**Title: Web Performance Analysis for Edu123**

**1. Overview**

**Website URL:** [Edu123 - Boarding Schools in Mussoorie](https://www.edu123.in/category/boarding-schools-in-mussoorie)

**Purpose:** Analyze page load speed and suggest improvements based on the PageSpeed Insights report.

**2. Performance Metrics**

* **Largest Contentful Paint (LCP):** 4.9s (Should be under 2.5s)
* **First Contentful Paint (FCP):** 1.7s
* **Cumulative Layout Shift (CLS):** 0.97 (Should be below 0.1)
* **Time to First Byte (TTFB):** 1.1s (Should be under 0.8s)

**3. Recommendations**

**1. Reduce JavaScript Execution Time**

* **Action:** Minimize and defer non-essential JavaScript to reduce execution time.

**2. Eliminate Render-Blocking Resources**

* **Action:** Defer or async non-critical CSS and JavaScript to prevent blocking of the rendering process.

**3. Serve Images in Next-Gen Formats**

* **Action:** Convert images to WebP or AVIF formats to enhance compression and loading speed.

**4. Reduce Unused JavaScript**

* **Action:** Audit and remove unused JavaScript code to reduce overall payload size.

**5. Minimize Main-Thread Work**

* **Action:** Break down long-running tasks into smaller chunks and use Web Workers for background processing.

**6. Avoid Large Layout Shifts**

* **Action:** Set explicit dimensions for images, videos, and iframes to prevent unexpected layout shifts.

**7. Serve Static Assets with Efficient Cache Policy**

* **Action:** Implement proper cache headers for static resources to enhance repeat visit performance.

**8. Reduce the Impact of Third-Party Code**

* **Action:** Optimize third-party scripts and load them asynchronously to minimize their impact on main thread performance.

**9. Avoid Enormous Network Payloads**

* **Action:** Compress files and reduce the size of CSS, JavaScript, and images to lower network payloads.

**10. Avoid Excessive DOM Size** - **Action:** Simplify the DOM structure by reducing the number of elements to improve rendering performance.

**4. Accessibility and SEO Improvements**

**Accessibility:**

* **Action:** Ensure all buttons and links have accessible names or labels, and associate labels with form elements for better accessibility.

**SEO:**

* **Action:** Improve missing meta descriptions, title tags, and proper use of headings to enhance search engine optimization.