

HACKATHON DAY 2

Technical Documentation for Medical Scrubs and Stethoscopes E-Commerce Website

1. System Architecture Overview

The system architecture consists of the following key components:

1. Frontend (Next.js):

- A responsive and user-friendly interface where healthcare professionals can browse products, customize scrubs, and place orders.
- Technologies: React.js, Tailwind CSS.

2. Backend (Sanity CMS):

- Manages product data, customer details, and order records efficiently.
- Acts as the primary database for storing and retrieving information.

3. Payment Gateway API:

- Securely processes online payments, ensuring seamless transactions.
- Supports multiple payment methods.

4. Shipment Tracking API:

- Provides real-time updates and tracks the delivery status of customer orders.

5. User Interaction:

- Healthcare professionals and students interact with the website to browse products, place orders, and track shipments.
-

2. Key Workflows

1. Product Browsing:

- **Step 1:** User visits the website (Frontend).

- **Step 2:** Frontend fetches product data from Sanity CMS.
 - **Step 3:** User applies filters (size, color, category) to refine search.
 - 2. Add to Cart:**
 - **Step 1:** User selects a product and adds it to the cart.
 - **Step 2:** Frontend updates the cart and calculates the total.
 - 3. Order Placement:**
 - **Step 1:** User proceeds to checkout and enters delivery details.
 - **Step 2:** Frontend sends the order details to Sanity CMS.
 - **Step 3:** Payment is processed via the Payment Gateway API.
 - 4. Shipment Tracking:**
 - **Step 1:** Order is confirmed, and shipment details are sent to the Shipment API.
 - **Step 2:** User tracks their order via a tracking link.
-

3. APIs

1. Product Management API

- **Method:** GET
- **Endpoint:** `/api/products`
- **Description:** Retrieves a list of all available products.

2. Product Details API

- **Method:** GET
- **Endpoint:** `/api/products/{id}`
- **Description:** Retrieves detailed information about a specific product.

3. Order Creation API

- **Method:** POST
- **Endpoint:** `/api/orders`

- **Description:** Creates a new order.

4. Payment Processing API

- **Method:** POST
- **Endpoint:** `/api/payment`
- **Description:** Processes a secure payment transaction.

5. Shipment Tracking API

- **Method:** GET
 - **Endpoint:** `/api/shipments/{id}`
 - **Description:** Tracks the delivery status of an order.
-

4. Data Schema Design

1. Products:

- ProductID (Primary Key)
- Name
- Category
- Price
- Stock
- Customization Options

2. Orders:

- OrderID (Primary Key)
- CustomerID (Foreign Key)
- Total Amount
- Order Status

3. Customers:

- CustomerID (Primary Key)
 - Name
 - Email
 - Address
-

5. Technical Roadmap

1. **Milestone 1:** Finalize System Architecture

- Create diagrams and finalize interaction between components.

2. **Milestone 2:** Develop Frontend

- Implement user interface and connect with Sanity CMS.

3. **Milestone 3:** API Integration

- Integrate Payment Gateway and Shipment Tracking APIs.

4. **Milestone 4:** Testing and Deployment

- Conduct end-to-end testing and deploy the application.
-

6. System Architecture Diagram

Description: This diagram shows how users interact with the frontend, which communicates with the backend (Sanity CMS) and third-party APIs (Payment Gateway, Shipment Tracking) to complete workflows.

System Architecture

