Test Case ID	Test Case Description	Test Steps	Expected Result	Actual Result	Status	Severity Level	Assigned To	Remarks
TC001	Ensure Largest Contentful Paint (LCP) is optimized	1. Open Lighthouse, 2. Note LCP value.	LCP is under 2.5 seconds	LCP value: 1.5 seconds. Meets performance standa	Passed	Low	N/A	LCP is within acceptable range.
TC002	Validate image optimization	1. Run Lighthouse, 2. Check for image size recomm	All images are optimized and sized appropriately.	49 KiB savings detected for unoptimized images.	Failed	Medium	Developer	Compress images and serve as WebP.
TC003	Minimize unused JavaScript	1. Run Lighthouse, 2. Check "Reduce unused JavaS	No unused JavaScript detected.	799 KiB of unused JavaScript flagged in bundles.	Failed	High	Developer	Remove unused JavaScript modules.
TC004	Validate server response time	1. Open Lighthouse, 2. Check "Initial server respons	Server response time is under 200 ms.	Response time: 140 ms. Meets performance requir	Passed	Low	N/A	N/A
TC005	Avoid long main-thread tasks	1. Run Lighthouse, 2. Check "Main-thread tasks" se	No tasks longer than 50 ms.	5 long tasks detected, increasing main-thread work	Failed	Medium	Developer	Optimize JavaScript and CSS.
TC006	Validate color contrast for accessibility	1. Open Lighthouse, 2. Check "Contrast" under Acc	All text elements meet WCAG contrast standards.	Background and foreground colors fail to meet con	Failed	Medium	Designer	Adjust colors to meet standards.
TC007	Ensure heading elements are sequentially ordered	1. Run Lighthouse, 2. Check "Headings" under Acce	Headings follow a sequential order.	Heading elements not in sequential order, affecting	Failed	Low	Developer	Fix heading hierarchy.
TC008	Verify valid robots.txt file	1. Open Lighthouse, 2. Check "robots.txt validity" un	robots.txt is valid and accessible by crawlers.	robots.txt is not valid. May hinder search engine inc	Failed	High	Developer	Fix syntax in robots.txt file.