

## Top 5 Technology Websites Performance Analysis Using Lighthouse Matrix

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**Abstract.** In the rapidly growing digital era, many websites have been developed to help users find any usable resources that can help them. The website that has been reviewed by our group is known for its innovative use and giving some reports for any devices. These all websites were found to effectively use abstract images to help it stand out from the website competition. Other than that, it effectively uses different forms of colors, patterns and fonts to make these websites' homepage section stand out in a bold display of eye-catching elements. This tool provides a clear way to improve website quality by allowing developers to audit performance, accessibility and compatibility. The results of this study can help all the selected websites for future improvement.

**Keywords:** Technologies, Performance, Analysis.

### 1 Introduction

In the rapidly growing digital era, many websites have been developed to help people out there. When we say digital, there are many gadgets that users can use to access the digital world. Gadgets, which are the new things that need to be reviewed and now, we have many technology websites that review gadgets and teach people how to use them. These websites play a crucial role in educating users about the latest gadgets. Many technology reviewers help users to make their own decision about what gadgets to purchase based on their needs. Some popular technology websites include TechCrunch, Gizmodo and more. Gadget reviews are an essential aspect of technology websites. They need to provide all the detailed analysis of a gadget. This is often done by the tech experts who already spend a significant amount of money and time to test the gadget, just to ensure that users can have a better understanding. Technology websites also need to provide tutorials and guidance about how to use any gadgets. This will be helpful for the users who are still new to a gadget or technology. This can cover from setting up the gadget and the step to use its different features. Nowadays, the digital era has ushered in a wave of new gadgets. Technology websites serve as a bridge for users to connect between them and gadgets or any technology. Websites play an important role to give guidance to the users, making technology more understandable.

## **2 LITERATURE REVIEW**

### **2.1 Websites**

In the rapidly evolving digital landscape, websites have emerged as indispensable tools for information dissemination and user engagement. With the proliferation of gadgets and technologies, specialized websites have emerged to cater to the diverse needs of users. These websites serve as platforms for reviewing gadgets, offering tutorials, and providing guidance on their usage. Examples of such websites include TechCrunch and Gizmodo, which have garnered widespread popularity for their comprehensive coverage and insightful analysis of the latest gadgets and technologies. Through detailed reviews and tutorials, these websites play a crucial role in educating users and assisting them in making informed decisions about their gadget purchases.

### **2.2 Technology**

The rapid advancement of technology has led to the proliferation of a wide array of gadgets that have become integral parts of modern life. From smartphones and tablets to wearable devices and smart home appliances, these gadgets have revolutionized the way people communicate, work, and interact with their surroundings. In the context of technology websites, gadgets serve as focal points for reviews, tutorials, and guidance, as users seek to understand their functionality, features, and practical applications. Technology websites bridge the gap between users and gadgets, offering valuable insights and assistance to ensure optimal utilization and integration of technology into daily life.

### **2.3 TechCrunch**

TechCrunch is an American global online newspaper that provides information on high technology. It was founded by Archimedes Ventures in June 2005 [1]. TechCrunch focuses on giving technology news, analysis and features articles about startups as well as industry in general. TechCrunch is also known as an organizer for the Disrupt conference, a technology event that is hosted annually in several cities across the United States, Europe and China. TechCrunch covers news about new product launches, major events in the technology industry. In 2021, Verizon sold its media assets, including AOL, Yahoo, and TechCrunch, to the private equity firm Apollo Global Management.

### **2.4 Gizmodo**

Gizmodo is a famous technology website that covers multiple topics including technology, science, culture and entertainment. It is always the first to provide the latest news, reviews, tips and videos on topics such as gadgets, space, science and gaming. Some of the recent articles on Gizmodo include discussion on the future of technology of

the best gaming laptop you can own in 2024. Launched in 2002, was originally edited by Peter Rojas[2]. In February 2011, Gizmodo underwent major design. Gizmodo contains two sub blogs as part of the wider site, io9 and Earther.

## **2.5 Computerworld**

The Computerworld website is the center of the latest news, analysis, commentary, and insights in the field of technology. Website visitors can find articles covering a wide range of topics, including enterprise IT, network security, cloud computing, software, hardware, and emerging technologies. The website provides a user-friendly interface that allows readers to easily browse different sections and explore content that suits their interests and needs. In addition, Computerworld's website often provides special reports, industry surveys, and opinion articles from experts in the field, providing valuable perspectives and actionable information for IT professionals, executives, and technology enthusiasts. For the latest updates and content, it is best to visit the Computerworld website directly.

## **2.6 Gigaom**

Gigaom, founded in 2006 by Om Malik, swiftly became a prominent player in the technology research and analysis arena, renowned for its incisive coverage of emerging trends across various industries, including artificial intelligence, cloud computing, and the Internet of Things (IoT). Gigaom's brand and website were later acquired by Knowingly Corp, leading to a relaunch in August 2015. Since then, Gigaom has maintained its position as a respected source of technology-related content and insights, continuing to provide valuable research and analysis to its audience. While its journey has seen ups and downs, Gigaom's legacy underscores its enduring significance in the tech media landscape.

## **2.7 Life Hacker**

Life Hacker is a popular website that offers tips, tricks, and advice on various aspects of life, including productivity, technology, health, and personal finance. It provides articles, how-to guides, and product recommendations aimed at helping readers optimize their daily routines and make the most out of their time and resources. Whether you're looking for ways to streamline your workflow, improve your health and fitness, or manage your finances more effectively, Life Hacker offers a wealth of practical information and insights.

## **2.8 Matrix Google LightHouse**

Matrix Google Lighthouse provides a performance measurement on how fast a browser can operate. Lighthouse uses a web browser called Chromium to render pages and run tests at build time. As you can see there are four metrics that we can use to analyze the web performance: Performance, accessibility, best practices and SEO.

















### 3 Method

It is understood that this research begins with literature or a study of literature from various sources such as: B. Information about research being conducted from both articles and journals supporting that research. Data collection is done by entering the website you want to research into Google and checking some metrics that apply to Google Lighthouse. All of these indices are in the range 0-100. A score of 0-49 is incorrect, a score of 50-89 is sufficient, and a score of 90-100 is excellent. After conducting an audit of a given marketplace website, Lighthouse generates reports on 5 different areas.

1. Performance includes factors such as images and resources that slow down your Marketplace page.
2. Accessibility looks at how easily marketplace content is accessible to users, including the use of assistive technology.
3. Best Practices identifies web development elements that do not comply with current guidelines and best practices.
4. SEO highlights SEO issues even on less comprehensive websites.

It consists of multiple audits such as Performance, Accessibility, Progressive Web Applications, SEO, etc., and runs on any web page, whether hosted on a server or on public services such as Google Pages or GitHub can. Each audit is accompanied by a reference document that explains why the audit is essential and how it can be improved. Lighthouse can be run as a web app from its GitHub repository, but there is also a Chrome extension that can be run on any website. It is used by many front-end developers to analyze performance metrics of various front-end web applications. Available in a variety of easy-to-use workflows, Lighthouse is a must-have tool for webmasters concerned about website speed. An analysis and testing phase is conducted to find reports from each of the technology websites (TechCrunch, Gizmodo, ComputerWorld, GigaWorld and Life Hacker. This process includes a run test step that runs over all of the homepage.

#### 4 Result and Discussion

Website	Result From Lighthouse Analysis			
<b>TechCrunch</b>	 Performance	 Accessibility	 Best Practices	 SEO
<b>Gizmodo</b>	 Performance	 Accessibility	 Best Practices	 SEO
<b>Computerworld</b>	 Performance	 Accessibility	 Best Practices	 SEO
<b>Gigaom</b>	 Performance	 Accessibility	 Best Practices	 SEO
<b>Life Hacker</b>	 Performance	 Accessibility	 Best Practices	 SEO

Based on the result from Google Lighthouse, Gizmodo's performance (38) is the best compared to the other four websites. Although it has the best performance it is still in red colour that means the website can be optimized to get better results. Next, LifeHacker outshined all the other websites with its overwhelming result that is 99 in terms of accessibility. LifeHacker already gets the green colour that indicates the website is already optimized and the result of 99 can not get any better. After that, Gigaom Computerworld and TechCrunch have to be satisfied with drawing in terms of the best practices with a result of 74 for each website. All three websites get yellow

colour, which can be optimized again. Last but not least, in terms of SEO TechCrunch is the best with its result of 97 with the green colour index. It shows that TechCrunch has ensured that their users can use their search engine better than the other four websites.

## 5 Conclusion

Based on the analysis using Google Lighthouse on the Top 5, all were tested based on the performance, accessibility, best practice, SEO and PWA. From all the results, LifeHacker is the easiest one to access because it has the highest percentage and its SEO is also quite high. From here, we can conclude that TechCrunch is the top one because it has the highest SEO marks. However, from the results of this study we can see that there are other factors that have greater influence apart from the performance present by these websites. These all websites still much to be optimized, especially in the performance part of performance. This should be fixed as soon as possible to get better performance.

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