My Hackathon-2 Template:09 - (Provided by Sir Mubashir)

Planning The Technical Foundation For My Marketplace

Elite Food Restaurant

Objective: To build a scalable, user-friendly q-commerce platform with the following features:

1. **Frontend: Next.js and tailwind CSS** for server-side rendering and responsive designs. Build a user-friendly interface by designing responsive layouts for all screen sizes by using mobile first approach.

   Key pages include:

   - ✓ Product listing
   - ✓ Product Details
   - ✓ Cart and Check Outs
   - ✓ Order Confirmation

2. **Backend: Sanity CMS** for managing customer and product data and order information through defined schemas to provide real time update for orders processing and variation in stock.

3. **Third Party APIS:** Shipengine, Payment Gateway (Support digital payments)

4. **System Architecture Diagram**
   - ✓ User -->|Browses| Frontend → [Next.js]
   - ✓ Frontend -->|Fetches Data| → [Sanity CMS]
   - ✓ Frontend -->|Generates Label| → [ShipEngine API]
   - ✓ Sanity -->|Stores| → [Product Data]
   - ✓ ShipEngine -->|Tracks Order| → [Order Tracking]

5. **System Architecture Workflow**

   Frontend:

   - ✓ **Product Browsing:** Fetch and display products from Sanity CMS using GROQ queries.
   - ✓ **Cart Management:** Use useContext to manage cart state globally. Add/remove items and calculate totals dynamically.
   - ✓ **Checkout Process:** Collect user details and payment via Stripe-hosted checkout. Display order confirmation after successful payment.
   - ✓ **Order Tracking:** Generate a shipping label ID using ShipEngine. Provide label ID to users for tracking.

Backend:

- ✓ **Sanity CMS:** Manage products and orders using Sanity Studio.
- ✓ **Custom APIS:** /api/products: Fetch product data. /api/shipping-label: Generate shipping labels using ShipEngine. /api/track-order: Retrieve tracking details using ShipEngine. /api/checkout: Integrate with Stripe for payments.
- ✓ **Admin Panel:** Use Sanity Studio for inserting and managing data.

API Requirements:

End Points	Methods	Description
/api/products	GET	Fetch product data from Sanity CMS.
/api/shipping-label	POST	Generate a shipping label using ShipEngine.
/api/track-order	GET	Retrieve order status using ShipEngine label ID.
/api/checkout	POST	Integrate Stripe for payment processing.

Overview of System Architecture:

1. **Frontend** (Next.Js)
2. **Backend** (Sanity CMS)
3. **Third Party APIS** (Shipengine)

   Product Schema

   Order Schema

   Customer Schema

   Shipment Schema

   Delivery Schema
4. **Key Backend Features**
   - ✓ Order Management
   - ✓ Inventory Management
   - ✓ Refunds
   - ✓ Reviews
5. **Security** (Encryption)
6. **Monitoring**