Web Accessibility Evaluation Report

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1 Introduction

Web accessibility is a fundamental aspect in the creation and maintenance of websites. Ensuring that all individuals, regardless of their abilities or disabilities, can access and use a website is essential to provide an inclusive and equitable experience.

This report delves into the accessibility of the website `www.shein.com` and its application, with the aim of identifying areas for improvement and highlighting potential deficiencies that impact the experience of users with disabilities.

Figure 1: Shein website homepage

2 Website Evaluation

2.1 Identification of Issues According to WCAG Proposal

2.1.1 Perceivable

- Images without "alt" attributes: The website continues to have an accessibility issue by not providing descriptive "alt" attributes for most of its

images, making it difficult for people with visual impairments to understand the visual content.

- Contrast issues: Contrast problems are detected in elements such as informative text and buttons, which can result in difficulties for reading by users with visual impairments or color perception issues.

- Reflow: Content presentation lacks the ability to ensure no loss of information or functionality without necessitating scrolling.

2.1.2 Operable

- Keyboard navigation: Keyboard navigation on the website remains problematic, as it does not clearly highlight the option where the user is when using the "Tab" key, making navigation difficult for individuals who rely on the keyboard.

- Non-pausable moving banners: Moving banners on the site cannot be paused, which can be a barrier for users who need more time to interact with the content.

- Link Purpose: The website lacks a mechanism that enables users to discern the purpose of each link based solely on the link text.

2.1.3 Understandable

- Translation errors: Despite improvements in translation, there are still translation errors in some parts of the website, which can hinder users' understanding of the content.

- Inconsistencies in navigation: Navigation on the website remains inconsistent, particularly in the pet products section, where the categorization of pet-related items within the home and garden section appears incongruous, as users seeking pet accessories and clothing may find it counterintuitive to navigate through home and garden products in the same category. This may lead to a less efficient and user-friendly experience for customers looking for specific pet-related items.

- Error Identification: There are instances where input errors are not consistently identified and described to the user in a clear and informative manner, potentially leading to user confusion and a less accessible experience for those relying on error feedback to complete tasks.
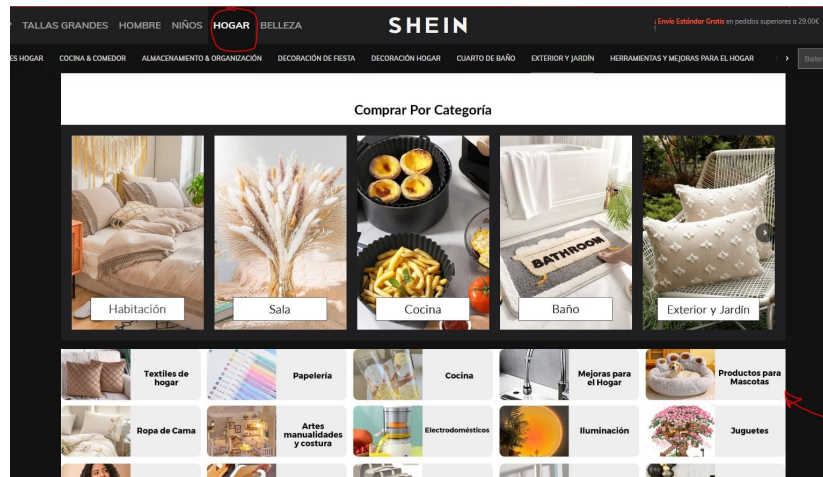
Figure 2: Inconsistencies in navigation in the pet products section on the Shein website.

2.1.4   Robust

- Parsing: It has been observed that on some pages, there are instances of duplicate attributes within elements. This issue can significantly influence the accurate rendering and interpretation of web content, potentially causing adverse effects on the user experience, particularly for individuals who depend on assistive technologies.

2.2   Lighthouse Assessment Tool

2.2.1   Performance

The Lighthouse audit has highlighted several performance issues affecting the website. Notable metrics include:

- Largest Contentful Paint: 2.7 seconds, marked in red.

- First Contentful Paint: 0.9 seconds, indicated in orange.
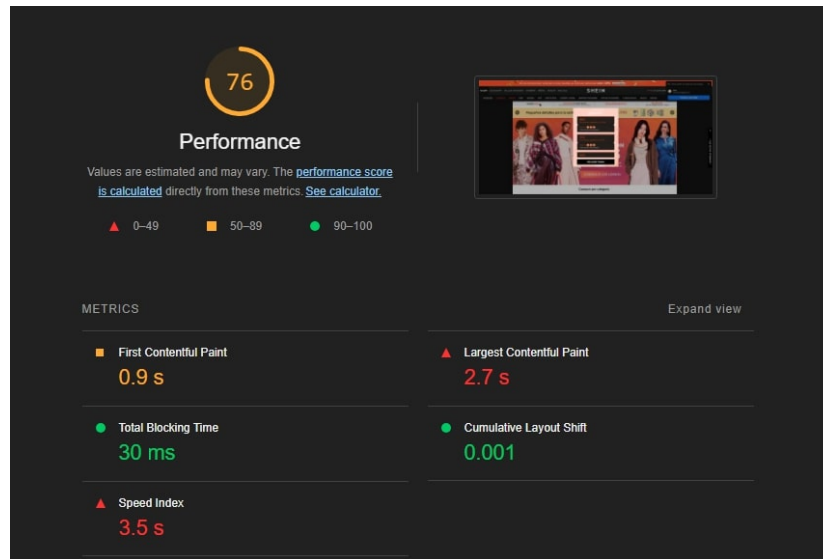
- Speed Index: 3.5 seconds, also flagged in red.

Figure 3: Performance analysis using Lighthouse.

To address these performance shortcomings, the following optimizations are recommended:

- Reduce Unused JavaScript: By minimizing unnecessary JavaScript usage, potential gains of 1.48 seconds in load time can be achieved.

- Properly Size Images: Ensuring that images are correctly sized can result in a load time improvement of 0.40 seconds.

- Defer Offscreen Images: Delaying the loading of offscreen images has the potential to enhance performance by 0.28 seconds.

- Use Video Formats for Animated Content: Employing video formats for animated elements can lead to a more efficient load time.

Additionally, the diagnostic findings indicate the need for the following improvements:

- Ensure Text Remains Visible During Webfont Load: Address warnings related to webfont loading, specifically regarding the font-display value for the origin `https://fonts.gstatic.com`.

- Image Elements Lack Explicit Width and Height: Rectify issues where image elements do not specify explicit width and height attributes.

- Prevent Back/Forward Cache Restoration Failures: Address the four identified reasons for page restoration failures.

- Serve Static Assets with an Efficient Cache Policy: Implement a more efficient cache policy for the 122 identified static resources.

- Avoid Enormous Network Payloads: Mitigate the issue of excessive network payloads, with a total size of 4,687 KiB.

- Minimize DOM Size: Reduce the number of elements in the Document Object Model (DOM), which currently stands at 1,541 elements.

2.2.2 Accessibility

The Lighthouse audit has uncovered several accessibility concerns, which can significantly impact the user experience for individuals relying on assistive technologies, such as screen readers. The audit metrics reveal the following areas of improvement:

- ARIA Attributes: Inconsistencies between ARIA attributes and roles were detected, affecting users reliant on assistive technologies like screen readers.

- Best Practices: Violations of common accessibility best practices, particularly concerning user scalability settings.

- Names and Labels: Links lacking discernible names can hinder user understanding, especially for those using screen readers.

- Tables and Lists: Non-standard lists and the presence of script-related elements in lists may disrupt the experience for users relying on assistive technology.

- Navigation: Instances of elements with inappropriate [tabindex] values and disordered heading elements were observed, potentially affecting keyboard navigation and content hierarchy comprehension.
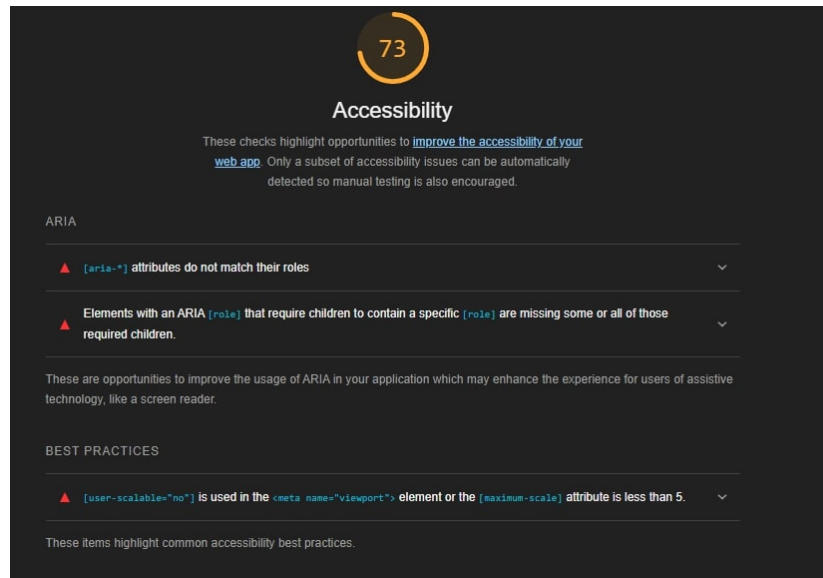
Figure 4: Accessibility analysis using Lighthouse.

2.2.3 Best Practices

The Lighthouse audit has highlighted several best practice concerns:

- User Experience: The audit detected instances of images displayed with incorrect aspect ratios, which can negatively impact user experience.

- General: Concerns included the registration of unload listeners, console logging of browser errors, logging of issues in the Chrome DevTools Issues panel, and the detection of JavaScript libraries.
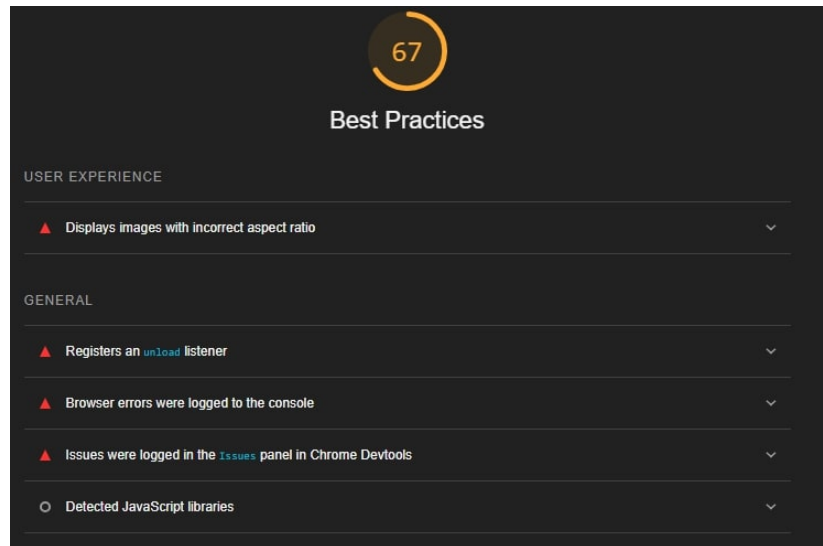
Figure 5: Best Practices analysis using Lighthouse.

2.2.4 SEO

The Lighthouse audit revealed SEO issues, including:

- Content Best Practices: The audit identified links without descriptive text, which can impact how search engine crawlers understand the website's content.

- Crawling and Indexing: Some links were found to be non-crawlable, potentially affecting the website's visibility in search engine results.
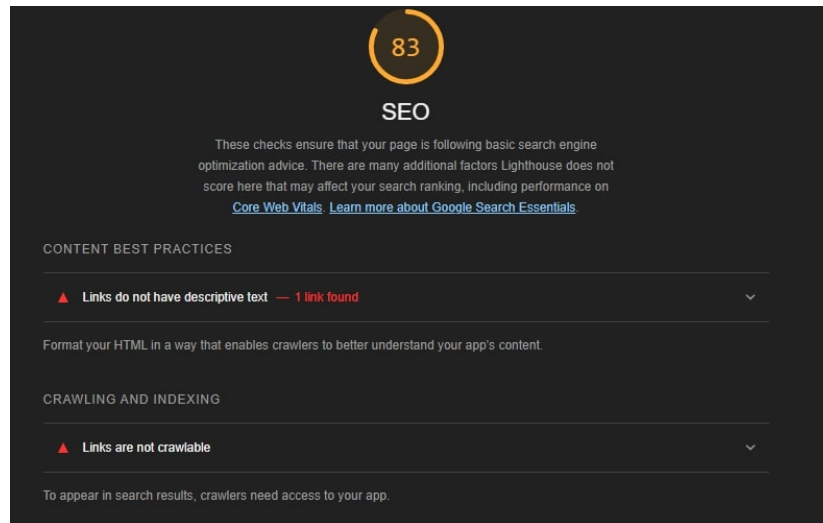
Figure 6: SEO analysis using Lighthouse.

2.2.5 PWA

The Lighthouse audit detected several PWA-related issues, including:

- Installability: The web app manifest or service worker does not meet the installability requirements, resulting in potential installation difficulties for users.

- PWA Optimization: The service worker that controls the page and start_url was not found due to missing manifest fetching, and there was a lack of configuration for a custom splash screen and theme color for the address bar. Additionally, the manifest lacks a maskable icon.
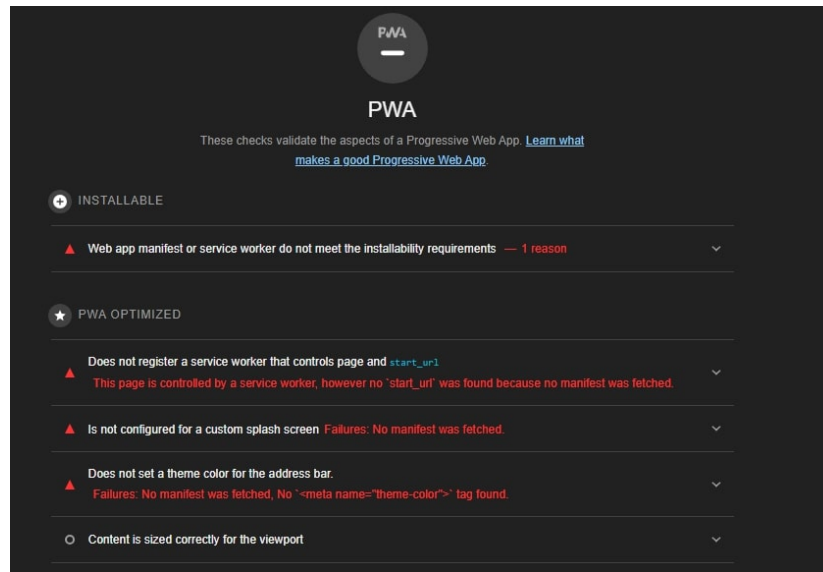
Figure 7: PWA analysis using Lighthouse.

3 Mobile Application Evaluation

3.1 Identification of Issues According to WCAG Proposal

3.1.1 Perceivable

After enabling the accessibility feature, specifically designed for users with visual impairments, it has come to our attention that when interacting with elements, such as clicking on them, the function does not consistently provide immediate audio feedback or read the relevant information. Instead, users often need to click on an element multiple times (approximately 3 to 4 times) before the screen reader function accurately vocalizes the content. As an example, when attempting to access the "shopping cart," several clicks were required before the accessibility function properly conveyed the cart's content. This delay in voice feedback can lead to a frustrating and inefficient experience for users with visual impairments who depend on this functionality.
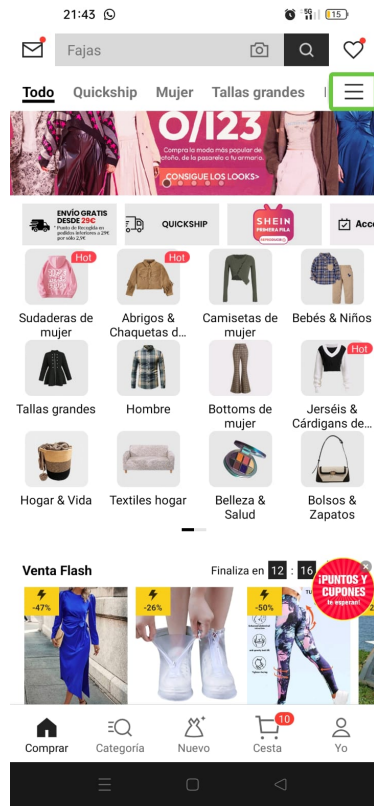
Figure 8: Perceivable issue in the mobile application.

3.1.2 Operable

The mobile application offers a straightforward and pleasurable navigation experience for the average user. Its visually intuitive presentation guarantees a seamless user journey, enhancing usability and overall satisfaction.

Figure 9: Operable issue in the mobile application.

3.1.3 Understandable

The issue above mentioned about inconsistencies in navigation is mitigated in the mobile application, where navigation is generally more streamlined and intuitive, offering a smoother experience for users seeking pet-related items.

Figure 10: Understandable issue in the mobile application.

3.1.4 Robust

It has been observed that not all images load correctly in the application. To resolve this issue, users often need to refresh the app or navigate back to the previous section and then return to the intended section for the images to display correctly. This intermittent image loading problem may affect the overall reliability and user experience of the application.
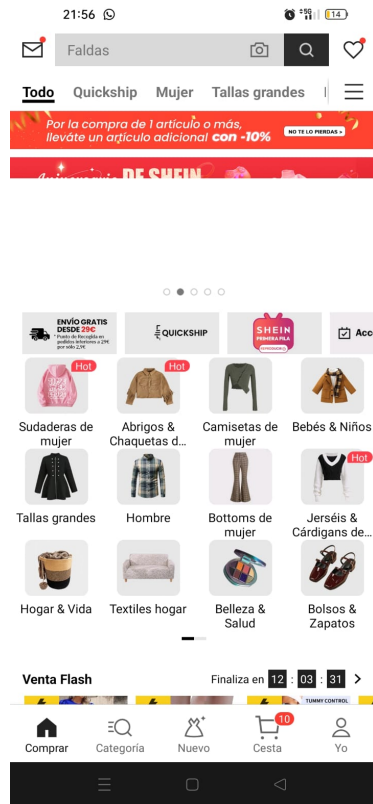
Figure 11: Robust issue in the mobile application.

4 Conclusions

Shein faces significant challenges in terms of web accessibility, with notable issues in the areas of perceptibility and operability. Furthermore, the Lighthouse audit reveals opportunities to enhance site performance.

It is essential to adhere to best practices in web development and maintain an ongoing commitment to accessibility to ensure that Shein becomes an inclusive and high-capacity platform for all users.

5 Documentation

- Website Information: `https://w3techs.com/sites/info/Shein.com`

- WCAG 2.1 Quick Reference: `https://www.w3.org/WAI/WCAG21/quickref/#captions-live`

6 Report and Submission

As part of this report, find included its submission. You can access the associated repository on GitHub through the following link: `https://github.com/mele13/PAMN`