

Marketplace Hackathon Technical Framework

1. Website Layout and Sections

The platform consists of the following main sections:

a. Homepage

- Serves as the introductory page, showcasing the platform's goal and highlighting key features and offerings.
- Content dynamically retrieved and managed through Sanity CMS.

b. About Us

- A section dedicated to describing the purpose, values, and background of BANDAGE.
- Fully customizable via Sanity CMS for easy updates.

c. Contact Us

- Includes a form enabling visitors to communicate directly with the team.
- Submitted forms can connect to backend systems for processing.

d. Product Listings

- Displays a catalog of available items with pricing and short descriptions.
- Data is fetched dynamically using the Sanity CMS.

e. Product Details

- Provides comprehensive information for each item, including specifications, images, reviews, and pricing.
- Data dynamically sourced from Sanity based on the selected product.

f. Shopping Cart

- Displays the user's selected products for purchase.
- Enables real-time management, such as adding, removing, or updating product quantities.

g. User Authentication

- Managed via Clerk, offering secure login and signup features.
- Options include social logins and email/password authentication.

h. Payment and Checkout

- Integrated with Stripe for smooth and secure payment processes.
- Supports multiple payment options.

i. Order Shipping and Tracking

- Enables users to track deliveries and view shipping details.
- APIs like Shippo and EasyPost offer real-time tracking and updates.

j. Utility Pages

- Additional pages include error handling (e.g., 404 pages) and loading screens to enhance the user experience.
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2. Backend Powered by Sanity CMS

- Sanity serves as the core content management system to control dynamic elements across the site.
- Products, product information, banners, and homepage content can be updated without requiring code modifications.

3. Clerk for User Authentication

- Clerk manages secure user login and registration.
- Key features include:
 - Safe handling of user credentials.
 - Support for password recovery, two-factor authentication, and social logins.
- Easily integrates with Next.js for real-time user session management.

4. Stripe for Payments

- Stripe API powers secure and seamless payment functionality.
- Highlights:
 - Supports multiple payment methods (e.g., credit cards, digital wallets).
 - Manages successful and failed transactions for a smooth checkout process.

5. Shipping Management with APIs

- **Shippo** and **EasyPost** handle shipment operations and tracking.
 - Shippo: Manages shipping labels and carrier accounts.
 - EasyPost: Provides live tracking updates and delivery status.
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6. Technology Stack

a. Next.js

Designed to create a scalable, SEO-optimized, and high-performance website.

- **Offers server-side rendering (SSR) and static site generation (SSG) to enhance speed and efficiency.**

- Enables building a fast, SEO-optimized website.
- Offers server-side rendering (SSR) and static site generation (SSG).

b. Sanity CMS

- Acts as the headless CMS for managing content like products and banners.

c. Clerk

- Handles authentication and user management for secure and modern login experiences.

d. Stripe

- Manages payment transactions during checkout.

e. Shippo and EasyPost

- Simplify shipment processes and provide real-time order tracking.

7. Enhanced User Experience

- **Dynamic Product Content:** Information such as product specs and prices is fetched and displayed dynamically from Sanity CMS.
- **Seamless Authentication:** Clerk provides a user-friendly login/signup experience.
- **Efficient Checkout:** Stripe integration ensures secure payment processes.
- **Real-Time Tracking:** Shipping APIs enable detailed tracking information post-purchase.

8. Scalability and Maintenance

- Designed to scale alongside business growth with tools like Sanity, Clerk, Stripe, Shippo, and EasyPost.
- Admins can update the website's content easily without altering code.
- API integrations minimize ongoing maintenance for core functionalities.

9. User Journey on the Website

Step 1: Visiting the Platform

- **Frontend (Next.js):**
 - Users land on the homepage.
 - Featured products and banners are dynamically displayed using Sanity CMS.

- If logged in, users are greeted with personalized information managed by Clerk.

Step 2: User Authentication

- **Login/Signup via Clerk:**
 - Supports email/password and social logins (e.g., Google, GitHub).
 - Securely manages user sessions and authentication data.
 - Logged-in users gain access to:
 - Profile management.
 - Viewing previous orders.
 - Updating account settings.

Step 3: Browsing Products

- **Products Page:**
 - Users view a list of products fetched dynamically from Sanity CMS.
 - Future upgrades could include a wishlist feature for logged-in users.

Step 4: Viewing Product Details

- **Product Details Page:**
 - Displays detailed information for a selected product, including stock availability and reviews.
 - Data is fetched dynamically via API calls to Sanity CMS.

Step 5: Adding to Cart

- **Shopping Cart:**
 - Clicking "Add to Cart" temporarily saves the item in the user's session or app state.
 - Unauthenticated users are prompted to log in before proceeding.
 - Once logged in, the cart syncs with the user's profile.

Step 6: Checkout

- **Payment Processing:**
 - Stripe calculates the cart's total value.
 - Redirects users to a secure payment page for checkout.

Step 7: Payment Confirmation

- **Stripe API:**

- Processes payment and sends confirmation to the platform.
- Order details are saved in the Sanity database for record-keeping.

Step 8: Shipment Tracking

- **Shipping APIs:**
 - Generates tracking numbers and provides real-time updates for deliveries.
 - Users can view order and shipping status on their profile page.

Step 9: Profile and Order History

- **Profile Page:**
 - Logged-in users can view past orders, update personal details, and track active shipments.
 - Order data is dynamically displayed from Sanity CMS.

10. Key API Endpoints

Endpoint	Method	Purpose	Response Example
/products	GET	Retrieves all available products	{ "id": 1, "name": "Product X", "price": 150 }
/orders	POST	Creates a new order	{ "orderId": 987, "status": "Order Placed" }
/order-status	GET	Fetches order status	{ "orderId": 112, "status": "Processing" }
/shipment-status	GET	Tracks shipment status via shipping APIs	{ "shipmentId": 444, "status": "Dispatched" }
/user/cart	GET	Retrieves current cart items	{ "cartItems": [{ "id": 1, "quantity": 2 }] }
/user/cart/add	POST	Adds a product to the cart	{ "message": "Product added successfully" }
/user/cart/remove	DELETE	Removes a product from the cart	{ "message": "Product removed successfully" }

Summary

🔑 Key Pages:

- **Home** : Highlights features and products, with dynamic content powered by Sanity CMS.
- **About** : Shares BANDAGE's mission, vision, and background information.
- **Contact** : Features a form for user queries and feedback.
- **Products** : Displays a catalog of items with prices and brief descriptions.
- **Product Details** : Includes detailed specifications, images, reviews, and pricing.
- **Cart** : Allows users to manage selected items for checkout.
- **Login/Signup** : Offers secure authentication with Clerk, including social login options.
- **Checkout & Payment** : Provides a safe payment process through Stripe integration.
- **Shipping & Tracking** : Enables live order tracking via Shippo and EasyPost.

🔧 Backend Integrations:

- **Sanity CMS** : Powers dynamic content updates for pages and products.
- **Clerk Authentication** : Manages secure user logins and account settings.
- **Stripe Payment** : Supports multiple payment options for a seamless checkout experience.
- **Shippo & EasyPost** : Facilitates shipping label creation and live tracking updates.

Technology Stack:

- **Next.js** : A high-performance, SEO-optimized frontend framework.
- **Sanity** : A headless CMS for managing content effortlessly.
- **Clerk** : Handles user authentication securely.
- **Stripe** : Simplifies payment processing.
- **Shippo/EasyPost** : Manages shipping and tracking orders.

User-Friendly Features:

- **Dynamic Content** : Product data and details fetched seamlessly from Sanity CMS.
- **Smooth Authentication** : Effortless login and registration with Clerk.
- **Secure Payments** : Safe and reliable checkout powered by Stripe.
- **Live Tracking** : Real-time order updates with Shippo and EasyPost.

Scalability and Maintenance:

- Designed to grow as the business expands.
- Easy content updates through Sanity CMS and minimal upkeep with integrated APIs.



