

NovelNext Shop: Online Book Sales and Purchases

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FINAL YEAR DESIGN PROJECT REPORT

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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May 14, 2025

APPROVAL

This Project titled **NovelNext Shop: Online Book Sales and Purchases**, submitted by Name, ID No: **192-15-2848** 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 **14 May, 2025**.

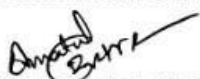
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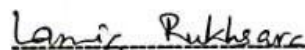
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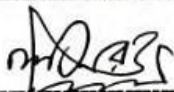
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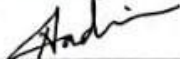
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DECLARATION

We hereby declare that this project has been done by us under the supervision of **Mr. Mahimul Islam Nadim, Lecturer**, Department of Computer Science and Engineering, Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for the award of any degree or diploma.

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ABSTRACT

The NovelNext Shop: Buy and Sell Books Online project is a cutting-edge online marketplace created just for Daffodil International University students. Its goal is to establish a convenient and user-friendly online marketplace where students can purchase and sell books. For bookworms and students alike, the site provides a hassle-free alternative by doing away with the necessity for in-person bookshop visits. This makes the platform easily accessible and customizable to the needs of the students by enabling them to use it from any device, even mobile ones. One of the platform's primary features is a multi-vendor e-commerce system that allows vendors to catalog and control their inventory of books. Sellers are free to add, amend, and remove book listings as needed. In addition, the platform makes it possible to manage student information, offering a safe and well-organized way to link buyers and sellers inside the campus community. A strong search mechanism has been added to improve the user experience. With the use of this search system, customers may locate books fast and easily by using several criteria including title, author, genre, and ISBN. This makes finding books easier, which raises customer satisfaction levels all around.

Students and book lovers now have an easy way to conduct online book transactions thanks to Daffodil International University's online NovelNext Shop project. With the platform's user-friendly design, vendors can interact with potential buyers and manage their goods efficiently. The project's purpose is to use modern technology to improve the efficiency, convenience, and accessibility of book buying and selling in the university community.

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Chapter 1

Introduction

This chapter introduced NovelNext Shop, stating its role as an innovative online bookstore. It emphasized the website's purpose of providing trouble-free access to diverse books, addressing the evolving needs of online readers.

1.1 Introduction

NovelNext Shop: Buy and Sell Books Online is the project name. It is an online digital purchasing and selling platform. The purpose of this project is to make book sales and purchases simple and hassle-free for both parties. Using the web-based application will be advantageous to both buyers and vendors. Administrators and users can handle apps more simply when they have a simple interface and functionality.

This project is an online store with several vendors. Only Daffodil International University students are able to quickly register, create an account on this website, and purchase or sell books with ease. DIU will only be able to access this website via email accounts. The website I created focuses on books that are simple for students to obtain. This system has a part for student details as well as upload, edit, review, favorite list, and delete functions. All students are able to upload as many books as they like and locate any book with ease thanks to an extremely effective hunt mechanism. JavaScript, React.js, Firebase, and visual plant law were utilized to make this system unique.

This dynamic website, which uses HTML, CSS, JavaScript and Node js, will function on any platform with the use of a web pack when accessed on a mobile device. It will also be responsive and optimized for mobile displays.

1.2 Motivation

A website with a multivendor web application that helps students purchase and sell books directly to them while also allowing other vendors to sell their books on the platform to help make money Therefore, we are driven to create this multi-vendor website based on research on both consumers and sellers so that vendors may provide a large quantity of books at a

discount and buyers can receive a large quantity of books in one location. My aim is to create a 24-hour book-buying and selling platform where anybody may discover the right fit for their beloved book. And inexpensive used books are often available.

It has been observed that individuals mostly go for a website that offers a variety of book services on one platform. The need for a multi-vendor books system that enables students to view various student profiles simultaneously is increased by this behavior. The ability to examine prices for different services from different suppliers will make it easier for a multivendor business to succeed in the e-commerce space.

1.3 Advantages of the Initiative

Books may now be bought or sold easily online. It offers several advantages,

- Including time and money savings.
- Searching department books is simple.
- You can browse books in more than one category at once.
- A comparison of books and prices.
- Students' Flexibility
- Quicker reaction to consumer and market needs
- Reasonably priced marketing and advertising
- Multiple ways to pay

1.4 Objectives

A user-friendly platform for online book sales and purchases is what the NovelNext Shop: Buy and Sell Books Online initiative aims to provide. The project's goal is to make it easier for bookworms and students to buy and sell books from the comfort of their homes by doing away with the inconvenience of going to a real bookshop. The project also intends to give sellers access to an e-commerce platform with many vendors so they can manage their inventory and market their books. The site has functions for managing student information and uploading, modifying, and removing book listings. The goal of the search system is to make it simple for customers to locate the books they want. The project makes use of JavaScript, Visual Studio Code, Firebase, and React.js to create a dynamic, responsive website that is accessible from any device, even mobile ones.

The overall goal of this project is to give book lovers and students an easy way to buy and sell

books online, as well as a user-friendly platform that allows sellers to connect with potential customers and manage their inventory.

1.5 Organization of the Report

The induction section gives a summary of the NovelNext Shop project and explains its goals. It presents the idea of a Daffodil International University-only online marketplace for the purchase and sale of books. The project's importance in establishing a pleasant and user-friendly environment for students is emphasized. The main characteristics of the NovelNext Shop platform are described in Platform Features. It talks about the multi-vendor e-commerce system and emphasizes how sellers can post, administer, and change book listings. The section on technology and implementation explores the strategies and technologies employed in the development of the NovelNext Shop platform. It talks about how the platform is web-based, how it works with different devices (including mobile devices), and how it makes use of contemporary technology to improve efficiency and ease.

It highlights how important the NovelNext Shop project is in offering a quick and easy fix for university community members who enjoy reading as well as students. The report's conclusion highlights the improved online book buying and selling experience overall, as well as the user-friendly interface and efficient inventory management. The report's conclusion highlights the improved online book buying and selling experience overall, as well as the user-friendly interface and efficient inventory management.

Chapter 2

Background

This chapter explored the context of NovelNext Shop, tracing the rise of ecommerce in the book industry. It highlighted market trends and technological advancements that justify the need for a dedicated online book sales platform.

2.1 Introduction

For the CRUD and backend coding of this online NovelNext retail system, we used Visual Studio Code and a Firebase Cloud Database. For the front end, we also employed a UI library. React.js and the Tailwind CSS framework were used on all pages. Additionally, we included a Firebase authentication mechanism that uses social media logins from Facebook and Google. To facilitate easy backend operation, our project database made use of a real-time cloud database. At the moment, this is one of the most complex backend systems available for setting up an e-commerce platform with several vendors. We chose Firebase for our backend because of this. To ensure that every impact on our point looks beautiful enough for a better stoner experience, we have also adopted a template. Because one of the most crucial pieces of information for any e-commerce site to thrive is stoner experience.

2.2 Related Works

Although there are numerous NovelNext Shop: Buy and Sell Books Online platforms available online, each has particular qualities and capabilities of its own. A few associated works are:

Rokomari: In Bangladesh, people utilize the well-known website rokomari.com to purchase and sell a variety of goods, including books. Users can search for books on the website by category, price range, and location in the book section. [1]

Daraz: The well-known bookshop daraz.com.bd offers an online store where customers can purchase books. Their shipping system is really effective, and they have a large range of books. [2]

Thriftbooks: thriftbooks.com is an internet-based bookshop offering discounted new and

secondhand books. They have an extensive library of books in many categories, and their delivery method is excellent. [3]

Amazon: The largest online book marketplace is Amazon, where users may purchase and sell books. Amazon offers a wide selection of books in many different categories, and their delivery and payment processes are quite user-friendly. [4]

Each of these systems has been successful in its particular area and has its own distinct features and functionalities. Our project is limited to use at Daffodil International University. This website was made in order to fulfill the demands of student books. in order for students at Daffodil International University to conveniently obtain the books they want. This webpage is only accessible to DIU students in order to register. This website was made so Daffodil International University students would not have to go elsewhere to look for books. The admin will be in charge of this website. Using this website, DIU students can buy and sell their used books. In this project, a department filter system has been implemented. Students in any area can quickly and affordably purchase the necessary books on this website. Once more, they can use the website to upload images of the books and their prices once their need for them has passed. After that, you can sell books over the phone or by message. Good communication between the varsity's seniors and juniors will grow as a result of this. You'll also receive assistance with other tasks..

2.3 Scope

Various contexts in which we could use this website include:

- There are a ton of vintage books on the internet.
- On a website, vendors can sell a large number of books

2.4 Concern

A student does not need to utilize the same books again for the next semester. On this platform, students can easily sell the books later. In this way, the books are affordable for all students. Purchasing new books is an expensive endeavor. In this approach, the books will be affordable for every student. They can now purchase books without having to travel to Nilkhet, Dhaka. Less time is needed for all pupils to obtain the books. Both the seller and the buyer will gain from doing this. Our belief is that Daffodil International University students will benefit the most from this web application.

2.5 Investigation of viability

The feasibility research is a solid and reasonable envisioning of the expected created online operation design that is backed by the discussed discourse and looks into providing the decision-makers with complete comfort. As the terrain, the resourcefulness necessary to assume by, and finally the expressions for success are offered, feasibility is able to objectively and logically break the forces and sins by an existing business concern or suggested enter, finds, and hazards. To put it simply, the value to be obtained and the requested cost serve as the two metrics used to assess feasibility. A well-designed feasibility analysis should include the following information: financial data, valid prerequisites, a description of the product or service, accountancy statements, points of accessory and direction, and a factual background of the business association or design. It should also assess liabilities. Feasibility evaluations usually result in specialized research and design implementation. The feasibility report mentions a number of important factors

Chapter 3

REQUIREMENT AND SPECIFICATION

This chapter described the functional and non-functional criteria for NovelNext Shop, delivering a stable and user-friendly platform. It specified key features like secure transactions and intuitive navigation to meet user and system needs.

3.1 Introduction

After discussing demand collection, we broke down the process into its component parts. The use-case model for the design, a few logical data models, and the design specifications have also been thrown around.

3.2 Functional Requirements

The features and functionalities that an online book buy/sell system has to have in order to satisfy its consumers' expectations are referred to as functional requirements. Contrarily, non-functional requirements pertain to those aspects of the system that are crucial to its functionality and performance but have nothing to do with its features.

The following functional requirements apply to this project:

Registration: Users have the ability to sign up and establish an account on the platform. The following fields need to be filled out during registration: Name, password, phone number, email address from DIU, and Select Department.

Authentication: Users should be needed to submit their DIU Email address and password in order to access the system, which would have a secure login process.

Make a Profile: After logging in, individuals can make a profile that contains personal details like their name, address, phone number, and profile photo.

Post Book: Using the system, registered users can list their books for sale. It should be possible for them to upload the image of the book together with its name, description,

quantity, original price, and selling price.

Book Search: Readers can look up books using a variety of parameters, including title, author, genre, and year of publication.

View Book: Users would be able to see information on the books that are listed on the system, including the title, author, year of publication, and cost.

Add Payment: Users would be able to add payment options through the system, including PayPal, credit/debit cards, Bkash, Nagad, and Rocket.

Buy Book: Using the payment method they have provided, registered users can buy books that are displayed on the system.

Manage Book: Users who have registered can access and edit the books that are listed. Editing, removing, and designating their works as sold would be possible.

Handle Payment: Users can add new payment methods, remove old ones, and manage their current ones.

Handle Users: The administrator would have the ability to handle user accounts, including changing user profiles, removing user accounts, and giving users responsibilities in order to resolve issues.

Update System: The administrator can make changes to the functionality of the system, like introducing new features or resolving bugs.

Order system: When an order is placed, the system should send out a receipt and let the vendor and buyer know

3.3 Non-Functional Requirements

Usability: The system would be simple to use, intuitive, and require little training.

Performance: There would be no lag or delays when a large number of people were logged in at once. It could load and show the details of the books fast.

Security: To guarantee the protection of users' money and personal information, the system would be equipped with strong security measures. Secure methods would be used for both data storage and transfer.

Reliability: Users could always rely on the system to be available to them. In the event of a

system failure, it would be protected by a backup system.

Scalability: There would be no performance deterioration since the system could accommodate a growing user base and volume of data.

Accessibility: With the use of assistive technology, people with disabilities, such as those who are visually impaired, would be able to utilize the system.

Compatibility: Users could access the system from a range of devices because it would work with various operating systems and browsers.

Updating and maintaining: the system would be simple, with little downtime required for bug fixes and updates.

Documentation: To help users and system administrators, the system would provide thorough documentation in the form of user manuals, technical specifications, and training materials.

3.4 Development-related hardware

- Development-related hardware
- CPU Speed: 1.0 GHz or higher RAM RAM of at least one gigabyte
- Hard break 20 GB or more in hard fragments
- Intel Dual-Core Processor or higher
- 3.5 Development software
- We employed the following frontend technologies in our system: JavaScript; React; Context API; Tailwind CSS; Firebase Automation; Web Token (JWT). Email.js and Stripe.js
- Backend: Imgbb, Firebase Admin, Firebase cloud, etc.
- Firestore Cloud Database is the database.
- Method of payment: Stripe.js

Firebase Hosting Services provides hosting

3.5 Use Case Diagram

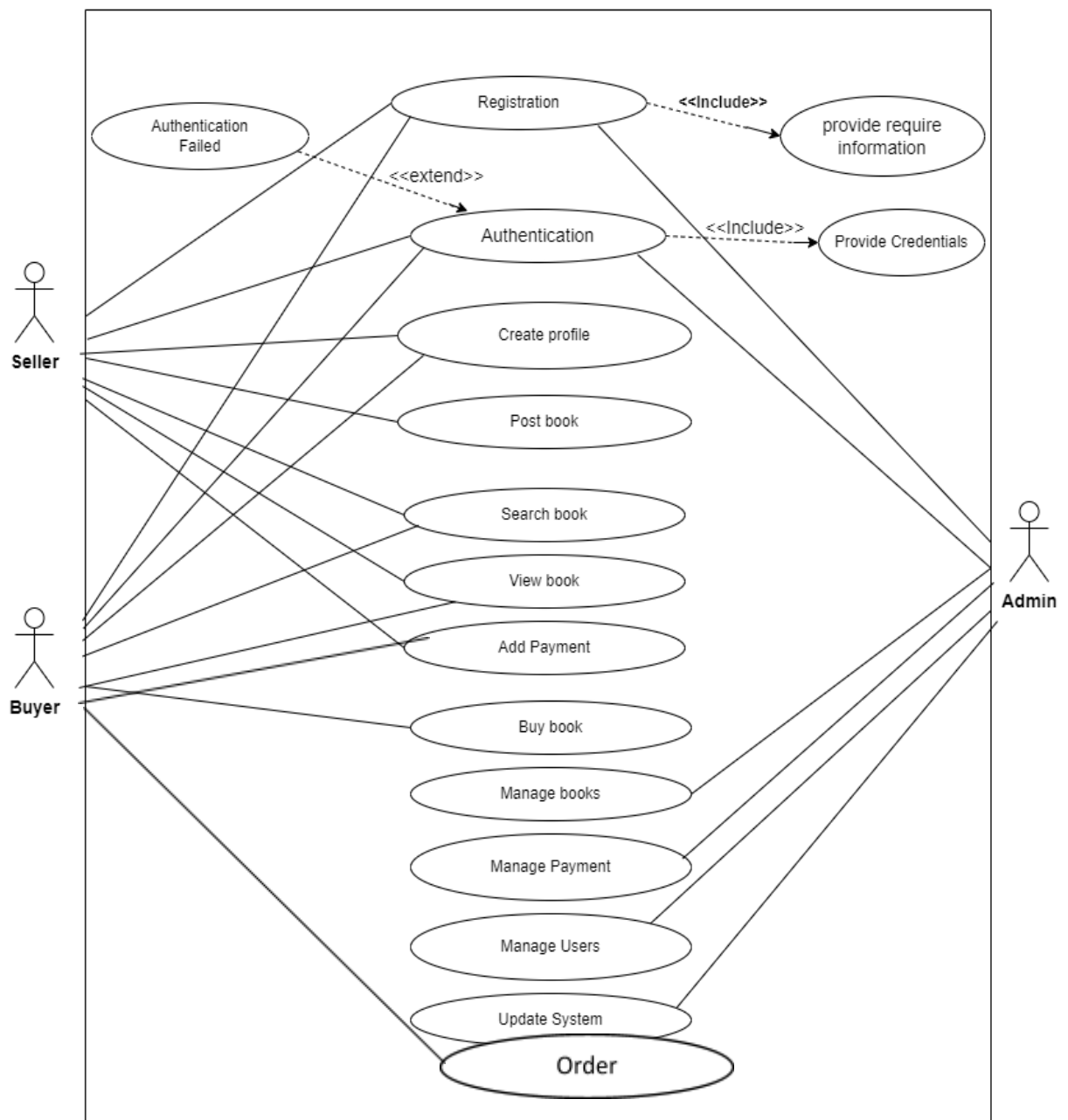


Figure-01: Use-case diagram

3.6 Description of Use Case Diagram

Use case models are used to illustrate the program's external perspective, gather system requirements, pinpoint internal and external influences on the system, and illustrate how administrative needs interact with one another. The case model and system usage are shown in the figure.

There are three different kinds of users in this system. Admin, Seller, and Buyer are present.

Admins have complete control over this system once they log in. Upon login, the administrator has complete authority over the system. The system administrator controls user access. Purchasers can register as ordinary users and can only access preview and search books. Regular users can order books, buy books, review books, manage their profiles, and report books after logging in. In order for a vendor to list a book on the website, they must pay the administrator 10 taka.

3.7 Use-Case Table

Table 3.7.1: Registration User

Use Case Title	Register user
Use case ID	Uc-1.0
Preconditions	The user filled out the Registration form after selecting it.
Actors	Seller, Buyer
Success End Condition	The user has successfully registered.
Failure End Condition	Show the register error message.
Trigger	Show user home page
Description	Once all field have been filled out, user can register in the system.

Table 3.7.2: Authentication User (Log-in)

User Case Title	Login User
Use Case ID	Uc-2.0
Precondition	1. Users must be registered. 2. Users select the login form and fill up it.
Actors	Buyer, Seller, Admin
Success End Condition	User successfully Login
Failure End Condition	Display login error message show
Trigger	Show the user home page
Description	The user's homepage and a number of options open after they log in.

Table 3.7.3: Authentication User (Log-out)

Use Case Title	Logout user
----------------	-------------

Use Case ID	Uc-3.0
Precondition	1. User must be register 2. Users select the login form and fill up it.
Actors	Buyer, Seller, Admin
Success End Condition	User successfully Logout
Failure End condition	Display login error message display “ ”
Trigger	Display the user home page
Description	Following login, the user will see the homepage and a number of options. .

Table 3.7.4: View Buyer and Seller Information

Use Case Title	View All categories Information
Use Case ID	Uc-4.0
Preconditions	User must be login
Actors	Buyer, Seller, Admin
Success End Condition	The buyer will be able to see all the information
Failure End Condition	The complete information of the buyer will be visible to the seller.
Trigger	View the all buyer information
Description	If the buyer wants, he can see the book information

Table 3.7.5: View Book Detail

Use Case Title	View Book Information
Use Case ID	Uc-5.0

Preconditions	User must be login
Actors	Buyer, Seller
Success End Condition	User view all Book information.
Failure End Condition	Users do not view all Book information.
Trigger	View the all-Book information.
Description	Admin is able to view all buyer and seller information.

Table 3.7.6: Search book information

Use Case Title	View Book Information
Use Case ID	Uc-6.0
Preconditions	Browse books online
Actors	Registered users and non-registered users.
Success End Condition	Show search result.
Failure End Condition	Not modify the result.
Trigger	View the user information
Description	A customer can locate a book if they wish to learn more about it. Find out everything there is to know about her.

3.8 Activity Diagram

3.8.1 Registration

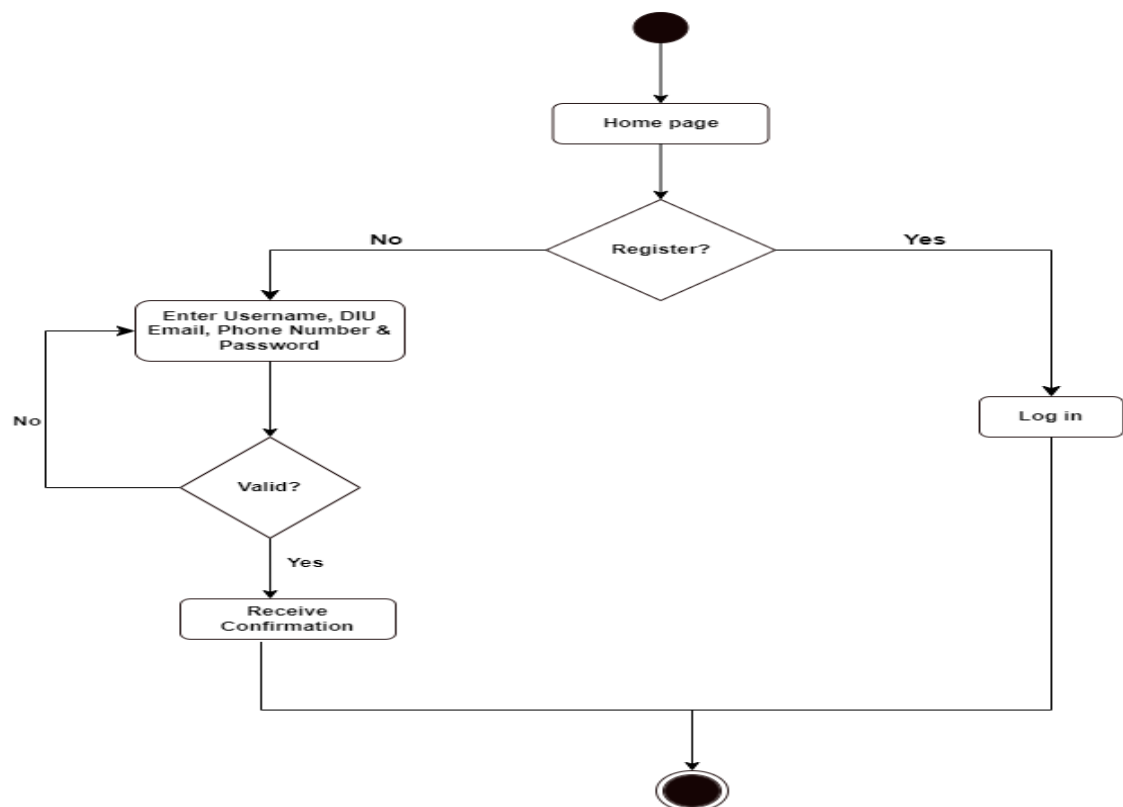


Figure-02: Activity Diagram for Registration

Description:

The user accesses the system home page to begin the registration procedure. The user must click the “Register” button to start the registration process if they haven’t already.

The user will be prompted by the system to either complete the registration process or log in if they already have an account. The user must enter their login, password, DIU email address, and phone number if they decide to register. After that, the system will verify the data that was submitted. The user will be prompted by the system to provide the proper information if the entered data is invalid. The system will authenticate the user’s account by sending a confirmation email to their DIU email address if the information they have provided is accurate.

Upon account verification, the user can access the system and begin utilizing its features in accordance with their user type (Admin, Buyer, or Seller).

3.8.2 Log in

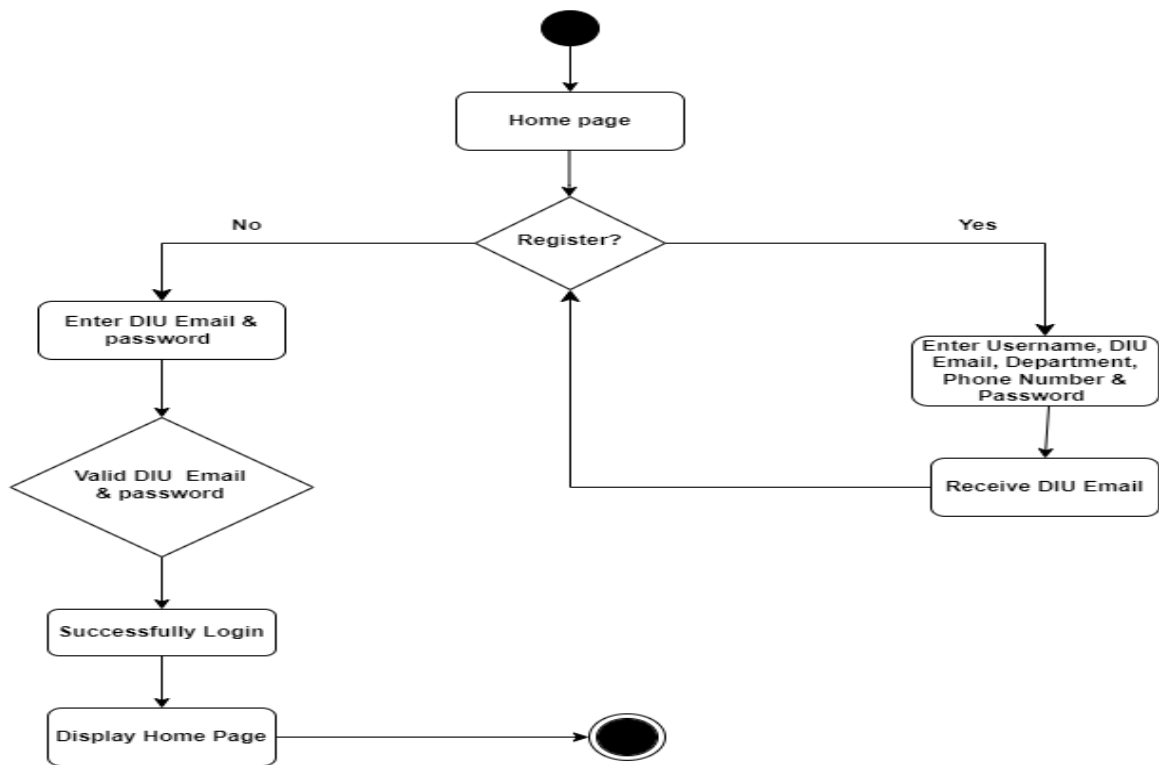


Figure-03: Activity Diagram for Log in

The user inputs their password and DIU email address. The DIU Email and password are verified by the system. The user will be sent to the home page if the validation is successful. In the event that the validation is unsuccessful, the user will get an error notice and be asked to enter their password and DIU email address again. Depending on their role, the user will see different alternatives on the home page:

3.8.3 Add Book

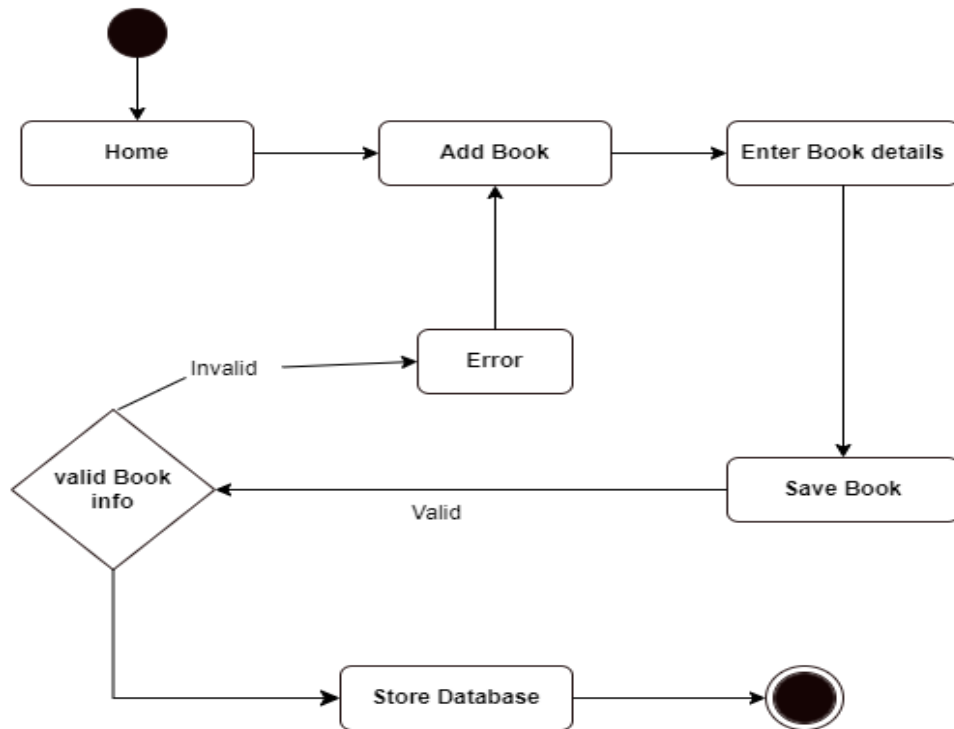


Figure-04: Activity Diagram for Add Book

The “Add Book” option is chosen by the seller from the homepage. The “Enter Book Details” page is displayed by the system. The book’s author, title, description, and price are entered by the seller. The entered data is verified by the system, which verifies its accuracy and completeness. The system stores the book information to the database and shows a success message if the details are valid. In order to give the administrator or seller time to fix any mistakes, the system returns to the “Add Book” page after displaying an error message. In the event that a problem occurs during saving, the system shows an error notice and takes the admin or seller back to the “Add Book” page so they can try again.

3.8.4 Edit Book

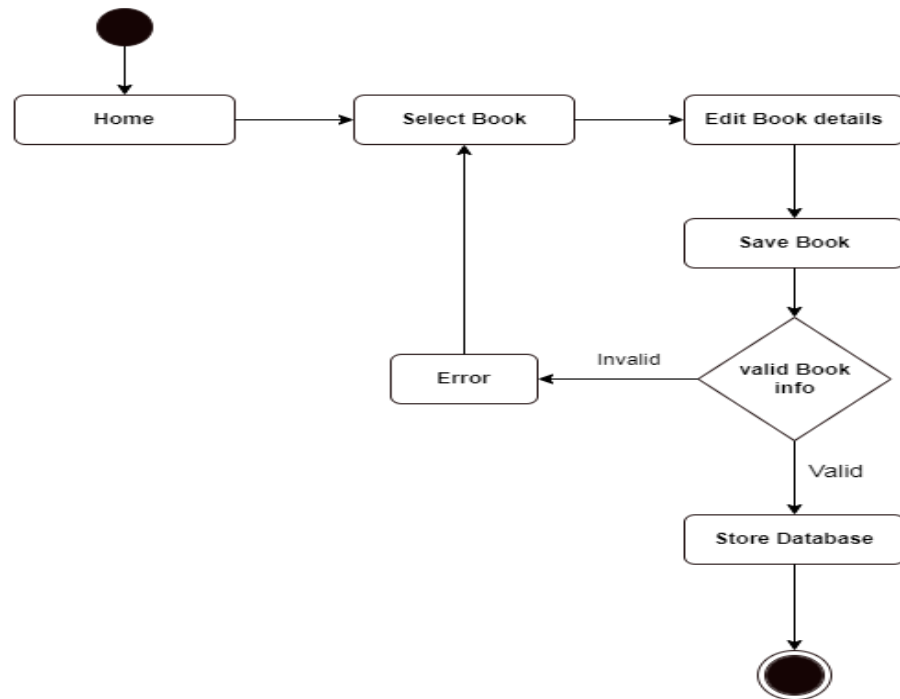


Figure-05: Activity Diagram for Edit Book

This is the Edit Book's Description Activity Diagram for the NovelNext Shop: Online Book Sales and Purchases:

From the home page, the user chooses the “Book” option. The books that are available are listed by the system. The book that the user wishes to modify is chosen. Details about the book, including the title, author, publisher, edition, ISBN, price, and description, are displayed by the system. The user makes any necessary adjustments to the book's information. The changed book details are verified by the system. The system moves on to step 7 if the revised details are legitimate. In the event that not, the user is prompted to change the book details once more by the system, displaying an error message (return to step 5). The modified book details are saved by the system to the database. The book details have been updated, as indicated by the system's success message.

3.8.5 Search Book

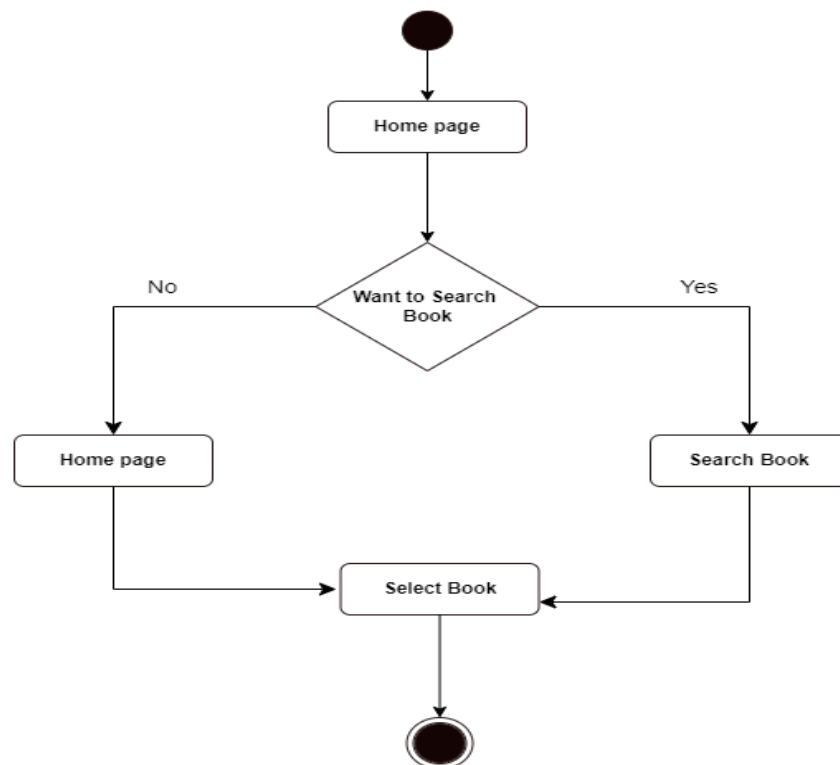


Figure-06: Activity Diagram Search Book

The search bar is visible to users as soon as they land on the homepage. The user will type the book's title, author, or relevant keywords into the search bar if they wish to look for a certain book. Next, in order to locate books that fit the user's query, the system will send out a search request to the database. A list of books that match the search query will be displayed by the system. The user can choose the desired book by scrolling through the list of books. The book's cover, title, author, price, condition, and seller details are all displayed by the system after the user chooses a book. The consumer can add the book to their cart and check out if they would like to purchase it. The user can post the book's details and photographs to the website if they are a vendor looking to sell the book.

In general, the DIU Book Buy/Sell platform's search feature is quite important for making book purchases and sales easier.

3.8.6 Buy Book

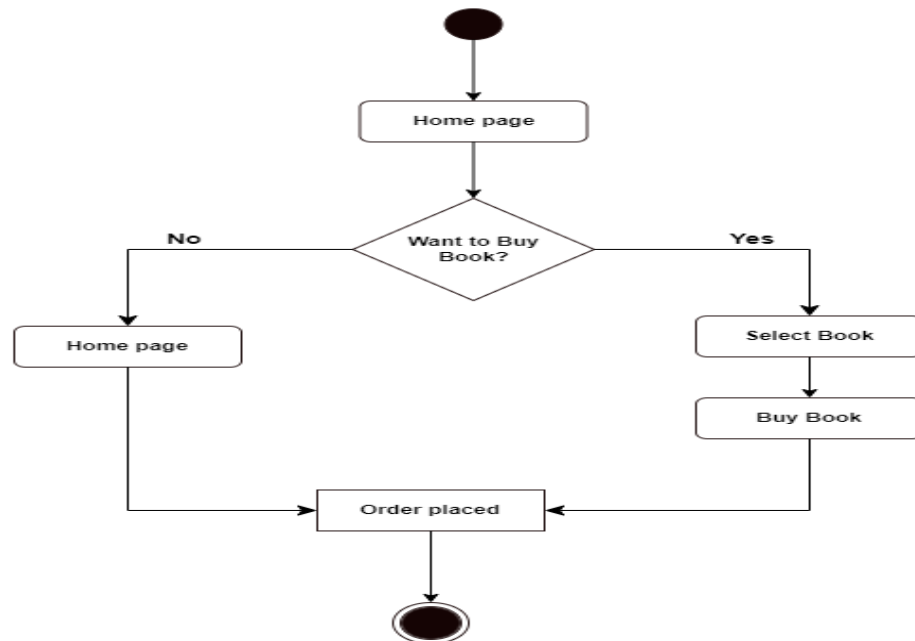


Figure-07: Activity Diagram for Buy Book

The user navigates to the system homepage. Either the user chooses a book from the preview area or clicks the “Buy Book” button. The books that were available for purchase would be shown by the system. After choosing the desired book, the user hits the “Buy Book” button. The user’s account balance and the book’s availability would be verified by the system. The system places the order and deducts the book price from the user’s account if the book is available and there is enough balance. The order is verified by the system, which also shows the order information. The system notifies the user and displays an error message if the book is not available or if there is not enough balance, then the user must take the necessary action. The user has the option to go back to the homepage or go on shopping. If the user decides to carry on shopping, the system goes through steps 3 through 9 again for every book they choose. The system shows a confirmation message in case the user decides to go back to the site.

3.8.7 Log Out

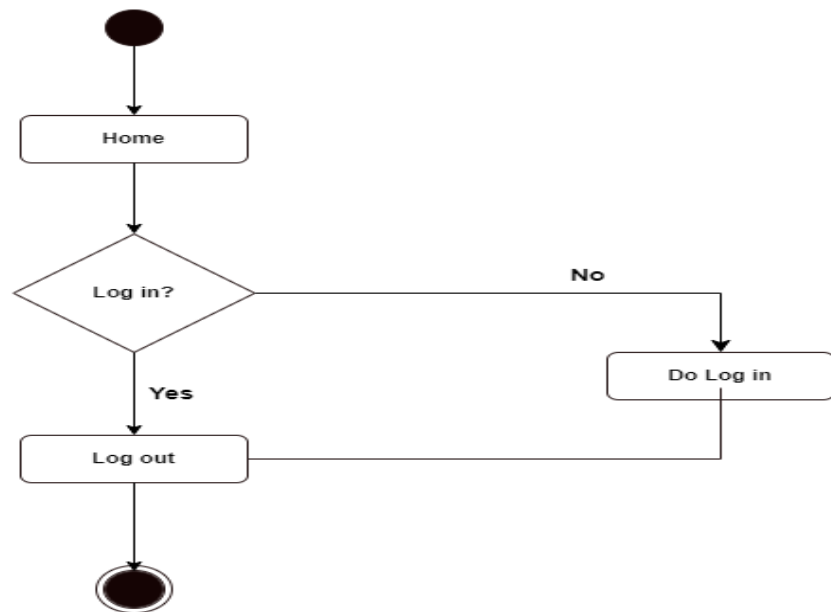


Figure-08: Activity Diagram for Log out

The “Log Out” button will be clicked by the user. The user confirms with the system that they wish to end their session. The system will terminate the user’s session and send them back to the Home page if the user confirms. The system would take the user back to the previous page if they were to cancel. The Log Out procedure will conclude.

3.9 Class Diagram

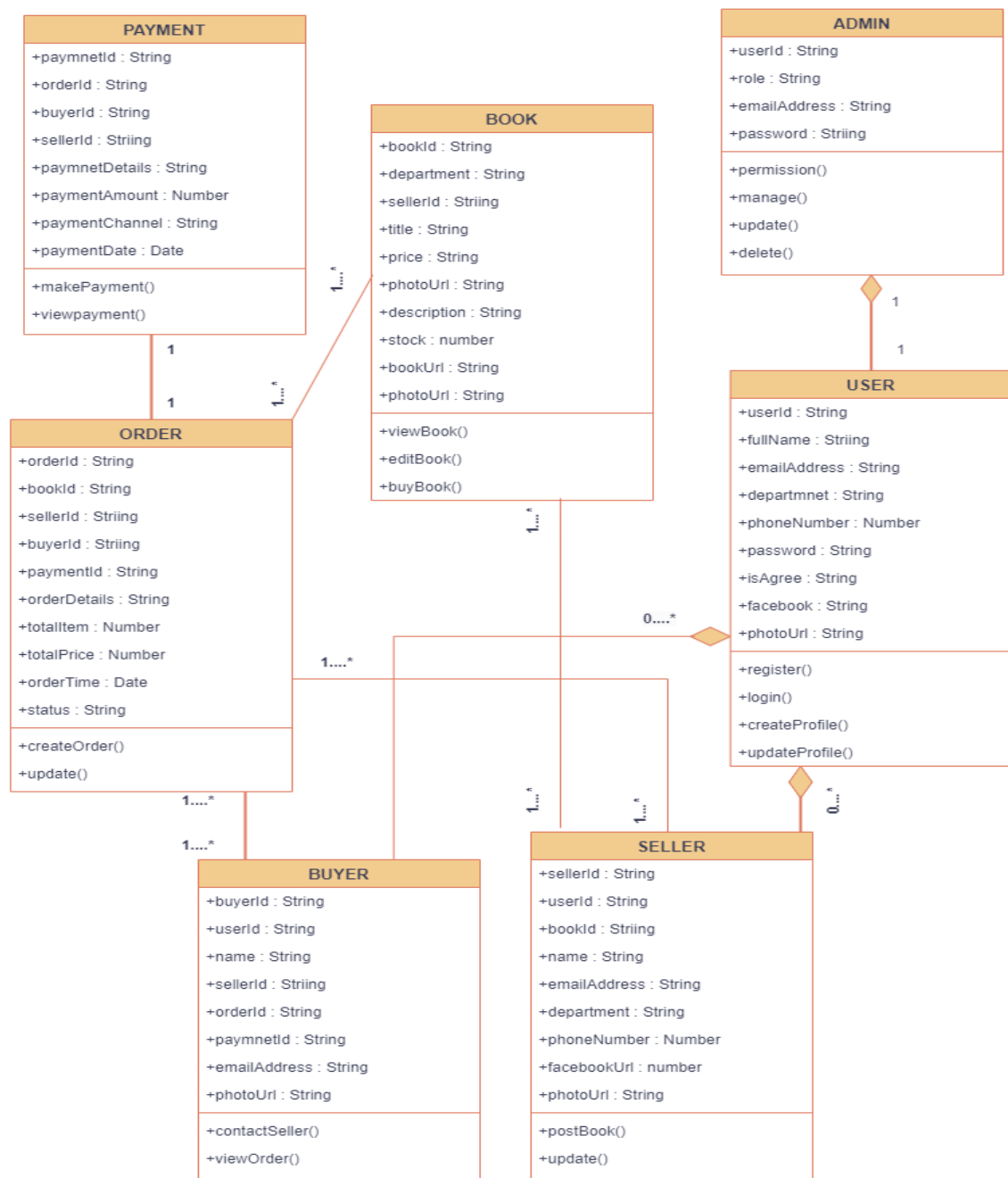


Figure-09: Class Diagram

The primary system entities—Payment, Book, Admin, User, Seller, Buyer, and Order—are depicted in the class diagram. Every class has its own properties and ways to carry out particular tasks.

- In order to post a book on the website, the seller must pay the administrator, which is represented by the Payment class. Payment_id, order_id, buyer_id, seller_id,

payment_details, payment_amount, payment_channel, and payment_date are some of its properties.

- In order to post a book on the website, the seller must pay the administrator, which is represented by the Payment class. Payment_id, order_id, buyer_id, seller_id, payment_details, payment_amount, payment_channel, and payment_date are some of its properties.
- The books that the sellers have listed on the website are represented by the Book class. Book_id, Sell_id, Department, Title, Price, Photo_url, Description, Stock, Book_url, and Photo_url are some of its properties.
- The system administrator, who has total authority over the system, is represented by the Admin class. Its features include password, email address, role, and user id.
- The system's regular users, who are able to purchase books, write reviews, update their profiles, and report books, are represented by the User class. User ID, full name, email address, password, department, phone number, isAgree, facebook, and photo url are some of its properties.
- The users who wish to sell books on the Internet are represented by the Seller class. Seller_id, User_id, Book_id, Name, Email_address, Department, Phone_number, Facebook_url, and Photo_url are some of its properties.
- Users wishing to purchase books through the website are represented by the Buyer class. Buyer_id, user_id, seller_id, order_id, payment, name, email_address, password, and photo_url are some of its properties.
- The orders placed by customers for the books are represented by the Order class. Order_id, book_id, buyer_id, seller_id, quantity, total_price, order_details, total_item, oder_time, and status are some of its properties.
- The database structure, system architecture, system design, and programming language are examples of internal aspects that affect the system. User needs, market demand, rivalry, and technological improvements are examples of external variables.
- The activity diagram can be used to illustrate how the demands of the admin interact with one another. It entails tasks that the administrator completes after logging in, including managing orders, payments, users, and books.

3.10 Entity Relationship (ER)

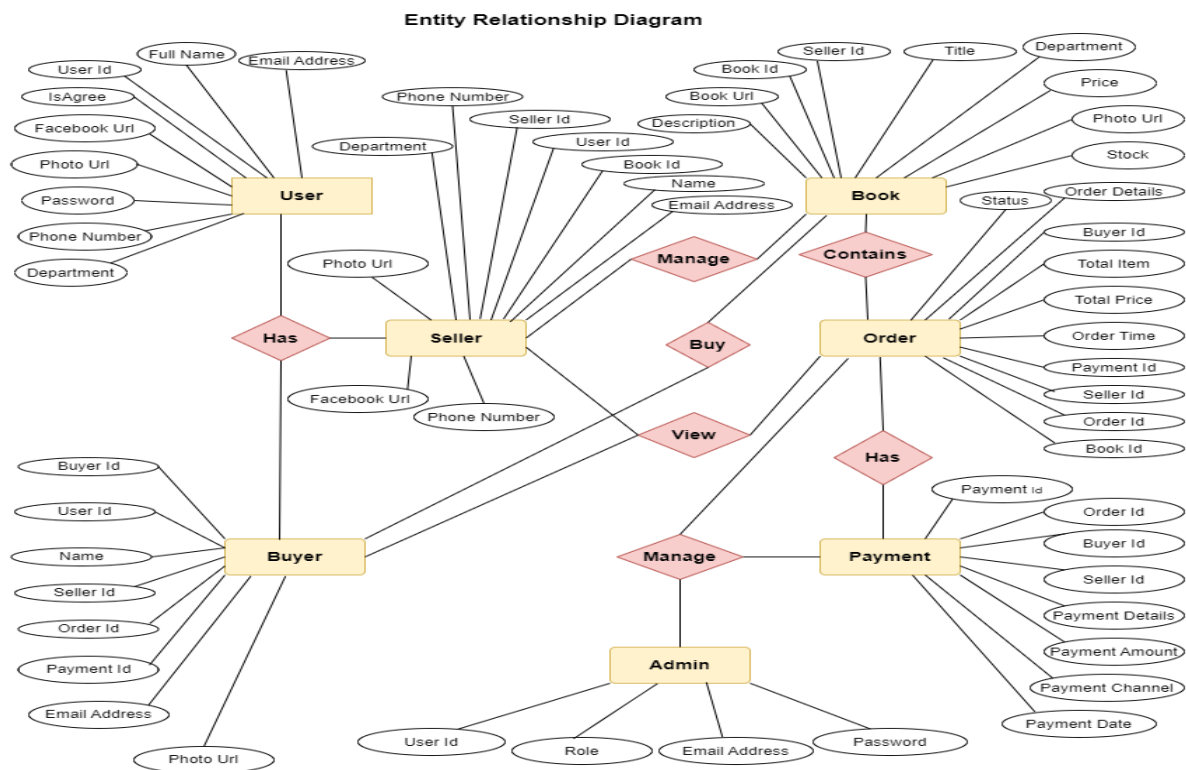


Figure-10: Entity Relationship

The system's various entities and their connections to one another are depicted in the diagram.

The Admin entity can control user access and has complete authority over the system. Both buyers and sellers are represented by the general entity known as the User. After logging in, buyers can see and search books, register as regular users, and carry out other tasks. After paying the administrator 10 taka, sellers are able to post books on the website. Orders are produced when a buyer successfully purchases a book, and Buyers make payments for the books they purchase. The books that can be bought on the internet are represented by the Book entity.

Overall, this diagram represents the external view of the program and identifies the different entities involved, their relationships with each other, and the different actions they can perform.

In general, this diagram shows the program's external perspective and names the various entities, their interactions with one another, and the range of tasks each may carry out

Chapter 4

Design Specification

This chapter outlined the architectural and interface design of NovelNext Shop, focusing on scalability and user experience. It detailed the database structure and front-end layout to support efficient book sales and purchases. Two pieces need to be designed for any kind of website. Those are the backend and frontend components.

4.1 Frontend Design

In this section, we've utilized React with Material UI and Fluent UI in conjunction with Tailwind CSS classes. We've also used react-reveal and fade components to make searching and page navigation more efficient.

4.2 Backend Design

The NovelNext Shop platform's backend architecture is strong and effective, guaranteeing dependable performance and seamless operations. To efficiently manage heavy traffic and user interactions, it makes advantage of a scalable design. Secure user permission and authentication are implemented in the backend to safeguard user privacy and data. It also connects with a dependable database system to effectively manage user profiles, transaction records, and book listings.

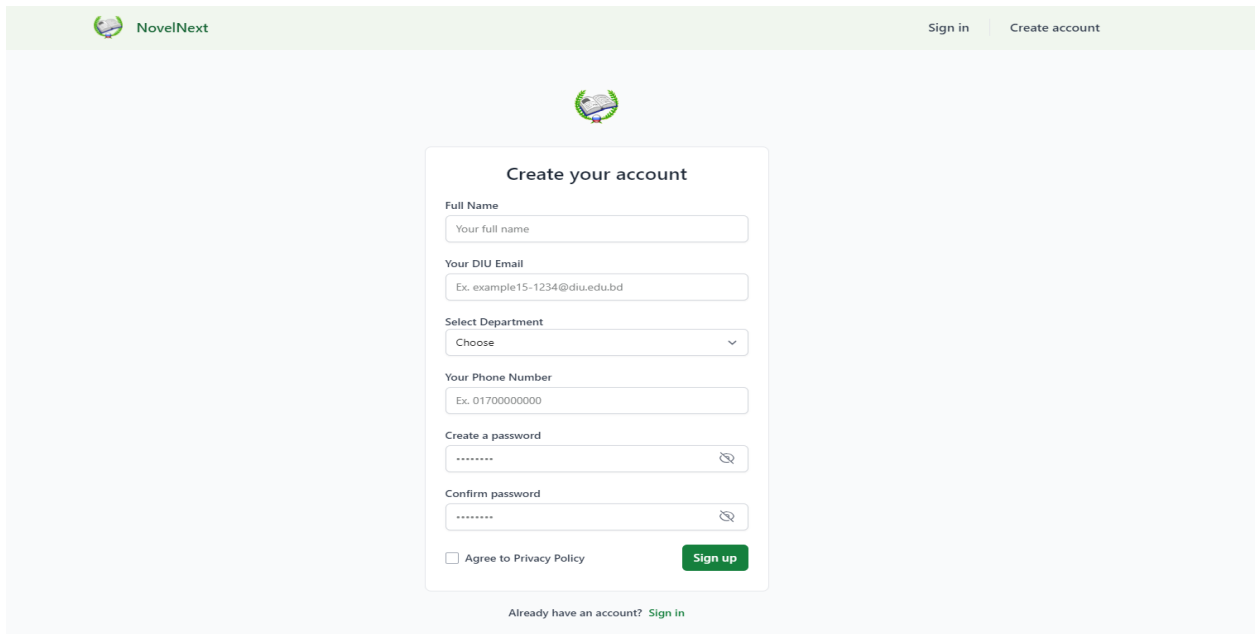
4.3 API Design

This section covers the design of our system's back end, which the seller dashboard and admin panel dashboard may view. For the backend API, we utilize the express frame and Ndoe.js.

4.4 UI

4.4.1 Seller, Buyer Registration page

This is the registration page for our admin, sellers, and buyers. This is where the Admin, Seller, and Buyer can register.

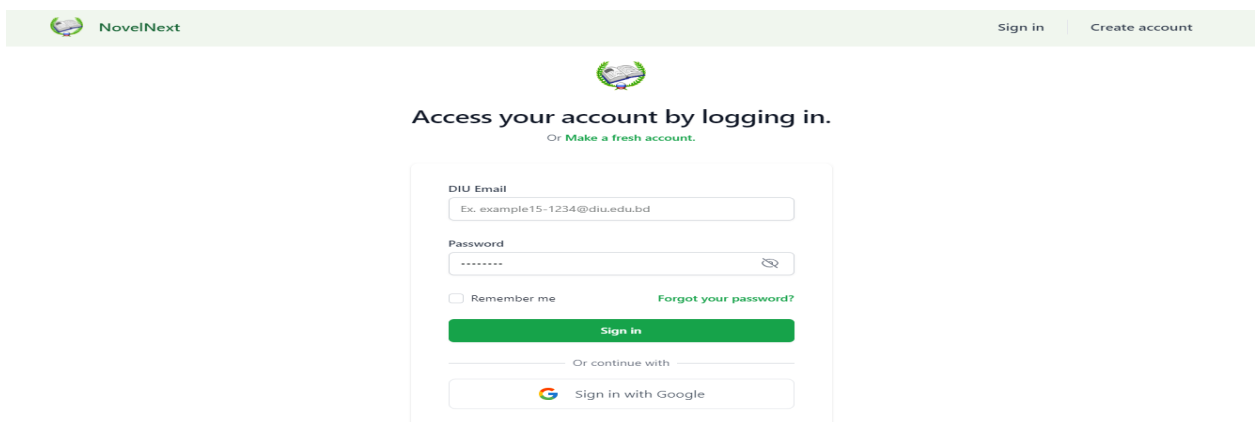


The screenshot shows the 'Create your account' page for NovelNext. The page has a light green header with the NovelNext logo and 'Sign in' and 'Create account' links. The main content area is white with a light gray background. At the top center is a small globe icon. Below it is a white box titled 'Create your account'. Inside the box are the following fields: 'Full Name' (text input), 'Your DIU Email' (text input with example 'Ex. example15-1234@diu.edu.bd'), 'Select Department' (dropdown menu with 'Choose' selected), 'Your Phone Number' (text input with example 'Ex. 01700000000'), 'Create a password' (password input with a strength indicator), and 'Confirm password' (password input with a strength indicator). Below these fields is a checkbox for 'Agree to Privacy Policy' and a green 'Sign up' button. At the bottom of the box is a link: 'Already have an account? Sign in'.

Figure-11: Registration Page

4.4.2 Seller, Buyer Login | Sign-in page

This is the sign-in page for our admin, sellers, and buyers. From here, the Admin, Seller, and Buyer can log in.



The screenshot shows the 'Access your account by logging in.' page for NovelNext. The page has a light green header with the NovelNext logo and 'Sign in' and 'Create account' links. The main content area is white with a light gray background. At the top center is a small globe icon. Below it is the text 'Access your account by logging in.' followed by a link 'Or Make a fresh account.'. Below this is a white box containing the login form. The form has two main fields: 'DIU Email' (text input with example 'Ex. example15-1234@diu.edu.bd') and 'Password' (password input with a strength indicator). Below these fields are a checkbox for 'Remember me' and a link 'Forgot your password?'. At the bottom of the box is a green 'Sign in' button. Below the box is a link 'Or continue with' followed by a 'Sign in with Google' button with the Google logo.

Figure-12: Sign-in Page

4.4.3 Seller, Buyer Dashboard

This is the buyer and admin dashboard. From the dashboard, the administrator and buyer can keep an eye on and manage every book.

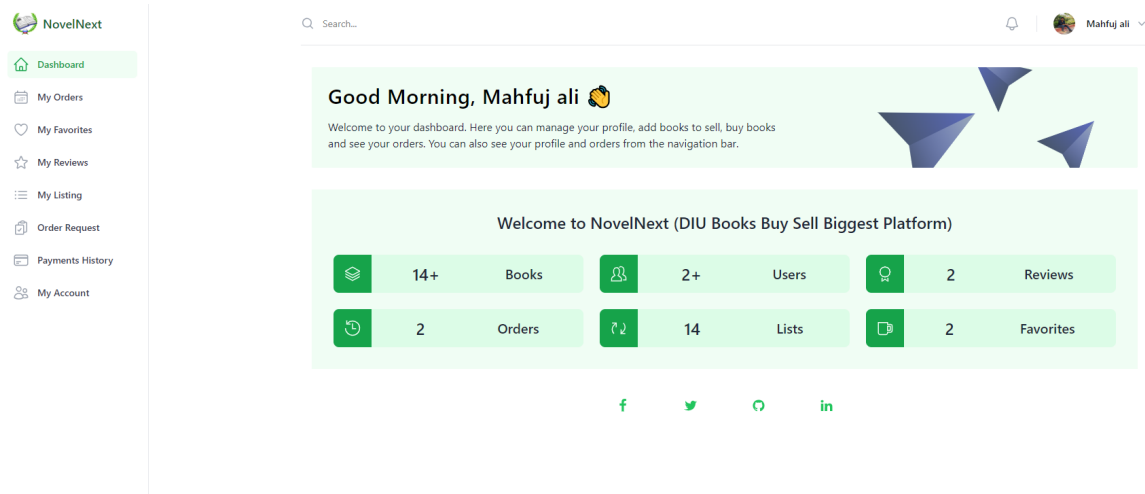


Figure-13: Seller & Buyer Dashboard

4.4.4 Front Page

The front page of this project is displayed here. A seller is able to purchase and sell the book they want.



Figure-14: Front Page

4.4.5 Department-wise book

The Department-wise book page is displayed in this section of the project. Customers can browse and purchase the books they want.

The screenshot displays the 'Books available for purchase' section of the NovelNext website. The page features a grid of 20 book cards, each with a cover image, title, author, price, and a 'View Details' button. The books are organized into four rows and five columns. The first row includes 'SYSTEM DESIGN INTERVIEW' (SWE, \$190), 'The Pragmatic Programmer' (CSE, \$350), 'Basic and Clinical Pharmacology by Katzung' (CSE, \$547), and 'C programming language' (EEE, \$160). The second row includes 'Architecture' (CSE, \$420), 'CIVIL ENGINEERING HANDBOOK SECOND EDITION' (CSE, \$600), 'Chemistry for Pharmacy Students' (CSE, \$510), and 'MODERN CLASSICAL PHYSICS' (CSE, \$390). The third row includes 'COMPETITIVE EXAMINATIONS' (EEE, \$190), 'TODAY LOVES FOOD' (CE, \$1000), 'Radio Systems Engineering' (CSE, \$490), and 'Fundamentals of Applied Electromagnetics' (CSE, \$530). The fourth row includes 'Quantum Field Theory' (CSE, \$450), 'MATHEMATICS A' (CSE, \$360), 'THE LET THEM THEORY' (CE, \$1200), and 'Analysing Architecture' (CSE, \$250). The fifth row includes 'COMPETITIVE EXAMINATIONS' (CSE, \$400), 'Information and Communication for Engineers' (CSE, \$200), and 'Principles of Mathematical Analysis' (CSE, \$380). The footer contains a 'Sign up for our Book offer' section, a 'We accept SSL Payment' section, and a navigation menu with links for Solutions, Support, Company, and Legal.

Figure-15: Department-wise book

4.4.6 View Details Book

The View Details Book page is displayed in this section of the project. A buyer is able to demonstrate and understand his/her desired book.

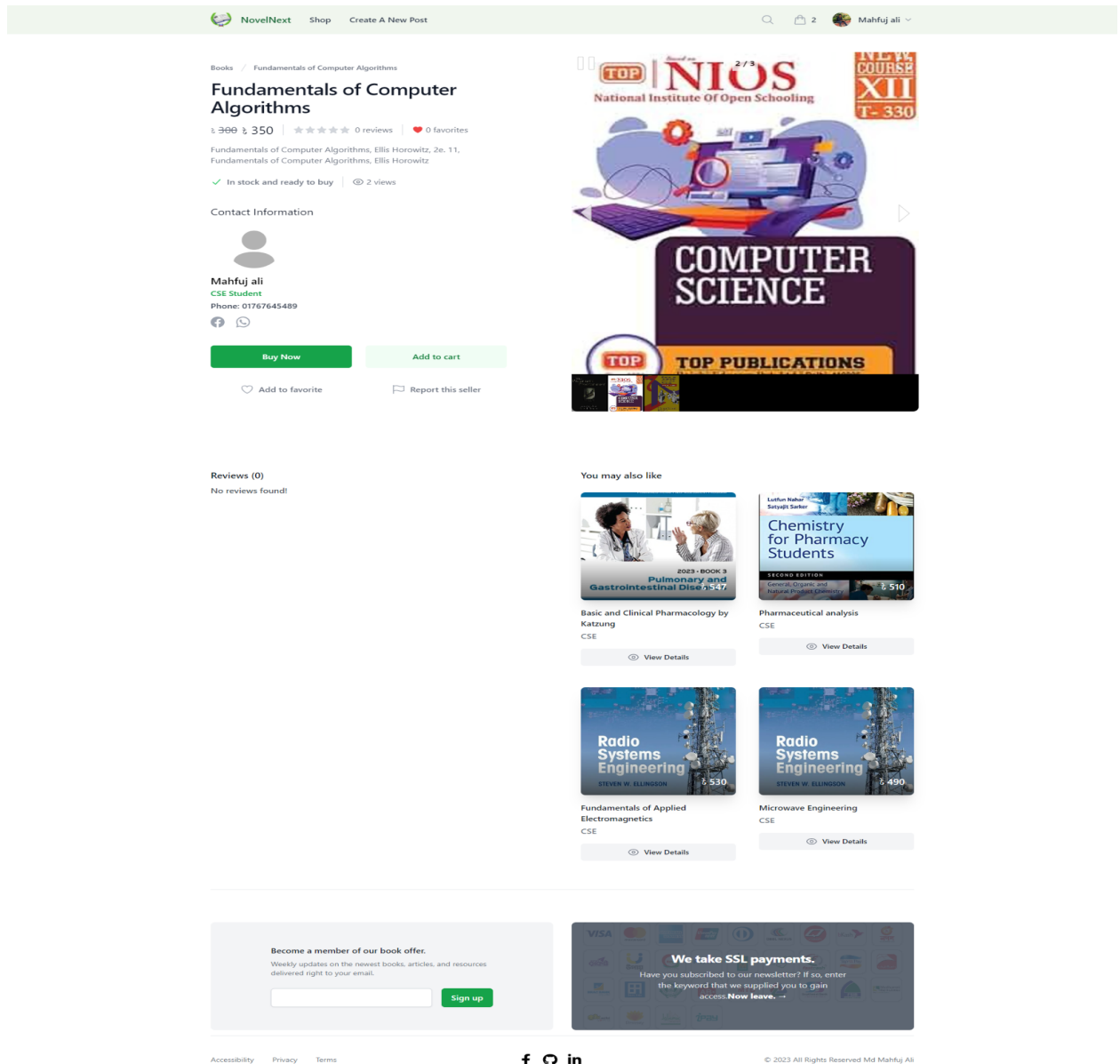


Figure-16: View Details Book

4.4.7 Add to Cart

Customers may easily add books to their cart on the NovelNext Shop platform, making it simple to choose and buy many things. This function guarantees a smooth shopping experience for users and streamlines the purchasing procedure.

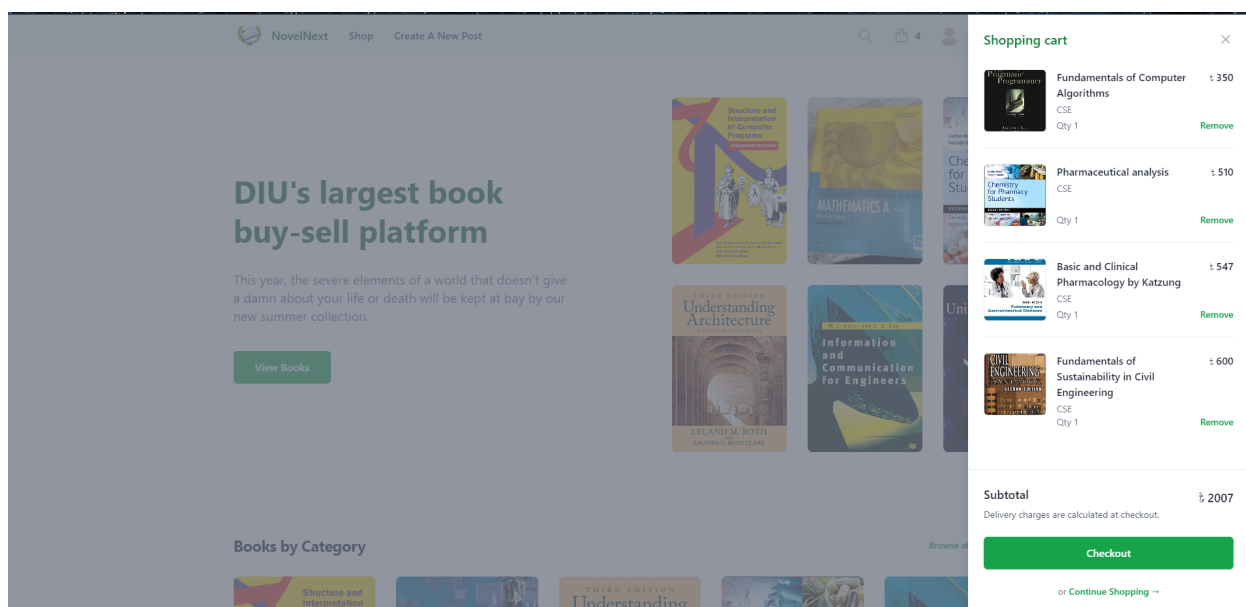


Figure-17: Add To Cart

4.4.8 Book Upload Page

This is the upload page for our project book. Any book may be uploaded or removed at any moment by the admin. Any book that the administrator uploads is shown for sale on the website.

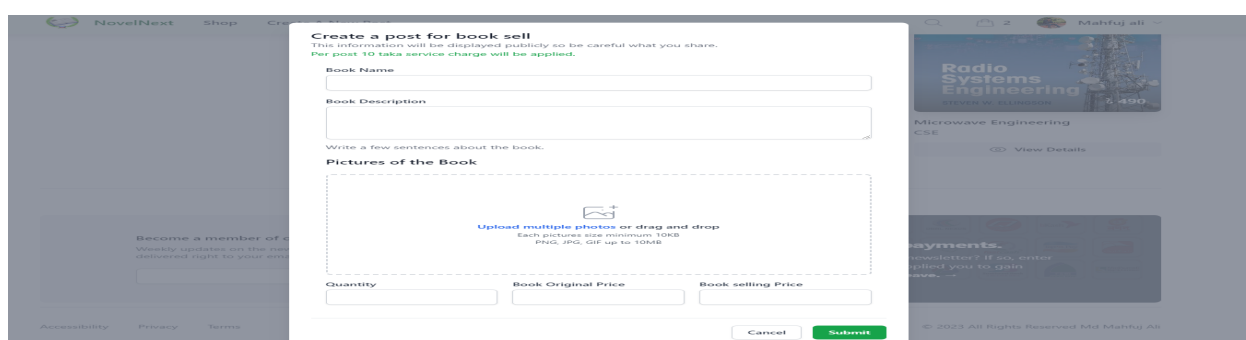


Figure-18: Book Upload page

4.4.9 Order Details page

An essential component of the online book buy-sell system is the order details page. The buyer can get all the information they need about their order on this page. After making a book purchase, a customer is taken to the order details page where they can check the progress of their transaction and provide confirmation.

The screenshot shows the 'Order Details' page for a user named 'Mahfuj ali'. The page is divided into two main sections: 'Contact information' and 'Order summary'.

Contact information:

- Name:** Mahfuj ali
- Email address:** mahfuj15-2848@diu.edu.bd
- Phone:** 01767645489
- Delivery address:** Flat no. Road no. Landmark etc. (empty field), Address (empty field)
- Delivery method:** COD (Cash On Delivery) is selected, indicated by a green checkmark. PAY (Online Payment) is also an option.

Order summary:

Item	Price
Abstract Algebra CSE Qty 1	৳ 360
Seven Brief Lessons on Physics CSE Qty 1	৳ 390
Subtotal	৳ 750
Delivery	৳ 10
Charge	৳ 0
Total	৳ 760

At the bottom, there is a green 'Confirm Order' button and a link to 'I agree to the terms and conditions.'.

Figure-19: Order Details page

4.4.10 Profile Update Page

This page updates our project profile. Both sellers and buyers are able to edit their profiles at any moment.

The screenshot shows the 'Profile Update' page for a user named 'Mahfuj ali'. The page is divided into two main sections: 'Profile' and 'Account'.

Profile:

- Photo:** A profile picture is shown with a green 'Change' button next to it.
- Name:** Mahfuj ali
- Phone Number:** 01767645489
- Address:** (empty field)
- Facebook URL:** (empty field)

Account:

- Email address:** mahfuj15-2848@diu.edu.bd
- Department:** CSE

At the bottom, it states: 'This account was created on 19/12/2023, 23:37:26'.

On the left side, there is a sidebar menu with the following items: Dashboard, My Orders, My Favorites, My Reviews, My Listing, Order Request, Payments History, and My Account (highlighted in green). At the bottom of the sidebar is a 'Log out' button.

Figure-20: Profile Update Page

4.4.11 Listing Details page

This is the details page for our listing. From here, the admin can view details about the category, quality, status, and price. The book is prepared for shipment to the customer once an administrator has approved all the information. Once the book is sold, the administrator has the ability to remove and modify it.

NovelNext

Dashboard
My Orders
My Favorites
My Reviews
My Listing
Order Request
Payments History
My Account

Log out

Search...

Listing
A list of all the users in your books including their name, title, email and price.

Add books

Name	Category	Quantity	Stock	Price	Status	
Fundamentals of Computer Algorithms	CSE	500	In Stock	₹ 350	Active Listing	Invoice Edit Delete
Basic and Clinical Pharmacology by Katzung	CSE	120	In Stock	₹ 547	Active Listing	Invoice Edit Delete
Pharmaceutical analysis	CSE	480	In Stock	₹ 510	Active Listing	Invoice Edit Delete
Fundamentals of Applied Electromagnetics	CSE	470	In Stock	₹ 530	Active Listing	Invoice Edit Delete
Microwave Engineering	CSE	450	In Stock	₹ 490	Active Listing	Invoice Edit Delete
Fundamentals of Sustainability in Civil Engineering	CSE	500	In Stock	₹ 600	Active Listing	Invoice Edit Delete
The Civil Engineering Handbook	CSE	190	In Stock	₹ 510	Pending Payment	Invoice Edit Delete
Analysing Architecture	CSE	130	In Stock	₹ 250	Active Listing	Invoice Edit Delete
Seven Brief Lessons on Physics	CSE	150	In Stock	₹ 390	Active Listing	Invoice Edit Delete
University Physics Volume 1	CSE	160	In Stock	₹ 450	Active Listing	Invoice Edit Delete
Abstract Algebra	CSE	120	In Stock	₹ 360	Active Listing	Invoice Edit Delete
Principles of Mathematical Analysis	CSE	150	In Stock	₹ 400	Active Listing	Invoice Edit Delete
Cloud computing by mahesh mali	CSE	40	In Stock	₹ 200	Active Listing	Invoice Edit Delete
Information Theory and Coding Techniques	CSE	50	In Stock	₹ 380	Active Listing	Invoice Edit Delete

Figure-21: Listing Details page

4.4.12 Order History

The buyer's order history is tracked by the NovelNext Shop platform, which offers a thorough history of their previous purchases. Customers may easily refer to and reorder books thanks to this tool, which lets them evaluate their prior orders.

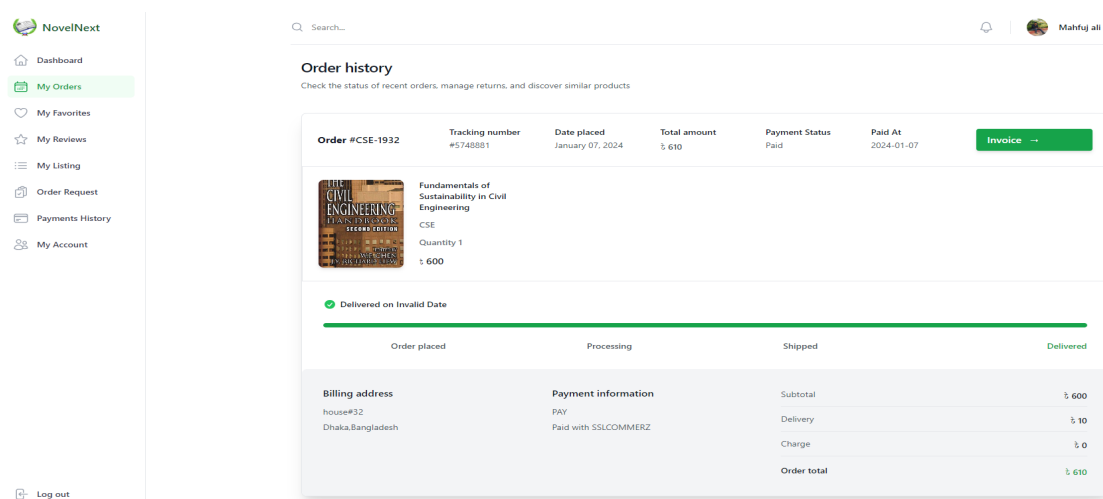


Figure-22: Order History

4.4.13 Book Favorites List

Customers using the NovelNext Shop platform can make a customized favorites list, where they can organize and store their favorite books for quick access and future reference. By letting customers compile a list of their best books on the platform, this feature improves the user experience.

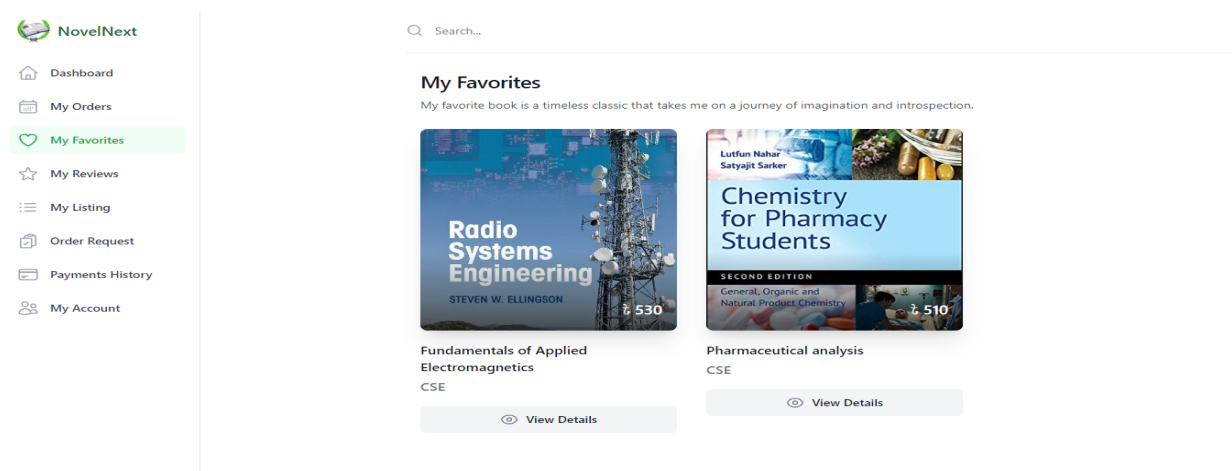


Figure-23: Book Favorite list

4.4.14 Book Review

Customers can post book reviews on the NovelNext Shop platform to express their thoughts and ideas on the books they have bought. With the use of this tool, customers may give back to the community by giving other users insightful advice.

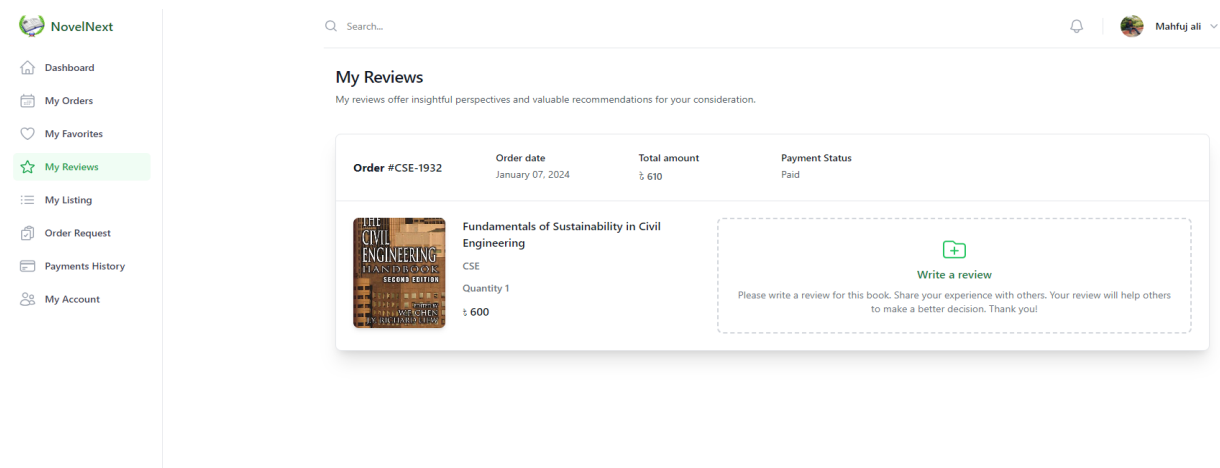


Figure-24: Book Review

4.2.15 Order Request

Through the NovelNext Shop platform, sellers are able to receive requests for specific book orders from buyers and fulfill them. This function ensures effective transaction processing within the platform by facilitating smooth communication between buyers and sellers.

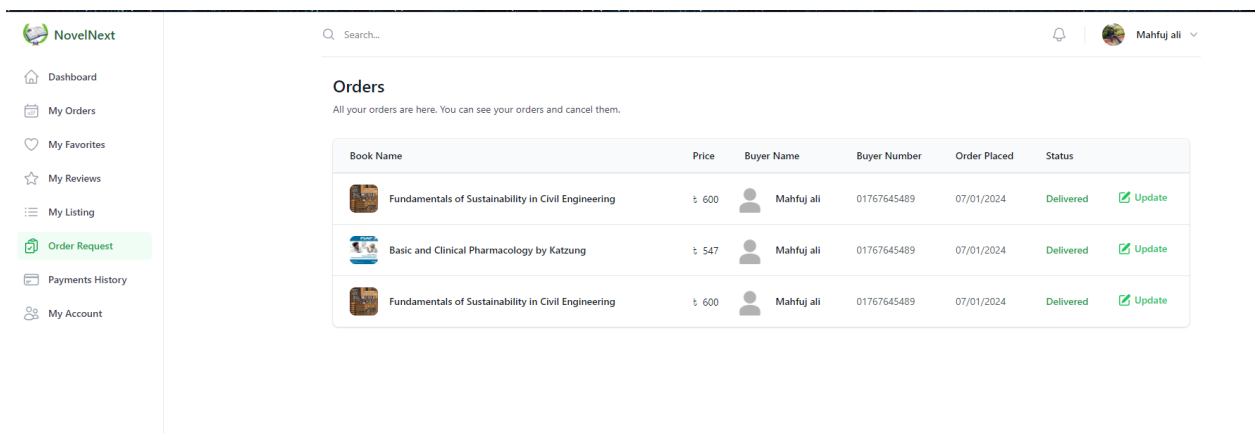
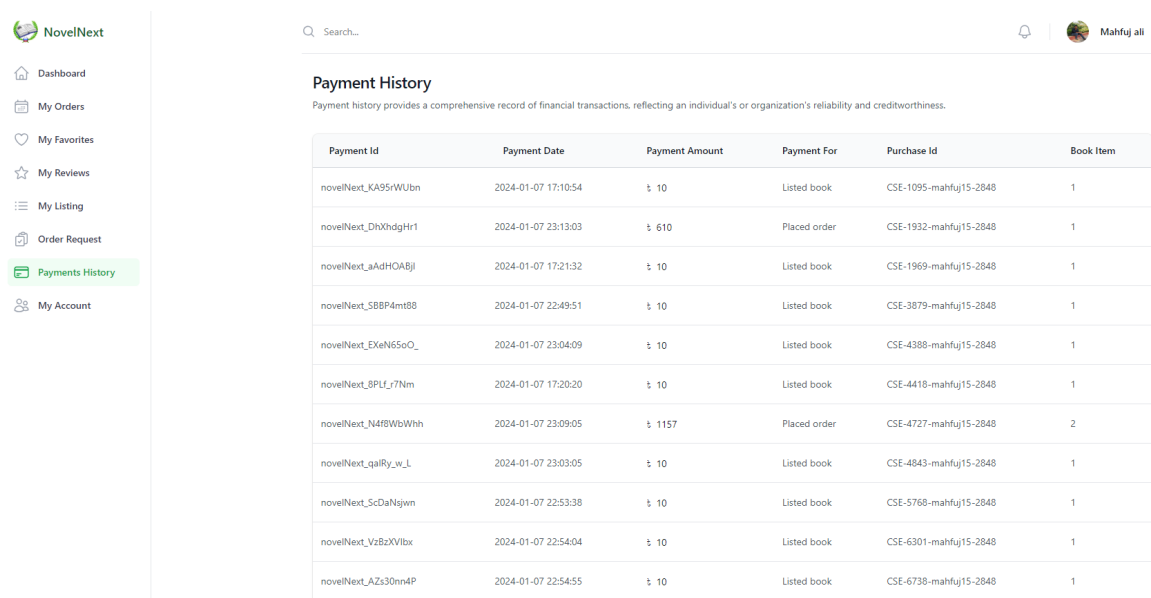


Figure-25: Order Request

4.4.16 Payment History

The NovelNext Shop platform ensures accountability and transparency in financial transactions by keeping an extensive payment history for both buyers and sellers. This feature encourages a safe and dependable online payment system within the platform by enabling users to trace and review their previous payments.



Payment Id	Payment Date	Payment Amount	Payment For	Purchase Id	Book Item
novelNext_KA95wUbn	2024-01-07 17:10:54	₳ 10	Listed book	CSE-1095-mahfuj15-2848	1
novelNext_DhXhdgHr1	2024-01-07 23:13:03	₳ 610	Placed order	CSE-1932-mahfuj15-2848	1
novelNext_aAdHOABjl	2024-01-07 17:21:32	₳ 10	Listed book	CSE-1969-mahfuj15-2848	1
novelNext_5BBP4mt88	2024-01-07 22:49:51	₳ 10	Listed book	CSE-3879-mahfuj15-2848	1
novelNext_ExeN65oO_	2024-01-07 23:04:09	₳ 10	Listed book	CSE-4388-mahfuj15-2848	1
novelNext_8PLr_7Nm	2024-01-07 17:20:20	₳ 10	Listed book	CSE-4418-mahfuj15-2848	1
novelNext_N4f8WbWhh	2024-01-07 23:09:05	₳ 1157	Placed order	CSE-4727-mahfuj15-2848	2
novelNext_qaIRy_w_L	2024-01-07 23:03:05	₳ 10	Listed book	CSE-4843-mahfuj15-2848	1
novelNext_ScDaNajwm	2024-01-07 22:53:38	₳ 10	Listed book	CSE-5768-mahfuj15-2848	1
novelNext_Vz8zXVltx	2024-01-07 22:54:04	₳ 10	Listed book	CSE-6301-mahfuj15-2848	1
novelNext_AZs30nn4P	2024-01-07 22:54:55	₳ 10	Listed book	CSE-6738-mahfuj15-2848	1

Figure-26: Payment History

4.5 Admin

4.5.1 Admin Login | Sign-in page

This is the page where admins sign in. Admin users can log in here.

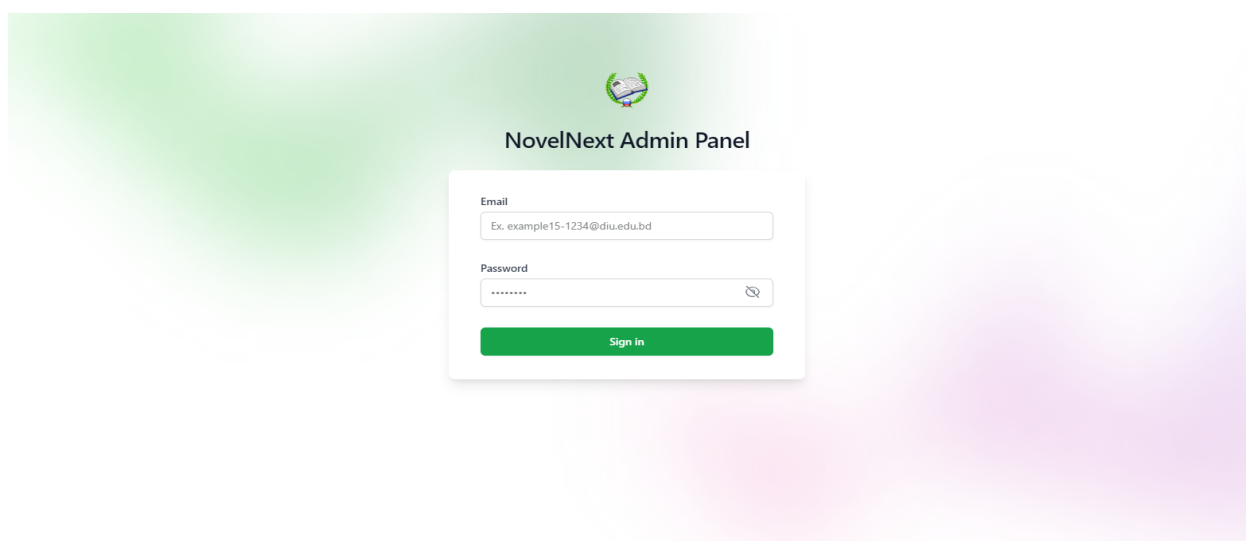


Figure-27: Admin Login Page

4.5.2 Admin Dashboard

The admin dashboard is shown here. Administrators can keep an eye on and manage every book from the dashboard.

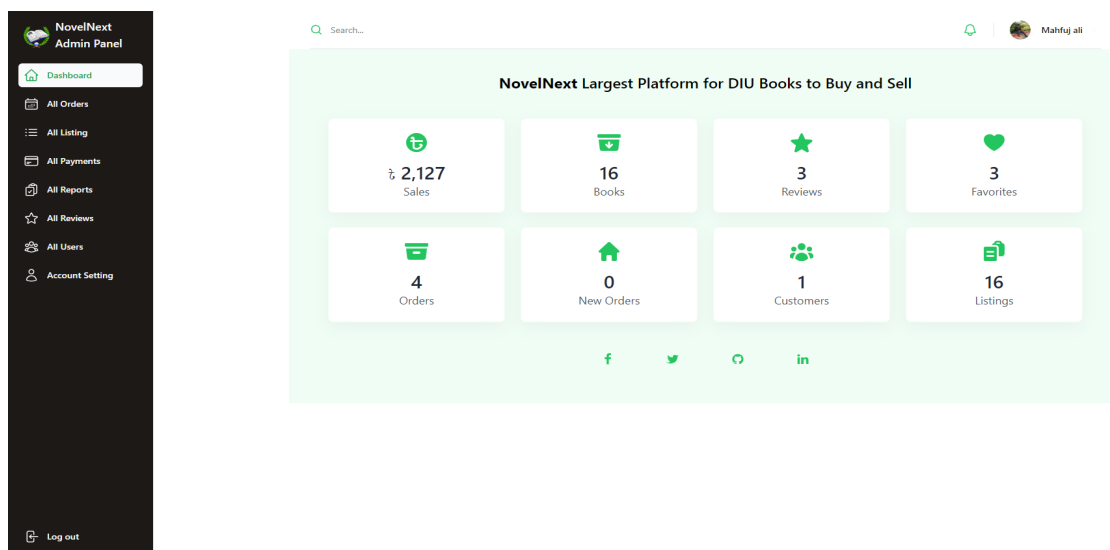


Figure-28: Admin Dashboard

4.5.3 Admin can view all order

The administrator may see all of the orders that users have placed thanks to the NovelNext Shop platform. Order number, purchase date and time, buyer and seller details, book details, and order status are all included in each order entry. Additionally, the administrator can export order data for analysis or record-keeping needs and adjust order statuses.

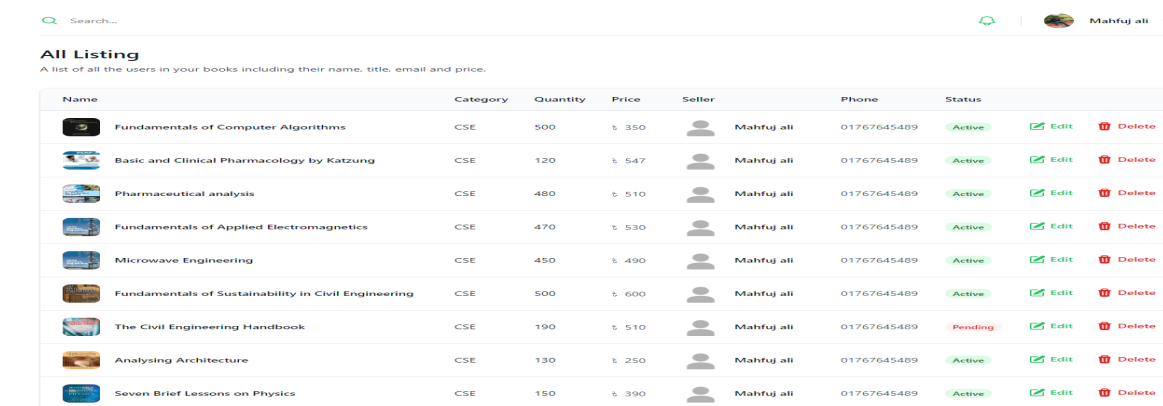
The screenshot shows the 'All Orders' section of the admin panel. It includes a search bar, a notification bell, and the user profile 'Mahfuj ali'. Below the header, the title 'All Orders' is followed by a subtitle: 'All your orders are here. You can see your orders and cancel them.' The main content is a table with the following columns: Book Name, Price, Buyer Name, Buyer Number, Order Placed, and Status. The table contains five rows of order data.

Book Name	Price	Buyer Name	Buyer Number	Order Placed	Status
Fundamentals of Sustainability in Civil Engineering	₹ 600	Mahfuj ali	01767645489	07/01/2024	Delivered Edit Delete
Basic and Clinical Pharmacology by Katzung	₹ 547	Mahfuj ali	01767645489	07/01/2024	Delivered Edit Delete
Fundamentals of Sustainability in Civil Engineering	₹ 600	Mahfuj ali	01767645489	07/01/2024	Delivered Edit Delete
Zero by Charles Seife.	₹ 190	Mahfuj ali	01720473446	07/01/2024	Processing Edit Delete
C programming language	₹ 160	Akash Sarker	01720473446	07/01/2024	Delivered Edit Delete

Figure-29: Admin can view all order

4.5.4 Admin can view all Listing

The admin may quickly view every book listing that sellers have produced thanks to the NovelNext Shop platform. This feature makes it easier for the platform administrator to oversee and support online book transactions by giving them a thorough overview of all the books that are offered.

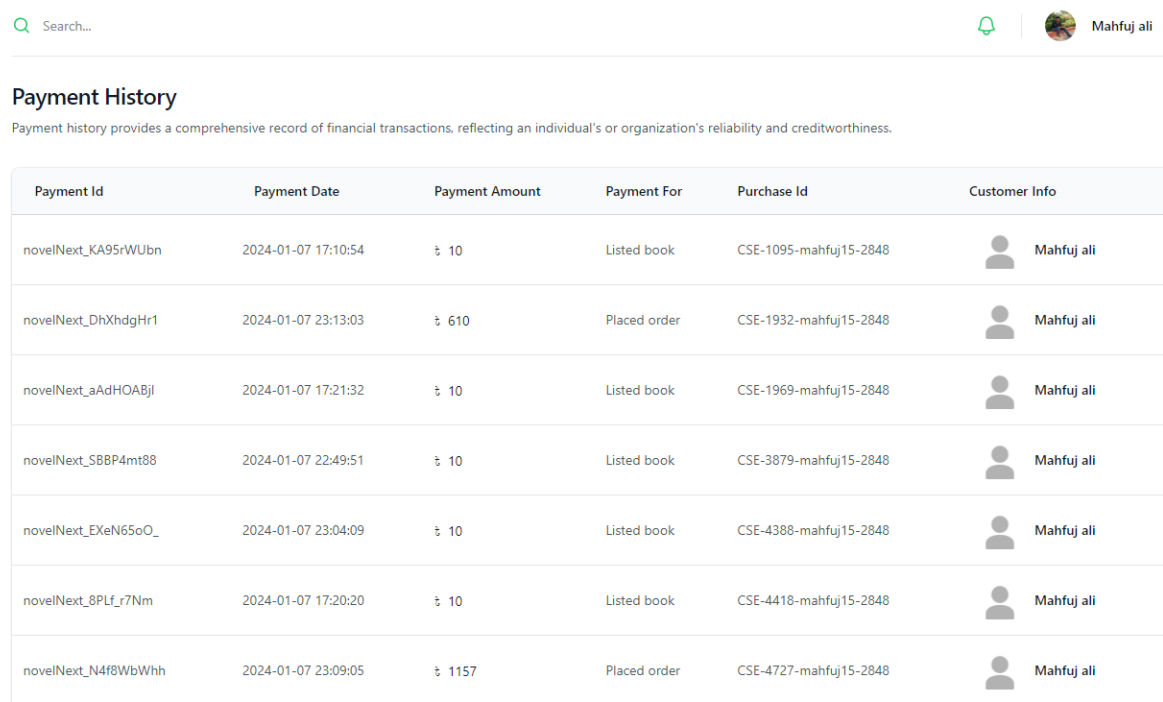


Name	Category	Quantity	Price	Seller	Phone	Status
 Fundamentals of Computer Algorithms	CSE	500	₳ 350	 Mahfuj ali	01767645489	Active Edit Delete
 Basic and Clinical Pharmacology by Katzung	CSE	120	₳ 547	 Mahfuj ali	01767645489	Active Edit Delete
 Pharmaceutical analysis	CSE	480	₳ 510	 Mahfuj ali	01767645489	Active Edit Delete
 Fundamentals of Applied Electromagnetics	CSE	470	₳ 530	 Mahfuj ali	01767645489	Active Edit Delete
 Microwave Engineering	CSE	450	₳ 490	 Mahfuj ali	01767645489	Active Edit Delete
 Fundamentals of Sustainability in Civil Engineering	CSE	500	₳ 600	 Mahfuj ali	01767645489	Active Edit Delete
 The Civil Engineering Handbook	CSE	190	₳ 510	 Mahfuj ali	01767645489	Pending Edit Delete
 Analysing Architecture	CSE	130	₳ 250	 Mahfuj ali	01767645489	Active Edit Delete
 Seven Brief Lessons on Physics	CSE	150	₳ 390	 Mahfuj ali	01767645489	Active Edit Delete

Figure-30: Admin can view all Listing

4.5.5 Admin can view all buy and seller Payment History

The admin has access to both buyers' and sellers' payment histories through the NovelNext Shop platform. This function offers a thorough transaction history.

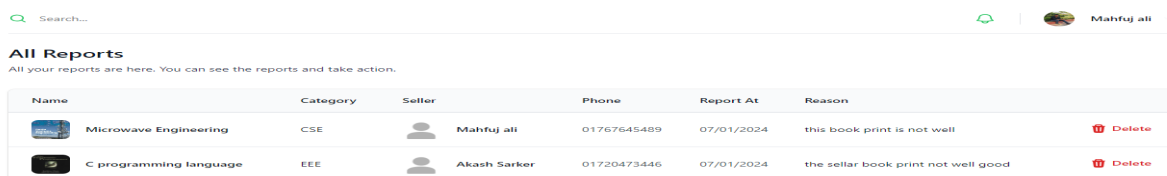


Payment Id	Payment Date	Payment Amount	Payment For	Purchase Id	Customer Info
novelNext_KA95rWUbn	2024-01-07 17:10:54	₳ 10	Listed book	CSE-1095-mahfuj15-2848	 Mahfuj ali
novelNext_DhXhdgHr1	2024-01-07 23:13:03	₳ 610	Placed order	CSE-1932-mahfuj15-2848	 Mahfuj ali
novelNext_aAdHOABjl	2024-01-07 17:21:32	₳ 10	Listed book	CSE-1969-mahfuj15-2848	 Mahfuj ali
novelNext_SB8P4mt88	2024-01-07 22:49:51	₳ 10	Listed book	CSE-3879-mahfuj15-2848	 Mahfuj ali
novelNext_EXeN65oO_	2024-01-07 23:04:09	₳ 10	Listed book	CSE-4388-mahfuj15-2848	 Mahfuj ali
novelNext_8PLf_r7Nm	2024-01-07 17:20:20	₳ 10	Listed book	CSE-4418-mahfuj15-2848	 Mahfuj ali
novelNext_N4f8WbWwh	2024-01-07 23:09:05	₳ 1157	Placed order	CSE-4727-mahfuj15-2848	 Mahfuj ali

Figure-31: Admin can view all payment history

4.5.6 Admin can view all buyers Reports

The admin can access detailed reports that are especially relevant to buyer activity using the NovelNext Shop platform. These reports give the admin insightful information on the behavior, preferences, and transaction history of buyers, empowering them to make data-driven decisions and enhance the buyers' experience on the platform.

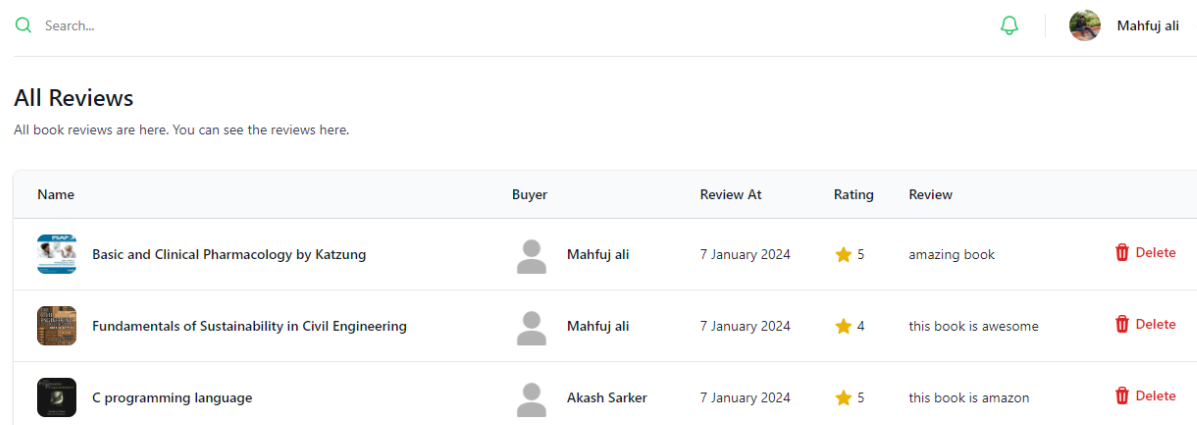


Name	Category	Seller	Phone	Report At	Reason	
 Microwave Engineering	CSE	 Mahfuj ali	01767645489	07/01/2024	this book print is not well	 Delete
 C programming language	EEE	 Akash Sarker	01720473446	07/01/2024	the sellar book print not well good	 Delete

Figure-32: Admin can view all buyers Reports

4.5.7 Admin can view all buyers Reviews

The admin of the NovelNext Shop platform has access to all customer reviews, which offers insightful commentary and useful input regarding book transactions and user experience. This feature improves the platform's overall quality by allowing the admin to keep an eye on and respond to any issues or recommendations brought up by customers.



Name	Buyer	Review At	Rating	Review	
 Basic and Clinical Pharmacology by Katzung	 Mahfuj ali	7 January 2024	★ 5	amazing book	 Delete
 Fundamentals of Sustainability in Civil Engineering	 Mahfuj ali	7 January 2024	★ 4	this book is awesome	 Delete
 C programming language	 Akash Sarker	7 January 2024	★ 5	this book is amazon	 Delete

Figure-33: Admin can view all buyers Reviews

4.5.8 Admin can view all Users

The admin may access every user profile in the system thanks to the NovelNext Shop platform. With the use of this tool, the administrator can keep an eye on user accounts and control them, making the Daffodil International University community a safe and orderly place for buyers and sellers.

Search...

Mahfuj ali

All Users

All your users are here. You can see the users information here.

User	Department	Phone	Email	Address	Created At
Akash Sarker	EEE	01720473446	parash15-2886@diu.edu.bd		07/01/2024 Disable

Figure-34: Admin can view all Users

4.5.9 Admin Profile Update Page

This page updates the admin profile. Admin is always free to update his profiles.

Search...

Mahfuj ali

Profile

This information will be displayed publicly so be careful what you share.

Photo

Change

Name

Mahfuj ali

Phone Number

01767645489

Address

Facebook URL

Account

This will be your account personal so your account will be automatically created when you log in.

Email address

mahfuj15-2848@diu.edu.bd

Department

CSE

This account was created on 19/12/2023, 23:37:26

Figure-35: Admin Setting

4.5.10 Book Review

Customers can post book reviews on the NovelNext Shop platform to express their thoughts and ideas on the books they have bought. With the use of this tool, customers may give back to the community by giving other users insightful advice.

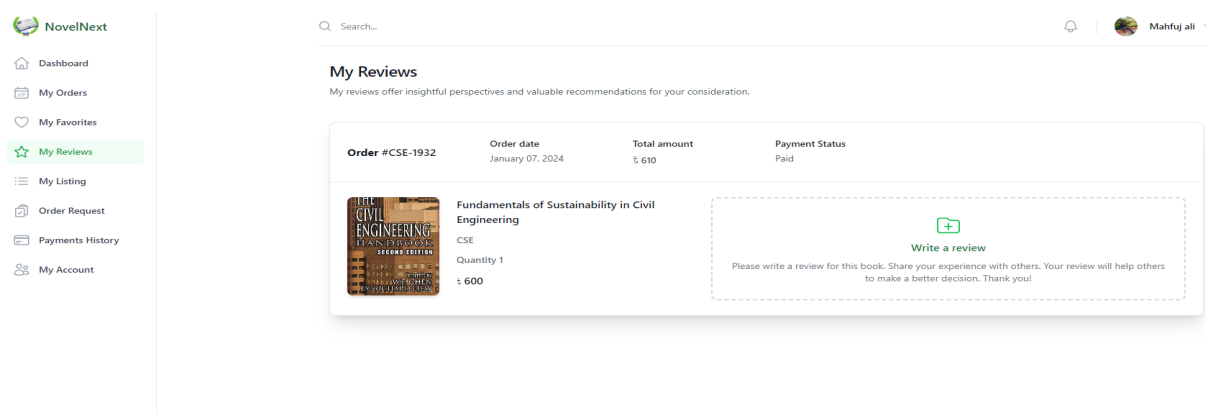


Figure-36: Book Review

4.5.11 Order Request

Through the NovelNext Shop platform, sellers are able to receive requests for specific book orders from buyers and fulfill them. This function ensures effective transaction processing within the platform by facilitating smooth communication between buyers and sellers.

Search...

All Orders

All your orders are here. You can see your orders and cancel them.

Book Name	Price	Buyer Name	Buyer Number	Order Placed	Status
Fundamentals of Sustainability in Civil Engineering	₳ 600	Mahfuj ali	01767645489	07/01/2024	Delivered
Basic and Clinical Pharmacology by Katzung	₳ 547	Mahfuj ali	01767645489	07/01/2024	Delivered
Fundamentals of Sustainability in Civil Engineering	₳ 600	Mahfuj ali	01767645489	07/01/2024	Delivered
Zero by Charles Seife.	₳ 190	Mahfuj ali	01720473446	07/01/2024	Processing
C programming language	₳ 160	Akash Sarker	01720473446	07/01/2024	Delivered

Figure-37: Order Request

4.5.12 Rent Request

Through the NovelNext Shop platform, sellers are able to receive requests for specific book rent orders from buyers and fulfill them. This function ensures effective transaction processing within the platform by facilitating smooth communication between buyers and sellers.

Q Search...

 Mahfuj ali

All Orders

All your orders are here. You can see your orders and cancel them.

Book Name	Price	Buyer Name	Buyer Number	Order Placed	Status
 Fundamentals of Sustainability in Civil Engineering	₹ 600	 Mahfuj ali	01767645489	07/01/2024	Delivered  
 Basic and Clinical Pharmacology by Katzung	₹ 547	 Mahfuj ali	01767645489	07/01/2024	Delivered  
 Fundamentals of Sustainability in Civil Engineering	₹ 600	 Mahfuj ali	01767645489	07/01/2024	Delivered  
 Zero by Charles Seife.	₹ 190	 Mahfuj ali	01720473446	07/01/2024	Processing  
 C programming language	₹ 160	 Akash Sarker	01720473446	07/01/2024	Delivered  

Figure-38: Rent Request

4.5.13 Payment History

The NovelNext Shop platform ensures accountability and transparency in financial transactions by keeping an extensive payment history for both buyers and sellers. This feature encourages a safe and dependable online payment system within the platform by enabling users to trace and review their previous payments.

NovelNext

Dashboard

My Orders

My Favorites

My Reviews

My Listing

Order Request

Payments History

My Account

Q Search...

 Mahfuj ali

Payment History

Payment history provides a comprehensive record of financial transactions, reflecting an individual's or organization's reliability and creditworthiness.

Payment Id	Payment Date	Payment Amount	Payment For	Purchase Id	Book Item
novelNext_KA95rWUbn	2024-01-07 17:10:54	₹ 10	Listed book	CSE-1095-mahfuj15-2848	1
novelNext_DhXhdgHr1	2024-01-07 23:13:03	₹ 610	Placed order	CSE-1932-mahfuj15-2848	1
novelNext_aAdHGA8jl	2024-01-07 17:21:32	₹ 10	Listed book	CSE-1969-mahfuj15-2848	1
novelNext_58BP4mI88	2024-01-07 22:49:51	₹ 10	Listed book	CSE-3879-mahfuj15-2848	1
novelNext_ExeN65oO_	2024-01-07 23:04:09	₹ 10	Listed book	CSE-4388-mahfuj15-2848	1
novelNext_8PLT_7Nm	2024-01-07 17:20:20	₹ 10	Listed book	CSE-4418-mahfuj15-2848	1
novelNext_N4f8WbWhh	2024-01-07 23:09:05	₹ 1157	Placed order	CSE-4727-mahfuj15-2848	2
novelNext_qaIRy_w_L	2024-01-07 23:03:05	₹ 10	Listed book	CSE-4843-mahfuj15-2848	1
novelNext_ScDaNigwn	2024-01-07 22:53:38	₹ 10	Listed book	CSE-5768-mahfuj15-2848	1
novelNext_Vz8zXVltx	2024-01-07 22:54:04	₹ 10	Listed book	CSE-6301-mahfuj15-2848	1
novelNext_AZa3OmndP	2024-01-07 22:54:55	₹ 10	Listed book	CSE-6738-mahfuj15-2848	1

Figure-39: Payment History

4.5.12 Report module

The NovelNext Shop platform ensures accountability and transparency in order by keeping an extensive order history for both buyers and sellers. This feature encourages a safe and dependable online ofrt system within the platform by enabling users to trace and review their previous order.

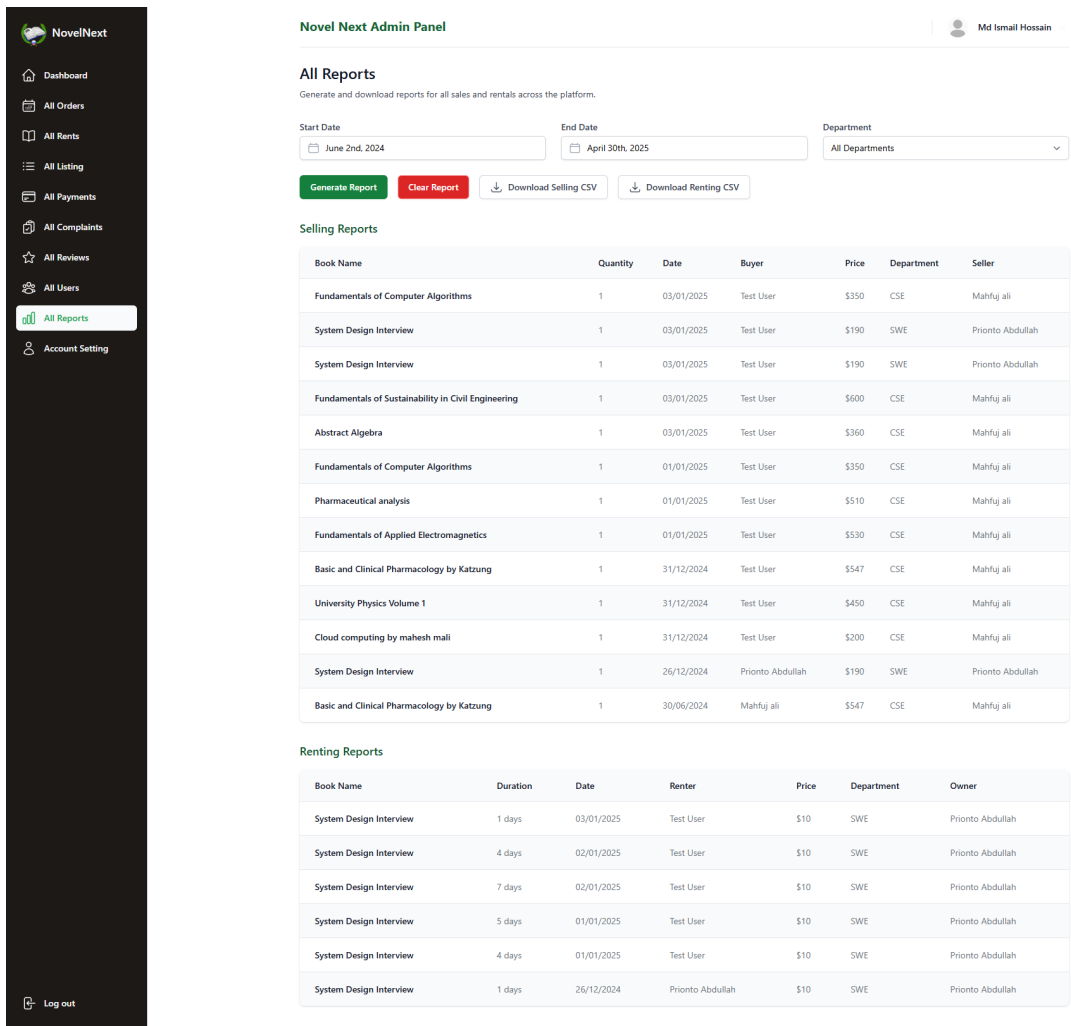


Figure-40: Report List

4.5.14 Admin Profile Update Page

This page updates the admin profile. Admin is always free to update his profiles.

Q Search...

 Mahfuj ali

Profile
This information will be displayed publicly so be careful what you share.

Photo


Change

Name

Phone Number

Address

Facebook URL

Account
This will be your account personal so your account will be automatically created when you log in.

Email address

Department

This account was created on 19/12/2023, 23:37:26

Figure-41: Admin Setting

Chapter 5

Implementation and Testing

This chapter described the development and deployment of NovelNext Shop, integrating core functionalities like search and payment systems. Comprehensive testing validated the platform's performance, ensuring a reliable user experience.

5.1 Introduction

In this chapter, we will go over how we use this design. We plan to incorporate both front-end and back-end perpetration in our design. Every prosecutor will provide a disparate number of appearances.

5.2 Database

This is our system's database. The database was maintained using the MongoDB cloud database.

5.2.1 Authentication

Secure authentication techniques are integrated into the NovelNext Shop platform to guarantee authorized access and safeguard user accounts.

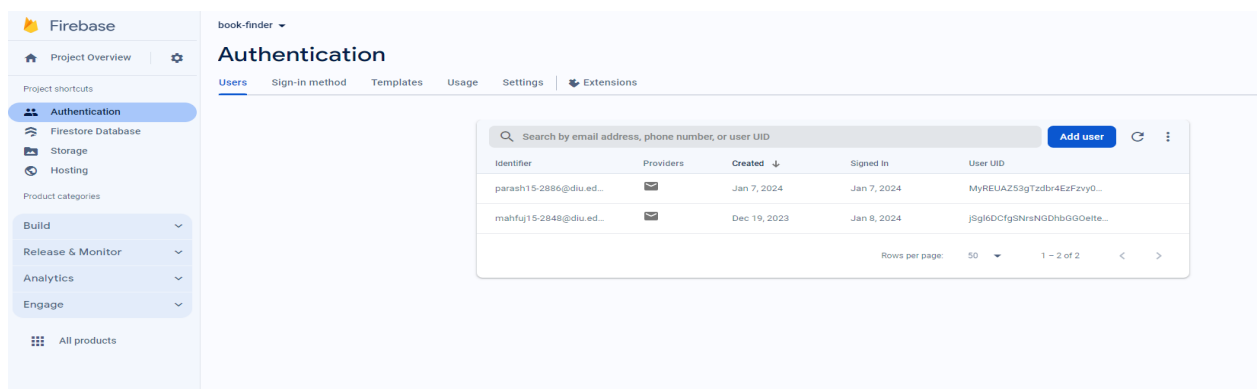


Figure-42: Database connection

5.2.2 Firestore Database

The NovelNext Shop platform securely stores and manages user data, book listings, and transaction information using Firestore, a NoSQL cloud database.

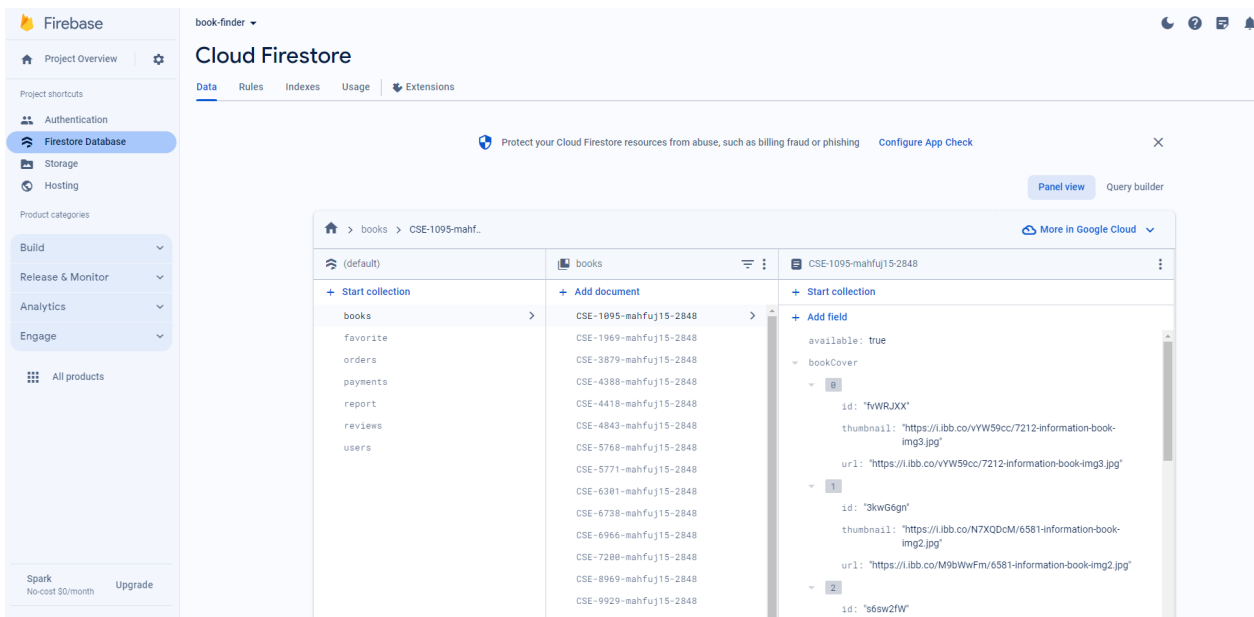


Figure-43: Database connection

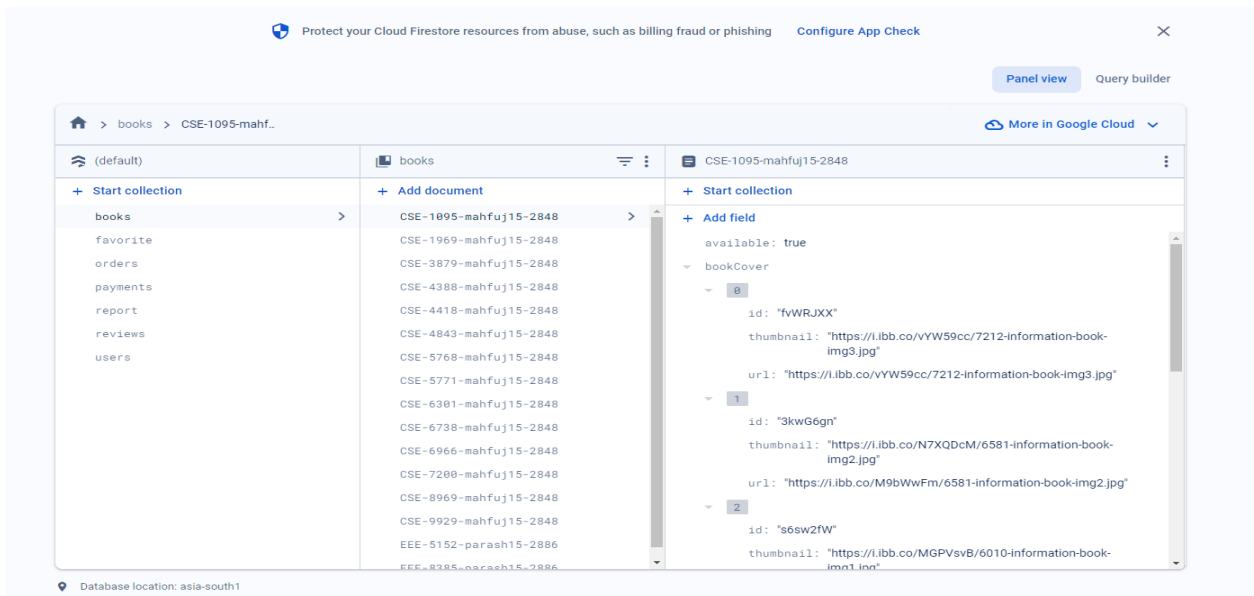


Figure-44: Database connection

5.2.3 Storage

Cloud storage services are used by the NovelNext Shop to safely store and handle user profile photographs, book images, and other pertinent items.

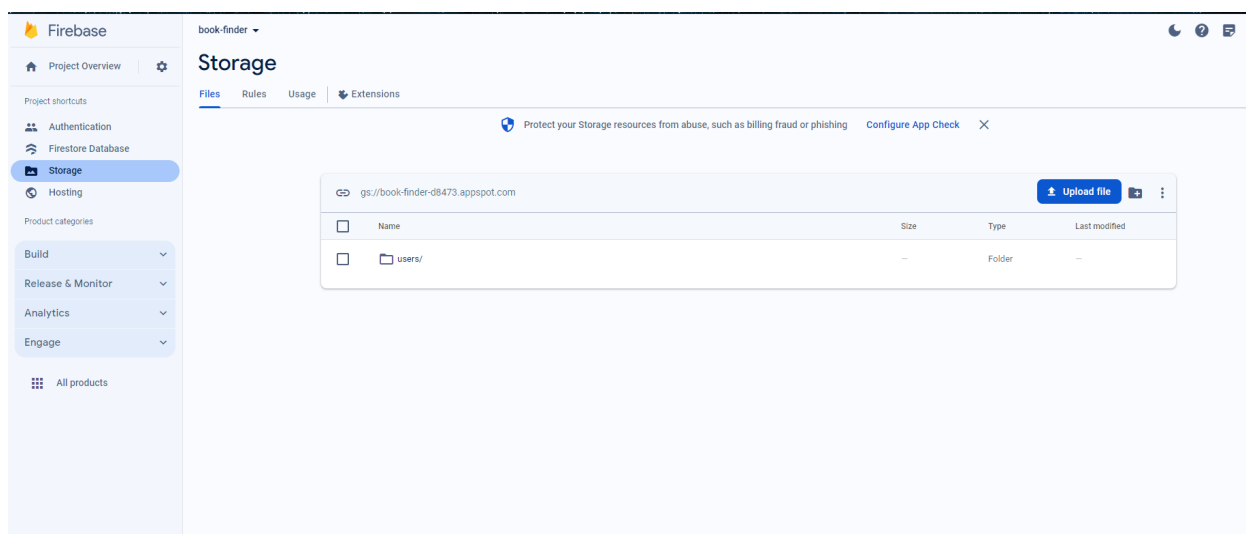


Figure-45: Database connection

5.3 Implementation of Interaction

This step, which comes after front-end implementation, is crucial to software development. We need to make sure that the user and software have successfully interacted. We linked the frontend and backend servers together for that purpose. After that, we either operate the project locally or virtually. Thus, the interaction's implementation is complete. Every user on the planet can engage with our application if we put our project in an EC2 instance or virtual machine.

5.4 Test Execution

Since this is a web design, testing is very crucial to the system's ability to function properly. Overall functionality will be increased, and the app's knowledge by input and problem dimension may be fixed. However, a trial run could go well and apply the precise procedure for feedback that still has a significant amount of time left to run. Many writings are regularly available to read as a coating. We have conducted some tests on this coating.

5.4.1 Unit Test

Unit testing is an important system in software development that tests discrete building blocks of a programming language, groups of one or more factors in a software program, and programs and procedures, as well as accompanying control data and usage instructions, to determine whether the bias is appropriate for use. Unit tests, which are frequently automated, are created and run by software engineers to ensure that a potential application (the unit) operates as planned and adheres to design specifications. Although a unit in procedural programming often refers to a single function or method, it can also refer to an entire module. Programming that is object-oriented frequently makes use of an entire interface, like a class, or just one function. If you write tests for the simplest test units first, then tests for compound behavior, you can create thorough tests for intricate applications, functions, or procedures. Programming that is object-oriented frequently makes use of an entire interface, like a class, or just one function. If you write tests for the simplest test units first, then tests for compound behavior, you may create thorough tests for complicated applications.

5.4.2 Integration Test

Integration testing, commonly referred to as integration and testing, or I&T, is essential to the development of an operation because it makes it possible to combine and test each of the individual executable parts simultaneously. To ascertain whether a system or piece complies with particular requirements, integration testing is carried out. It comes before assessment criteria and after unit testing. By taking their unit-tested input modules, combining them into bigger summations, and testing these summations in accordance with an integrating testing system, functional conditions provide an integrated approach that is ready for testing. The initial bottom-up test evaluated the scale's tiniest components.

They are also employed in advanced position factor testing. The procedure is repeated until the element is tested at the highest point on the scale. All of the operations, procedures, and bottom or low position factors are combined and tested. The future module position will be developed and may be used after the combined modules in the lower position have been tested. When all or most modules in the same stage of development are finished, this strategy makes a profit. This system can assist in identifying the software situations that have been formed and facilitate the reporting of information in the form of a quality of operation. In top-down testing, the top-interwoven modules are tested first, and the module branch is evaluated iteratively until it is finished. Sandwich testing combines top-down and bottom-up testing methods. A drawback of this type of test is that, in addition to showing that the architectural factors are executed, it frequently fails to validate conditions that are not

explicitly addressed by integration tests.

5.4.3 Function Test

This serves the purpose that we initially named for our covering. We have finished all of the first requirements from these systems that are necessary. And each goal is tested individually. Due to the fact that locations are an essential component of a system. In addition to wasting system resources, the function will not be exploited by rights.

5.5 White box Testing

Because they are familiar with the internal workings of the system, white box testers are able to design test cases that specifically exercise particular code branches, pathways, and situations. Ensuring that every statement, branch, and condition in the system is run and tested is the aim. Among the methods frequently employed in white box testing are:

- ensuring that, throughout testing, each statement in the code is run at least once.
- confirming the testing of each potential branch and decision point in the code.
- Testing every route that the code could take—including loops and conditional statements.
- Testing the border values, true, false, and other conditions that exist within decision points.
- examining the source code to find any possible flaws or weaknesses.

5.6 Black Box Testing

Software testing known as "black box" testing concentrates on analyzing a system's functioning without having a thorough understanding of its internal workings or design. The tester views the program or system as a "black box" in black box testing, interacting with it solely through inputs and observing the replies or outputs.

- I. The following are some salient features of black box testing:
- II. The internal operations of the system under test are of no importance to the testers. They are not privy to the implementation details, architectural details, or source code.

- III. Validating inputs, anticipated outputs, and the system's reaction to different user activities are the main goals of black box testing. Testing error handling, security flaws, and performance elements may also be part of it.
- IV. At several testing stages, including unit, integration, system, and acceptance testing, black box testing can be used. Testing tools can be used to automate the process or carry it out manually

Chapter 6

Effects on Sustainability, the Environment, and Society

This chapter evaluated NovelNext Shop's societal benefits, such as increased access to literature and support for local authors. It also analyzed the platform's environmental footprint, emphasizing sustainable practices like digital sales and eco-friendly packaging to minimize waste and carbon emissions

6.1 Effects on the Community

We are currently developing a web application that allows users to read books for knowledge acquisition, which is crucial in this day and age. Based on the social media content generated by my system, we may infer that the public's perception of our system project will be favorable due to its potential to directly or indirectly help pupils. In society, books have a significant impact on people's lives. People can learn more about the globe and its various nations and civilizations by reading books. Additionally, it sharpens intelligence because, as we already know, the current state of affairs truly creates a system for online buying and shopping. As a result, we anticipate that it will positively affect society and that users will find our system to be enjoyable.

6.2 Environmental Impact

Our system doesn't have a significant environmental impact because we are only creating software, or more specifically, our web application. We don't use any kind of hardware at all; our system is fully software-based and simply employs a web form. We can unequivocally say that our system has had no effect, either good or bad, on the environment.

It is entirely safe to use and does not carry any risk.

6.3 Sustainability

The initiative's political feasibility, significance, and acceptance will be determined by its level of sustainability. A project's sustainability is evaluated using a number of different factors, including financial analysis, risk analysis, communication and network determination, operational planning, training, human resource development and capacity building, environmental and community study, and others. Funding must be explored and studied to determine whether it is for a single project, an organization, a franchise, a cooperative, a joint venture, a non-governmental or public body, and so on. Every project includes an explanation of the requirements for funding, including supply and demand, expenses, expectations, and performance indicators. Interest rates, income, and affordability are all included in the project. The legal and regulatory framework addresses the licenses and permissions, as well as the many procedural requirements, regulatory limits, and rules, regulations, regulations, that must be followed in order to carry out projects in this environment. A detailed evaluation of the project's access to contemporary systems and technology is especially necessary.

6.3 Ethical Aspect

An essential component of effective governance is transparency. Employee trust in the leadership group will rise if software project management is transparent in all facets of its operations. Nobody is aware, nevertheless, that the management group is the only one who finishes the projects. Employees may voice concerns about the dubious actions of project managers, or they may not completely understand the project scope due to incomplete explanations from upper management. Access to information marked as confidential is restricted to specific individuals and locations. Development project managers must act with integrity when evaluating their knowledge of ongoing efforts, their time, their resources, and the strengths and weaknesses of the organization. The executive team occasionally divulges private information about the company. A project manager for software needs to be committed to both his team and his task. He is in charge of making sure that all of the team's duties are completed as the principal member of the software development team. To do all of this and produce outstanding results, they must be committed to one another through their clients and subordinates.F

Chapter 7

Conclusion & Future Works

This chapter summarized NovelNext Shop's success in delivering a user-friendly online bookstore, meeting its core objectives. It proposed future enhancements, such as AI-driven book recommendations and expanded digital formats, to further enrich the platform.

7.1 Conclusion

To sum up, the NovelNext Shop initiative is a ground-breaking online marketplace created especially for Daffodil International University students, offering them a convenient and user-friendly setting for purchasing and selling books. The platform ensures easy accessibility for students by doing away with the requirement for students to physically visit bookstores. It is a hassle-free solution that can be accessed from any device, including mobile devices. The platform's primary features, such its robust search engine and multi-vendor e-commerce system, improve user experience by enabling speedy book discovery and smooth book purchases.

Students can upload, modify, and remove book listings as needed, list and manage their inventory of books, and interact with possible buyers within the university community by using the NovelNext Shop. In addition, the platform offers a dependable and trustworthy approach for handling student information, guaranteeing a secure setting for book sales. The initiative intends to improve the efficiency, comfort, and accessibility of the book buying and selling process by utilizing contemporary technologies. With its user-friendly interface and powerful search features, it seeks to enhance user pleasure and expedite the book discovery process. All things considered, the NovelNext Shop initiative transforms the way that readers and students conduct online book transactions by offering a quick and easy solution that is specifically designed to meet the demands of the campus community. It facilitates the easy and straightforward purchase and sale of books, giving students quick and easy access to a wide selection of publications.

7.2 Scope for Further Development

We'll be showcasing some brand-new features in upcoming opportunities that you can quickly access. First, there will be a place where administrators can keep adding new collections. We're going to transform this project to an app soon. in order for the user to access swiftly. in order for customers to simply obtain their priceless publications. We're going to launch this initiative soon, which will allow you to read books for a few days. in order for Daffodil International University students to meet their book needs and for there to be appropriate contact between seniors and juniors. Additionally, there will soon be a way to read books for free. in order for pupils to quickly reap the rewards of our website in full. A little service website that provides books for students who do not need to visit the Dhaka University library in Nilkhet. I hope there will be more new developments in the future. User access to our highly secure system

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