**Hackathon 3 Day 2**

**Technical Planning Documentation for Furniro Marketplace**

### **1.** Overview

***The Furniro E-Commerce Website, developed by Syed Mujtaba Abbas, showcases a stunning collection of furniture and decor designed to cater to diverse aesthetic preferences. The platform emphasizes elegance, quality, and functionality, offering customers a seamless shopping experience for stylish home furnishings. With a user-friendly interface and modern design, Furniro aims to redefine online furniture shopping by blending style and convenience.***

### **2.** Key Technologies

* **Frontend**: *Next.js with TypeScript and Tailwind CSS*
* **CMS**: *Sanity (for managing dynamic content like product listings)*
* **Order Tracking**: *ShipEngine (for real-time shipment updates)*
* **Payment Gateway**: *Stripe (for secure payment processing)*
* **Hosting & Deployment**: *Vercel (for frontend), AWS Lambda (for backend), MongoDB Atlas (for database)*
* **Elegant Design:** *Showcases a wide range of furniture and decor items, emphasizing modern and traditional styles .*
* **Responsive Design:** *Optimized for desktops, tablets, and mobile devices to ensure a smooth experience across all screen sizes .*

**3**. Technical Architecture

**System Overview (Frontend)**

* **Framework :** *Next.js (React-based framework for server-side rendering and SEO optimization)*
* **Styling :** *Tailwind CSS for a modern and responsive UI .*
* **Programming Language :** *TypeScript for type-safe development .*

**System Overview (Backend)**

**CMS :** *Sanity CMS to manage dynamic content like banners, blog posts, and featured products.*

#### **Deployment**

* **Frontend Hosting:** *Vercel for fast, global performance .*
* **Backend Hosting:** *AWS Lambda with a serverless architecture .*

4. System Features and API Endpoints

#### **User Management**

* ***Sign Up /* Login:** *Users can register and log in to their accounts.*
* ***Profile Management* :** *Edit and update profile details.*

#### **Product Management**

* **Product Listings:** *Display all available products with search and filter options.*
* **Product Details:** *Individual pages for detailed product information.*

#### **Order Management**

* **Place Orders*:*** *Secure and efficient order placement.*
* **Order History:** *Users can view past orders and their statuses.*

#### **Payment Processing**

* **Multiple Gateways:** *Integration with various payment gateways for flexibility.*
* **Secure Transactions:** *Payments handled with PCI-compliant systems.*

#### **Shipment Tracking**

* **Real-Time Updates:** *Order tracking with live status updates via ShipEngine.*

### **5.** Data Schema

#### **Users**

* **user\_id**: *Unique identifier for the user.*
* **username**: *Full name of the user.*
* **email**: *Email address for communication*.
* **password\_hash**: *Securely hashed password.*
* **role**: *User role (admin or customer).*
* **order\_ids**: *List of order references.*

#### **Products**

* **product\_id**: *Unique identifier for the product.*
* **name**: *Name of the product*.
* **price**: *Product price.*
* **stock**: *Inventory count*.
* **description**: *Detailed description of the product.*
* **category**: *Category of the product (e.g., chairs, decor).*
* **image\_url**: *Link to the product image.*

#### **Orders**

* **order\_id**: *Unique identifier for the order.*
* **customer\_id**: *Reference to the customer who placed the order.*
* **product\_ids**: *List of product references in the order.*
* **quantity**: *Quantity of each product.*
* **status**: *Order status (e.g., Pending, Shipped, Delivered).*
* **order\_date**: *Timestamp of the order placement.*

7. Security Measures

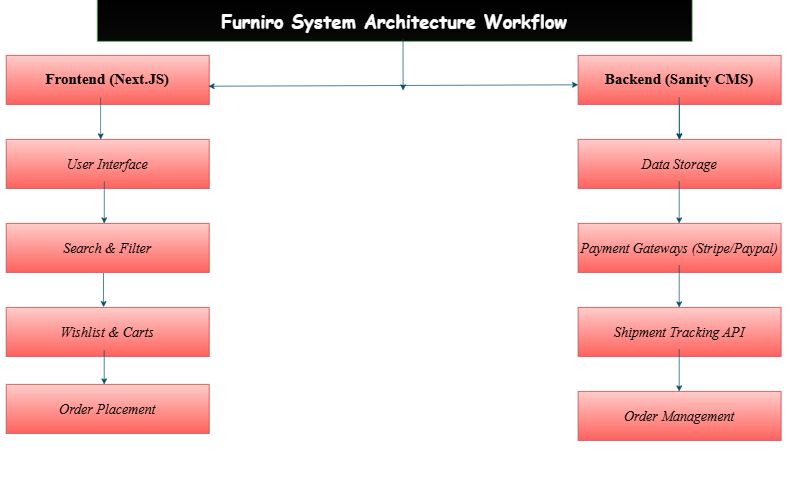
* **Data Encryption:** *All communications secured with HTTPS.*
* **Authentication:** *JWT-based session management.*
* **Input Validation:** *Prevent SQL injection and XSS attacks***.**
* **Role-Based Access Control:** *Different permissions for admins and customers.*

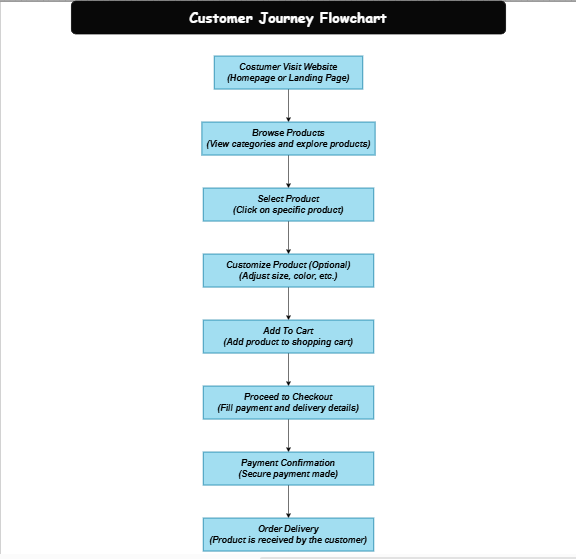
### Future Enhancements

1. **Augmented Reality (AR) Integration**: *Allow customers to visualize furniture in their space.*
2. **Advanced Analytics**: *Use AI for personalized recommendations based on browsing and purchase history.*
3. **Mobile App**: *Develop native apps for Android and iOS for an enhanced user experience*

Conclusion

*Furniro blends elegance, quality, and innovation to provide an exceptional shopping experience. With cutting-edge technologies and a customer-centric approach, it is poised to become a leader in the online furniture market. Its commitment to delivering value ensures a bright future in the e-commerce domain.*



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