DAY 2 PLANNING THE TECHNICAL FOUNDATION Furniture website

Technical Requirements:

1. User-Friendly Interface

- The website should have a clean, intuitive design with easy-to-use menus and search functionalities.
- Simple navigation with clear categories like Living Room, Bedroom, Office, etc.
- Filters for sorting by price, material, size, color, and popularity.
- Quick access to essential pages through a sticky navigation bar or footer.

2. Responsive Design

- The design should adapt perfectly to all screen sizes—mobile, tablets, desktops, and laptops.
- Easy-to-tap buttons, legible fonts, and spacious layouts for mobile users.
- Images and content should scale dynamically based on the device used.

3. Essential Pages

- **Home Page**: Featured items, promotions, quick links
- **Product Listing Page**: All furniture items, images, prices, filters
- **Product Details Page**: Detailed info, images, dimensions, price
- **Cart Page**: Review and manage items, update quantities
- **Checkout Page**: Step-by-step process, payment methods
- **Order Confirmation Page**: Order status, confirmation details

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4. Technical Implementation

- Frameworks: Nextjs
- CMS: Sanity
- Cart management with local storage and server-side
- Tailwind CSS for UI
- Shadcn for components

5. Responsive Cart and Checkout Flow

- Mobile-friendly layout
- Intuitive step-by-step process
- Smooth payment on all devices
- Progress indicators

6. Secure Payment Integration

- Payment gateways: Stripe, PayPal
- SSL Encryption
- Multiple payment options
- Secure transaction processing

Backend Requirements with Sanity CMS

Sanity CMS for Data Management

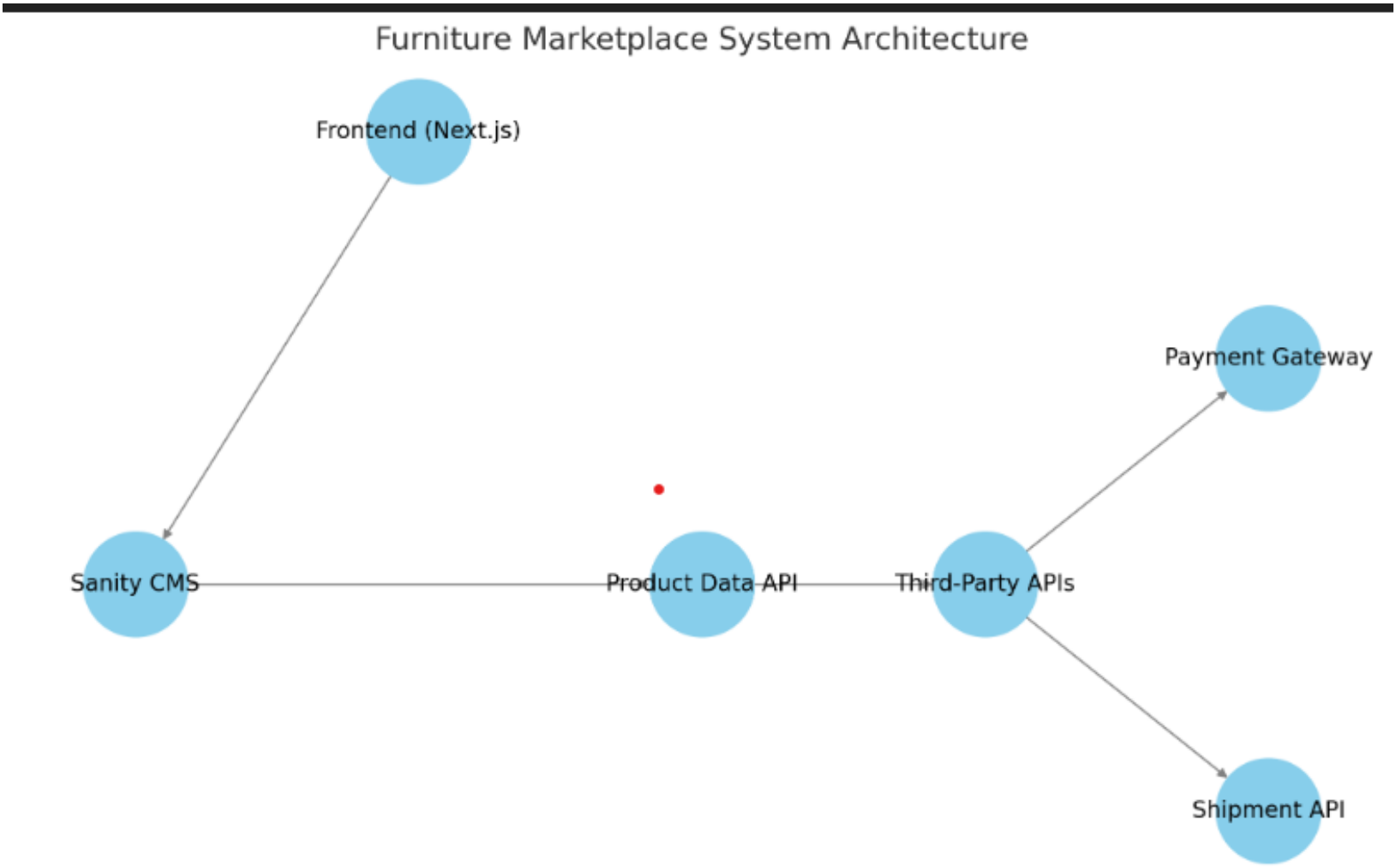
- **Purpose**: Centralized database for managing all marketplace data.
- **Key Features**:
  - **Furniture Items**: Store details such as name, description, price, category, material, dimensions, and images.
  - **User Information**: Store customer data including names, email addresses, addresses, and order histories.
  - **Orders**: Manage order statuses like "Pending," "Shipped," "Delivered."
  - **Categories**: Organize furniture items into categories like Living Room, Bedroom, Office, etc.
- **Schemas in Sanity**:
  - Design clear and structured schemas for efficient data management.
  - Easily add, update, or remove data without affecting other parts of the system.

Third-Party APIs

To ensure your website is functional and dynamic, we'll integrate external APIs:

1. **Payment Gateways**:
   - Secure online payment integration via **Stripe** or **PayPal**.
   - Handle transactions quickly and reliably with robust security features.
2. **Shipment Tracking APIs**:
   - Integrate real-time delivery tracking via APIs like **ShipRocket** or **FedEx**.
   - Provide customers with live updates on their furniture deliveries.

2)Design System Architecture



Data Flow and Workflows

1. User Registration:

- The user signs up on the frontend.
- The data is stored in the **Sanity CMS**.
- A confirmation message is displayed to the user upon successful registration.

2. Product Browsing:

- When the user visits the furniture listing page:
  - The frontend requests furniture data from the **Sanity CMS** via APIs.
  - Sanity sends the furniture data, which is displayed dynamically on the frontend.

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3. Order Placement:

- The user adds items to the cart and proceeds to checkout.
- Once the order is placed, the order details are sent to **Sanity CMS** and recorded in the database.

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4. Shipment Tracking:

- Shipment information is fetched from a **Third-Party API**.
- This information is displayed on the user's order status page in real-time.

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5. Payment Processing:

- During checkout, the **Payment Gateway** processes the user's payment securely.
- A confirmation of payment is sent back to the frontend and recorded in **Sanity CMS**.

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6. Adding Furniture to Cart:

- The user selects a piece of furniture and clicks "Add to Cart."
- The frontend stores the cart data temporarily (e.g., in **local storage** or **state management**).
- When proceeding to checkout, the cart details are sent to the backend.

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7. Tracking an Order:

- The user clicks on "Track Order."
- The frontend calls the `/shipment/{orderId}` API.
- Shipment details are fetched from the **Third-Party Tracking API** and displayed to the user.

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8. Payment Processing:

- The user completes the checkout and proceeds to payment.
- Payment details are securely sent to the **Payment Gateway**.
- Once confirmed, the order status is updated in the backend.

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9. Placing an Order:

- The user reviews the cart and confirms the order.
- The frontend sends the order details (furniture items, customer info, and payment status) to the `/orders` API.

- **Sanity CMS** stores the order, and a confirmation is sent to the user.

3) API ENDPOINTS

ENDPOINT	METHOD	PURPOSE	RESPONSE EXAMPLE
/products	**GET**	**Fetches all available products.**	[{"id":1,"name":"Sofa","price":15999,"stock":20}]
/products/{id}	**GET**	**Fetches details for a specific product.**	{"id":1,"name":"Sofa","price":15999,"description":"Comfortable 3-seater sofa"}
/orders	**POST**	**Creates a new order.**	{"orderId":101,"status":"Order Placed","ETA":"3-5 days"}
/shipment/{orderId}	**GET**	**Fetches real-time order tracking.**	{"shipmentId":456,"status":"In Transit","expectedDelivery":"2 days"}

4) Data Schema Design

Entities

1. Products

- **Fields**: `id`, `name`, `description`, `price`, `stock`, `category`, `image`

2. Orders

- **Fields**: `orderId`, `customerName`, `contactInfo`, `address`, `items`, `totalAmount`, `paymentStatus`

3. Shipment

- **Fields**: `shipmentId`, `orderId`, `status`, `expectedDelivery`

4. Customers

- **Fields**: `customerId`, `name`, `contactInfo`, `address`, `orderHistory`