

**VIETNAM NATIONAL UNIVERSITY – HOCHIMINH CITY
INTERNATIONAL UNIVERSITY**



BOOK MANAGEMENT WEB APPLICATION

BY

NGUYEN TUAN KIET – ITITWE20032

LE NGOC DANG KHOA – ITITIU20230

LY TIEU KIET – ITITIU20237

ADVISOR

Assoc. Prof. NGUYEN VAN SINH (Theory)

MSc. NGUYEN TRUNG NGHIA (Lab)

HOCHIMINH CITY, VIETNAM
2024

Nội dung

I.	INTRODUCTION	4
1.	Key Features for Customers:	4
2.	Key Features for Administrators:	4
3.	Work Breakdown Structure	5
4.	Development Environment	7
II.	REQUIREMENT ANALYSIS AND DESIGN	9
	Use Case Diagram:	9
	User Test Suite: Book Store Web Application	9
	Admin Test Suite: Book Store Web Application	19
	FUNCTIONAL REQUIREMENTS	23
	Case 1: Login account in the system	23
	Case 2: Register Account In The System	24
	Case 3: Add to Cart	25
	Case 4: Remove to Cart	26
	Case 5: Add/Edit to Book (Admin)	27
	Case 6: Delete to Book (Admin)	28
	Case 7: Order	29
	Case 8: Update Profile	30
	NON-FUNCTIONAL REQUIREMENTS	31
	1. Operational Requirements:	31
	2. Legal Requirements:	31
	3. Usability Requirements:	31
	4. Humanity Requirements:	31
	5. Performance Requirements:	31
	6. Maintainability Requirements:	32
	7. Support Requirements:	32
	8. Security Requirements:	32
	9. Interface Requirements:	33
	Sequence Diagram	34
III.	IMPLEMENTATION	42
1.	User's account management functions	42
1.1	Login	42
1.2	Register	43
1.3	Update Profile	43
2	Product viewing functions	45

2.1 view a category of products	45
2.2 View a detail product	46
2.3 Search product by name/ category/ author name	47
3. Adding to cart functions and place order	48
3.1 Viewing Cart	48
3.2 Adding book to cart	50
3.3 Remove book from cart	50
3.4 Place order	51
4. Selling and View Old Book	52
4.1 Sell old book	52
4.2 View List of old books	54
5. View Order	55

I. INTRODUCTION

The Book Manage Web Application is a comprehensive online platform designed to facilitate the buying, selling, and management of books. This application provides a seamless and engaging experience for both customers and administrators, enabling users to browse a wide selection of books, manage their purchases, and access personalized recommendations. For administrators, the platform offers robust tools to manage inventory, track orders, and oversee user accounts.

1. Key Features for Customers:

- **User Registration and Authentication:** New users can easily sign up and create accounts, while returning users can log in securely to access their personalized profiles and order history.
- **Book Browsing and Search:** Users can explore an extensive catalog of books, organized by categories and genres. Advanced search functionality allows users to find books by title, author, or keywords.
- **Book Details and Reviews:** Each book listing includes detailed information such as a synopsis, author details, pricing, and user reviews, helping customers make informed purchase decisions.
- **Shopping Cart and Checkout:** Customers can add books to their shopping cart and proceed through a secure checkout process, complete with multiple payment options and shipping methods.
- **Order History and Tracking:** Users can view their past orders, track the status of current orders, and manage their account settings.

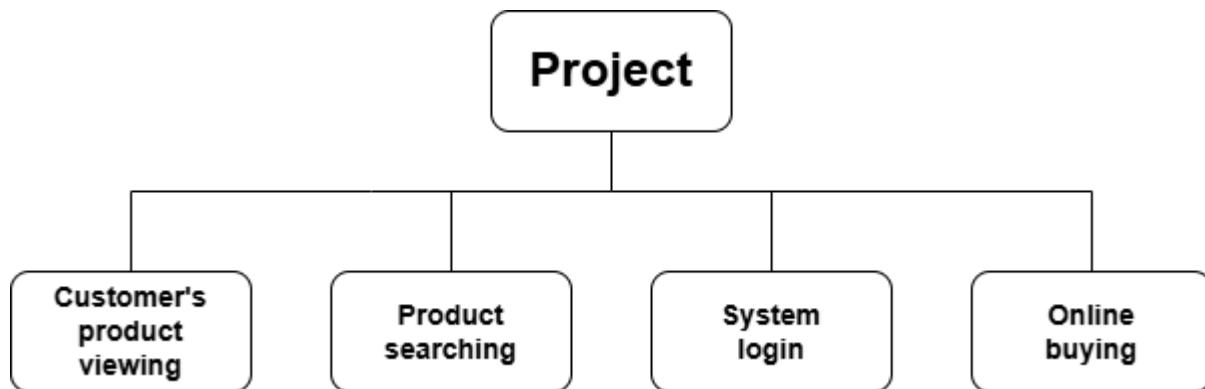
2. Key Features for Administrators:

- **Book Management:** Admins can add, edit, and delete book listings, ensuring the catalog remains up-to-date with the latest releases and accurate information.
- **Order Management:** Admins can view all orders, update order statuses, and handle any issues that arise during the order fulfillment process.

The Book Manage Web Application is designed with user-friendliness in mind, offering intuitive navigation and a responsive design that ensures a smooth experience across all devices. Security is also a top priority, with robust measures in place to protect user data and transaction information.

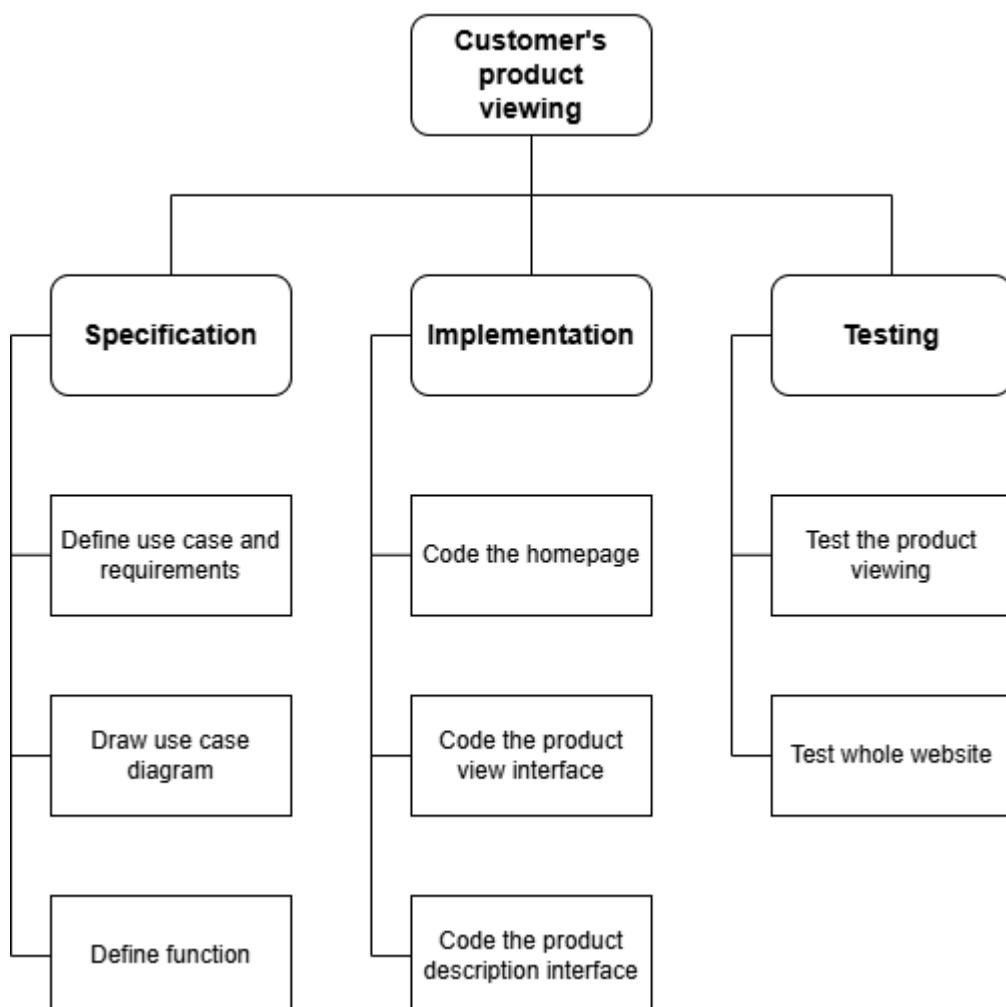
3. Work Breakdown Structure

The structure of our project:

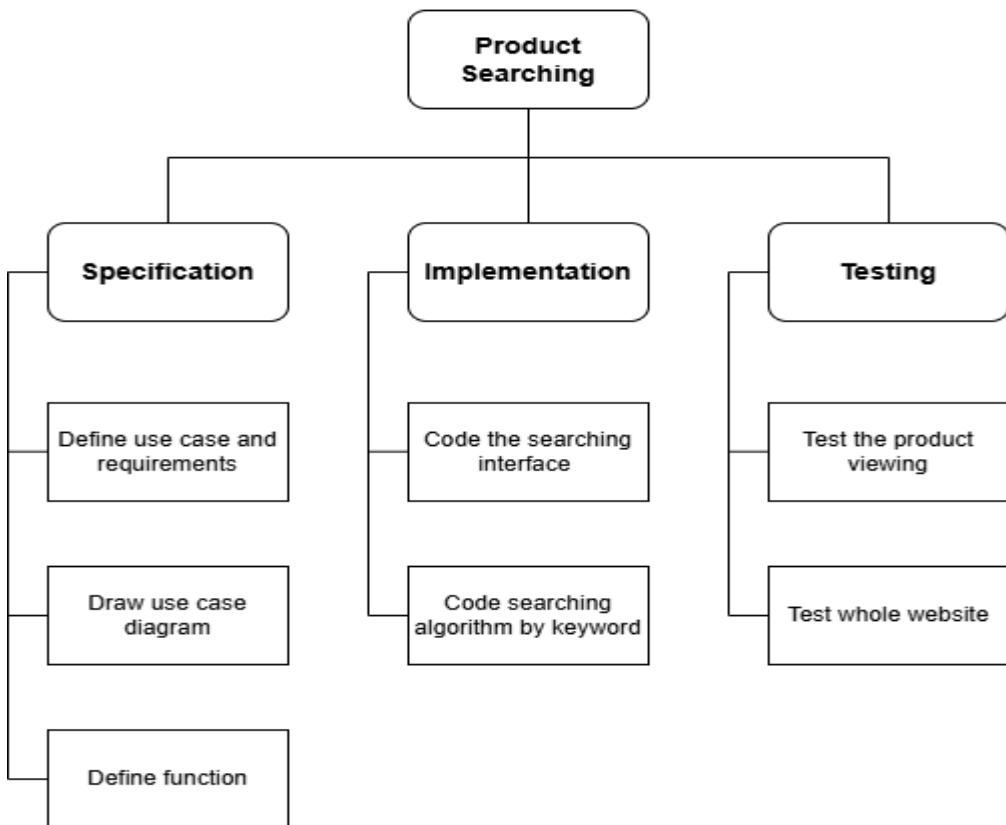


In each branch of this tree, we also have subtrees which describes clearly about our task

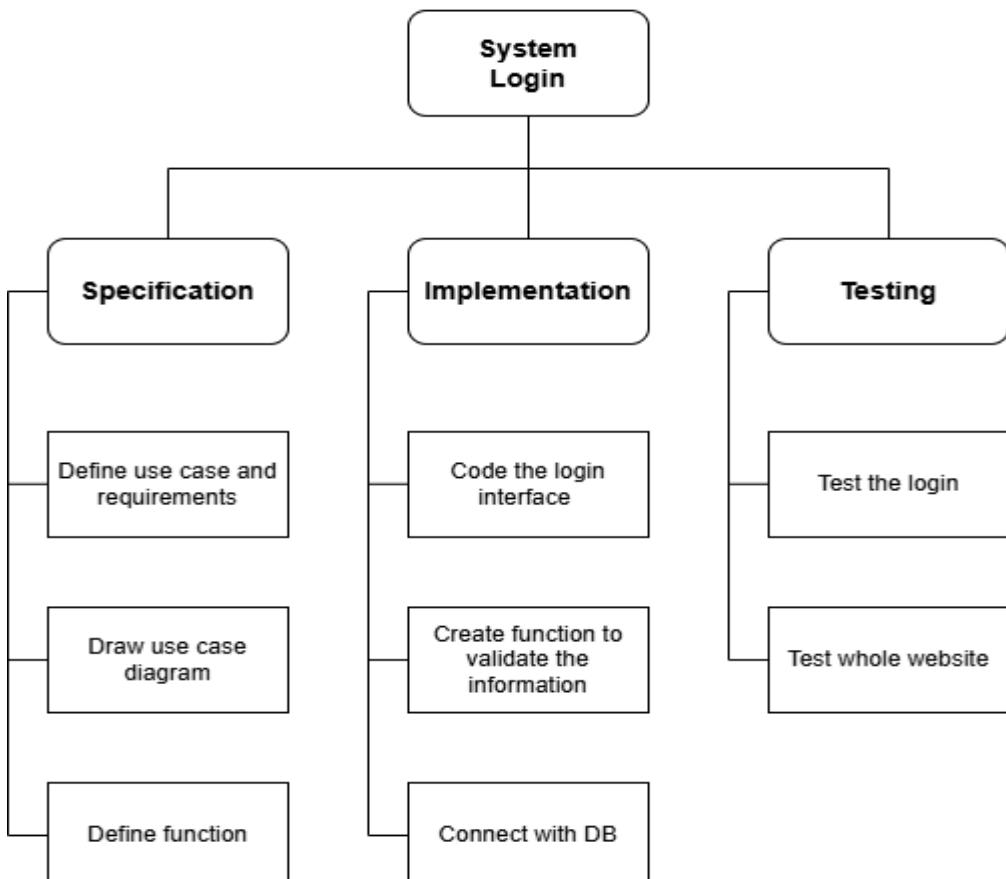
1. Customer's product viewing



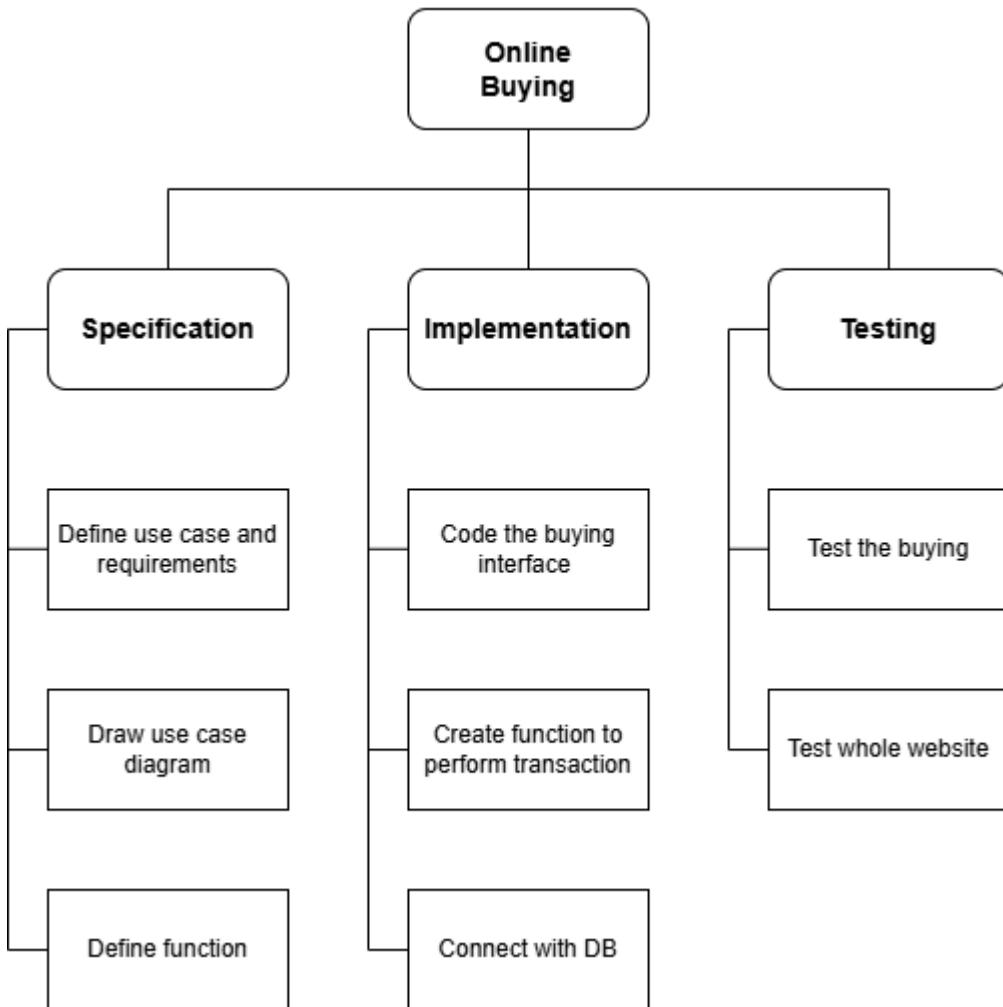
2. Product Searching



3. System Login



4. Online Buying



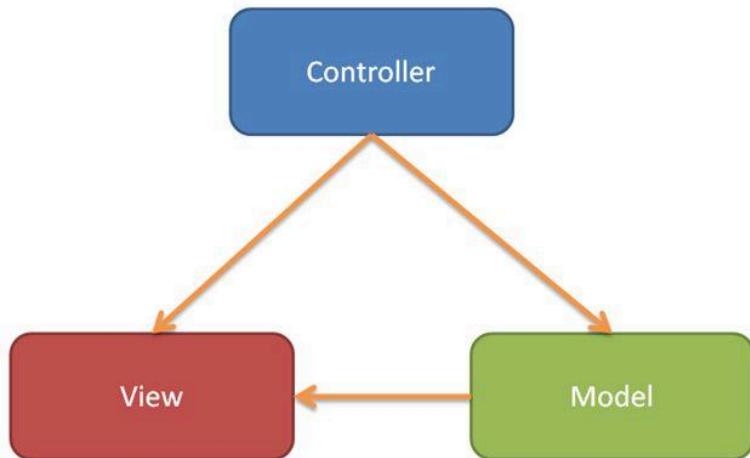
Since our goal is to apply the agile technique instead of the traditional one that splits the steps, these tasks must be finished and thoroughly tested after each iteration of the development process.

4. Development Environment

The following Programming Languages are used within our system:

1. **HTML**: to create an outline of the webpages
2. **CSS**: to design the looks of the webpages
3. **JavaScript**: to create animations for the webpages
4. **Java Server Page**: to create form to perform transactions of the customers
5. **Servlet**: to manipulate the data from the form to create dynamic webpages
6. **MySQL**: to store the database of the system

We use MVC model for this project:



1. **Model:** the data of the system stored in the database and external system
2. **View:** the user interface
3. **Control:** the logics and algorithms used to develop a dynamic website with required functionalities
 - Here is our group's github link: [TuanKiettt/WAD_Project \(github.com\)](https://TuanKiettt/WAD_Project.github.com)
 - We also use Creately to draw Class diagram and Sequence diagram: [Create Class Diagrams Online with Creately \(UML \) | Creately](https://Create Class Diagrams Online with Creately (UML) | Creately)

II. REQUIREMENT ANALYSIS AND DESIGN

Use Case Diagram:



User Test Suite: Book Store Web Application

Test Case 1: User Registration

- **Title:** Verify user registration functionality
- **Preconditions:** None

Step	Action	Data	Result	note
1	Navigate to the registration page.		Register page display	
2	Fill in the registration form with valid details (name, email, password, phone).	Nguyen Tuan Kiet 12345678 kiet@gmail.com 123456		
3	Submit the registration form.		Registration successfull	

- **Expected Result:** User is registered successfully and redirected to the login page with a success message.

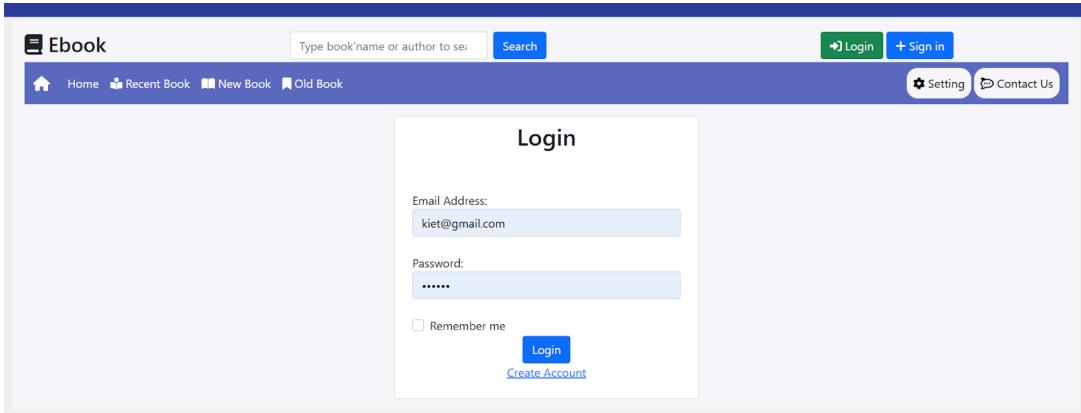
The screenshot shows a registration form titled "Register". At the top, a green success message reads "Registration successfully". Below it are four input fields: "Full Name" (placeholder "Enter Full Name"), "Phone" (placeholder "Enter Phone number"), "Email Address" (placeholder "Enter Email"), and "Password" (placeholder "Enter Password"). There is also a checkbox labeled "agree Terms & Conditions" and a blue "Sign in" button at the bottom.

Test Case 2: User Login

- **Title:** Verify user login functionality
- **Preconditions:** User is registered

Step	Action	Data	Result	note
1	Navigate to the login page.		Login page display	
2	Enter valid credentials (email and password).	kiet@gmail.com 123456		
3	Click the login button.		Login successfull	

- **Expected Result:** User is logged in successfully and redirected to the homepage/dashboard.

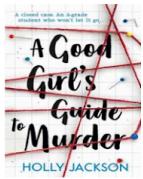


Test Case 3: Browse Books

- **Title:** Verify browsing books functionality
- **Preconditions:** User is logged in

Step	Action	Data	Result	note
1	Navigate to the home page.		Home page display	
2	Browse through the list of available books		Display all books are in the database	
3	Click to the View Details button below the book's image to view its details.		Display the book details	

- **Expected Result:** User can view a list of books and see details for each book.



Book Name: **A Good Girl's Guide to Murder**
 Author Name: **Holly Jackson**
 Category: **Old Book**

A Good Girl's Guide to Murder

Contact To Seller
 Email: admin

Cash On Delivery
Return Available
Free Delivery

Continue Shopping
\$ 5

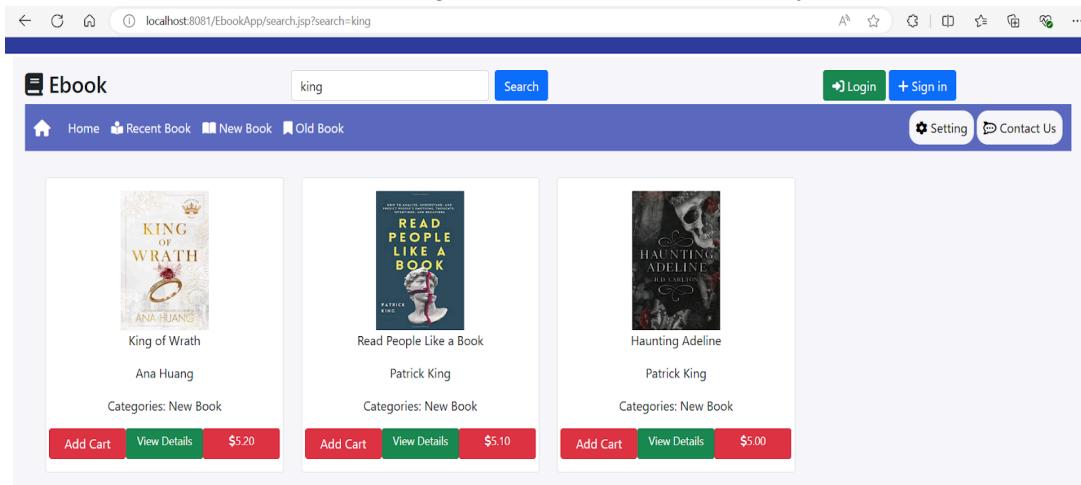
Test Case 4: Search for a Book

- **Title:** Verify book search functionality
- **Preconditions:** User is logged in

Step	Action	Data	Result	note
1	Enter a search term in the search bar (e.g., book title, author).	King		

2	Submit the search.		Display all books that have “king” letter in the name	
---	--------------------	--	---	--

- **Expected Result:** Books matching the search term are displayed in the results.



Test Case 5: Add Book to Cart

- **Title:** Verify adding a book to the cart functionality
- **Preconditions:** User is logged in

Step	Action	Data	Result	note
1	Access to home page		Home page display	
2	Click the "Add to Cart" button in any books.		The page display all books can buy	
3	Click the "Add to Cart" button		The book will be add to the cart	

- **Expected Result:** The book is added to the cart, and the cart count is updated.

The screenshot shows a grid of four book cards. Each card includes the book's cover, title, author, category, and price. Below each card are three buttons: 'Add Cart' (red), 'View Details' (green), and '\$[price]'.

Book	Author	Category	Price
Haunting Adeline	Patrick King	New Book	\$5.00
The Mountain Is You: Transforming Self-Sabotage in...	Brianna Wiest	New Book	\$8.00
The Alchemist	Paulo Coelho	New Book	\$4.20
Read People Like a Book	Patrick King	New Book	\$5.10

Test Case 6: View Cart

- Title:** Verify viewing the cart functionality
- Preconditions:** User is logged in and has added items to the cart

Step	Action	Data	Result	Note
1	Click on the shopping icon.		Checkout page display	

- Expected Result:** User is redirected to the cart page, where they can see all added items and the total price.

The screenshot shows two sections: 'Your selected items:' and 'Your Details for Order'. The left section lists the books in the cart with their names, authors, prices, and remove icons. The right section contains input fields for name, email, phone number, address, city, state, and payment mode, along with 'Order Now' and 'Continue Shopping' buttons.

Your selected items:				
Book Name	Author	Price	Action	
The Mountain Is You: Transforming Self-Sabotage in...	Brianna Wiest	8.0\$		
Haunting Adeline	Patrick King	5.0\$		
The Mountain Is You: Transforming Self-Sabotage in...	Brianna Wiest	8.0\$		
The Mountain Is You: Transforming Self-Sabotage in...	Brianna Wiest	8.0\$		
Total Price		29.0\$		

Your Details for Order

Name: Nguyen Tuan Kiet Email: kiet@gmail.com
 Phone Number: Address:
 City: State:
 Payment Mode: --Select--
 Order Now Continue Shopping

Test Case 7: Remove Book from Cart

- Title:** Verify removing a book from the cart functionality
- Preconditions:** User is logged in and has items in the cart

Step	Action	Data	Result	Note
1	Click on the remove icon.		The selected book had been deleted	

Expected Result: The book is removed from the cart, and the cart count is updated.

Book removed from Cart

Your selected items:				
Book Name	Author	Price	Action	
Haunting Adeline	Patrick King	5.0\$		
The Mountain Is You: Transforming Self-Sabotage in...	Brianna Wiest	8.0\$		
The Mountain Is You: Transforming Self-Sabotage in...	Brianna Wiest	8.0\$		
Total Price		21.0\$		

Your Details for Order				
Name	Email			
Nguyen Tuan Kiet	kiet@gmail.com			
Phone Number	Address			
City	State			
Payment Mode --Select--				

Test Case 8: Checkout

- Title:** Verify checkout process
- Preconditions:** User is logged in and has items in the cart

Step	Action	Data	Result	note
1	Navigate to the cart page.		Cart page display	
2	Fill in payment and shipping information.	Nguyen Tuan Kiet kiet@gmail.com 0976365791 TPHCM Ho Chi Minh GV		
3	Click the "Order Now" button.		Your order status notification line will appear	

- Expected Result:** The order is processed successfully, and the user receives an order confirmation.

Ebook

Type book name or author to see Search

Nguyen Tuan Kiet + Log out

Home Recent Book New Book Old Book Setting Contact Us

Thank for your order
Your product will be delivered in 7 days

Home View Order

Test Case 9: View Order History

- Title:** Verify viewing order history functionality
- Preconditions:** User is logged in and has placed orders

Step	Action	Data	Result	note
1	Click to “Setting” button		Setting page display	
2	Click to “Order” button		Display all books that have been ordered	

- **Expected Result:** User can see a list of past orders with details.

The screenshot shows a table header with the title "Your order". Below the header, there are six columns labeled: Order Id, Name, Book Name, Author, Price, and Payment type. The table body is currently empty, indicating no data has been displayed.

Test Case 10: Logout

- **Title:** Verify user logout functionality
- **Preconditions:** User is logged in

Step	Action	Data	Result	note
1	Click on the Logout button on the right of menu bar.		Login page display and require user login again	

- **Expected Result:** User is logged out and redirected to the login page.

The screenshot shows a login form with a success message "Logout successfully" at the top. It includes fields for "Email Address" (kiet@gmail.com) and "Password" (represented by dots). There is a "Remember me" checkbox, a "Login" button, and a "Create Account" link.

Test Case 11: Sell Old Book

- **Title:** Sell Old Book
- **Preconditions:** User is logged in

Step	Action	Data	Result	note
1	Click to “Setting” button		Setting page display	

2	Click to “Sell Old Book” button		“Sell Book” form page appear	
3	Fill information of book	ABC CDE 4.00		
4	Click “Sell” button		Book add successfully	

- **Expected Result:** User can add the old book to sell

Sell Book

Book Add Successfully

Book Name:

Author Name:

Price:

Upload Photo:

 No file chosen

Test Case 12: View Old Book List

- **Title:** View Old Book
- **Preconditions:** User is logged in

Step	Action	Data	Result	note
1	Click to “Setting” button		Setting page display	
2	Click to “Old Book” button		“Old Book” page appear	

- **Expected Result:** User can view the old book’s detail that they sell

Test Case 13: Delete Old Book

- **Title:** Delete Old Book

- **Preconditions:** User is logged in

Step	Action	Data	Result	note
1	Click to “Setting” button		Setting page display	
2	Click to “Old Book” button		“Old Book” page appear	
3	Click to “Delete” icon		Delete successfully	

- **Expected Result:** User can delete the old book that they do not want to sell

Before:

Book Name	Author	Price	Category	Action
ABC	CDE	4.00\$	Old Book	Delete

After:

Old book delete successfully <table border="1"> <thead> <tr> <th>Book Name</th><th>Author</th><th>Price</th><th>Category</th><th>Action</th></tr> </thead> </table>	Book Name	Author	Price	Category	Action
Book Name	Author	Price	Category	Action	

Edge Cases:

Test Case 14: Register with Existing Email

- **Title:** Verify registration with an existing email
- **Preconditions:** User with the same email already exists

Step	Action	Data	Result	note
1	Navigate to the registration page		Registration page display	
2	Fill in the form with an email already registered.	Nguyen Tuan Kiet 0976365791 kiet@gmail.com 123456		
3	Click the "Sign in" button.		User already exist, try another email.	

- **Expected Result:** An error message is displayed indicating the email is already in use.

Test Case 15: Search for Non-existent Book

- **Title:** Verify search with no matching results
- **Preconditions:** User is logged in

Step	Action	Data	Result	note
1	Enter a non-existent book title/author in the search bar.	abc		
2	Submit the search.		Nothing appear	

- **Expected Result:** The white page display to show that do not have data that suitable for this key word.

Test Case 16: Invalid Login

- **Title:** Verify login with incorrect credentials
- **Preconditions:** None

Step	Action	Data	Result	note
1	Navigate to the login page.		Login page display	
2	Enter incorrect username/email and password.	<u>kiet11@gmail.com</u> 112233		

3	Click the "Login" button.		The Login page will reset	
---	---------------------------	--	---------------------------	--

- **Expected Result:** The Login page will reset to require user input correctly email and password.

Login

Email Address:
kiet@gmail.com

Password:
.....

Remember me

Login

[Create Account](#)

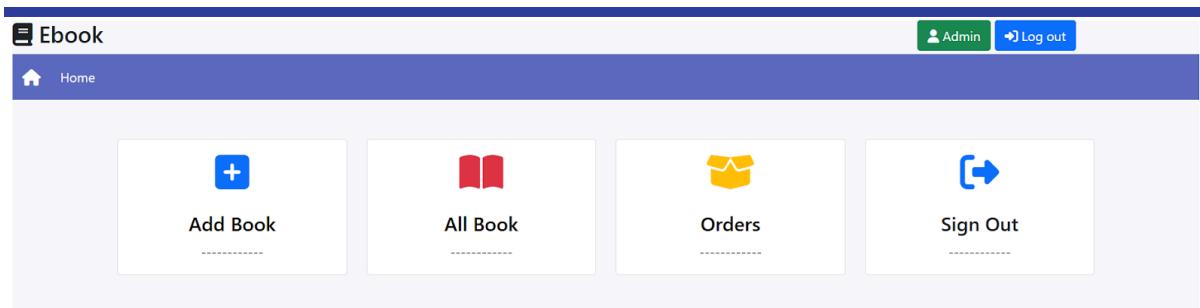
Admin Test Suite: Book Store Web Application

Test Case 1: Admin Login

- **Title:** Verify admin login functionality
- **Preconditions:** Admin account exists

Step	Action	Data	Result	note
1	Navigate to the login page.		Login page display	
2	Enter incorrect username/email and password.	admin@gamil.com adminpassword		
3	Click the "Login" button.		The Admin page will appear	

- **Expected Result:** Admin is logged in successfully and redirected to the admin dashboard.



Test Case 2: Add New Book

- **Title:** Verify adding a new book functionality
- **Preconditions:** Admin is logged in

Step	Action	Data	Result	note
1	Navigate to Add Book page		Add Book page display	
2	Fill the information of book	ABC CDE 5.00 New Book Active		
3	Click the "Add" button.		Book Add Successfully	

- **Expected Result:** The new book is added successfully and appears in the list of available books.

The screenshot shows a 'Book Add' form with the following fields and message:

- Book Name:** Input field containing 'Enter Book Name'.
- Author Name:** Input field containing 'Enter Author Name'.
- Price:** Input field containing 'Enter Price'.
- Book Categories:** Select dropdown menu showing '--select--'.
- Book Status:** Select dropdown menu showing '--select--'.
- Upload Photo:** File input field showing 'Choose File No file chosen'.
- Add**: A blue button at the bottom right.

A prominent blue message box at the top center says 'Book Add Successfully'.

Test Case 3: Edit Book Details

- **Title:** Verify editing a book's details functionality
- **Preconditions:** Admin is logged in and at least one book exists

Step	Action	Data	Result	note
1	Navigate to All Book page		All Book page display	
2	Click to Edit button on the same row of the book you want to edit		Book Edit page display	

3	Update the book details.	ABC → FGH	Book Edit Successfully	
---	--------------------------	-----------	------------------------	--

- **Expected Result:** The book details are updated successfully.

The screenshot shows a 'Book Edit' form. It contains four input fields: 'Book Name' with value 'ABC', 'Author Name' with value 'CDE', 'Price' with value '5.00', and 'Book Status' with value 'Active'. Below the fields is a blue 'Update' button.

Before:

41		ABC	CDE	5.00	New Book	Active		
----	--	-----	-----	------	----------	--------	--	--

After:

41		FGH	CDE	5.00	New Book	Active		
----	--	-----	-----	------	----------	--------	--	--

Test Case 4: Delete Book

- **Title:** Verify deleting a book functionality
- **Preconditions:** Admin is logged in and at least one book exists

Step	Action	Data	Result	note
1	Navigate to All Book page		All Book page display	
2	Click to Delete icon on the same row of the book you want to edit		All information of the book will be deleted in the list	

- **Expected Result:** The book is deleted successfully and no longer appears in the list.

Test Case 5: View Order List

- **Title:** Verify viewing the list of orders
- **Preconditions:** Admin is logged in

Step	Action	Data	Result	note
1	Navigate to the "Orders" section.		Order page display	

- **Expected Result:** A list of all orders is displayed with details such as order number, user, status, and total amount.

The screenshot shows a web interface for managing orders. At the top, there's a blue header bar with a home icon and the word 'Home'. Below it, a white bar displays the greeting 'hello Admin'. The main content area has a dark header row with various columns labeled: Order Id, Name, Email, Address, Phone No, Book Name, Author, Price, and Payment method. The body of the table is currently empty, showing only the column headers.

FUNCTIONAL REQUIREMENTS

Case 1: Login account in the system

1. The Scope of the Work
 - This occurs in the sprint 5 in the process.
 - 4 tasks needed for this function.
 - 15 hours of effort is needed for this function.
2. The Scope of the Product: This is the core component of the user's login functionality.
3. Functional and Data Requirements
 - a. Functional Requirement
 - The system display the login interface for the user to enter account information..
 - The system retrieve account information from the database that matches the user's login email.
 - The system review password of user account from the database.
 - The system verify the validity of the user's login credentials.
 - b. Data Requirement: The log in information (email and password) must be valid

Case 2: Register Account In The System

1. The Scope of the Work
 - This occurs in the sprint 5 in the process.
 - 3 tasks needed for this function.
 - 15 hours of effort is needed for this function.
2. The Scope of the Product: This is the core component of the user's register functionality.
3. Functional and Data Requirements
 - a. Functional Requirement
 - The system displays the registration interface for users to enter their information for the system to store.
 - When the information entered is valid, the system will store account information in the database and vice versa.
 - The system successfully stores user information and will display the information as successfully registered.
 - b. Data Requirement: The register information (email and password) must be valid (not existing).

Case 3: Add to Cart

1. The Scope of the Work
 - This occurs in the sprint 6 in the process.
 - 4 tasks needed for this function.
 - 20 hours of effort is needed for this function.
2. The Scope of the Product: This is a part in the of the product (book)
3. Functional and Data Requirements
 - a. Functional Requirement
 - The system redirected user to the cart page, where they can see all added items and the total price.
 - The system should allow adding an item to the cart.
 - The system should update the cart table in the database.
 - b. Data Requirement: The value of BookName, Author, Price userId and bookId

Case 4: Remove to Cart

1. The Scope of the Work
 - This occurs in the sprint 6 in the process.
 - 4 tasks needed for this function.
 - 20 hours of effort is needed for this function.
2. The Scope of the Product: This is a part in the of the product (book)
3. Functional and Data Requirements
 - a. Functional Requirement
 - The system redirected user to the cart page, where they can see all added items and the total price.
 - The system should allow remove an item to the cart.
 - The system should remove the cart table in the database.
 - b. Data Requirement: The value of userId, bookId and cartId

Case 5: Add/Edit to Book (Admin)

1. The Scope of the Work

- This occurs in the sprint 6 in the process.
- 4 tasks needed for this function.
- 20 hours of effort is needed for this function.

2. The Scope of the Product: This is a part in the of the administration

3. Functional and Data Requirements

a. Functional Requirement

- The system displays the admin interface for admin to enter their information books for the system.
- The system should allow adding an book to the display page.
- The system should allow editing an book to the display page.
- The system should update the book table in the database.

b. Data Requirement: The value of BookName, Author, Price, Part, Image, email(admin).

Case 6: Delete to Book (Admin)

1. The Scope of the Work

- This occurs in the sprint 6 in the process.
- 4 tasks needed for this function.
- 20 hours of effort is needed for this function.

2. The Scope of the Product: This is a part in the of the administration

3. Functional and Data Requirements

a. Functional Requirement

- The system displays the admin interface for admin to delete their information books for the system.
- The system should allow remove an book from the display page.
- The system should remove the book table in the database.

b. Data Requirement: The value of email (admin), BookId

Case 7: Order

1. The Scope of the Work
 - This occurs in the sprint 6 in the process.
 - 5 tasks needed for this function.
 - 30 hours of effort is needed for this function.
2. The Scope of the Product: This is a part in the last piece of the product
3. Functional and Data Requirements
 - a. Functional Requirement
 - The system should allow viewing and updating the shopping cart..
 - The system should display an input form to request user information.
 - The system should store the user's information.
 - The system should update the orders table in the database.
 - b. Data Requirement: none

Case 8: Update Profile

1. The Scope of the Work

- This occurs in the sprint 6 in the process.
- 3 tasks needed for this function.
- 30 hours of effort is needed for this function.

2. The Scope of the Product: This is a part of the user's login functionality.

3. Functional and Data Requirements

a. Functional Requirement

- The system will display the profile update page.
- The system display user's personal information.
- The system allow users to change information that the system can change.
- The system should store the user's information.
- The system should update the users table in the database.

b. Data Requirement: The value of name, password, phone.

NON-FUNCTIONAL REQUIREMENTS

1. Operational Requirements:

- Ensure all software components operate smoothly.
- Maintain a licensed host capable of handling all requests effectively.
- Administer regular updates to the software and monitor system errors.

2. Legal Requirements:

- Properly cite all integrated components to prevent copyright infringement.
- Safeguard confidential, proprietary source code to prevent unauthorized use.

3. Usability Requirements:

- Provide intuitive user interfaces that are easy to learn and navigate.
- Include comprehensive user manuals for guidance.
- Ensure error messages are informative, clear, and provide hints for resolution.
- Offer help facilities to assist users when needed.
- Aim for efficient user interaction where tasks are easily achievable with minimal errors.

4. Humanity Requirements:

- Provide detailed documentation understandable to users with little or no computer background.
- Design graphical user interfaces (GUIs) that are easy to learn, use, and navigate.
- Ensure the system interfaces are attractive, responsive, and require minimal time for users to become proficient.

5. Performance Requirements:

a) Response Requirements:

- Ensure fast login response times for both customers and managers.
- Minimize the time for the system to update database modifications across multiple tables.
- Process services quickly without delays; handle at least 10 simultaneous transactions seamlessly.
- Achieve fast website loading times, generating more than 50 products per page efficiently.

- b) Throughput Requirements:
 - Handle a large volume of requests concurrently, supporting over 1000 visitors browsing products simultaneously.
 - Manage multiple database modifications swiftly and efficiently.

- c) Availability Requirements:
 - Implement effective memory management techniques, utilizing programming language garbage collection to ensure system stability and availability.
 - This e-commerce store anticipates heavy traffic with potentially thousands of daily visitors. The system must efficiently manage this workload to ensure seamless operation without delays or overload. Key aspects include:
 - Shopping Cart System: Capable of processing orders concurrently without delays or overload.
 - Website Performance: Able to handle diverse requests from customers using various operating systems without postponement.
 - The infrastructure and software architecture must be robust enough to handle the high volume of requests and ensure reliable performance under peak loads. Scalability and responsiveness are critical to maintaining a positive user experience and optimizing business operations.

6. Maintainability Requirements:

- Provide functions that enable users to easily update and manage product and customer information.
- Write well-defined and clean source code with clear comments to enhance understanding.
- Design a clear and stable database structure that facilitates future maintenance tasks.

7. Support Requirements:

- Offer a hotline for store managers to provide feedback and report problems promptly.
- Conduct regular checks and maintenance of the system to ensure stability and performance, ideally on a monthly or bi-monthly basis.

8. Security Requirements:

- This web operating system must ensure robust security measures to protect data and maintain system integrity:
- Data Protection: Prevent unauthorized access to system data.
- System Integrity: Safeguard against accidental or malicious damage to system integrity.

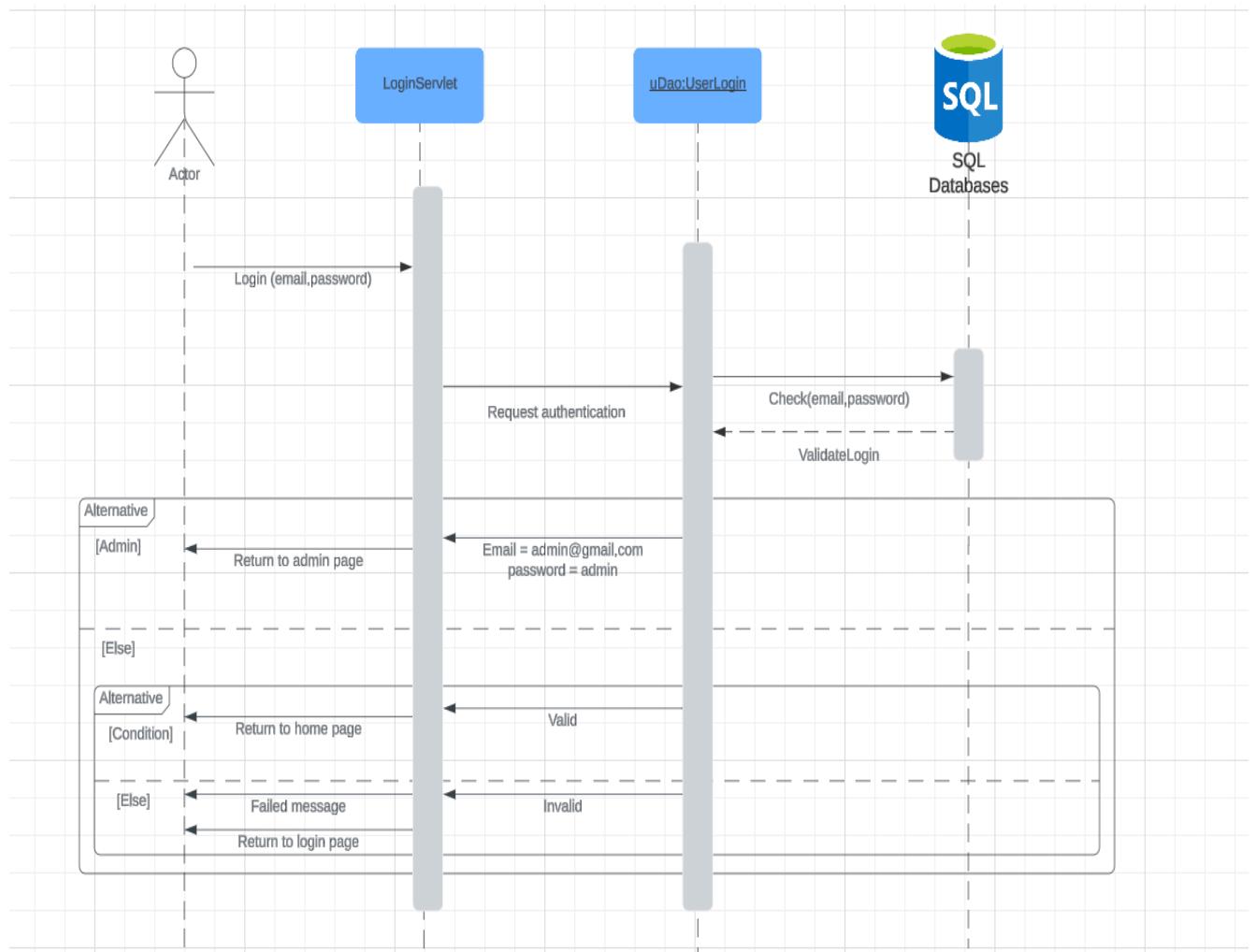
- Access Permissions: Restrict changes to system data to administrators only.
- Encryption: Encrypt all communications between the system's data server and clients using protocols like SSL or SSH.
- Data Backup: Perform daily backups of all system data, including product and customer information (cookies, sessions), with at least one copy stored securely in a different location from the primary system.
- Privacy Policy: Implement a privacy policy to restrict third-party access to customer information.
- These measures ensure that the system operates securely, protecting both data confidentiality and integrity while adhering to privacy standards.

9. Interface Requirements:

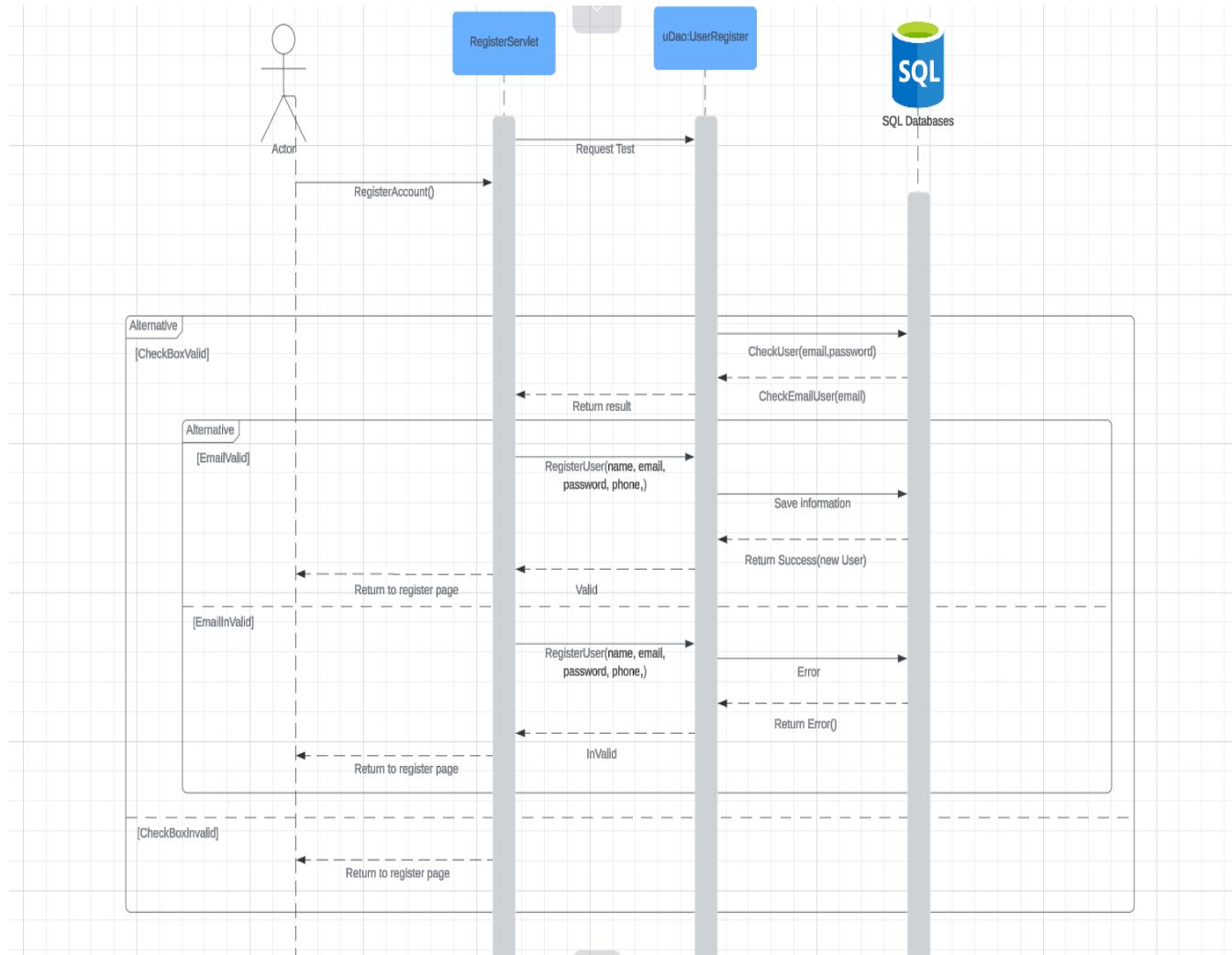
- Describes all technical requirements affecting interfaces such as protocols management, scheduling, directory services, broadcasts, message types, errors and cache management, security, etc. Assign a unique ID number to each request.
- Some non-functional requirements of the interface:
- Buttons must include characteristic symbols equivalent to their functions.
- Sales report accompanying each successful transaction.
- Bootstrap supports many website design tasks to make them suitable for the user's eyes

Sequence Diagram

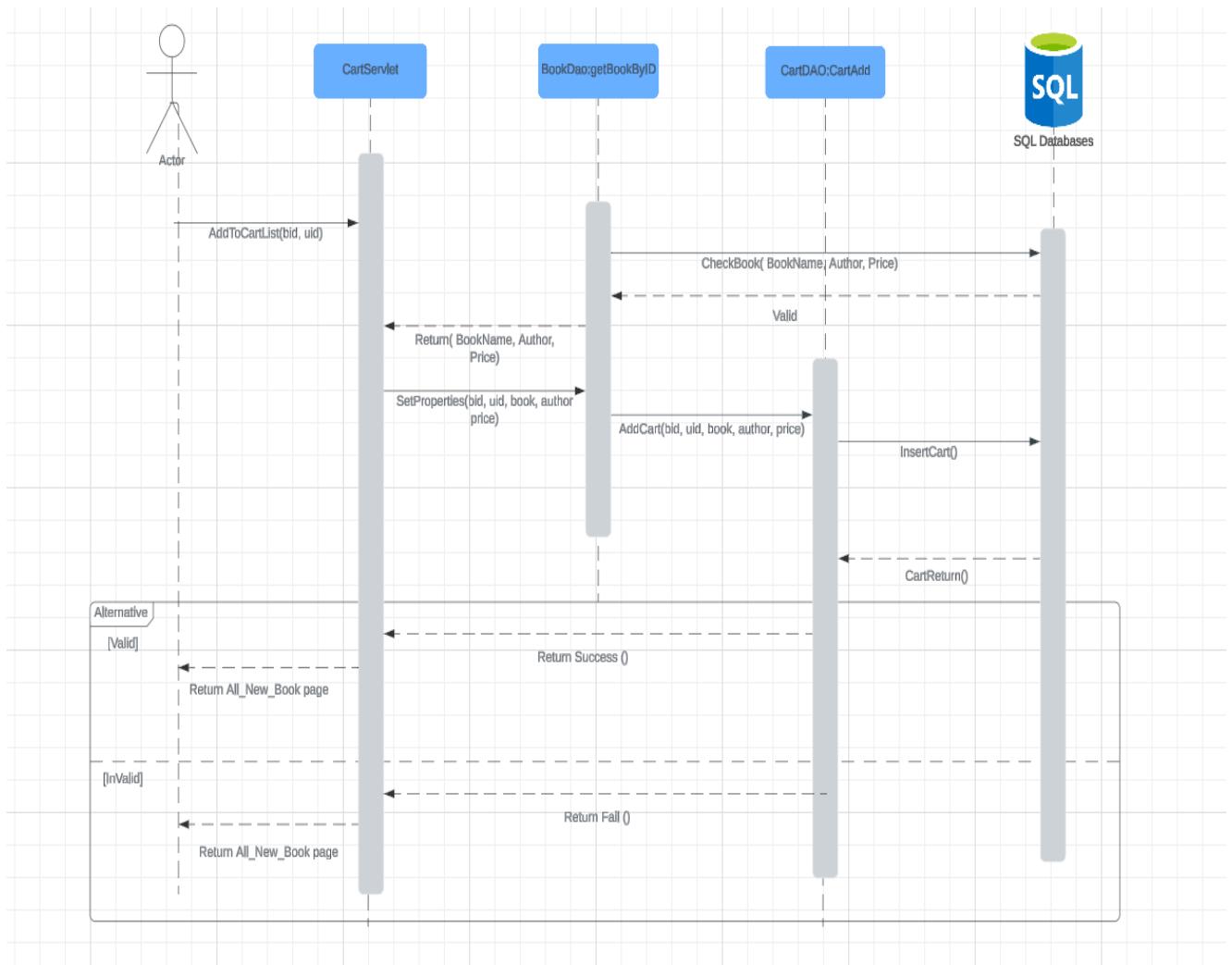
Case 1: Login account in the system



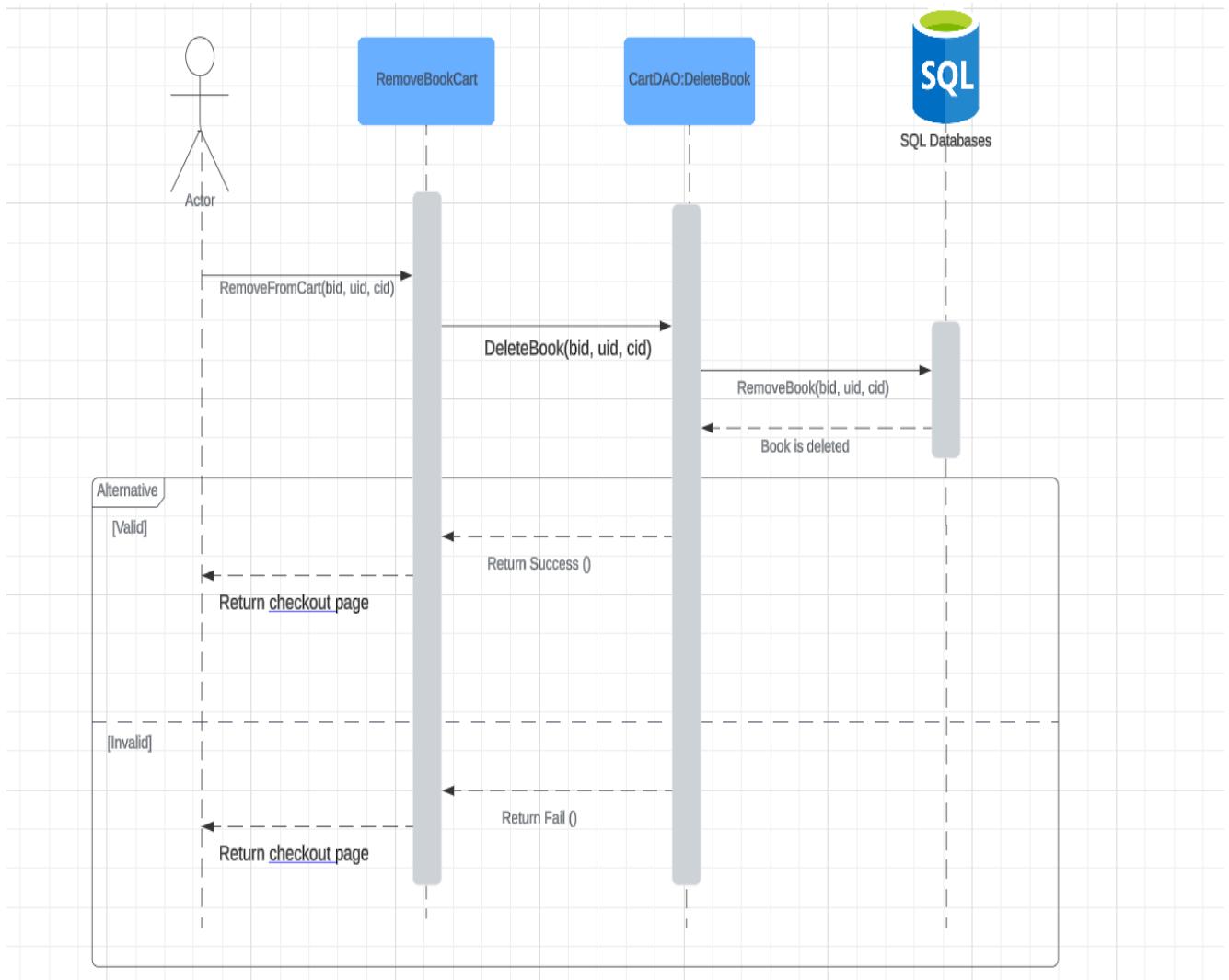
Case 2: Register account



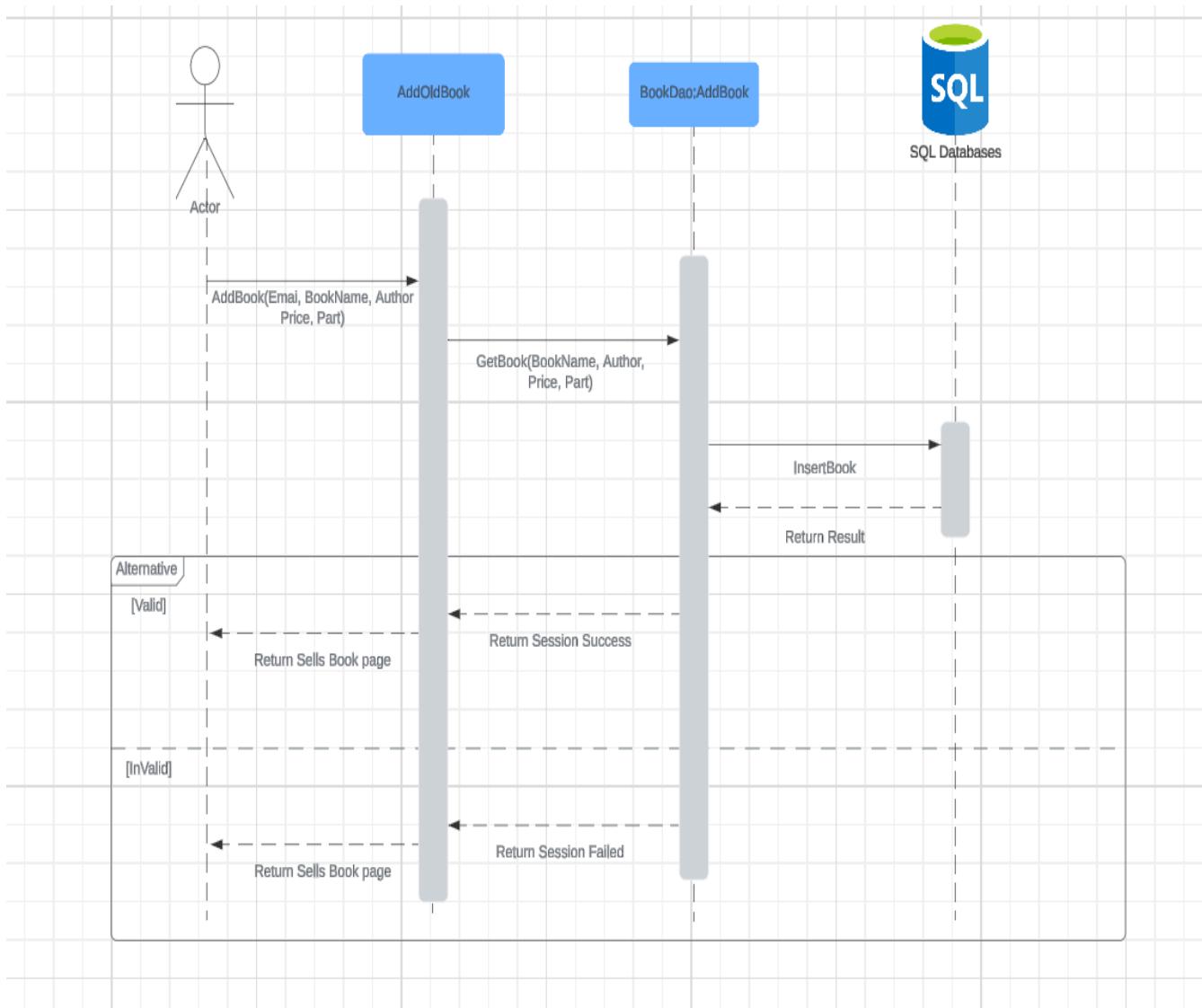
Case 3: Add to Cart



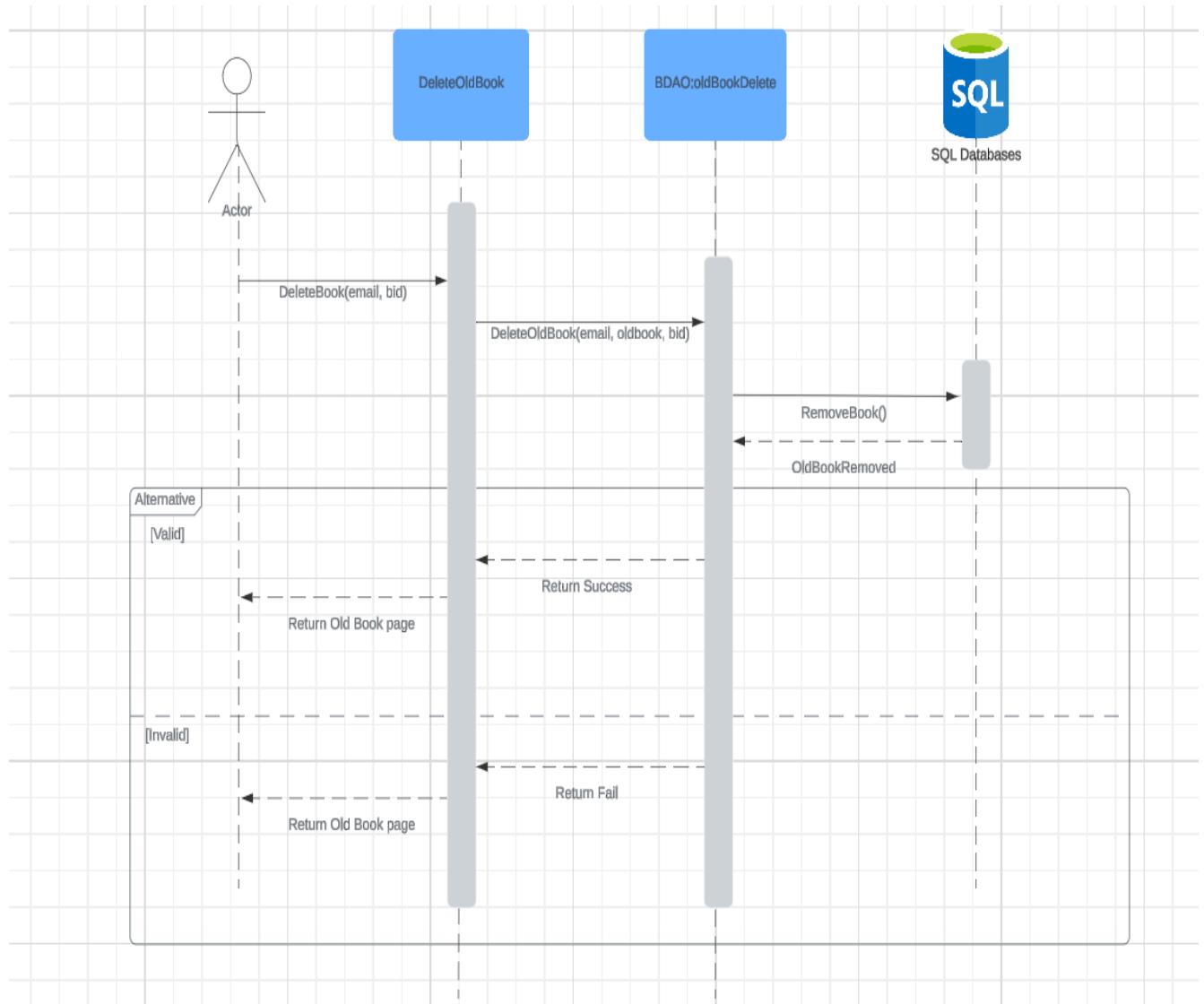
Case 4: Remove to Cart



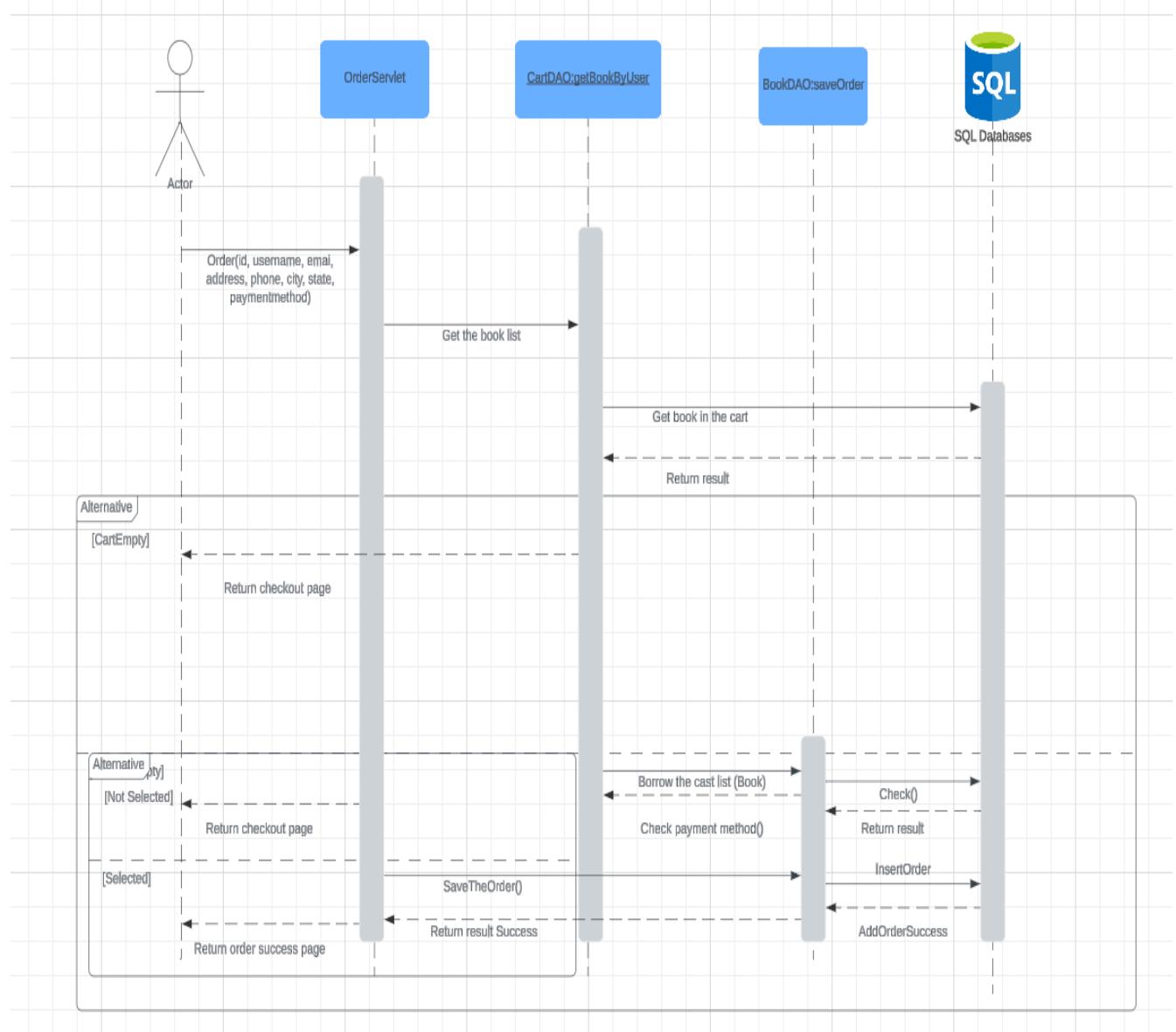
Case 5: Add Book



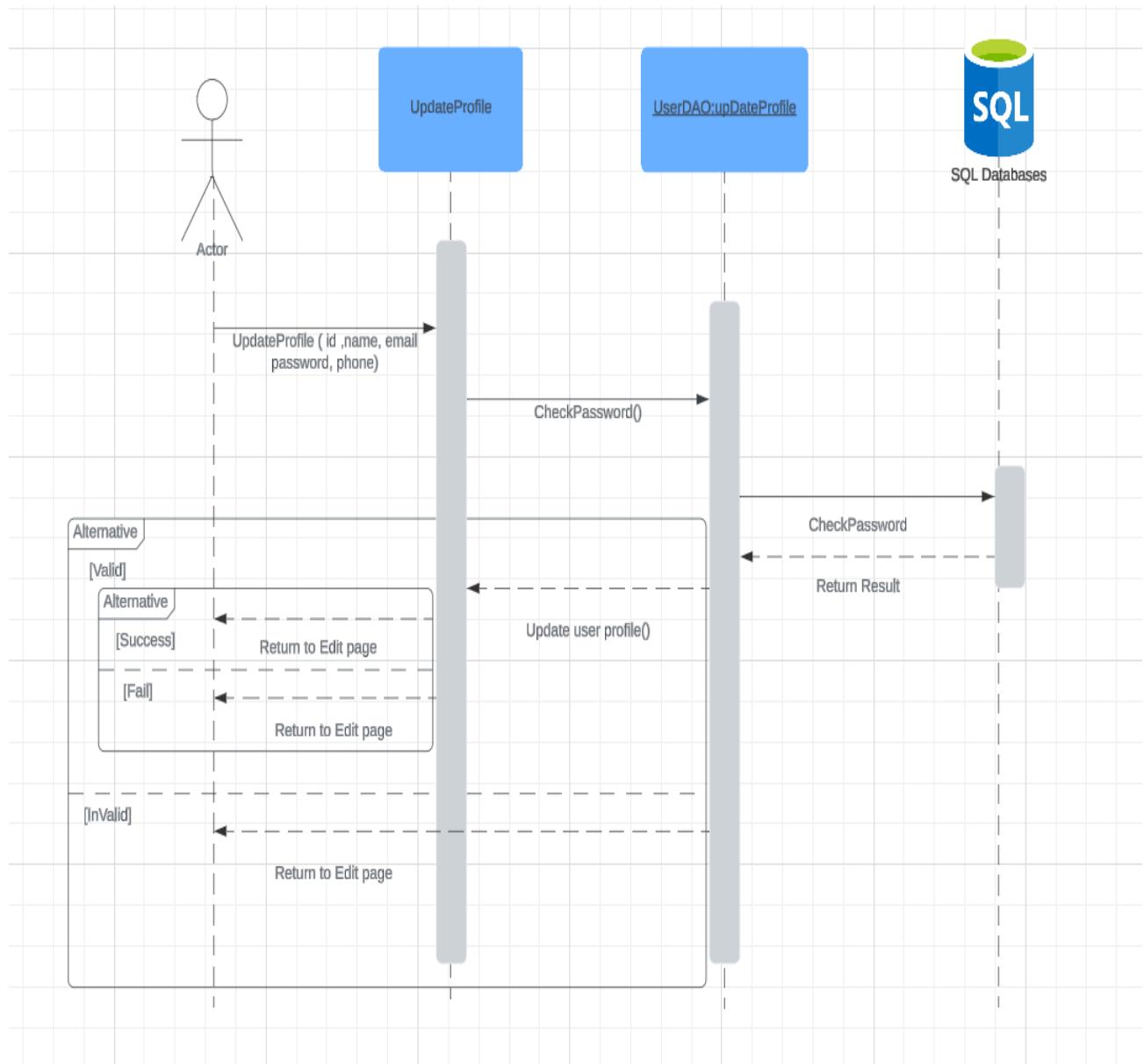
Case 6: Delete Book



Case 7: Order



Case 8: Update Profile



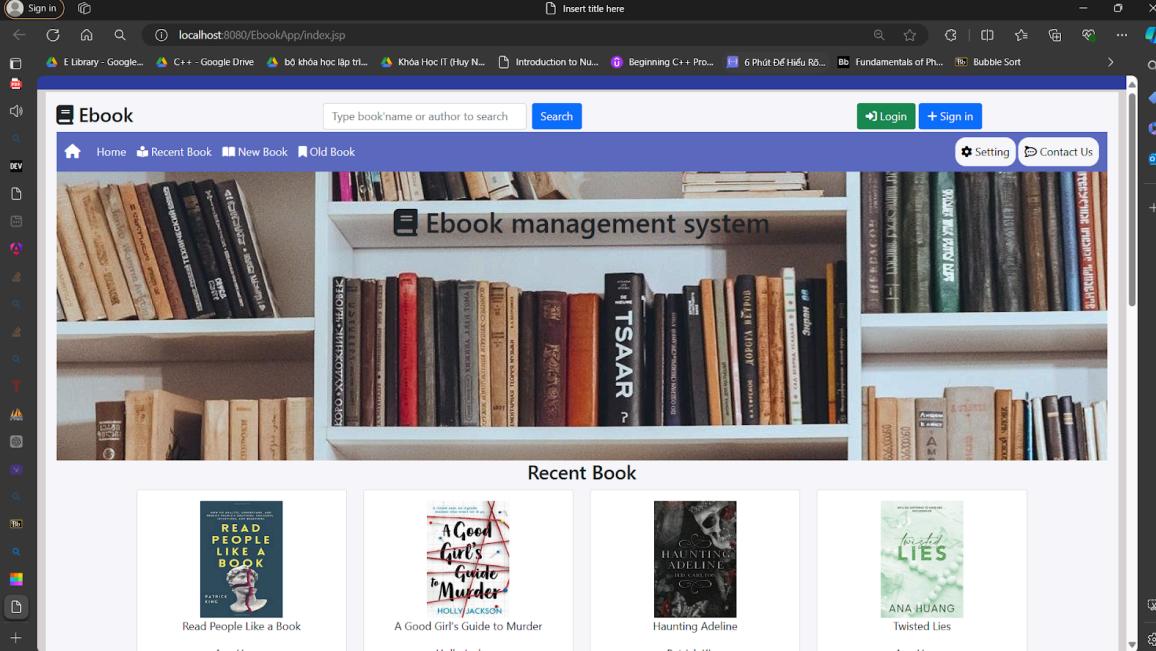
III. IMPLEMENTATION

1. User's account management functions

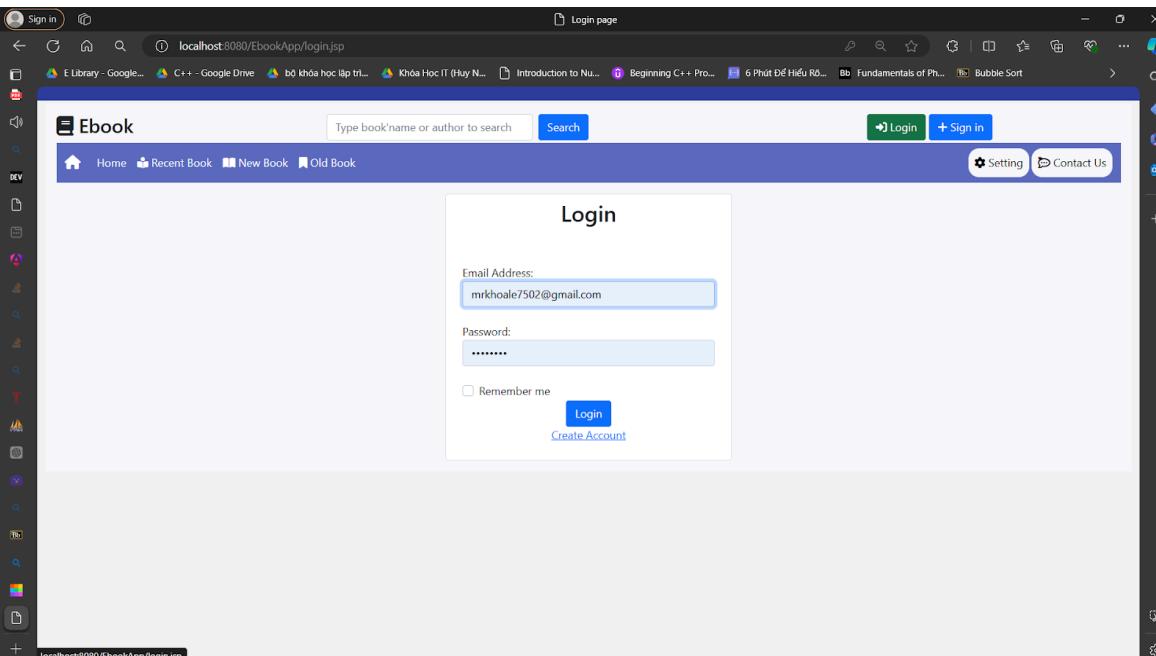
1.1 Login

Step 1: Go to the web via the link:

Click on **Login** button from the home page, the login page will appear:



The screenshot shows the homepage of the "Ebook management system". At the top, there is a search bar with the placeholder "Type book name or author to search" and a "Search" button. Below the search bar, there are links for "Home", "Recent Book", "New Book", and "Old Book". On the right side of the header, there are "Login" and "+ Sign in" buttons, along with "Setting" and "Contact Us" links. The main content area features a photograph of bookshelves filled with books, with the text "Ebook management system" overlaid. Below this, a section titled "Recent Book" displays four thumbnail images of books: "Read People Like a Book" by Patrick Starrr, "A Good Girl's Guide to Murder" by Holly Jackson, "Haunting Adeline" by Deirdre Mundy, and "Twisted Lies" by Ana Huang.

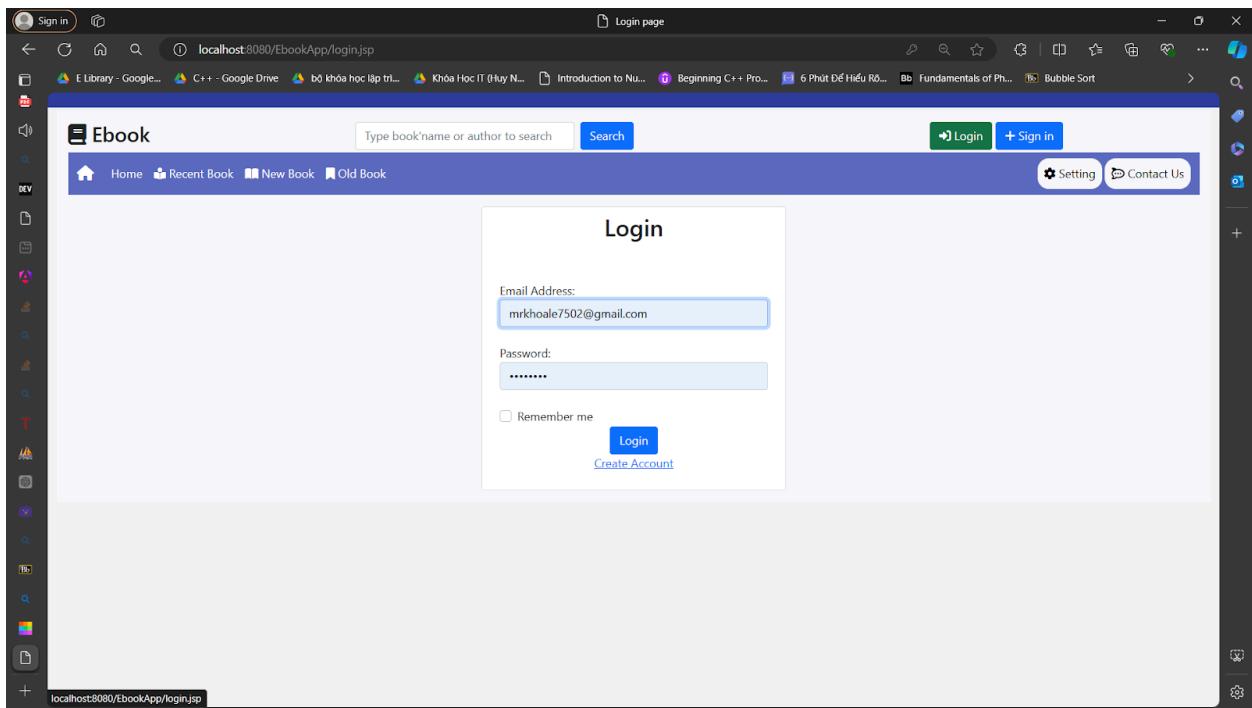


The screenshot shows the "Login" page of the "Ebook management system". The page has a similar header with a search bar, "Home", "Recent Book", "New Book", and "Old Book" links, and "Login" and "+ Sign in" buttons. The main content is a "Login" form with fields for "Email Address" (containing "mrkhoale7502@gmail.com") and "Password" (containing a redacted string). There is a "Remember me" checkbox and a "Login" button. Below the form, there is a "Create Account" link.

Step 2: Type email and password in login form and press **Login** Button

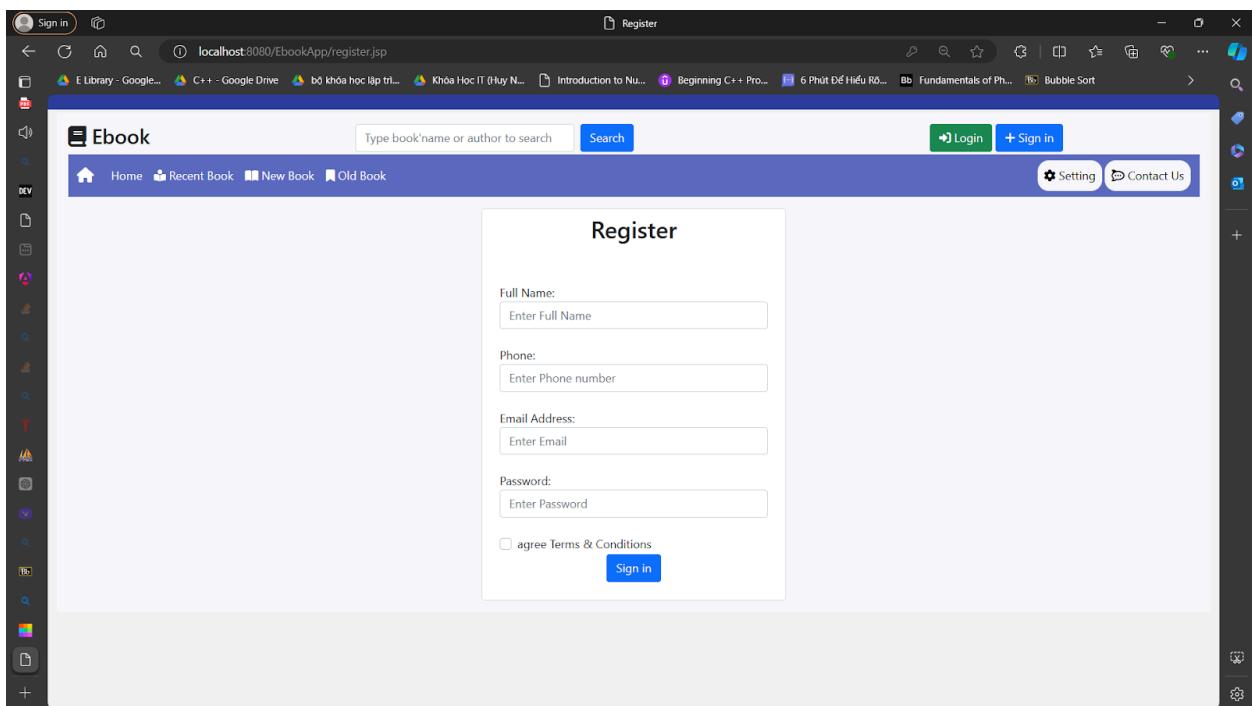
A successful message will appear and the user will be redirected to the home page

1.2 Register



Step 1: In the login page, click the [Create Account](#) link or you can press the [Sign in](#) button

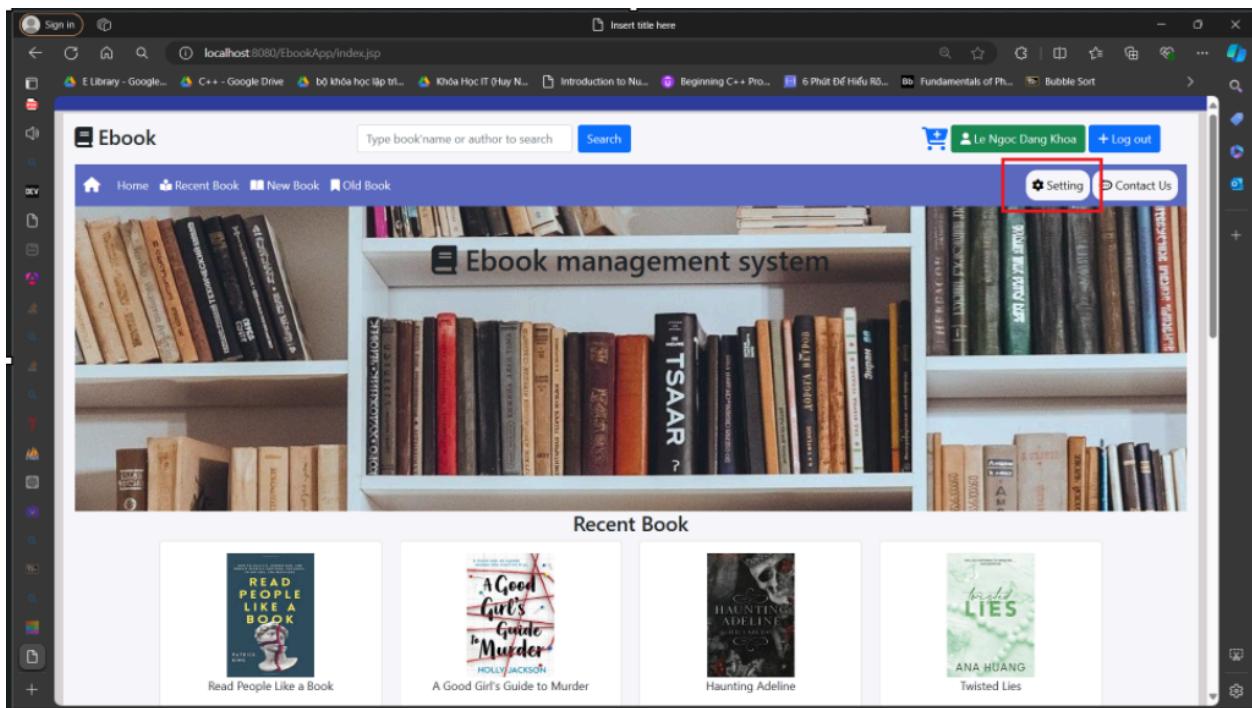
The Register page will appear asking user for typing information



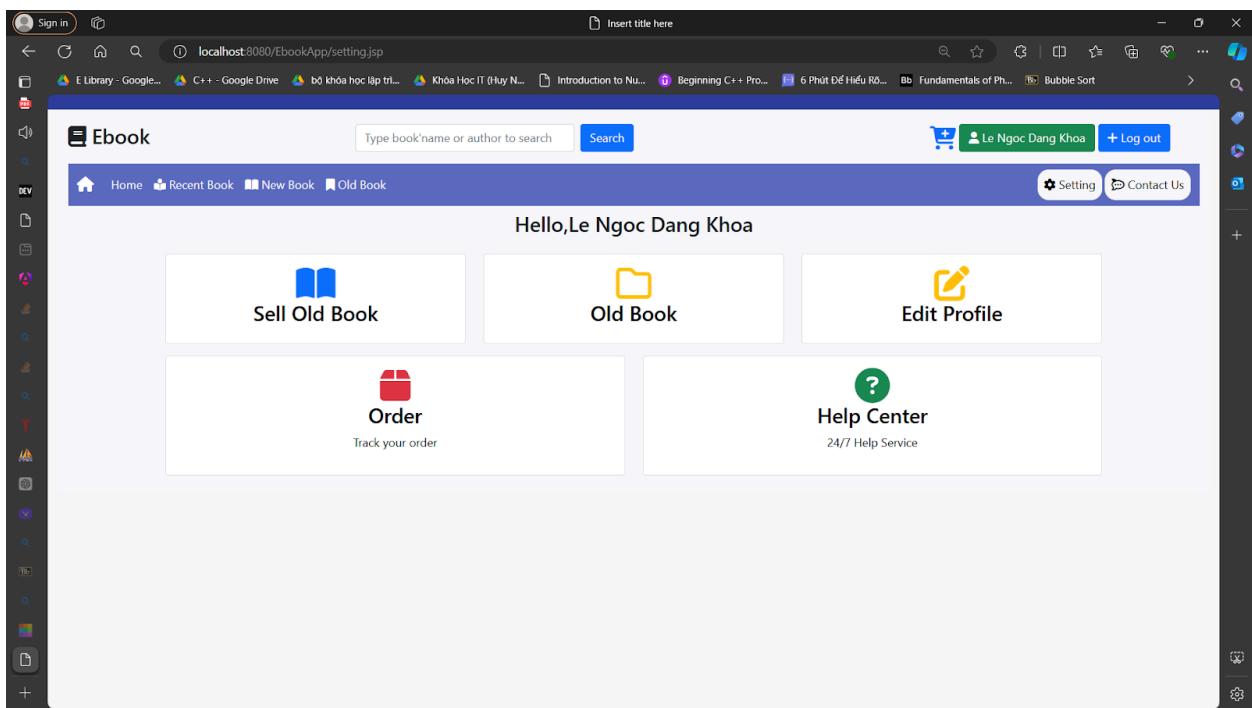
Step 2: Fill all the fields required and click Sign in to finish the registration

1.3 Update Profile

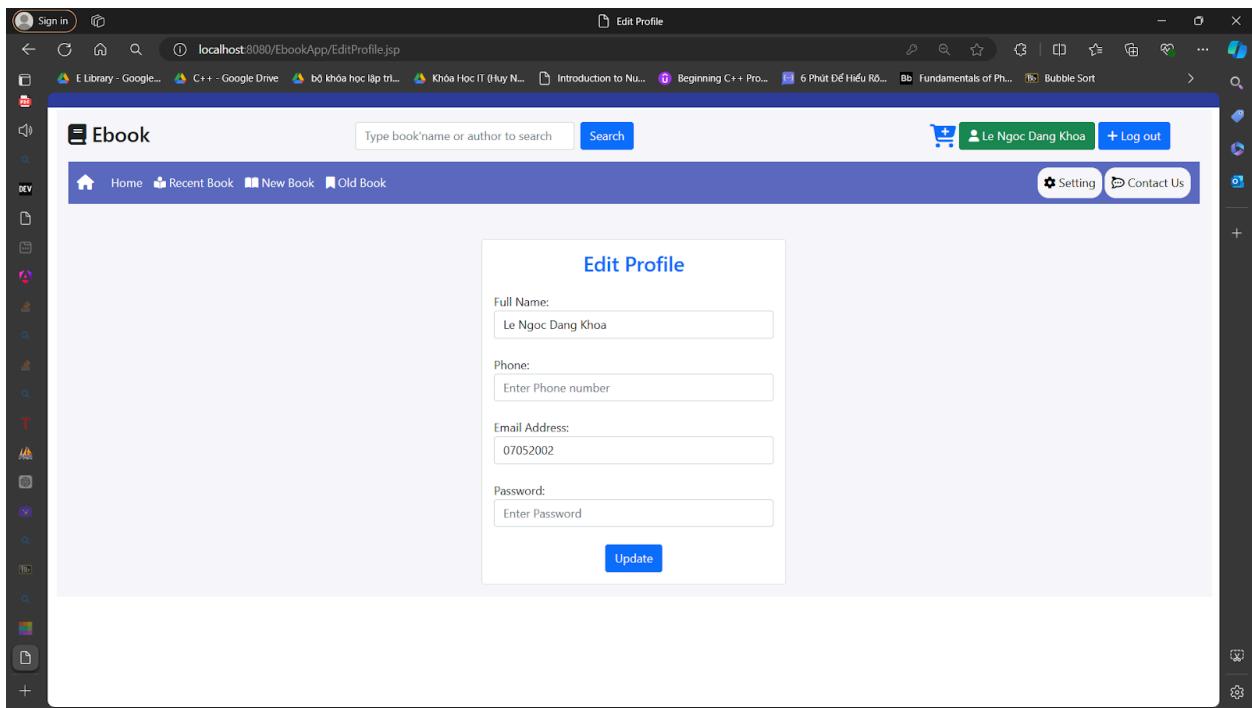
Step 1: Click Setting button on navigation bar



After that, the web navigate to Setting page like this

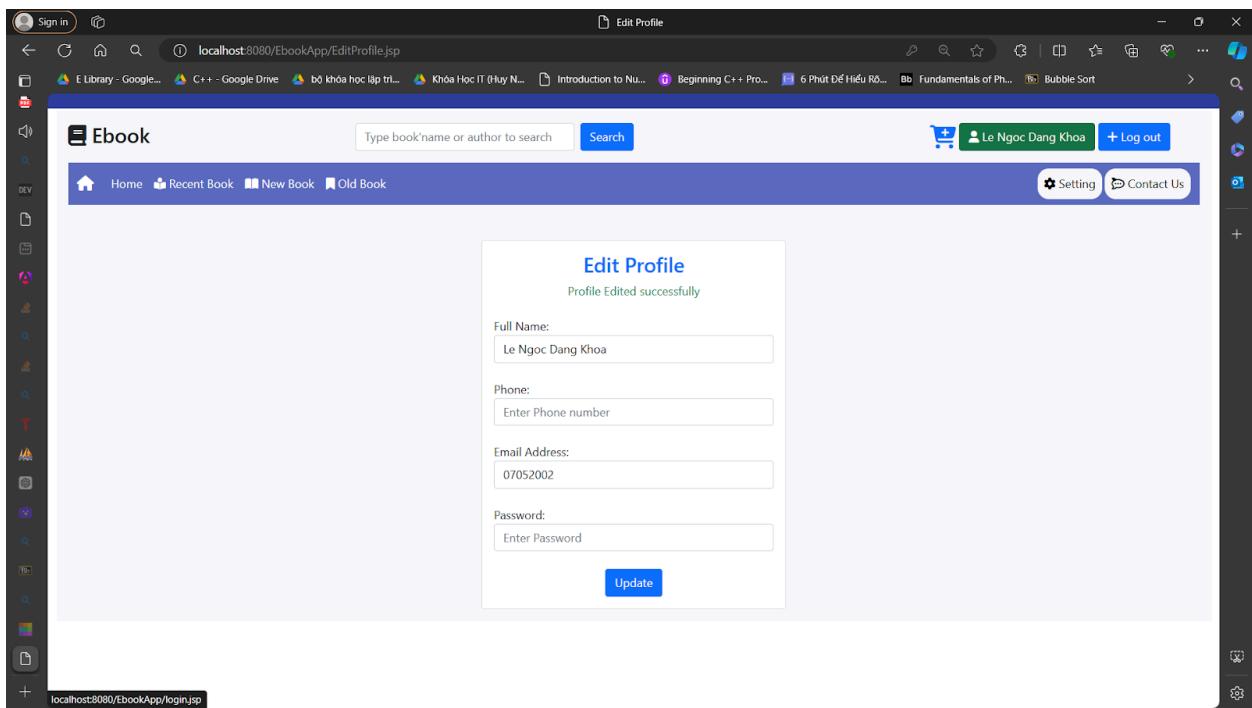


Step 2: Click on Edit profile and then you is navigated to the edit page



Step 3: Filling the update information in the input textbox and hit update button

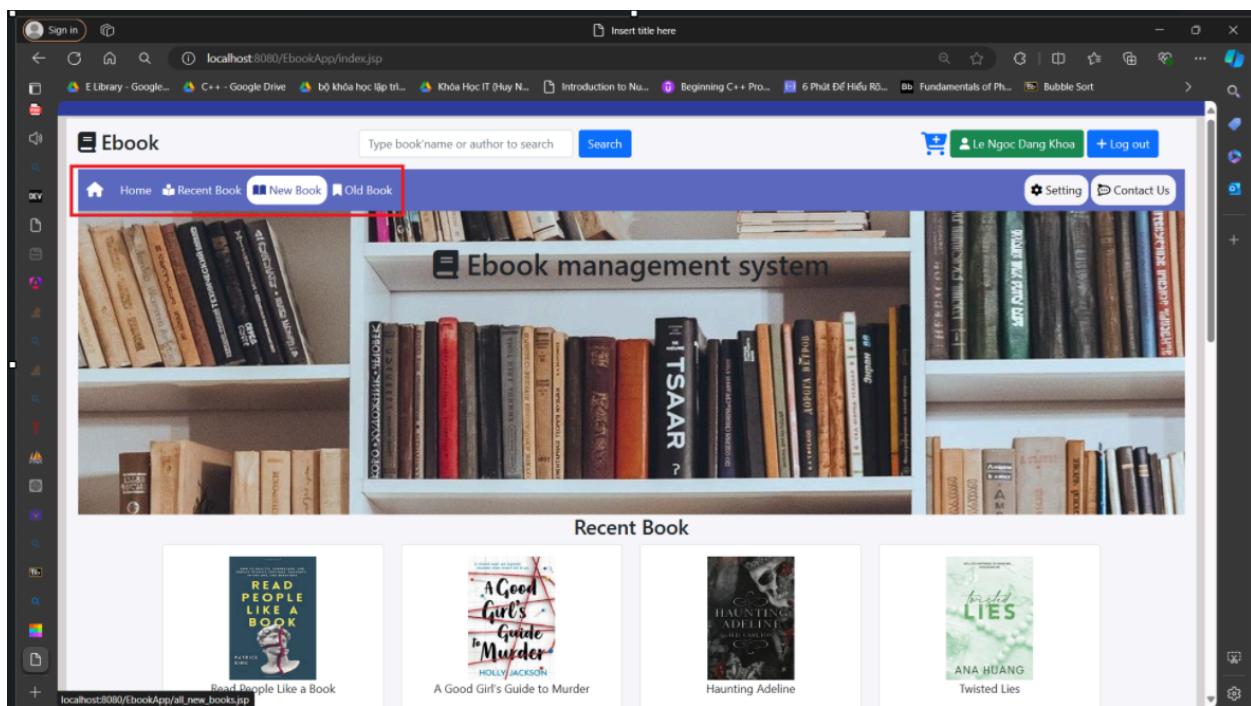
If you input correct password, the updated successful message is showed



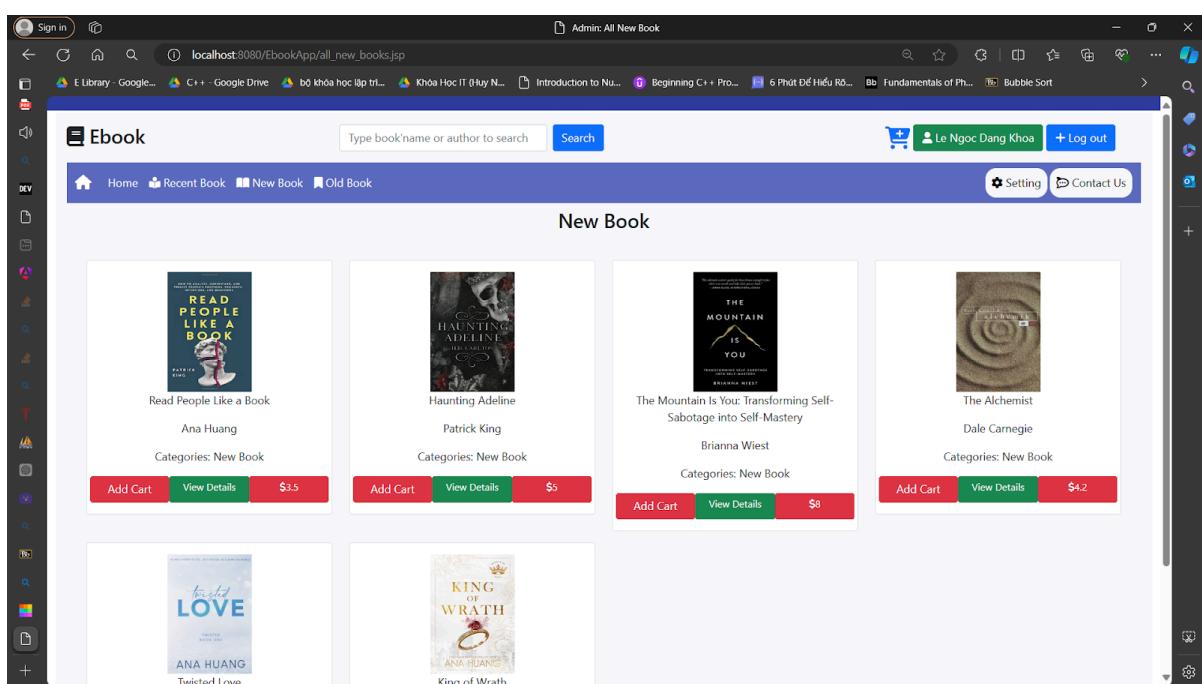
2 Product viewing functions

2.1 view a category of products

Step 1: Go to the web page via the link. At the home page, you can choose of the categories listed in navigation bar

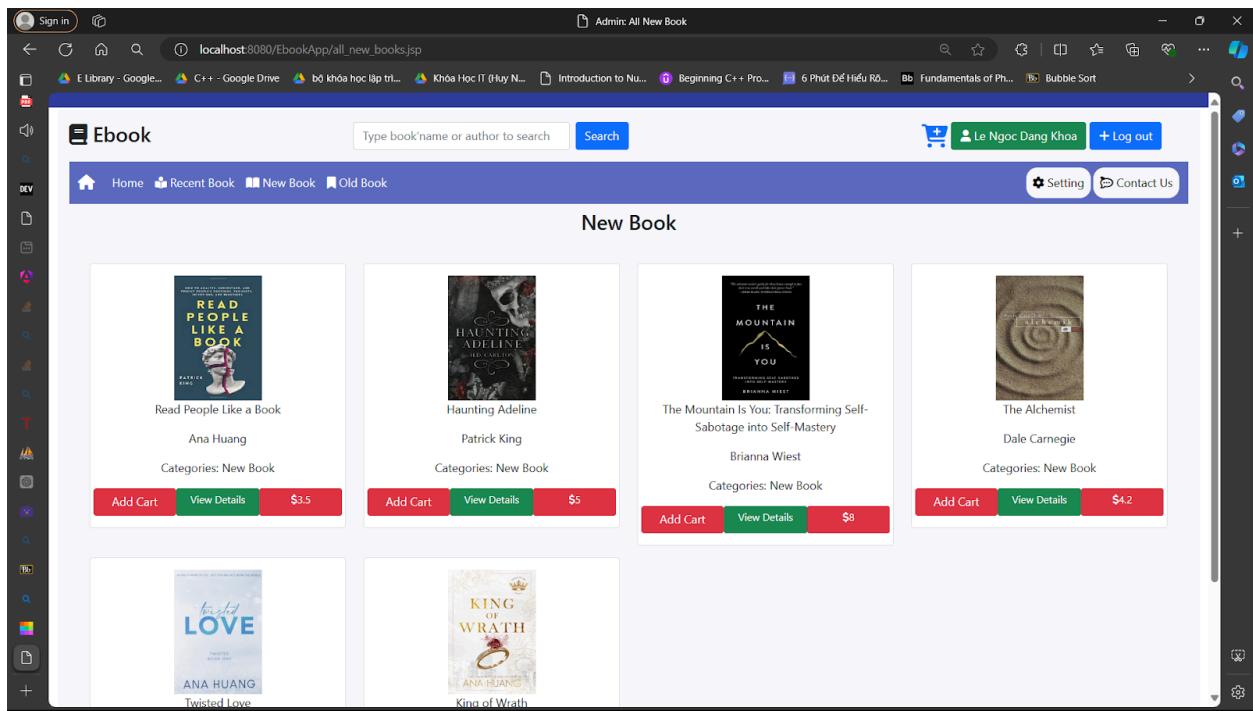


Step 2: After selecting the category, the system redirects you to the appropriate category page

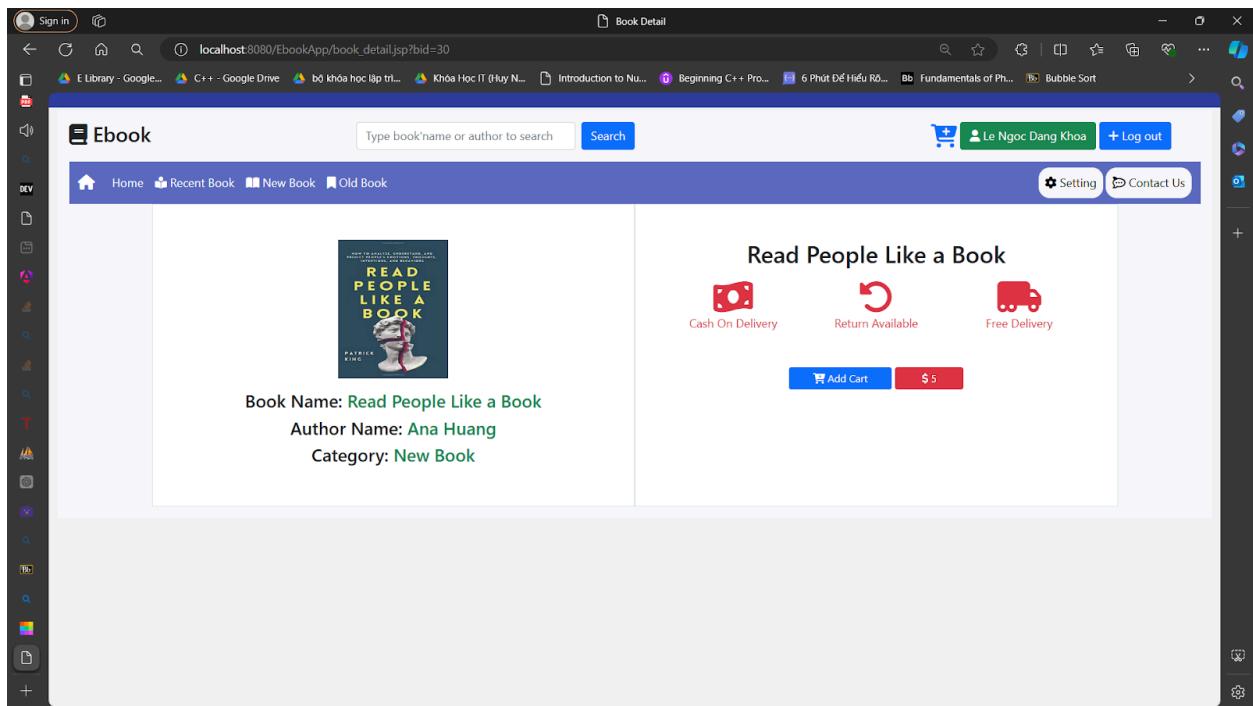


2.2 View a detail product

Step 1: After selecting the category of products or searching for a product, a list of products is shown as below

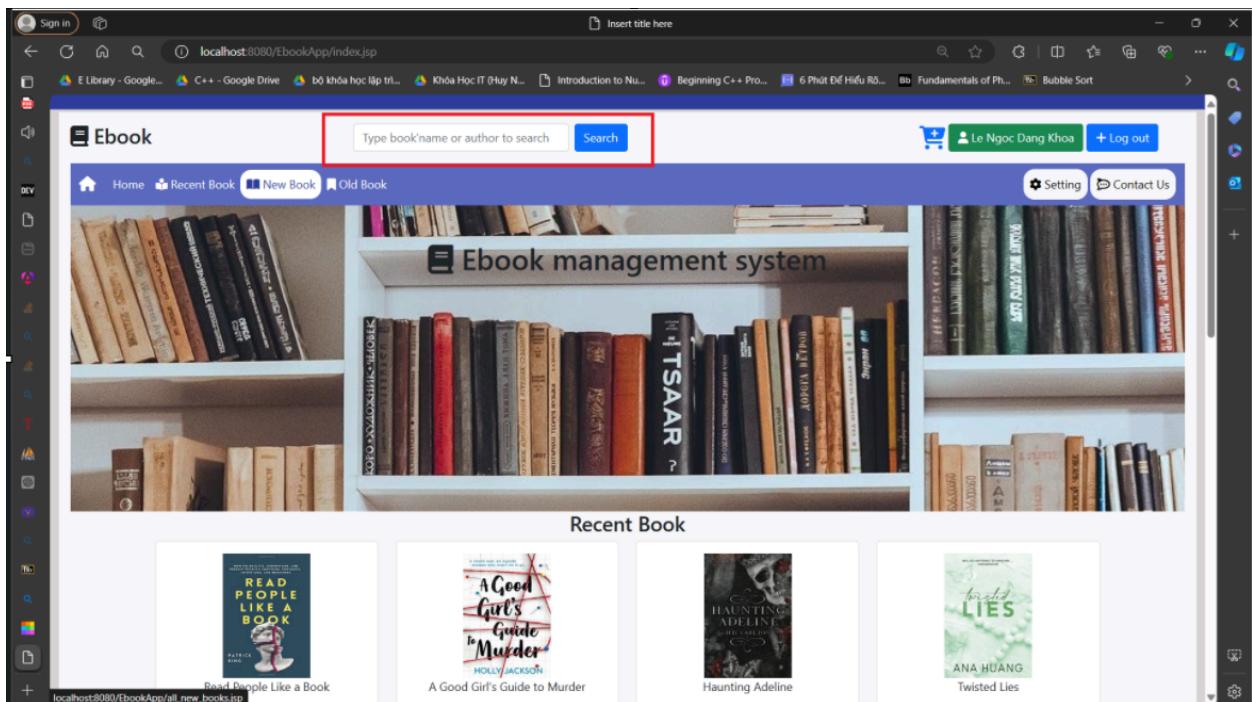


Step 2: Now, you can click on the view details to see more detailed information about the book

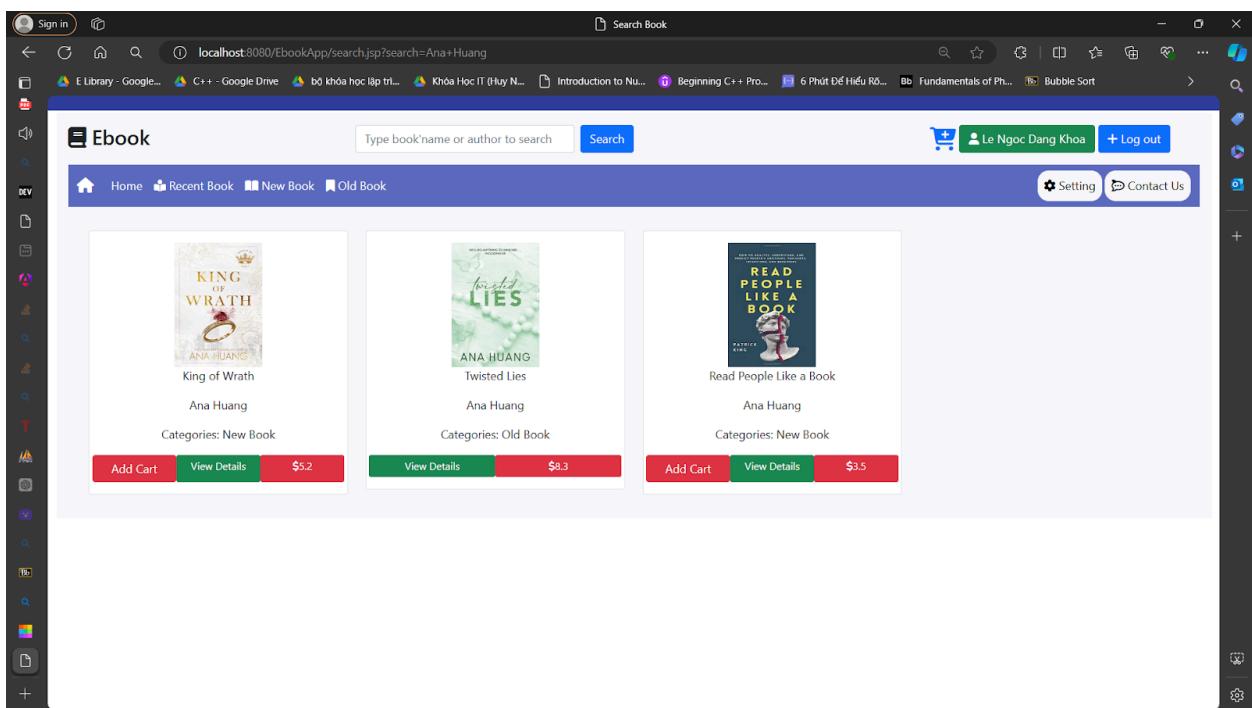


2.3 Search product by name/ category/ author name

Step 1: At the navigation bar, you click on the Search box as show below



Step 2: you type the search keyword that you want to find the product relates to (in this example: I want to find book by author name)

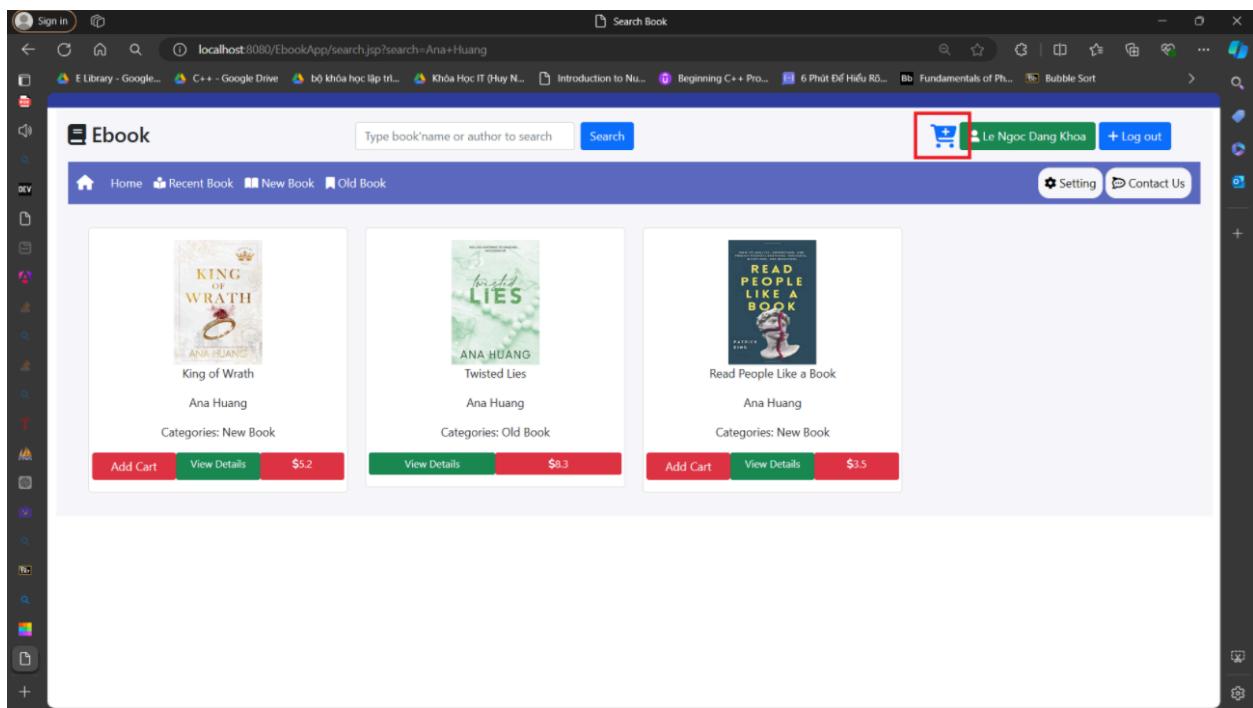


The result is shown as image above

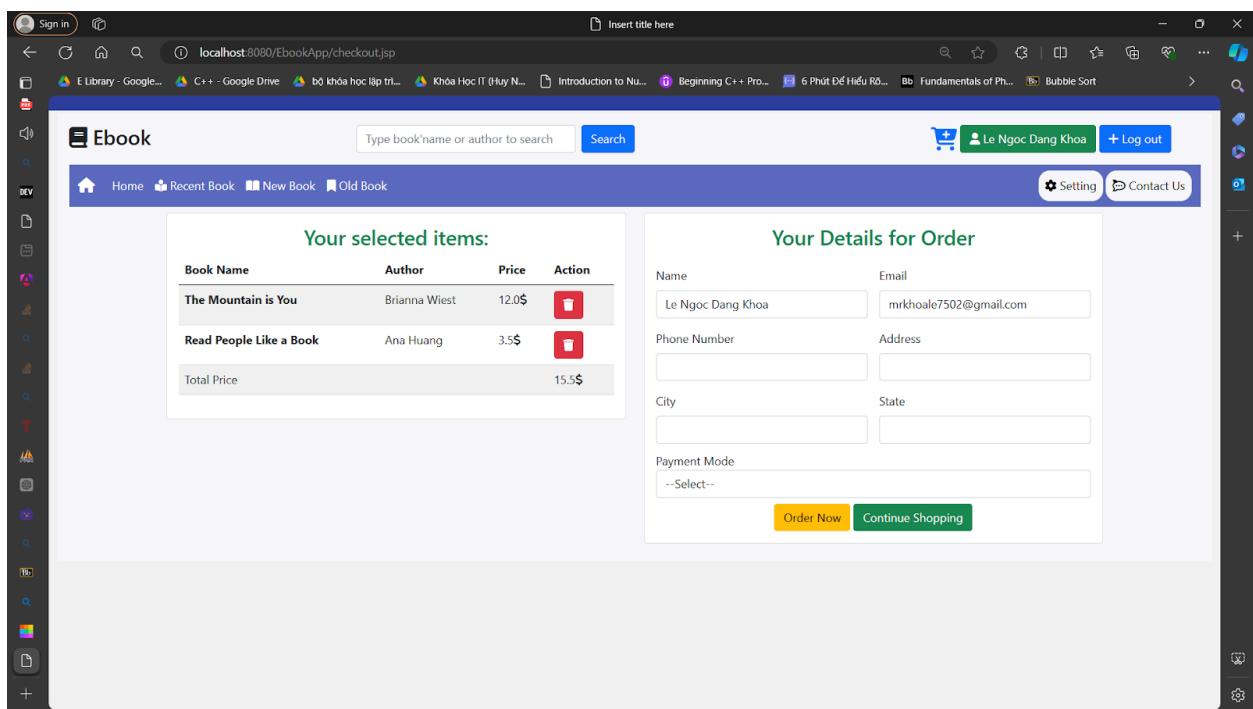
3. Adding to cart functions and place order

3.1 Viewing Cart

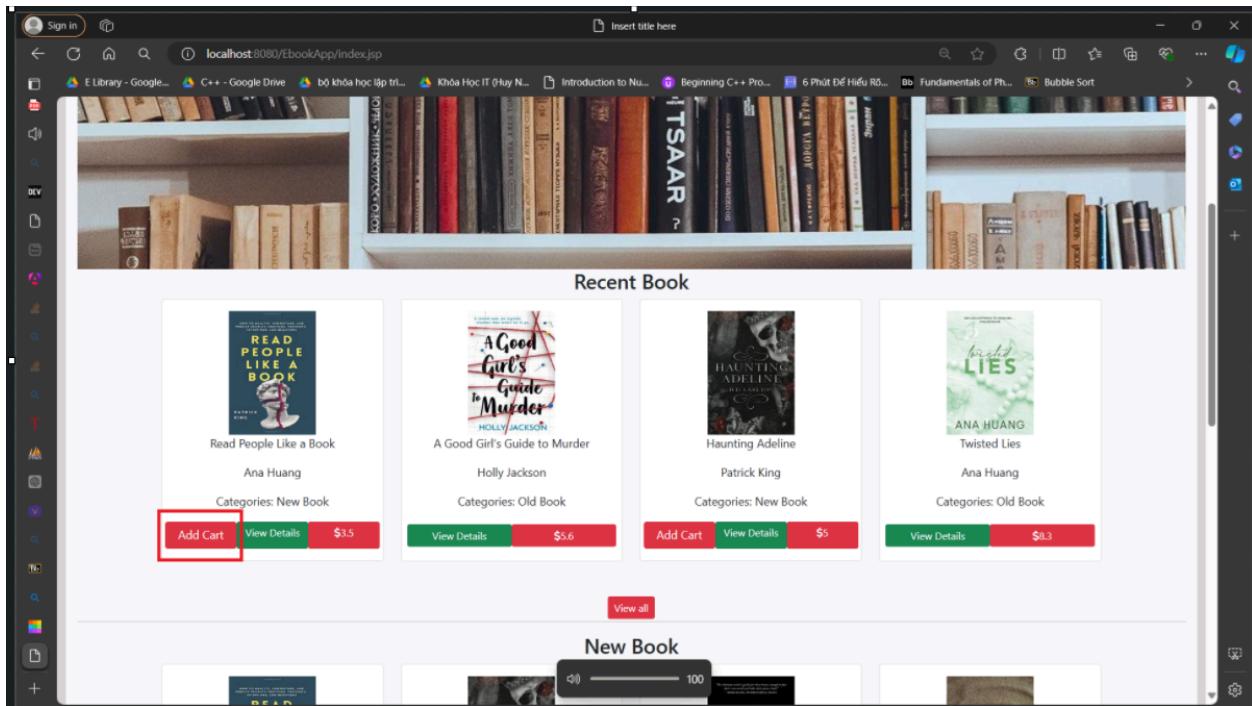
Step 1: Click the Cart icon next to the user' name as below



All books you have added to cart is showed as below



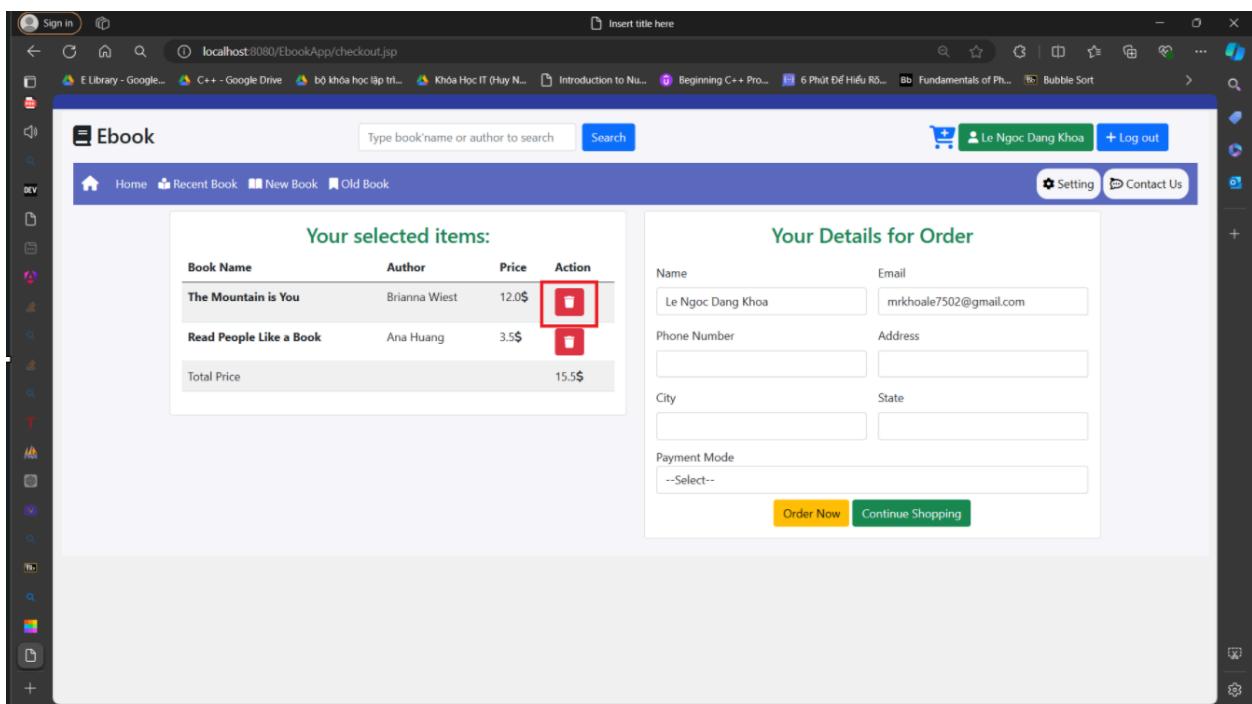
3.2 Adding book to cart

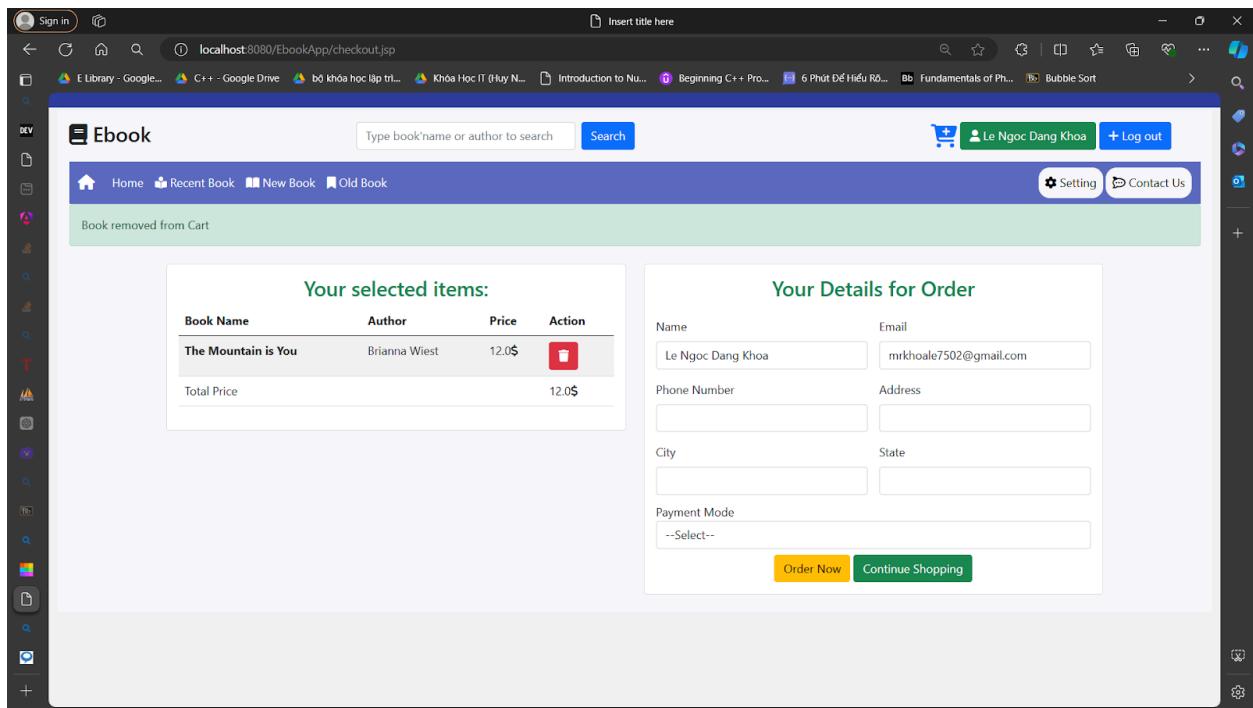


Hitting the Add Cart button to add the book you want to buy

3.3 Remove book from cart

On the cart page, you can click on the basket button to remove book from the cart

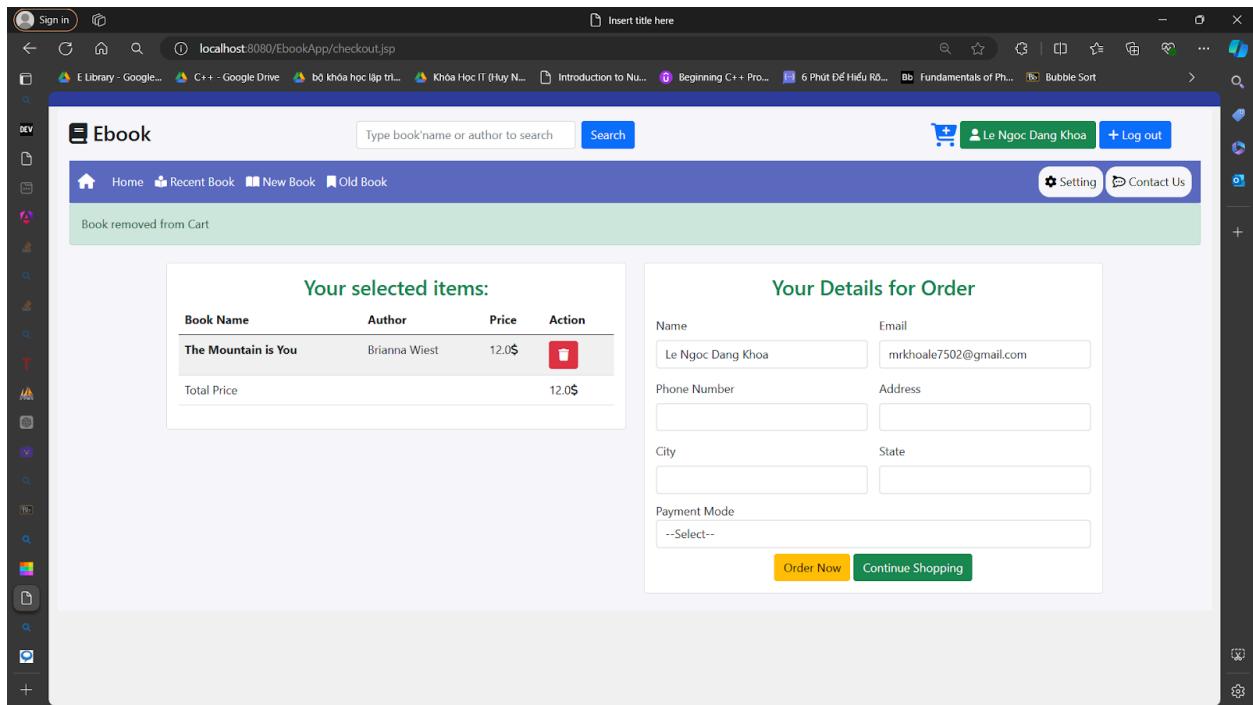




After click the basket button, the successful message is showed as the image above

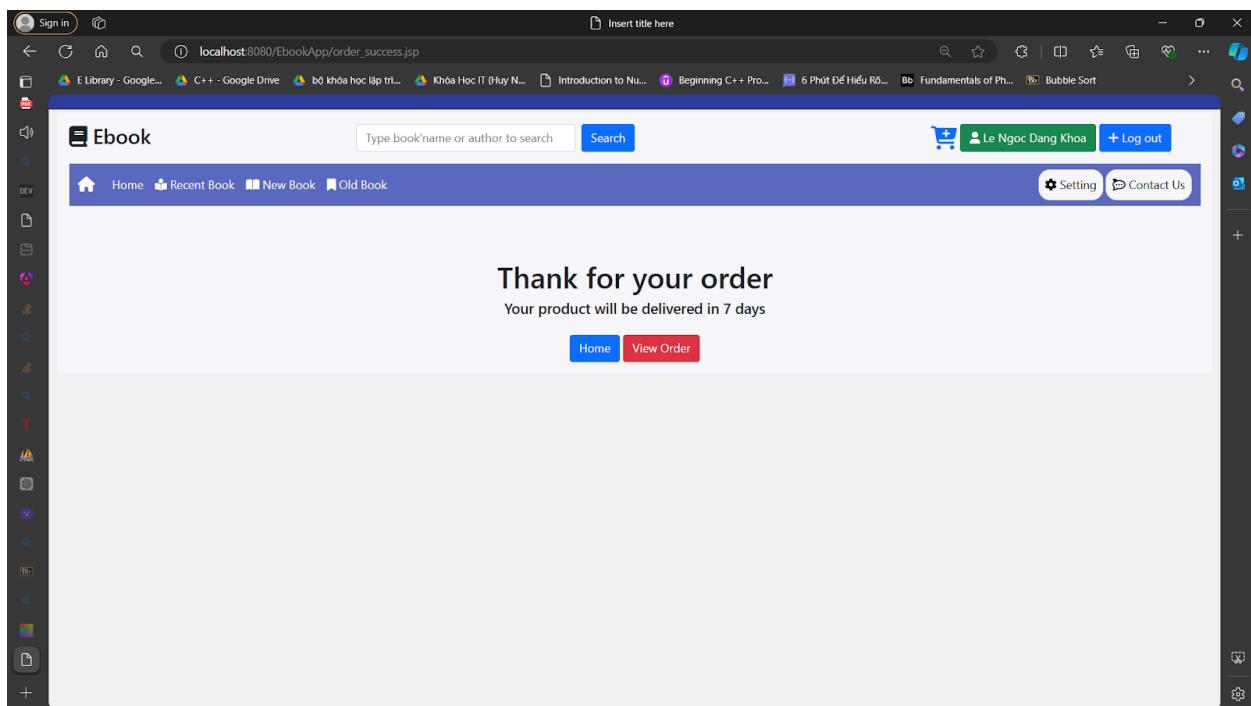
3.4 Place order

Step 1: click on the cart icon on the navigation bar, the cart page is show as below



Step 2: After that, you can fill all the information in the input box and press **Order Now** button to place order

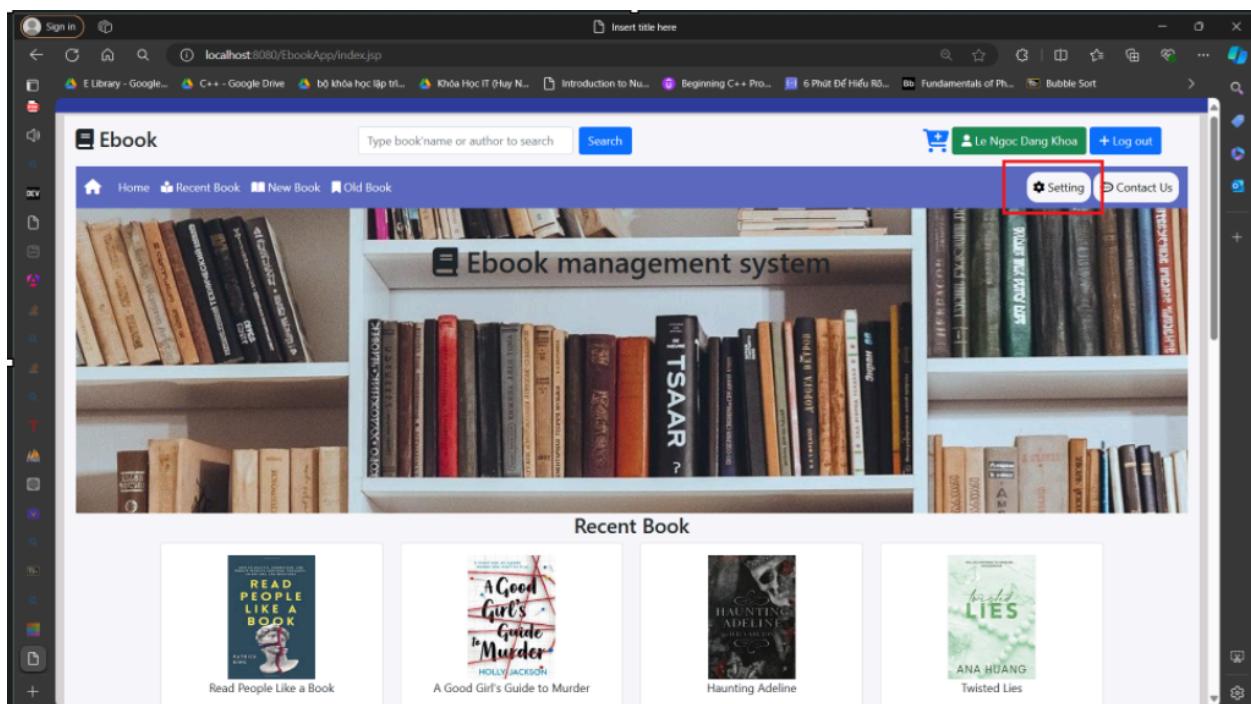
After you press **Order Now** button



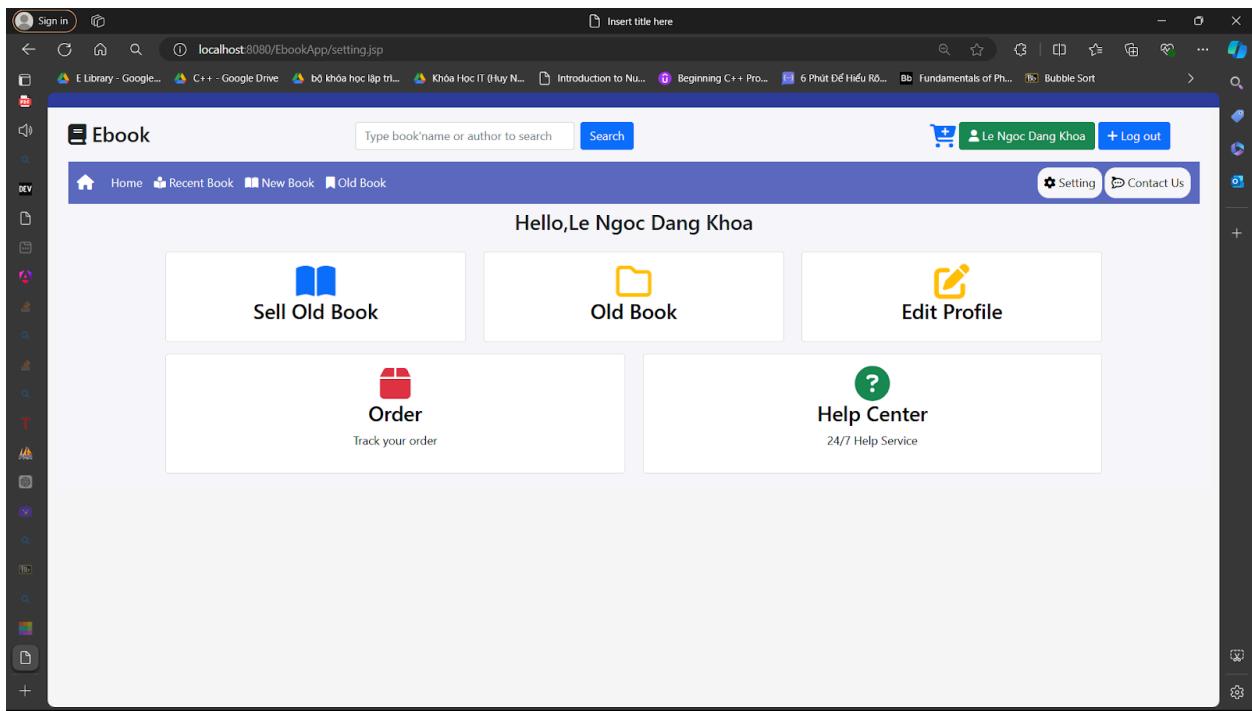
4. Selling and View Old Book

4.1 Sell old book

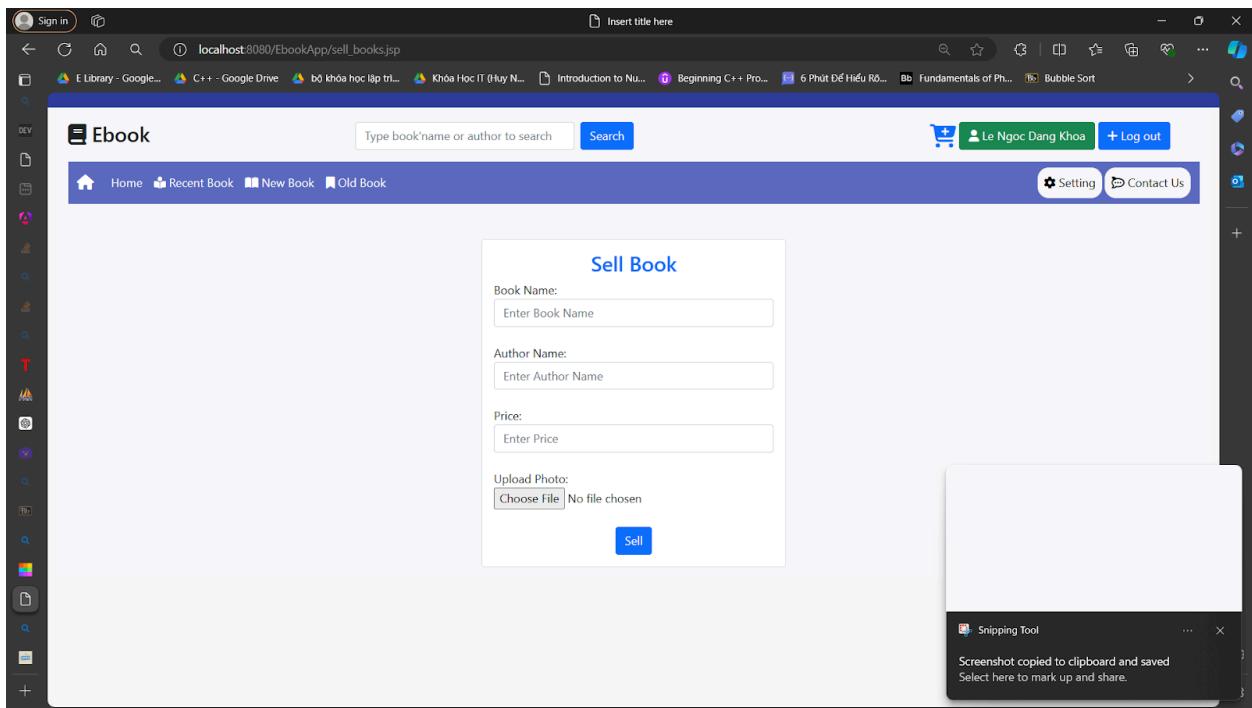
Step 1: Click Setting button on navigation bar



After that, the web navigate to Setting page like this

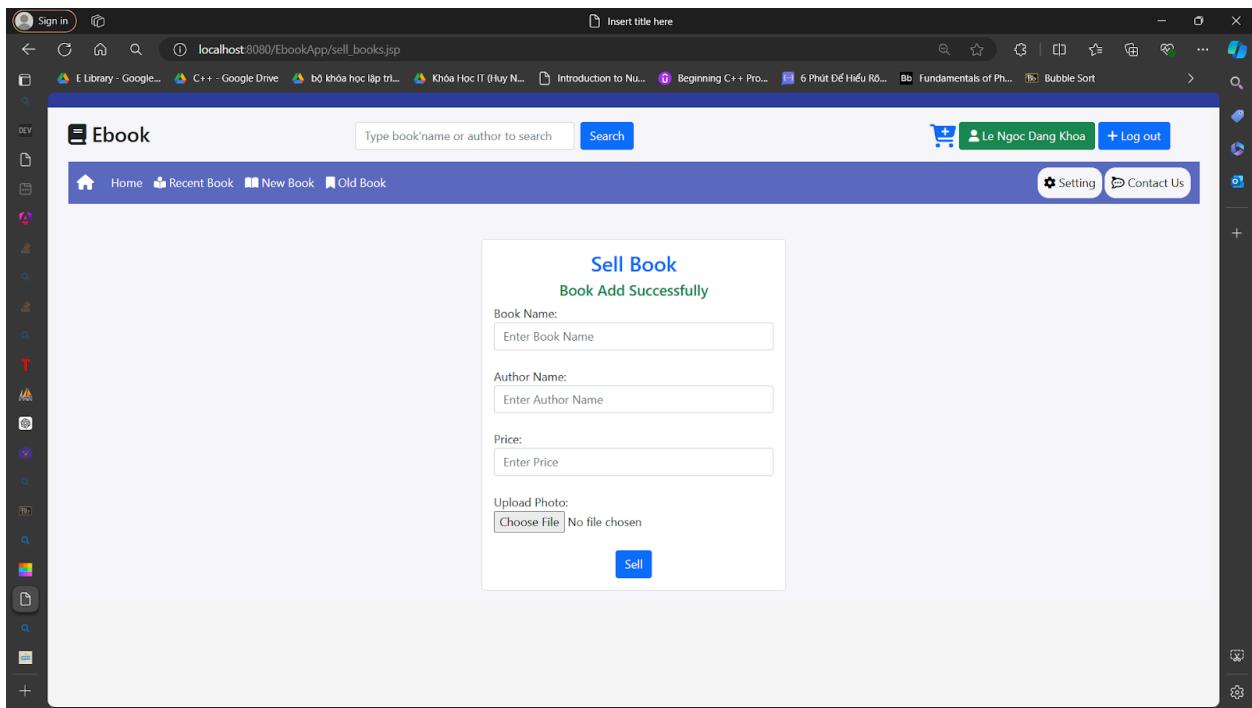


Step 2: Click on Sell Old Book



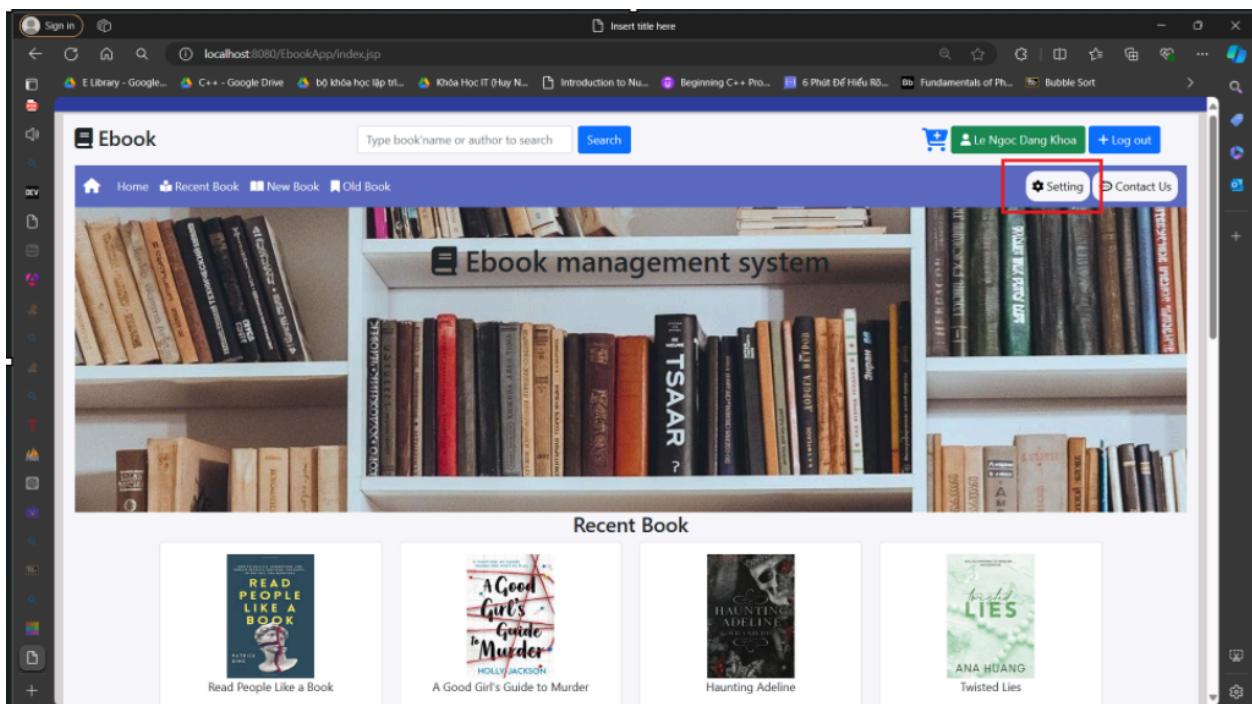
Step 3: Filling information of the book you want to buy and click Sell button

The successful message is showed as below:

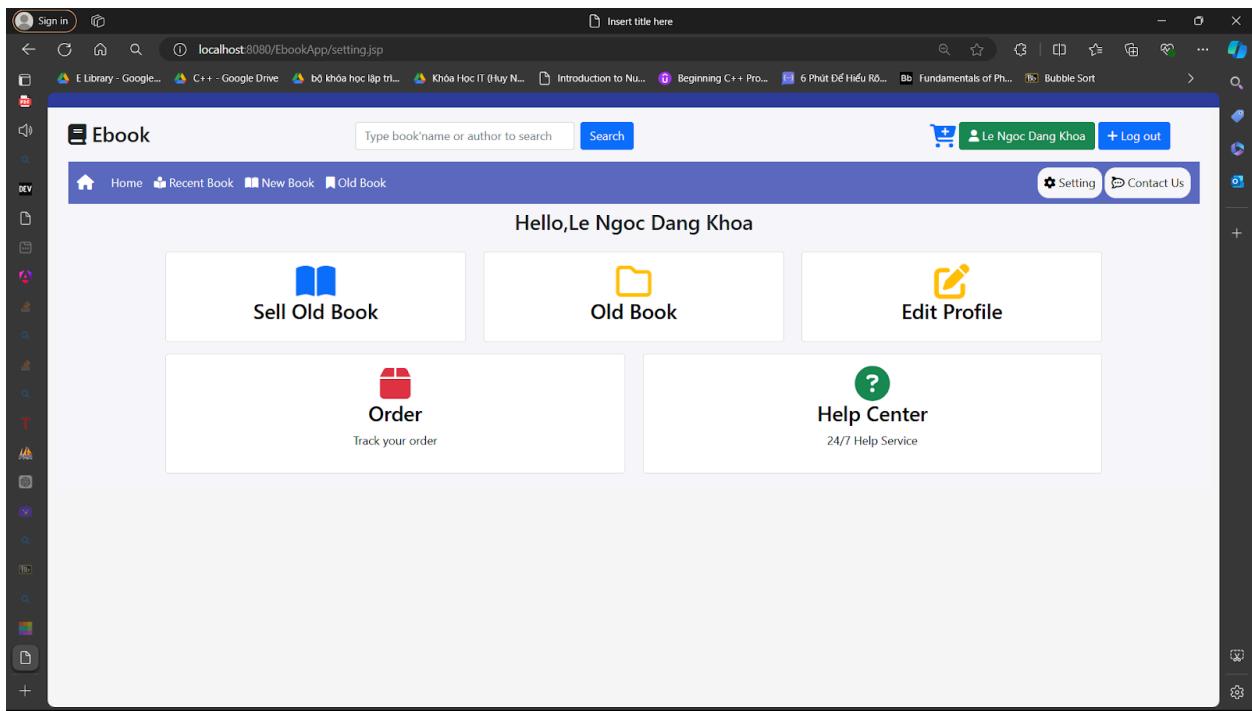


4.2 View List of old books

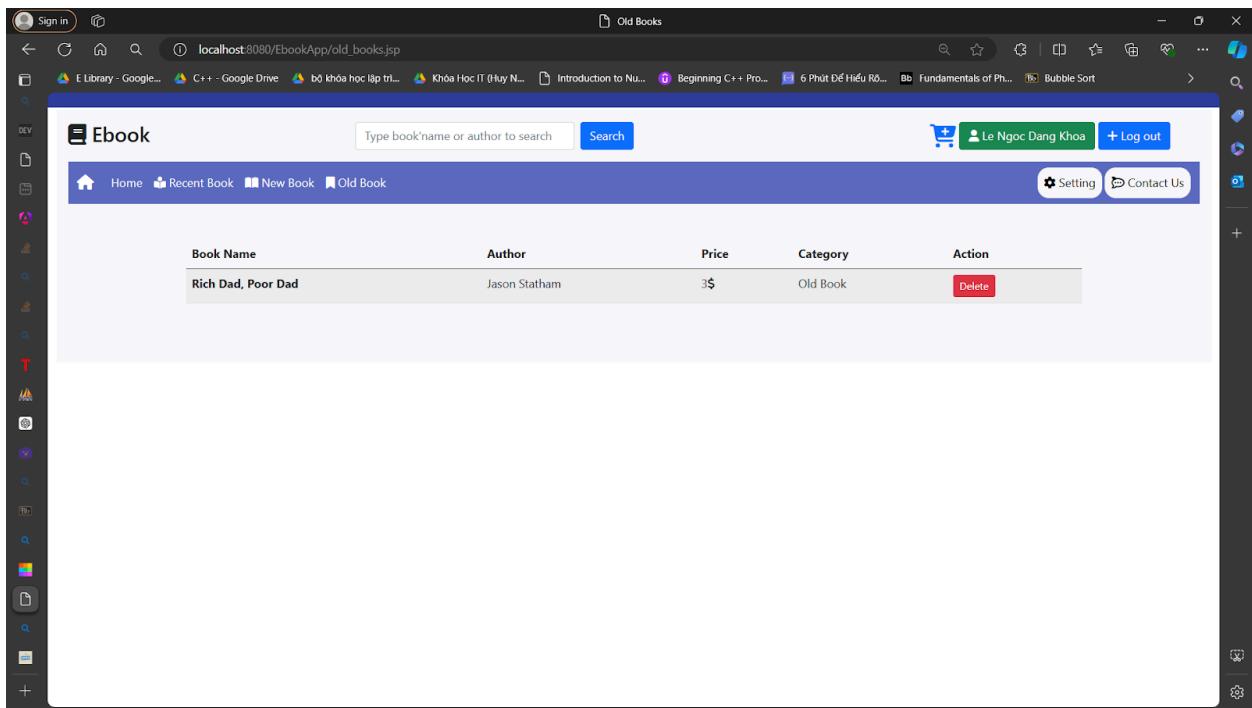
Step 1: Click Setting button on navigation bar



After that, the web navigate to Setting page like this

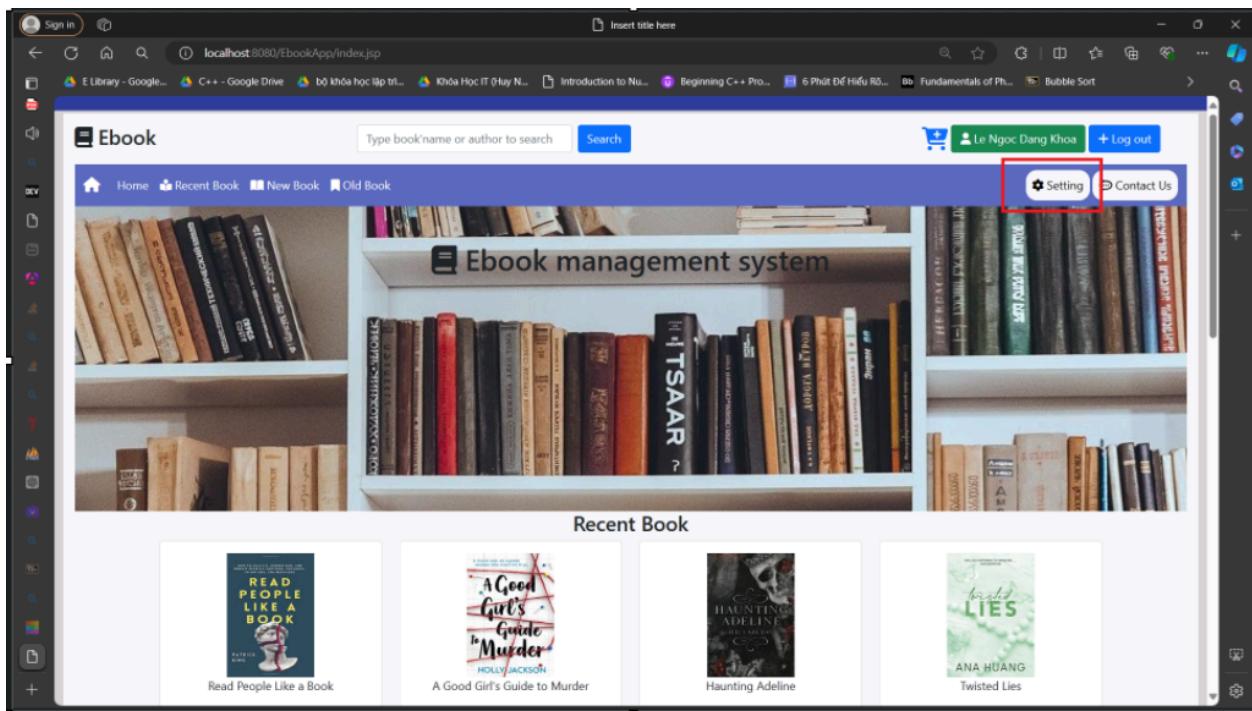


Step 2: Click on the Old Book and then the page is showed as below

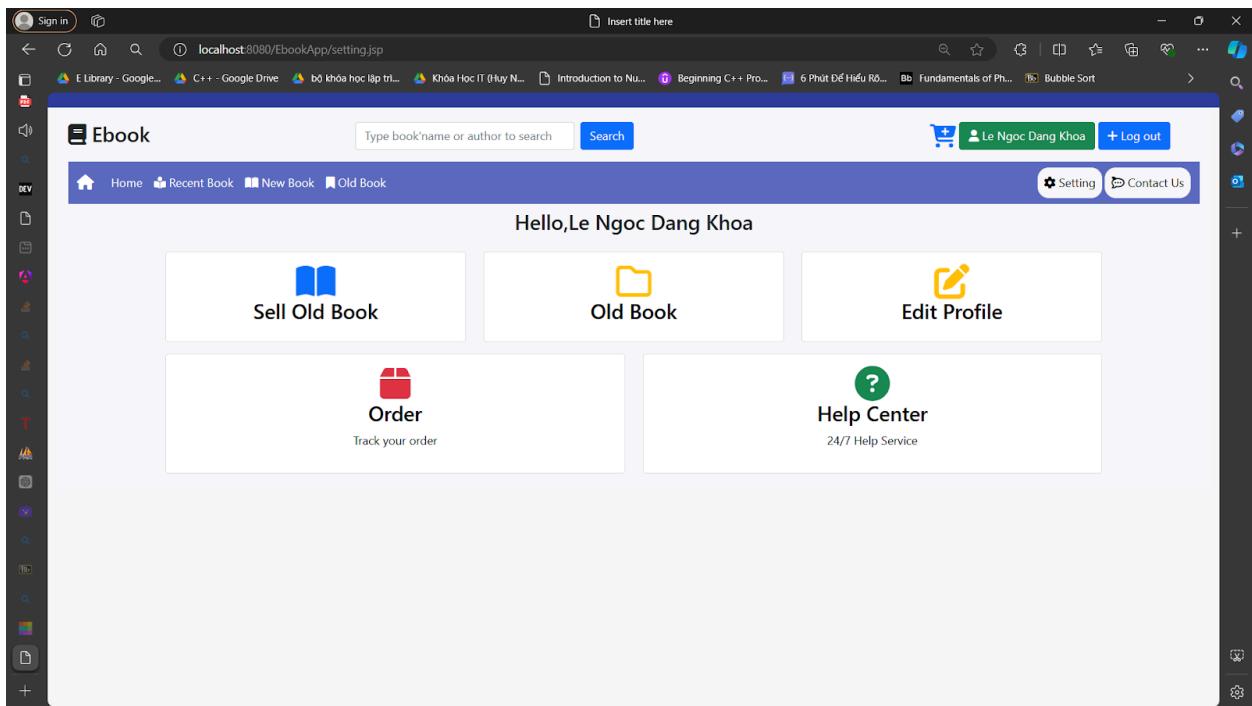


5. View Order

Step 1: Click Setting button on navigation bar



After that, the web navigate to Setting page like this



Step 2: Click on Order and then the web redirects to the page as below

The screenshot shows a web application titled "Ebook" running on a local host at port 8080. The URL in the address bar is "localhost:8080/EbookApp/order.jsp". The page has a blue header bar with the "Ebook" logo, a search bar, and a user profile section for "Le Ngoc Dang Khoa". Below the header is a navigation bar with links for "Home", "Recent Book", "New Book", and "Old Book". On the right of the navigation bar are "Setting" and "Contact Us" buttons. The main content area is titled "Your order" and displays a table with one row of data. The table columns are "Order Id", "Name", "Book Name", "Author", "Price", and "Payment type". The data row shows: Order Id "BOOK-ORDER-005", Name "Le Ngoc Dang Khoa", Book Name "The Mountain is You", Author "Brianna Wiest", Price "12.0", and Payment type "COD". The browser interface includes a sidebar on the left with various icons and a toolbar on the right.

Order Id	Name	Book Name	Author	Price	Payment type
BOOK-ORDER-005	Le Ngoc Dang Khoa	The Mountain is You	Brianna Wiest	12.0	COD