

Marketplace Technical Foundation - Ecommerce Website (Hekto)

OVERVIEW

This document outlines my business goals and their technical requirements and system architecture for the development of an e-commerce marketplace aimed at providing high-quality, affordable products to customers and businesses alike.

Business Goals And Their Technical Requirements:-

1. Build a successful e-commerce marketplace.

- **Frontend Requirements (By Using Next.js and Tailwind css):**

1. A responsive, user-friendly website optimized for desktop and mobile devices
2. Support for multiple product categories (e.g., leather goods, clothing, home accessories).

3. Pages:-

Home

Products Listing,

Dynamic Product Details

Cart

Checkout

login/signup

order confirmation

About us

Contact us

FAQ

Bulk Purchase later for B2B

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2. Later Expand my business to B2B with bulk purchase options.

- ❖ Create a dedicated B2B portal or section.
- ❖ Enable bulk product selection and discounts in the cart.

● **Sanity CMS as Backend (using to manage):-**

1. **Product Data:** Store all product details with flexibility to filter and categorize.
2. **Customer Details:** Maintain a centralized database of customer information.
3. **Orders Entity:** Track and manage all customer orders
4. **Shipment Data:** Manage and monitor delivery logistics.
5. **Later Payment Data:** Securely store and track payment records.

● **Third-Party Api:-**

1. **Product Api :-** For retrieving Product data (Mock.api).
2. **Shipment Api :-** For managing Shipments. For creating labels using (ShipEngine). And using (Shippo) for tracking purposes.
3. **Payment Gateways:-** For payment I will use Stripe or paypal.

Technology Stack -

Frontend-end	Next.js, Typescript and Tailwind Css
Database	Sanity CMS
API	Mock api, shipEngine api for shipment,shippo for tracking
Payments	Stripe or paypal etc

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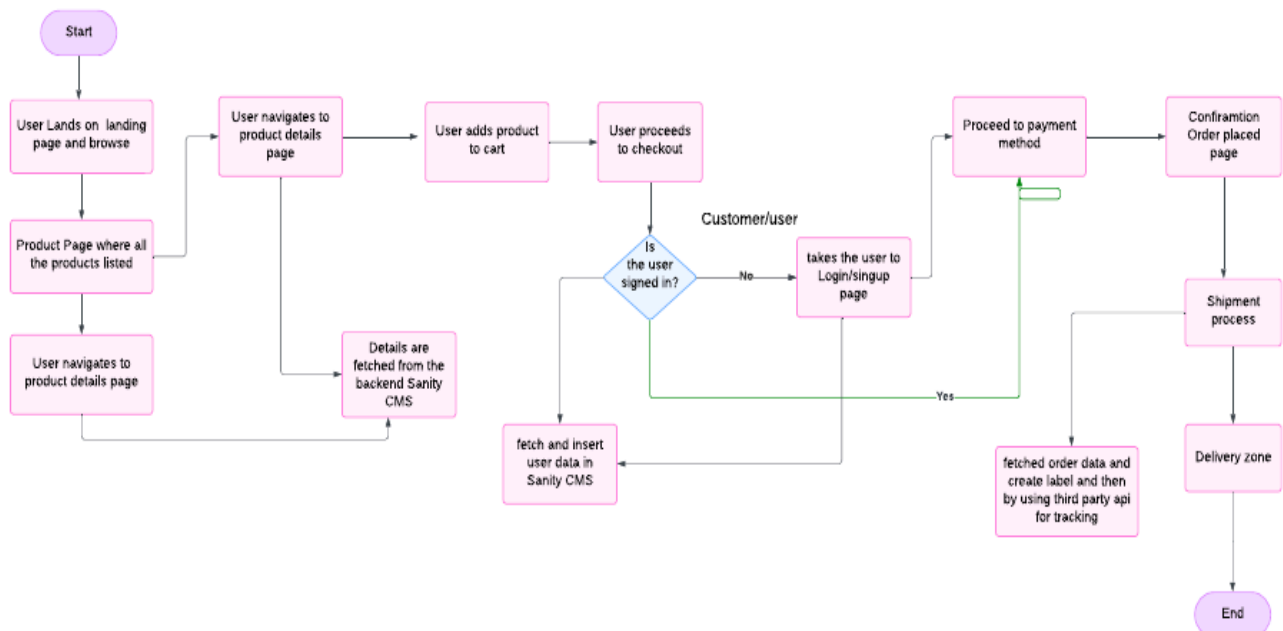
System Architecture

Key Features for Component :-

Component	Features or responsibilities
Front end	User-friendly UI, responsive design, product search, filtering
Sanity CMS as backend	Store customer, product, order, and shipment data.
Shipment Service	Track orders, calculate delivery zones, and shipping costs.
Payment Gateway	Payment processing (e.g., Stripe, PayPal).

Diagram and WorkFlow:-

Briefly explain the work-flow of my website by this diagram



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API Endpoints

This document describes the various API endpoints I'll be using in my website, including their HTTP methods and response formats.

1. Endpoint: /products

Method: GET

Description:

Fetches a list of products available in the store.

Response:

```
{  
  "id": 1,  
  "name": "Product ABC",  
  "price": 123,  
  "discountedPrice": 99,  
  "category": "latest",  
  "description": "A description of the product."  
}
```

2. Endpoint: /orders

Method: GET

Description:

Fetches a list of orders made by the users.

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Response:

```
{
  "orderId": 101,
  "userId": 1,
  "products": [1, 2],  // Array of product IDs
  "totalAmount": 220,
  "status": "pending",
  "createdAt": "2025-01-01T12:00:00Z"
}
```

Method: POST

Description:

Creates a new order for a user.

Request:

```
{
  "userId": 1,
  "products": [1, 2],
  "totalAmount": 220,
  "status": "pending"
}
```

Response:

```
{
  "orderId": 101,
  "userId": 1,
  "products": [1, 2],  // Array of product IDs
  "totalAmount": 220,
  "status": "pending",
  "createdAt": "2025-01-01T12:00:00Z"
}
```

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3. Endpoint: /user

Method: POST

Description:

Create a new user in sanity

Request:

```
{
  "firstName": "Ali",
  "lastName": "Abbas",
  "email": "ali@example.com",
  "address": "789 Pine St",
  "phoneNumber": "+1122334455",
  "isAdmin": false
}
```

Response:

```
{
  "id": 3,
  "firstName": "Ali",
  "lastName": "Johnson",
  "email": "alij@example.com",
  "address": "789 Pine St",
  "phoneNumber": "+1122334455",
  "isAdmin": false
}
```

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4. Endpoint: /Shipment

Method: POST

Description: Creates a new shipment for an order.

Request:

```
{  
  "orderId": 103,  
  "trackingNumber": "LMN789",  
  "carrier": "UPS",  
  "shipmentStatus": "shipped",  
  "shipmentDate": "2025-01-16T14",  
  "deliveryDate": "2025-01-18T12"  
}
```

Response:

```
{  
  "shipmentId": 3,  
  "orderId": 103,  
  "trackingNumber": "LMN789",  
  "carrier": "UPS",  
  "shipmentStatus": "shipped",  
  "shipmentDate": "2025-01-16T14",  
  "deliveryDate": "2025-01-18T12"  
}
```

In conclusion, this documentation outlines the core framework and technical requirements for the successful implementation of the e-commerce marketplace. By adhering to these guidelines, we aim to create a scalable, user-friendly, and innovative platform that meets the needs of both B2C and B2B customers. Future iterations will ensure continuous improvement and adaptability to market demands

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