

Hackathon Task 2

PLANNING THE TECHNICAL FOUNDATION

Define Technical Requirements:

1. Frontend Requirements for User Interface:

Here's the list of technical requirements for the user interface of your q-commerce website:

1. Homepage:

- A clear and engaging hero section displaying promotions.
- Featured categories or popular products.
- A dedicated section for special offers or discounts.

2. Navigation Bar:

- Easy navigation for users to browse products and categories.
- Search bar with auto-suggestions and product filters.

3. Product Listing Pages:

- High-quality product images.
- Product filters (e.g., price, brand, ratings).
- Sorting options (e.g., low to high price or new arrivals).

4. Product Details Page:

- Detailed product information, such as descriptions, price, and availability.
- A product review and rating system for users.

- “Add to Cart” and “Wishlist” buttons.

5. Cart Page:

- A list of all selected items for purchase.
- Detailed invoice or total cost, including discounts.
- Action buttons like “Proceed to Checkout” and “Continue Adding Products.”

6. Checkout Page:

- A section for shipping addresses and billing details.
- Payment methods such as credit card, debit card, or online wallets.
- Order summary and confirmation button.

7. User Profile and Order History:

- A user account dashboard with profile settings.
- Order details and tracking information page.

8. Responsive Design:

- A user interface optimized for all devices, such as mobile, tablet, and desktop.

9. Extras:

- A night mode or theme switcher.
- Social media integration and sharing options.

2. Sanity CMS as Backend

1. Product Management:

- Create, edit, and delete products with detailed fields like title, description, price, SKU, stock, and images.
- Manage product variants (size, color, etc.).
- Add tags and categories for easy filtering and searching.

2. Order Management:

- Store and manage order details, including order status (processing, shipped, delivered, etc.).
- View order summaries and detailed invoices.
- Update payment status and manage customer details related to orders. Add tags and categories

3. Inventory Management:

- Track product stock levels dynamically.
- Send alerts for low-stock items.
- Update inventory manually or automate restocking with integrations.

4. Promotions and Offers:

- Add promotional banners or time-limited discounts directly from the backend.
- Manage coupon codes and validate conditions like minimum order value or expiration date.

5. Content Management:

- Update homepage content, such as featured categories and banners.

- Manage blog posts and customer guides for engagement.
- Edit static pages like FAQs, About Us, and Privacy Policies.

6. User Profiles and Roles:

- Store user profiles securely with order history and wishlist data.
- Assign different roles (admin, editor, viewer) for managing backend access.

7. Localization Support:

- Add multi-language content for products, blogs, and other UI text.
- Manage localized descriptions and tags.

8. Analytics Dashboard:

- Display reports on product performance, customer behavior, and sales trends.
- Export or share reports as needed.

3. Third-Party APIs

1. Payment Gateways:

- Integrate APIs like Stripe, PayPal, or Razorpay for secure and seamless payments.
- Handle payment confirmation, refunds, and transaction history.

2. Shipping and Logistics:

- Use APIs like Shippo, DHL, or FedEx for shipment tracking and delivery status.

- Calculate shipping costs based on location, weight, and size.
- Automate label generation for shipping.

3. Email and SMS Notifications:

- Integrate services like Twilio or SendGrid for order confirmation and updates.
- Notify users about discounts, new products, or abandoned carts.

4. Analytics and Insights:

- Use Google Analytics API to track customer behavior and web traffic.
- Retrieve product performance data and visitor demographics.

5. Search and Recommendations:

- Integrate APIs like Algolia or Elasticsearch for advanced product search.
- Use recommendation APIs to display related or trending products.

6. Customer Support:

- Implement chat APIs like Intercom or Zendesk for real-time support.
- Provide FAQ bot integration for instant solutions.

7. Social Media Integration:

- Allow sharing via APIs like Facebook, Instagram, and Twitter.
- Track engagement with integrated analytics.

8. Address Validation:

- Use APIs like Google Maps or PostGrid for validating customer shipping addresses.

9. Tax Calculation:

- Automate tax calculation using APIs like Avalara based on user location and order value.

Q-Commere Website Architecture Diagram

