**Hackathon 3 - Day 2:** **Planning the Technical Foundation**

**1. Frontend (Next.js)**

**Objective:**

Create a responsive and user-friendly interface for browsing furniture products.

**Essential Pages:**

* Home: Display featured products, categories, and promotions.
* Product Listing: Show products filtered by categories like Living Room, Bedroom, etc.
* Product Details: Provide detailed information about selected products.
* Cart: Allow users to review and modify selected items.
* Checkout: Collect customer details and payment information.
* Order Confirmation: Display order details and a confirmation message.

**Key Features:**

Fetch data from the backend (Sanity CMS) using APIs via GROQ (GraphQL) queries.

Implement dynamic routing for pages like /products/:id.

**2. Backend (Sanity CMS)**

**Objective:**

Act as the content management system for managing all data related to products, orders, and customer interactions.

**Tasks:**

**Schema Design:**

**Products:** Fields include name, price, stock, image, category, description.

**Categories:** Fields include name, description, and associated products.

**Orders:** Fields include customer details, product IDs, quantities, payment status, and order status.

**Key Features:**

Use Sanity's real-time data management to provide dynamic updates to the frontend.

Efficiently store and retrieve data for frontend interactions.

**3. Interaction Between Frontend and Backend**

**Fetching Data:**

The frontend (Next.js) sends API requests to Sanity to retrieve product and category information using GROQ queries.

**Example GROQ Query:**

[\_type == "product"] {

\_id,

name,

price,

category->name,

images

}

**Submitting Orders:**

When a user places an order, the frontend sends a POST request to the backend (Sanity CMS) to store the order details.

Sanity manages and tracks order data, including customer information, purchased products, and order status.

**4. API Requirements**

Objective: Define clear and efficient endpoints for seamless interaction between frontend and backend.

**Endpoints:**

**/products:**

Method: GET

Purpose: Fetch all available products from Sanity.

Response: Product details (ID, name, price, stock, image).

**/categories:**

Method: GET

Purpose: Fetch all product categories.

Response: Category details (ID, name, description).

**/orders:**

Method: POST

Purpose: Submit a new order.

Payload: Customer info, product details, and payment status.

**/shipment:**

Method: GET

Purpose: Track order shipment status via a third-party API.

Response: Shipment ID, order ID, status, and expected delivery date.

**5. System Architecture**

**Objective:** Visualize the interaction between system components.