Marketplace-Technical-Foundation-General-E-Commerce

Pages

1. **Home Page:**

- A visually appealing landing page that highlights featured sofas, chairs, and other furniture categories.
- Includes dynamic sections for promotions, bestsellers, and trending collections.
- Fully responsive for a seamless experience across devices.

2. **Shop Page:**

- A comprehensive product catalog with filtering and sorting options (e.g., by category, price, and material).
- Real-time updates on product availability and detailed descriptions for each item.

3. **Product Detail Page:**

- A dedicated page for each product with high-quality images, specifications, and customer reviews.

4. **Cart Page:**

- Allows users to view and manage items in their cart.
- Features quantity adjustments, subtotal calculations, and real-time updates.

5. **Order Tracking Page:**

- Users can monitor the status and progress of their orders with live updates from the shipment provider.

6. **Track Order Page:**

- A simple input form for users to enter their order ID and retrieve detailed tracking information.

7. **Checkout Page:**

- A secure and user-friendly checkout process integrated with Stripe for payments.
- Supports multiple payment methods and ensures compliance with industry standards.

8. **Thank You Page:**

- A confirmation page to thank users after successfully placing an order.
- Includes order details and next steps (e.g., tracking or support options).

Technologies Used

Frontend:

- **Next.js:** For building dynamic, server-rendered UIs with superior performance and SEO.
- **Tailwind CSS:** For crafting responsive, visually appealing designs.
- **Shadcn/UI:** For reusable and customizable UI components to enhance user experience.

Backend:

- **Sanity CMS:** To manage and structure furniture products, categories, and promotional content efficiently.
- **Clerk:** For seamless user authentication and account management.

APIs:

- **ShipEngine API:** To handle shipment tracking and delivery logistics.
- **Stripe API:** For secure and reliable payment processing.

API Endpoints

Below are the main API endpoints that power the functionalities of the marketplace:

Endpoint	Method	Description
`/api/create-order`	POST	Creates a new order when a user completes a purchase.

Endpoint	Method	Description
`/api/orders`	GET	Fetches all orders for administrative purposes.
`/api/shipengine/create-label`	POST	Generates a shipping label for an order.
`/api/shipengine/get-rates`	GET	Retrieves shipping cost estimates for various providers.
`/api/shipengine/track-shipment`	GET	Tracks the current location and status of a shipment.
`/api/track-orders`	GET	Displays all orders placed by a user.
`/api/send/confirmation-email`	POST	Sends an order confirmation email to the user.
`/api/reviews/[productId]`	POST	Allows users to submit reviews for a specific product.
`/api/reviews/[productId]`	GET	Retrieves all reviews for a specific product.

Explanation of Key Endpoints

Order Management

- `/api/create-order`: Captures order details such as items, quantities, shipping address, and payment confirmation.
- `/api/orders`: Helps admins view and manage all orders in the system.

Shipping and Tracking

- `/api/shipengine/create-label`: Automates label creation for shipment using the ShipEngine API.
- `/api/shipengine/get-rates`: Enables cost comparison between shipping providers.
- `/api/shipengine/track-shipment`: Provides real-time updates on shipment location and delivery status.

User Interaction

- `/api/track-orders`: Gives users a dashboard to monitor their order history and statuses.
- `/api/send/confirmation-email`: Sends order details and confirmation to the user's email.

Product Reviews

- `/api/reviews/[productId]` **(POST)**: Allows customers to share feedback about a product.
- `/api/reviews/[productId]` **(GET)**: Displays product reviews to potential buyers for informed decisions.

1. Data Management in Sanity

- **Centralized Data Storage:** All e-commerce data, such as furniture products (sofas, chairs, etc.), categories, promotions, and customer reviews, is stored and managed in Sanity's Content Studio.
- **Flexible Schema Design:** Sanity's schema customization allows you to define data structures tailored to your marketplace's needs.

2. Fetching Data from Sanity

- **GROQ Queries:** Next.js uses GROQ (Graph-Relational Object Queries) to fetch structured data from Sanity's API endpoints.
- **API Flexibility:** The APIs retrieve only the necessary data, reducing overhead and improving performance.

3. Rendering Strategies in Next.js

Server-Side Rendering (SSR):

- **Dynamic Pages:** Pages such as product detail pages, order details, and user-specific dashboards are rendered on-demand, ensuring up-to-date and personalized content.

Static Site Generation (SSG):

- **Pre-rendered Pages:** Static pages like the homepage, category pages, and promotional sections are generated at build time, ensuring fast loading speeds and better SEO.

4. Real-Time Updates

- **Webhooks for Instant Updates:** Sanity's webhooks notify the application whenever there are changes to content (e.g., product availability or price updates).
- **No Manual Rebuilds:** This real-time synchronization ensures that users always see the latest content without needing manual deployment.

5. Rendering Components

- **Dynamic User Interfaces:** The fetched data is passed into Next.js React components, enabling the rendering of interactive and responsive elements like product carousels, filters, and detailed product views