

Heaven's Light is Our Guide



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Online Book Store Website

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Course No : CSE 3200

Course Title : Software Development Project 2

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Introduction:

This project covers both frontend and backend development from the ground up. As a MERN stack project, it uses:

- 🚦 React.js for the frontend
- 🚦 Node.js and Express.js for the backend
- 🚦 MongoDB as the primary database

To further enhance the project, we’ve used technologies like Tailwind CSS, Redux Toolkit, RTK Query, Mongoose, and JWT for secure authentication and seamless data handling.

The application provides a smooth online shopping experience for users to browse, order, and manage books. Admins have access to a secure dashboard to control inventory, upload books, and manage user orders.

System Features:

For Users:

- 🚦 Browse all available books
- 🚦 View book details (title, description, author, cover, price)
- 🚦 Add or remove books from shopping cart
- 🚦 Checkout via Cash-on-Delivery
- 🚦 View order confirmation

For Admins:

- 🚦 Admin login with secure JWT authentication
- 🚦 Dashboard with inventory management
- 🚦 Add, edit, or delete books
- 🚦 View and manage customer orders
- 🚦 Track inventory and update book info

Technologies Used:

Layer	Technology
Frontend	React.js, Tailwind CSS, Redux Toolkit, RTK Query
Backend	Node.js, Express.js
Database	MongoDB with Mongoose
Authentication	JWT (JSON Web Tokens)
Build Tool	Vite

System Architecture

The system follows a traditional client-server model:

Frontend (React) <--> Backend (Express/Node) <--> MongoDB Database



How to Run This Project:

Frontend Setup:

Follow the steps below to run the frontend of the project:

1. Clone or unzip the project folder.
2. Navigate to the frontend directory:
3. `cd frontend`
4. Create a `.env.local` file in the frontend root directory (where `package.json` is located) and paste the following Firebase environment variables:

Firebase Configuration:

```
apiKey: import.meta.env.VITE_API_KEY,  
authDomain: import.meta.env.VITE_AUTH_DOMAIN,  
projectId:import.meta.env.VITE_PROJECT_ID,  
storageBucket:import.meta.env.VITE_STORAGE_BUCKET ,  
messagingSenderId:import.meta.env.VITE_MESSAGING_SENDERID ,  
appId:import.meta.env.VITE_APPID
```

5. Install the required dependencies:

```
npm install
```

6. Run the development server:

```
npm run dev
```

Backend Setup:

Follow these steps to run the backend of the project:

1. Clone or unzip the project folder.
2. Navigate to the backend directory:
3. `cd backend`

4. Create a .env file in the backend root directory (where package.json is located) and paste the following environment variables:

MongoDB & JWT Configuration

DB_URL="mongodb+srv://sanjinafrindristy:MNJHDZVXcKMwxbCm@cluster0.jd6ud8r.mongodb.net/book-store?retryWrites=true&w=majority&appName=Cluster0"

5. Install the backend dependencies:

```
npm install
```

6. Start the backend development server:

```
npm run start:dev
```

Note: Make sure MongoDB is properly set up. Change the database URL

Run & Test:

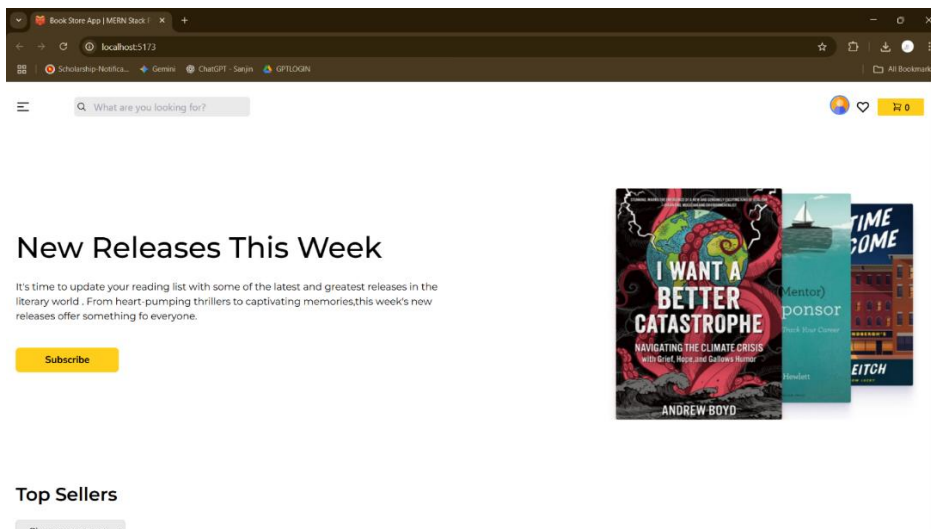
After completing both setups:

- Make sure both frontend and backend are running.
- Open your browser and navigate to:
<http://localhost:5173> to test the application.

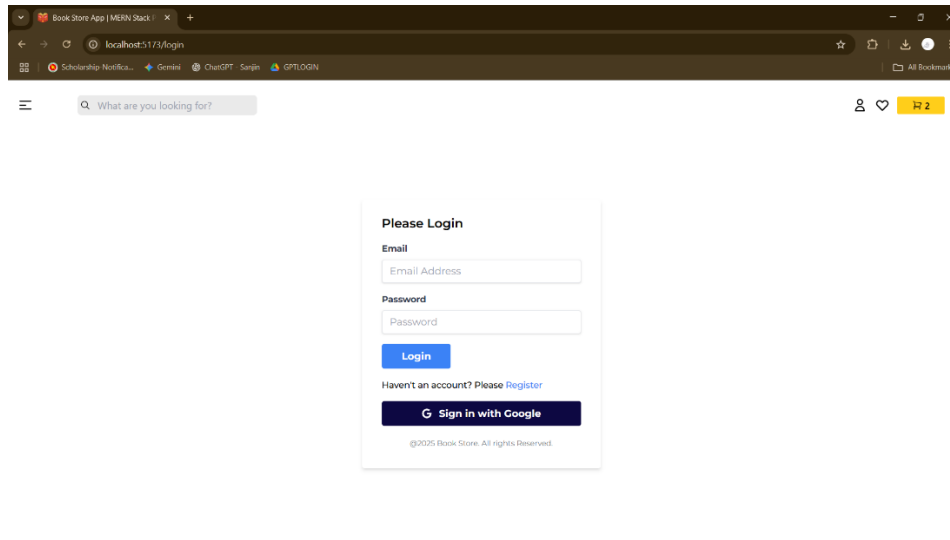
User Manual:

For General Users:

[Home page](#): Browse books with images and prices

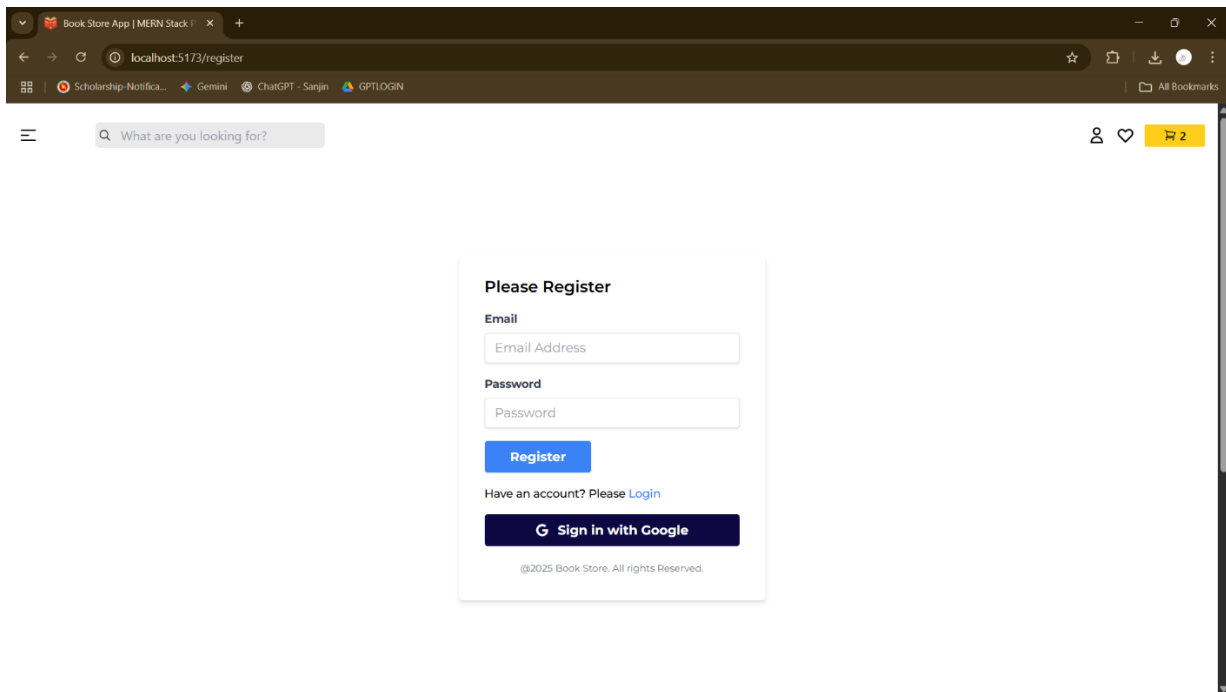


Login Page: Login securely to the dashboard



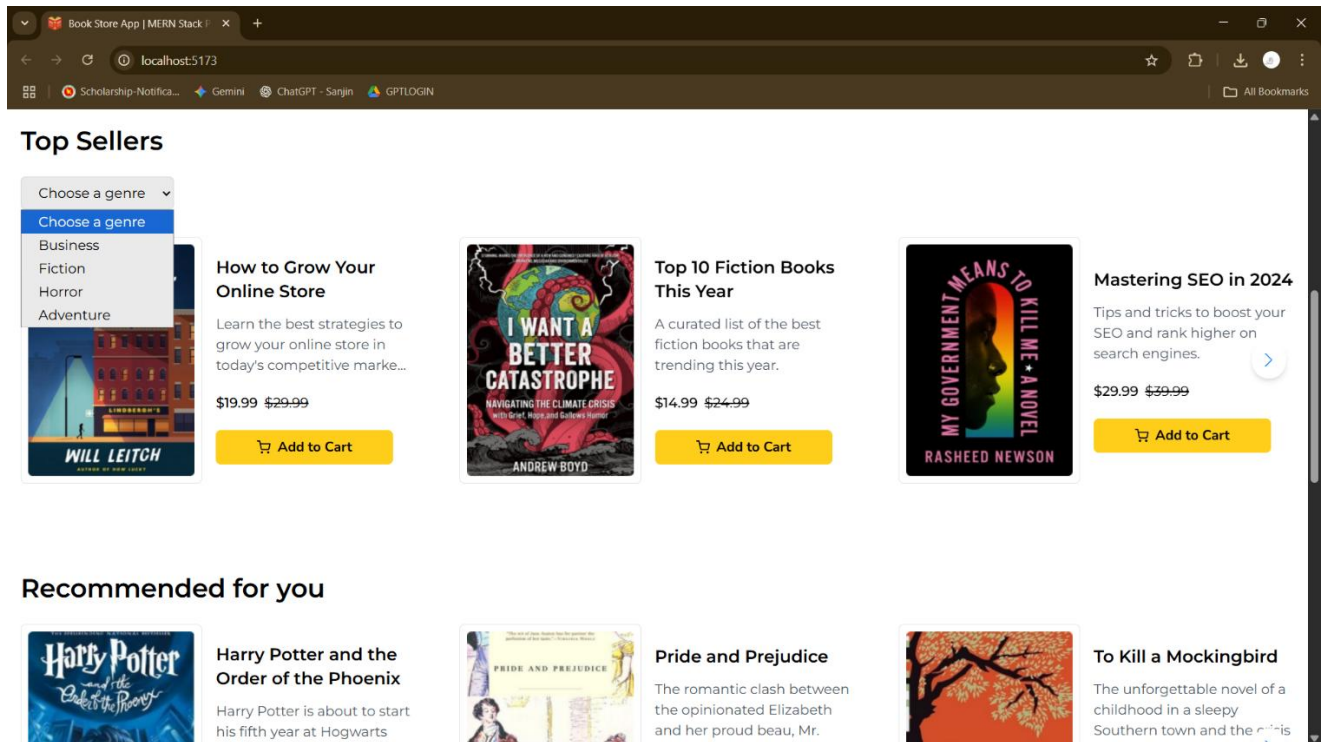
The screenshot shows a web browser window with the address bar displaying 'localhost:5173/login'. The page features a search bar at the top with the placeholder text 'What are you looking for?'. In the center, there is a 'Please Login' form with two input fields: 'Email Address' and 'Password'. Below these fields is a blue 'Login' button. A link for 'Register' is provided for users who do not have an account. At the bottom of the form is a dark blue button labeled 'Sign in with Google'. The footer of the form states '©2025 Book Store. All rights Reserved.'

Register page: Login securely to the dashboard

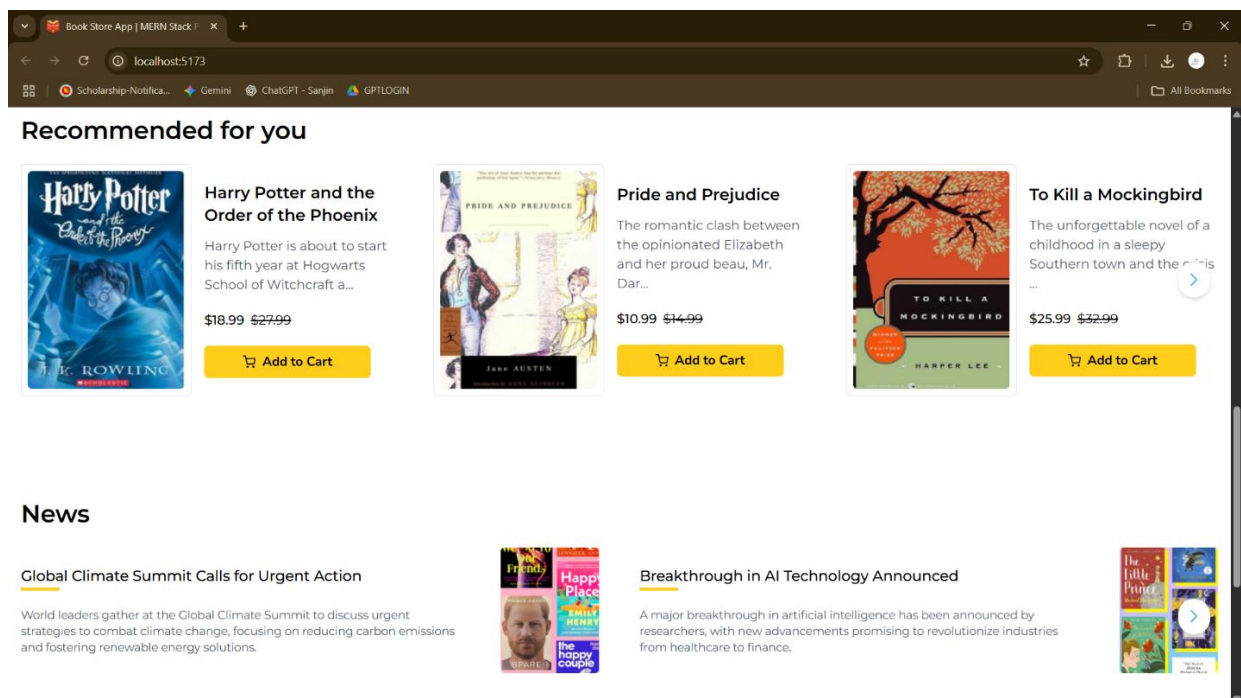


The screenshot shows a web browser window with the address bar displaying 'localhost:5173/register'. The page layout is consistent with the login page, featuring a search bar at the top. The central form is titled 'Please Register' and includes 'Email Address' and 'Password' input fields. A blue 'Register' button is positioned below the fields. A link for 'Login' is provided for existing users. A dark blue 'Sign in with Google' button is at the bottom of the form. The footer text reads '©2025 Book Store. All rights Reserved.'

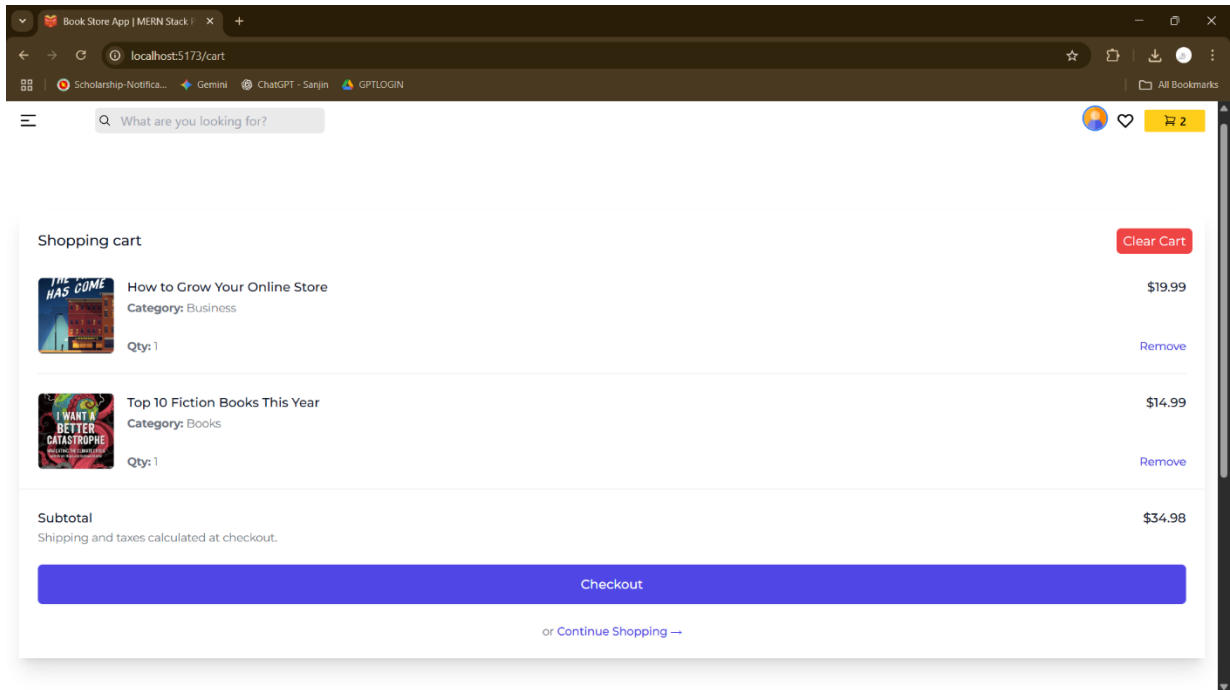
View top seller book details: Click choose a genre to see top sellers book in different genre .



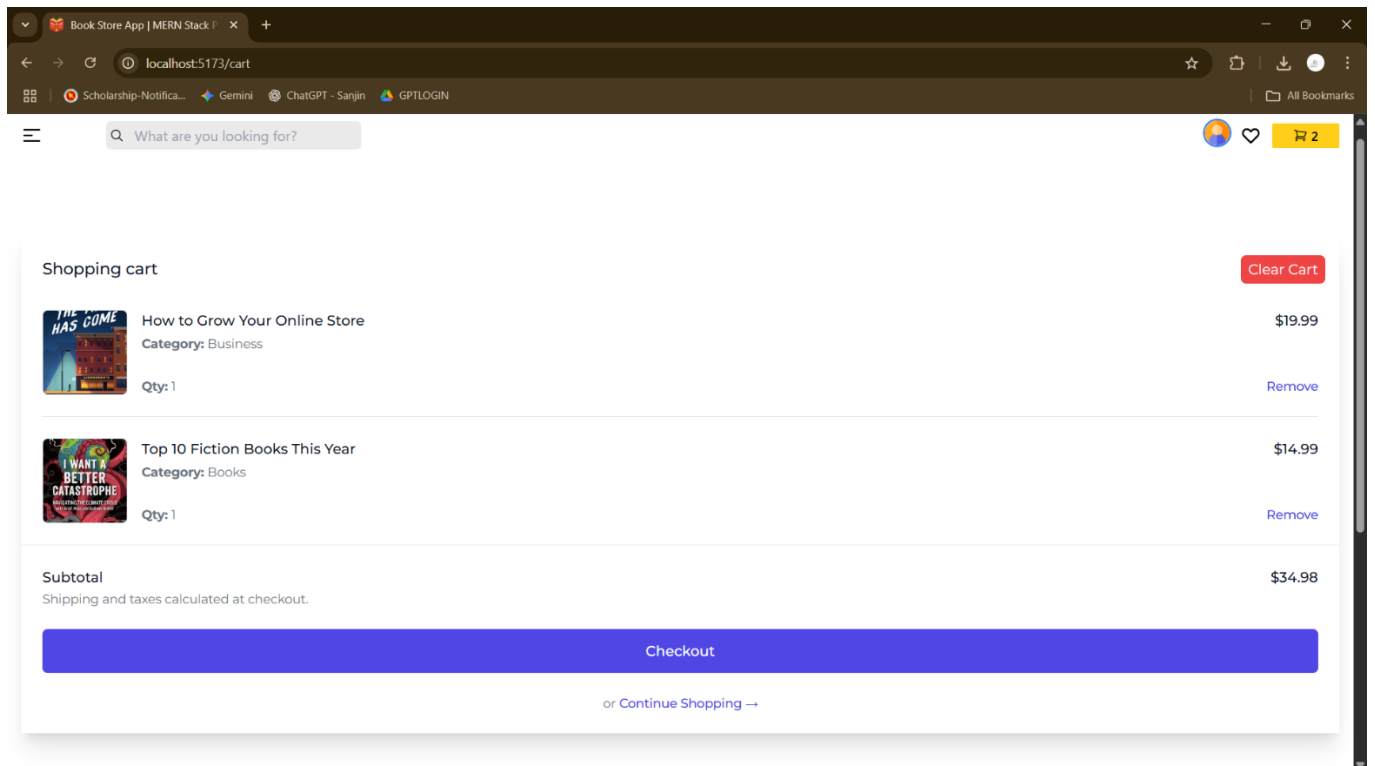
Recommended and news : These section will recommend new books according to user taste. Also shows the news segment.



Add to cart: Use "Add to Cart" button. Also Clear or remove books .



Checkout: Navigate to cart and place order



Future Enhancements:

- ✚ Integrate payment gateway (SSLCommerz or Stripe)
- ✚ Add advanced search and filtering
- ✚ Admin sales & inventory analytics dashboard
- ✚ Language switcher (Bangla/English)
- ✚ Auto PDF invoice generation for users
- ✚ Email notifications for order confirmation
- ✚ User reviews and star rating system

Conclusion:

This bookstore web application demonstrates the capabilities of full-stack development using the MERN stack. It combines modern frontend technologies with a powerful backend and flexible database architecture to create a complete e-commerce platform.

With future integrations, the system can scale for real-world deployment and offer a richer shopping experience.