

Marketplace Technical Foundation - [Laiba Marketplace]

Feature: User-Friendly Interface for Browsing Products

Technical Requirements:

Product Catalog: Display products in an easily navigable grid/list format with essential product details such as name, price, image, and rating.

Search and Filter: Implement a robust search engine with filters for categories, price range, and product attributes (e.g., size, color).

Product Sorting: Allow users to sort products by price, popularity, newest arrivals, and rating.

Product Page: A detailed page for each product that includes multiple images, full product description, specifications, and customer reviews.

Pagination/Infinite Scroll: Use either pagination or infinite scrolling for the product listing to ensure smooth browsing

Feature: Responsive Design for Mobile and Desktop Users

Technical Requirements:

Mobile-First Design: Start with mobile-first design principles to ensure a fast, clean, and responsive interface on mobile devices.

Fluid Grid Layout: Use a flexible grid layout that adapts to various screen sizes (from small mobile screens to larger desktop monitors).

Media Queries: Implement CSS media queries to adjust font sizes, button sizes, and layout to ensure legibility and ease of use on different devices.

Touch Optimized UI: Ensure that interactive elements like buttons and product cards are touch-friendly and easy to use on mobile devices.

Shopping Cart:

Show a summary of selected items, quantities, and total price.

Allow customers to update quantities or remove items

Secure Checkout Flow:

Collect necessary customer information such as shipping address, payment details, and contact information.

Integrate with secure payment gateways (e.g., Stripe, PayPal) for payment processing.

Enable promo codes and discounts during checkout.

Include a review order screen before final purchase to ensure accuracy.

Guest Checkout: Allow users to complete a purchase without creating an account, but offer account creation post-purchase for future convenience.

Order Confirmation: Provide an order confirmation page with order details (e.g., items, shipping details, estimated delivery time) and email notifications to users

Technical Requirements:

Sanity CMS Integration:

Use Sanity CMS to manage and update product catalogs, including product names, descriptions, images, prices, stock quantities, and variants (e.g., color, size).

Create product schemas with flexible fields to capture necessary data, and ensure easy editing of product information by admins.

Design workflows to allow easy content updates without disrupting the live site.

Feature: Order Management System

Technical Requirements:

Order Schema: Use Sanity CMS to track and manage customer orders, including order IDs, products purchased, payment status, and shipping details.

Admin Interface: Develop an easy-to-use admin dashboard for tracking and managing orders, customer data, and inventory updates.

Order History: Customers should have access to their order history through their account profile

Technical Requirements:

Third-Party API Integration: Integrate with third-party shipment tracking APIs (e.g., UPS, FedEx, DHL) to fetch real-time shipment updates.

Order Tracking UI: Allow customers to track their orders from the order confirmation page, or through a dedicated "Track My Order" page.

Automatic Updates: Display shipment status (e.g., in transit, delivered) and provide estimated delivery dates based on tracking data.

Technical Requirements:

Payment API Integration: Integrate with trusted payment gateways like Stripe, PayPal, or similar.

PCI-DSS Compliance: Ensure all payment transactions are PCI-compliant to guarantee the security of user payment information.

Payment Confirmation: Display a confirmation page once the payment is

successfully processed and send an email with order and payment details.

Error Handling: Provide clear error messages for payment failures (e.g., insufficient funds, payment gateway issues).

Technical Requirements:

Cloud-Based Hosting: Deploy the platform on scalable cloud infrastructure (e.g., AWS, Google Cloud) to handle varying levels of traffic.

Caching and CDN: Implement caching mechanisms (e.g., Redis) and Content Delivery Networks (CDNs) to ensure fast page load times and minimize server load.

Database Design: Optimize the Sanity CMS schema for scalability, ensuring it can handle increasing amounts of product data, customer orders, and traffic as the business grows

Technical Requirements:

User Tracking and Analytics: Integrate with tools like Google Analytics or custom tracking solutions to monitor user behavior (e.g., product views, cart abandonment, purchase flow).

Sales Reports: Provide admins with tools to generate reports on sales, customer behavior, and other key performance metrics.

A/B Testing: Implement A/B testing for different features (e.g., homepage design, product promotions) to optimize conversion rates.

Technical Requirements:

SSL/TLS Encryption: Ensure all data transferred between users and the platform is encrypted using HTTPS.

User Authentication: Implement secure login mechanisms for both customers and admins (e.g., OAuth, multi-factor authentication).

Data Protection: Ensure compliance with data privacy regulations (e.g., GDPR, CCPA) in handling customer data.

Conclusion:

Each business goal is mapped to specific technical requirements that will guide the design, development, and integration of features necessary for the e-commerce

platform. These technical requirements will help ensure that the platform is not only functional but also scalable, secure, and optimized for the best user experience.