## **Hackathon Day 2: Technical Foundation**

## **Introduction**

Bandage is a modern, user-friendly health and wellness e-commerce platform designed to make healthcare products and services more accessible. Developed during Hackathon 3, Bandage transforms intuitive UI/UX concepts into a dynamic and fully functional website, delivering a seamless and secure shopping experience.

## **Project Overview**

Bandage focuses on building a scalable infrastructure tailored for healthcare retail. The platform efficiently manages product catalogs, user profiles, orders, payments, and shipping updates. Powered by Contentful CMS for intuitive content handling and React.js for a responsive frontend, Bandage ensures fast performance and smooth user interactions.

## **Our Vision**

Bandage aims to create a reliable and efficient health marketplace. Our key objectives include:

* **Instant Notifications:** Real-time updates on order status, payments, and deliveries to keep users informed.
* **Smooth Navigation:** An intuitive design that simplifies browsing and purchasing healthcare products.
* **Seamless Integration:** Harmonious interaction between frontend and backend systems for enhanced efficiency.
* **Optimized Performance:** Leveraging React.js for fast rendering and improved user engagement.

## **1. System Design Flowchart**

[Customer]

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[Website (React.js)] -----> [Contentful CMS (Product Data)]

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[APIs (Node.js)] [Payment Processor (Transactions)]

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[Shipment Tracker (API)]

## **2. System Architecture Explained**

* **Website (React.js):** The interactive platform where users shop for healthcare products.
* **Contentful CMS:** Manages product listings, user data, and orders.
* **APIs (Node.js):** Facilitate data transfer for payments and shipping.
* **Payment Processor:** Secures and processes online payments.
* **Shipment Tracker:** Provides real-time order delivery updates.

## **3. Workflow Breakdown**

**a. User Sign-Up:**

[Customer] → [Registration Form] → [Data Saved in Contentful CMS] → [Confirmation Email Sent]

**b. Product Browsing:**

[Customer] → [Product Catalog] → [Contentful CMS] → [Product Display]

**c. Placing an Order:**

[Customer] → [Add to Cart] → [Checkout] → [Order Logged in CMS] → [Payment Verified]

**d. Tracking Orders:**

[Customer] → [Order Tracking Page] → [Shipment API] → [Live Status Displayed]

## **4. Key Features**

* **User Registration/Login:** Secure account creation and access.
* **Product Discovery:** Browse and explore healthcare product pages.
* **Order Management:** Simple cart, checkout, and order placement.
* **Delivery Updates:** Real-time tracking of orders.
* **Admin Dashboard:** Tools to manage inventory and handle user inquiries.

## **5. Data Handling & API Requests**

* **Fetch Products:** GET /api/products – Retrieve product listings.
* **Submit Orders:** POST /api/orders – Save new order details.
* **Track Shipments:** GET /api/shipment – Get delivery updates.
* **User Registration:** POST /api/auth/register – Create new accounts.
* **User Login:** POST /api/auth/login – Authenticate users.

## **6. CMS Product Schema Example**

export const productSchema = {

name: 'product',

type: 'document',

fields: [

{ name: 'title', type: 'string', title: 'Product Title' },

{ name: 'price', type: 'number', title: 'Price' },

{ name: 'inventory', type: 'number', title: 'Stock Quantity' },

{ name: 'description', type: 'text', title: 'Product Description' },

{ name: 'category', type: 'string', title: 'Category' },

{ name: 'image', type: 'image', title: 'Product Image' }

]

};

## **Conclusion**

Bandage delivers a modern, scalable e-commerce solution for healthcare products that prioritizes user experience and performance. By integrating React.js, Contentful CMS, and secure APIs, Bandage ensures a seamless, secure, and efficient shopping experience for customers and administrators alike.