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Chapter 1

Introduction

1.1 Background

“BookBazaar” is an online website where customer can buy second hand books. Through web browser, customer can search for the book, later add to the cart and finally purchase it. Customer can place online book orders and pay with eSewa. The books are divided into categories to make the search easier. Books can just be simply be uploaded to the website and another student or person can have access to buy the book by just visiting the website. The selected books are displayed in a tabular format and the user can order their books online through eSewa payment.

Books are currently incredibly pricey and difficult for everyone to purchase. The answer is to purchase used books at a discount. Our website can assist students and many other readers in buying and selling used books so that one can use it because there are very few retailers nowadays that offer these services of buying and selling old books. These websites will not only benefit students, but also the general public and anyone who wants to read books but cannot afford to do so or simply wants to empty their book shelves in order to profit from it.

Those who enjoy reading a lot can purchase books from this site for a reasonable price. By just providing the book's details, a seller who wants to sell their book can do so. Therefore, any viable source of money is always appreciated. All of these goals will be met by developing a user-friendly, all-inclusive online marketplace for buying and selling used books.

1.2 Problem Statement

Many people who enjoy reading books purchase them, read them, and then store them on their shelf without ever using them again. Similar practices are used by students who purchase course materials but do not re-use them after completing their course study. Many individuals enjoy reading, and many students require books for their studies, but due to the expensive price they can hardly afford to purchase books. Since there aren't many second hand book stores around that offer these services these days, we've created a website that can assist readers and students looking to buy and sell used books.

1.3 Objectives

The objective of our project “BookBazaar” are as follows:

- To provide a second-hand book at convenient price where user can buy used book according to their need.
- To conserve resources by passing along books from one reader to another. (**Use of paper is less**).
- To create a user- friendly web portal for buying and selling used books online.
- To help many people who are fond of reading but can’t afford to buy the books.
- To save time of the users by providing books online.

1.4 Scope and Limitation

1.4.1 Scope

With the "BookBazaar" project, we can also assist those book stores that buy and sell used books. However, with the aid of our website, people will learn about that site and go to the store to buy or sell the book if we do not have delivery options in that region. Additionally, used book seller can also advertise their business.

1.4.2 Limitation

BookBazaar has its advantages, but unfortunately some factors limit the effectiveness of E-commerce technology.

- Poor link between technology generation and dissemination among public and private partners.
- High maintenance and expansion costs

Chapter 2

System Analysis and Design

2.1 Requirement Analysis

The system requirement is mainly divided into two parts i.e. software requirement and hardware requirement.

2.1.1 Functional Requirement

This section discusses the system's needs in general. There will be a variety of functional modules that can be used in that system.

a. Home Page: This function is used to register and login for the administrators and the customers.
b. Registration: It is used for the customers to register themselves. To purchase the product in the system a new user must first register in the system by providing essential information.
c. Login: The specific username and password to the customers and enter the system. After registering, the user must enter their username and password to enter the system.
d. Add to Cart: User may also add items to their basket by selecting the "Add to Cart" button the product list. They have access to the system's card as well. The items in the cart can also be removed.
e. Add and view Products: A variety of items are available at the Bookbazaar. By name, the item is recognized. The system administrator has the power to add and edit new products.
f. Delete products: The administrator has the authority to delete the product based on the stock.
g. Search product: Users can type the title of book to search it in the list.

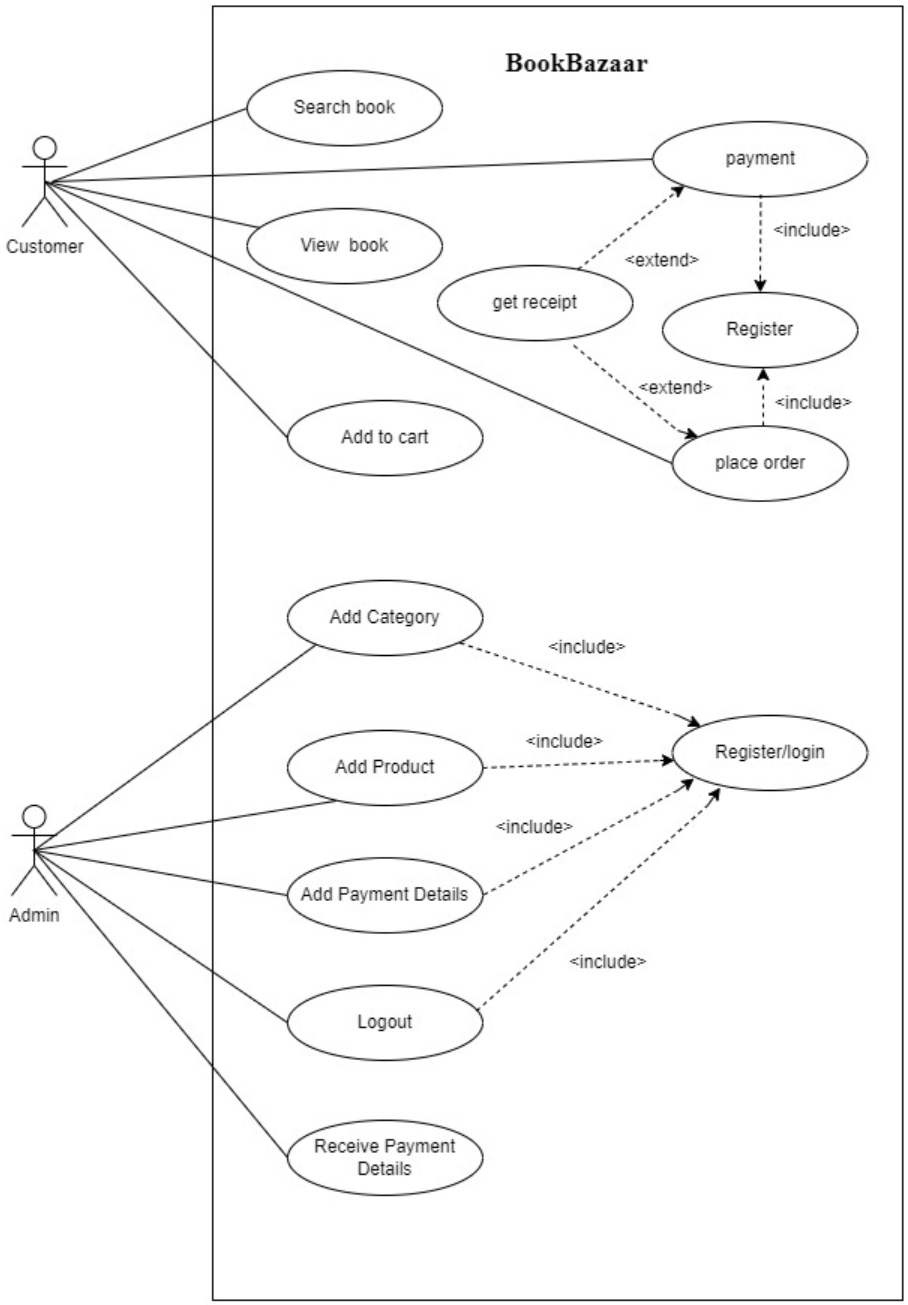

Figure 1:Use Case Diagram of BookBazaar

The use of case diagram is developed during the requirement analysis phase that model static structure of system using class and object diagrams. Given shows the use case model of BookBazaar, which diagrammatically shows relationship among two actors (Buyer and Seller) along with their goals.

2.1.2 Non-functional Requirement

The non- functional requirements of our system are as follows:

- Optimum performance measure
  - System login/logout takes less than 5 seconds.
  - Searches return results within 10 seconds.
  - Orders processed within 10 seconds.
  - System support approximately 50 or more users simultaneous.

- Reliability
  - The average time to failure is minimum of 30 days. In the event that a server does crash, a backup server will be up and running within an hour.

- Availability
  - Bookbazaar is available to users 24 hours a day, 7 days a week, with the exception of being down for maintenance no more than one hour a week.
- Security
  - Users is able to access only their own personal information and not that of other users. Purchases is handled through a secure server to ensure the protection of user's information.
- Maintainability
  - Any updates or defect fixes is able to be made on server-side computers only without any patches required by the user.
- Easy to use
  - Users is able to learn this system very quickly. It is fairly intuitive. The simple and minimal use of UI makes the system easy to understand and use it with ease.
- Connection
  - Accessible through any device having the internet connection.

2.2 Feasibility Study

Feasibility Study is a study to evaluate feasibility of proposed project or system. As name suggests, feasibility study is the feasibility analysis or it is a measure of the software product in terms of how much beneficial product development will be for the organization in a practical point of view. Feasibility study is carried out based on many purposes to analyze whether software product will be right in terms of development, implantation, contribution of project to the organization etc.

Three key considerations are involved in the feasibility study: Economic Feasibility, Operational Feasibility and Technical Feasibility.

2.2.1 Economic Feasibility

The proposed system is considered to be economically feasible because a single system is only needed for seller to upload the data to the site and buyer needs system to view the product. Thus, it reduces the manual work. A person from anywhere in the world could access the information easily that saves time instantaneously without much cost.

2.2.2 Technical Feasibility

The proposed system is considered technically feasible because it requires only the initial cost of purchasing a system. Typical considerations for technical feasibility include development risk, resources, availability, and technology. We chose a tool set platform that can be seamlessly integrated into other software platforms, and future support should be guaranteed.

2.2.3 Operational Feasibility

The proposed system is user friendly and easy to use. The site could be accessed by both the seller and buyer.

2.3 Process Model used

In our BookBazaar we have used the Iterative model to develop the system. In the Iterative model, iterative process starts with a simple implementation of a small set of the software requirements and iteratively enhances the evolving versions until the complete system is implemented and ready to be deployed.

An iterative life cycle model does not attempt to start with a full specification of requirements. Instead, development begins by specifying and implementing just part of the software, which is then reviewed to identify further requirements. This process is then repeated, producing a new version of the software at the end of each iteration of the model.

The basic idea behind this method is to develop a system through repeated cycles (iterative) and in smaller portions at a time (incremental).

The key to a successful use of an iterative software development lifecycle is rigorous validation of requirements, and verification & testing of each version of the software against those requirements within each cycle of the model. As the software evolves through successive cycles, tests must be repeated and extended to verify each version of the software.

We chose this model to develop our software due to the following benefits:

- Some working functionality can be developed quickly and early in the life cycle.
- Progress can be measured.
- Testing and debugging during the smaller iteration is easy.
- Better risk analysis

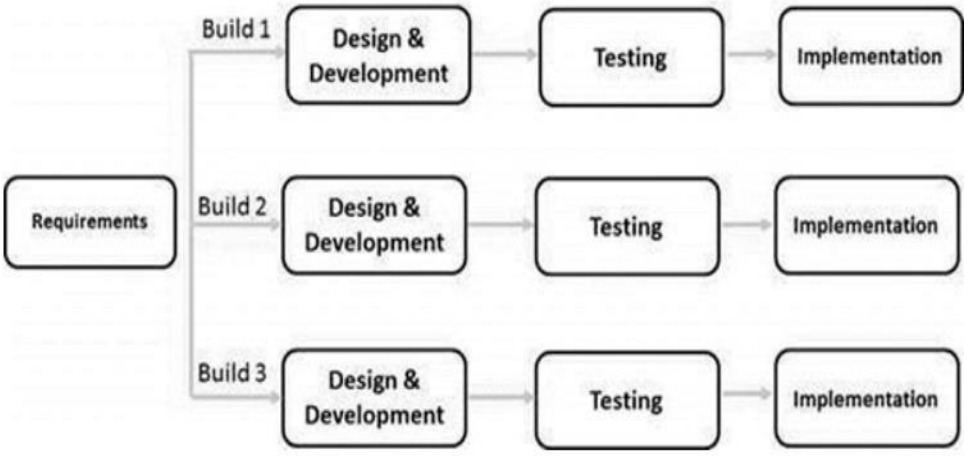

Figure 2: Representation of Iterative and Incremental model

2.4 System Design

2.4.1 System Architecture

The system architecture is a simplified representation of the Database Management System (DBMS). It is a conceptual model that aids in the definition of a system's structure as well as many other perspectives on the system. The system architecture focuses on the design, development, and implementation of the system, as well as organizing data that can be useful to the system. The database architecture can be extremely useful for future referencing. The database is also used in this project to keep track of the customers and employees who have registered in the system. The 2-tier architecture is one of the three types of database architecture used in this project.

In this 2-tier architecture the presentation layer runs on the users' devices which are known as the client servers whereas the data and information are recorded on another second tire server, i.e., the recorded data is not directly accessible or visible by the users. This will help to maintain data security so we can say that 2-tier architecture is a secure and faster database architecture. Generally, APIs like Open Database Connectivity (ODBC) or Java Database Connectivity (JDBC) is utilized in 2-tier architecture. In this system, we have used ODBC for the interaction purpose. The functionalities like query processing and transaction management, is done by the second server side. Here, if the client wants to communicate with DBMS, then the user will have to establish connection with the server side at first.

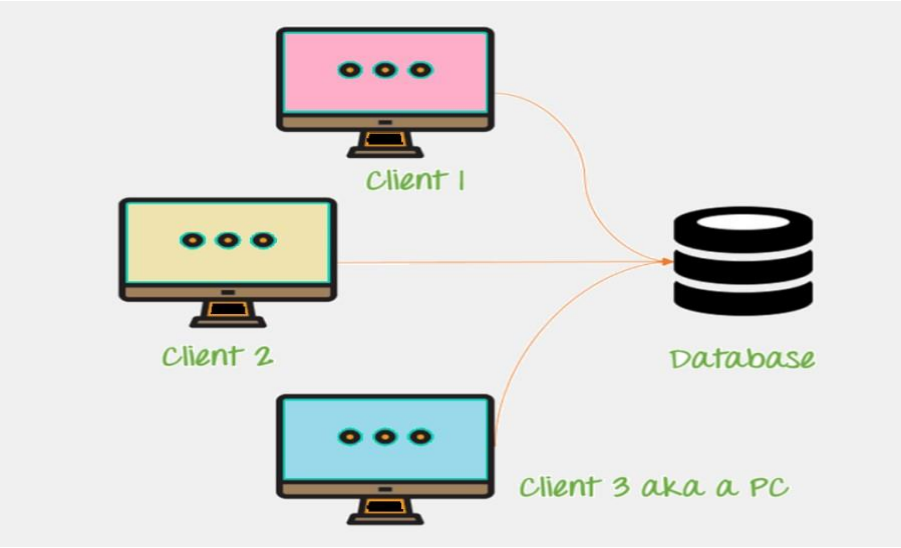

Figure 3: 2-tier architecture

2.4.2 Sequence Design

Sequence diagram consists of a group of objects that are represented by lifelines, and the messages that they exchange over time during the interaction. A sequence diagram shows the sequence of messages passed between objects. Sequence diagrams can also show the control structures between objects. The purposes of Sequence Diagram are:

a. To model high-level interaction among active objects within a system.
b. To model interaction among objects inside a collaboration realizing a use case.
c. It either model generic interactions or some certain instances of interaction

Given shows the sequence diagram of BookBazaar, where online customer can search for book catalog, view description of selected book, add book to the cart, and do checkout.

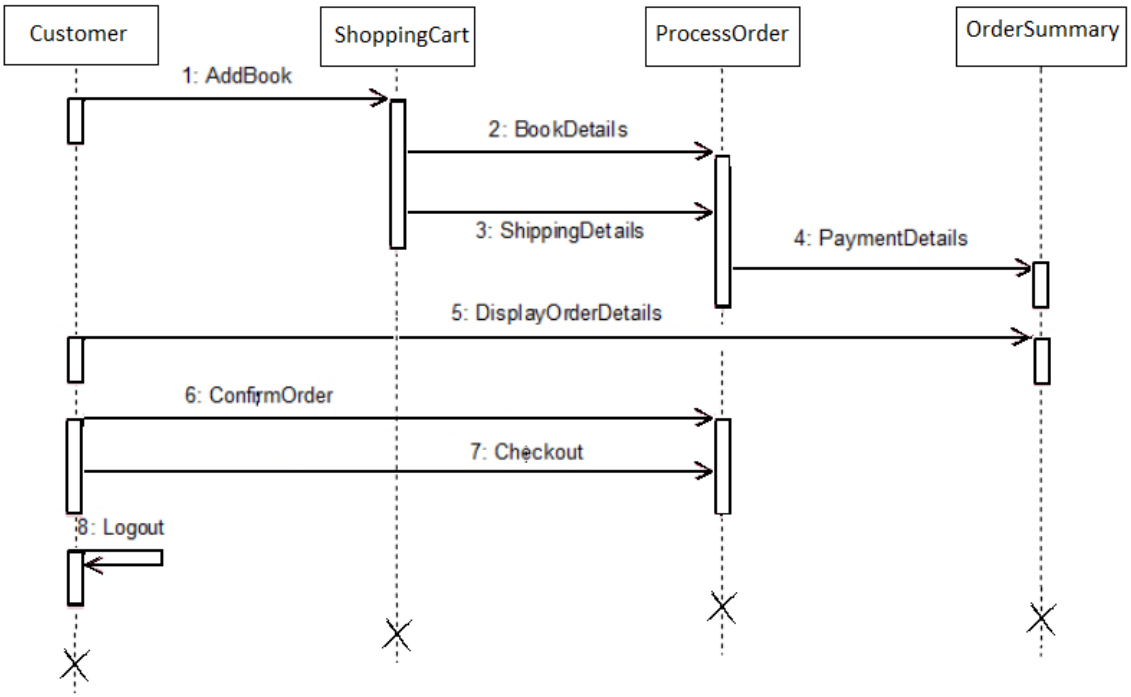

Figure 4: Sequence Diagram of BookBazaar

2.4.3 Class Diagram

Following is the class diagram of “BookBazaar”. The UML Class diagram is a graphical notation used to construct and visualize object-oriented systems. Class diagrams are the main building blocks of every object-oriented method. Learn more details from this UML class diagram, or just try to make yours with ease. The attributed and functions of all the classes that are possible in this project are given below.

List of classes:

1. User
2. Seller
3. Customer
4. Products
5. Shopping Cart
6. Payment System
7. Payment Gateway Details
8. Transaction

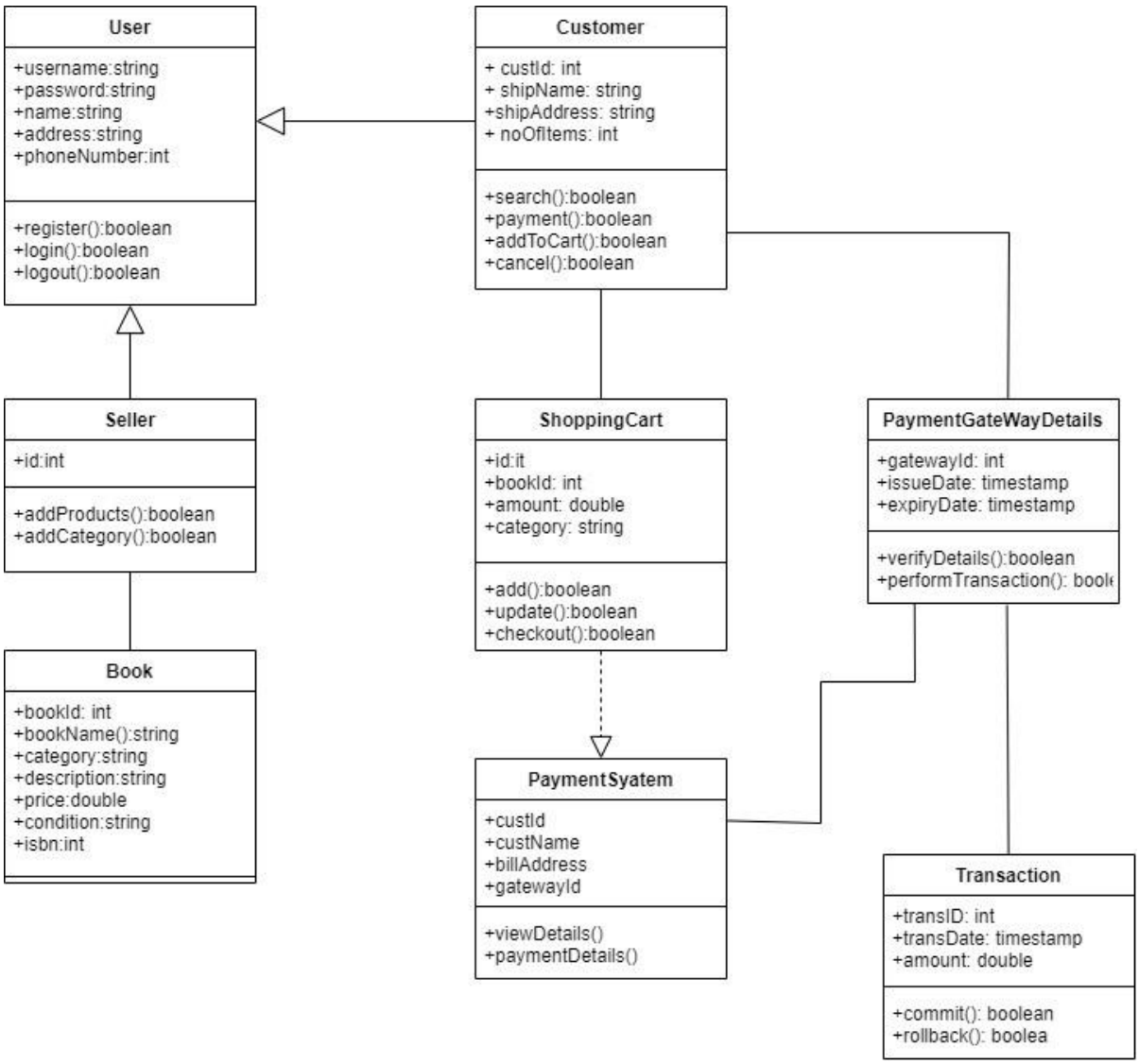

Figure 5: Class diagram of BookBazaar

2.4.4 Activity Diagram

The activity diagram used to describe flow of activity through a series of actions. Activity diagram is an important diagram to describe the system. The activity described as a action or operation of the system.

User side activity diagram describe all the functionality or operation of users can perform on our website.

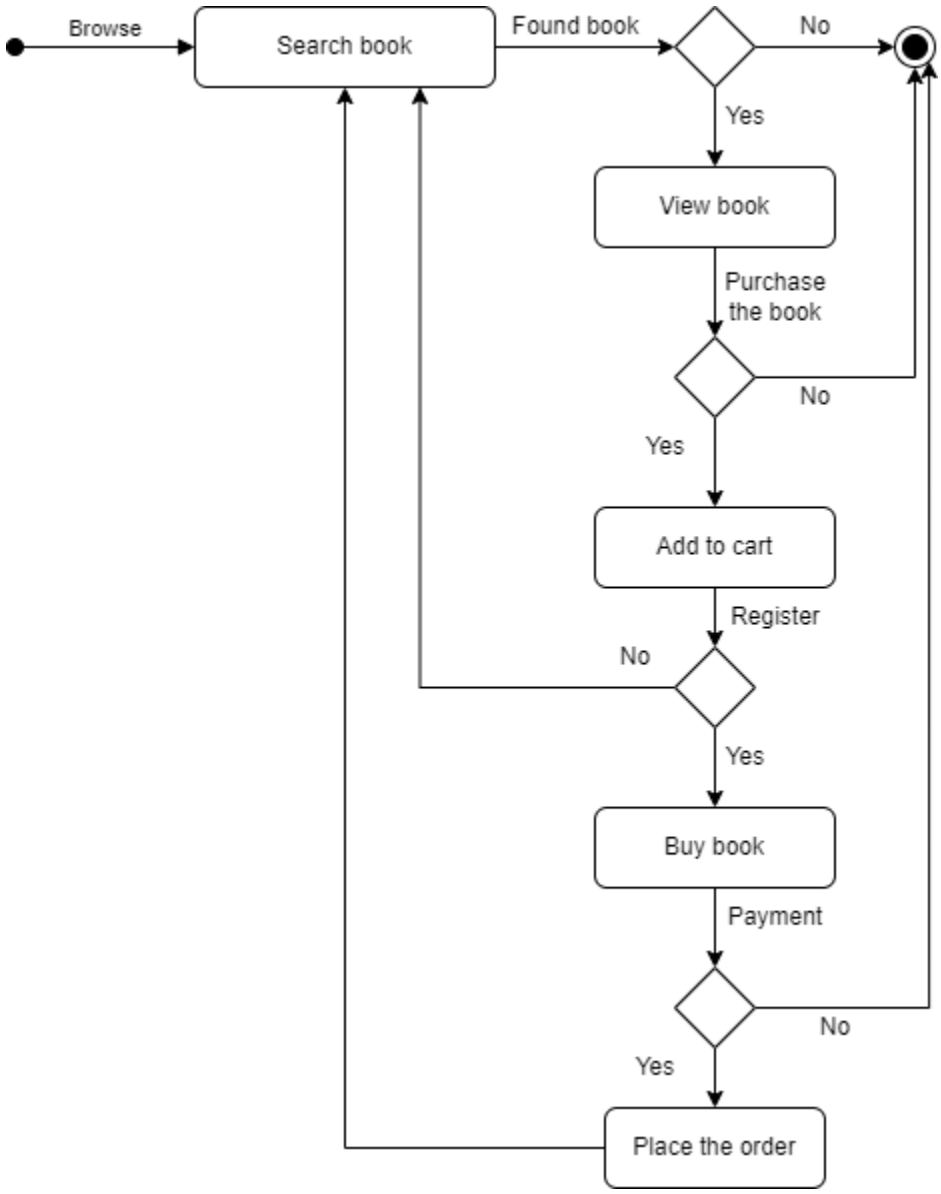

Figure 6: Activity Diagram of BookBazaar for User side

Admin side activity diagram describe all the functionality or operation of admin can perform on our website.

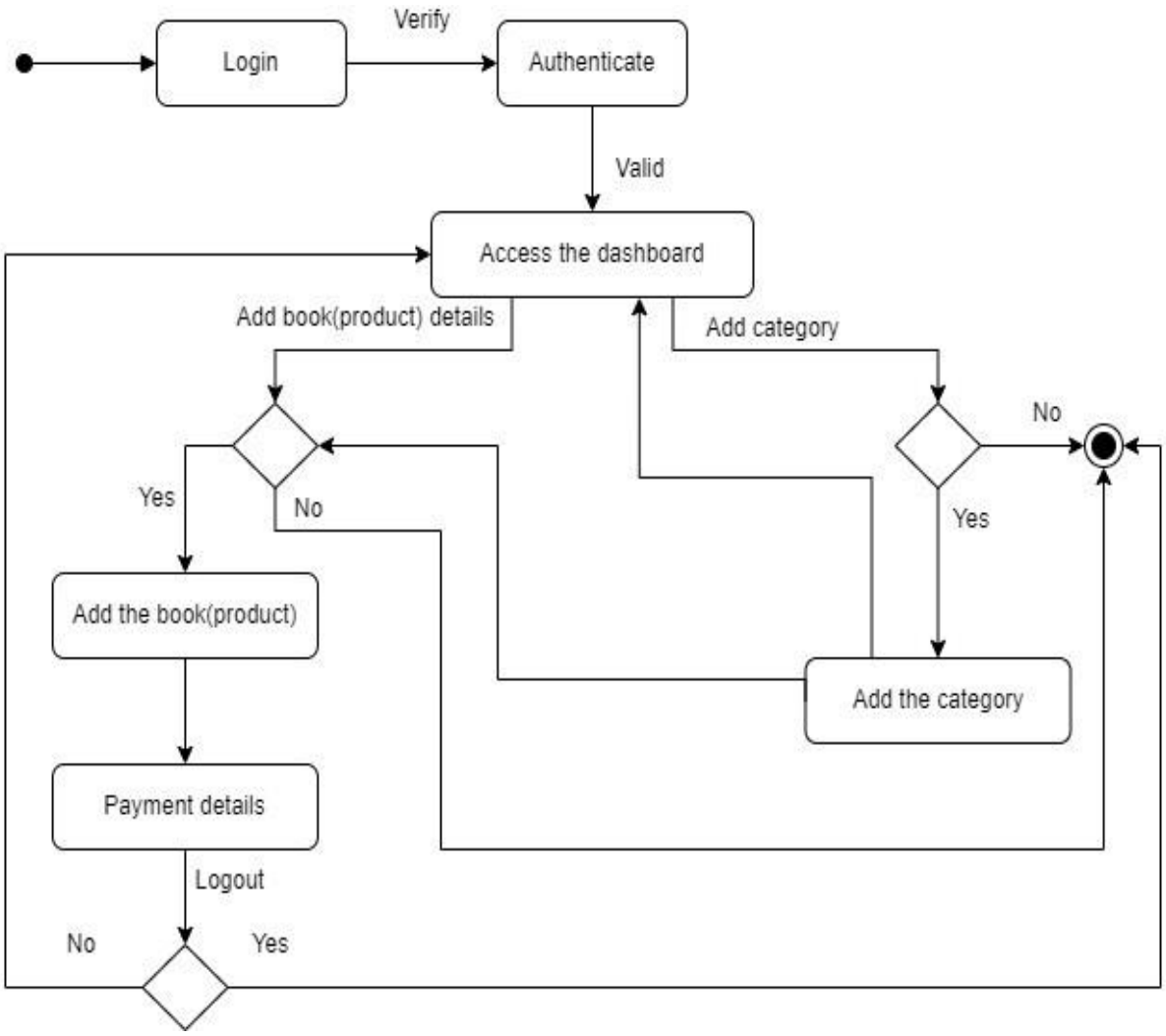

Figure 7: Activity Diagram of BookBazaar for Admin side

Chapter 3

System Development and Testing

3.1 Module Description

BookBazaar provides a user-friendly interface and perform necessary operations according to the user's request. In order to perform its functions our project is divided into the following modules that perform specific functions. The important modules in our project are:

- Seller registration and login
- Add Category
- Add Book details
- View Books
- Search books by title
- Add to Cart and Wish-list
- User registration
- Checkout
- Payment integration

3.2 Tools used

i. Design tools

The following analysis and design tools are used:

- **Adobe Photoshop**
  We have used photoshop to design the logo and wallpaper of the BookBazar.
  .

Figure 8: Adobe Photoshop

- **Draw.io**

  We have used this software for making diagrams and charts of the project as it has a large selection of shapes and hundreds of visual elements to make diagram or chart one-of-a-kind. The drag-and-drop feature made it simple to create a great looking diagram and chart. We have made class diagram, sequence diagram, flow chart, activity diagram, ER diagram and use case diagram.

Figure 9: Draw.io

ii. Implementation tools

Different implementation tools used in this project are as follows:

- **HTML, CSS, Bootstrap, JavaScript for frontend**
  We have used HTML, CSS, JS for the frontend pf the project. HTML was used to give structure to the site, CSS and Bootstrap was used for designing the site and JS was used to specify behavior.

Figure 10: HTML, CSS, JS and Bootstrap

- **PHP, Laravel framework for backend**
  We have used PHP for backend to connect with database as PHP is an open-source server-side scripting language that many developers use for web development. It was easy to use and understand.

Figure 11: Laravel Framework

- **Visual Studio Code for coding**
  We have used visual studio code as code editor as it combines the best of web, native, and language-specific technologies.

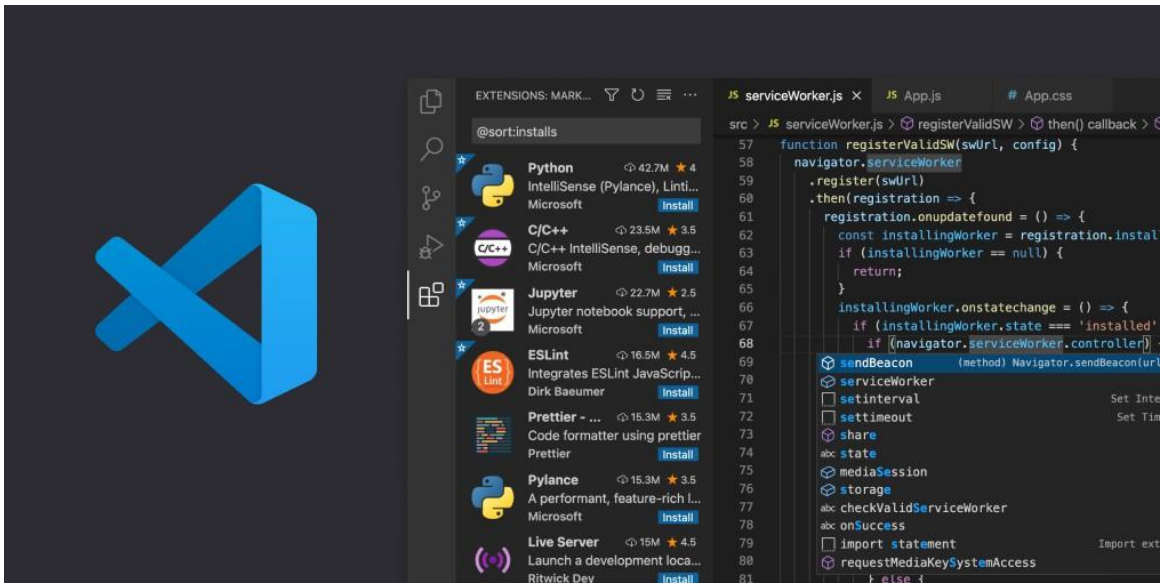

Figure 12: Visual Studio Code

- **WAMP for database**

  WAMP is an acronym that stands for Windows, Apache, MySQL, and PHP. We have used WAMP as a safe space to work on your website, without needing to actually host it online.

Figure 13: WAMP Server

- **GitHub for version control**

  GitHub is an online software development platform. It's used for storing, tracking, and collaborating on software projects. We have used GitHub for the version control.

Figure 14: Reason behind choosing Git Hub

iii. Documentation tools

- **Microsoft Office**

  We have used Microsoft word to prepare the project report. Microsoft word is easy to adapt and has lots of features required for the documentation.

Figure 15: Reason behind choosing Microsoft word

3.3 System Testing

Once the entire system has been built then it has to be tested against the Software Requirement Specification and System Specification to check if it delivers the features required. System testing can involve a number of specialist types of tests to see if all the functional and non-functional requirements have been met.

3.3.1 Unit Testing

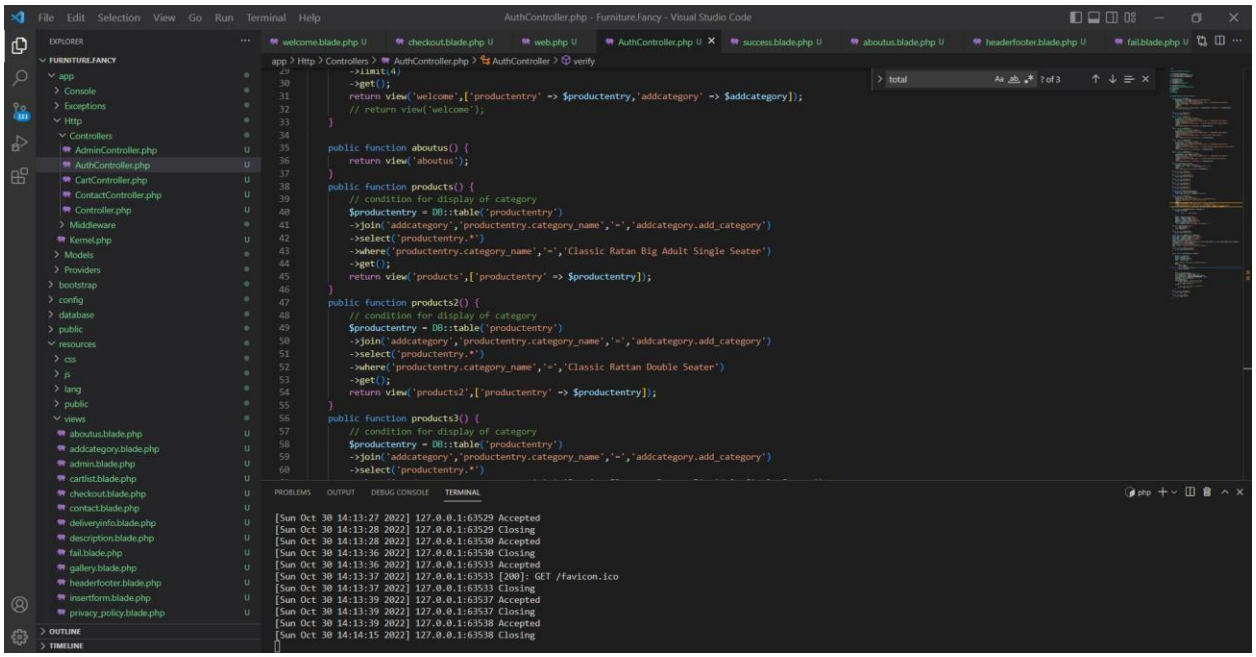

Figure 16: Unit Testing

3.3.2 System Testing

3.3.2.1 Black box testing

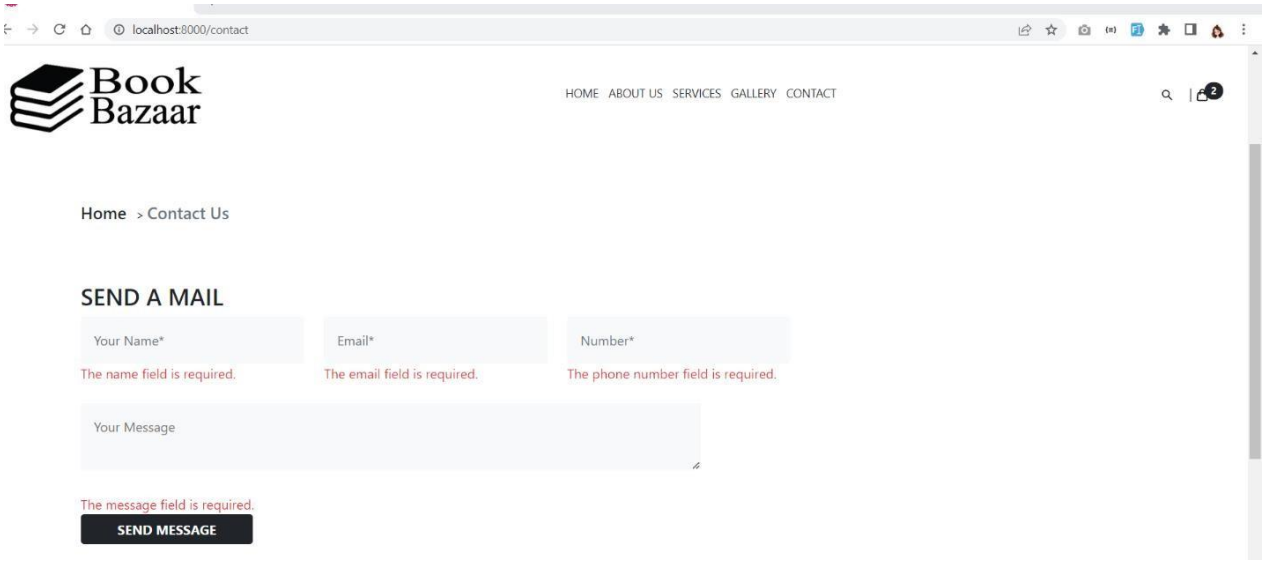

Figure 17: Backbox testing 1 sending the empty message

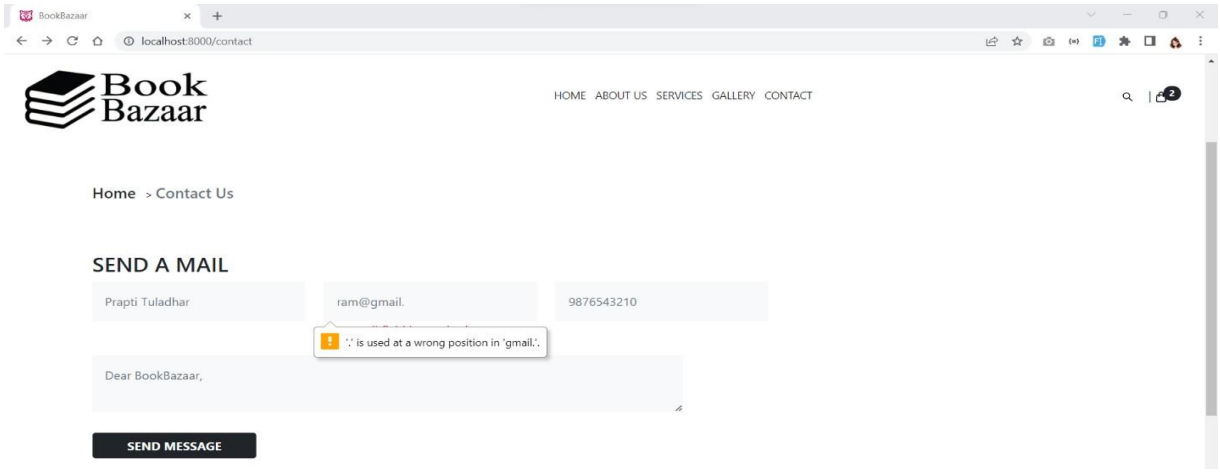

Figure 18: Backbox testing 2 sending invalid email

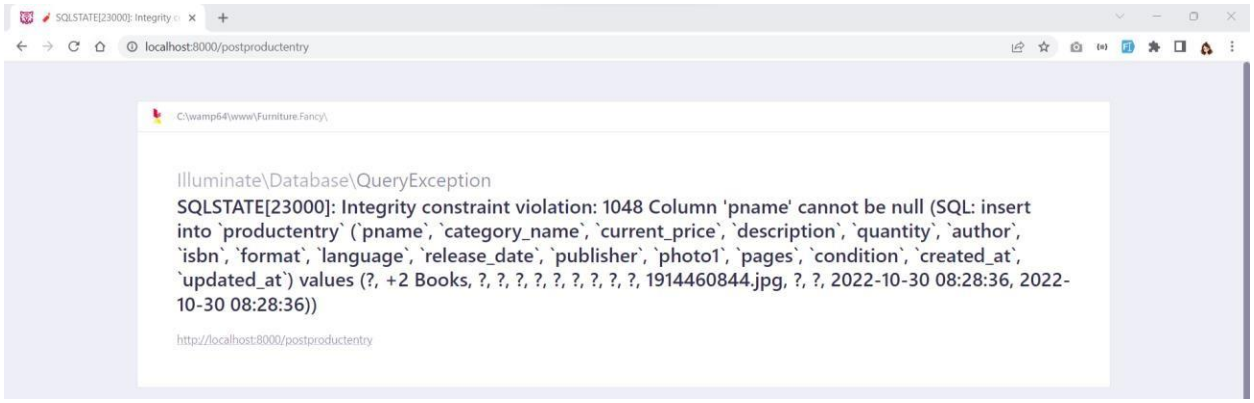

Figure 19: Backbox testing 3 sending empty form in the product details

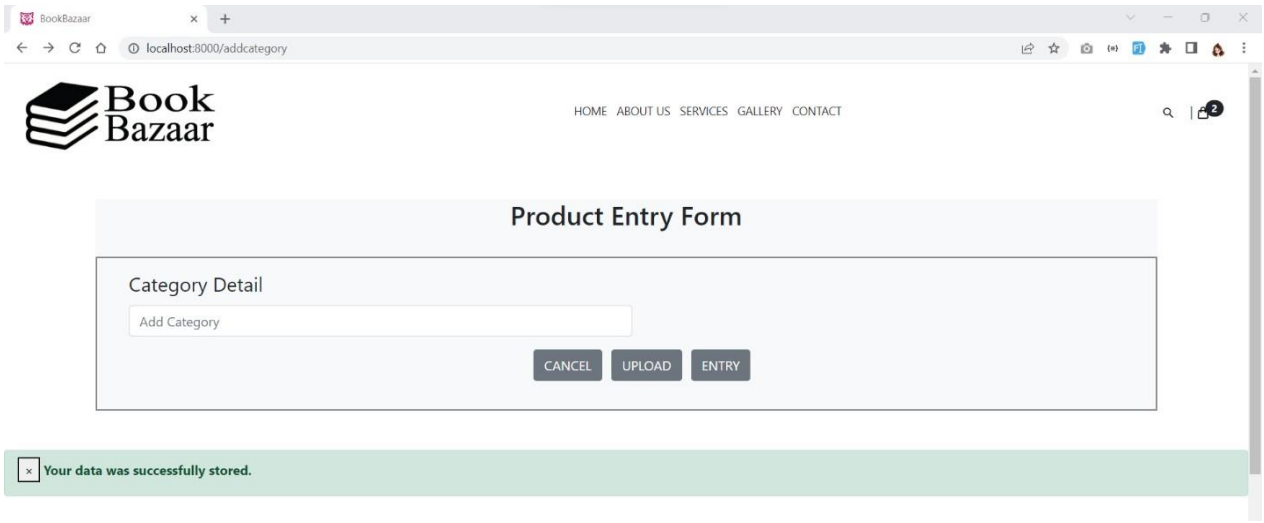

Figure 20: Backbox testing 4 adding empty category

3.3.2.1 White box testing

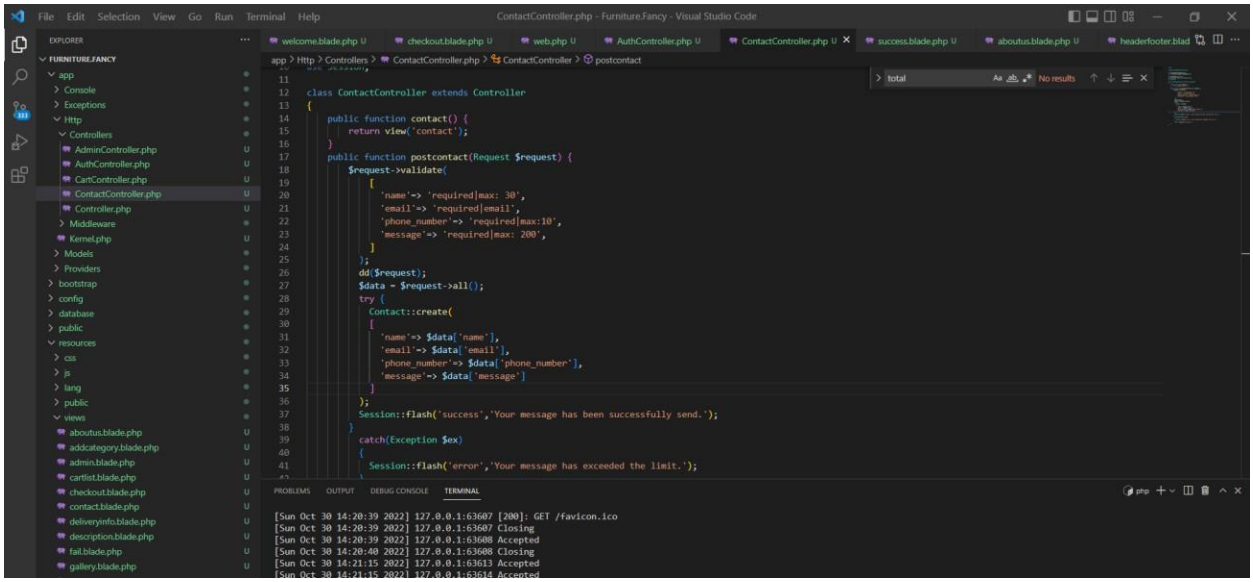

Figure 21: White box testing 1

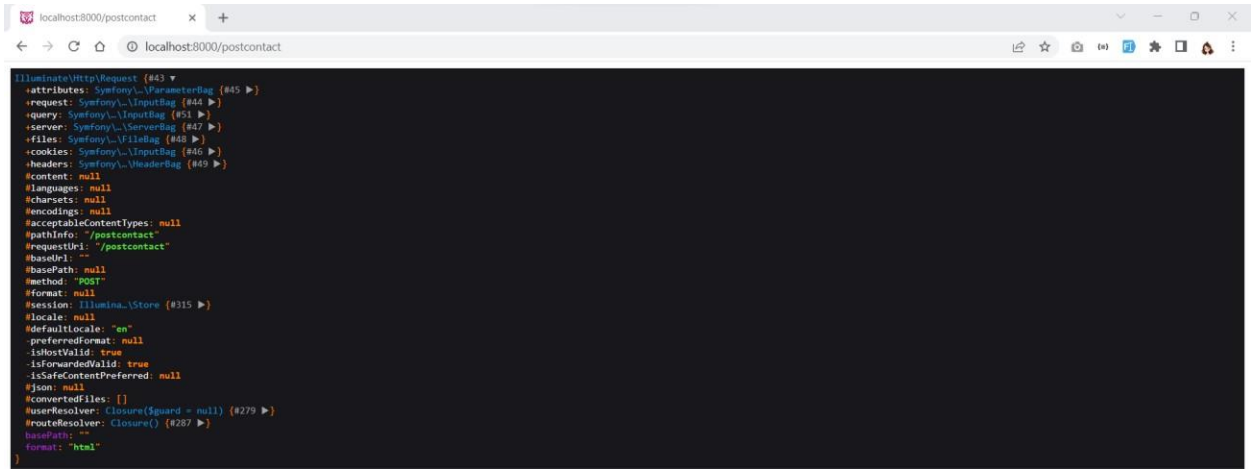

Figure 22: White box testing 2 (Result of above test)

Chapter 4

Summary and Conclusion

4.1 Summary

The system is a general hobby for reading and books on the needs of the consumer customer base, with a certain degree of practical online thrift bookstore system. It is mainly different from the traditional physical thrift bookstores, to overcome a series of physical bookstores limited variety, fixed location, limited space and narrow sales channels and other issues, for people to purchase the book has brought convenience.

BookBazaar system not only can easily find the information and purchase books, and the operating conditions are simple, user-friendly, to a large extent to solve real-life problems in the purchase of books, but the design of the system because of the completion time of the restrictions, some of the functions of the system is not perfect, but the basic functions have been achieved. The main goal is to provide a used book at a reasonable price where users can purchase used books based on their needs. Our main goal is to circulate books from one reader to another in order to save the environment.

4.2 Conclusion

Buying a book is similar to shopping for a bibliomaniac; this process is as pleasant as reading it. We have several ways to read a book like an e-book, borrow a book, or take it from a library and return it after the read, but owning a book is a different level of joy. Our Bookbazaar provides a platform to own a book but with the efficient cost.

Thrifting books can be beneficial not only economically but also is environmentally friendly. Books that are no longer being used can pile up easily in dumpsters, on the street, or other parts of nature. In short, these books end up where they should not be. So, to prevent nature being the next best option is thrift stores and we provide you the easy, convenient and online medium for users to utilize the books to the optimum. We believe in books and the power of the written word to impact lives and societies across the globe, and we cherish our role in saving books to live another day to educate, entertain, inspire, and transform lives.

We will be adopting the improved tools and technology to get more from it. Processing the data, we want to improve the efficiency and give the customer better and easy experience of this whole process. From our technical team to the customers, we want to connect, encourage the feedback and try to behave equally, offer transparency with our customers, showing our respect love and care.

Thus, it is crucial for you to keep in mind to donate books or sell them back in a readable form to help another reader somewhere around the corner. And also, support our motto read, reuse and repeat.

REFERENCES

- Menon, S. (2021) Mini Project Report on ONLINE SHOPPING SYSTEM [online] available from https://www.academia.edu/35185477/Mini_Project_Report_On_ONLINE_SHOPPING_SYSTEM

[online] available from

- https://www.freeprojectz.com/paid-projects/php-mysql/grocery-shop-management-system
- https://www.freeprojectz.com/paid-projects/php-mysql/ecommerce-portal-major-project
- https://www.academia.edu/39438429/Online_Book_Store_Project_Report

[online] Real project

- https://www.thriftbooks.com/
- https://www.zoho.com/inventory/guides/the-basics-of-b2c-ecommerce.html
- McHugh, J., Abiteboul, S., Goldman, R., Quass, D., & Widom, J. (1997). Lore: A database management system for semistructured data. ACM Sigmod Record, 26(3), 54-66. >[18 July 2021]
- https://www.researchgate.net/publication/314783622_The_Online_Bookstore/link/58c604feaca272e36ddaa2d

APPENDIX

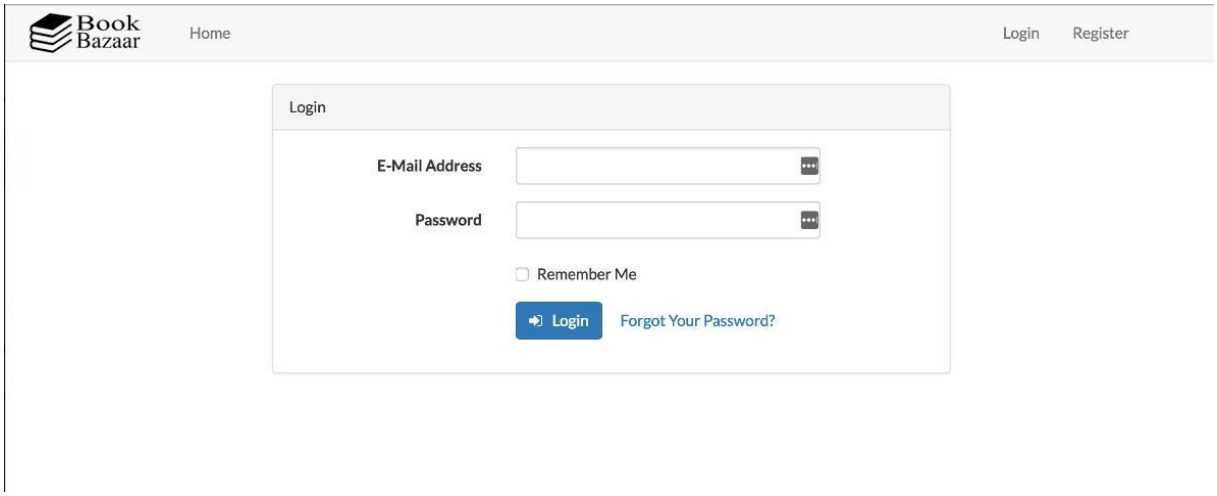

Figure 23: Login page of BookBazaar

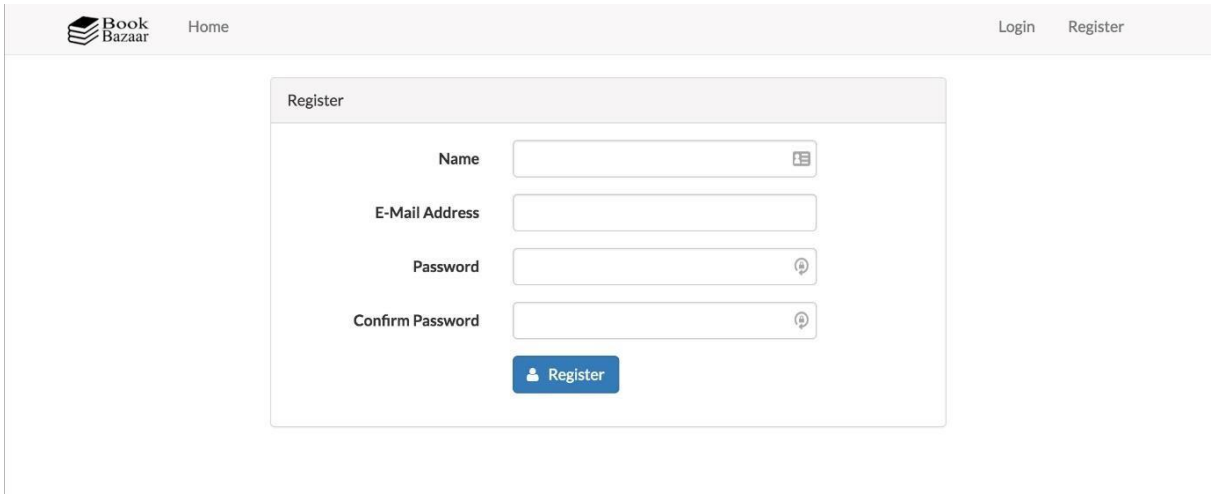

Figure 24: Register page of BookBazaar

Figure 25: Developed system home page

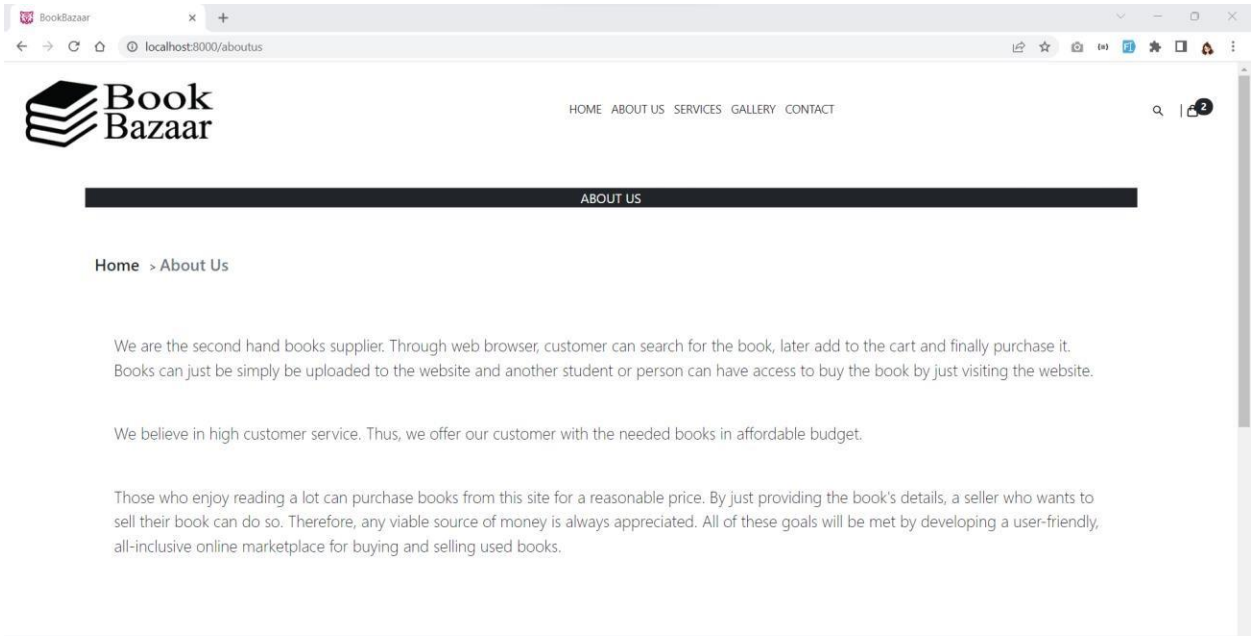

Figure 26: Developed system about us page

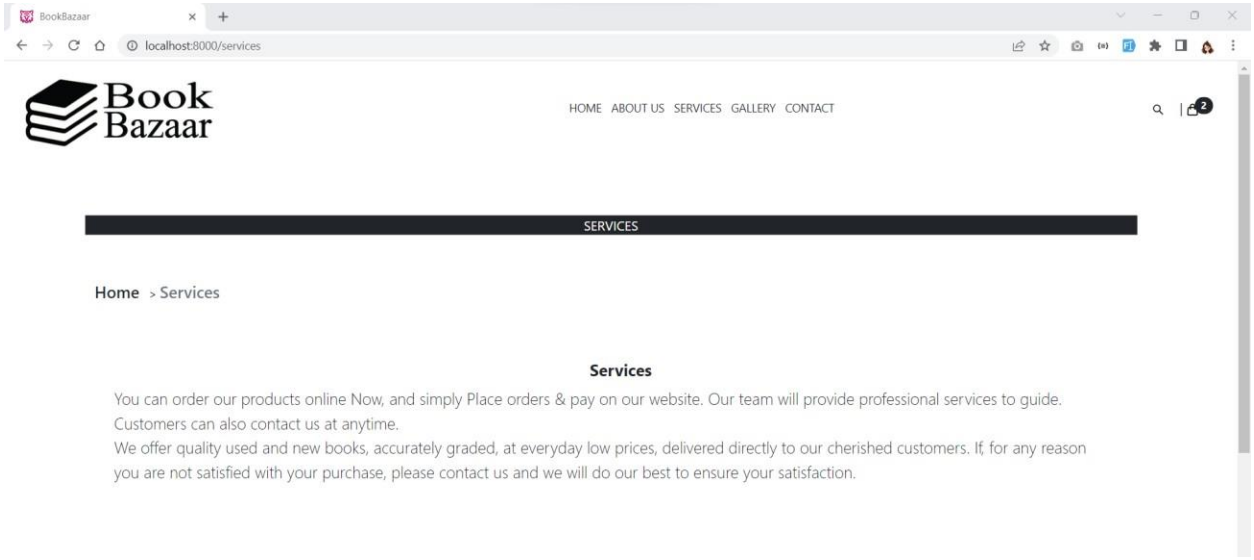

Figure 27: Developed system services page

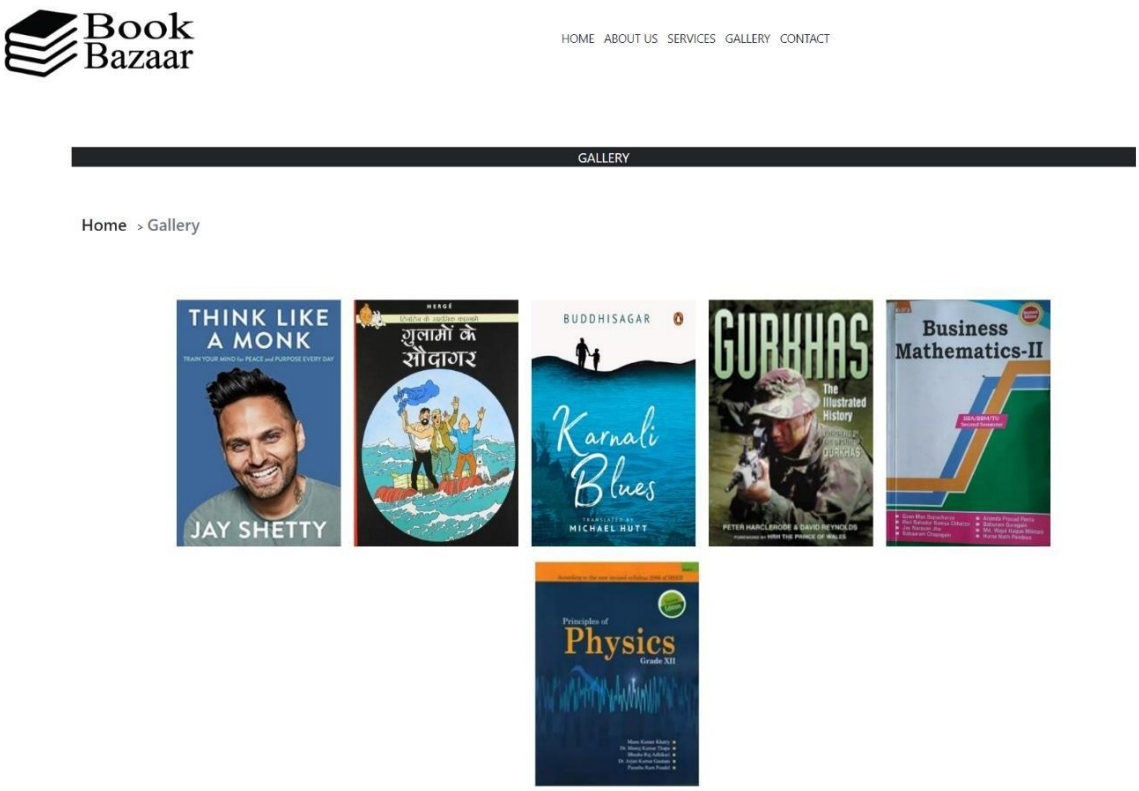

Figure 28: Developed system gallery page

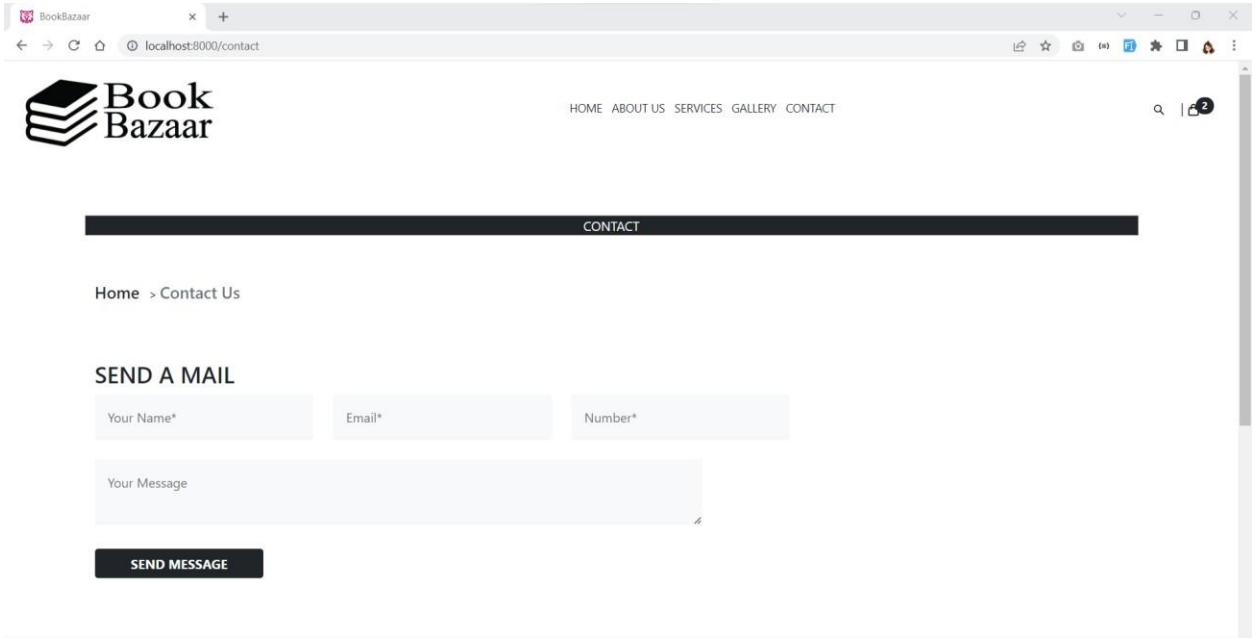

Figure 29: Developed system contact us page

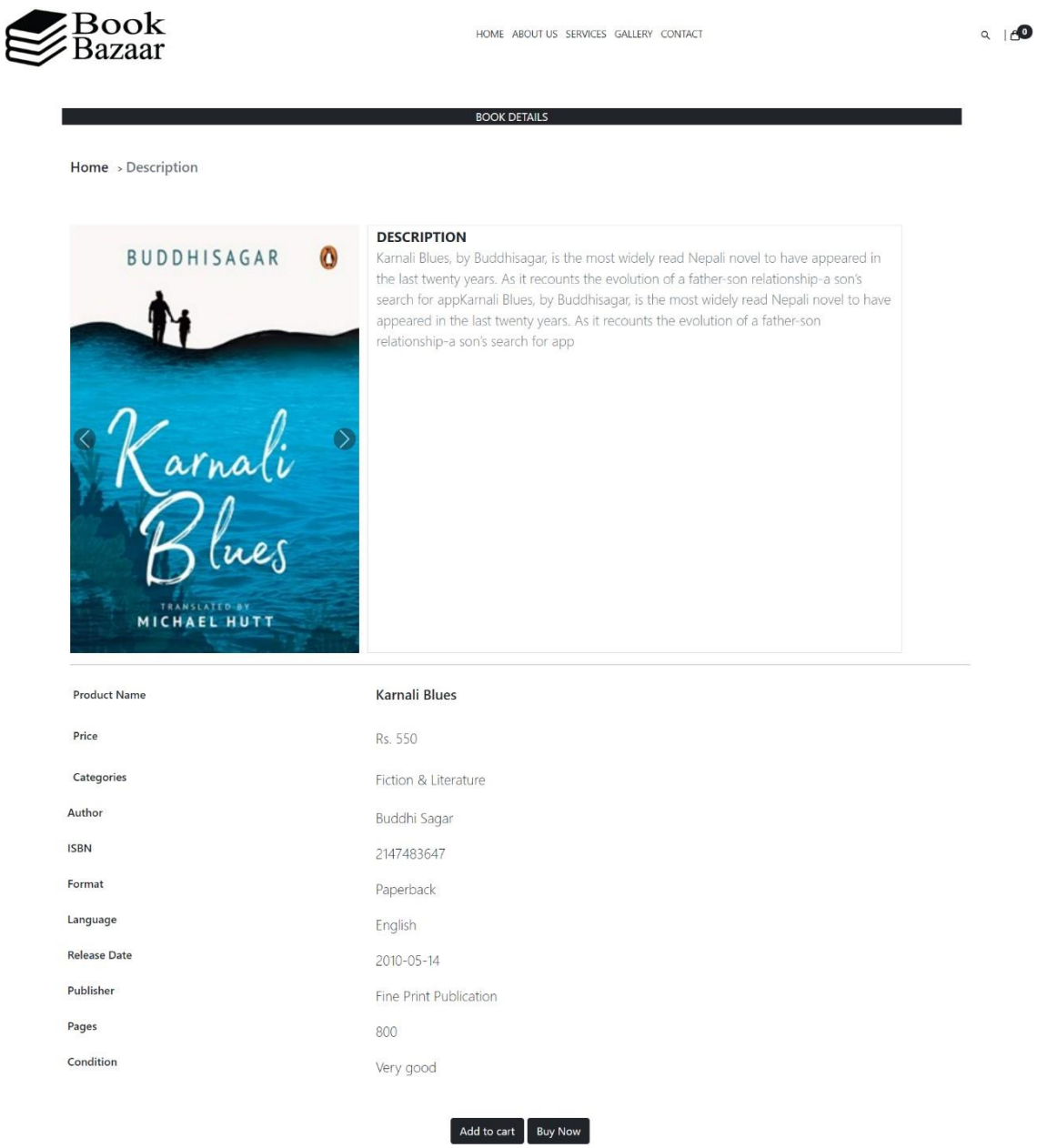

Figure 30: Developed system book description

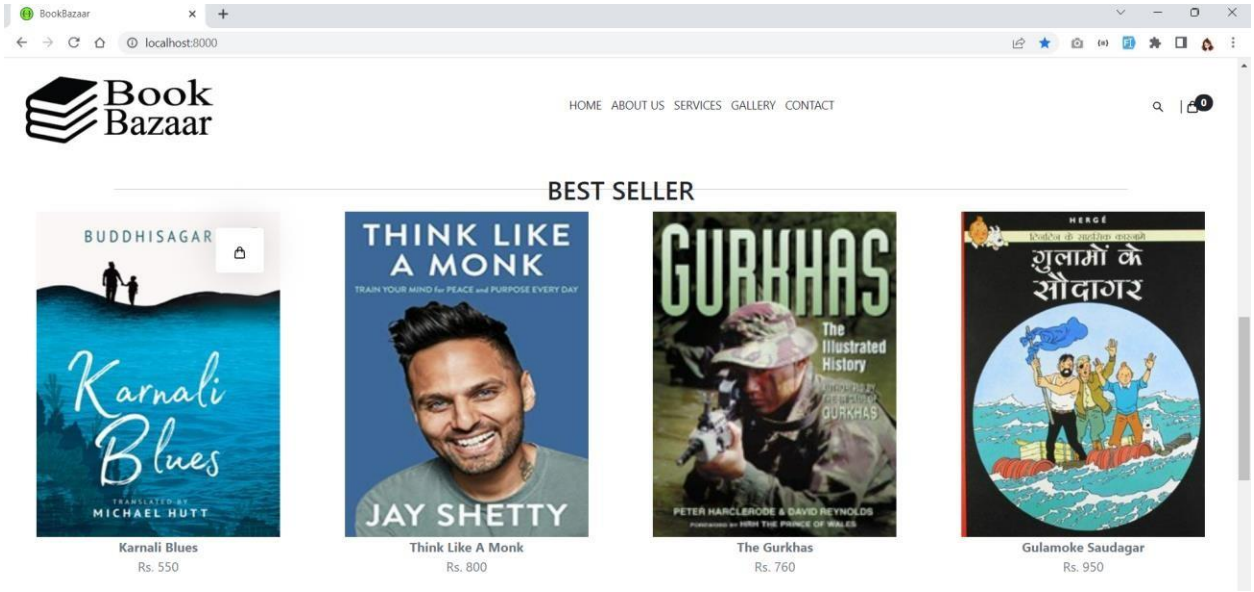

Figure 31:Developed system add to cart directly

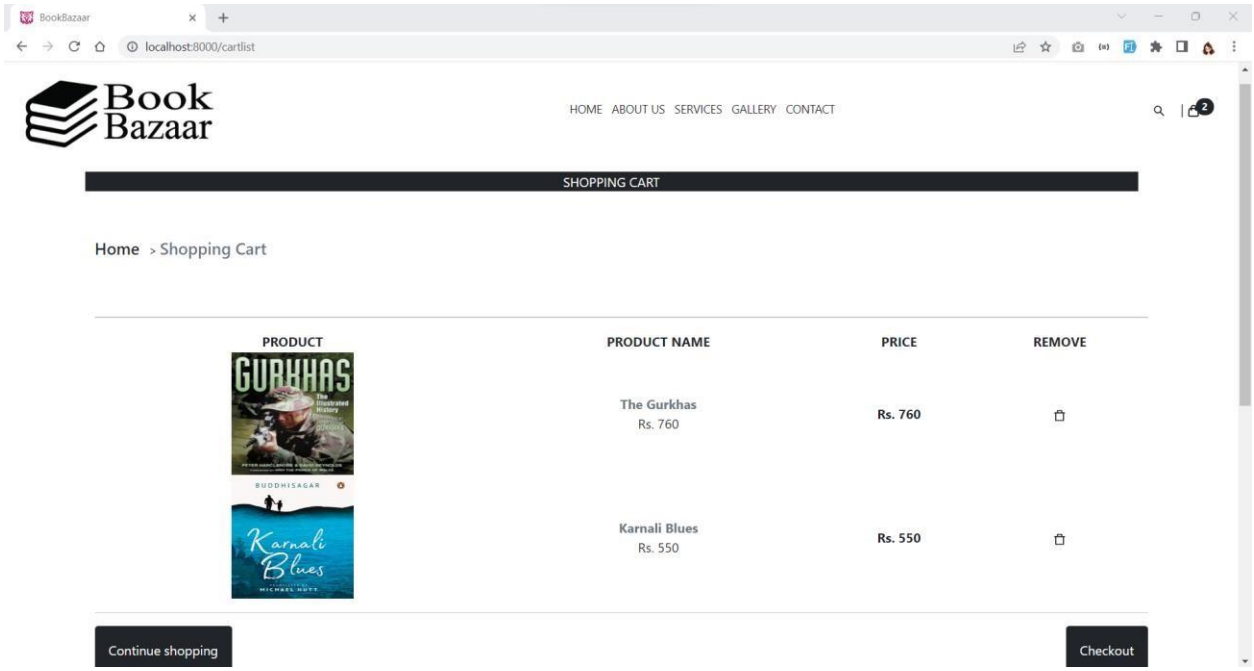

Figure 32: Developed system cart list page

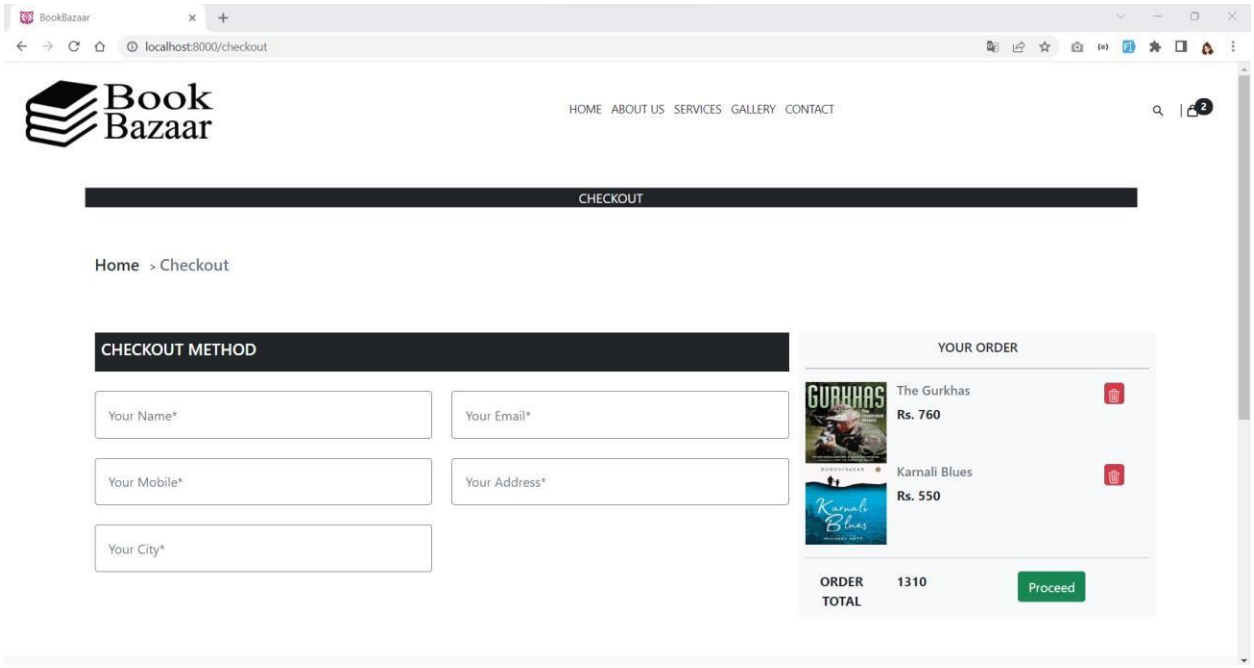

Figure 33:Developed system checkout page

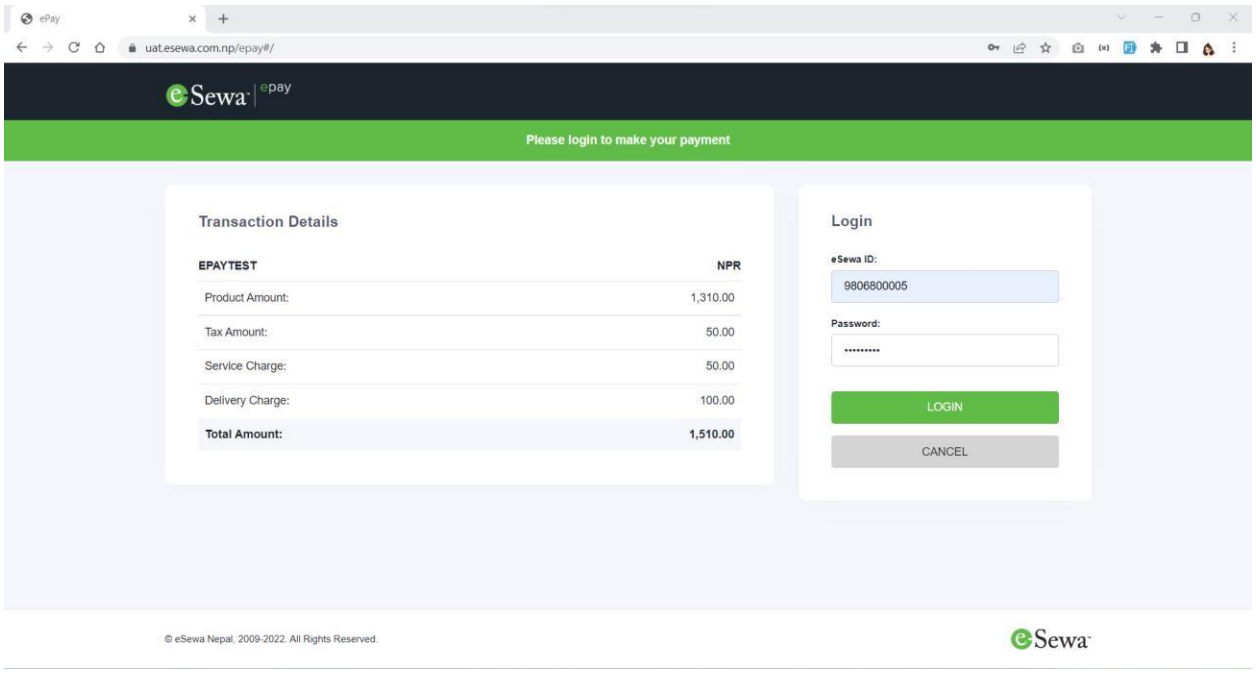

Figure 34: eSewa Payment gateway integration transaction details with login page

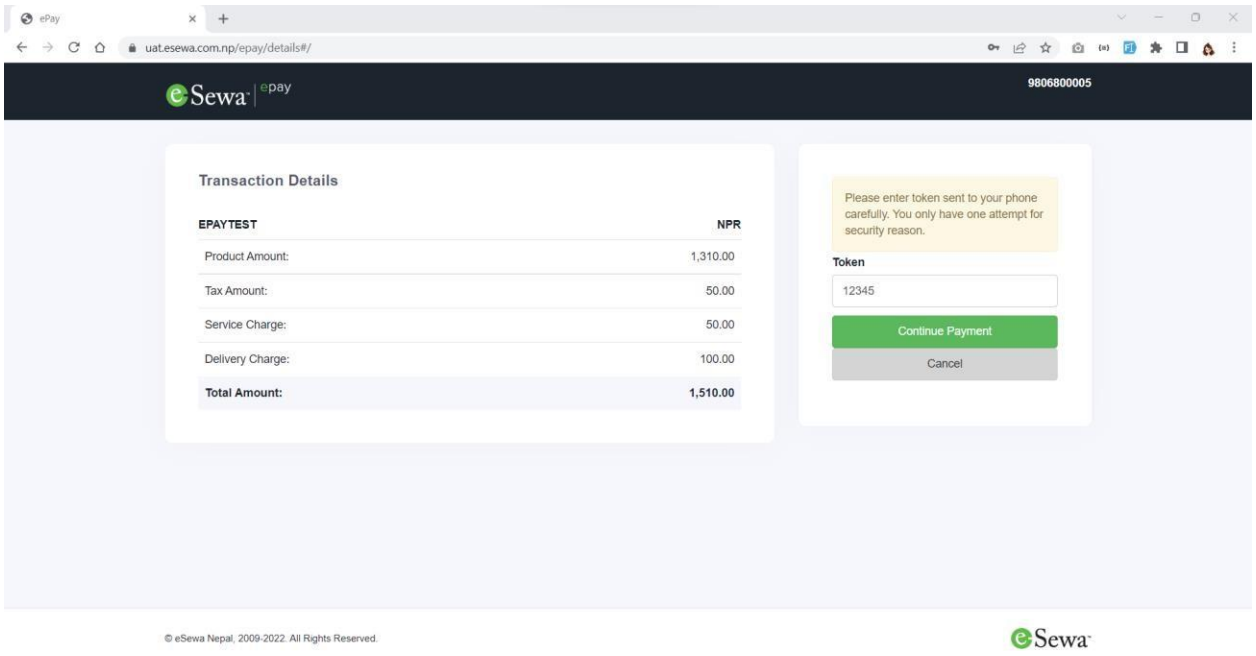

Figure 35: eSewa Payment gateway integration token authorization

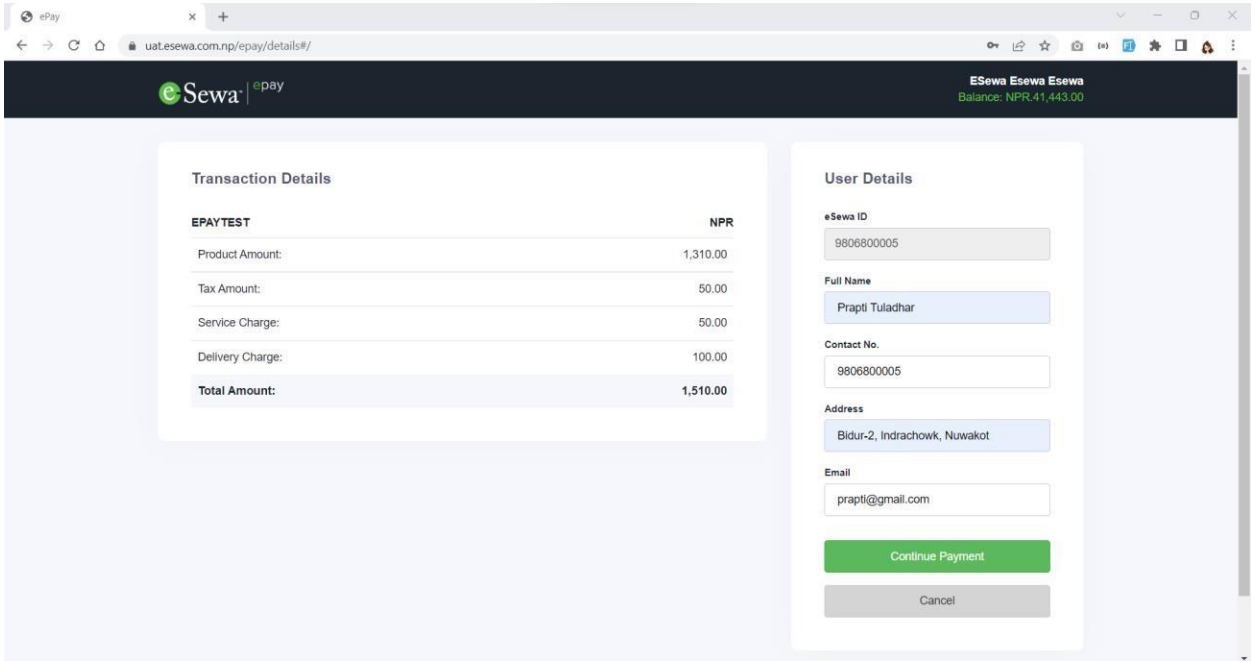

Figure 36: eSewa Payment gateway integration user details

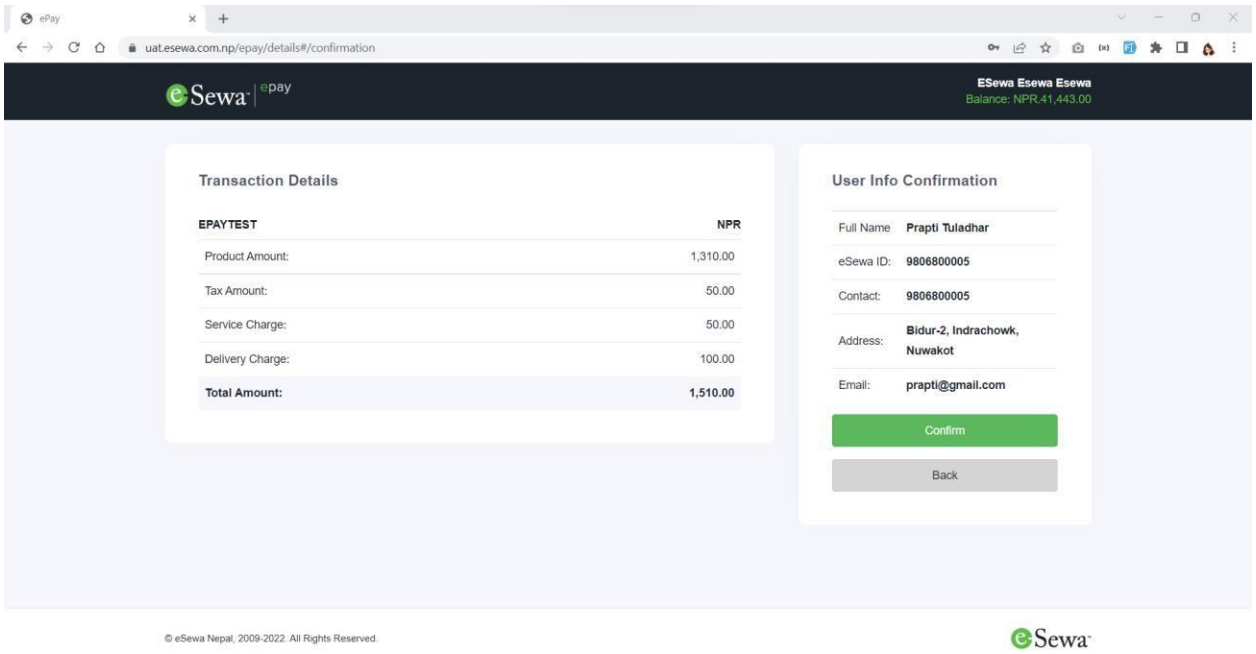

Figure 37: eSewa Payment gateway integration user details conformation

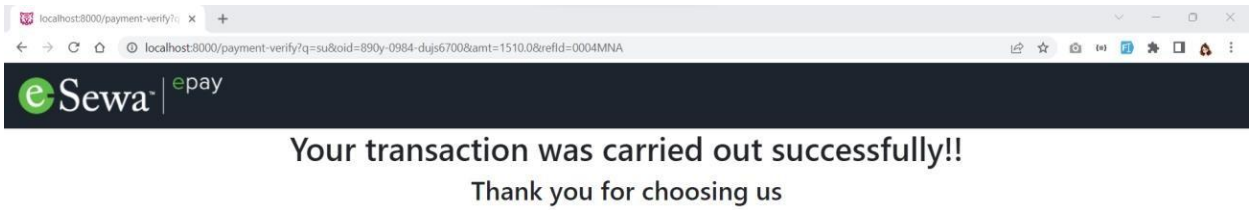

Figure 38:eSewa Payment gateway integration successful transaction page

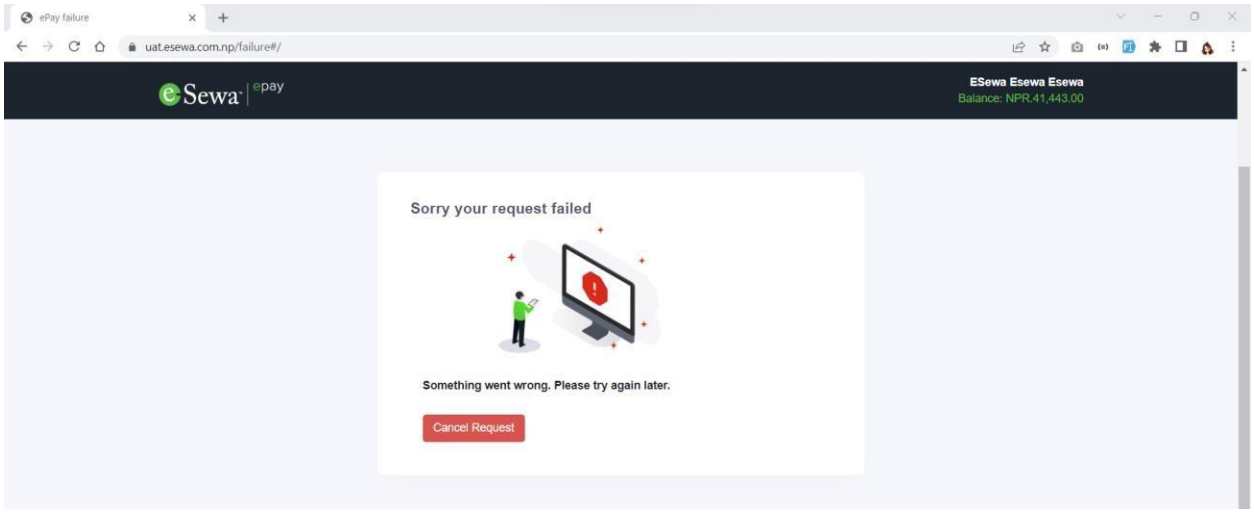

Figure 39: Figure 39: eSewa Payment gateway integration error message

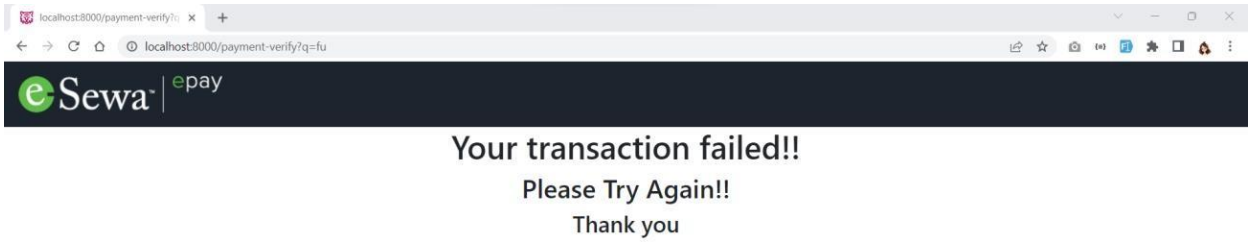

Figure 40: eSewa Payment gateway integration error message page

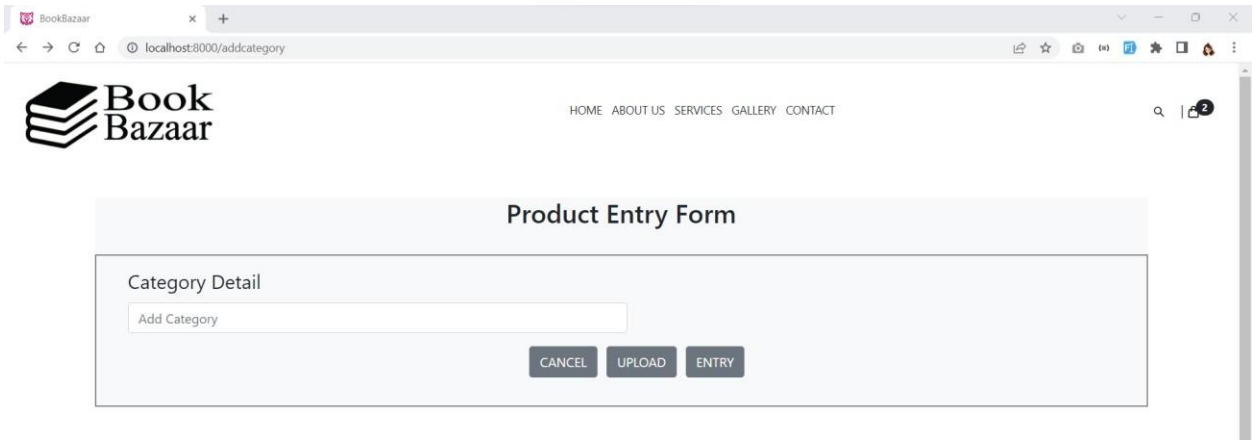

Figure 41: Developed System Product Entry Page

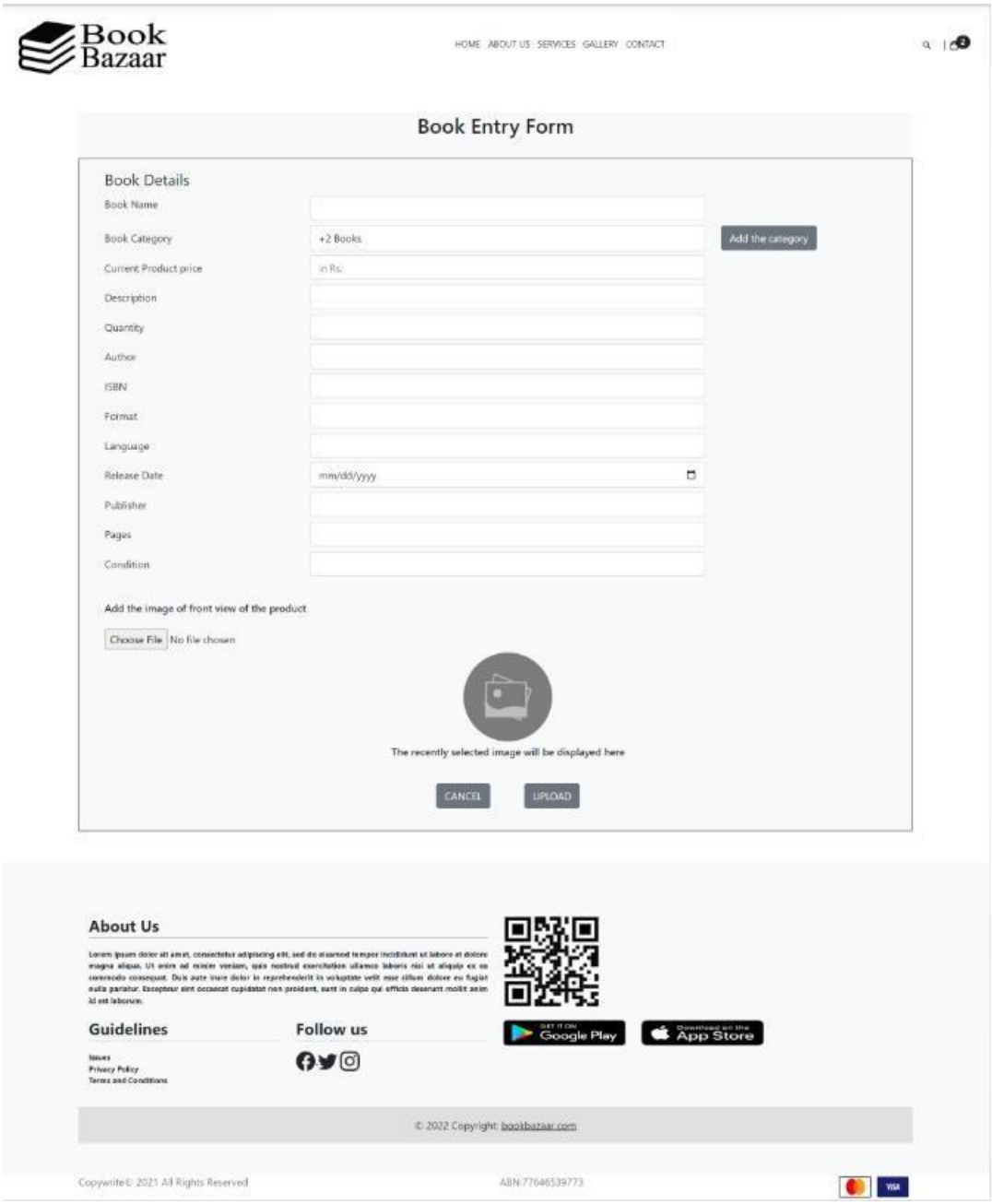

Figure 42: Developed system book entry page