Day 2 (Planning Technical Foundation) of E-commerce Marketplace Builder Hackathon

Project: Modern Haven Furniture Ecommerce Marketplace

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Overview

Day 2 of the hackathon focused on laying a strong technical foundation for the e-commerce marketplace. The day involved planning the core structure, defining technical requirements, and preparing a clear roadmap for development. Below is a detailed account of all tasks completed during this phase.

Tasks Completed

1. Planning the Technical Foundation

To ensure the marketplace is scalable and efficient, the following steps were taken:

- The technology stack was finalized to include:
    - **Next.js** and **React** for building the frontend.
    - **TypeScript** for ensuring type safety and reducing runtime errors.
    - **Tailwind CSS** for creating a responsive and visually appealing design.
    - **Sanity CMS** for the backend.
- A Git repository was set up to track progress and collaborate efficiently.
- Initial project folders and file structure were organized for better management.

2. Database Schema Design

A database schema was designed to manage the core functionalities of the marketplace. The schema includes the following entities:

- **Products:**
    - Fields: ID, name, price, description, category, stock quantity, and discount percentage.

    - Purpose: Stores information about all furniture items available for sale.
- **Users:**
    - Fields: ID, name, email, password, and address.
    - Purpose: Manages customer profiles and login details.
- **Orders:**
    - Fields: Order ID, customer ID, product details, order status, and date.
    - Purpose: Tracks customer purchases and their progress.
- **Shipments:**
    - Fields: Shipment ID, order ID, status, and delivery date.
    - Purpose: Monitors the delivery of orders to customers.

The schema was designed to handle relationships between entities, ensuring data integrity and smooth operations.

3. API Design

RESTful APIs were planned to enable communication between the frontend and backend. The main endpoints included:

- GET /products: Retrieve a list of available products.
- POST /orders: Create a new order.
- GET /users/:id: Fetch details of a specific user.
- PUT /orders/:id: Update the status of an existing order.

Security features like JWT-based authentication and input validation were also planned to protect user data and prevent unauthorized access.

4. Wireframes and UI Prototyping

Wireframes were created to visualize the design and layout of key pages. The primary pages included:

- **Homepage:** Highlights featured products and categories.
- **Product Page:** Displays detailed information about each furniture item.
- **Cart and Checkout:** Simplified and user-friendly interfaces for purchasing products.

- **Order Tracking Page:** Allows customers to view the status of their orders.

These wireframes will guide the frontend development process to ensure a smooth and intuitive user experience.

Learnings and Achievements

1. A clear technical roadmap was established, ensuring alignment with business goals.
2. The database schema was designed to support core marketplace functions.
3. API planning laid the groundwork for efficient communication between frontend and backend.
4. Wireframes provided a strong foundation for building a user-friendly interface.