Define Technical Requirements

- **Frontend Requirements:**

  - **User-friendly interface for browsing products:**

    - Implement intuitive navigation and filtering options (e.g., by category, ` hiprice range, seller, style).

    - High-quality product images and detailed descriptions.

    - Clear calls to action (e.g., "Add to Cart," "View Details").

  - **Responsive design for mobile and desktop users:**

    - Ensure the website adapts seamlessly to different screen sizes and resolutions.

    - Optimize for mobile devices to enhance user experience on smartphones and tablets.

  - **Essential pages:**

    - **Home Page:**

      - Showcase featured products, promotions, and user testimonials.

      - Provide easy access to key categories and search functionality.

    - **Product Listing Page:**

      - Display products in a visually appealing and organized manner.

      - Allow users to filter and sort products based on various criteria.

    - **Product Detail Page:**

      - Display high-resolution images, detailed descriptions, customer reviews, and seller information.

      - Include options for selecting variations (e.g., color, size).

    - **Cart Page:**

      - Allow users to review their selected items, modify quantities, and apply discounts.

    - **Checkout Page:**

      - Securely collect customer information (shipping address, billing address, payment details).

- Offer various payment options (e.g., credit card, debit card, online wallets).

- Display shipping costs and estimated delivery times.

- **Order Confirmation Page:**

  - Display order summary, order number, and tracking information.

  - Provide options for order history and tracking.

- **Sanity CMS as Backend:**

  o **Manage product data, customer details, and order records:**

    - Create Sanity schemas to structure and store all relevant data within the CMS.

  o **Focus on designing schemas in Sanity to align with the business goals from Day 1:**

    - **Products:**

      - Product ID, Name, Description, Price, Images, Dimensions, Material, Color, Seller ID, Category ID, Stock Availability, Reviews.

    - **Customers:**

      - Customer ID, Name, Email Address, Phone Number, Shipping Address, Billing Address, Order History.

    - **Orders:**

      - Order ID, Customer ID, Product IDs, Order Date, Order Status, Shipping Address, Billing Address, Payment Details, Tracking Information.

    - **Categories:**

      - Category ID, Name, Description.

    - **Sellers:**

      - Seller ID, Company Name, Contact Information, Store Information.

  o **Utilize Sanity's features:**

    - Leverage Sanity's content editing interface for easy content management.

    - Utilize Sanity's GraphQL API to fetch data for the frontend.

- **Third-Party APIs:**

- o **Integrate APIs for shipment tracking:**

    - ▪ Integrate with shipping providers (e.g., FedEx, UPS, DHL) to provide real-time tracking information to customers.

- o **Integrate APIs for payment gateways:**

    - ▪ Integrate with payment gateways (e.g., Stripe, PayPal, Razorpay) to facilitate secure online transactions.

- o **Other required backend services:**

    - ▪ Consider APIs for:

        - ▪ **Email notifications:** Send order confirmations, shipping updates, and promotional emails.

        - ▪ **SMS notifications:** Send order updates and reminders.

        - ▪ **Image and video hosting:** Store and deliver high-quality product images and videos.

        - ▪ **Search and recommendation engines:** Enhance product discovery and improve user experience.

System Architecture:
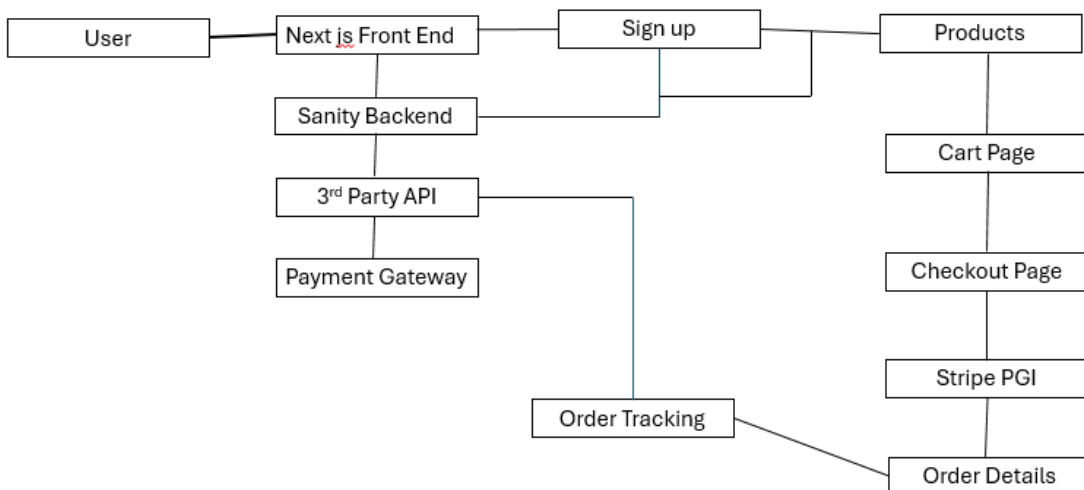
- **Diagram:**
  - [Include a simple diagram here. Example using a tool like Lucidchart or draw.io:
    - **Frontend (Next.js)**
      - Connects to:
        - **Sanity CMS** (for product data, customer data, order data)
        - **Third-Party APIs:**
          - **Shipment Tracking API (e.g., Shippo)**
          - **Payment Gateway API (e.g., Stripe)**
          - **Email/SMS API**
- **Component Roles:**
  - **Frontend:** User interface for interaction.
  - **Sanity CMS:** Content management system for data storage and retrieval.
  - **Shipment Tracking API:** Handles shipping logistics and provides tracking updates.
  - **Payment Gateway API:** Processes online payments securely.
  - **Email/SMS API:** Facilitates communication with users (order confirmations, notifications).

2. Key Workflows

- **User Registration:**
  - User enters details on the frontend.
  - Frontend sends data to Sanity CMS.
  - Sanity CMS creates a new customer record.
  - Welcome email sent to user via Email/SMS API.
- **Product Browsing:**
  - User navigates through product categories on the frontend.
  - Frontend requests product data from Sanity CMS.
  - Sanity CMS provides product information.
  - Frontend displays products to the user.
- **Order Placement:**

- o User selects products, adds them to the cart.

- o Frontend sends order details (products, customer, shipping, payment) to Sanity CMS.

- o Sanity CMS creates an order record.

- o Order confirmation is sent to the user via Email/SMS API.

- **Order Fulfillment:**

  - o Order information (shipping address) is sent from Sanity CMS to the Shipment Tracking API.

  - o Shipment API generates a shipping label and tracking number.

  - o Tracking number is updated in the order record within Sanity CMS.

- **Shipment Tracking:**

  - o Frontend requests tracking information for an order from Sanity CMS.

  - o Frontend sends the tracking number to the Shipment Tracking API.

  - o Shipment API provides real-time tracking updates.

  - o Frontend displays tracking updates to the user.

3. Category-Specific Instructions

- **General eCommerce:**

  - o **Workflows:** Product browsing, cart management, order placement (as described above).

  - o **API Endpoint:**

    - **/products** (GET): Fetch all product details (ID, name, price, image, description, etc.)