

Day 5 - Testing and Backend Refinement - [Comforty Ecommerce]

Project Overview

This project showcases an e-commerce platform designed for optimal user experience and smooth backend integration. The tasks on Day 5 were focused on ensuring robustness in error handling, validating functionality through performance testing, and refining backend integrations for better data processing and user interaction.

Focus Areas:

- **Backend Integration:** Ensuring smooth data exchange with APIs.
 - **Error Handling:** Managing edge cases like network failures and unexpected server errors.
 - **Performance Testing:** Using Lighthouse to improve load times and responsiveness.
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Tools Used

The following tools were used during the development and testing phases:

- **Postman:** For API testing and debugging.
 - **React Testing Library:** To write and run component tests.
 - **Lighthouse:** For performance, accessibility, SEO, and best practices analysis.
 - **TinyPNG:** To optimize image sizes for faster load times.
 - **Browsers:** Tested on Chrome, and Edge.
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Testing Methodology

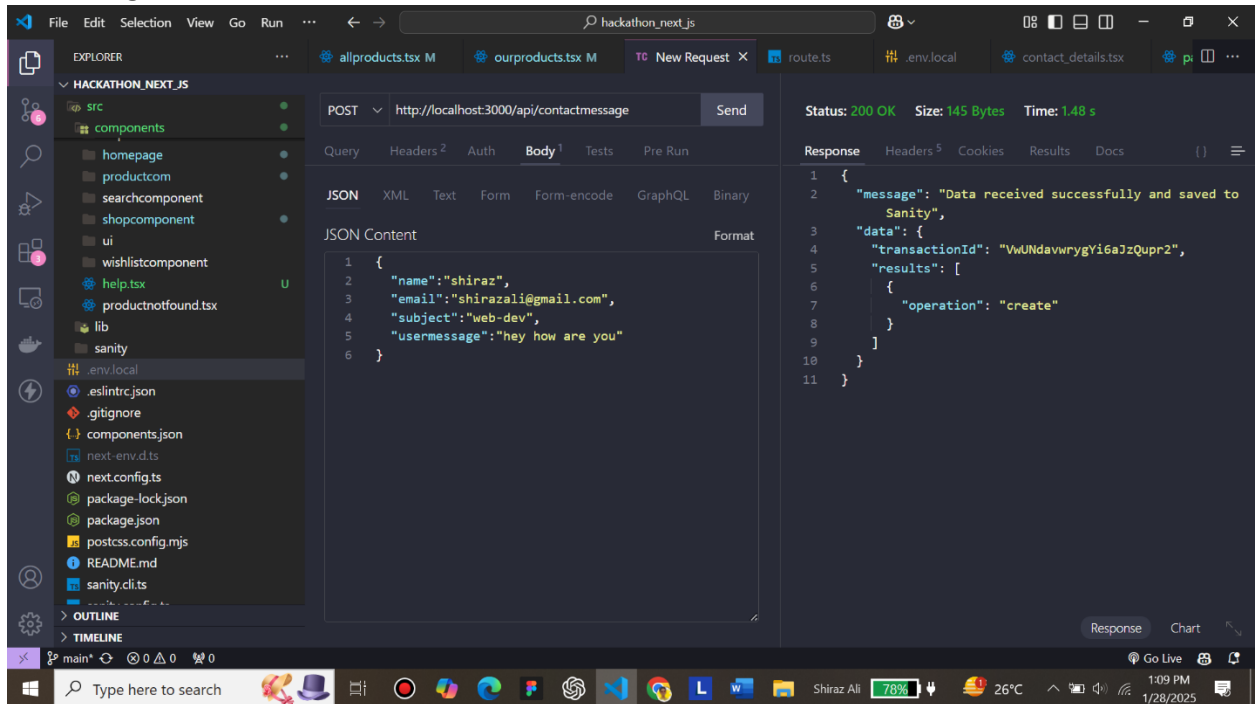
Our testing strategy for Day 5 involved a combination of different testing techniques to ensure robustness and reliability:

1. **API Testing:** Using Postman to validate all endpoints and ensure they return the expected data.
2. **Unit Testing:** Implementing tests for individual components using React Testing Library.
3. **Performance Testing:** Optimizing images with TinyPNG and testing website performance with Lighthouse.
4. **Cross-Browser Testing:** Ensuring compatibility across multiple browsers (Chrome, Firefox, Safari, and Edge).

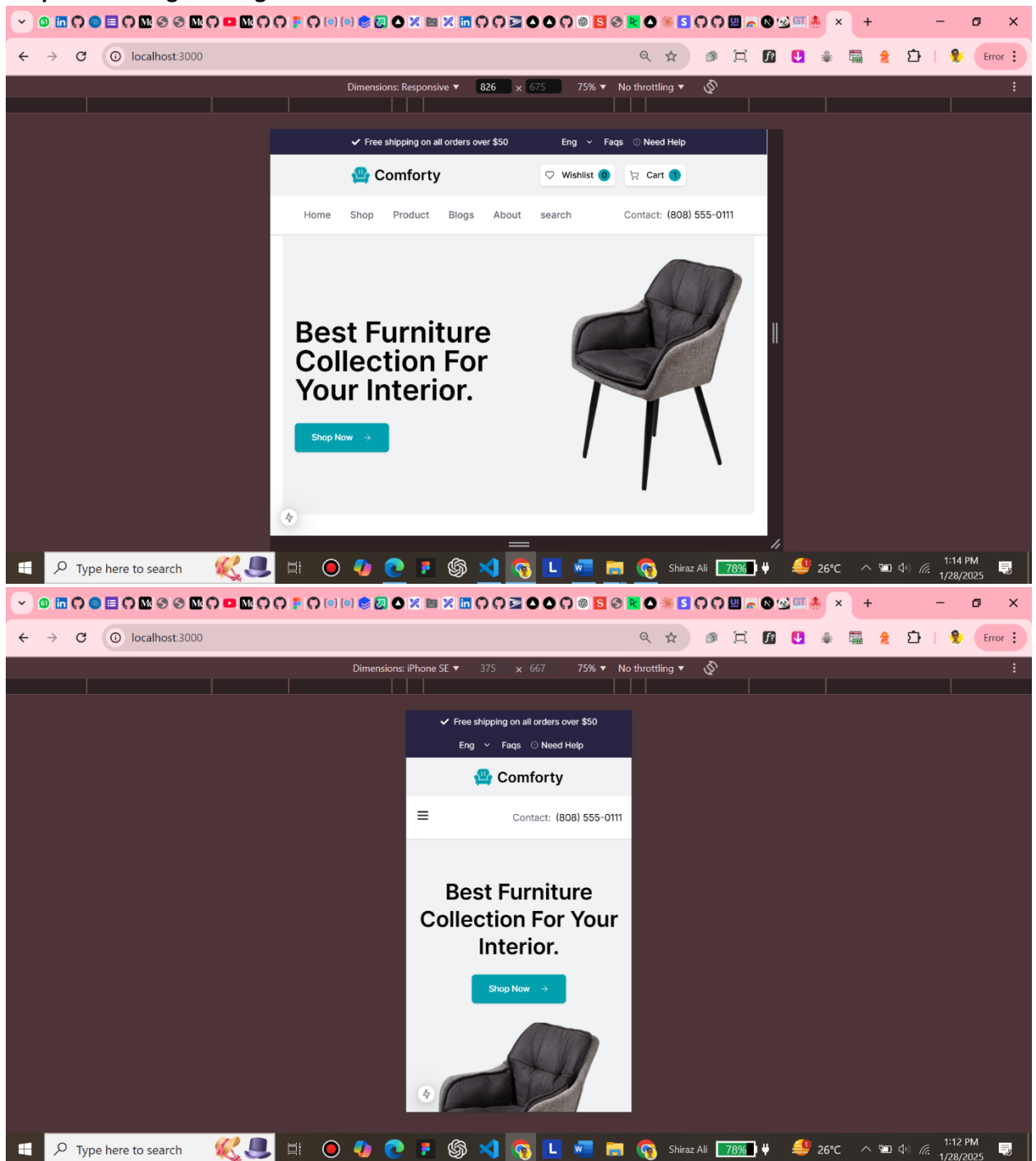
Screenshots

Application Development and Testing Process

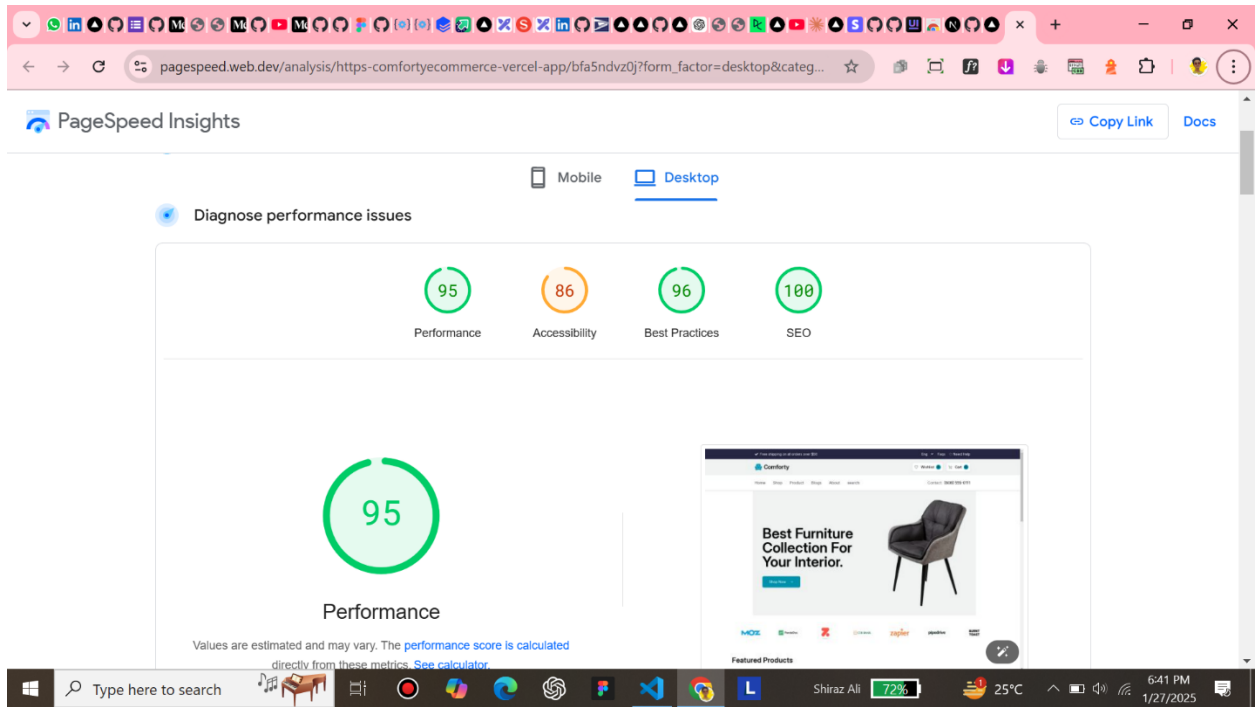
- **API Testing with Postman:**



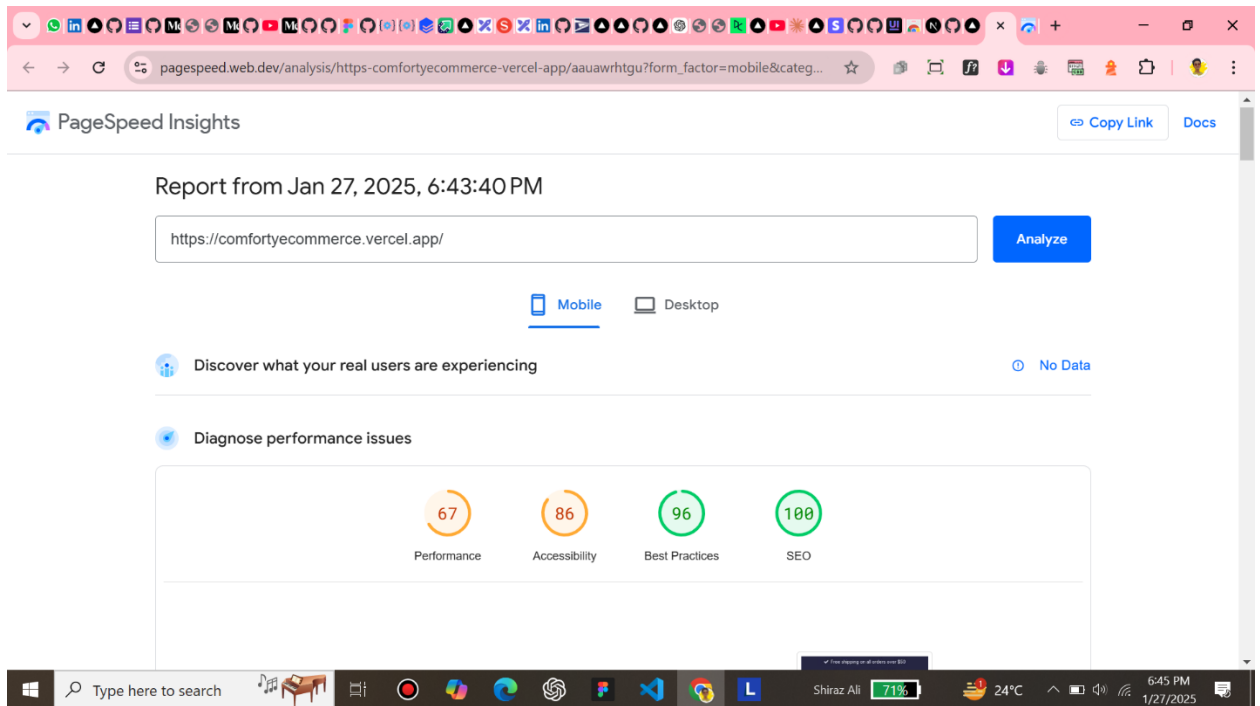
- **Responsive Design Testing:**



- Desktop performance test



- Mobile Performance test



Lighthouse Report

Summary

Desktop

- **Performance:** 95
- **Accessibility:** 86
- **Best Practices:** 96
- **SEO:** 100

Mobile

- **Performance:** 67
- **Accessibility:** 86
- **Best Practices:** 96
- **SEO:** 100

Key Areas for Improvement:

- **JavaScript Execution Time:** Reduce JavaScript execution time to improve load speed.
- **Main-Thread Work:** Minimize work on the main thread for better responsiveness.
- **Speed Index:** Optimize speed index performance to improve perceived load time.

Testing Report

You can download the full testing report in CSV format {link}

References

- **Hackathon Guidelines**
- **Tools Used:** Postman, React Testing Library, TinyPNG, Lighthouse, Chrome, Firefox, Safari, Edge,
- **Author:** [REDACTED]
- **Date:** January 28, 2025