**Day 2: Planning the Technical Foundation**

**Marketplace Name:** Reliable Furniture Hub

**Technical Requirements**

**1. Frontend Requirements:**

* Develop a user-friendly interface using **Next.js**.
* Ensure a **responsive design** suitable for all screen sizes.
* Implement **essential pages**:
  + **Home:** Showcases featured furniture collections.
  + **Product Listing:** Displays categorized furniture items.
  + **Product Details:** Provides detailed descriptions, images, and pricing.
  + **Cart:** Summarizes selected furniture items.
  + **Checkout:** Handles customer details and payment processing.
  + **Order Confirmation:** Displays order details and shipment tracking.

**2. Backend Requirements:**

* Use **Sanity CMS** to manage:
  + Product inventory (name, price, stock, category, material, customization options).
  + Customer orders and shipment tracking.
* Integrate **third-party APIs** for:
  + **Payment Gateway:** Secure transactions.
  + **Shipment Tracking:** Real-time order updates.
  + **Email Notifications:** Automated order confirmations.

**3. Security Requirements:**

* Enforce **HTTPS** for secure communication.
* Implement **authentication** for CMS access.
* Validate **user input** to prevent malicious attacks.

**System Architecture**

**High-Level Architecture Overview:**

[Frontend (Next.js)]

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[Sanity CMS] <-----> [Product Data API]

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[Third-Party APIs] ---> [Payment Gateway API]

---> [Shipment Tracking API]

**Workflow Example:**

1. A user visits the website and browses furniture items.
2. The frontend fetches **product data** from Sanity CMS.
3. Upon order placement:
   * Order details are stored in **Sanity CMS**.
   * Payment is processed via the **Payment Gateway API**.
4. The **Shipment Tracking API** updates the order status.
5. An **order confirmation email** is sent to the customer.

**API Requirements**

**1. Product APIs:**

* **Endpoint:** /products
  + **Method:** GET
  + **Description:** Fetch all furniture items.
  + **Response Example:**
  + [
  + { "id": 1, "name": "Oakwood Dining Table", "price": 1500 },
  + { "id": 2, "name": "Leather Sofa Set", "price": 3000 }

]

**2. Order APIs:**

* **Endpoint:** /orders
  + **Method:** POST
  + **Description:** Create a new order.
  + **Payload Example:**
  + {
  + "customerName": "Owais Khan",
  + "products": [
  + { "id": 1, "quantity": 1 },
  + { "id": 2, "quantity": 1 }
  + ],
  + "paymentStatus": "Completed"

}

* + **Response Example:**

{ "orderId": 6789, "status": "Order Confirmed" }

**3. Shipment APIs:**

* **Endpoint:** /shipment
  + **Method:** GET
  + **Description:** Fetch order delivery status.
  + **Response Example:**
  + {
  + "shipmentId": 12345,
  + "status": "Out for Delivery",
  + "estimatedDelivery": "2025-01-20"

}

**Key Workflows**

**1. User Registration and Login:**

* User creates an account and logs in securely.

**2. Product Browsing & Filtering:**

* Users can filter products by category, material, and price.

**3. Order Placement & Payment:**

* Users add items to the cart and complete checkout.
* Payments are processed securely through third-party gateways.

**4. Shipment Tracking:**

* Order statuses update dynamically via API integration.
* Customers can track delivery progress.

**Sanity CMS Schemas**

**1. Product Schema:**

export default {

name: 'product',

type: 'document',

fields: [

{ name: 'name', type: 'string', title: 'Product Name' },

{ name: 'price', type: 'number', title: 'Price' },

{ name: 'category', type: 'string', title: 'Category' },

]

};

**2. Order Schema:**

export default {

name: 'order',

type: 'document',

fields: [

{ name: 'customerName', type: 'string', title: 'Customer Name' },

{ name: 'products', type: 'array', of: [{

type: 'object',

fields: [

{ name: 'productId', type: 'reference', to: [{ type: 'product' }] },

{ name: 'quantity', type: 'number', title: 'Quantity' }

]

}] },

{ name: 'paymentStatus', type: 'string', title: 'Payment Status' },

{ name: 'timestamp', type: 'datetime', title: 'Order Date & Time' }

]

};