

Marketplace Technical Requirement – Avion

1. Frontend Requirements

The frontend serves as the primary interaction point for users. Key requirements include:

- **User-Friendly Interface:**

- Design an intuitive interface that enables customers to browse and interact with the platform effortlessly.
- Employ modern design principles to enhance usability and aesthetics.
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- **Responsive Design:**

- Implement a responsive layout to ensure an optimal user experience across devices, including desktops, tablets, and smartphones.
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- **Essential Pages:**

- Develop the following core pages to meet business and user needs:

- Home Page: Showcase featured products and promotions.
- Product Listing Page: Display available furniture items with sorting and filtering options.
- Product Details Page: Provide detailed information about a product, including images, descriptions, and pricing.
- Cart Page: Allow users to view and manage selected items before proceeding to checkout.
- Checkout Page: Facilitate a smooth and secure purchase process.
- Order Confirmation Page: Display order details and confirmation upon successful checkout.

2. Backend Requirements (Sanity CMS)

The backend architecture leverages Sanity CMS to ensure scalability and efficient data management.

- **Data Management:**

- Use Sanity CMS to manage product catalogs, customer data, and order records.
- Organize data into well-structured schemas to align with business requirements.
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- **Schema Design:**

- Develop schemas for the following entities:
 - Products: Include attributes such as name, description, price, category, and images.
 - Customers: Capture customer profiles and purchase history.
 - Orders: Store order details, including items, customer information, and payment status.
- Ensure the schema design supports scalability and flexibility for future business growth.
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- **Real-Time Updates:**

- Enable real-time synchronization between the frontend and backend for dynamic content updates.
- Order Confirmation Page: Display order details and confirmation upon successful checkout.

3. Third-Party API Integrations

Integration with external services is essential for ensuring seamless functionality across critical operations.

- **Payment Gateways:**

- Integrate secure and reliable payment gateway APIs (e.g., Stripe, PayPal) to process transactions.
- Support multiple payment methods, including credit/debit cards, wallets, and local payment options.

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- **Shipment Tracking:**

- Use APIs from logistics providers (e.g., FedEx, DHL) to enable order tracking for customers.
- Display real-time shipping updates on the order tracking page.

- **Additional Services:**

- Integrate APIs for:
 - Tax Calculation: Ensure accurate tax handling based on location.
 - Email Notifications: Automate order confirmation and shipping updates.
 - Analytics: Track user behavior and sales performance using tools like Google Analytics or Mixpanel.

Avion's System Architecture: Key Components and Interactions

Components:

1. Frontend (Next.js)
 - User-facing interface for browsing, ordering, and interacting with the website.
2. Backend (Sanity CMS)
 - Manages product data, customer records, and orders.
 - Acts as the central database for all marketplace operations.
3. Third-Party APIs
 - Handles payment processing, shipment tracking, and other auxiliary services.
4. Payment Gateway
 - Processes secure transactions and sends payment confirmations.
5. Shipment Tracking API
 - Provides real-time order tracking updates to customers.

System Architecture

