Test Case Report

Project Name: Hackathon 3 Rental E-Commerce
Hosted URL: https://hackthone-3-two.vercel.app/

Introduction

This document provides a detailed report on the testing process and results for the Hackathon 3. The testing aims to ensure the functionality, performance, and reliability of the application hosted on Vercel.

Testing Scope

The following areas of the application were tested:

1. Core functionalities (form submissions, navigation, etc.)
2. API integrations
3. Deployment performance on Vercel
4. User interface and responsiveness
5. Error handling (runtime and deployment errors)
6. Performance metrics from Google PageSpeed Insights

Test Cases

1. User Interface Tests

Test Case ID	Description	Expected Result	Actual Result	Status
UI-001	Verify that the homepage loads successfully	Homepage displays without errors	As expected	Passed
UI-002	Test responsiveness on different devices	Layout adjusts for mobile and desktop	As expected	Passed
UI-003	Check navigation links	All links navigate to correct pages	As expected	Passed

2. Functional Tests

Test Case ID	Description	Expected Result	Actual Result	Status
FN-001	Submit form with valid	Data is saved, and success	As expected	Passed

	data	message appears		
FN-002	Submit form with invalid data	Validation error messages are displayed	As expected	Passed
FN-003	Test API response for data retrieval	API returns data within 2 seconds	As expected	Passed

3. Deployment Tests

Test Case ID	Description	Expected Result	Actual Result	Status
DP-001	Verify successful deployment on Vercel	Application deploys without errors	As expected	Passed
DP-002	Test runtime errors during deployment	No runtime errors observed	Issues found	Failed

4. Performance Tests

Test Case ID	Description	Expected Result	Actual Result	Status
PF-001	Measure page load time	Page loads within 3 seconds	As expected	Passed
PF-002	Stress test under high traffic	Application remains stable	As expected	Passed
PF-003	Analyze performance using PageSpeed Insights	Performance score of 90+ on desktop	85 on desktop	Improvement Needed

5. Error Handling Tests

Test Case ID	Description	Expected Result	Actual Result	Status
EH-001	Test handling of 404 errors	404 page is displayed for invalid URLs	As expected	Passed
EH-002	Check Vercel deployment error messages	Clear error messages are displayed	As expected	Passed

Summary of Findings

1. **User Interface**: The application has a responsive design that works seamlessly across various devices. Navigation is smooth and error-free.
2. **Core Functionalities**: The form submission and API integrations work as expected with both valid and invalid data.
3. **Deployment Issues**: A runtime error was encountered during deployment on Vercel. This issue required manual intervention and debugging.

4. **Performance**: According to Google PageSpeed Insights, the application scored 85 for desktop performance. While this is a good score, there is room for improvement to reach the target of 90+.
5. **Error Handling**: Error messages are clear and provide helpful information to the user.

Conclusion

The Hackathon 3 application is functional, responsive, and performs well under most conditions. Addressing the identified deployment and performance issues will further enhance its reliability and user experience.