

Day 6 implementation Report

Marketplace Builder Hackathon - Day 6 Report

Project Name: Furniro - A Modern Furniture Marketplace

1. Overview

Day 6 of the **Furniro Marketplace** hackathon focused on preparing the project for deployment by setting up the staging environment, optimizing the application for production, and ensuring that all dependencies and configurations were correctly in place.

2. Objectives of Day 6

The key objectives were:

- **Setting up a Staging Environment:** Deploying a near-final version of the project for testing.
- **Performance Optimization:** Enhancing load speeds and reducing redundant requests.
- **Error Handling & Logging:** Ensuring application stability.
- **Security Enhancements:** Implementing measures to protect user data.
- **Finalizing Deployment Strategy:** Choosing the right hosting platform and CI/CD pipeline.

3. Technical Setup for Deployment

Frontend Deployment:

- **Vercel:** Selected for seamless Next.js deployment with automatic scaling.
- **Static Asset Optimization:** Minimized and cached static resources for faster load times.
- **Lazy Loading:** Implemented for improved performance on mobile devices.

Backend & Database Deployment:

- **Firebase Firestore / MongoDB Atlas:** Cloud-hosted database solutions for scalability.
- **Node.js & Express Backend:** Deployed using **Railway.app** or **Render**.
- **Environment Variables Management:** Configured `.env.local` for secure API key storage.

Security & Performance Enhancements:

- **HTTPS & SSL Implementation:** Ensured secure user connections.
- **Rate Limiting:** Protected API endpoints from excessive requests.
- **Error Monitoring with Sentry:** Set up logging to track production issues.
- **CDN Integration:** Used Cloudflare for content delivery.

4. Deployment Checklist

- ✓ **Code Cleanup:** Removed unused dependencies and console logs.
- ✓ **Database Connection Verified:** Ensured smooth data retrieval and API requests.
- ✓ **Mobile Responsiveness Tested:** Confirmed UI adaptability across devices.
- ✓ **API Rate Limits Configured:** Prevented potential misuse of API resources.
- ✓ **SEO & Meta Tags Updated:** Enhanced search engine visibility.
- ✓ **Performance Benchmarked:** Ensured low latency and optimal server response times.

5. Challenges Faced & Solutions

Challenge	Solution
Staging environment behaving differently from local setup	Configured environment variables correctly and debugged API endpoints.
Slow initial page load due to large images	Implemented Next.js Image Optimization feature.
Errors in production logs	Set up Sentry for real-time monitoring.
Ensuring smooth authentication post-deployment	Verified Firebase/Auth settings and adjusted CORS policies.

6. Functional Testing Summary

Test Case ID	Test Case Description	Test Steps	Expected Result	Actual Result	Status
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TC001	Verify production deployment	Open deployed site & check performance	Site loads smoothly with all features working	Deployment successful	✓ Passed
TC002	API endpoint testing	Call product API & verify response	API responds with correct data	Data fetched successfully	✓ Passed
TC003	Security & authentication test	Login with valid/invalid credentials	Valid login succeeds, invalid login fails	Works as expected	✓ Passed
TC004	Responsive design check	Test across different screen sizes	Layout adapts properly	Fully responsive	✓ Passed

7. Future Enhancements

- Implement **Server-side caching** for improved API response time.
- Enhance **error recovery mechanisms** for unexpected failures.
- Set up **Automated Testing Pipelines** using Jest and Cypress.
- Improve **AI-powered search filtering** for better user experience.
- Introduce **real-time analytics dashboards** for order tracking.

8. Conclusion

Day 6 marked a significant milestone in the **Furniro Marketplace** project, with a focus on deployment preparation, security enhancements, and performance optimization. With a stable and well-tested staging environment, the project is now ready for final deployment and real-world testing.