Day 2: Planning the Technical Foundation

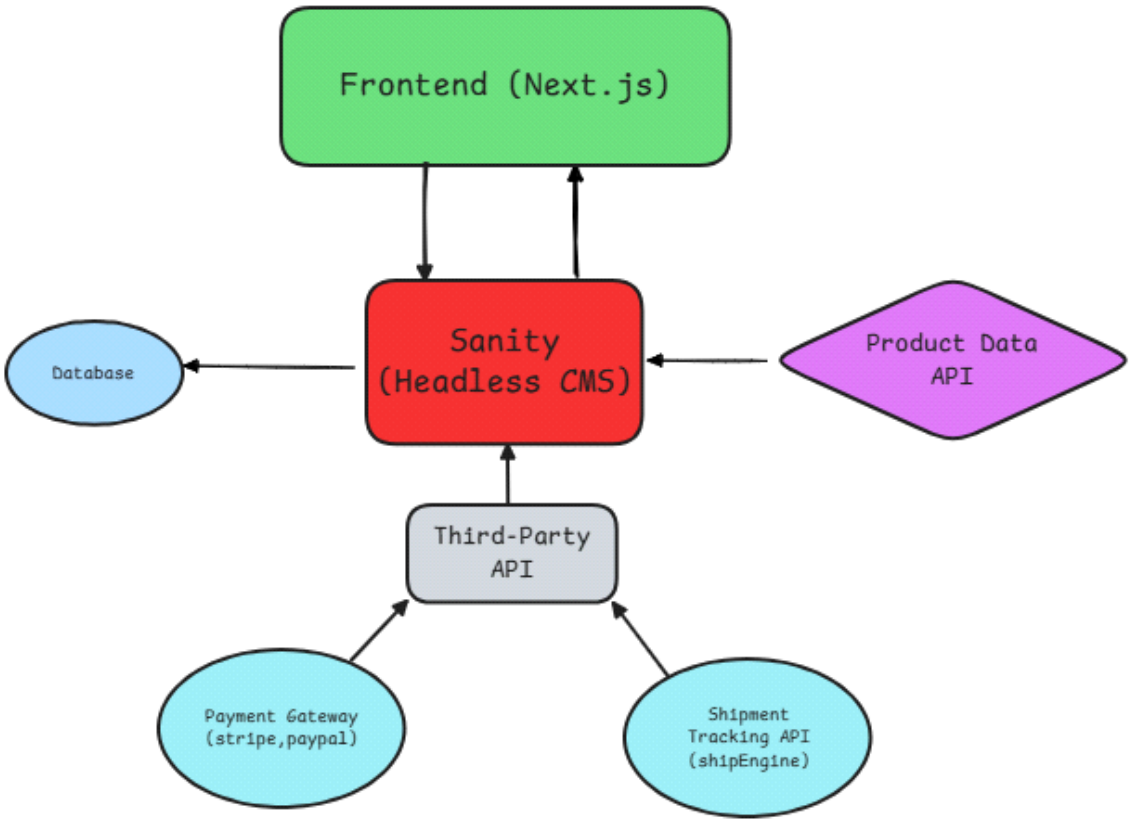
System Architecture Document

Date:16-01-2025

Overview

The system architecture of the furniture e-commerce platform is designed to ensure scalability, reliability, and seamless user experience. The architecture integrates the front-end, back-end, database, and third-party services effectively.

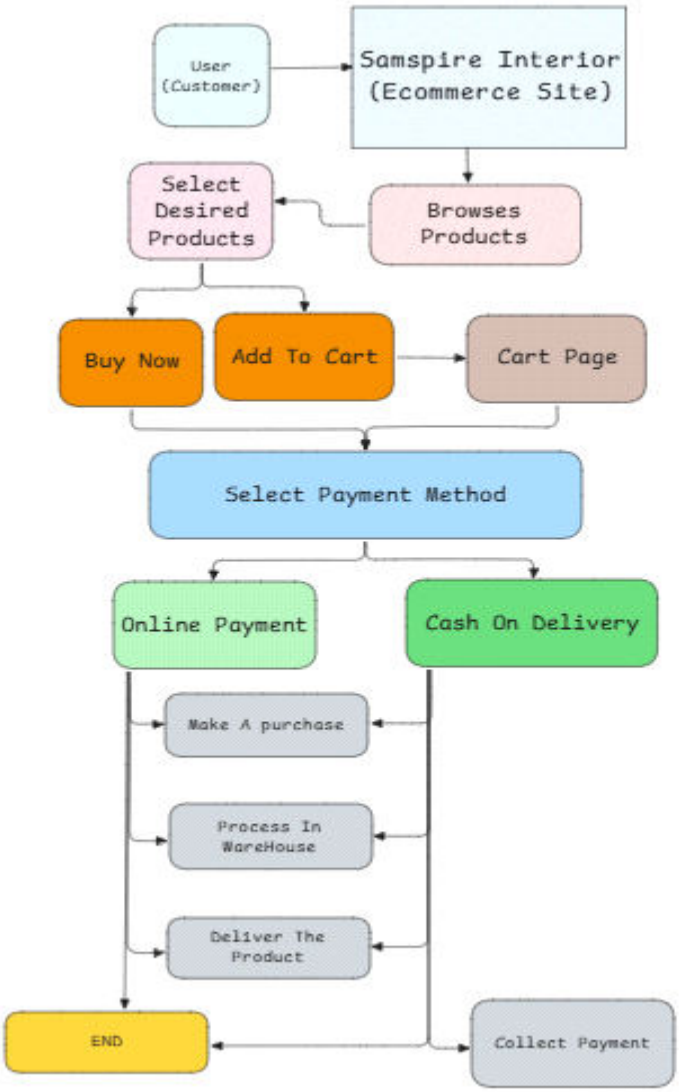
Diagram:



A detailed diagram is presented below, showing how the frontend interacts with Sanity CMS and third-party APIs. It includes components like:

- **Frontend**: User interface built using modern frameworks for seamless interactions.
- **Sanity CMS**: Content management system to handle dynamic product data.
- **Third-party APIs**: Services like payment gateways and shipping providers.

Diagram:



Components

1. **Frontend:**
    - Framework: Next.js
    - Features: Responsive design, user-friendly interface, and dynamic content rendering.
2. **Backend:**
    - Framework: Node.js
    - Features: API management, authentication, and business logic processing.
3. **Sanity CMS:**
    - Purpose: Storing user details, product catalog, orders, inventory, and analytics data.

4. **Third-Party APIs:**

    - Payment Gateway: **Cash on Delivery**
    - Shipping Integration: Ship Engine
    - Notification System: Gmail for email.

5. **Hosting and Deployment:**

    - Cloud Provider: Vercel for deployment.

Interaction Between Components

1. Frontend communicates with the backend via Rest APIs.
2. Backend interacts with the database for CRUD operations.
3. Backend integrates with third-party services for payments, shipping, and notifications.

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