Marketplace Technical Foundation – Sinp Ecommerce

1. Define Technical Requirements

Home Page:

User lands on the homepage.

Displays featured product, popular products.

Product Browsing:

Products are displayed with options to filter by price, brand, or ratings.

Product Details:

User clicks on a product to view its details.

Page includes product description, price, availability, and user reviews.

Add to Cart:

User adds the product to the cart.

Cart updates dynamically with quantity and price.

Checkout:

User proceeds to the checkout page.

Provides shipping address and selects a delivery option.

Payment:

User enters payment details.

Secure payment gateway processes the transaction.

Order Confirmation:

Order details are displayed and sent via email.
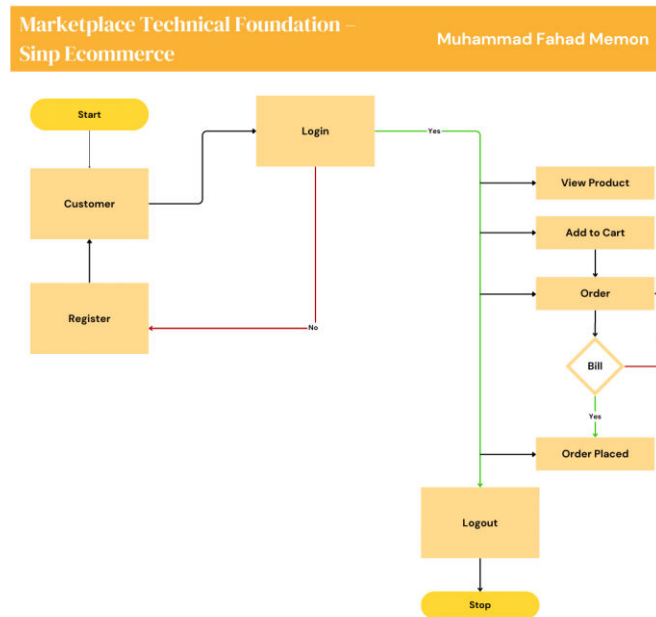
Order status is updated in the backend.

Shipment Tracking:

User visits the "Order History" section.

Real-time shipment tracking is enabled via API integration.

Delivery:

Product is delivered to the user's address.

Frontend Requirements:

User receives a notification and can leave a review.

User-friendly interface for browsing products.

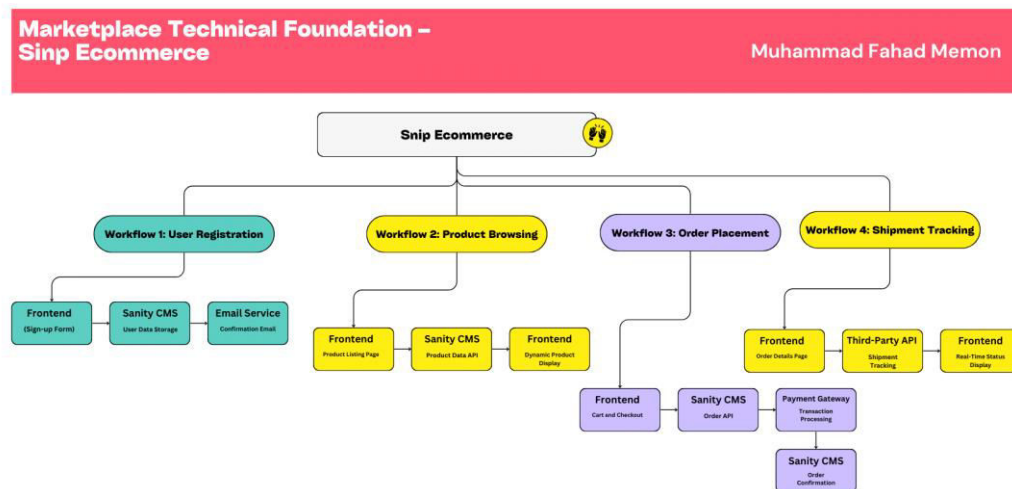Responsive design for mobile and desktop users.

Essential pages: Home, Product Listing, Product Details, Cart, Checkout, and Order Confirmation.

2. Design System Architecture

Create a high-level diagram showing how your system components interact. Use tools

like pen and paper or software like Lucidchart, Figma or Excalidraw. For example, a

more detailed architecture might include workflows such as:

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Components and Roles:

Frontend (Next.js):

1. Displays the user interface for browsing products, managing the cart, and placing orders.
2. Handles user interactions and communicates with backend services via APIs.

Sanity CMS:

1. Acts as the primary backend to manage product data, customer details, and order records.
2. Provides APIs for the frontend to fetch and update data.

Product Data API:

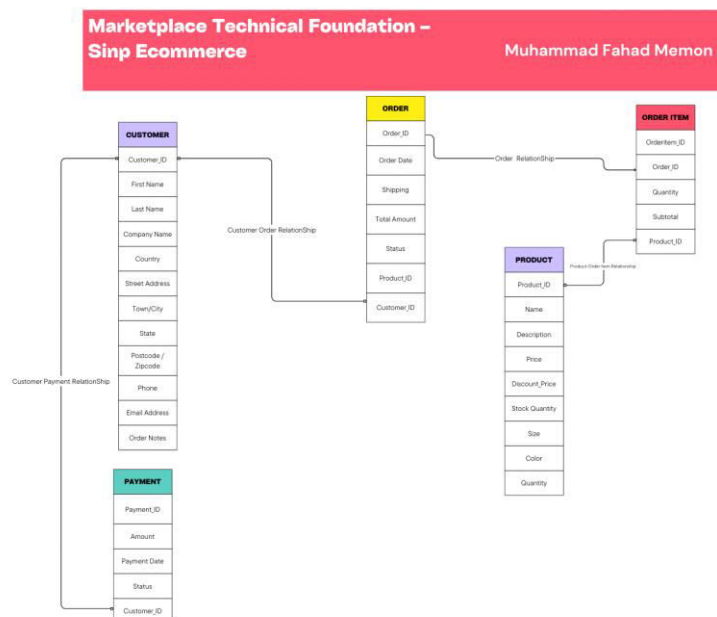Provides endpoints to fetch product listings, details, and inventory status.

Third-Party APIs:

Integrates services like shipment tracking and payment processing.

Payment Gateway:

Processes user payments securely and provides transaction confirmation.

3. Plan API Requirements

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APIEndpoints.xlsx

Endpoint	Method	Descrption	Parameters	Response Example
/api/productList	GET	fetch all product items	None	{ "id": 1, "name": Airpods", "price": 1000 }
/api/productList/:id	GET	fetch a single food item	id (path)	{ "id": 1, "name": Airpods" }
/api/productList	POST	Add a new Product item	name, price, (Body)	{ success: true, id:5 }
/api/productList/:id	PUT	Update a Product item	id (path),name, price, (Body)	{ success: true }

Workflow Diagram