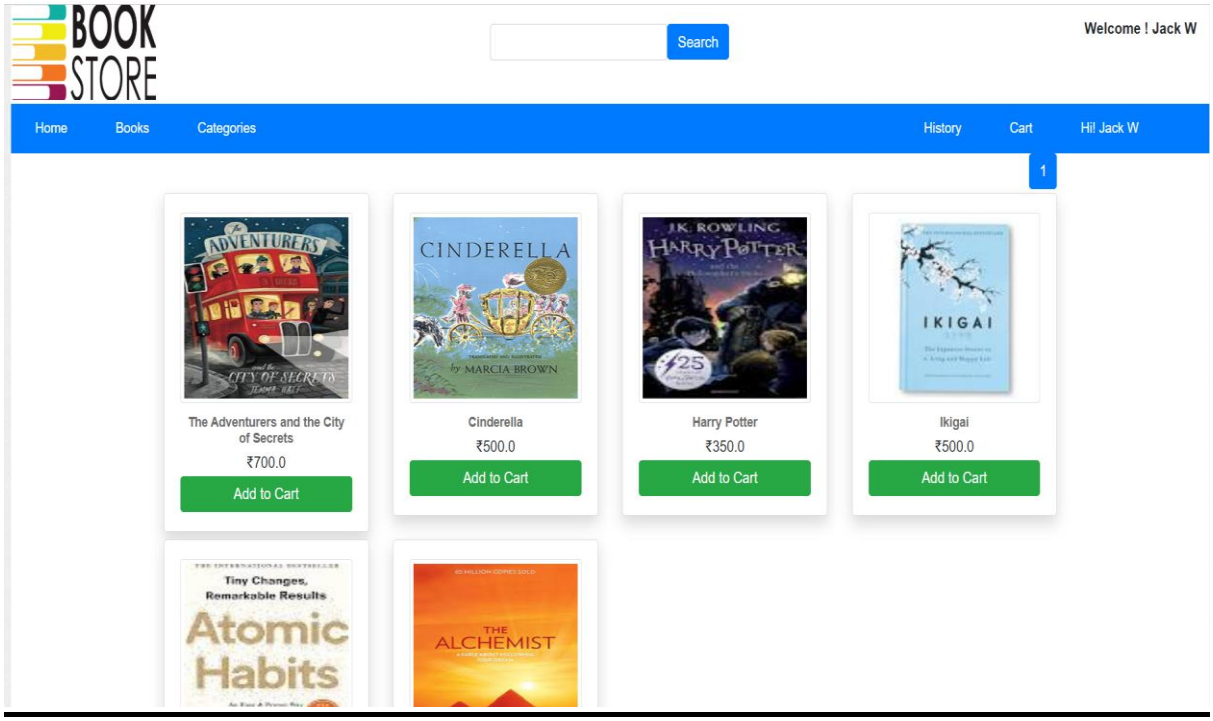



## Login Page

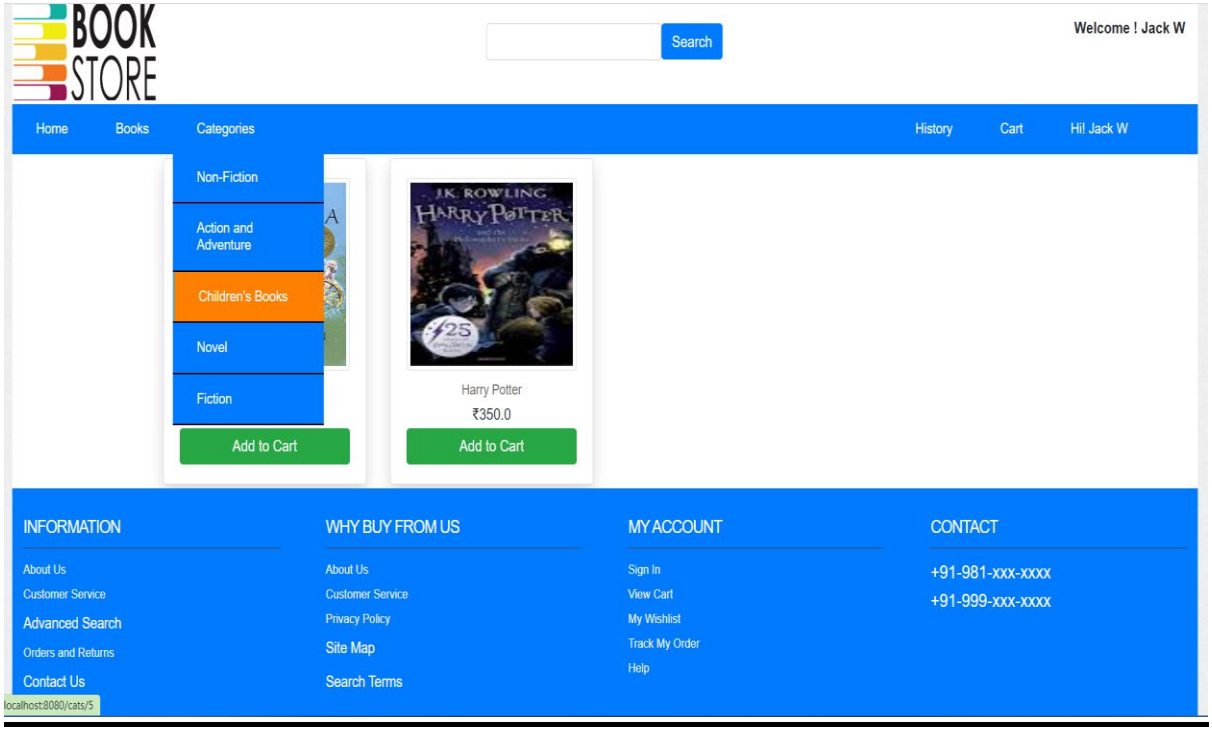


# Myprofile:-

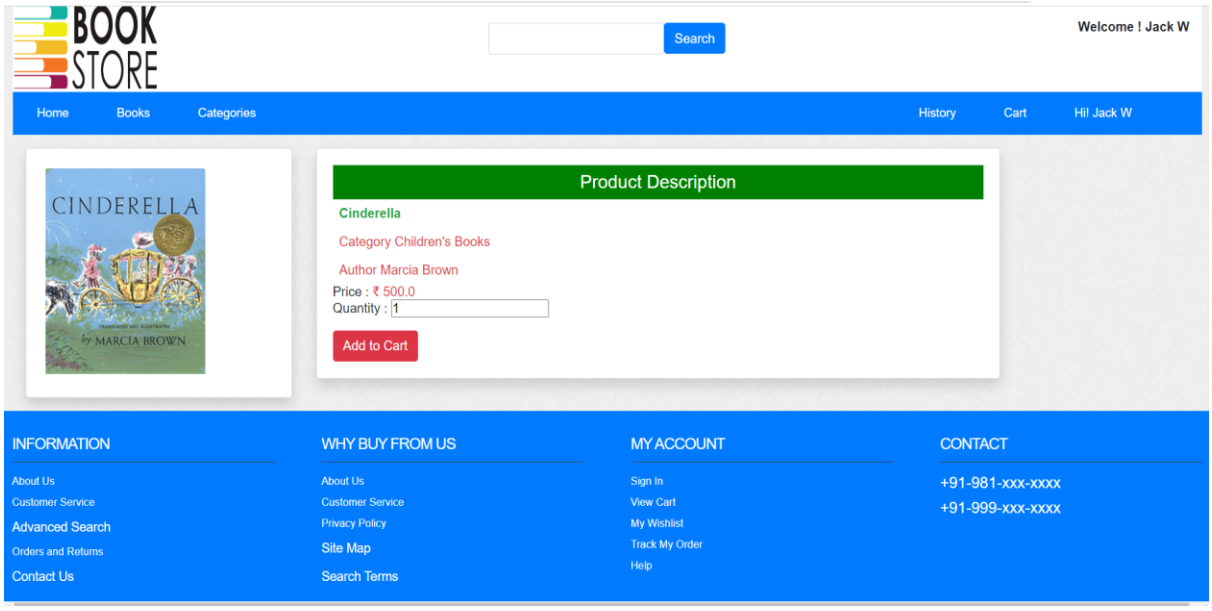

BOOK STORE
Search
Welcome ! Jack W
Home
Books
Categories
History
Cart
Hi! Jack W
ADVENTURERS
CINDERELLA
J.K. ROWLING
HARRY POTTER


BOOK STORE
Search
Welcome ! Jack W
Home
Books
Categories
History
Cart
Hi! Jack W
1
ADVENTURERS
CITY OF SECRETS
The Adventurers and the City of Secrets
₹700.0
Add to Cart
CINDERELLA
by MARCIA BROWN
Cinderella
₹500.0
Add to Cart
J.K. ROWLING
HARRY POTTER
25
Harry Potter
₹350.0
Add to Cart
IKIGAI
Ikigai
₹500.0
Add to Cart
Tiny Changes, Remarkable Results
Atomic Habits
THE ALCHEMIST

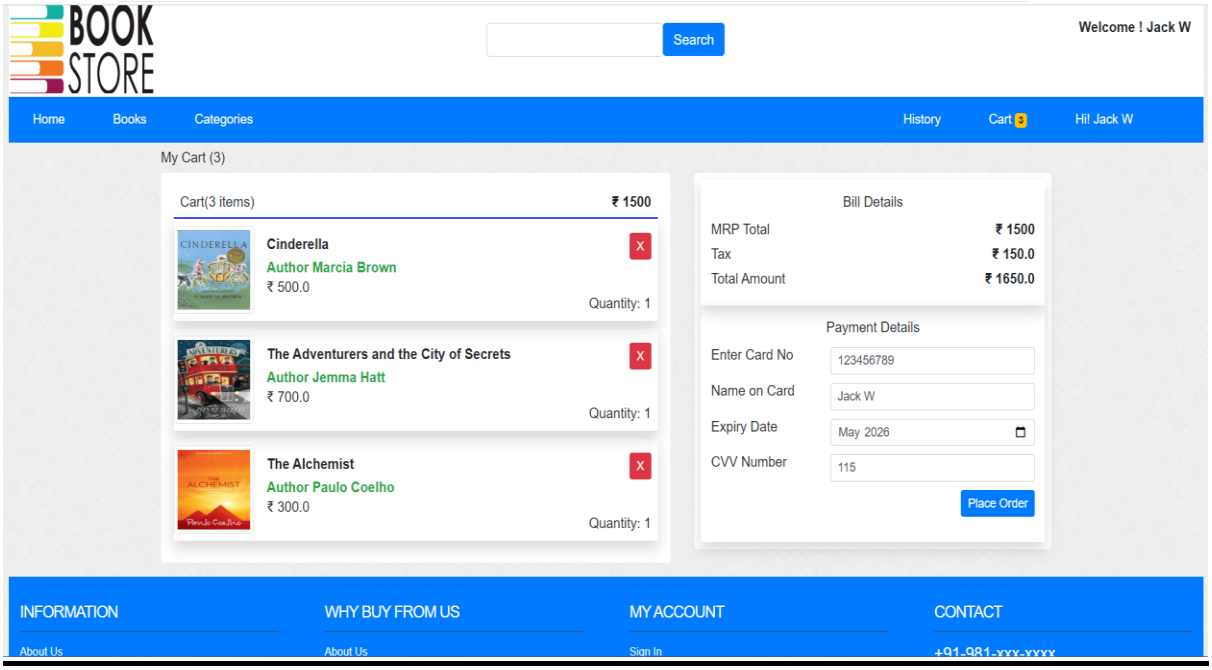
# Categories:-



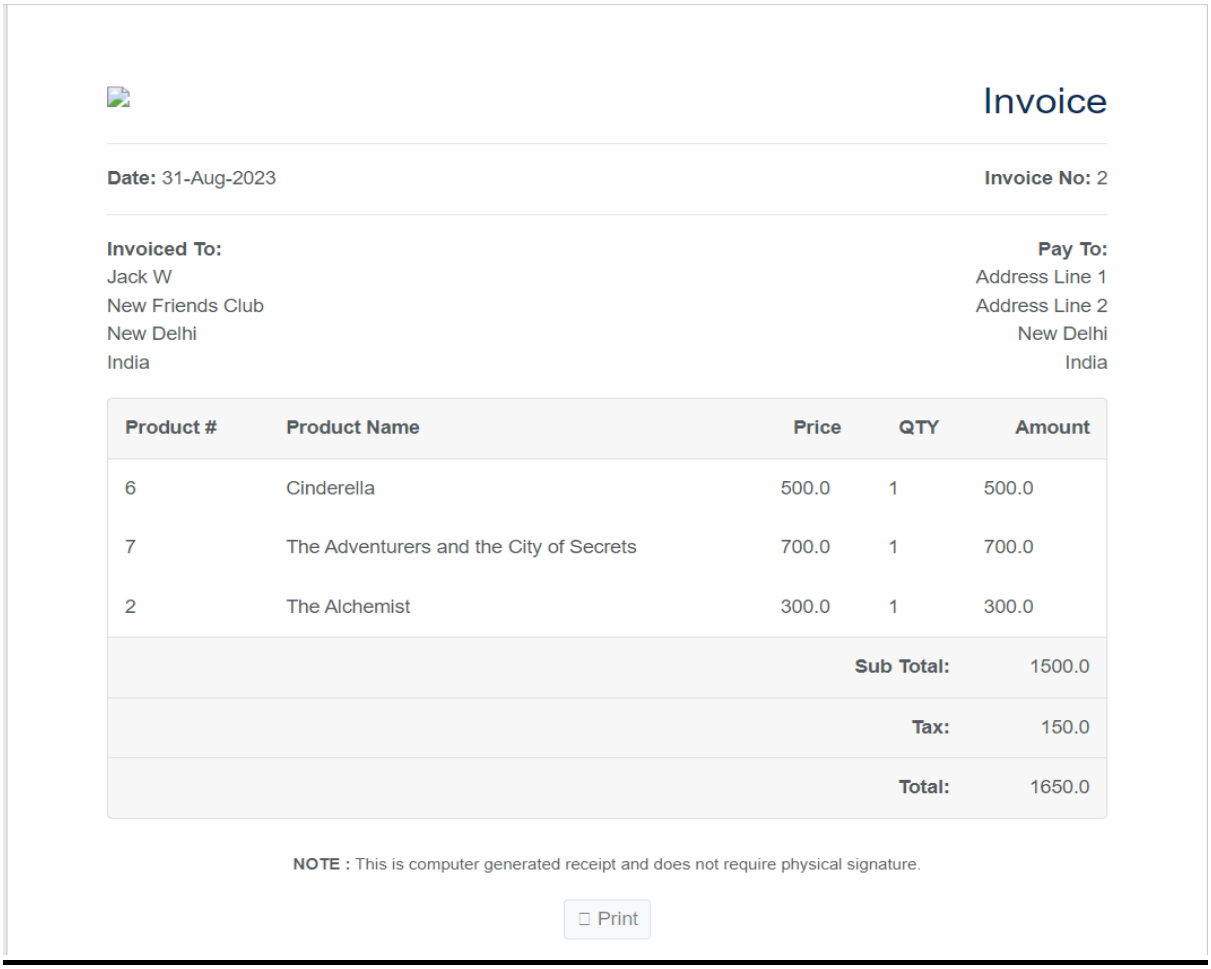

# Product Description:-



# Cart:-




# Invoice:-



Invoice

**Date:** 31-Aug-2023

**Invoice No:** 2

**Invoiced To:**
Jack W
New Friends Club
New Delhi
India

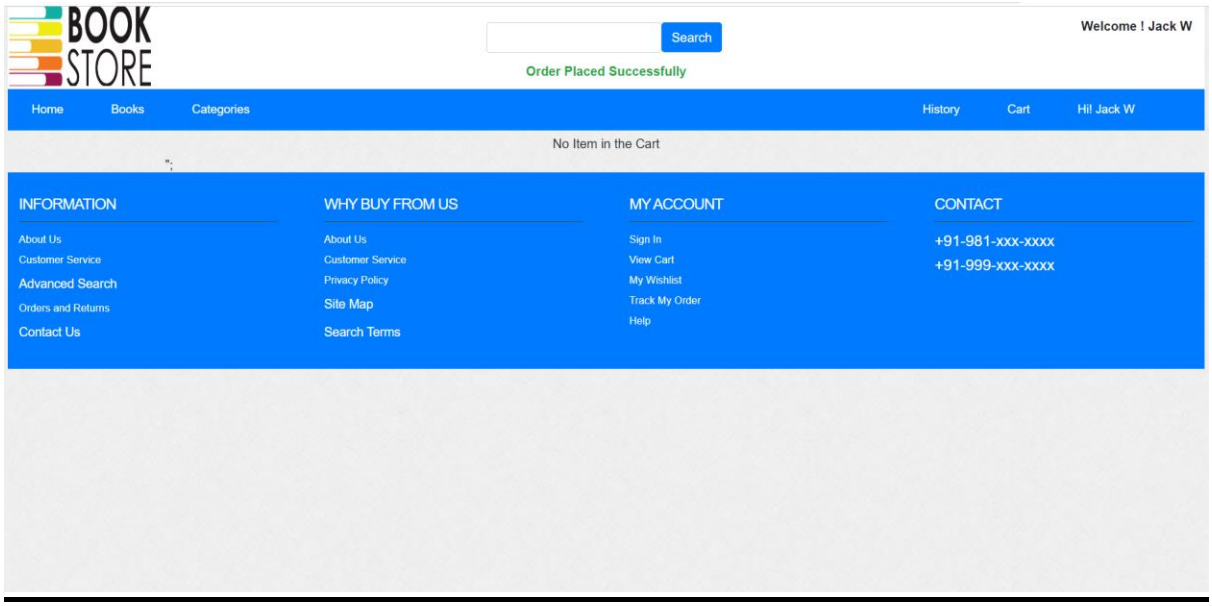
**Pay To:**
Address Line 1
Address Line 2
New Delhi
India

| Product # | Product Name | Price | QTY | Amount |
|---|---|---|---|---|
| 6 | Cinderella | 500.0 | 1 | 500.0 |
| 7 | The Adventurers and the City of Secrets | 700.0 | 1 | 700.0 |
| 2 | The Alchemist | 300.0 | 1 | 300.0 |
| | | | **Sub Total:** | 1500.0 |
| | | | **Tax:** | 150.0 |
| | | | **Total:** | 1650.0 |

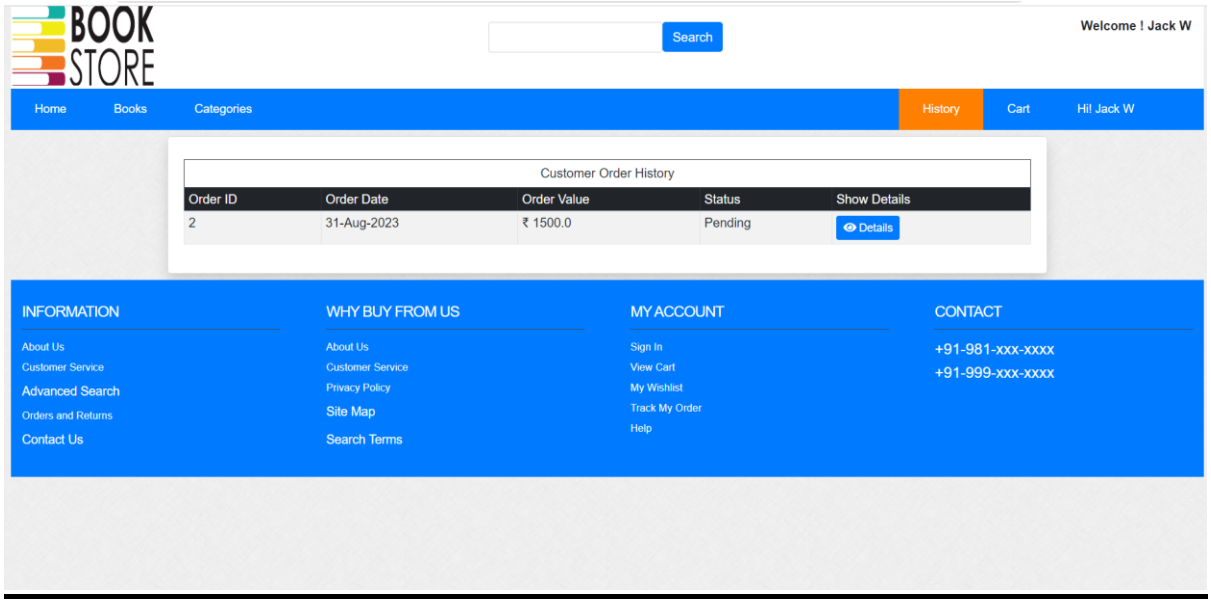
**NOTE :** This is computer generated receipt and does not require physical signature.

Print

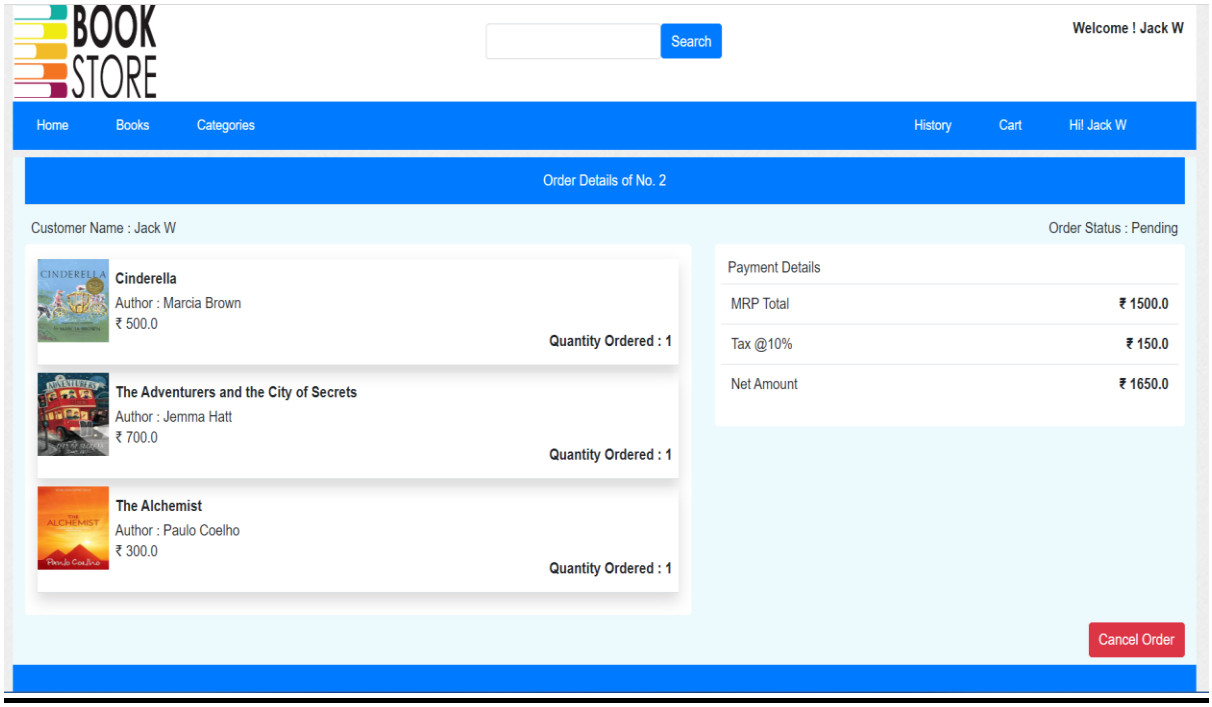
# Order placed



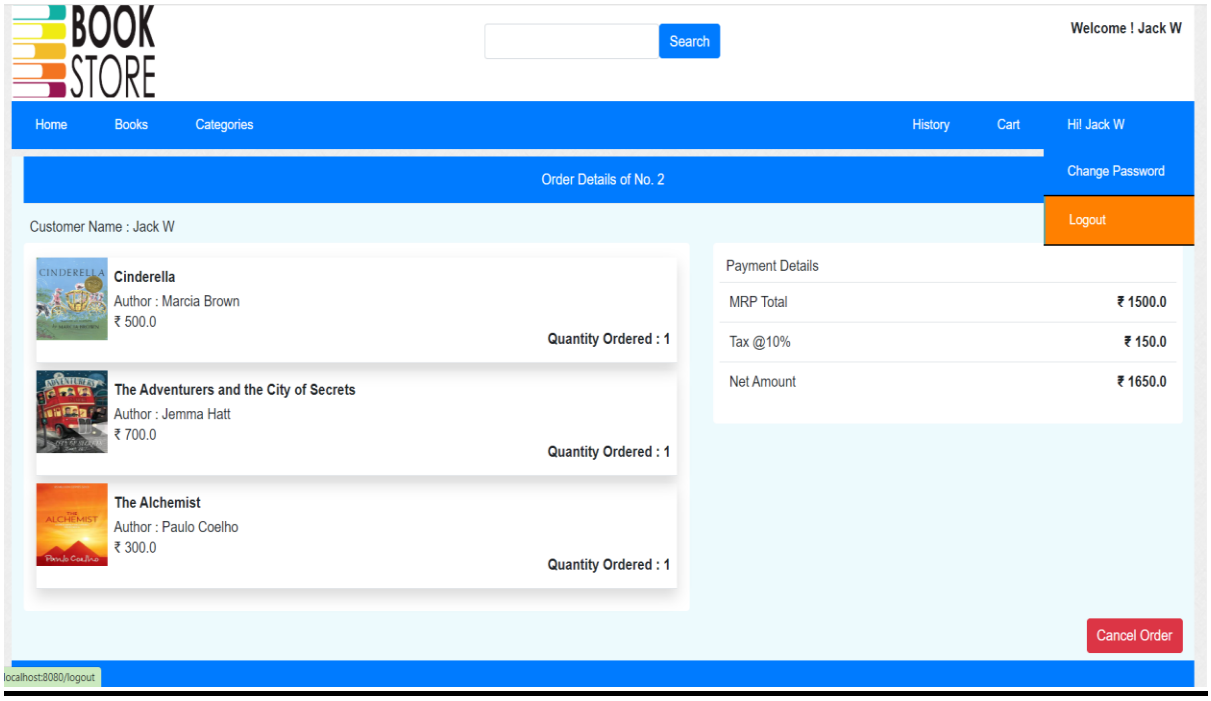

# History:-



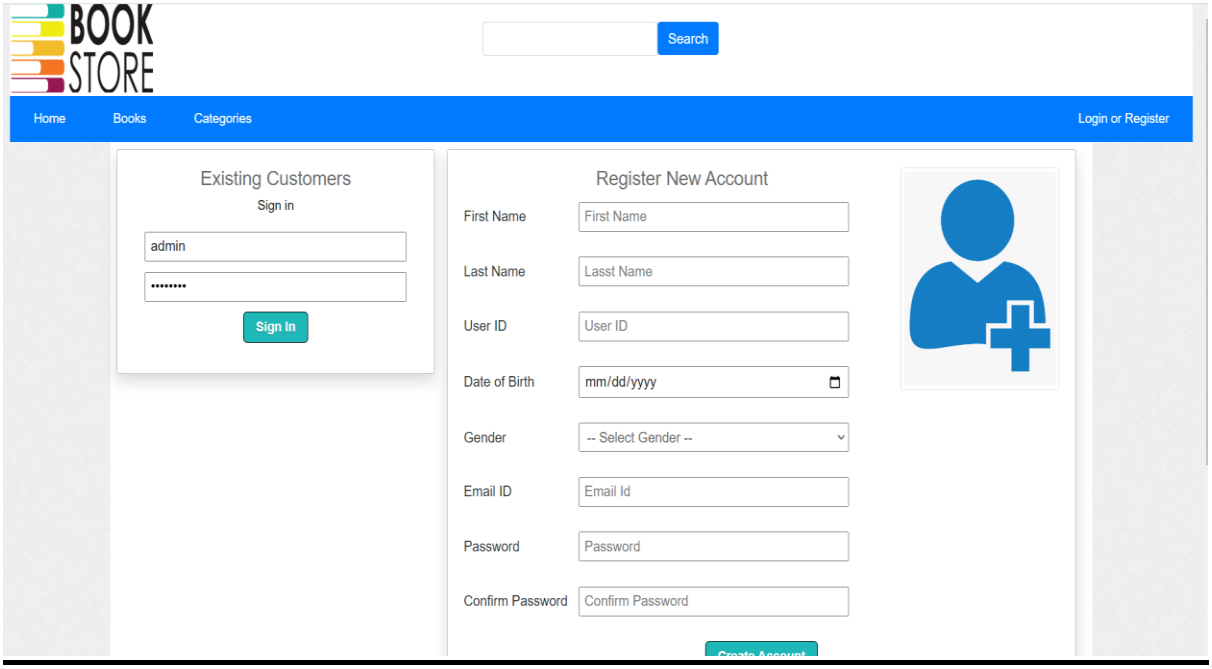
# History details:-



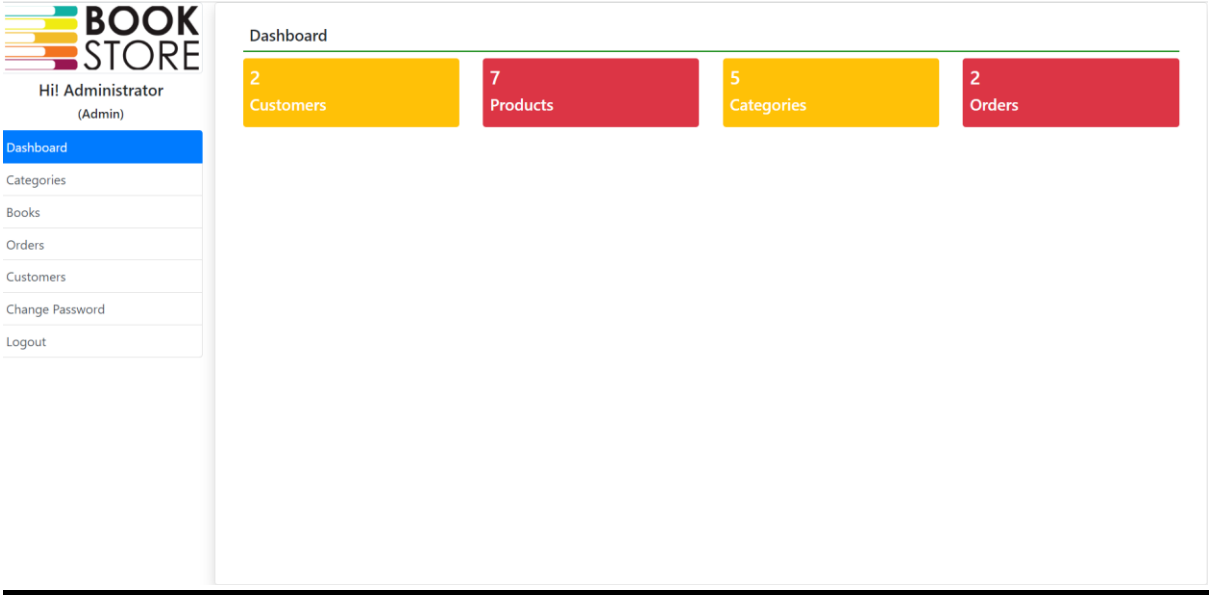

# Logout:-



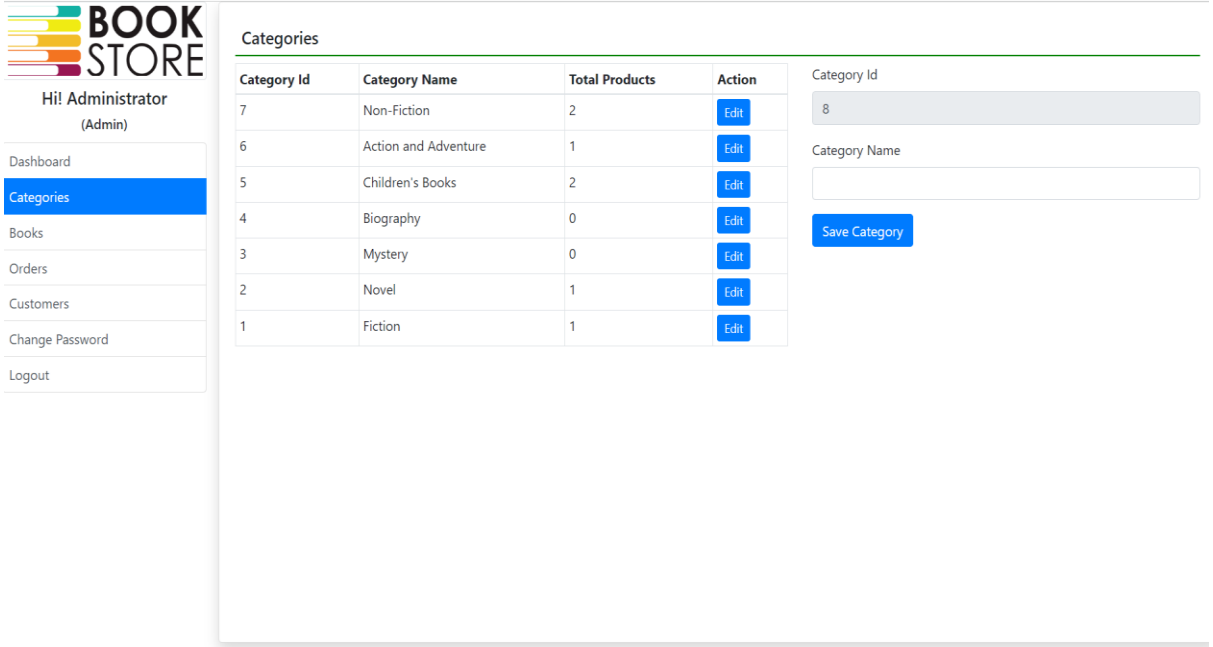
# Admin:



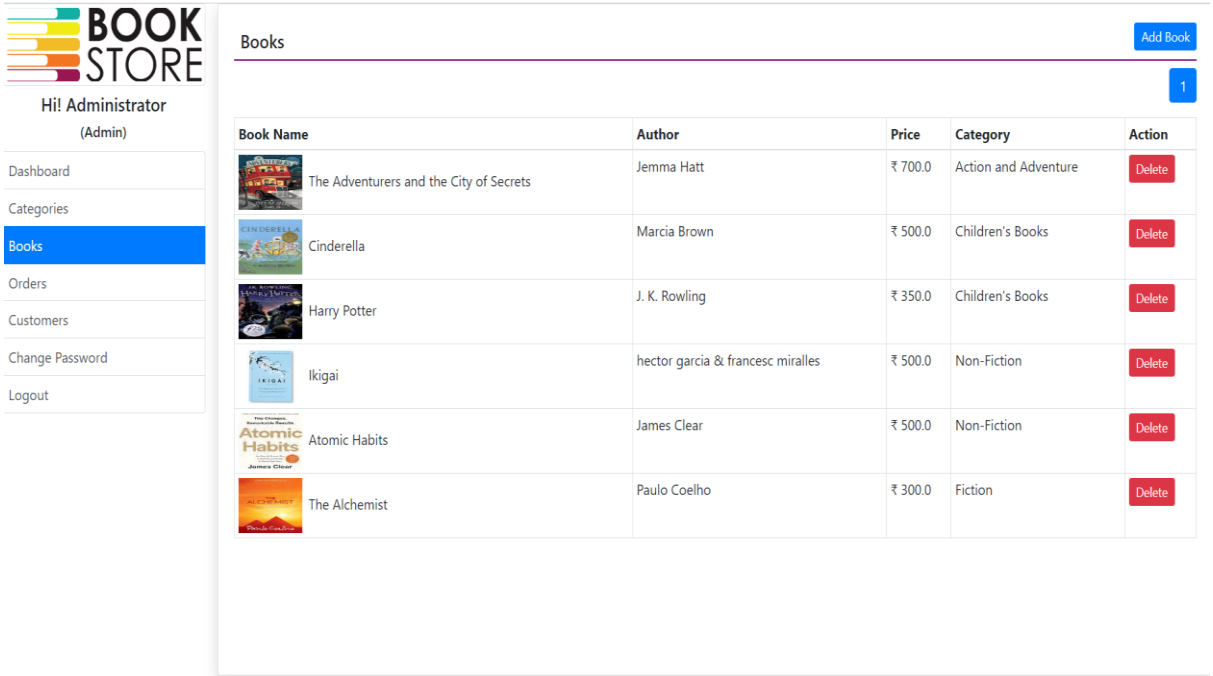

# Admin profile:-



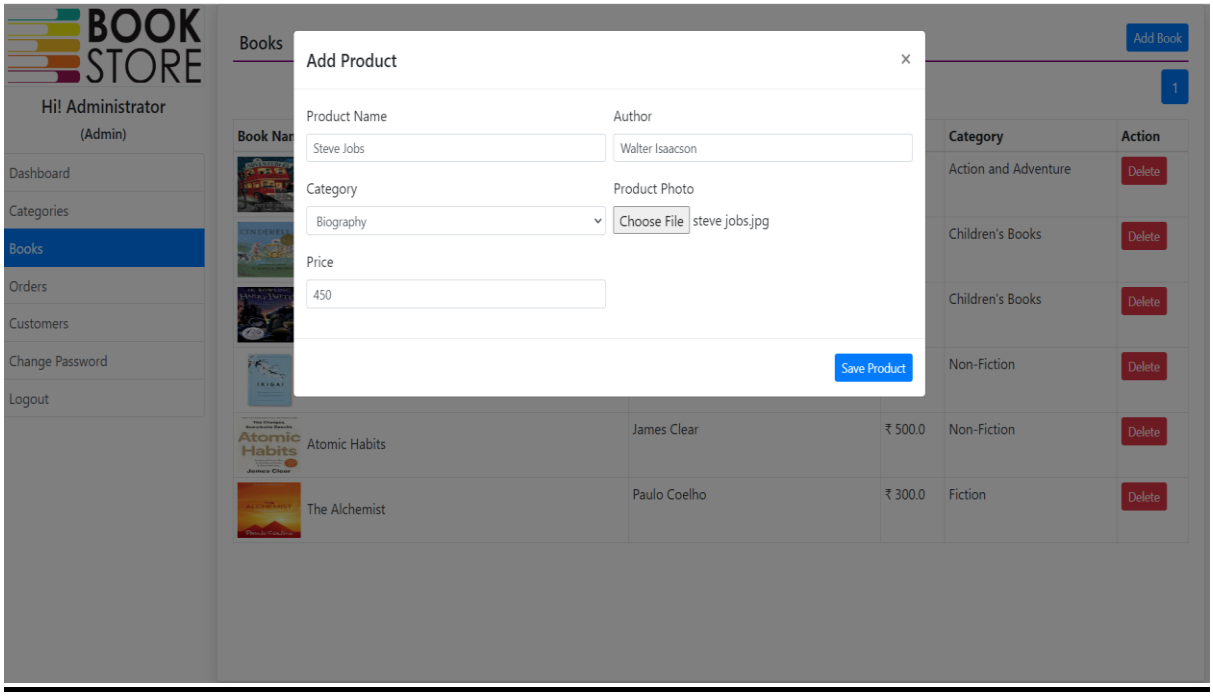
# Categories:-

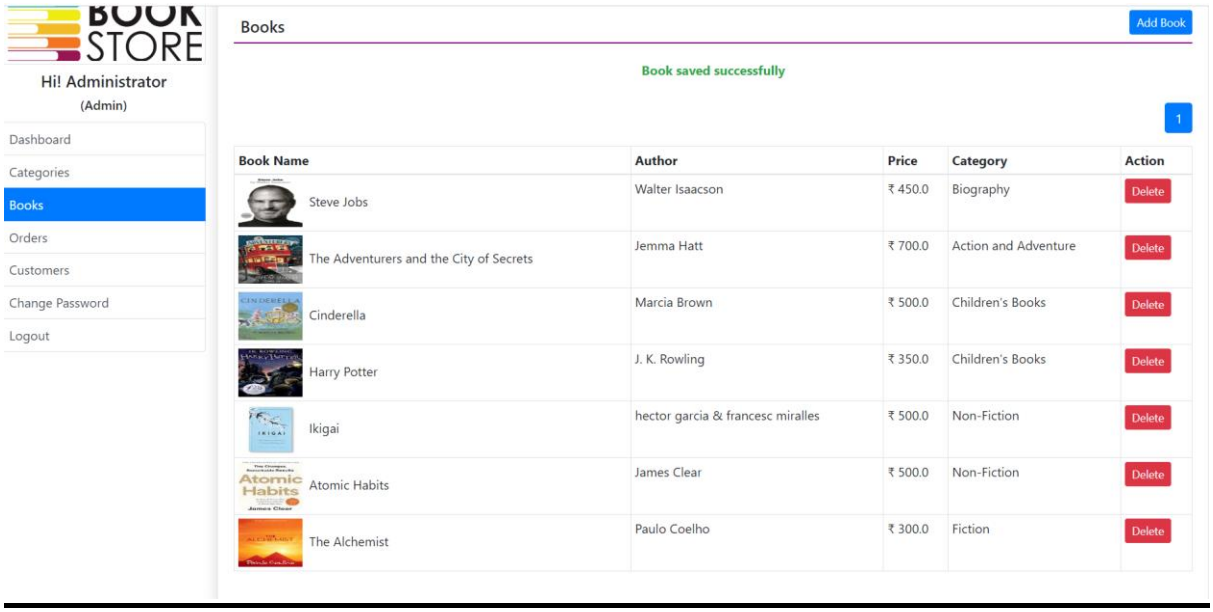



# Book list:-

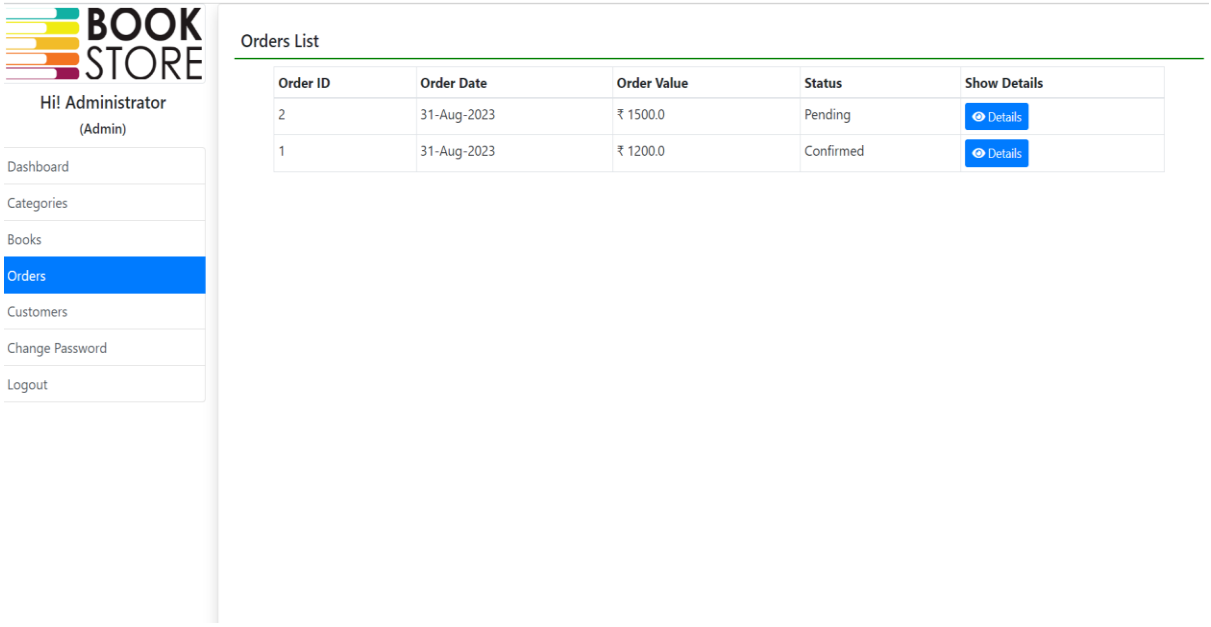


# Add New Book:-

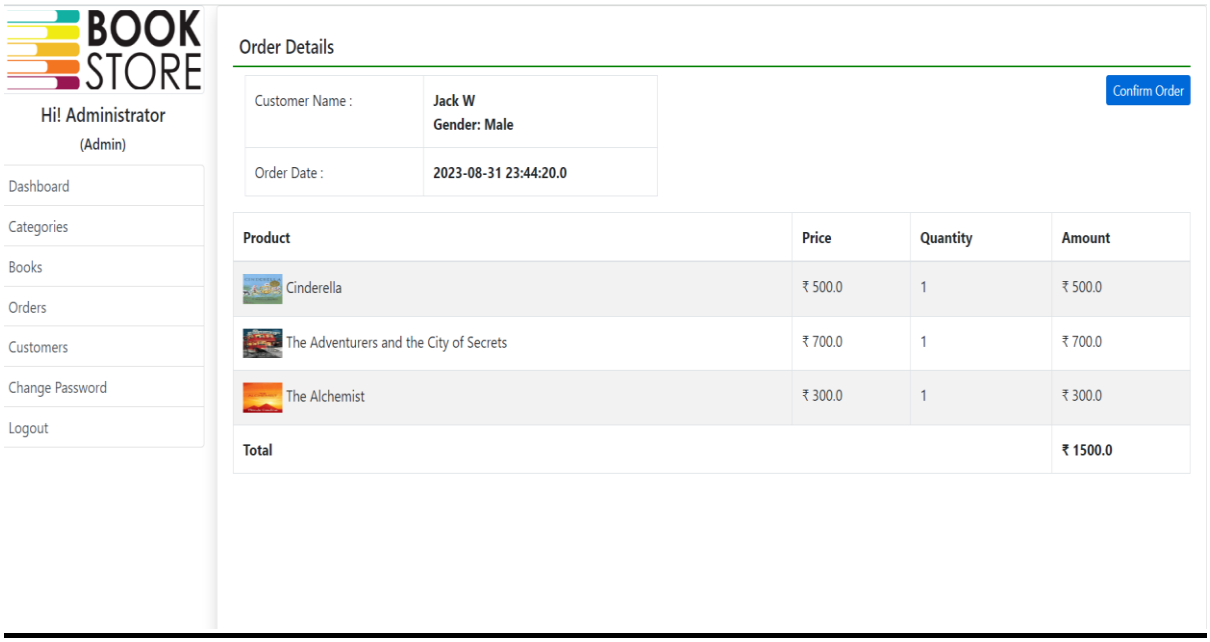

BOOK STORE
Hi! Administrator
(Admin)
Dashboard
Categories
Books
Orders
Customers
Change Password
Logout
Books
Add Book
Add Product
Product Name
Steve Jobs
Author
Walter Isaacson
Category
Biography
Product Photo
Choose File
steve jobs.jpg
Price
450
Save Product
Book Name
Author
Price
Category
Action
Action and Adventure
Children's Books
Children's Books
Non-Fiction
Atomic Habits
James Clear
₹ 500.0
Non-Fiction
The Alchemist
Paulo Coelho
₹ 300.0
Fiction
Delete


BOOK STORE
Hi! Administrator
(Admin)
Dashboard
Categories
Books
Orders
Customers
Change Password
Logout
Books
Add Book
Book saved successfully
1
Book Name
Author
Price
Category
Action
Steve Jobs
Walter Isaacson
₹ 450.0
Biography
Delete
The Adventurers and the City of Secrets
Jemma Hatt
₹ 700.0
Action and Adventure
Delete
Cinderella
Marcia Brown
₹ 500.0
Children's Books
Delete
Harry Potter
J. K. Rowling
₹ 350.0
Children's Books
Delete
Ikigai
hector garcia & francesc miralles
₹ 500.0
Non-Fiction
Delete
Atomic Habits
James Clear
₹ 500.0
Non-Fiction
Delete
The Alchemist
Paulo Coelho
₹ 300.0
Fiction
Delete

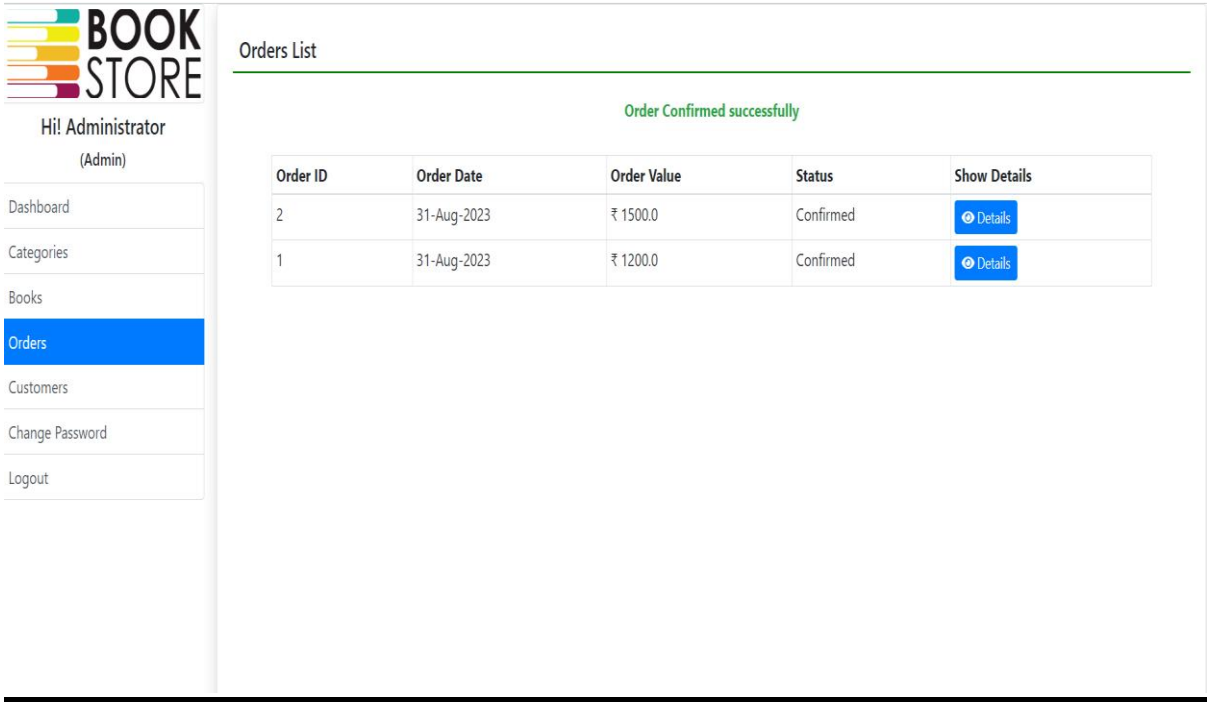
# Orders:-



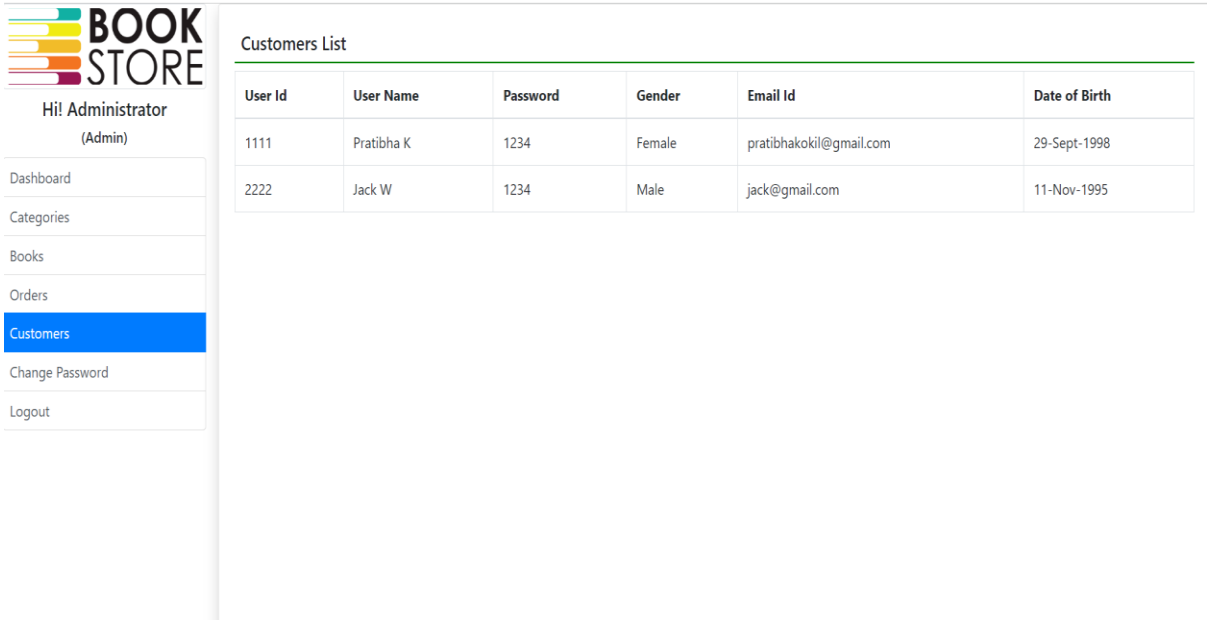

# Order details:-



# Confirm Order:-




# Customer list:-



# References:

## Front End:-


- https://getbootstrap.com/
- https://en.wikipedia.org/wiki/HTML5
- https://www.w3schools.com/html/
- https://www.w3schools.com/css/


## Database:-


- https://www.w3schools.com/MySQL/default.asp
- https://dev.mysql.com/doc/mysql-tutorial-excerpt/8.0/en/tutorial.html


## Backend:-


- https://spring.io/guides/gs/spring-boot/
- https://docs.spring.io/spring-data/jpa/docs/current/api/org/springframework/data/jpa/repository/JpaRepository.html
- https://springframework.guru/spring-framework-annotations/
- https://www.javaguides.net/p/hibernate-tutorial.html