

Core Web Vitals Measurement & Analysis

Category	Website A (E-Commerce)	Website B (News/Media)	Website C (Education)
URL	ebay.com	aljazeera.com	coursera.org
Server Location	San Jose, CA (HQ) / Global CDN	Doha, Qatar (HQ) / CDN	Mountain View, CA / AWS Cloud
CMS	Custom (Headless)	Headless WordPress	Custom / React Platform
Frontend Framework	React, Node.js	React (on top of WP)	React
Page Load Time	0.77 s (Load) / 1.03 s (Finish)	1.05 s (Load) / 17.27 s (Finish)	2.39 s (Load) / 3.23 s (Finish)
Total Page Size	1.0 MB transferred	2.1 MB transferred	263 kB transferred
HTTP Requests	91	142	96

Metric	Website A (eBay)	Website B (Al Jazeera)	Website C (Coursera)
LCP (<2.5s)	1.7 s (Good)	1.5 s (Good)	3.2 s (Poor)
INP (<200ms)	201 ms (Needs Improvement)	426 ms (Poor)	656 ms (Poor)
CLS (<0.1)	0.02 (Good)	0.02 (Good)	0.06 (Good)
Assessment	Failed (due to INP)	Failed (due to INP)	Failed (due to LCP & INP)

Rank	Website	Score (0-100)	Reason for Ranking
1st	eBay	60	Best overall responsiveness. Fast load times and manages high traffic well. Fails INP marginally (201ms).
2nd	Al Jazeera	41	Good visual loading (LCP 1.5s), but heavy ad scripts cause severe input delays (INP 426ms).
3rd	Coursera	41	Worst Performer. Fails both critical metrics. Slowest to load (LCP 3.2s) and least responsive (INP 656ms).

Tech Stack Analysis:

- Al Jazeera uses a modern "Headless WordPress" setup where WordPress manages content, but React handles the frontend display.
- Coursera is a Single Page Application (SPA) built heavily on React and hosted on Amazon Web Services (AWS).

A) Largest Contentful Paint (LCP) - Target < 2.5s

- Website A (eBay): 1.7s (Good).
- Website B (Al Jazeera): 1.5s (Good).
- Website C (Coursera): 3.2s (Poor).
- *Observation:* Coursera fails LCP significantly, likely due to large hero images or heavy JavaScript executing before the main content paints.

B) Interaction to Next Paint (INP) - Target < 200ms

- Website A (eBay): 201ms (Needs Improvement).
- Website B (Al Jazeera): 426ms (Poor).
- Website C (Coursera): 656ms (Poor).
- *Observation:* Coursera has the worst responsiveness (656ms), meaning the site freezes for over half a second when a user tries to click a button.

C) Cumulative Layout Shift (CLS) - Target < 0.1

- Website A (eBay): 0.02 (Good).
- Website B (Al Jazeera): 0.02 (Good).
- Website C (Coursera): 0.06 (Good).

Website	Overall Score (Mobile)	Overall Score (Desktop)	Key Difference
eBay	60 (Needs Improvement)	71 (Needs Improvement)	Desktop is faster, but both struggle with code execution time.
Al Jazeera	41 (Poor)	60 (Needs Improvement)	Huge gap; Mobile CPU struggles with the heavy React hydration.
Coursera	41 (Poor)	61 (Needs Improvement)	Consistent poor performance; highly unoptimized for weaker devices.

Performance Ranking:

1. **1st Place: eBay** (Best LCP and best INP, though still needs work).
2. **2nd Place: Al Jazeera** (Good LCP, but very poor interactivity/INP).
3. **3rd Place: Coursera** (Worst Performer: Fails both LCP and INP significantly).

