DAY 5 - REPORT ON TESTING, ERROR HANDLING, AND BACKEND INTEGRATION

Customized Performance Testing Report

Website URL: https://giaic-hackathon-3-nine.vercel.app/
Report Generated: Tue, Jan 21, 2025, 11:25 AM (PST)
Testing Tool: GTmetrix (Chrome 117.0.0.0, Lighthouse 11.0.0)

Test Cases

Test Case ID: TC001

Description: Verify homepage loads correctly with optimal performance.
Expected Result: Homepage should load in under 3 seconds with no layout shifts.
Actual Result: Fully loaded in 446ms with a cumulative layout shift (CLS) of 0.02.
Status: Passed
Severity: Low
Remarks: Homepage performance is excellent, with no significant issues detected.

Test Case ID: TC002

Description: Verify Largest Contentful Paint (LCP) is within acceptable limits.
Expected Result: LCP should be less than 1.2 seconds.
Actual Result: LCP was 426ms.
Status: Passed
Severity: Medium
Remarks: LCP is well within acceptable limits, though an improvement in resource delivery can further optimize performance.

Test Case ID: TC003

Description: Verify total blocking time (TBT) during page load.
Expected Result: TBT should not exceed 150ms.
Actual Result: TBT was 0ms.
Status: Passed

Severity: Low
Remarks: Page load blocking time is excellent, indicating efficient script handling.

Test Case ID: TC004

Description: Verify proper sizing of images to optimize loading time.
Expected Result: All images should be properly sized to avoid excess load time.
Actual Result: Some images are improperly sized; potential savings of 1.97MB identified.
Status: Failed
Severity: Medium
Remarks: Address image optimization to enhance performance.

Test Case ID: TC005

Description: Verify JavaScript efficiency during page load.
Expected Result: No unused JavaScript should be present.
Actual Result: Unused JavaScript detected; potential savings of 47.7KB.
Status: Failed
Severity: Low
Remarks: Removing unused JavaScript can slightly improve performance.

Test Case ID: TC006

Description: Ensure all resources use modern formats for faster load times.
Expected Result: Images and other assets should be served in next-gen formats where possible.
Actual Result: Potential savings of 734KB by serving images in next-gen formats.
Status: Failed
Severity: Low
Remarks: Convert images to next-gen formats (e.g., WebP) to reduce resource size.

Performance Summary

Overall Metrics:

- **Performance Score:** 100%
- **Structure Score:** 92%
- **Fully Loaded Time:** 446ms

- **Total Page Size:** 2.34MB
- **Total Requests:** 28

Test Cases Table:

Test Case ID	Description	Expected Result	Status	Severity	Remarks
TC001	Verify homepage loads correctly with optimal performance.	Homepage should load in under 3 seconds with no layout shifts.	Passed	Low	Homepage performance is excellent, with no significant issues detected.
TC002	Verify Largest Contentful Paint (LCP) is within acceptable limits.	LCP should be less than 1.2 seconds.	Passed	Medium	LCP is well within acceptable limits, though an improvement in resource delivery can further optimize performance.
TC003	Verify total blocking time (TBT) during page load.	TBT should not exceed 150ms.	Passed	Low	Page load blocking time is excellent, indicating efficient script handling.
TC004	Verify proper sizing of images to optimize loading time.	All images should be properly sized to avoid excess load time.	Failed	Medium	Some images are improperly sized; potential savings of 1.97MB identified.
TC005	Verify JavaScript efficiency during page load.	No unused JavaScript should be present.	Failed	Low	Removing unused JavaScript can slightly improve performance.
TC006	Ensure all resources use modern formats for faster load times.	Images and other assets should be served in next-gen formats where possible.	Failed	Low	Convert images to next-gen formats (e.g., WebP) to reduce resource size.