E-commerce App GeneralStore

Group Members

1. Harsh Pravinbhai Navdiya
2. Keval Akbari
3. Sagar Malhotra

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Shagun

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Introduction

- Define/Describe your project.

  Utilising the MERN Stack technological stack, our project intends to create a comprehensive and feature-rich E-commerce website. This website will act as a marketplace where users can easily buy a variety of goods, such as phones, shoes, TVs, clothes, and more. To meet the demands of users and administrators, the project will include both a client-side and an admin-side interface. Here is a list of the main attributes and elements of our online store:

Client-side Features:

1. **Home Page:** The main page will have an eye-catching header area with a slider featuring featured products, a carousel featuring the newest products, and a footer with crucial links and data.
2. **Login Page:** To access their accounts and make purchases, users can safely log in.
3. **Cart Page:** A page where customers may view and control the things they've chosen before checking out.
4. **Shop Page:** Users can search for specific products using the search tool, explore products, utilise filters, sort options, switch between grid and list displays, and more.
5. **Product Details Page:** For each product, there are thorough product descriptions, photos, reviews, and pricing details.
6. **Checkout Page:** A quick and secure checkout experience with options for payment and shipping.
7. **My Order List Page:** Users get access to their order history and order status information.
8. **Order Details Page:** Information in-depth about each order, including information on the products and shipment.
9. **Download bill as PDF:** Customers can get PDF invoices for their orders.
10. **Review Product Page:** Users who have purchased things have the option to post reviews and ratings.
11. **Wishlist Page:** Users have the option of adding things to their Wishlist for later use.
12. **My Profile Page:** A user profile page where users can edit their preferences and personal data.

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Admin-side Features:

1. **Dashboard Page:** Admins can view total earnings and sales statistics at a glance.

2. **All Product List Page:** An overview of all products with options to edit or delete them.
3. **Create Category Page:** Admins can add, edit, and manage product categories.
4. **Order Details Page:** A detailed view of all customer orders with the ability to change order status.
5. **Create Coupon Page:** Admins can create and manage coupon codes for promotions.
6. **Create Brand Page:** Admins can add and manage product brands.

- Why do you like to do this project/the benefits of doing this project?

  There are various strong justifications for starting this project to establish an e-commerce website:

  Growth of the E-commerce Industry: The E-commerce industry is still expanding quickly, which attracts investment and new ideas. Creating an e-commerce website offers chances for financial success and market expansion.

  Building an e-commerce website with the MERN Stack gives our team the chance to practise using cutting-edge web development tools like React, Redux, Node.js, express and MongoDB.

  Meeting Market Demand: With the rising popularity of online shopping, it is essential for businesses to have a strong E-commerce platform to stay competitive and satisfy client wants.

  Improved User Experience: The goal of our project is to design a user-friendly interface with attributes like product filtering, ratings, Wishlist and safe payment choices, ultimately resulting in a satisfying shopping experience.

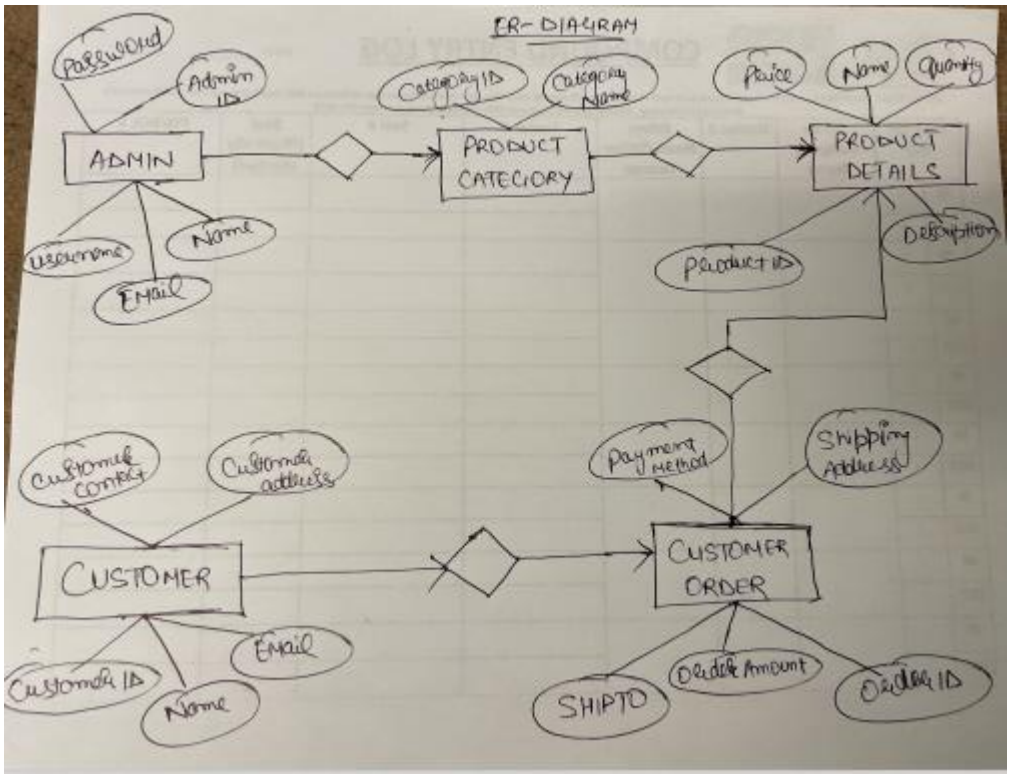
  Business Insights: The admin dashboard will give firms insightful information about sales statistics that they may use to optimise their product offerings.

  Contribution to Digital Economy: Our project helps the digital economy expand by facilitating online transactions and electronic payments.

Data Flow:

1. Project Design
2. Frontend: React & SCSS/module, Redux Toolkit
3. Backend: NodeJS & Express
4. Database: MongoDB
5. Tools: Email
6. Payment: Stripe

- **ER Diagram**



Technology Description

- Why do you use MongoDB, React, Express and NodeJS, etc.?

The project proposal outlines a few criteria that led to the decision to use MongoDB, React, Node.js, and Express (often referred to as the MERN stack) for the e-commerce website project:

Scalability: MongoDB is a highly scalable NoSQL database. It can manage a lot of data and is suitable for e-commerce applications with a sizable product catalogue. It provides the adaptability to handle potential expansion.

Flexibility and Schema-less Design: The schema-less design of MongoDB makes it simple to react to changes in the data structure, which is essential in an e-commerce environment where product attributes or categories may change over time.

Performance: Node.js and Express are well-known for their capacity for high performance. To manage several concurrent user requests in an e-commerce application, they are built to handle asynchronous I/O activities well.

Real-time Updates: Node.js is perfect for real-time features like chat systems and notifications because of its event-driven architecture, which can improve user experience on an e-commerce website.

Development of Single-Page Applications (SPAs): React is a potent library for SPA development. SPAs can improve navigation, cut down on page reloads, and boost overall performance in an e-commerce setting to give users a seamless and easy-to-use experience.

Open Source and Cost-Effective: When compared to proprietary solutions, open-source technologies like MongoDB, Node.js, Express, and React can significantly lower development expenses.

Market Survey

1. JavaScript
2. Python
3. Java
4. SQL (Structured Query Language)
5. React
6. Node.js
7. AWS (Amazon Web Services)
8. Docker
9. Kubernetes

10. Machine Learning (ML) / Artificial Intelligence (AI)

Conclusion

The creation of a comprehensive e-commerce website using the MERN Stack is described in our project proposal. A user-friendly interface with features like dynamic homepages, secure login, shopping carts, in-depth product pages, and more will be available to users. Tools for efficient business administration will be available to admins. Scalability, flexibility, and performance are what influenced the decision to use MongoDB, React, Node.js, and Express. A market study identified the most popular technologies, which helped us match our project with market demands. A 2–3 month timeframe is anticipated. The objectives of this project are to advance the digital economy, improve user experiences, and strengthen the position of businesses in the online market.

Project Completion Timeline:

While the project timeline may fluctuate depending on variables such as team size, complexity, and available resources, a rough estimate could be as follows:

1. **Project Planning and Research**: 1 Week
2. **Frontend Development (Client-side)**: 1 Month
3. **Backend Development (Server-side)**: 1 Month
4. **Database Design and Implementation**: 1 Week
5. **Testing and Quality Assurance**: 1 Week
6. **Admin Panel Development**: 3 Week
7. **Final Testing and Bug Fixing**: 1 Week

GitHub Link

https://github.com/hpnavadiya/GeneralStore.git