
MARKETPLACE TECHNICAL FOUNDATION – COMFORTY

1. Technical Requirements:

- **Frontend Requirements**

- **User-Friendly:** Easy navigation and intuitive product browsing.
- **Responsive Design:** Mobile, tablet, and desktop support.
- **Essential Pages:** Home, Product Listing, Product Details, Cart, Contact, About, FAQs, Checkout, Order Confirmation.

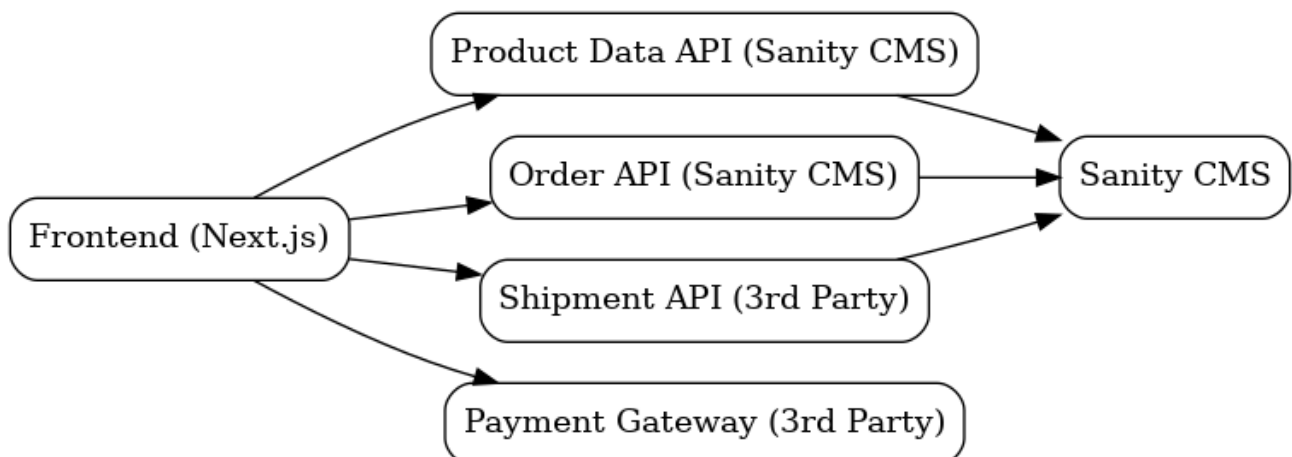
- **Sanity CMS as Backend**

- **Data Management:** Manage products, customers, and orders.
- **Schema Design:** Create schemas for Products, Orders, and Customers.
- **API Integration:** Use Sanity APIs for frontend data fetching.

- **Third-Party APIs**

- **Shipment Tracking:** Fetch delivery updates (e.g. ShipEngine, More).
 - **Payment Gateway:** Secure payments (e.g., Snipcart, more).
 - **Notifications:** Send order confirmations via email or SMS.
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2. Design System Architecture:



3. Plan API Requirements:

Product

- **Endpoint Name:** /products
 - **Method:** GET
 - **Description:** Fetch all available products from Sanity.
 - **Response:** Product details (ID, name, price, description, stock, image).

Order

- **Endpoint Name:** /orders
 - **Method:** POST
 - **Description:** Create a new order in Sanity.
 - **Payload:** Customer info, product details, payment status.

Customer

- **Endpoint Name:** /customers
 - **Method:** POST
 - **Description:** Register a new customer in the system.
 - **Payload:** Customer info (name, email, address).

Delivery Zone

- **Endpoint Name:** /delivery-zones
 - **Method:** GET (Third Party. e.g. ShipEngine, etc.)
 - **Description:** Fetch available delivery zones.
 - **Response:** Delivery zone details (ID, name, delivery cost).

Payment

- **Endpoint Name:** /payment
 - **Method:** POST (Third Party. e.g. Snipcart, etc.)
 - **Description:** Process a payment for an order.
 - **Payload:** Payment info (order ID, amount, payment method).
 - **Response:** Payment status (successful or failed).
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4. Technical Documentation:

1. System Architecture Overview:

❖ Frontend (Next.js)

- **Role:** Displays the user interface, handles interactions, and provides server-side rendering for fast load times and SEO.

❖ Backend (Sanity CMS)

- **Role:** Manages and stores dynamic content (products, orders, customer, delivery zone, payment) and provides APIs for the frontend to fetch data.

❖ Third-Party APIs

- **Role:** Integrates external services for payment processing (Snipcart, more), shipping (shipengine, etc.), and other functionalities.

❖ Database (Managed by Sanity)

- **Role:** Stores structured data (products, users, orders) for easy access and management through Sanity's APIs.
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2. Key Workflows:

❖ **Add to Cart**

- User adds products to cart (frontend updates state).

❖ **Checkout**

- User enters shipping info, and shipping rates are fetched via ShipEngine.

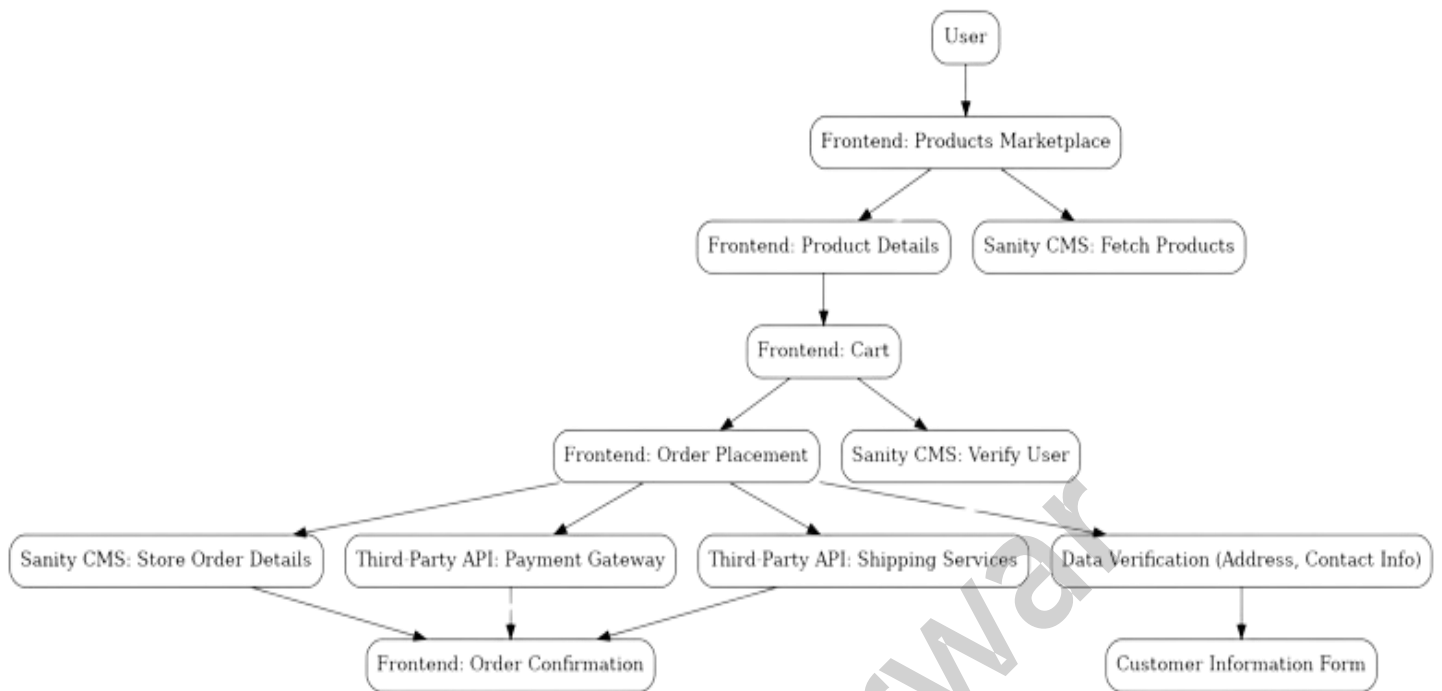
❖ **Payment**

- User makes payment via Snipcart API.

❖ **Order Confirmation & Delivery**

- Order is confirmed, and shipping label is created via ShipEngine; user gets tracking details.
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3. Workflow Diagram:



4. Data Schema Design:

Entities and Relationships

📦 Product

- **Fields:**
 - ID (number)
 - Name (string)
 - Price (number)
 - Description (text)
 - Image (image)
 - Stock (number)

📦 Order

- **Fields:**
 - ID
 - Customer ID
 - Quantity
 - Total
 - Order Status

Customer

- **Fields:**

- Customer ID
- Name
- Email
- Phone
- Shipping Address

Delivery Zone

- **Fields:**

- Zone ID
- Region
- Delivery Time, Charges
- Available Options

Payment

- **Fields:**

- Payment ID
 - Order ID
 - Amount
 - Payment Method
 - Status
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5. Technical Roadmap:

Phase 1: Planning

- Define scope, features, wireframes.
- Deliverables: Scope, UI mockups.

Phase 2: Frontend

- Set up Next.js, cart, CMS integration.
- Deliverables: Product catalog, cart.

Phase 3: Backend

- Set up Sanity CMS, API routes, third-party integrations.
- Deliverables: Backend, payment tracking.

🚦 Phase 4: Payment & Shipping

- Integrate Snipcart, ShipEngine.
- Deliverables: Payment, shipping setup.

🚦 Phase 5: Testing

- Test and optimize.
- Deliverables: Bug-free platform.

🚦 Phase 6: Deployment

- Deploy site, set up monitoring.
- Deliverables: Live site.

🚦 Phase 7: Post-Launch

- Monitor and update.
 - Deliverables: Regular updates.
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