

# Technical Document for E-Commerce Website

Prepared by: Zohaib Memon

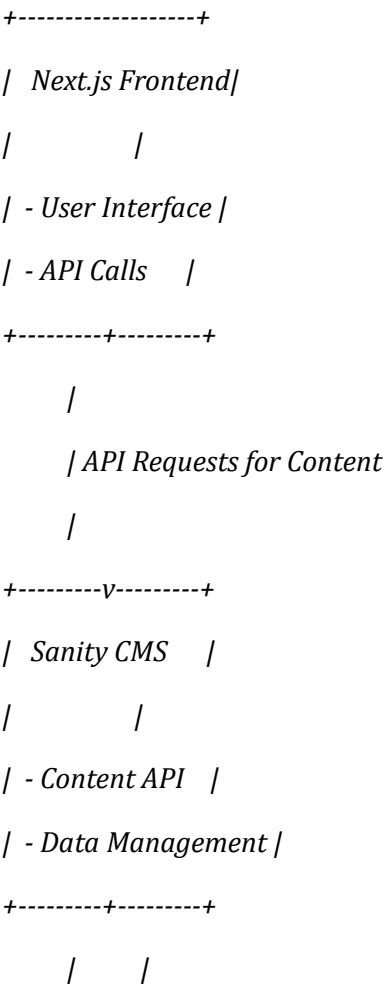
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## 1. System Architecture Overview

The system architecture includes an Admin Panel for managing products, orders, users, and blogs. Key components include:

- Frontend (Next.js): Customer-facing interface and Admin Panel.
- Backend (Sanity CMS): Centralized data handling for content and operations.
- Third-Party APIs: Payment and shipment tracking integrations.

[ System Architecture Diagram]



/	/ Sends Order Details
/	/
/	/
+-----v-----+ +-----+ +-----+	
/ Payment API	/ Shipment Tracking API/
/	//
/ - Handles	// - Provides Tracking /
/ Transactions	// Info /
+-----+ +-----+	

## 2. Key Pages and Functionalities

### User-Facing Pages:

- Homepage: Highlights categories, promotions, and search functionality.
- Products Page: Sorting, filtering, and category view.
- Product Details Page: Comprehensive product details, reviews, and purchase options.
- Cart Page: Adjustable quantities and price overview.
- Checkout Page: Collects payment and shipping information.
- Order Confirmation Page: Provides detailed receipt and tracking information.
- Blog Page: Engaging articles for SEO and user retention.
- Login/Sign-Up Page: Handles user authentication securely.

### Admin Panel Functionalities:

- Dashboard: Displays key metrics like total sales and orders.
- Product Management: Add, update, delete products, and manage inventory.
- Order Management: View and update order statuses, process refunds.
- User Management: Manage roles, reset passwords, deactivate accounts.
- Blog Management: Create, edit, or delete blog posts.

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/	Dashboard /

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/ (Sale, Total Orders, Purchase) /
/ [Graphs/Charts] /
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//\
//\
/ | \

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/ Product / / User Management /
/ Management / | /
/ (Add, Update, / / (Reset Passwords, /
/ Delete Products) / / Deactivate Accounts) /
/ (Inventory Levels) / | /
+-----+ +-----+

/

+-----+

/ Order Management /

/ (Order Status /
/ Updates, Refunds) /

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/

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/ Blog Management /

/ (Create, Edit /
/ Blog Posts) /

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### 3. API Design

### User-Facing APIs:

Endpoints designed for customer-facing interactions:

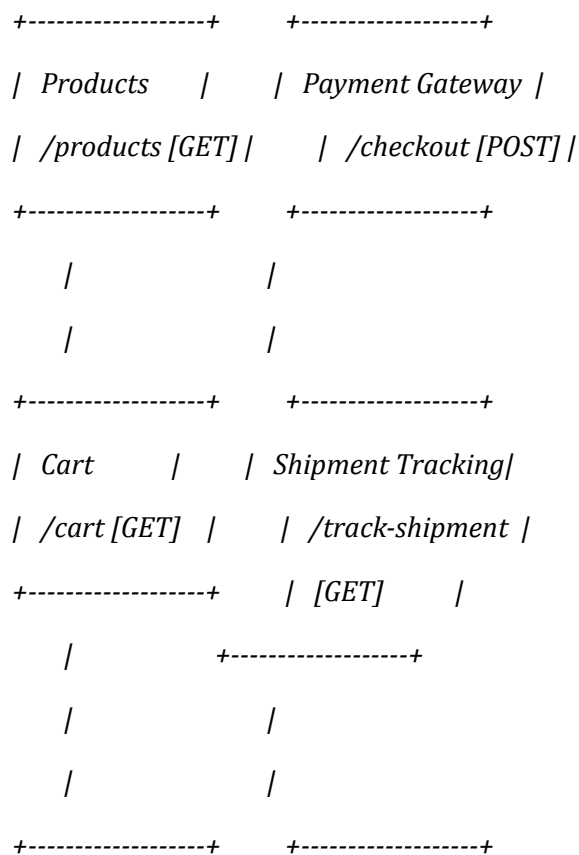
- /products [GET]: Fetch the list of available products.
- /product/{id} [GET]: Retrieve details of a specific product.
- /cart [POST]: Add a product to the cart.
- /checkout [POST]: Process an order and confirm payment.

### Admin Panel APIs:

Endpoints designed for administrative management:

- /admin/products [POST]: Add a new product.
- /admin/products/{id} [PUT]: Update product details.
- /admin/orders [GET]: Retrieve all orders for monitoring.
- /admin/users [GET]: View and manage user accounts.

[ API Flow Diagram]



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/ Checkout | | Backend |
/ /checkout [POST]| | (Sanity CMS) |
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| |
| |
+-----+
|
+-----+
/ Admin Panel APIs |
+-----+
/ Product Management|
/ /admin/products [POST] |
+-----+
/ Order Management |
/ /admin/orders [GET] |
+-----+
/ User Management |
/ /admin/users [PUT] |
+-----+

```

#### 4. Unique Features

- *Real-Time Notifications: Notify admins of new orders or low inventory.*
- *Role-Based Access Control: Restrict admin panel access to authorized users.*
- *Analytics Dashboard: Visualize sales, user growth, and order trends.*
- *Automated Email Updates: Send email confirmations to customers for orders and shipments.*

[Feature Visualization]

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/ Homepage | | Dashboard |

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/ [Banner]	/	/ [Total Sales]	/
/ [Search Bar]	/	/ [Orders]	/
/ [Nav Icons]	/	/ [Inventory]	/
+-----+		+-----+	
/		/	
/		/	
+-----+		+-----+	
/ Product Page	/	/ Product Management	/
/ [Product Grid]	/	/ [Form]	/
/ [Filters]	/	/ [Inventory Chart]	/
+-----+		+-----+	
/		/	
/		/	
+-----+		+-----+	
/ Product Details	/	/ Order & User Mgmt	/
/ [Product Image]	/	/ [Order Table]	/
/ [Reviews]	/	/ [User Roles]	/
/ [Add to Cart]	/	+-----+	
+-----+			
/			
/			
+-----+			
/ Cart & Checkout			
/ [Cart Items]			
/ [Checkout Steps]			
+-----+			
/			

/

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| *Order Tracking* |

| *[Delivery Truck]* |

| *[Progress Bar]* |

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## 5. Next Steps

- *Finalize and test Admin Panel functionality.*
- *Deploy the system to a scalable cloud platform (e.g., AWS, Azure).*
- *Optimize performance for mobile users.*
- *Conduct user testing to ensure an intuitive experience.*