Furniture Marketplace Project Complete

Documentation (Days 1–6)

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Overview

The Furniture Marketplace is a digital platform designed to empower small businesses and individuals by offering a secure and efficient online shopping experience for furniture. Throughout six days, the project transitioned from brainstorming ideas to deploying a staging environment, with each day bringing specific contributions to its development.

Day 1: Conceptualization and Marketplace

Design

Key Achievements:

• Identified the marketplace type as a general e-commerce platform for furniture.

Business Objectives:

- Empower small businesses and entrepreneurs.
- Create an accessible platform for buying and selling furniture online.

Data Schema Design:

- Entities: Products, Orders, Customers, and Delivery Zones.
- Relationships:
 - o Customers place orders that refer to products.
 - Delivery zones are assigned to drivers for fulfillment.

Day 2: Technical Planning

Key Achievements:

- Technology Stack:
 - Frontend: Next.js with Tailwind CSS for styling.
 - o **Backend:** Sanity CMS for content management.
 - o **Database:** MongoDB for storing sensitive data and authentication.
 - o APIs: ShipEngine for order tracking, Stripe for payment processing.
- API Endpoints:
 - o User management: /register, /login, and /verify-route.
 - o Product management: /products, /product/:id.
 - o Orders:/orders (POST),/shipment/:id (GET).
- Deployment Plan:
 - o **Frontend:** Deployed on Vercel.
 - Backend: Hosted on AWS Lambda with serverless architecture.

Day 3: Data Migration

Key Achievements:

- Migration Code:
 - o Data from Sanity CMS migrated to Next.js using GROQ queries.
 - o Example GROQ Query: *[_type == "product"] {title, description, price, image}
- Schema Definition:
 - o Product schema included fields for title, slug, description, price, and image.
- Client Integration:

Data dynamically fetched and displayed on the homepage.

Day 4: Development of Dynamic Frontend

Components

Key Achievements:

- Dynamic Product Listings:
 - o Created a ProductList component to display furniture fetched from Sanity.
- Filters and Sorting:
 - Implemented filters for categories and price ranges, with sorting options by price and popularity.
- Reusable Components:
 - o ProductCard: Displays product images, titles, and prices.
 - o FilterSidebar: Sidebar for filtering and sorting.
 - o PaginationControls: Provides page navigation for large datasets.

Day 5: Testing and Backend Refinement

Key Achievements:

- Types of Testing:
 - Functional Testing: Verified workflows like product listings, cart actions, and API interactions.
 - Performance Testing: Used Lighthouse for load time and responsiveness analysis.
 - Security Testing: Validated input fields, API keys, and HTTPS.
- CSV-Based Testing Report:
 - Test Cases: Included tests like verifying navigation, product listings, cart operations, contact form submission, performance metrics, accessibility, and SEO optimization.
 - o **Results:** All tests passed, with minor improvements suggested in image ratios.

Day 6: Deployment Preparation and Staging

Environment Setup

Key Achievements:

- Deployment Strategy:
 - Hosted the application on Vercel for rapid deployment.
 - o Integrated GitHub repository for continuous integration and delivery (CI/CD).

• Environment Variables:

Configured and securely uploaded sensitive variables like API keys to Vercel.

• Staging Environment:

- o Deployed a staging build to simulate a production environment.
- Example .env File:

```
NEXT_PUBLIC_SANITY_PROJECT_ID=your_project_id
NEXT_PUBLIC_SANITY_DATASET=production
API KEY=your api key
```

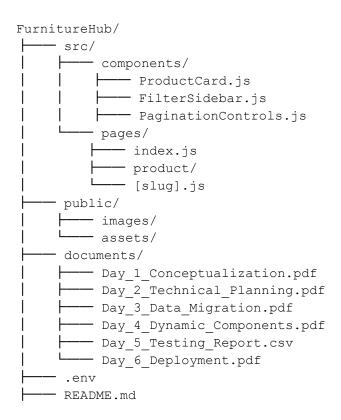
Staging Testing:

- Verified key workflows, such as product listings and checkout.
- o Performance testing using GTmetrix for speed and responsiveness.
- Security testing to ensure HTTPS and secure API calls.

• Documentation:

- A comprehensive README.md was created, summarizing project structure and deployment steps.
- o The GitHub repository was organized with folders for src/, public/, and documents/.

GitHub Repository Structure:



Conclusion

Achievements:

- Comprehensive testing completed.
- Performance metrics improved.
- Security measures implemented.

Next Steps:

- 1. Resolve any outstanding issues documented during staging tests.
- 2. Monitor the live environment for feedback and performance metrics.
- 3. Scale the platform with advanced features like multi-language support and predictive analytics.

This concludes the successful completion of the Furniture Marketplace hackathon project!