



PROJECT REPORT
ON
Online second hand book store

SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENT FOR SEMESTER III,V,VII OF

S.E./T.E./B.E. (Information Technology)

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Certificate

This is to certify that project entitled

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Declaration

I declare that this written submission represents my ideas in my own words and where others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. I understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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Abstract

The main objective of the project is to create a second hand online book store that allows users to search and purchase a book online based on title, author and subject at cheaper prices. The selected books are displayed and the user can order their books online through net banking or card payment. Using this Website the user can purchase a book online instead of going out to a book store and wasting time. Moreover the hassle of students finding books or notes for their exam preparation is taken care of as they will be able to access a variety of preparation material. Through a web browser the customers can search for a book by its title or author, later can add to the shopping cart. The user can login using his account details or new customers can set up an account very quickly. They should give the details of their name, contact, email address. The user can add, delete and update the book details, book categories, member information and also confirm a placed order. This application is developed using node js, express js for backend, mongodb database and react js library for frontend.

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Chapter 1

Introduction

1.1 Introduction

The second hand book store is a market which has not been explored by many organizations. The online secondhand book shop is just one of the services available on the internet trying to use the power of internet and technology to develop a website that that can make book recycling and sales easier. Students need many different types of literature in their studies. As they go through the educational process they move gradually to the next level and other students move to that level they were previously in .It can be described as a circular pattern and text books used in this cycle can easily be accessible to another student in that cycle using the internet as the main meeting place. They are not only students that need books. Everybody need books or has a book or wants to buy a book. Hence a website of this nature that focuses on books can come a long way to make accessibility to secondhand books just a click away at a good and reasonable price.

1.2 Aim and Objectives

The purpose of this project is to create a communication and user- friendly web portal for selling and buying secondhand books online. The major goal for online second book shop is that in future people, especially students should have an easy way to buy and sell secondhand books online. The users will be able to carry out all these in a secured and managed environment. The online second hand book shop shall be easy to navigate and user friendly and easy to find books in various categories.

Implementation of this website achieves:

- Provide a way to buy cheaper books online
- View books for both academic and non-academic.
- A User friendly secondhand e-bookshop

1.3 Motivation for the Work

The primary motivation of this project is to reduce student's hassle of searching for books and notes during their exam preparation. To provide the user with latest edition

books ranging from academic to non academic subjects at cheaper price. To provide an online platform to second hand book stores so that these second hand stores can scale in the same way new e-commerce websites are scaling the global market. Our aim is to deliver efficient platform for buying and selling of books and maintain the performance of the website and make it adaptable to changes for the future requirements that will be given by the user.

1.4 Scope of Project

The user can register on our website and then login to access the services and books on the website. User can be a buyer or a seller, taking that into consideration we have implemented features that deals with the requirements of both the buyer and seller. Books can be added to the cart and within the cart the quantity of a particular book can be set if it is within the available range of that book.

1.5 Contribution

As the world progresses, society is looking for more ways to be efficient and save time. One way to do this is by using online second hand websites that allow you to order your books online and reduce your hassle of searching for books.

There are a number of ways in which our online second book store can contribute to the world.

1. To reduce people's effort of searching for books especially student's effort of finding for notes and books during their exam preparation.
2. by providing a convenient and easy-to-use platform for people to buy books, we can help to save time and make life easier for busy families.
3. by offering books at a cheaper price a relatively good condition to when the book was recieved.

1.6 Organization of the report

This report is organized into the following sections:

1. Introduction

The online second hand book store is a type of e-commerce platform that enables customers to purchase books online. It is a convenient way for consumers to shop for books, as they can order and pay for items from the comfort of their home. Online second hand book store offers a wide range of books ranging from academic to non-academic subjects.

2. Research Methodology

This report has been compiled using primary and secondary research. Primary research comprises interviews with industry experts, while secondary research includes a detailed study of the existing literature on the online second hand book store market.

3. Executive Summary

The online second hand book store is expected to grow over the period of time. The major factors driving the growth of the market include the increasing penetration of the internet and mobile devices and the growing preference for online shopping and the objective of the application.

4. Description of the industry

The online second hand book store industry comprises infrastructure that second hand books through the internet. Online second hand book store offers a convenient alternative to traditional brick-and-mortar stores, as they allow customers to shop from the comfort of their own homes. In addition, online second hand book store typically offers a wider range of books than traditional stores and often provide delivery services.

Chapter 2

Literature Survey

2.1 Problem Definition

Presently, people have limited options with some very rare old book stores within a city where they live. This idea will be helpful for all students, to easily buy and sell books . An online book portal for buying and selling of second hand books at a cheaper price. Reduce the hassle of students of searching for exam preparation material by allowing them to access a wide range of notes and books at a cheaper price. The user should be able to search for books based on different categories, the books available on the website should range from academic to non-academic. User should be able add the book to cart and can set the quantity of a particular book. User should be able to proceed to payment and then he should perform transaction using net banking or card payment. If user wants to negotiate for price of book with the seller, then in that case the seller should generate a coupon and set the new price of the book. This coupon shall be applicable to the targeted user only and no other user can access that coupon.

2.2 Comparing existing systems

Existing Systems	Features	Solution
OLX	Sell variety of things.	Our website is dedicated for buying and selling of books.
BookChor	All books are sold to the website which are then sold after adding commission.	No commission as buyer and seller are connected directly.
	Multiple minor issues which affect user experience. (Cart issue, Search issue, Order cancel issue)	Won't have such issues and if any will be solved as soon as possible.
ShowMyBook	App needed compulsory	Website can be accessed anywhere with low data usage.
	Customer base is spread across which can lead to fraud.	Most of the customer are students at VES.

Chapter 3

Design Implementation

3.1 Proposed System

The second hand books market has not been explored by many companies and the market is mostly governed by the small shop vendors. Students don't have many options with their second hand books and hence we decided to build this project to help all the students. The proposed system is an online book store which is a virtual store on the Internet where customers can browse the catalog and select books of interest. The main motive of the platform is to deliver second hand books which will be beneficial at the university and college level. It can manage the inventory of books online, customers can choose many types of book categories and even books for technical subjects etc. Here, the user can select the desired book and view its price. The user may even search for specific books on the website.

3.2 Requirement Gathering and Analysis

Basic Requirements

1. Login/Signup

Login:

Email

Password

Signup:

Name

Password

Email

Phone number

Email Verification

2. Homepage

Search

Filter based on category

Products

Image of book

Contact us

3. Product details page

Title
Price
Photo
Seller rating
Condition
Author name
Chat(optional)
Share
Buy later
Pages
Print Year
Edition
Publication
Description

4. Cart

Product details
increasing quantity in cart
Checkout
Recent transactions
Wishlist

3.3 Hardware Requirement

1. Windows XP, Windows 7 (32/64 bit) or higher
2. Minimum 4 GB RAM and higher
3. 10 GB available space on the hard disk
4. At least one Internet Browser e.g. Chrome, Firefox, Microsoft Edge etc.

3.4 Software Requirement

1. Frontend: CSS3, HTML5, Javascript, React js.
2. Backend: Node js, express, mongoDb, mongoose.

3.5 UML Diagrams

3.5.1 Functionality FlowChart

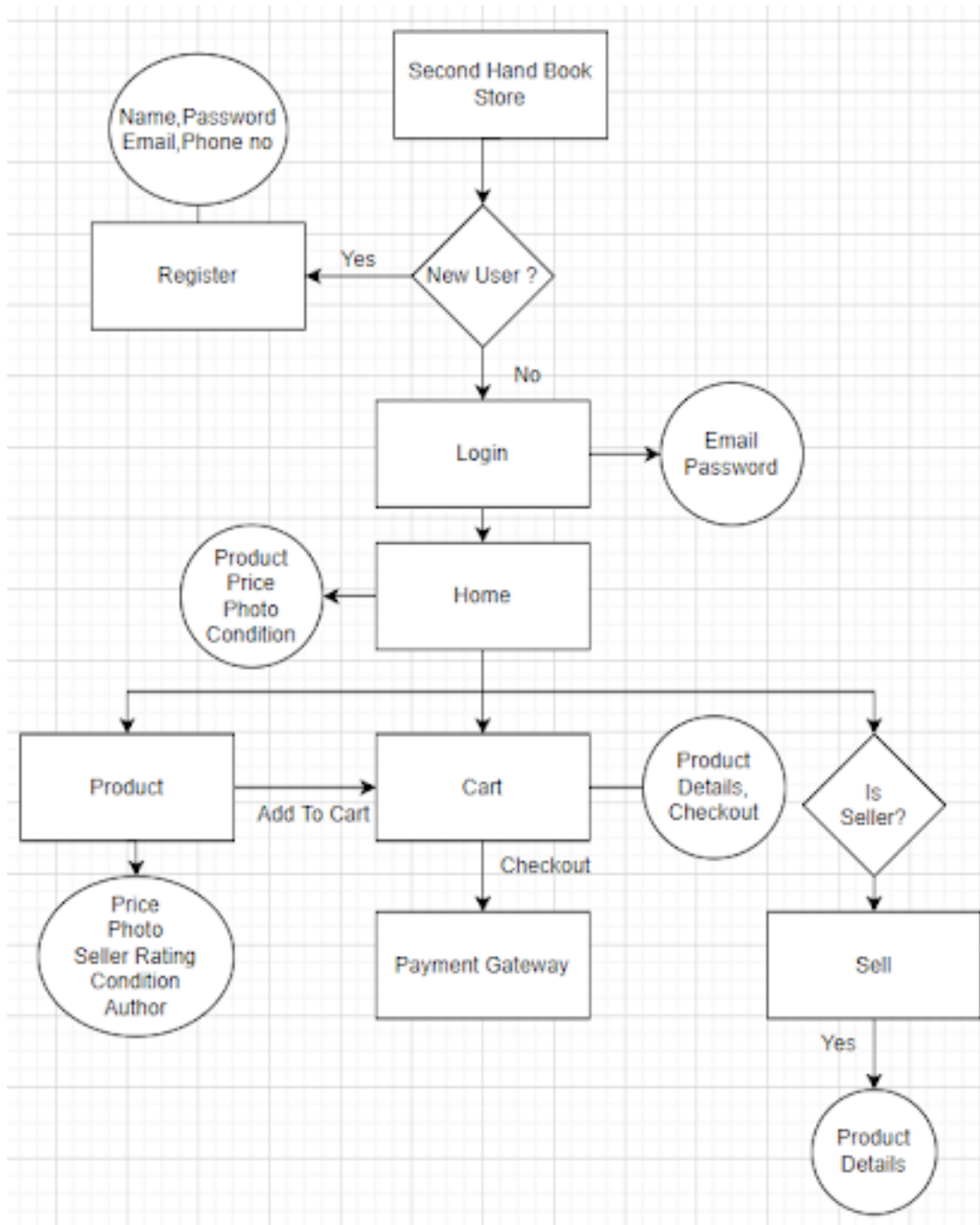


Figure 3.1: Functionality flowchart

3.5.2 Timeline Chart



Figure 3.2: Timeline chart

3.6 Algorithm

1. Users can easily register after verification.
2. Register users can buy or sell products.
3. If buyer wants to purchase product then he can select the books through various categories
4. Buyer can make the payment after negotiating the cost from the payment page.

3.7 Cost Estimation

All the tools and software that are used in developing this website are all free of costs. react js, express js are open source and free of cost libraries available on the node package manager (npm). We can opt for paid subscription of mongodb-Atlas for using their added security features for our hosted database.

3.8 Feasibility Study

Economic Feasibility

In this system development process, the technology used, from the database to the development tools, and then to the server are free, so the cost of the development of the system is only invested in time and effort, therefore, the system is economical

Operational Feasibility

The system's user platform is for those interested in books of all types of personnel, the interface is simple, with the use of basic visual interface the user can simply enter the book he/she wants to search or related information to query at a great convenience. The proposed system is user friendly and easy to use. The site could be accessed by both the seller and the customer. Also the workload is reduced for the admin and the total efficiency is improved

Technical Feasibility

In an ever changing software world, selecting one tool set and platform is a very difficult task. If we select a platform or tool set of a company which is not present in other systems the major setback will be the service, and we will be left with no options other than abandoning the system. Then the next problem will be migration to a better system. We should be able to select a tool set platform, which can seamlessly integrate into other software platforms and the support for the future should be ensured. The proposed system is technically feasible, because only the initial cost of buying hardware and software is needed. The considerations that are normally involved with the technical feasibility include development risk, resources, availability and technology.

Chapter 4

Results and Discussion

4.1 Code

Models

1. User Model

```
const mongoose = require("mongoose");
const validator = require("validator");
const userSchema = new mongoose.Schema({
  name: {
    type: String,
    required: [true, "Please provide a name!"],
  },
  email: {
    type: String,
    required: [true, "Please provide an Email ID"],
    unique: true,
    validate: [validator.isEmail, "Please enter a valid email"],
  },
  password: {
    type: String,
    required: [true, "Please provide a password"],
  },
  contact: {
    type: Number,
    required: [true, "Please provide a contact number"],
  },
  cart: [{
    type: mongoose.Schema.Types.ObjectId,
    ref: "Product",
    required: false
  }],
  verified: {
    type: Boolean,
    default: false
  },
});
```

```
});

const User = mongoose.model("User", userSchema);

module.exports = User;
```

2. Product Model

```
const mongoose = require("mongoose");

const productSchema = new mongoose.Schema({
  title: {
    type: String,
    required: [true, "Please provide a name!"],
  },
  price: {
    type: Number,
    required: [true, "Please provide an Email ID"],
  },
  image: {
    type: String,
    required: [false],
  },
  condition: {
    type: String,
    required: [true, "Mention Condition"],
  },
  author: {
    type: String,
    required: [true, "Please Mention Author"],
  },
  pages: {
    type: Number,
    required: [true, "Please Mention Pages"],
  },
  pyear: {
    type: Number,
    required: [false],
  },
  publication: {
    type: String,
    required: [false],
  },
  description: {
    type: String,
    required: [false],
  },
  category: {
    type: mongoose.Schema.Types.ObjectId,
```

```
      ref: "Category",
      required: true
    },
    seller: {
      type: mongoose.Schema.Types.ObjectId,
      ref: "User",
      required: true
    }
  });

productSchema.index({ "title": "text", "description": "text",
"category": "text" });

const Product = mongoose.model("Product", productSchema);

module.exports = Product;
```

3. Category model

```
const mongoose = require("mongoose");

const categorySchema = new mongoose.Schema({
  name: {
    type: String,
    required: [true, "Please provide a name!"],
  }
});

const Category = mongoose.model("Category", categorySchema);

module.exports = Category;
```

APIs

1. Book detail

```
app.post("/product/details", async (req, res) => {
  try {
    const pro = await Product.findOne({ _id: req.body.id })
      .populate("category")
      .populate("seller");
    res.json({ status: "ok", details: pro });
  } catch (err) {
    res.json({ status: "error", error: err });
  }
});
```

2. Books

```
app.get("/products", async (req, res) => {
```

```
    try {
      var prod = await Product.find().limit(6);
      res.json({ status: "ok", products: prod });
    } catch (err) {
      console.log(err);
    }
  });
```

3. Categories

```
    app.get("/categories", async (req, res) => {
      try {
        var cat = await Category.find();
        res.json({ status: "ok", categories: cat });
      } catch (err) {
        console.log(err);
      }
    });
```

4. Register

```
    app.post("/register", async (req, res) => {
      try {
        req.body.password = crypto.AES.encrypt(
          JSON.stringify(req.body.password),
          "my-secret-key@123"
        ).toString();
        const user = await User.create(req.body);
        const t = await Token.create({ userId: user._id, token: uuidv4() });
        console.log(t);
        const r = await sendEmail(t, user);
        if (r.status === "ok") {
          console.log("mailed");
          res.json({ status: "ok" });
        } else {
          throw "Email Not Valid";
        }
      } catch (err) {
        res.json({ status: "error", error: err });
      }
    });
```

4.2 Software Results

User can make account on our website by providing username, email address, contact number and password. We have implemented email verification for authenticating the user and to make sure that only legitimate users are accessing the website. User can search various books based on the categories available on the website. User can add books to the cart and can proceed to payment. We have implemented PAYTM test payment gateway. The buyer can negotiate over the price of a particular book. In this case the seller can generate a coupon which will be valid only for that targeted customer. The coupon will have the new price for the book.

4.3 Screen Shots

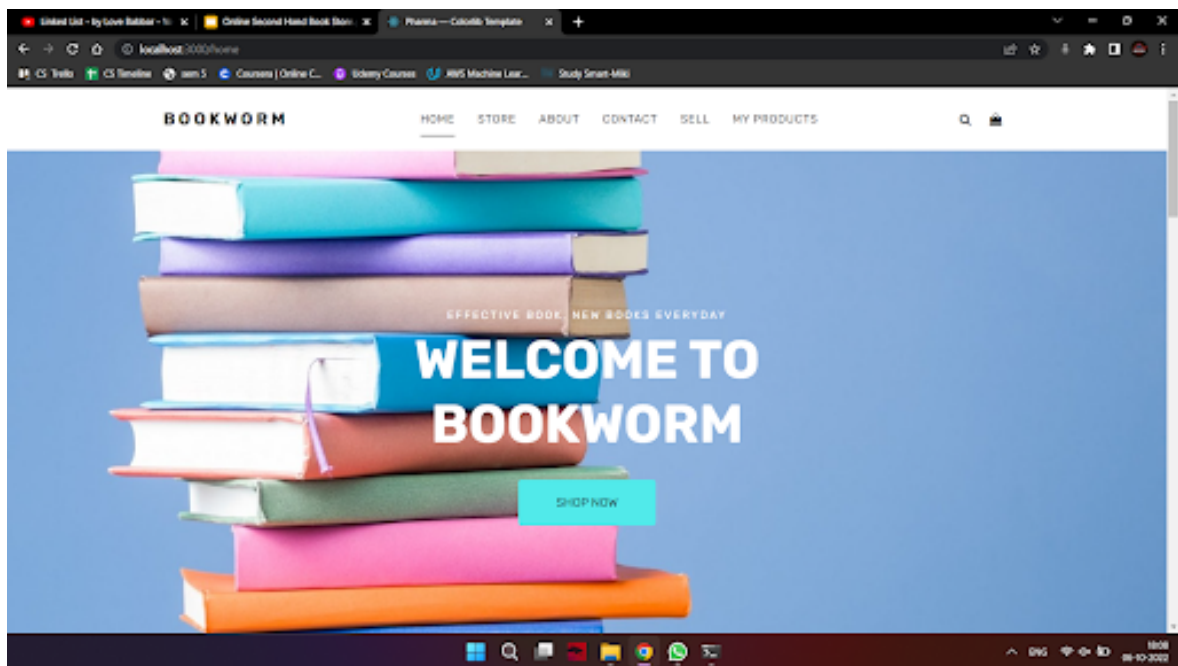


Figure 4.1: Home page

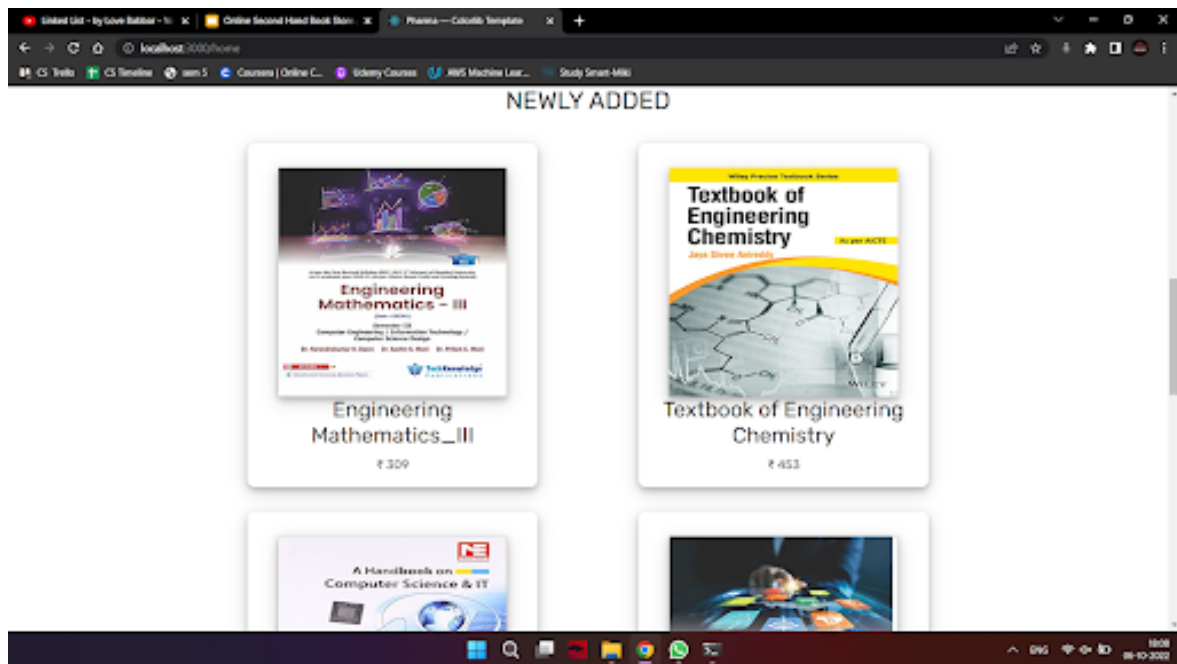


Figure 4.2: Books page

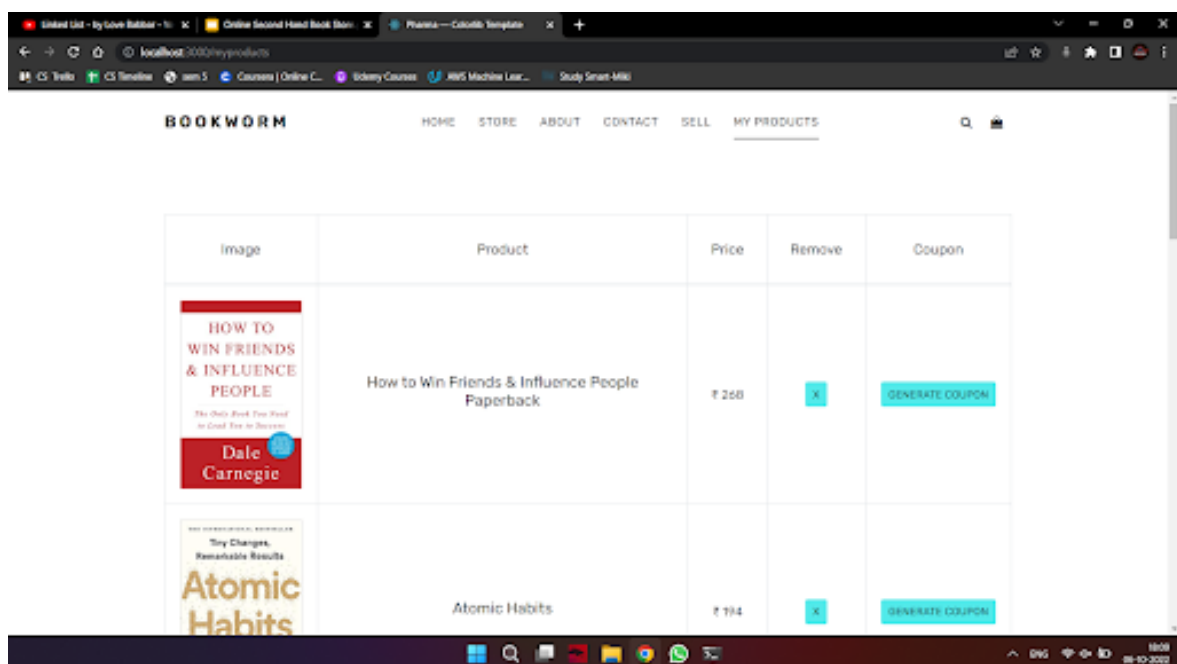


Figure 4.3: Cart page

The screenshot shows a web browser window with the URL `localhost:3000/productForm`. The website is titled "BOOKWORM" and has a navigation bar with links: HOME, STORE, ABOUT, CONTACT, SELL, and MY PRODUCTS. The main content area is titled "Book Details" and contains a form with the following fields:

- Title:
- Price:
- Image: No file chosen
- Condition:
- Category:

The Windows taskbar at the bottom shows the date as 10-10-2022.

Figure 4.4: Upload books page

The screenshot shows a web browser window with the URL `localhost:3000/contact`. The website is titled "BOOKWORM" and has a navigation bar with links: HOME, STORE, ABOUT, CONTACT, SELL, and MY PRODUCTS. The main content area is titled "Get In Touch" and contains a form with the following fields:

- First Name *:
- Last Name *:
- Email *:
- Subject:
- Message:

The Windows taskbar at the bottom shows the date as 10-10-2022.

Figure 4.5: Contact page

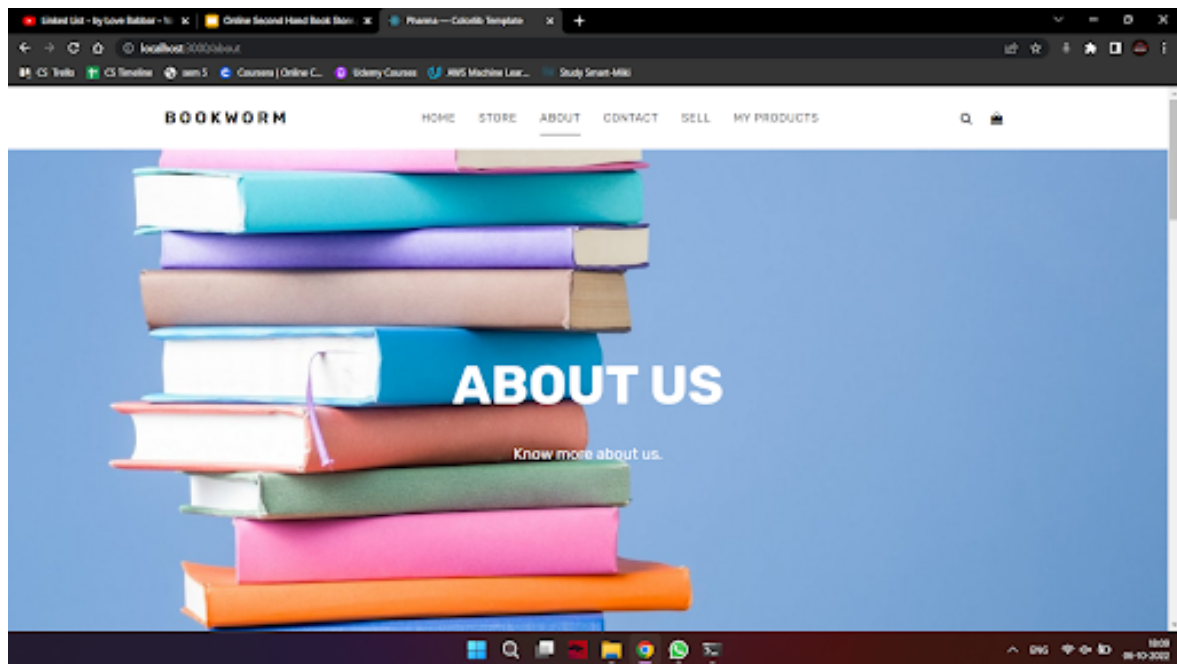
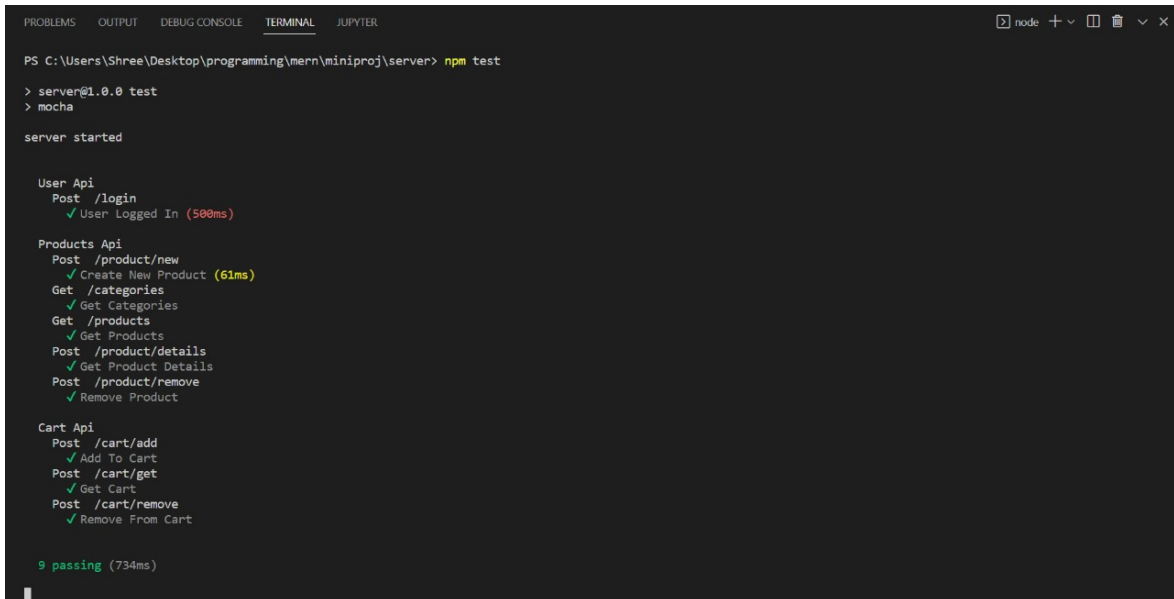


Figure 4.6: About us page

4.4 Testing Results

API Testing



```
PS C:\Users\Shree\Desktop\programming\mern\miniproj\server> npm test

> server@1.0.0 test
> mocha

server started

User Api
Post /login
✓ User Logged In (500ms)

Products Api
Post /product/new
✓ Create New Product (61ms)
Get /categories
✓ Get Categories
Get /products
✓ Get Products
Post /product/details
✓ Get Product Details
Post /product/remove
✓ Remove Product

Cart Api
Post /cart/add
✓ Add To Cart
Post /cart/get
✓ Get Cart
Post /cart/remove
✓ Remove From Cart

9 passing (734ms)
```

Figure 4.7: API Tests

4.5 Test Case Report

Testing of server routes was commenced using chai and chai-http with the help of mocha. Chai enables developers to test the behavior and response of the server to a request by sending test data to the server. Response validation is performed using the `should.have()` and `should.have.status()` methods provided by chai. Each server route is tested by making get or post request to the server and observing the result. Chai enabled us to check the robustness of the server by accepting the response only within time limit and check the speed of response.

4.6 Additional details of the Project

1. JWT

Authentication is implemented using JsonWebToken (JWT) which comprises of user id which is fetched from the database. The JWT token is signed and stored for each session using cookies in react js. All the api routes are protected using the jwt token stored in the cookie.

2. Validation

Validators have been added to particular fields in models in the backend.

3. Security features

User password are encrypted using the bcrypt module provided by node package manager (npm). Email verification is implemented to ensure that only legitimate users can create account on our website.

Chapter 5

Conclusion

5.1 Summary

Bookworm is a platform to connect students who want to buy or sell books and other equipment without a middleman. The user, when using the website for the first time, will need to create an account. He will need to provide basic information for doing so. The user email will then be needed to be verified. After verification, the user can browse, sell or buy books as needed. The seller will be able to sell their books at a better price as compared to selling them to a shopkeeper who buys books at a lower price and sells it for a significantly higher price. The seller can also see other listings and price their product competitively. They can provide a discount coupon to customers which be usable by that particular customer for that particular product only. The buyers will be able to buy books at a lower price than buying from shops. They will also have multiple options depending on the book. Buyers can meet sellers and check the books before buying to ensure that they get what they want. Buyers can also get a discount coupon from the seller which will be linked to their account. Different books will be available and sorted based on the genre. This help to locate books easily based on the customer's preferences. Also, the option to filter will also be present. Filtering will be done using the book's title, author name, description, and publisher.

5.2 Future Scope

In the future, our plan is to add a chat system. This will be integrated into the website so the buyer and seller can talk with each other. The buyer can talk with multiple sellers at any given time and grab the deal he likes. We will also introduce a system where books can be sold to us if the seller doesn't want to wait for the book to sell. We will buy books from sellers and sell them. This help to generate profit. Also, books will be available on the website throughout the year. Books which are no longer in a good condition can be given to us so we can recycle them. This helps the sellers as their books will be bought at a good price. Also, recycling will help to protect nature Tie-up with other shopkeepers is also one of the goals. This helps them, sell their books to a larger market. They won't need to have to build their own website. Also, buyers will have more options when buying books. This will also increase competition and will help to lower the price. All the books will be available in one place so a comparison can be made before buying books.

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