

Day-5

Report on Testing, Error Handling, and Backend Refinement

1. Overview

This report outlines the progress made on Day 5 of the FurniCo Furniture Marketplace project. Efforts focused on testing, debugging, and optimizing backend performance for deployment readiness.

1. Validating System Functionality

Rigorous testing was conducted to ensure all platform features work as intended. Emphasis was placed on edge cases and seamless integration of components.

2. Enhancing Error Handling

Improved error mechanisms were implemented to provide clearer feedback to users. This ensures a smoother and more intuitive user experience across scenarios.

3. Tuning Platform Performance

Performance was optimized to improve responsiveness and support scalability. This involved refining database queries and backend processes for efficiency.

4. Ensuring Cross-Browser Adaptability

The platform was tested across multiple browsers and devices for compatibility. Any issues identified were resolved to maintain a consistent user experience.

5. Incorporating UAT Feedback

Feedback from User Acceptance Testing was gathered and addressed. Implemented changes focused on meeting user expectations and platform usability.

A	B	C	D	E	F	G	H	I
Test Case ID	Test Case Description	Test Steps	Expected Result	Actual Result	Status	Severity Level	Assigned To	Remarks
1 TC001	Validate product listing page	Open Product page >Verify products	Products Displayed Correctly	Products displayed Correctly	Passed	Low	-	No issue
2 TC002	Test API Error handling	Disconnect API Refresh page	Show fallback UI with error message	Error message show	Passed	Medium	-	Handle gracefully
3 TC003	Check Cart Functionality	Add Product to Cart >Verify Cart Contents	Cart Updates with added Product	Cart updates as expected	Passed	High	-	Work as expected
4 TC004	Responsiveness on mobile	Resize Browser Window >Check layout	Layout adjusts properly to screen size	Responsive layout working as intended	Passed	Medium	-	Test successfully
5								
6								

2. Key Achievements

A. Functional Testing

Objective:

Ensure seamless operation of core features through rigorous validation. Tools focused on testing APIs, UI components, and workflows.

Features Evaluated:

- **Navigation Flow:** Ensured all menu links worked and transitions were smooth.
- **Product Page:** Verified accurate filtering and product display behavior.
- **Cart Operations:** Checked proper addition, removal, and updates to cart items.

Checkout Workflow:

Simulated the complete order process to ensure a smooth user experience. Tested payment, order confirmation, and status updates end-to-end.

B. Enhanced Error Handling

Objective: Minimize disruptions by implementing robust fallback mechanisms. Focused on maintaining user clarity and reducing system downtime.

Strategies Implemented:

1. **Centralized Error Logging:** Streamlined debugging with consolidated logs.
2. **Clear Error Messages:** Displayed messages like "Product currently unavailable."
3. **User Alerts:** Notified users of stock shortages or system issues promptly.
4. **Restricted Checkout:** Prevented checkout for out-of-stock items effectively.

C. Performance Tuning

Goal: Optimize load times and ensure platform responsiveness for users. Focused on improving efficiency across APIs, assets, and static content.

Improvements:

- **Reduced API Response Times:** Streamlined database queries to minimize delays.
- **Lazy-Loading for Images:** Deferred loading of images for faster initial page loads.
- **Compressed Assets:** Minimized CSS/JavaScript files to reduce load times significantly.

- **Caching Strategies:** Implemented caching for static content to enhance speed.

D. Device and Browser Compatibility

Objective: Ensure consistent platform performance across devices and browsers. Focused on responsiveness and accessibility during testing.

Testing Platforms:

- **Browsers:** Verified functionality on Chrome, Firefox, and Edge.
- **Devices:** Tested compatibility on Smartphone's, tablets, and desktops.

Results:

- **Screen Responsiveness:** Maintained flawless performance across all resolutions.
- **Accessibility Tools:** Verified compatibility with screen readers and assistive tools.

Lighthouse Report Viewer



Performance



Accessibility



Best Practices



SEO



Performance

Values are estimated and may vary. The [performance score is calculated](#) directly from these metrics. [See calculator.](#)

▲ 0–49 ■ 50–89 ● 90–100



METRICS

Expand view

● First Contentful Paint

0.9 s

■ Largest Contentful Paint

4.0 s

● Total Blocking Time

10 ms

● Cumulative Layout Shift

0.003

● Speed Index

2.4 s

[View Treemap](#)



3. Final Notes

The extensive efforts in testing, debugging, and refinement have ensured that the platform is robust, scalable, and user-friendly. By addressing critical areas like error handling, performance tuning, and cross-platform compatibility, the project is now well-prepared for real-world deployment.

Key achievements include significant reductions in response times, improved accessibility, and seamless functionality across devices and browsers. User feedback was instrumental in identifying pain points, allowing for targeted optimizations to enhance the overall experience.

With these refinements, the platform is positioned to deliver a smooth, reliable, and efficient user experience, meeting both technical and business objectives. The progress achieved lays a strong foundation for the next phases of development and deployment.