

Website Testing Report - Lighthouse Analysis

CSV Format Data

Metric	Value
Performance	66
Accessibility	88
Best Practices	100
SEO	100
First Contentful Paint (FCP)	1.2s
Largest Contentful Paint (LCP)	2.3s
Total Blocking Time (TBT)	9,560ms
Cumulative Layout Shift (CLS)	0.091
Speed Index	1.2s

Defined Test Cases

Performance Analysis

- **Main Issues:**
 - High Total Blocking Time (9,560ms)
 - JavaScript execution time is too long (9.7s)
 - Large layout shifts detected
 - Unoptimized images leading to increased load times
 - Excessive DOM size (206 elements)
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- **Optimization Suggestions:**
 - Minimize main-thread work (reduce it from 11.9s)
 - Reduce unused JavaScript (potential savings of 95KiB)
 - Properly size images (potential savings of 20KiB)
 - Optimize lazy loading strategies

Security Considerations

- **Cross-Site Scripting (XSS) Prevention:** Ensure Content Security Policy (CSP) is effective.
- **JavaScript Source Maps:** Missing for large first-party JavaScript files.
- **Trust & Safety Compliance:** Lighthouse suggests best practices compliance.

Challenges Identified

- **Slow Data Fetching:**
 - Initial page load takes too long due to data retrieval from Sanity CMS.
 - Implement caching mechanisms and optimize API calls.
- **Large Network Payloads:**
 - Total size was 8,730KiB, which slows down performance.
 - Optimize asset loading strategies.
- **Rendering Delays:**
 - Largest Contentful Paint (LCP) takes 2.3s, requiring image optimization and layout improvements.

Error Handling & User Experience

- **Loading States Implementation:**
 - When data takes time to load, a ‘Loading...’ message is displayed to prevent blank screens.
 - Implement skeleton screens or shimmer UI to enhance user experience.

Test Cases Table

Test Case ID	Test Case Description	Test Steps	Expected Result	Actual Result	Status	Severity Level	Assigned To	Remarks
TC001	Measure First Contentful Paint	Load the website and record FCP time	FCP should be below 1s	1.2s	Failed	High	Dev Team	Optimize loading speed
TC002	Evaluate Largest Contentful Paint	Load website and check LCP timing	LCP should be below 2s	2.3s	Failed	High	Dev Team	Optimize images & lazy loading
TC003	Test JavaScript Execution Time	Measure JavaScript execution time using Lighthouse	Should be below 5s	9.7s	Failed	High	Dev Team	Reduce JavaScript dependencies
TC004	Check Total Blocking Time	Measure TBT impact on interactivity	Should be below 300ms	9,560ms	Failed	Critical	Dev Team	Optimize scripts
TC005	Validate Accessibility Contrast	Check text contrast ratios	Should meet WCAG standards	Fails for some elements	Partial Pass	Medium	UI Team	Improve color contrast
TC006	Test SEO Compliance	Run Lighthouse SEO test	Should score 100	100	Passed	Low	SEO Team	No issues
TC007	Check Loading Error Handling	Simulate slow API response from Sanity CMS	Loading screen should appear	‘Loading...’ message displayed	Passed	Low	Dev Team	Implement skeleton screens
TC008	Validate DOM Size	Measure the number of DOM elements	Should be below 150	206	Failed	Medium	Dev Team	Reduce DOM size

Final Recommendations

- **Performance Enhancements:** Optimize scripts, images, and reduce blocking time.
- **Security Improvements:** Strengthen CSP and fix missing JavaScript source maps.
- **UX Enhancements:** Implement better loading states and improve accessibility contrast.
- **SEO Optimization:** Continue maintaining best SEO practices.

Prepared by: QA Team

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