Hackathon Day 5

Day 5 — Enhancing Testing, Debugging, and Backend Optimization

Key Milestones

This phase is dedicated to refining and preparing the E-Commerce Marketplace for deployment. The main focus areas include:

1. Performing thorough testing to ensure optimal system performance.
2. Implementing robust error-handling mechanisms.
3. Enhancing performance metrics and accessibility.
4. Ensuring compatibility across various devices and browsers.
5. Documenting progress and key results in detail.

Action Plan

Functional Testing

Objective: Verify that all features function smoothly.

Key Areas Assessed:

✅ **Navigation Flow:** Ensure all menu links work correctly.

✅ **Product Display Page:** Confirm that all product details, including title, price, description, images, and available options (Categories, stock etc), are correctly displayed.

✅ **Product Page:** Check accurate product display.

✅ **Cart Operations:** Test adding, removing items in the cart.

✅ **Checkout Process:** Simulate payments and confirm successful order placement (save order in sanity).

Tools Utilized:

✅ Thunder Client

Improved Error Management

Objective: Develop a strong error-handling system.

Key Approaches:

✔ Implement fallback mechanisms for API failures.
✔ Show clear error messages such as "No featured Products available."
✔ Notify users in real-time about order placement and system issues with Sweet Alert.
✔ Display error messages next to invalid fields and prevent form submission if required fields are missing.
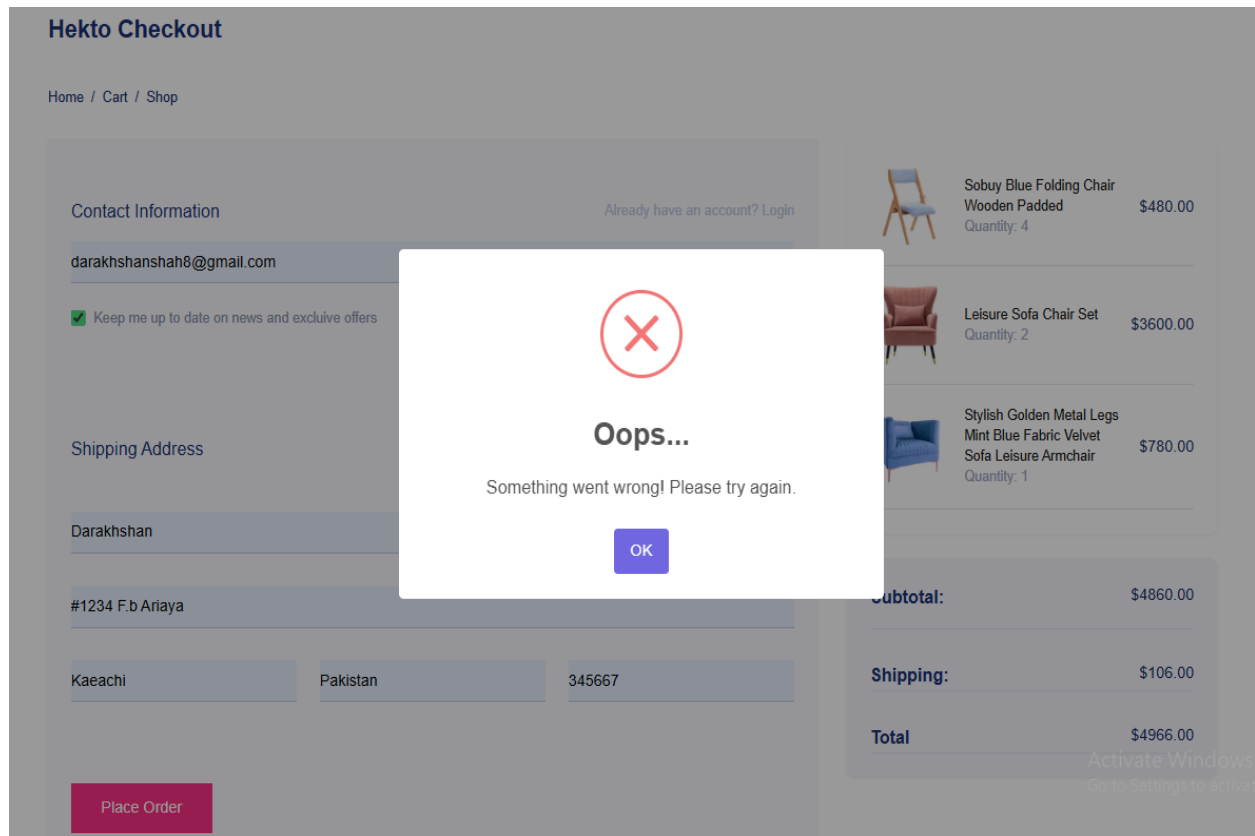✔ Display a 404 error page if the requested page is not found.

Example:

Show clear error messages such as "No featured Products available"

Featured Products
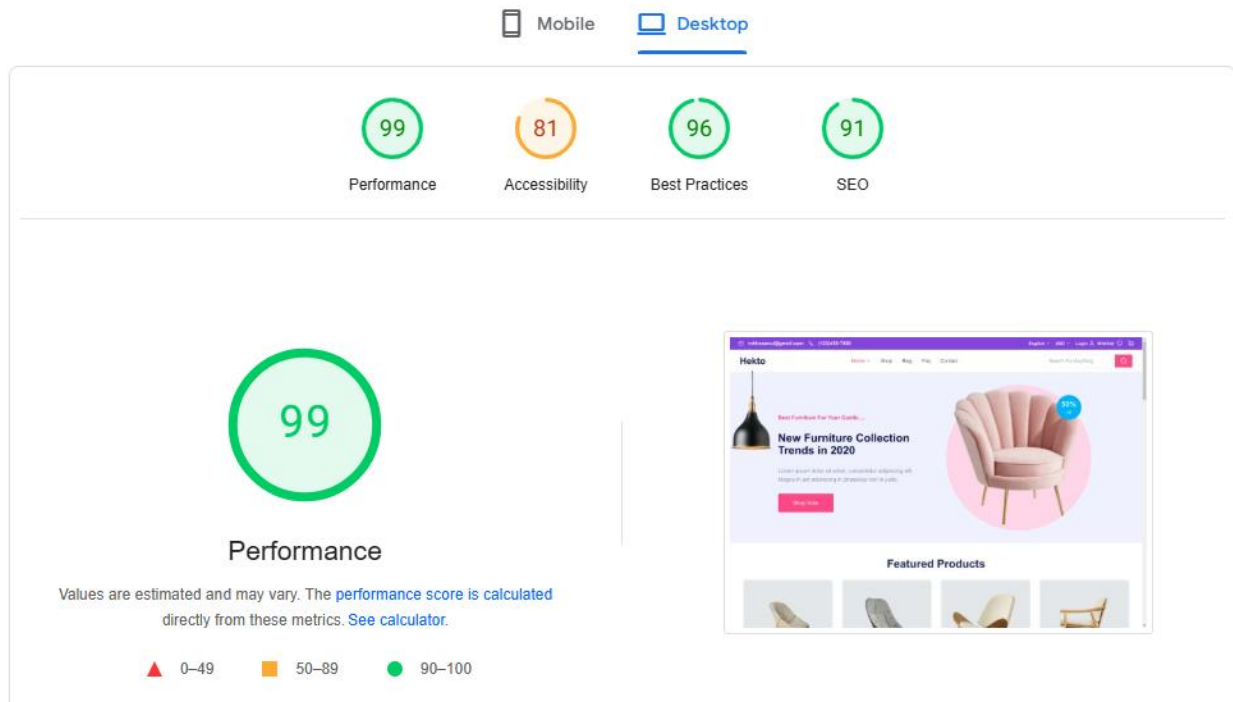
No featured products available.

Notify users in real-time about order placement and system issues with Sweet Alert
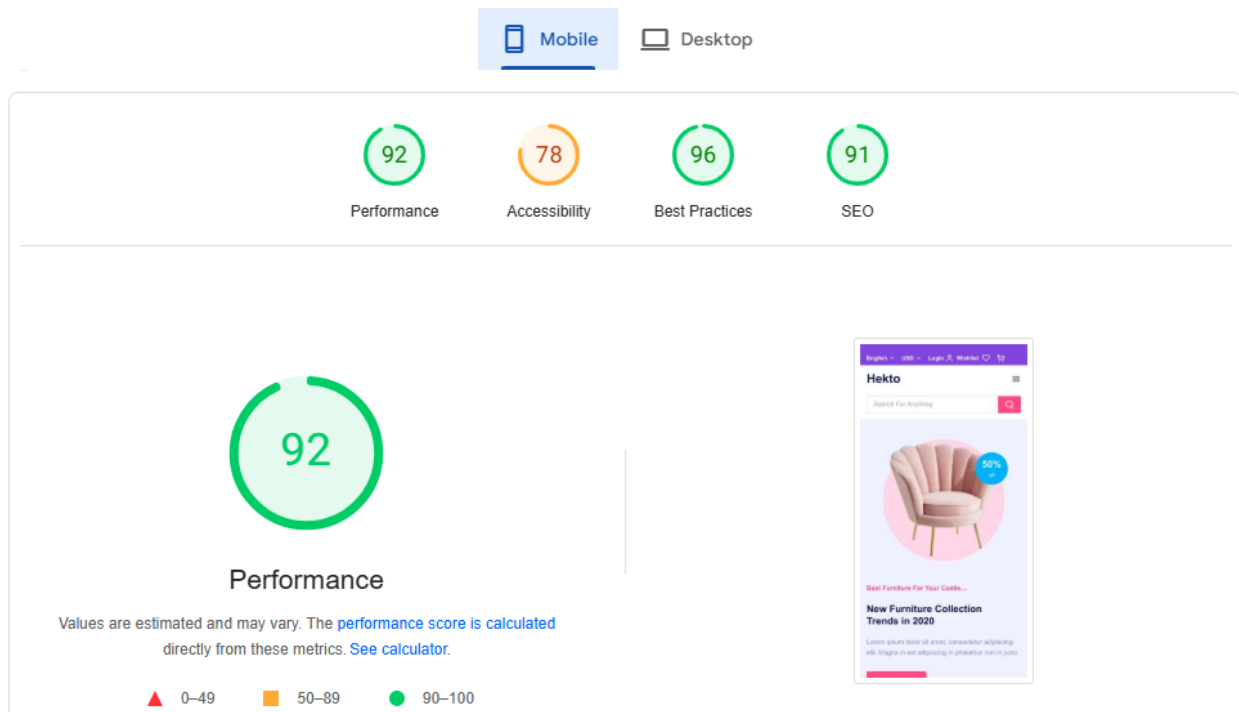

Performance Optimization

Focus: Enhance platform speed and responsiveness with PageSpeed insights.

Desktop Performance:

Mobile Performance:

Device Compatibility

Objective: Guarantee seamless performance across different platforms.

Tested Platforms:

- Browsers: Chrome, Firefox, Safari, Edge.

- Devices: Smartphones, tablets, and desktops (via BrowserStack).

Focus Areas:

- Maintain responsiveness across resolutions.

- Support for accessibility tools like screen readers

User Acceptance Testing (UAT)

Objective: Collect real-world user feedback to ensure a seamless experience.

Tested Scenarios:

- Browsing product categories.

- Smooth cart adjustments.

- Optimized the checkout process for faster completion.

Testing Summary Table

Test Case ID	Feature Tested	Expected Outcome	Actual Outcome	Status	Priority	Notes
TC001	Navigation consistency	Links direct accurately	Successful	Passed	High	No issues found
TC002	Product visibility	Accurate product rendering	Verified	Passed	Medium	None
TC003	Dynamic Working	Pages Rendering Without Issue	Functional	Passed	High	Handled gracefully
TC004	Cart functionality	Seamless add/remove/Clear operation	Confirmed	Passed	High	Works as expected
TC005	Checkout functionality	Order Place Successful in Sanity	Successful	Passed	High	Works as expected
TC006	API error handling	Show fallback UI with error message	Error message shown	Passed	High	Handled gracefully
TC007	Login/SignUp	Under Construction	working	Failed	Low	None
TC008	Performance benchmarks	Score ≥ 90	Achieved 99	Passed	High	Test Successful
TC009	Accessibility	Score ≥ 90	Reached 81	Failed	Low	None
TC0010	SEO optimization	Score ≥ 90	Achieved 91	Passed	High	Test Successful
TC0011	Ensure responsiveness on mobile	Score ≥ 90	Achieved 92	Passed	High	Test Successful

CSV Format:

Test Case ID,Feature Tested,Expected Outcome,Actual Outcome,Status,Priority,Notes

TC001,Navigation consistency,Links direct accurately,Successful,Passed,High,No issues found

TC002,Product visibility,Accurate product rendering,Verified,Passed,Medium,None

TC003,Dynamic Working,Pages Rendering Without Issue,Functional,Passed,High,Handled gracefully

TC004,Cart functionality,Seamless add/remove/Clear operation,Confirmed,Passed,High,Works as expected

TC005,Checkout functionality,Order Place Successful in Sanity,Successful,Passed,High,Works as expected

TC006,API error handling,Show fallback UI with error message, Error message shown,Passed,High,Handled gracefully

TC007,Login/SignUp,Under Construction,Working,Failed,Low,None

TC008,Performance benchmarks,Score ≥ 90,Achieved 99,Passed,High,Test Successful

TC009,Accessibility,Score ≥ 90,Reached 81,Failed,Low,None

TC010,SEO optimization,Score ≥ 90,Achieved 91,Passed,High,Test Successful

TC011,Ensure responsiveness on mobile,Score ≥ 90,Achieved 92,Passed,High,Test Successful

Final Summary

This phase emphasized testing and refining the E-Commerce marketplace for a successful launch.
Significant improvements were made in functionality, security, and performance.