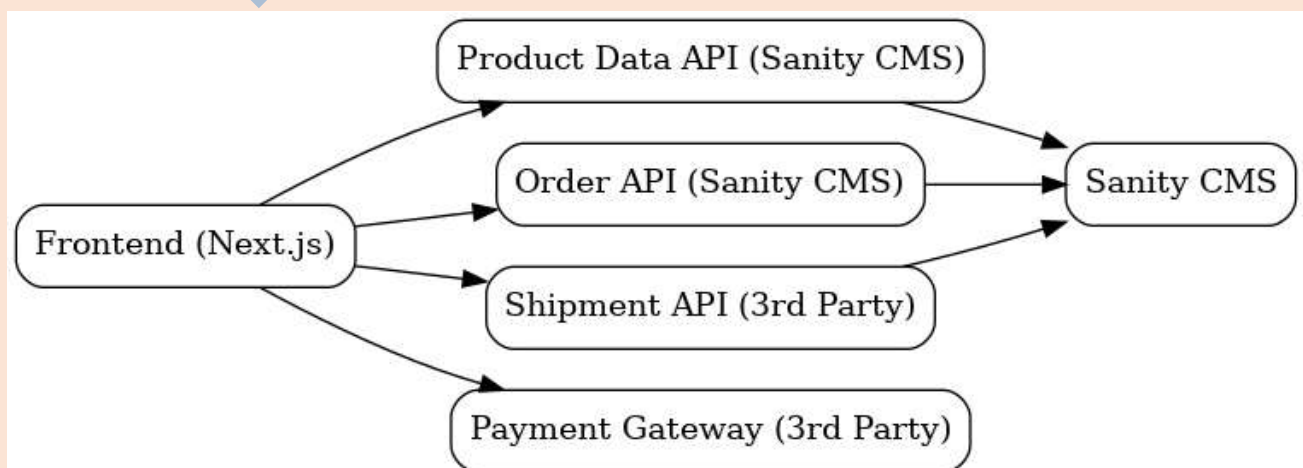# MY WORK FOR DAY:02

# MARKETPLACE TECHNICAL FOUNDATION – COMFORTY

## 1. Technical Work:

- *Frontend Requirements*

  o *User-Friendly*: Easy navigation and intuitive product browsing.

  o *Responsive Design*: Mobile, tablet, and desktop support.

  o *Essential Pages*: Home, Product Listing, Product Details, Cart, Contact, About, FAQS, Checkout, Order Confirmation.

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- *Sanity CMS as Backend*

  o *Data Management:* Manage products, customers, and orders.

  o *Schema Design:* Create schemas for Products, Orders, and Customers.

  o *API Integration:* Use Sanity APIs for frontend data fetching.

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- *Third-Party APIs*

  o *Shipment Tracking*: Fetch delivery updates (e.g. ShipEngine, More).

  o *Payment Gateway:* Secure payments (e.g., Snipcart, more).

  o *Notifications:* Send order confirmations via email or SMS.

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system arch:

## 3. 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).

# 4. 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**

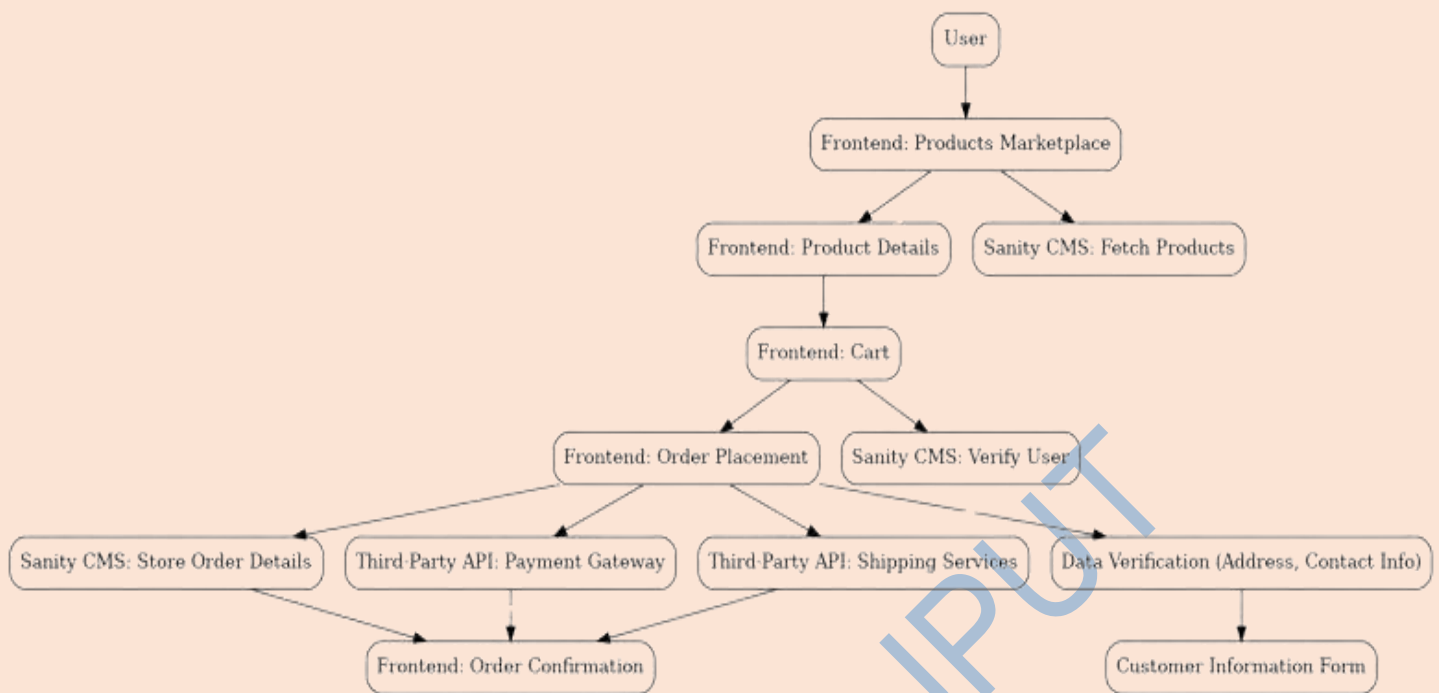- User enters shipping info, and shipping rates are fetched via ShipEngine.

❖ **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:



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### 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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**Name**            :    **BEENISH RAJPUT**

**Roll Number**     :    **00490738**

**Shift**           :    **Sunday 9 to 12 pm**