WEB BASED BOOK PLENARY SYSTEM

BY

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science and Engineering

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APPROVAL

This Project titled **"Web based Book Plenary System"**, submitted by **Shahriar Rahman Rafi, ID 181-15-10837** to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 23/01/2023

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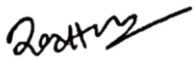

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ABSTRACT

Bangladesh is one of the nations with the highest density of people. As the number of people reading books is increasing day by day, people are also becoming dependent on technology. There are many people who read books online on various eBook websites or applications. In our project, we have implemented a system for those people who are interested and love to read books on online platforms. The system is a kind of eBook application from which you can read and buy books. In our system, we tried to share different types of books from where people can choose to read the book and also can share their opinions and rating of the books. Our system is a web based application. Therefore, our system is aimed at increasing the knowledge of people by reading books and reducing their conflicts. People can visit our website which is organized with different types, categories of books as well as different kinds of news regarding book fairs and offers regarding books price. In order to help customers decide which books are worth reading or purchasing, we also strive to build a review section where people may express their opinions about a book. So, the principal target of our project is to help the consumers specially, book lovers who want to buy or read a good book from an online platform. We have momentarily developed a web application that can genuinely assist consumers in making the best decision. We are still working on our system and trying to add more features and facilities in a way that really helps the people in a way that allows. consumers to get benefits the most from this platform

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CHAPTER 1
INTRODUCTION

1.1 Introduction

Books are one of the most important assets in human life which offer a natural lesson, leisure and sometimes the real manner to live. The habit of reading books must have an effect on self-development and social progress in human life. That's why with the passage of time, the number of people who read books or love books is increasing. According to the statistics of Bangladesh, the number of book lovers is also increasing day by day in Bangladesh. And most of the book fanatics are between 18 and 45 years old. There are two types of book readers now-a-days since people are depending on technology day by day. The first one is who loves to read printed books and the second one is who loves to read books on online platforms which are known as eBook applications. An eBook stands for an electronic book which is published in digital form, consisting of text, images or both readable on electronic devices such as computer, mobile or laptop. The popularity of eBook is gradually increasing among young people. The eBook was first introduced in the United States. In 1971, Michael S. Hart started a project and digitized the US declaration of Independence becoming the first eBook in the world. In our country, Banglalink introduced the first eBook application named “Banglalink Boi Ghor". There are also some of the growing Bangladeshi book clubs which are also maintaining a Facebook group to communicate with each other for the purpose of getting recommendations for buying or reading books. For example, Litmosphere tops the list of Bangladesh based Facebook book clubs having almost 4000 members. A book fair is a popular event in our country, especially for book lovers. The event is generally held in an open area on the occasion of victory day or International Mother Language day. The purpose of the book fair is to exhibit different types of books. Several stalls have appeared at the book fair with the facilities of reading e-books such as Sheiboi, Bengal publication, Ekushey e-book and many more.

1.2 Motivation

Global statistics stated that people, especially those who are book lovers, are becoming receptive to eBooks. Currently, users penetration to eBooks is around 10.5% and hopefully it will be almost 12% by 2022. So, it is clearly understandable that eBook lovers are gradually increasing with the passage of time based on the contemporary environment in 2020 and 2021. This is the first reason which has motivated us to build the system. In the comparison of the price of printed books and eBooks, it is general that eBooks price is lower than printed books. However, initially the price of eBooks is higher. There are many advantages of ebooks compared to printed books. You need less space to store your ebooks. You can easily carry a large number of e-books by downloading them on your electronic device. Specifically, educational ebooks provide more benefits to the students compared to printed books. Students can easily download the necessary ebooks related to their education and marked up with notes. Apart from that, most book lovers want to know which books have good reviews that fill up his or her satisfaction and help them to acquire proper knowledge before going to buy books from a book shop. Actually, they can get help from various kinds of eBook apps because people share their reviews and feedback after reading a book from the eBook application. Finally, analyzing all the aspects of the importance and advantages of eBook, we have been motivated and we have tried to build such a system which contains different types and categories of ebooks with our own ratings, normal users reviews and feedback. The consumers can get the facilities of reading and downloading books in PDF format. People can also get a good idea before going to buy a book. The main purpose of our system is to enrich people's knowledge.

1.3 Objective

1. Any users can visit our website or web application from anywhere. They need only a stable internet connection.
2. Our main objective is to enrich people's knowledge. So, we will try to keep a vast collection of different types and categories of ebooks. Actually, the most popular ebook types are biographies, spirituality, religion, food, cooking books and so on.
3. Since ebooks are popular among young people, especially students. Our other main objective is to keep educational type e-books and the e-books related to their interest free of cost.
4. In our system, we tried to implement a way for our consumer to communicate with admins or authorities of our system regarding any information or any issue.
5. We are providing a section from where our consumers or visitors can read various news related to book fairs, events and campaigns. Also, we will introduce you to the famous and largest book lover community of Bangladesh.
6. Our system's other objective is to provide the facilities of reading and downloading the e-books in PDF format.
7. In our system, we have implemented a review and feedback section of each book for the purpose of getting our consumer's reviews and feedback after reading a book. This can help other people to make decisions to read or buy books.

Our final objective is to provide a very user-friendly system for the end user and reach out to all book lovers and implement a chat room in our system where consumers can discuss among themselves.

1.5 Expected Outcome

It is clear that our system will offer first-rate facilities and help them to read and buy different types and categories of books to book lovers. They can read some books free of cost and need to pay for some books. Users can also give their reviews and share their feedback and opinions regarding a book after finishing the reading of a book. But to do this kind of activity, they need to register into our system. People will know about various events, fairs and campaigns regarding books. Not only that but also they can join the largest Facebook book lovers community from our system.

1.6 Report Layout

We'll talk about how the study was represented and the whole report in this section. The implementation of our system is covered in the first chapter, the reasons we chose this problem for our project, its goal, and its outcomes. We also discussed the backdrop and prerequisites in our second chapter, the required work, comparative research, the difficulties we faced, and the complexity of the subject. In the third segment, we discussed a kind of marketing design and what the project must accomplish in order to model the design requirements. The event schedule, the link, both the state schedule and the ER schedule were all shown in the following section. The following chapter covered the architecture of front-end and back-end design, user experience, and implementation standards. In the section that follows, we looked at how the database was implemented, how front-end ideas were put into practice, as well as a number of project photographs and how well they captured the project's intent. Then, we looked at several test cases and tests. We talked about the societal and environmental implications in the part that follows. The final chapter covered potential developments and outcomes.

CHAPTER 2

BACKGROUND STUDIES

2.1 Introduction

We will talk about the first part of our background research in this section. Now-a-days, the number of book lovers is increasing. Basically, people who are book lovers can read books either printed books or eBook. However, the main goal of our project is to provide the facilities to those who are interested in reading e-books on web based applications. Since our system was created from Bangladesh's point of view, it is not the first of its kind in Bangladesh. Banglalink introduced the first eBook app named "Banglalink Boi Ghor" in Bangladesh which is an android application available in play store, where we can read all books according to our choice. But our system is web based. In our opinion, similar platforms like ours such as Bangla Books PDF, Amar Boi, Go Bangla Books, EBooks BD etc are already in place and very popular in Bangladesh. We attempted to investigate all of the existing systems. We have tried to study these comparisons to see what their system lacks and what features the system should have to make it self-sufficient so that we can build something different from them so that users get the most benefits from our system. Not only that, but we have also made an effort to comprehend more about the requirements and concerns of the populace. We even invited people to demonstrate a system similar to the one we have in Bangladesh and to list any additional features they would want to see in it. As a result, we have made an effort to study and develop a comprehensive system

2.2 Related Work

Since we have used React JS libraries for the front-end side, we need to learn about HTML and CSS properly. [6] HTML and CSS actually help us to get a better understanding of how to create and implement various React JS components. After gaining sufficient understanding of HTML and CSS, we began studying React JS. React is an open source JavaScript framework and library for building user interfaces or user components. We can develop a single page web application using React JS. The building of React apps often requires the use of other libraries and specific user functionality. Node.js is a popular, lightweight web framework for beginners. Node.js is an open-source, cross-platform, JavaScript runtime environment that executes JavaScript code outside of a web browser. Developers can build server-side scripts and command-line tools by using Node JS that employ JavaScript to build dynamic Web page content before the page is sent to the user's web browser. Therefore, Node.js represents a "JavaScript Everywhere" paradigm that means that we can develop both back-end side and front-end side application using the same language rather than using separate languages [1]. A node js web application framework called Express offers a variety of features for creating both web and mobile applications. It is used for the creation of web applications and APIs. The name of the server framework for Node.js has been established. Since the server's designer described it as being influenced by Sinatra, many of the functionalities that are add-ons are relatively simple. Along with HTML and CSS, JavaScript is one of the fundamental technologies used on the World Wide Web. More than 97 percent of websites, which often integrate libraries from third parties, are used by the website's visitors. All popular web browsers use the JavaScript engine to run the code on the user's device. As a multi-paradigm language, JavaScript provides event-driven, functional, and imperative techniques. It features Model Document Objects, common data structures, APIs for handling text, dates, and frequent expressions (DOM). JavaScript engines were first only used by web browsers, but today they are essential parts of many other software packages. Although Node.js is typically used in conjunction with MongoDB and other NoSQL databases, it also works well with traditional databases like MySQL. It's very likely that you'll utilize MySQL, one of the most well-liked open-source databases in the world, if you want to create a new microservice using Node.js for an existing database.

2.3 Comparative Studies

We will talk about our comparative investigations in this section. We did comparison studies between printed book lovers and e-book lovers. A website mentioned a survey named Pew Research Center on book consumption and book formats, declared that traditional books (printed books) are more popular than digital or ebooks among the adults of the US. [7]

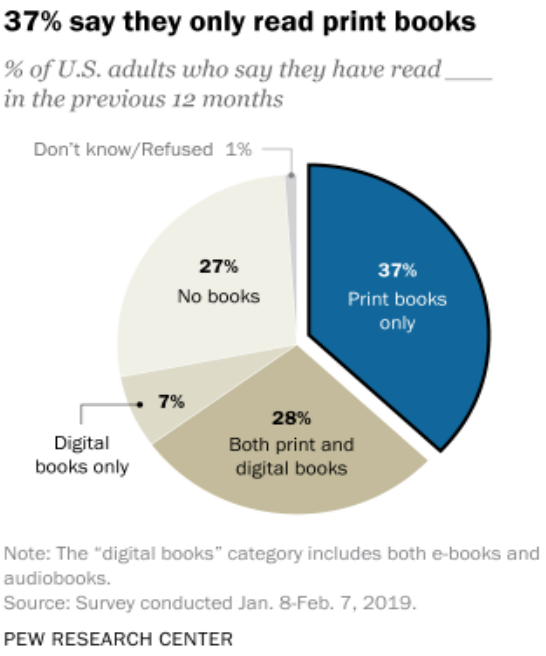

Figure 2.1: Print books vs Digital books

So, the number of ebook lovers gradually is increasing. In our opinion, similar platforms like ours such as Bangla Books PDF, Amar Boi, Go Bangla Books, EBooks BD etc are already in place and very popular in Bangladesh. So, the question is, where is our system's comparative advantage over theirs? There is a distinction, of course. Our entire system is a single-page application that is dynamic and built on modern technology, allowing users to quickly switch between pages without having to reload the page. While the majority of the data in the current systems, which are based on outdated technology, are static.

2.4 Challenges

We encountered numerous problems while working on this project. React JS has been used to build the front-end side of our project, while Express Js and Node Js have been used to develop the back-end server. As a database, MySQL was employed, together with Sequelize ORM for MySQL. We need to gather a lot of data about books, including news of book fairs, events, and planned campaigns. We must set up our system such that others who will utilize it are aware of these realities and might gather inspiration. So, gathering this information presents us with many challenges. It took a lot of time and patience for us to complete the data collection task, which was quite difficult. Adding each component as a dynamic segment was another difficult aspect of our project. We found this to be difficult because we had to learn a lot more about everything because we had to create the system utilizing modern technology.

2.5 Scope of the Problem

People who are particularly interested in reading ebooks on online platforms or who want to buy books and are curious about different news, events, or book fair stories make up the majority of our system's audience. There is no other audience save this one. Of course, this figure is far lower than the nation's entire population. Our system is an online web-based application, thus the issue is that Bangladeshis are less tech-savvy than those in other nations. Currently, Bangladesh is a developing nation. People are gradually learning how to use technology effectively. But today, practically every home has access to the internet. Therefore, it is hoped that individuals will pick up using the internet platform.

CHAPTER 3

SPECIFICATIONS OF REQUIREMENTS

3.1 Business Process Modeling

Computer development is kind of a company's assessment, development, and simplification of its current process. BPM is typically carried out by teams composed of industry scientists with modeling expertise, subject matter experts with system expertise, or, more frequently, both. As an alternative, the method could be directly developed from a number of sources using techniques for predictive analysis. A trading strategy may be broken up into numerous sub operations that each have unique properties while still contributing to the overall goal. The business-to-business operations include layer-specific mapping and subprocessing. A business process model describes how activities are carried out to achieve a company's desired goals. Based on the model's planned use, it is still an abstraction. It is possible to determine the business process workflow or cooperation. There are a variety of ways by which we can build it to employ a plan of treatment on behalf of the formal specification of an information technology related device that handles private data using the built-in hidden office. The piece describes how to manually identify processes using the BPMN modeling technique and automate them using contemporary technology. Additionally, examples were used to evaluate the precision of the structural and dynamic analysis methodologies (process simulation). The procedure analysis method can be expanded to include processes and process mining techniques.

3.2 Collection and Analysis of Requirements

Client Side:

- Anyone can visit our website or web application having a stable internet connection from anywhere in the world. They can easily navigate all of the sections of our system. But registration is required in case of reading or downloading books and sharing their opinions regarding books. Registration process is very simple. They

need to fill up a form with basic information.

- After registering in our system, users can login by their email and password.
- After signing to the system, users can read and download the books according to their preference which are free of cost. But in the case of some books, they need to be paid in the future.
- An authorized user (logged in) can give the rating of any books and also comment or review their feedback. They must also fill out a form with their full name, email address, review, and rating in order to do this.
- Users can also get information about book fairs, events and campaigns regarding books. They can also know about the largest book lovers community of Bangladesh and join with them from our system.
- Users can contact the authorities or admins of the system.

Admin side:

- All areas of this project may be accessed by the admin. The system administrator can view a list of registered users.
- The administrator can add, remove, and update books, their types, and categories for the users as well as news.
- A mail dialog box appears when the admin clicks the response button, allowing them to fill out all the necessary fields to mail the users after reviewing all the messages that they have received from users.

3.3 Modeling and description of Use Cases

Modeling and description of use cases will cover how a user can interact (the different way of interaction) with the software; in fact, it not only provides a visual representation of all user-system interactions, but also the goals of each user. Use-case models contain the actors, use cases and the relation in between them. Humans or any other system or subsystem that is a part of a single system can act as actors in a system. Use cases actually specify how actors communicate with the system. Nothing more than a channel of communication between actors and use cases, associations. The system we use has two actors. Admin and user are two different roles. Their responsibilities and relationships with the system are completely dissimilar. Case exhibiting the key traits listed below:

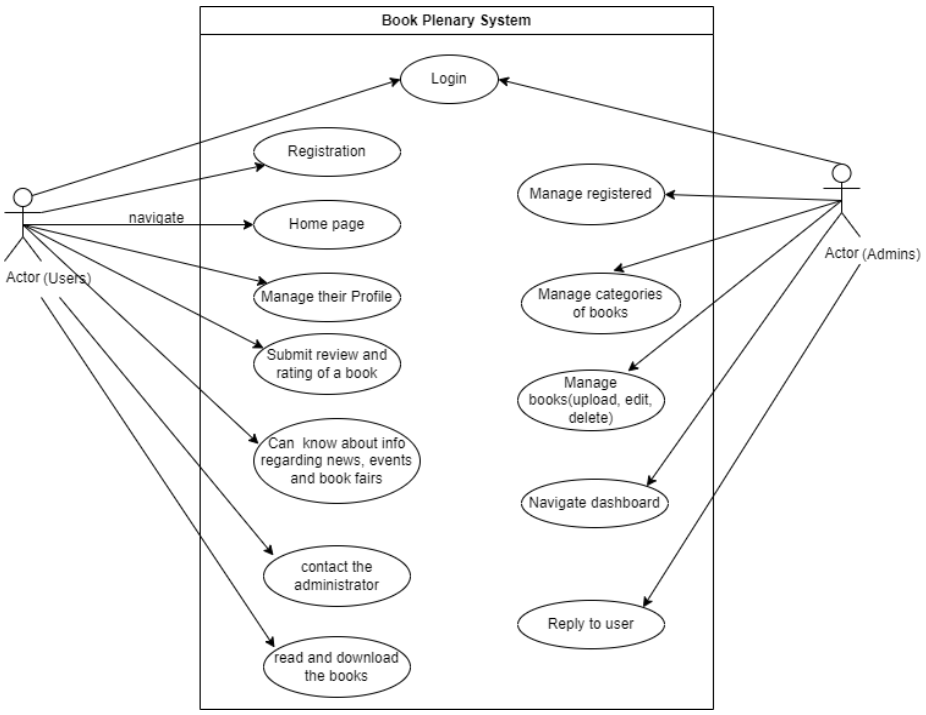

Figure 3.1: Use Case Diagram

3.4 Logical Data Model

LDM is another name for it. A logical data model displays the specifics or broad perspective of the entire set of data, also known as data entities created and maintained by a system or organization. It shows both the relationship between the data elements and their graphical representation. The underlying database technology is unrelated to the representation process. The LDM acts as a road map for the physical database architecture and assists in the development of the physical data model. Since the LDM aims to define the data as clearly as possible, regardless of how it will be implemented via technology, the layout changes in the majority of cases.

3.5 Design Requirements

According to demand and building requirements, architecture appears to be the stage. Once analysis and sound parameters are established, the technical tasks such as design, coding, performance, and testing make up the software architecture and are required for software design and verification. At this level, design activities are critical since choices affect the outcome and simplicity of program implementation. These factors ultimately relate to management, performance, and efficiency. The only way to accurately translate customer requirements into a finished program or device is, certainly, through design. The field of architecture is one that encourages exceptional performance. A method for turning the requirements into a software representation is computational analysis. The program has two distinct phases. Converting needs into percentages is the first step.

1) Flowchart Diagram
2) Entity Relationship or ER Diagram
3) Sequence Diagram
4) Activity Diagram

3.5.1 Flowchart Diagram

A flowchart is a diagram that illustrates the decisions and steps that must be made in a specific order for a process to be completed. For each stage of the sequence that is noted, a diagram shape is provided. The steps are joined together by directing arrows and connecting lines. This enables everyone to observe the flowchart and comprehend how the procedure functions from beginning to end. An effective tool for business is a flowchart. With correct design and construction, it swiftly and effectively communicates the steps in a process.

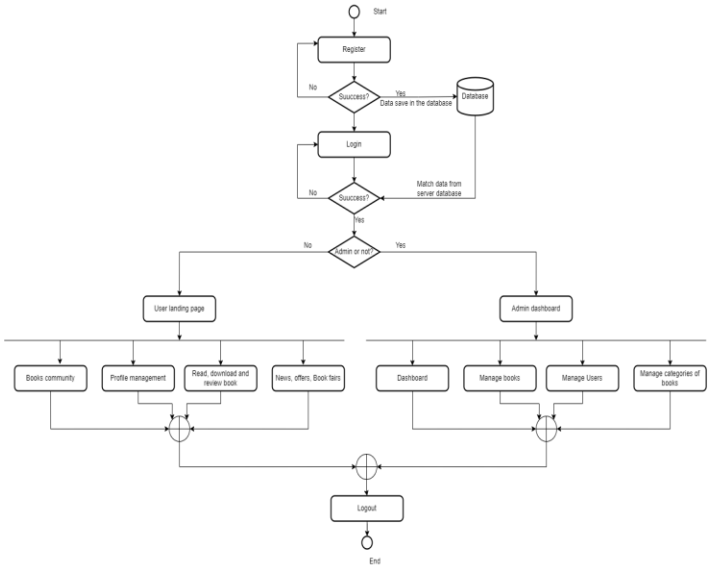

Figure 3.2: Flowchart Diagram

3.5.2 The ER Diagram

It appears that the ERD diagram references a database of items that are also known by that name. Alternatively put, the logic of the database is commonly shown via entity relationship graphs. Entities, characteristics, and relationships are the three main notions included in ER-dependent diagrams. In ER charts, people are represented in a variety of ways, including by ovals and diamond forms that use rectangles to show connections. In the following the major tables are shown with the relationship among them:

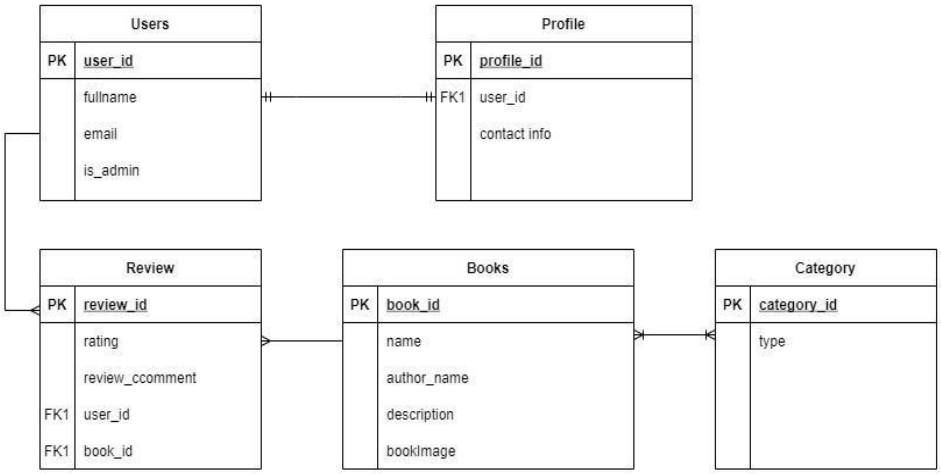

Figure 3.3: ER Diagram

3.5.3 The Sequence Diagram

A sequence diagram displays a specific interaction between items throughout time. The items and the network of communications between them that are required to carry out the scenario operation are shown. Usually, case studies create a logical understanding of the approach that connects sequence diagrams. Incident diagrams and event scenarios are other names for sequence diagrams. In a sequence diagram, many mechanisms or entities are represented concurrently as comparable vertical stripes and are connected by horizontal arrows. This enables the graphic definition of basic runtime situations.

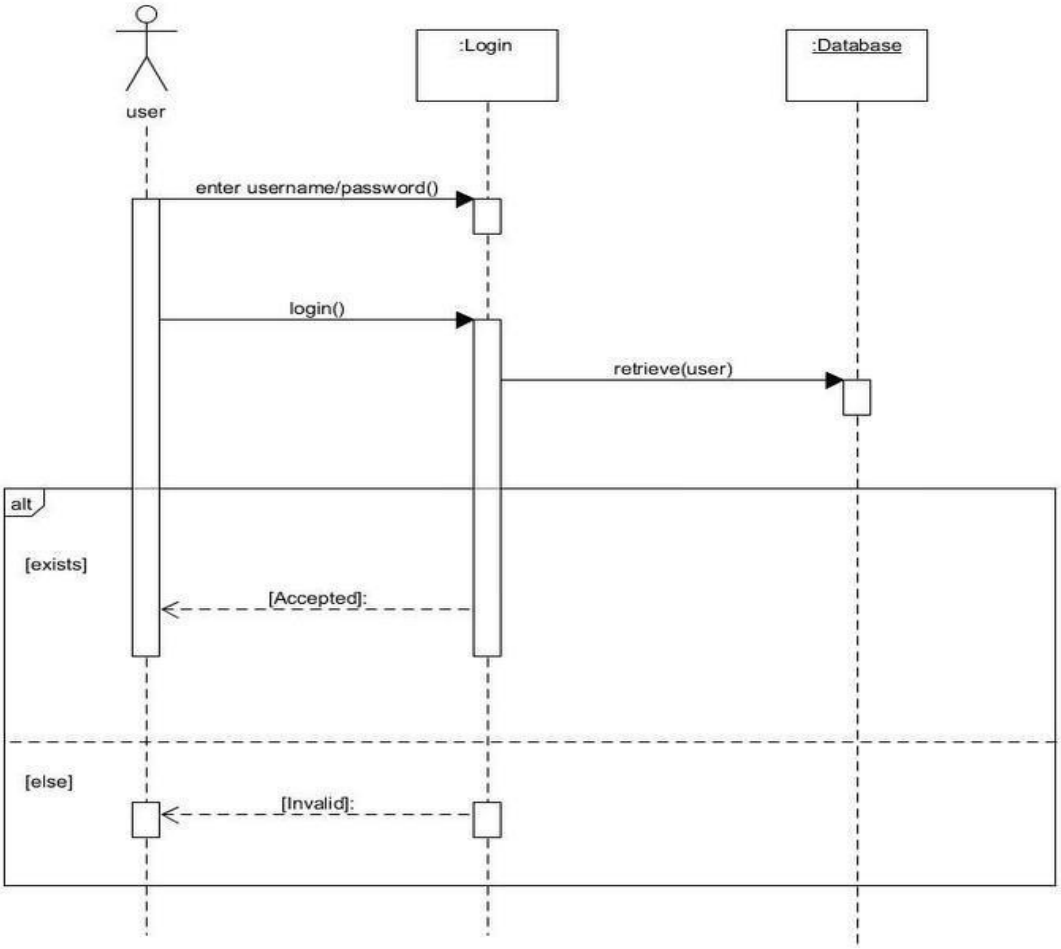

Figure 3.4: Sequence Diagram

3.5.4 The Activity Diagram

An activity diagram is a visual representation of a sequence of events or the flow of control in a system, similar to a flowchart or data flow diagram. The activity diagram is a typical tool used in business process modeling. Furthermore, they can depict the steps in a use case diagram. While being modeled, activities might happen sequentially or simultaneously. A start (a starting state) and an end are constant features of an activity diagram (a final state).

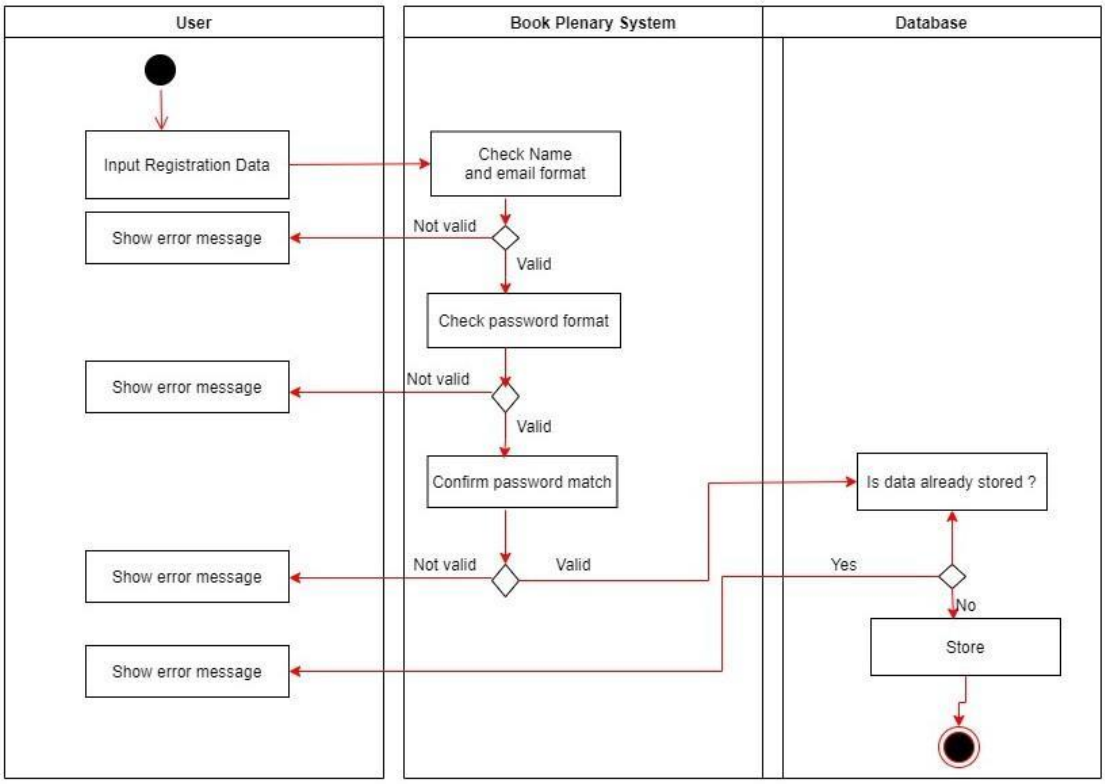

Figure 3.5: Activity Diagram

CHAPTER 4

Design Specification

4.1 Front-end Design

What you see is what's included with the front end: Hypertext Markup Language (HTML), Cascading Style Sheets (CSS), React javascript library, etc. It looks that React is a declarative, efficient, and flexible JavaScript library for UI development. It's a "V" in MVC. The front-end technology React JS, which is component-based and freely accessible, is primarily responsible for the application's layered architecture. Facebook continues. To aid in the logic and effectiveness of your application, React uses a descriptive approach. Every State in your application will have basic views built for it, and the moment your data is modified, the appropriate component will be appropriately updated and made by React. It is considerably more predictable and easy to troubleshoot using the statement view. Each component creates a tiny, reusable HTML element as part of a multi-component response application. Components can be nestled inside of other components to create sophisticated applications from simple building pieces. A component might include a concealed representation; an example is given, Tab-List component may store a variable related to the active tab. During the development of client-side apps, a group of Facebook engineers discovered that Document Object Models (DOMs) are slow. It defines how to access and handle a document and its logical structure. React offers a virtual DOM, which is effectively a JavaScript DOM tree representation, to speed things up. Therefore, whenever Both reading and writing the DOM are required. It employs a virtual form of the DOM. The virtual DOM will then search for the best way to update the browsers' DOM. Contrary to browser DOM components, control elements are cheap to build and have basic structures. To match the components of the reaction, React DOM modifies the DOM. Because JavaScript is so speedy, it makes sense to use a DOM tree to accelerate processes. Reaction was developed for browser usage, but because of its sophisticated design, it can also be utilized from the Node.js web server

4.2 Back-end Design

Simply defined, it is an environment for developing network apps that is free, open-source, and supports JavaScript across all platforms. This is the V8 JavaScript engine runtime for Chrome. The platform that your browsers use to execute Node and JS is the same. It is an open-source engine that converts JS code into substantially quicker machine code for free. It makes use of a lightweight, effective anti-I/O paradigm that is event-driven. Event-based programming: What is it exactly? The fundamental difference in your program flow is your style of thinking. The events that happen dictate how your software flows. The program regulates the order of events in an object-oriented programming environment. When it detects an event that has been provided to it, an event listener, a piece of code that keeps track of these occurrences, often calls a callback method or function. This manager manages the event by using the program code. One of the features of Node's language is the event loop. To establish a circuit that is waiting for events, a starting function is not required to execute before contacting Node. This callback will never be terminated if you build a server since it is continually watching for HTTP requests, and your application won't stop unless you tell the callback to. The sequence begins a few seconds after the node is started and continues until the last callback is received. You start the loop when it reaches the final callback.

4.3 UX and interaction design

An information interface's interaction structure is essential. This diagram is helpful. The creation of a website's user interface is specifically related to interaction architecture. UX is essentially user-friendly because of how this website's interface was built. The front end process is described by the term "UX." It determines how a developer uses and improves an app or website through experimentation. It guarantees client loyalty through enhanced features and efficiency.

4.4 Requirements for Implementation

React.JS as frontend has been used to make our system as a single page application and express.JS as backend for API design. So, there were some prerequisites before starting the development and implementing the requirements.

I. Node.JS (LTS version) should be installed on your system. LTS version stands for long term support version.
II. MySql server must be installed for the purpose of the database. You can also install XAMPP on your system.
III. Text editor with VS code is preferred
IV. Google Chrome is a preferred web browser.

MySQL is one kind of relational database management system, a database that is openly available.More data may be stored with it, and you can also use the data. MySQL workbench: MySQL workbench is an interactive interface where you can manipulate the stored data of MySQL databases.

CHAPTER 5

Implementation and Testing

5.1 Implementation of Database

Initially, ensure that MySQl server is installed on your machine or system. Otherwise, our system may not be able to connect with the MySQL database. This is another way to get the facilities of MySQL server,that is to install XAMPP server on your system if the operating system is Windows. The second way will not work in the case of the Linux operating system.

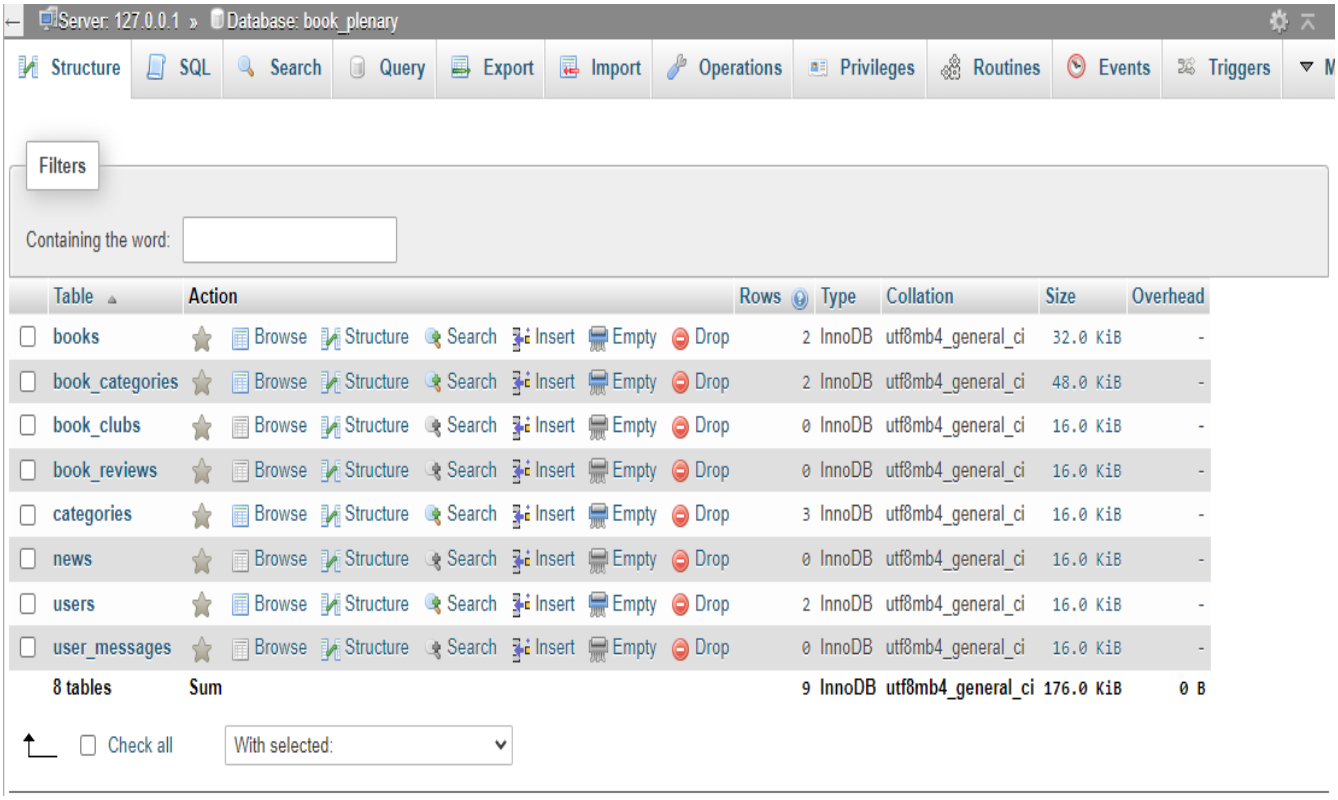

Figure 5.1: Database Representation

5.2 Front-end design implementation

We have used Reat.JS for the purpose of frontend design in both client side and admin side. So, our system is a single page application which provides the best performance for UI rendering. However, the most important screenshots of our system's frontend design are given below:

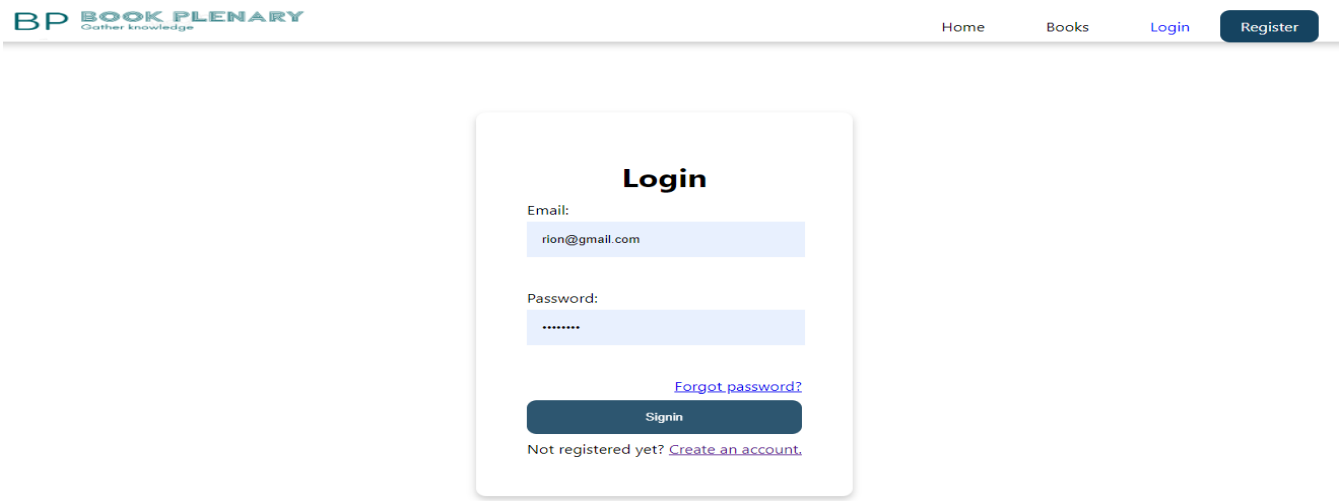

Figure 5.2: Login page for both admin and client

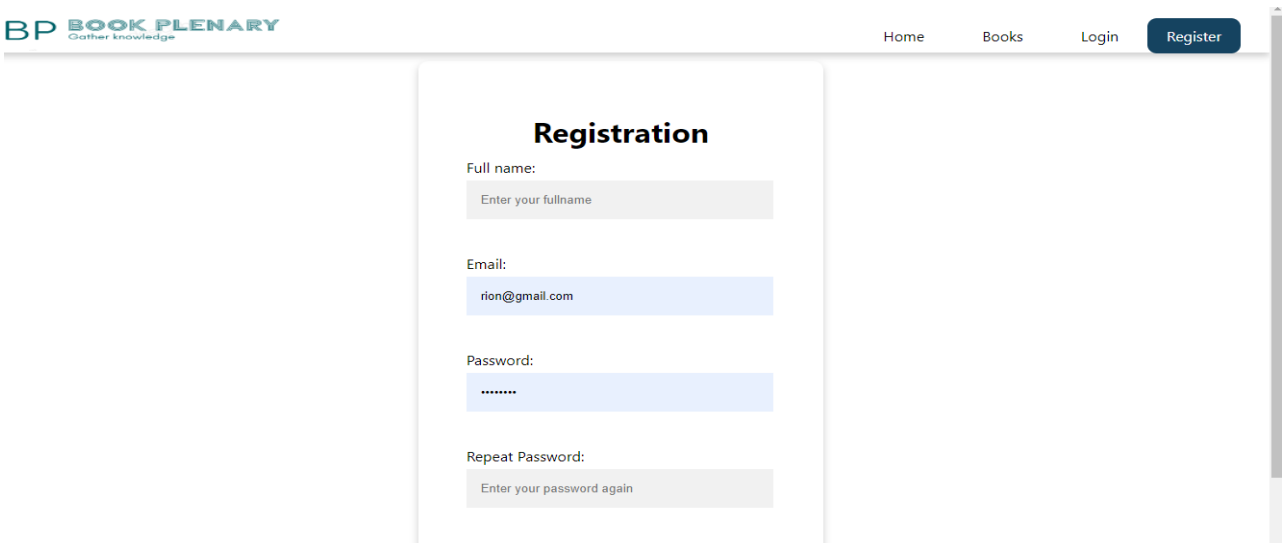

Figure 5.3: Signup for both admin and client

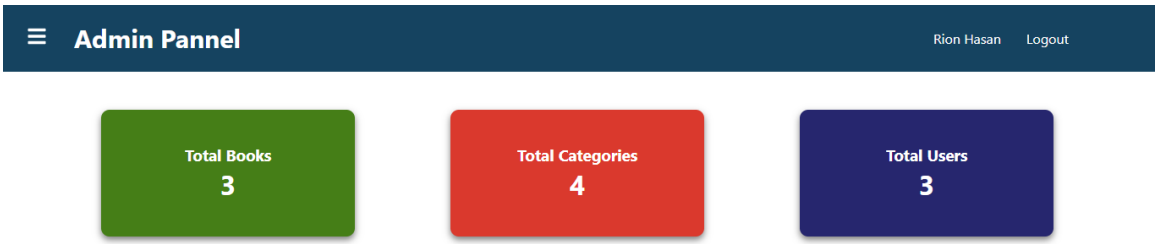

Figure 5.4: Admin dashboard

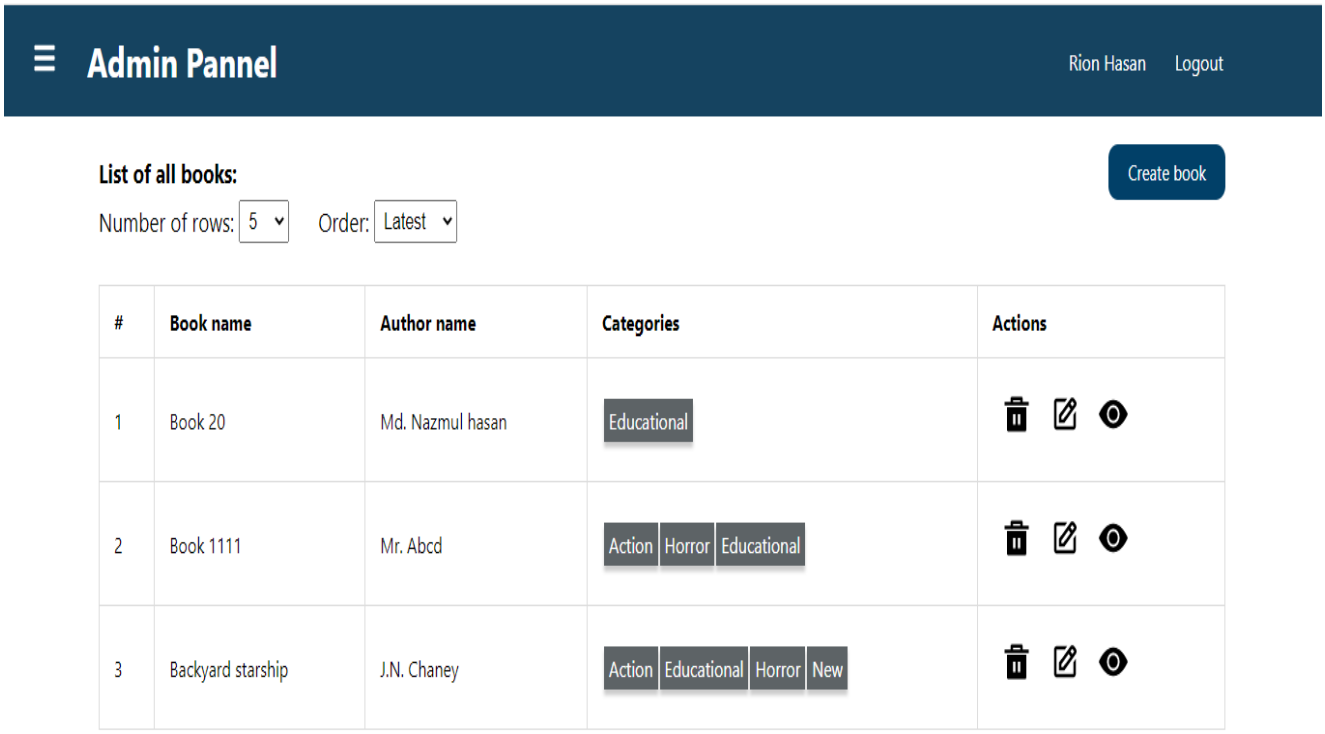

Figure 5.5: List of books page (Admin side)

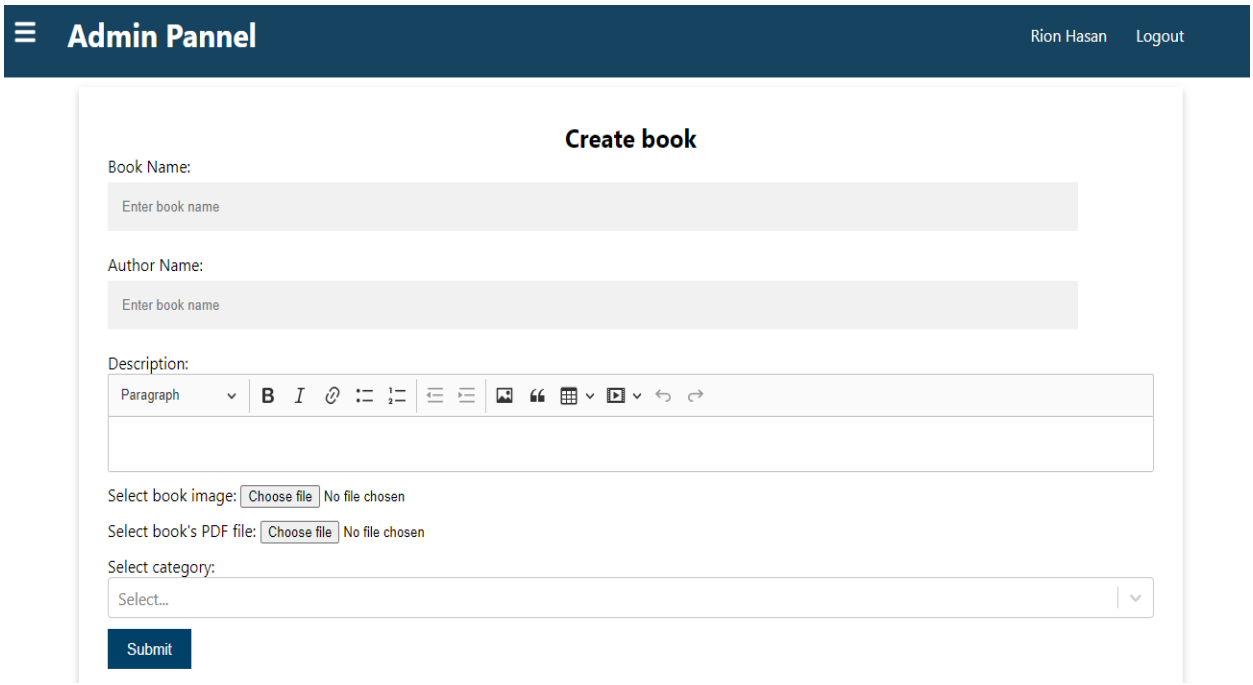

Figure 5.6: Book creation page (Admin side)

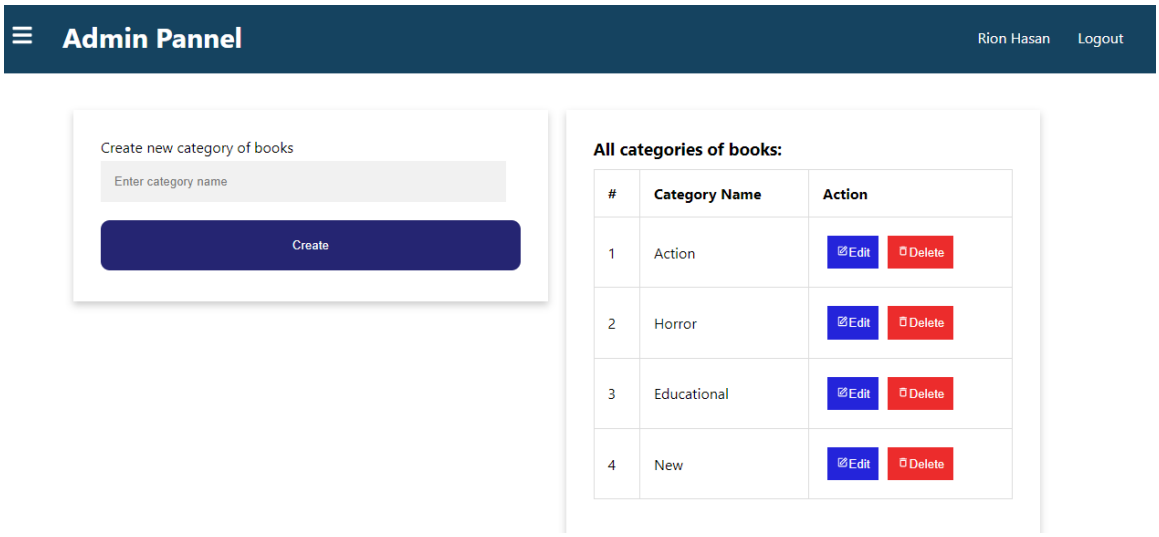

Figure 5.7: Category creation and list page (Admin side)

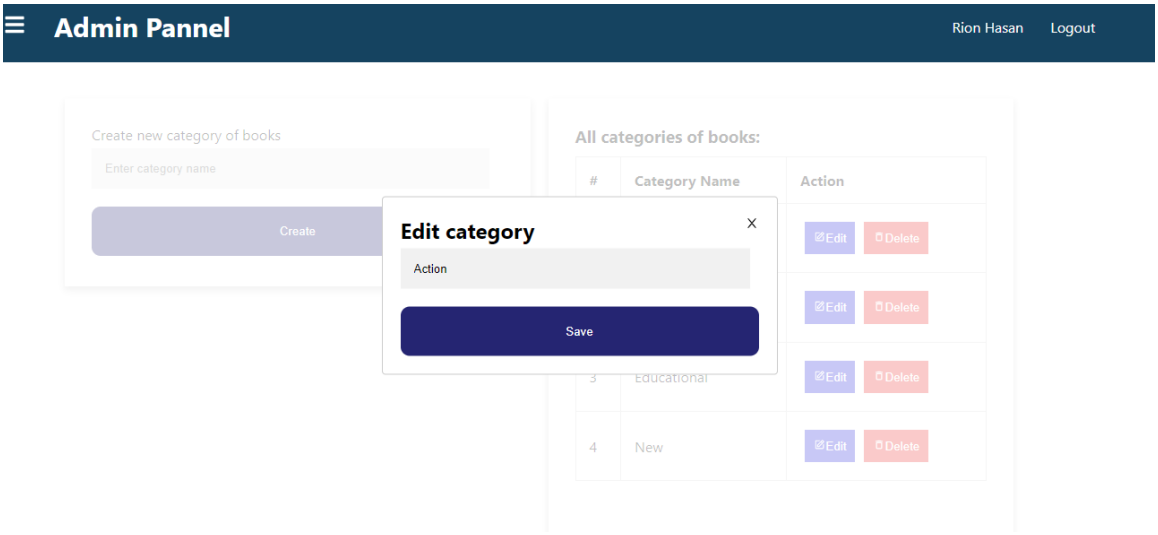

Figure 5.8: Categories edit page (Admin side)

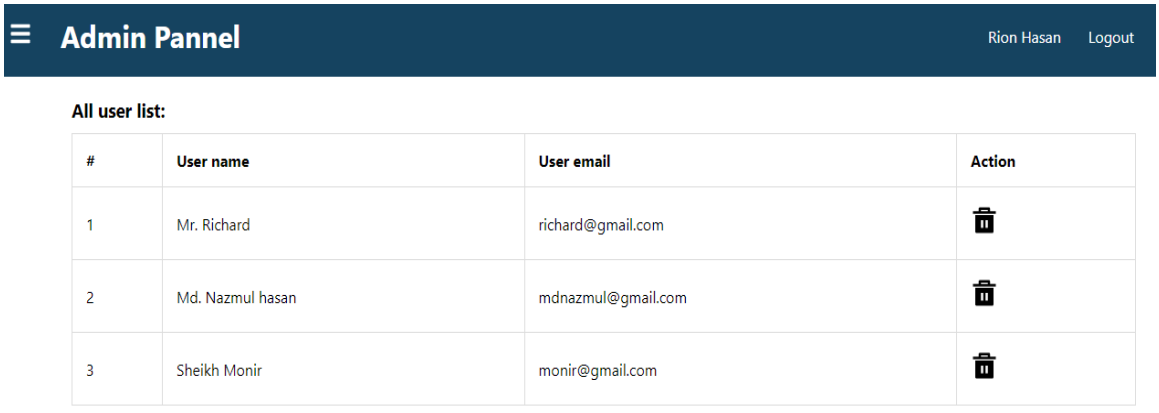

Figure 5.9: List of users page (Admin side)

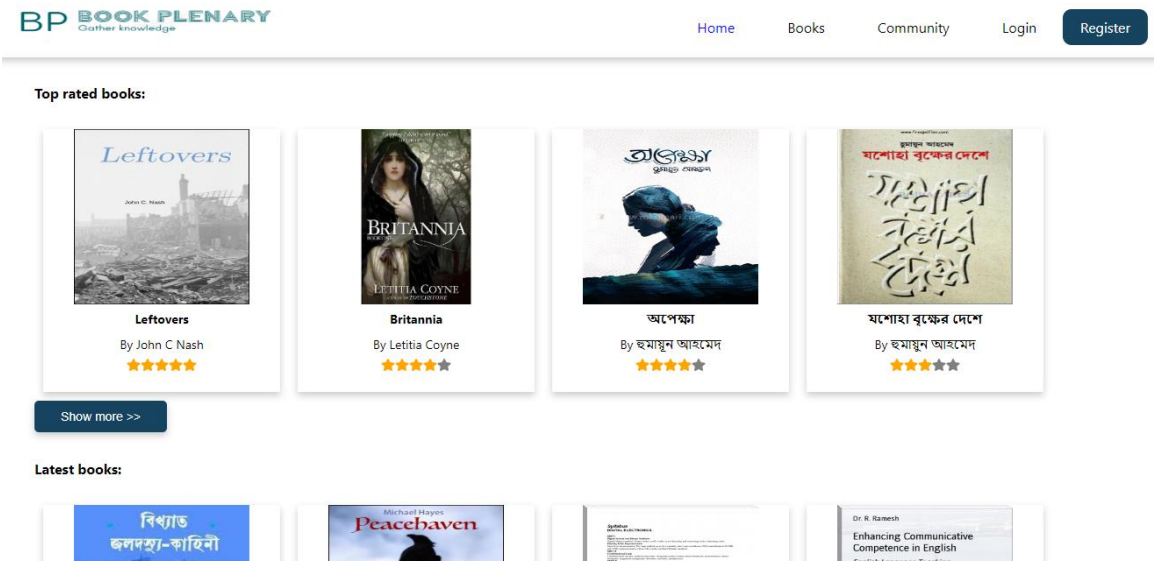

Figure 5.10: Home page (Client side)

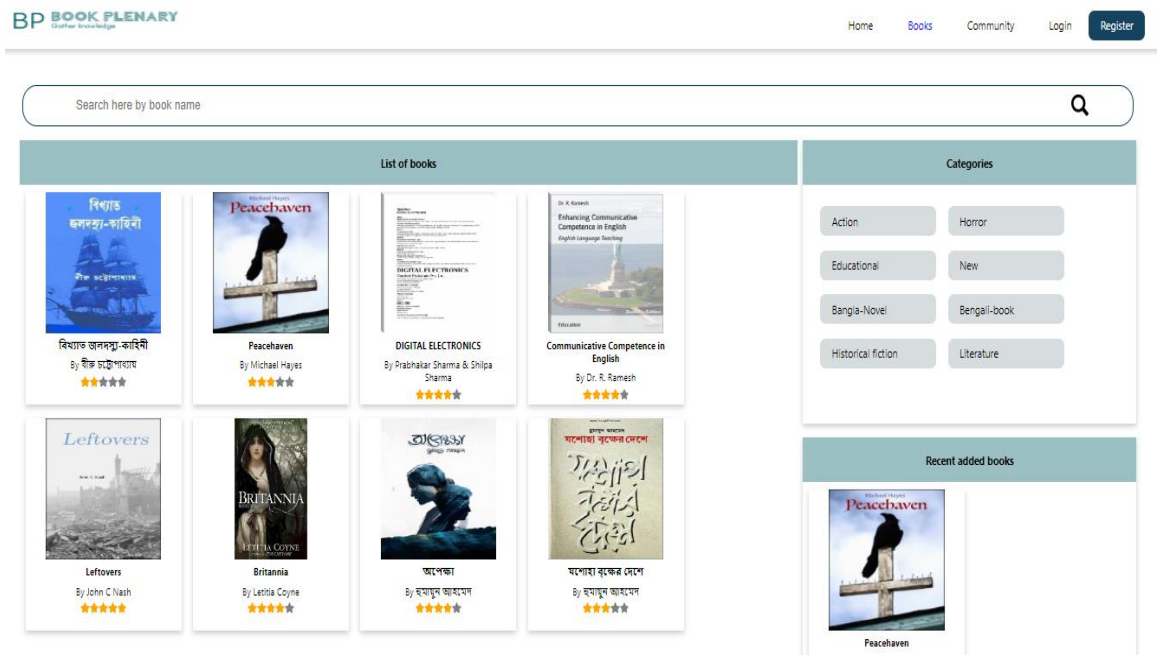

Figure 5.11: List of books page (Client side)

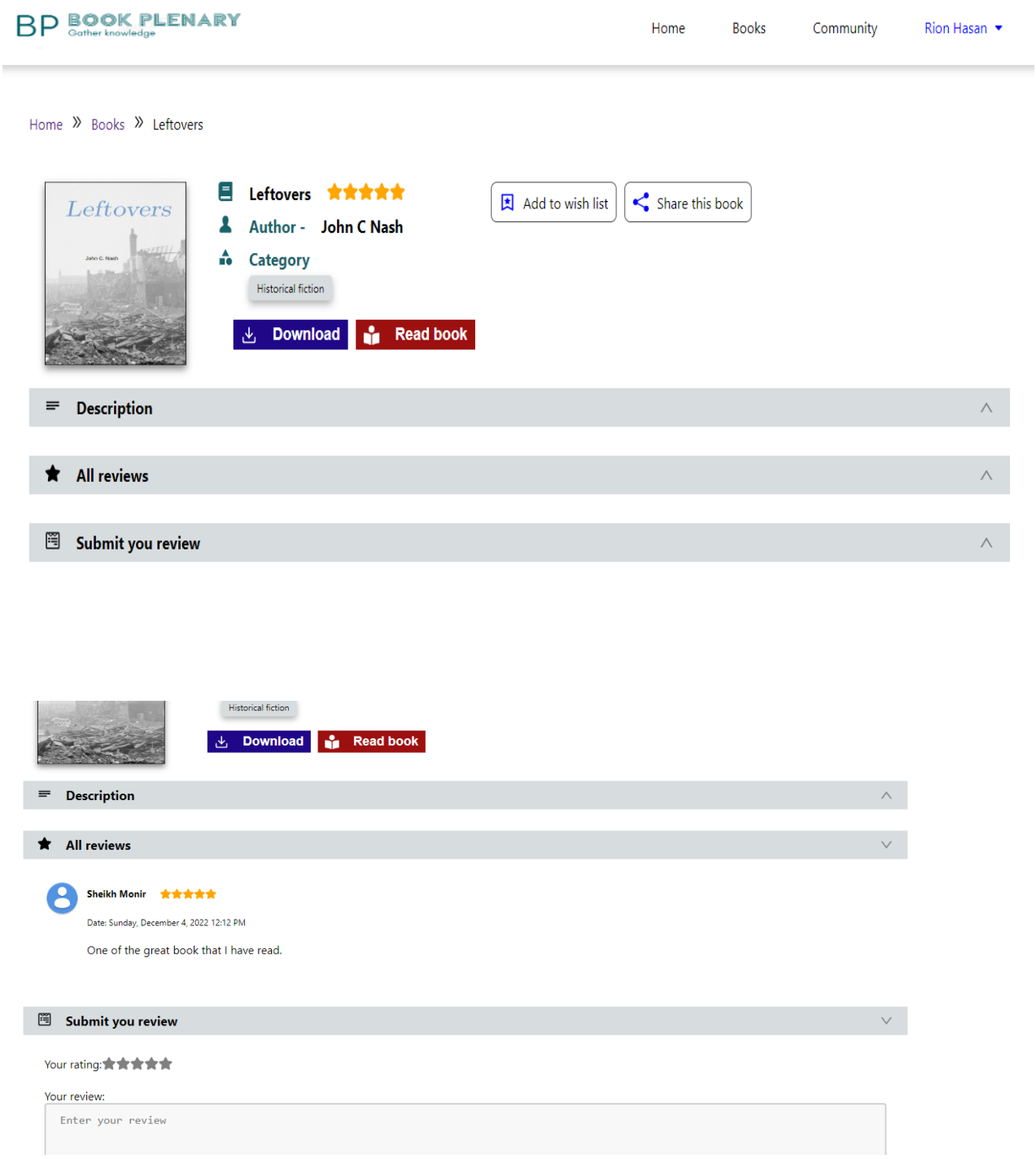

Figure 5.12: Book details page (Client side)

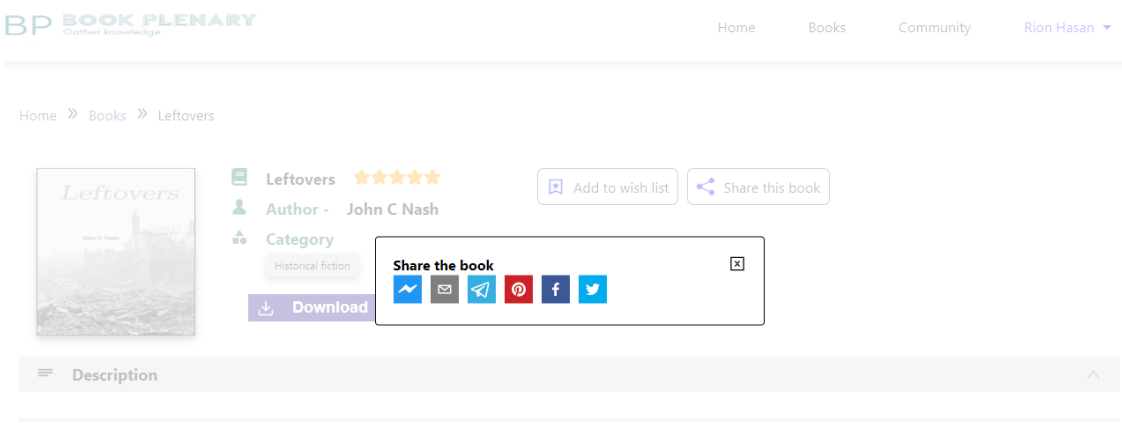

Figure 5.13: Book share pop-up page (Client side)

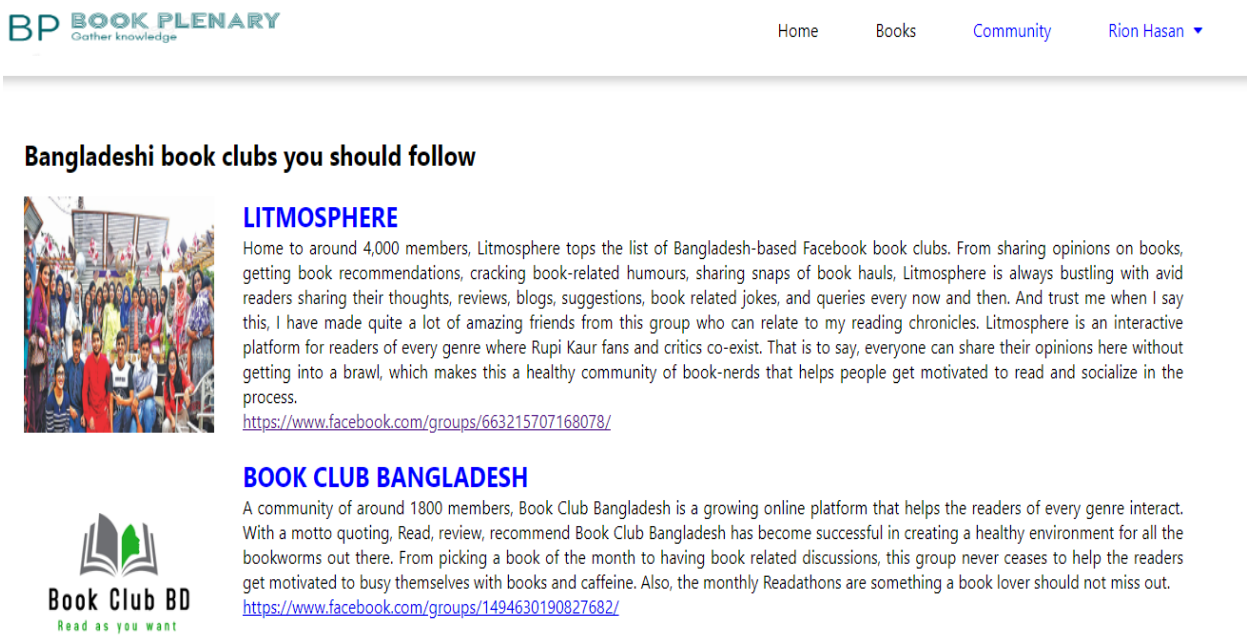

Figure 5.14: Book club page (Client side)

5.3 Implementation of Interactions

After implementing the front-end, this step is very much important for software development. We have to ensure that the user interaction with the software has been made successfully. For that, we connected our backend server to the frontend. Then, We run the project locally or from a virtual machine. So, the implementation of interaction is done. If we deploy our project in a virtual machine or ec2 instance, every user can interact with our application from anywhere in the world.

5.4 Testing Implementation

Once previous management approach procedures have been finished or reviewed, these tasks are carried out. Although they might be done at the same time, tests and evaluations are fundamentally different. Both of them are carried out in unique ways. One of the most often used strategies is prototyping, and some of the others were developed and put into use in this particular project. The final version of the original version discovered and corrected flaws in specific ways in addition to instrumentation. Other investigations using the prototype also included a usability test. The prototype may be used to conduct all research, including usability tests, and it can be evaluated at random by random people. This exam has four key challenges: how relevant the material is, how accurate the quiz answers are, how the results are presented, and how quickly users complete their main tasks using the right password, with the main task being a quick and free login. There are four main components to this test.

5.5 Test Case

A testing phase is a sequence of actions taken to evaluate a certain feature or aspect of your software program. A test case consists of test steps, testing data, a precondition, and a postcondition, and is intended to confirm any need for a specific test environment. The test case is made up of specific variables or conditions that functionality testing may employ to compare expected results with actual results to determine whether a different software system functions as expected by the client. The term "test scenario" refers to any component that could be tested. It's a collection of test cases that enables the testing team

to evaluate the good and bad aspects of the project. An overview of what to verify is provided by the Test Scenario.

1) Test cases help to ensure that the requirements of the customer, the standards, and the guidelines are followed.
2) Aids in confirming the goals and expectations of the consumer.
3) Improved management, logic, and openness of information flow.
4) User circumstances that are "real" can be mimicked.
5) Exposes errors or shortcomings.
6) When test cases are written, the job of the test engineer becomes more organized and straightforward.

5.6 Unit Test

Unit testing is a crucial method used in software development to test individual elements of a programming language, groups of one or more components together in the software program, along with accompanying control data, instructions for use, and policies and procedures, to determine whether the devices are suitable for use. Software developers build and execute unit tests, which are often automated, to make that a possible application (the unit) functions as intended and conforms to design. In procedural programming, a unit can be a whole module, although it often refers to a single function or procedure. Object-oriented programming often uses a whole interface, such as a class, or a single function. You may develop comprehensive tests for complex applications, functions, or processes by first writing tests for the most basic test units, followed by tests for compound behavior. Object-oriented programming often uses a whole interface, such as a class, or a single function. You may develop comprehensive tests for complex applications by writing tests for the most basic test units first, followed by tests for compound behavior.

5.7 Integration Test

When developing an application, integration testing—also known as integration and testing, or I&T—is crucial because it allows the separate executable components to be merged and tested collectively. Integration testing is done to determine whether a system's or component's compliance with specific requirements. It comes after unit testing and before assessment criteria. Functional requirements provide an integrated approach that is ready to be tested by taking their unit-tested input modules, grouping them into larger aggregates, and testing these aggregates in accordance with an integrating testing method. The lowest aspects of the hierarchy have been assessed in the initial bottom-up test. They are then used for the testing of higher level components. Up until the component is tested at the top of the hierarchy, the process is repeated. The bottom or low level components, processes, and operations are all integrated and tested. After the integration testing of the lower-level integrated modules, the next level of modules will be created and might be used. This strategy is advantageous when all or more modules that are in the same stage of development are ready. This method can make it easier to report information in the form of a % quality of management and help determine the software levels that have been generated. Top-down testing involves testing the top-integrated modules first, then evaluating the module branch iteratively until it is complete. Top-down and bottom-up testing are combined in testing sandwiches. One limitation of this kind of test is that, aside from verifying that the architectural components are run, conditions not specifically covered by integration tests are often not verified.

5.8 Test Results and Reports

To make it simple to estimate test outcomes, a framework that addresses test findings is required. The study's findings are records that may be used to categorize the environment or the operational situation and compare the results of the organization's assessment tests to the desired results. In the end, we would just receive the findings from usability studies. Given that we have already built the architectural framework for interaction, the question now is how to build the user configuration developer case collection to traverse it. The physical cosmos provides a virtually perfect environment for interaction. A progressive and user-friendly design depends on interaction. The invention and advancement of an immersive system are desperately needed. We interact with our equipment in a special way, as was already said

CHAPTER 6

Impact on Society, environment And Sustainability

6.1 Impact on Society

A web application is being developed by us that enables users to acquire knowledge through reading books, which is crucial in this day and age. If we consider the social element that our system has produced, we may assume that the public will see our system positively or project favorably because it will either directly or indirectly benefit the people in the society. Books play a significant role in human life. Reading books helps people learn more about the world and its diverse nations and civilizations. It also sharpens one's intelligence. We already know that the way things are right now truly produces a system for online shopping and purchasing. Therefore, we expect that it will have a favorable effect on society and that our system would be well-liked by the user.

6.2 Impact on Environment

There isn't much of an impact on the environment for our system because we are producing software, or you could say our web app. Our system is entirely software-based and only uses a web form because we don't use any hardware of any type. We can categorically state that neither a positive nor a negative impact on the environment is caused by our system. There is no risk involved and it is completely safe to use.

6.3 Sustainability

The project's political viability, significance, and acceptance will all depend on how sustainable it is. Other factors including financial analysis, risk analysis, communication and network determination, the operational plan, training, human resource development and capacity building, environment and community analysis, and others are used to evaluate a project's sustainability. To determine if it is a stand-alone project, an organization, franchise, cooperative, joint venture, a non-governmental or public body, etc., funding must be researched and analyzed. A project always includes an explanation of the justification, supply and demand, costs, expectations, and performance indicators

that are necessary for the project to be funded. The project details interest rates, income, and affordability. The licenses and permissions, as well as the various procedural requirements, regulatory restrictions, and rules, regulations, regulations, that must be adhered to in order to carry out initiatives in this environment, are covered by the legal and regulatory framework. In particular, the project's access to modern systems and technology needs to be thoroughly assessed.

6.4 Ethical Aspect

Transparency is a fundamental component of good government. Software project management must be transparent in all aspects of its operations since doing so will increase employee trust in the leadership group. However, no one is aware that management teams are the only ones who complete projects. Staff occasionally voice concerns about the dubious conduct of project managers, while in other cases, staff is unclear about the scope of the projects since top management doesn't fully explain them. Information that is designated as confidential is subject to restrictions on who can access it and where. Having integrity is a requirement for development project managers considering his expertise about continuing initiatives, their resources, time, as well as strengths and weaknesses of the company. Certain circumstances result in the management group disclosing sensitive information about the organization. The software project manager must be devoted to his work and his team. He is the primary member of the software development team who is responsible for ensuring that their duties are carried out in full. Through their subordinates and clients, they must be devoted to each other in order to do all of this and produce excellent results

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CHAPTER 7

Conclusion and Future Scope

We talk about our decision and judgment in this part. We discuss the possibility for the future here as well as what the ideal version might have been like.

7.1 Discussion and Conclusion

We've done our best to create a system that is devoid of bugs, very user-friendly, and simple to understand for all types of individuals in this portion of the conclusion. Our system is already in its basic phases, and we want to add more functions later. At this early stage, we provide a variety of books collection, downloading and reading books feature, and many more. As a result, we are not compelled to ask people for money. In addition, we'll consider feedback from users. Everyone will have free access to our system. There are no fees associated with using our system.

7.2 Scope for the Further Developments

We showcase a few new features in the scope for the future that will be accessible very soon. In the beginning, there will be a location where administrators can constantly add new collections. Soon, we'll work to bring a collection of paid books and incorporate the various payment options available in Bangladesh. Because for the time being, only the free books are available on our website and provide free access to read and download at this initial step. We'll strive to create a payment system by buying paid books and allowing the user access to our system with high security

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WEB BASED BOOK PLENARY SYSTEM

ORIGINALITY REPORT

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