Project proposal: Analyzing User Experience with Website

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Summary:

- In this project, we plan to analyze user experience on a website. This will be helpful for business, website developers, and internet provider and their customers.
- So far, web ranking has been done from search engine result using metadata which really cannot explain the user interaction with the website or the webpage user friendliness.
- Knowing the exact value of such parameters that have direct influence on the user might be crucial for competitive business. Being able to know where to improve in relation to their competitive business, will help business make an informed and tangible changes. That is why we chose parameters like Load Time, First Byte, Speed Index, DOM Elements, and Fully Loaded and take the average values of each parameter for the top 100 sites on Alexa website.
- Using the result as a standard template, other website will be evaluated against the result on each parameter.
- This project intends to include a predictive model that tells the user what the result will be after making a change to any of the parameters.

Motivation:

- There are other online sites which perform ranking of website such as Quantcast, SEMRush, Moz, Ahrefs, Datanyze, and WhatRunsWhere. However, most of them mainly focus on marketing strategies rather than the actual user experience with the site.
- There is on one single parameter that we can use to express user interaction with the website. As of now, our project will utilize the 7 parameters listed below. We believe then are enough to give us an accurate performance evaluation.

- Load Time: The time between the initial request and the browser load event

- First Byte: The time it takes for the server to respond with the first byte of the response (in other words, the time it takes for the back-end to load)

- Start Render: The time until the browser starts painting content to the screen

- Speed Index: a custom metric introduced by Web Page Test to rate pages based on

how quickly pages are visually populated.

- DOM Elements: Number of DOM elements in the page

- Document Complete: set of metrics relative to the time until the browser load event, with Time, Requests and Bytes In representing the load time, number of requests and number of bytes received, respectively, and

- Fully Loaded: similar to Document Complete, but the metrics are relative to the time at which Web Page Test determines that the page has fully finished loading content. This is relevant and different from the above, because pages may decide to load additional content after the browser load event

Resource:

- We plan to collect this information from Webpage test.
- To facilitate the whole process, we plan to write a script that will automate the process of getting the data from Web Page test.
- There will be an API integration, and it will also have a daily limit of 200 page loads. Once we collect all the information and design a predictive model the API will be used to request an information on the required website.

Timeline:

- For the first two weeks, we plan to collect data on the 100 Alexa Website in a daily basis.
- The next two weeks we will be working with the standard template based on the data collected.
- Later, we will be formulating the predictive model. After completing the mathematical and theoretical model design, the remaining time will be used for development, testing, and re-evaluating phases.