

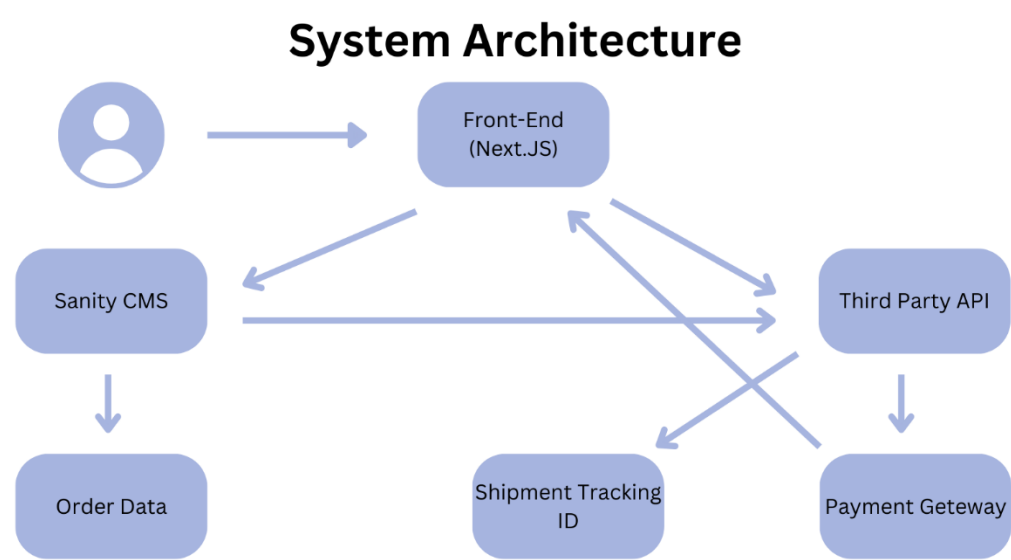
# Marketplace Technical Foundation

## 1. System Architecture Document

### Overview:

The system is designed as an e-commerce marketplace using a modular architecture with the following components:

- 1. **Frontend:** Built with Next.js for a responsive and interactive user interface.
- 2. **CMS:** Sanity CMS used to manage product data, orders, and customer details.
- 3. **Third-Party APIs:** Integrated for shipment tracking and payment processing.
- 4. **Database:** Sanity CMS serves as the primary storage for products, orders, and other marketplace data.
- 5. **Backend Logic:** Handles API endpoints for fetching and processing data.



### Component Roles:

- **Frontend:** Displays products, handles user interactions, and communicates with the backend.
- **Sanity CMS:** Manages product data, order records, and updates.
- **Third-Party APIs:** Handles real-time shipment updates and payment processing.

## API Specification Document

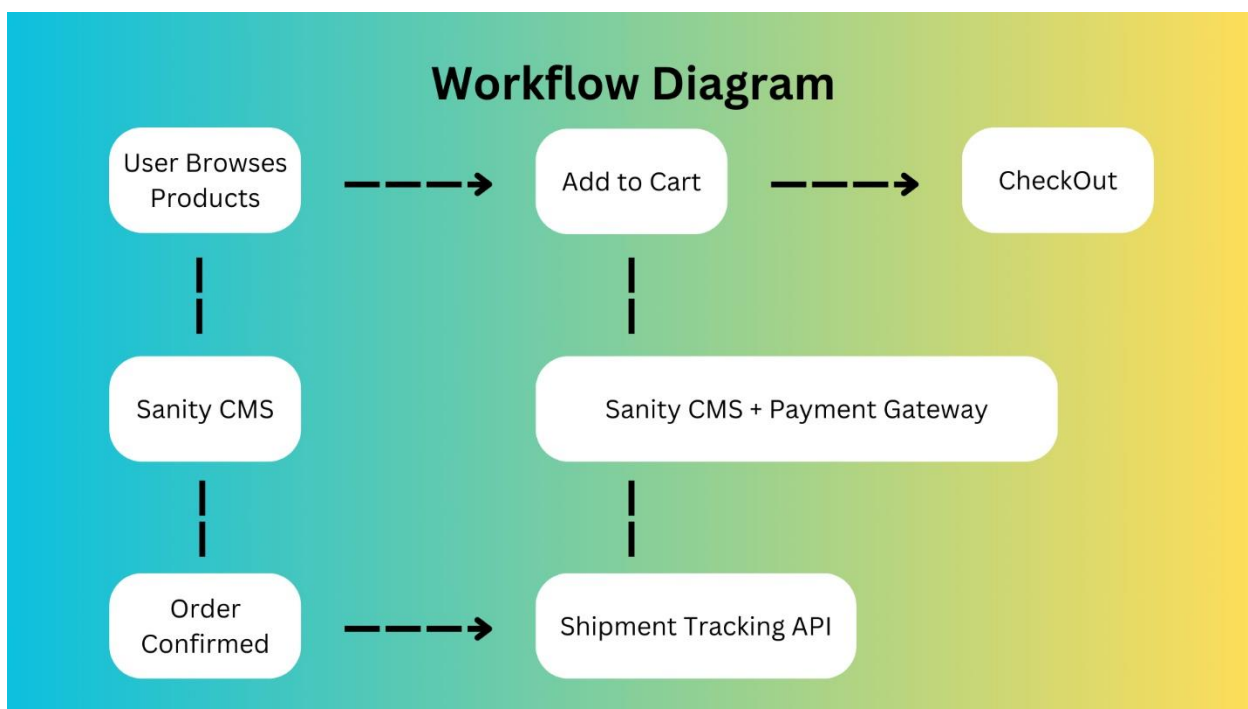
Endpoint	Method	Purpose	Payload/Response
/products	GET	Fetch all product details	<b>Response:</b> { "id": 1, "name": "Product A", "price": 100, "stock": 20, "image": "url-to-image" }
/orders	POST	Create a new order	<b>Payload:</b> { "customerName": "Ali", "products": ["Product A", "Product B"], "totalPrice": 2000 }
/shipment	GET	Track shipment status	<b>Response:</b> { "shipmentId": 123, "status": "In Transit", "ETA": "2 days" }

/payment	POST	Process payment	<b>Payload:</b> { "orderId": 123, "amount": 2000, "paymentMethod": "Credit Card" }
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## Workflow Diagram

Example: User Places an Order

1. **Frontend:**
  - User browses products -> Adds products to cart -> Proceeds to checkout.
2. **Backend/API Calls:**
  - Sends product details to /orders endpoint.
  - Calls /payment endpoint for processing the transaction.
3. **Sanity CMS:**
  - Saves the order and customer details.
4. **Third-Party APIs:**
  - Calls /shipment API to track delivery.



## Technical Roadmap

Milestones:

1. **Frontend Development:**
  - Design and implement responsive UI using Next.js.
  - Add pages: Home, Product Listing, Product Details, Cart, Checkout.
2. **Sanity CMS Integration:**
  - Set up schemas for products and orders.
  - Connect CMS to the frontend.

### 3. API Integration:

- Integrate /products endpoint to fetch product data.
- Add /orders endpoint for order creation.
- Implement /shipment and /payment APIs for tracking and transactions.

### 4. Testing:

- Unit and integration tests for API endpoints.
- End-to-end testing for user workflows.

### 5. Deployment:

- Deploy on platforms like Vercel or Netlify.
- Ensure CMS and APIs are securely hosted.

### Deliverables:

- Fully functional marketplace with responsive UI.
- Sanity CMS integrated with products and orders.
- APIs for payment and shipment tracking.
- Technical documentation with architecture, workflows, and API details.