SECV2223: Web Programming

ASSIGNMENT 1

Date : 15/4/2024

Faculty of Computing

Prepared by: AMENDMENT BOYS

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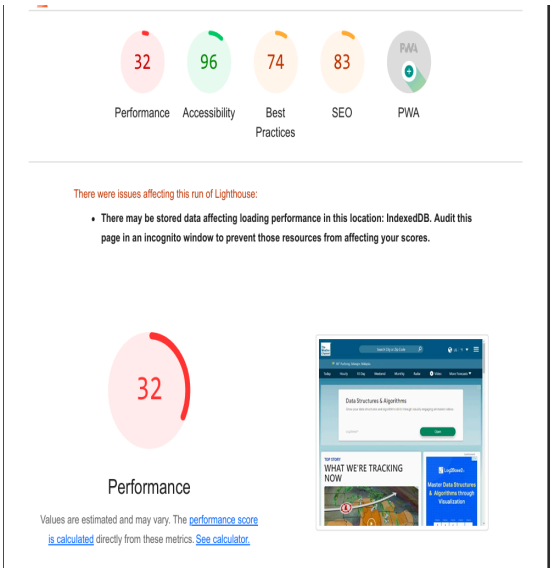
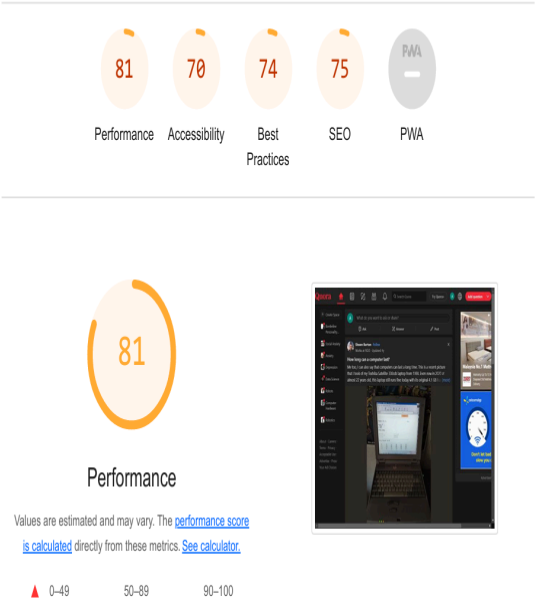
PERFORMANCE ANALYSIS ON:

WEBSITE NAME	WEBSITE LINK
QUORA	https://www.quora.com/
WEATHER.COM	https://weather.com/?Goto=Redirected
REDDIT	https://www.reddit.com/
STACK EXCHANGE	https://stackexchange.com/
CORRECTLEY!	https://correctley.com/
ANSWERS	https://www.answers.com/

Weather AND Quora EXCHANGE PERFORMANCE ANALYSIS USING GOOGLE LIGHTHOUSE

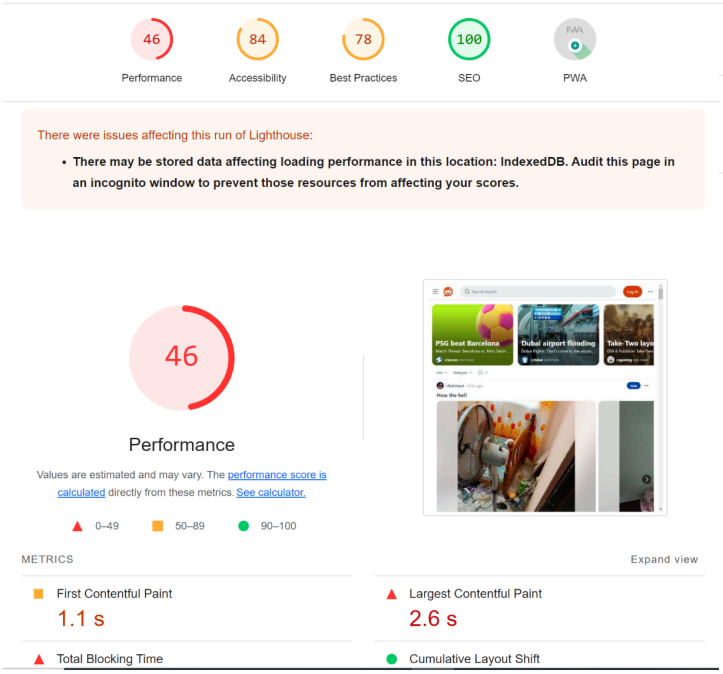


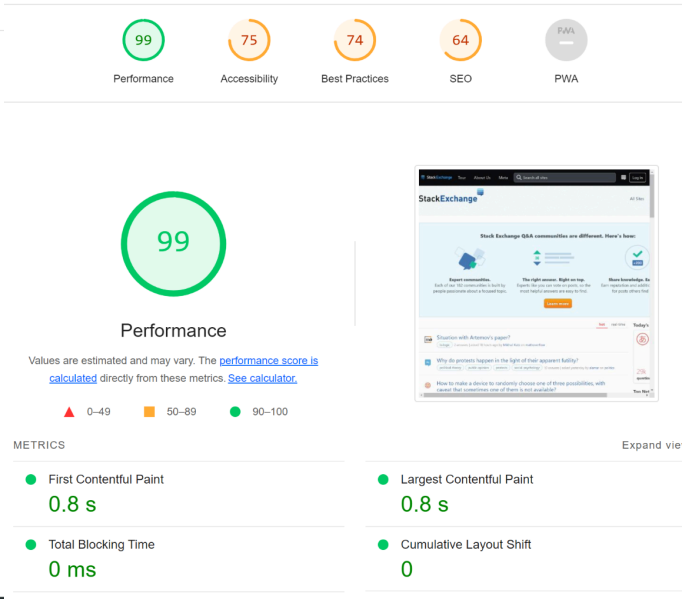


Quora and Weather are different websites that are good at some things but not so good at others. They both follow the rules for how websites should work, but they could do better in how fast they load and how easy they are to use. Quora is really good at working well and getting a high score of 81. This means it's easy for people to use and find things on the website. But, it could do better at making sure people with disabilities can use it too. If Quora improves this, it will make the website more inclusive for everyone. Weather is easy for everyone to use, with a high score of 96 for accessibility. This means that people with different disabilities can easily access the website. However, it could be better because it has a low score of 32 for performance. The website takes a long time to load and doesn't respond quickly, which could make it harder for people to use. Both websites are following the rules for making websites well, which is good. They both got good scores for that. This means they are made well and are reliable. Also, they are easy for people to find on the internet because they are set up in a way that search engines like. One website, Quora, works really well and is quick to respond when you use it. The other website, Weather, doesn't work as well and is slow to respond. They need to make it better and faster. Accessibility is how easy it is for everyone to use something. One website, Weather, is really good at making sure it can be

used by people with disabilities. They care a lot about including everyone. Another website, Quora, can do better at making sure it is easy for everyone to use, especially people with different needs. Both websites are really good at following the rules and guidelines for making websites. This shows that they care about making their websites high-quality and easy for people to find on search engines. This means that people can easily find the information they need on these websites.

REDDIT AND STACK EXCHANGE PERFORMANCE ANALYSIS USING GOOGLE LIGHTHOUSE

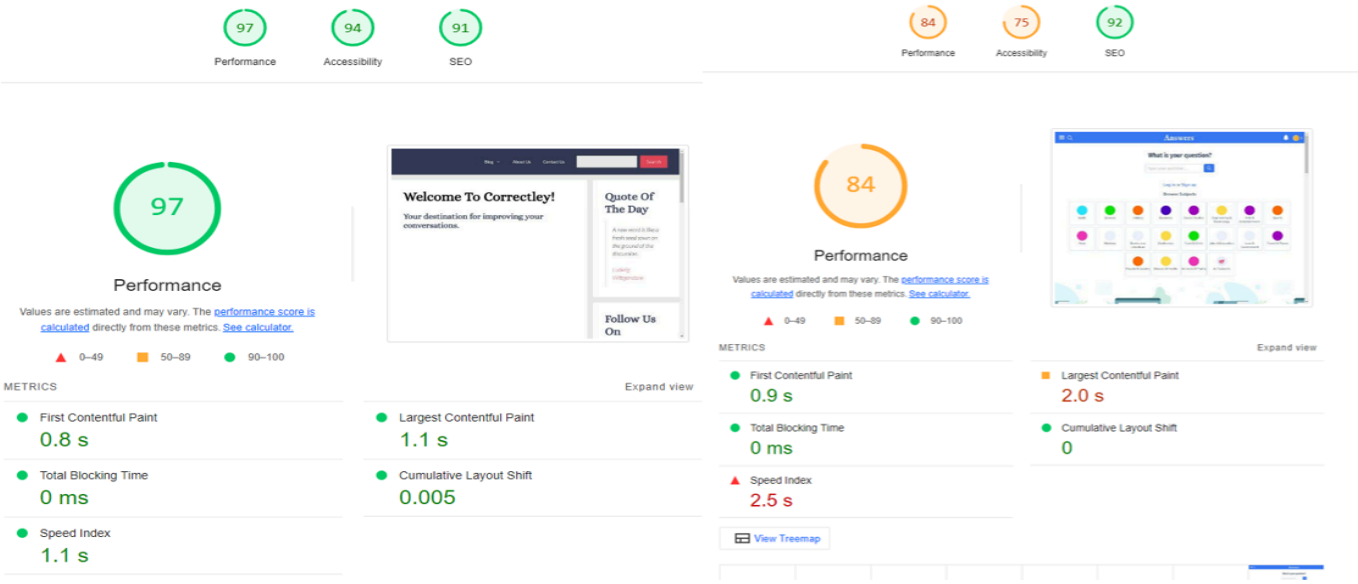




Information has become more and more sought after in this day and age. To start there are numerous websites or applications with to aid the people of the present to obtain the knowledge they want. Reddit,for example, is a massively visited website that serves as one of the main sources of news, discussions and content across all fields and spheres of mankind's life. On the other hand, Stack Exchange is a network of Q&A websites where users ask and answer questions on specific topics, earning reputation points for valuable contributions. It's a valuable resource for knowledge sharing across various fields. Based on the performance analysis made on Reddit's website, we can see it was valued 46 for performance, 84 for

accessibility, 78 on best practices, and 100 on SEO. It shows strengths like fast-loading images, reduced data consumption, smooth layout shifts, valid structured data, and properly uses JavaScript libraries. However, it also faces challenges such as high total blocking time, large DOM size, uses third party cookies, and missing source mps for large first-party JavaScript. To combat this, Reddit can focus on reducing JavaScript processing time, implementing passive listeners for improved page scrolling, and optimizing its code for better performance. For the performance analysis on Stack Exchange, we can see it was valued 99 for performance, 75 for accessibility, 74 on best practices, and 64 on SEO. Entailing it having a lower total blocking time, faster speed index and takes less time taken to load largest contentful paint. Based on the analysis as well, we find that there were resources blocking the first paint, does not minimize their main-thread work, not optimize website for mobile use. To improve, developers can reduce the time spent parsing, compiling and executing JS, deliver critical JS/CSS inline and deferring all non-critical JS/styles, set an explicit width and height on image elements to reduce layout shifts and improve CLS, use descriptive link text helps search engines understand your content.

CORRECTLEY! AND ANSWERS PERFORMANCE ANALYSIS USING GOOGLE LIGHTHOUSE



Answer is a site that answers questions in a variety of areas, including math, science, history, business, arts, entertainment, and more. Users can explore different categories and ask questions they want answered. The portal also includes popular questions and tools such as a scoreboard, tags, and study aids. Correctley! is a platform that enhances conversational skills by providing insights into meanings, phrases, and courteous responses. It offers blog posts, up-to-date explanations, and a Quote of the Day. As part of The April Ink Group, it upholds editorial and privacy policies.

The "Correctly!" website requires several optimization issues that could improve its performance and user experience. These include reducing the initial server response time to 680 ms, eliminating render-blocking resources to speed up rendering, addressing back/forward cache restoration failures, serving images in next-gen formats, ensuring text remains visible during webfont load, reducing unused JavaScript, avoiding excessive DOM size, and minimizing main-thread work. Strengths include few layout shifts and low main-thread work time. The Answer website's biggest drawback is the large contentful Paint element takes 1,980 ms, indicating potential delays in loading crucial content.The absence of explicit width and height attributes for image elements may cause layout shifts and slower rendering. The initial server response time is short at 460 ms, suggesting a responsive server setup. The website efficiently serves static assets with a cache policy for 22 resources, reducing unnecessary server requests and enhancing loading speed.The website minimizes third-party usage by ensuring it doesn't block the main thread, maintaining responsiveness and avoiding external dependencies.

The first assessment identifies issues like lengthy Largest Contentful Paint elements, unused JavaScript, and inefficient image serving, causing potential delays. The second evaluation shows shorter server response time and effective management of third-party scripts, enhancing user experience. Both evaluations emphasize addressing render-blocking resources, image handling, and minimizing unnecessary JavaScript. The website minimizes third-party usage by ensuring it doesn't block the main thread, maintaining responsiveness and avoiding external dependencies. This aligns with best practices for web performance. Further optimization in JavaScript usage, image handling, and layout considerations is needed