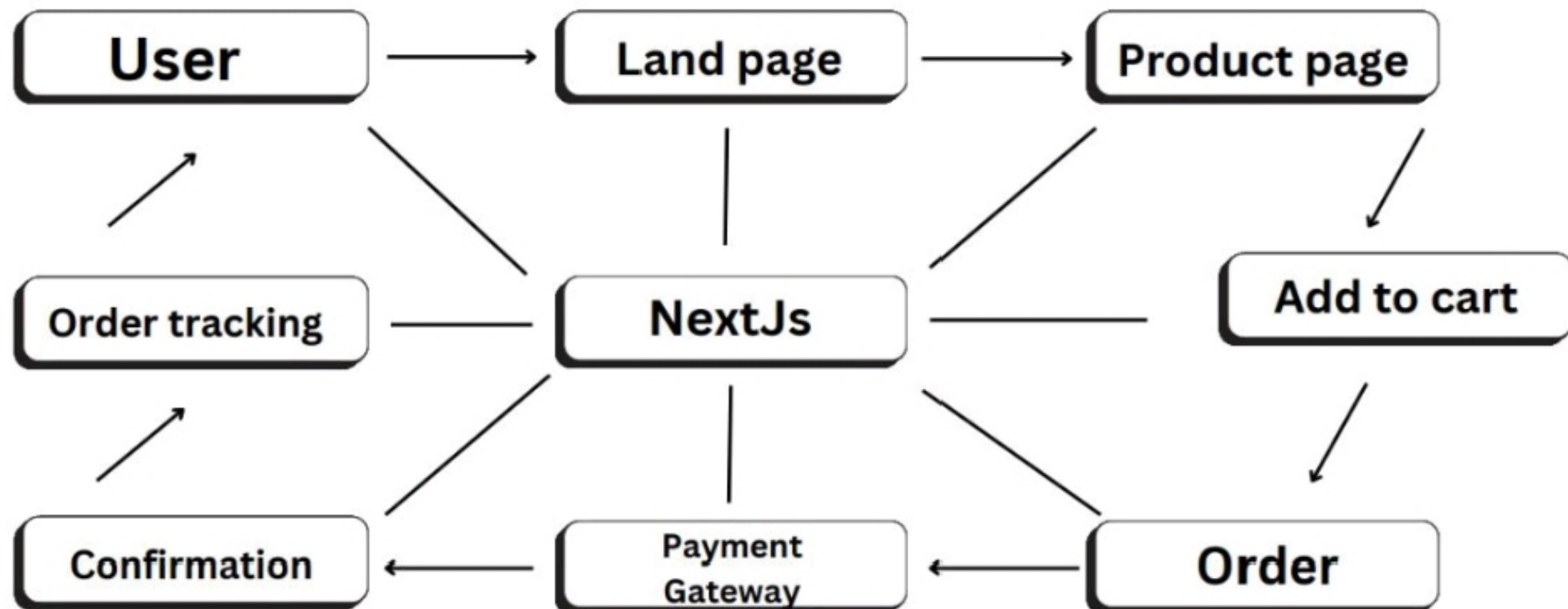


System Architecture Diagram.



Component Roles

Frontend (Web & Mobile)

User-facing interface for browsing products, adding to cart, managing orders, and completing transactions.

Handles communication with the backend through API calls.

Backend Services:

Manages business logic for order management, user authentication, payment processing, product catalog, and notifications.

Communicates with external services like payment gateways (Stripe, PayPal), shipping services (FedEx, UPS), and the CMS (Sanity).

Product Management

Handles product catalog, including product details, images, descriptions, prices, and availability.

Payment Gateway:

Integrates with third-party services (e.g., Stripe or PayPal) to process payment transactions securely.

Order Management:

Manages the creation, tracking, and completion of orders. It processes payments and coordinates shipping.

Shipping Service:

Integrates with third-party logistics providers (e.g., FedEx, UPS) to track and manage the shipping process.

Sanity CMS:

Provides content management for dynamic content such as product descriptions, blog posts, promotional banners, etc. Allows content updates through a user-friendly interface.

Key Workflows.

Add Product to Cart

User clicks "Add to Cart."

Frontend sends product to
Order Service.

Order Service adds item
to cart.

Frontend shows updated cart.

Place Order

User clicks "Proceed to Checkout."
Frontend sends order details to Order Service.

Order Service calculates total and
validates.

Payment Gateway processes
payment.

Order Service updates order to
"Completed."
Frontend shows order confirmation.

Sanity CMS Schema Example

```
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: 'description', type: 'text', title: 'Description' },  
    { name: 'image', type: 'image', title: 'Product Image' }  
  ],  
};
```

General eCommerce

Key Features:

Product Browsing:

Users can browse products by categories or search keywords.

Cart Management:

Users can manage their cart, add or remove items, and view totals.

Order Placement:

Users place orders and complete payments.

Example Endpoint:

/products

Method: GET

Purpose: Fetches a list of all products available in the catalog.


Response Example:

```
[ { "id": 1, "name": "Product A", "price": 100 },  
  { "id": 2, "name": "Product B", "price": 150 } ]
```


Sanity CMS Schema Example

```
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: 'description', type: 'text', title: 'Description' },  
    { name: 'image', type: 'image', title: 'Product Image' }  
  ],  
};
```

API Endpoints

Endpoint	Method	Purpose	Response Example
/products	GET	Fetches all product details	{ "id": 1, "name": "Product A", "price": 100 }
/cart	POST	Adds items to the shopping cart	{ "cartId": "abc123", "total": 200 }
/checkout	POST	Finalizes the order and processes payment	{ "orderId": 12345, "status": "Completed" }
/express-delivery-status	GET	Fetches real-time delivery status	{ "orderId": 12345, "status": "In transit" }
/products/{id}/reviews	POST	Adds a  new review to a product	{ "reviewId": 6789, "status": "Success" }