Introduction

Faster network speeds and real-time availability of servers have accentuated internet usage globally. Individuals have become increasingly dependent on their mobile devices for all chores and commodities ranging from groceries to gadgets. While such development contributes towards a progressive society and economy, it creates adverse effects on the environment owing to increased energy usage by data centers for ensuring lag-free upkeep of these websites around the clock. In this respect, I am willing to highlight a practice of low-tech websites and how a self-sustainable website could be the foreseeable future in terms of energy management.

Low-tech Website

An increase in webpage size requires more energy usage for avoiding potential glitches. In the words of Otsuka and Decker (2018), “the size of the average web page (defined as the average page size of the 500,000 most popular domains) increased from 0.45 megabytes (MB) in 2010 to 1.7 megabytes in June 2018”. Thus, the concept of a low-tech website came into being which reduces page size by a factor of 5 as compared to modern web designs.

- **How does it work?**

These websites host themselves using solar-powered servers which are completely self-reliant and even face the threat of going offline is extended cloudy weather exists over the region. Hence, data center costs are eliminated completely. In fact, to further support and propagate this idea, companies such as Tega Brain have started incorporating individual homeowners in contributing their spaces for setting up solar servers. Being space convenient in design, these owners or volunteers also aid in maintaining the servers and their upkeep quality (Tegabrain, 2021). The website is generated and sent to clients from servers, where sunshine is maximum and is configured to automatically detect and switch servers based on alternating climate conditions across server locations.

Features of the Website

One of the trivial features of this website is the concept of static pages. In contrary to sever side pages which load every time a fresh client request is made, static pages exist even in the

offline mode (Dhuny, Mohamudally and Nissanke, 2017). Hence, data bandwidth usage is reduced drastically. Moreover, this also helps in sustaining the power stored in the solar capacitors for longer durations.

Secondly, I observed the use of dithered images on such solar-powered websites. By dithered, we mean that the color rendering of pixels is reduced to a considerable extent allowing the website to function and load at much faster speeds; thereby, reducing the bounce rate.

Finally, these websites do not use Google Analytics and hence, do not store cookies from users. While according to me, the only downside was searching for the website every time on Google, it helped the website sustain longer durations on its self-reliable servers.

Conclusion

Through this paper, I aimed to analyze the effectiveness of solar-powered servers and data centers and how such low-tech websites can contribute to environmental awareness. From this analysis, I could say that with more websites embracing this approach, one’s reliance on third-party data centers for ensured bandwidth upkeep will improve significantly.

Reference List

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