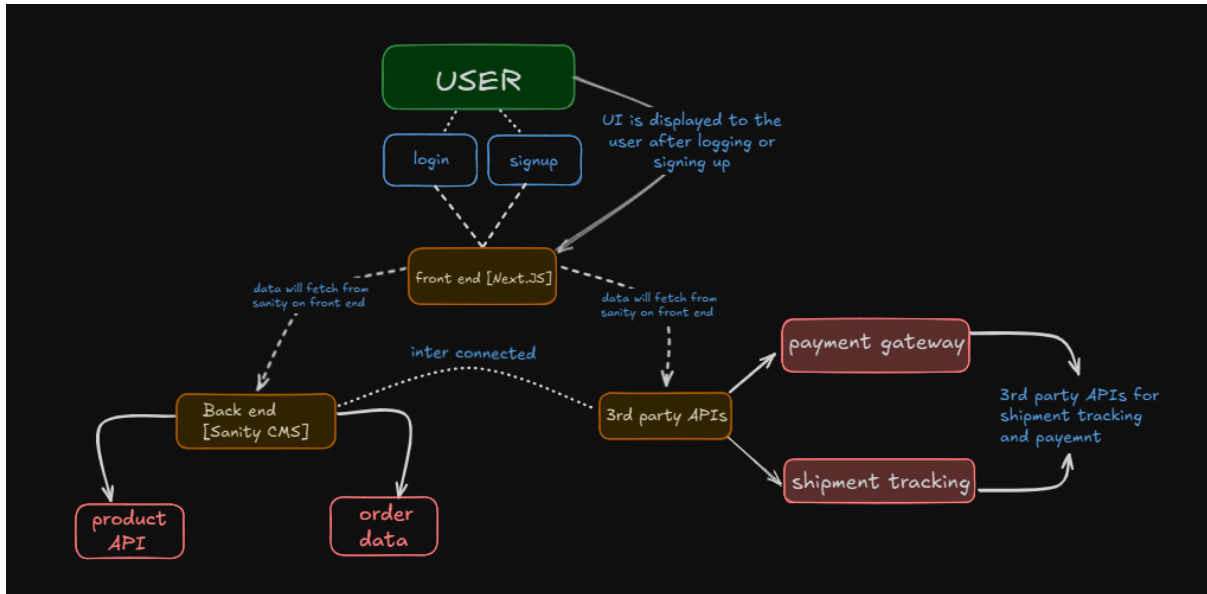


# Marketplace Technical Foundation

## System Architecture



## Component Roles

### 1. Frontend (Next.js):

- Provides a dynamic, responsive user interface for browsing products, managing carts, and placing orders.
- Communicates with the backend (Sanity CMS and APIs) to fetch and display data.

### 2. Sanity CMS:

- Serves as the backend for managing product details, customer information, and orders.
- Provides APIs for frontend integration.

### 3. Third-Party APIs:

- **Shipment API:** Tracks order shipment details in real-time.
- **Payment Gateway:** Processes and verifies online payments securely.

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## Key Workflows

### 1. User Registration

1. User registers via the frontend.
2. Data is sent to Sanity CMS for storage.
3. A confirmation email is sent to the user.

### 2. Product Browsing

1. User visits the product listing page.
2. Frontend fetches product data via Sanity CMS API.
3. Products are displayed dynamically with filters and search functionality.

### 3. Order Placement

1. User adds items to the cart and proceeds to checkout.
2. Order details are submitted to Sanity CMS for storage.
3. Payment information is processed via the Payment Gateway.
4. A confirmation is sent to the user, and the order status is updated.

### 4. Shipment Tracking

1. User requests shipment status via the frontend.
2. Shipment API fetches real-time delivery updates.
3. Status is displayed on the user's dashboard.

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## API Requirements

Endpoint	Method	Description	Payload/Response
/products	GET	Fetch all product details	Response: { id, name, price, stock }
/orders	POST	Create a new order	Payload: { customerInfo, productDetails }
/shipment	GET	Track order shipment	Response: { orderId, status, ETA }

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# Sanity Schema Examples

## Product Schema

```
export default {
  name: 'product',
  type: 'document',
  fields: [
    { name: 'name', type: 'string', title: 'Product Name' },
    { name: 'price', type: 'number', title: 'Price' },
    { name: 'stock', type: 'number', title: 'Stock Level' },
    { name: 'image', type: 'image', title: 'Product Image' }
  ]
};
```

## Order Schema

```
export default {
  name: 'order',
  type: 'document',
  fields: [
    { name: 'customer', type: 'reference', to: [{ type: 'customer' }] },
    { name: 'products', type: 'array', of: [{ type: 'reference', to: [{ type: 'product' }] }] },
    { name: 'paymentStatus', type: 'string', title: 'Payment Status' },
    { name: 'shipmentStatus', type: 'string', title: 'Shipment Status' }
  ]
};
```

## Customer Schema

```
export default {
  name: 'customer',
  type: 'document',
  fields: [
    { name: 'name', type: 'string', title: 'Customer Name' },
    { name: 'email', type: 'string', title: 'Email Address' },
    { name: 'phone', type: 'string', title: 'Phone Number' },
    { name: 'address', type: 'string', title: 'Shipping Address' }
  ]
};
```

## Shipment Schema

```
export default {  
  name: 'shipment',  
  type: 'document',  
  fields: [  
    { name: 'orderId', type: 'reference', to: [{ type: 'order' }] },  
    { name: 'trackingNumber', type: 'string', title: 'Tracking Number' },  
    { name: 'status', type: 'string', title: 'Shipment Status' },  
    { name: 'expectedDelivery', type: 'datetime', title: 'Expected Delivery Date' }  
  ]  
};
```

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