DAY 02 OF HACKATHON

PLANNING THE TECHNICAL FOUNDATION

MARKETPLACE GENERAL E-COMMERCE

INTRODUCTION :

This document outlines the technical foundation and blueprint for the development of a cutting-edge e-Commerce marketplace. The is designed to meet both the business and technical requirements for a seamless, user-friendly, and scalable marketplace. The following sections describe the key technical aspects, system architecture, workflows, API requirements, and data schemas that will drive the functionality of this platform.

1. Business Goals Alignment

The e-Commerce platform is built to serve the following business objectives:

- **User-Centric Shopping Experience**: Provide a smooth and intuitive shopping journey from product discovery to order confirmation.
- **Scalability**: Ensure the platform can scale effectively as the business grows, supporting an increasing number of users and products.
- **Seamless Integration**: Integrate third-party services for payment gateways, shipment tracking, and order management.

The technical design is aligned with these business goals, leveraging Sanity CMS for content management, Next.js for frontend development, and external APIs for order fulfillment and payments and shipping.

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2. Frontend Requirements

- User-Friendly Interface: The website will feature an interactive and dynamic interface that allows users to browse products, add them to the cart, and complete the checkout process.
- Responsive Design: Optimized for both mobile and desktop platforms to ensure accessibility and usability across devices.
- Essential Pages:

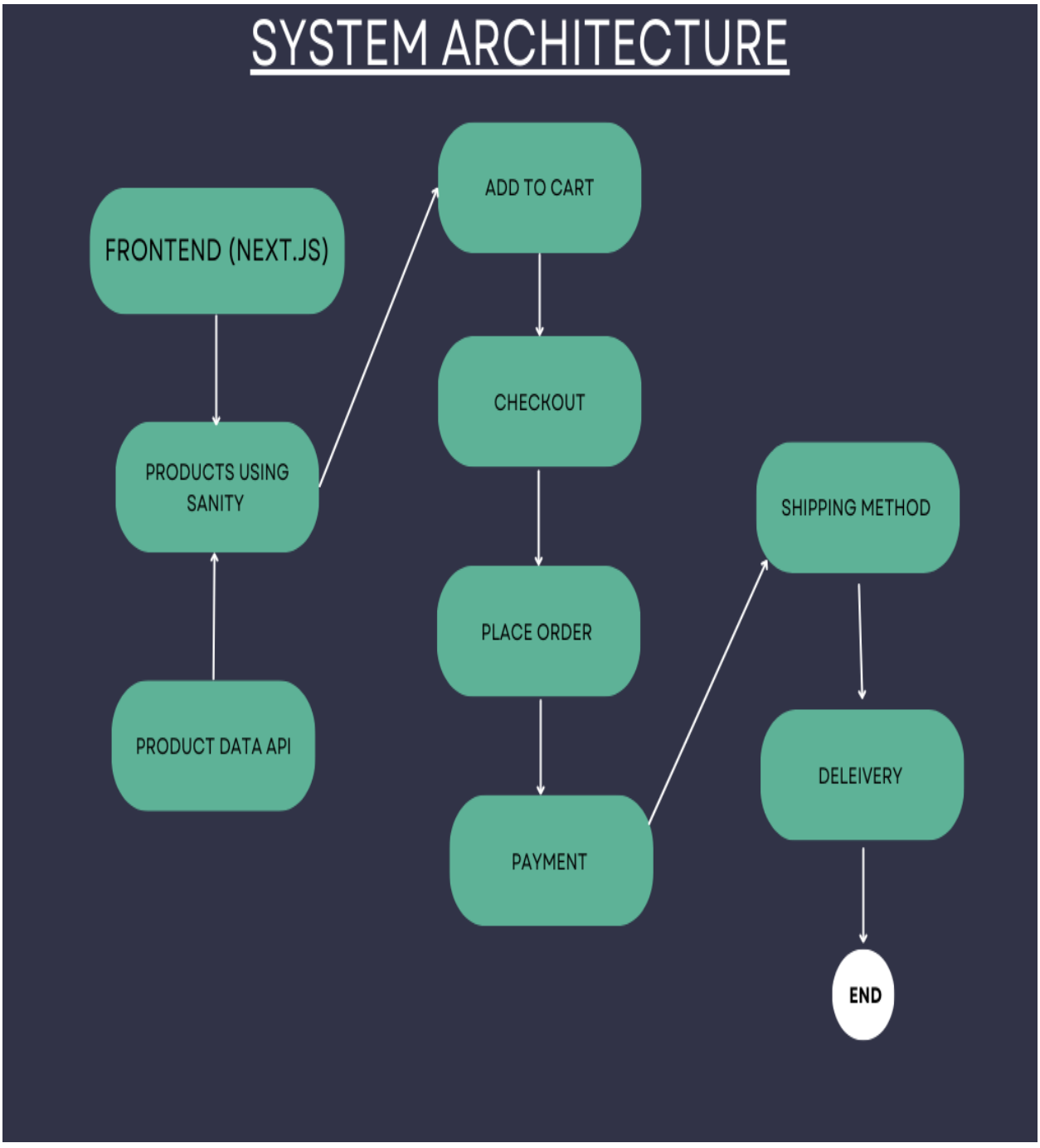
- Home
- Login/Signup
- Product Listing
- Product Details
- Cart
- Checkout
- Order Confirmation

3. Backend Requirements Using Sanity CMS

Sanity CMS will be the backbone of our platform, handling product data, customer information, and order management. The CMS will offer:

- Flexible Content Modeling: Design schemas that meet the specific needs of eCommerce, including product details, customer records, and orders.
- Real-Time Data Access: APIs that fetch product listings, order statuses, and inventory updates in real time.

3. System Architecture



Key Data Flow

- **User Browsing**: The frontend interacts with the Product Data API (via Sanity CMS) to display product listings dynamically.
- **Add To Cart**: Users selects any items and add to their cart .
- **Checkout** : After that they will go to checkout page and place order .
- **Shipment Tracking**: Real-time updates are fetched from the Shipment Tracking API to show users the status of their order.
- **Payment Processing**: Payment details are securely processed through the Payment Gateway API, ensuring transaction security.

5. Key Workflows

Product Browsing:

- User views products by category -> Sanity API fetches and displays the products dynamically.

Order Placement:

- User adds items to cart -> Proceeds to checkout -> Order details saved in Sanity -> User receives order confirmation.

Shipment Tracking:

- Order status updates fetched via Shipment Tracking API -> User can track the delivery status in real time.