

CSE211 Web Programming - Fall 2025-2026

Final Course Project: Performance Analysis Report

Group Number: 11

Team Members:

Name	ID
Ahmed Abdelazim	223107337
ISLAM JUMMAH	223106258
Sherif mohamed	223107334
Saif Amer	223105417

Submission Date: 1/6/2026

1. Executive Summary

This report analyzes the performance of the **EventsX** web application using Google Lighthouse and Chrome DevTools. The goal was to assess loading speeds, accessibility, best practices, and SEO compliance to ensure a smooth user experience across devices.

Testing Tools:

- **Google Lighthouse** (via Chrome DevTools)
- **Browser:** Google Chrome Version 143.0

2. Global Metrics & Core Web Vitals

We targeted the following "Green" zones for our metrics:

- **Performance:** ≥ 90
- **Accessibility:** ≥ 90
- **Best Practices:** ≥ 90
- **SEO:** ≥ 90

3. Page-Level Analysis

3.1. Home Page (index.html)

Desktop Performance:

Metric	Score / Value	Status (Pass/Fail)
--------	---------------	--------------------

Overall Performance	99	Pass
Accessibility	94	Pass
Best Practices	100	Pass
SEO	100	Pass
Largest Contentful Paint (LCP)	0.9s	Good
Cumulative Layout Shift (CLS)	0.047s	Good

Lighthouse Screenshot:



Performance



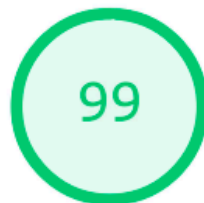
Accessibility



Best Practices



SEO



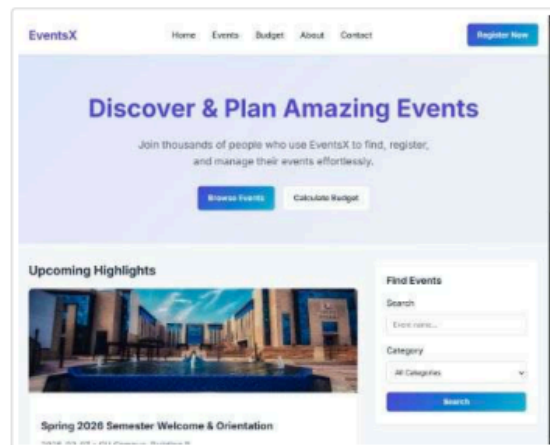
Performance

Values are estimated and may vary. The [performance score is calculated](#) directly from these metrics. [See calculator.](#)

▲ 0–49

■ 50–89

● 90–100



METRICS

[Expand view](#)

- First Contentful Paint

0.5 s

- Largest Contentful Paint

0.9 s

- Total Blocking Time

0 ms

- Cumulative Layout Shift

0.047

3.2. Events Listing Page (pages/events.html)

Desktop Performance:

Metric	Score / Value	Status
Overall Performance	79	Pass
Accessibility	85	Pass
Best Practices	100	Pass
SEO	100	Pass
Largest Contentful Paint (LCP)	0.4s	Good
Cumulative Layout Shift (CLS)	0.507	Needs improvement

Lighthouse Screenshot:



Performance



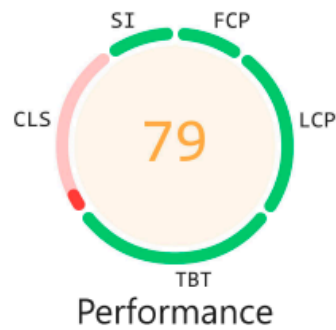
Accessibility



Best Practices



SEO



Values are estimated and may vary. The [performance score is calculated](#) directly from these metrics. [See calculator.](#)

▲ 0–49 ■ 50–89 ● 90–100

EventsX					
Home	Events	Budget	About	Contact	Register Now
Home > Events					
Upcoming Events					
Search events...			All Categories		
Event Name	Date	Location	Category	Cost	Action
Spring 2026 Semester Welcome & Orientation	2026-02-07	GU Campus, Building B	Academic	\$0.00	Register
Rebesson 2026: Campus Qualifiers	2026-02-12	GU Campus, Smart Systems Lab	Competition	\$0.00	Register
Basics of Structural Bioinformatics Workshop	2026-02-22	GU Campus, C5 Faculty Labs	Workshop	\$500.00	Register
GU Spring Employment Fair 2026	2026-03-16	GU Campus, Exhibition Grounds	Career	\$0.00	Register
Guest Lecture: Future of Digital Banking	2026-03-25	GU Campus, Auditorium 1	Seminar	\$0.00	Register
EED 2026 Graduation Project Exhibition	2026-04-04	Cairo International Convention Center	Exhibition	\$100.00	Register

METRICS

Expand view

- First Contentful Paint

0.4 s

- Total Blocking Time

0 ms

- Largest Contentful Paint

0.4 s

- ▲ Cumulative Layout Shift

0.507

3.3. Registration Page (pages/registration.html)

Desktop Performance:

Metric	Score / Value	Status (Pass/Fail)
Overall Performance	100	Pass
Accessibility	91	Pass
Best Practices	100	Pass
SEO	100	Pass
Largest Contentful Paint (LCP)	0.5s	Good
Cumulative Layout Shift (CLS)	0	Good

Lighthouse Screenshot:



Performance



Accessibility



Best Practices



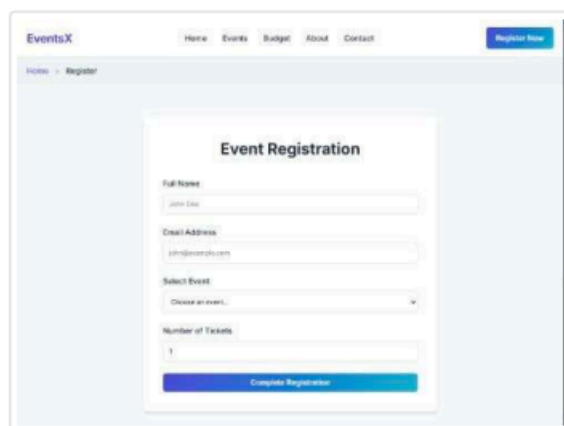
SEO



Performance

Values are estimated and may vary. The [performance score is calculated](#) directly from these metrics. [See calculator.](#)

▲ 0–49 ■ 50–89 ● 90–100



METRICS

[Expand view](#)

- First Contentful Paint

0.5 s

- Largest Contentful Paint

0.5 s

- Total Blocking Time

0 ms

- Cumulative Layout Shift

0

3.4. Budget Calculator (pages/budget-calculator.html)

Desktop Performance:

Metric	Score / Value	Status (Pass/Fail)
Overall Performance	100	Pass
Accessibility	91	Pass
Best Practices	100	Pass
SEO	100	Pass
Largest Contentful Paint (LCP)	0.7s	Good
Cumulative Layout Shift (CLS)	0	Good

Lighthouse Screenshot:



Performance



Accessibility



Best Practices



SEO



Performance

Values are estimated and may vary. The [performance score is calculated](#) directly from these metrics. [See calculator.](#)

▲ 0–49

■ 50–89

● 90–100

The screenshot shows the 'EventsX' website with a navigation bar (Home, Events, Budget, About, Contact) and a 'Register Now' button. The main content area is titled 'Budget Calculator' and contains a form with the following sections:

- Your Budget:** A text input for 'Total Planned Budget (\$)' with a placeholder 'e.g. 100'.
- Event Expenses:**
 - Ticket Price (\$):** A text input with a placeholder '0'.
 - Estimated Attendees:** A text input with a placeholder '1'.
 - Travel & Accommodation:**
 - Travel Cost (\$):** A text input with a placeholder '0'.
 - Accommodation Cost (\$):** A text input with a placeholder '0'.
 - Additional Expenses:**
 - Food & Beverage (\$):** A text input with a placeholder '0'.
 - Miscellaneous (\$):** A text input with a placeholder '0'.

METRICS

[Expand view](#)

- First Contentful Paint

0.7 s

- Largest Contentful Paint

0.7 s

- Total Blocking Time

0 ms

- Cumulative Layout Shift

0

4. Mobile Responsiveness Check

In addition to standard performance, we verified usability on mobile devices using Chrome's Device Toolbar.

EventsX

Register Now

Discover & Plan Amazing Events

Join thousands of people who use EventsX to find, register, and manage their events effortlessly.

Browse Events

Calculate Budget

Upcoming Highlights



Tech Conference 2025

2025-03-15 • New York, NY

Mobile View Screenshot:

Observations:

- The layout successfully switches to a single column on devices smaller than 768px.
- The navigation menu adapts.
- Touch targets (buttons/links) are sized appropriately for fingers.

5. Summary of Optimizations

To achieve these scores, the team implemented the following strategies:

1. **Image Optimization:** All images were resized to their display dimensions and compressed.
2. **Code Minification:** Removed unnecessary comments and whitespace from final CSS/JS builds.
3. **Semantic HTML:** Used proper <header>, <main>, <nav>, and <footer> tags to boost Accessibility and SEO scores.
4. **Layout Stability:** Specified width and height attributes on images to prevent Layout Shift (CLS).

Conclusion:

The EventsX application meets the performance requirements set forth in the project specifications, demonstrating fast load times and high accessibility standards.