CS410 Final Project Documentation

Team SaintsFC

Thomas Cheal

Overview:

This project has created the website called "EverySearch." EverySearch is a simple to use site that allows a user to search through multiple search engines at once. The following search engines are implemented: Google, Bing, Excite, and Lycos. Other search engines may not have been added due to technical restrictions disallowing the use of embedding them on other sites.

EverySearch allows a user to pick and choose 1 or multiple of these search engines and search them, allowing for a comparison of results. This has been done before, but the purpose of this website is to allow a user to accomplish this without having to leave the page, as previous implementations always required separate tabs for each search engine. EverySearch loads all of the search engines onto the same page.

Implementation:

EverySearch is implemented using the front end of a website, requiring only HTML, CSS, and Javascript to function correctly. This means that the loading of all the results will be on the client side. While this may seem undesirable, it has been implemented this way to avoid major search engines flagging the website as being a bot or a malicious actor. This way each search comes directly from the user's computer and IP.

Each search engine is fetched using an iframe. Because different search engines can be selected and the need for multiple searches, these iframes are dynamically injected into the HTML via the Javascript. This allows for search engines to be quickly added and removed, as well as the searches being changed without needing an entirely new iframe every single time.

Using iframes presented some issues with implementation. Google did not want to allow the use of embedding, but there is a convenient way around this without doing much trickery. Other search engines did not cooperate either, such as Yahoo. Yahoo implements a similar anti-embedding feature, but it is much harder to bypass and doing so would require many bad practices as a web developer, so the trade off was not worth it to get around this restriction. Yahoo also happens to own many other smaller search engines, and as such they implement similar solutions so they can also not be used. Lycos, Bing, and Excite all allow for embedding so they were simple to implement.

The search feature uses an HTML text input, and an HTML button with a Javascript onclick event. When the button is clicked, it triggers a Javascript function that fetches the query from the text input and also checks each of the checkboxes to see which search engines are selected. This function then takes the user query and turns it into an acceptable form for each of the selected search engines and uses the search engines' URLs to actually retrieve the query results.

Usage:

Navigate to https://madstommy.github.io/CourseProject/ in any modern browser.

Choose which search engines you wish to use by clicking the checkboxes next to their names (at least 1).

Type the query you wish to ask each search engine.

Click search.

This will show you the results of your query in each search engine, each page is scrollable and you can even click through to the next page of results if you desire. You can also use the advanced search functions, such as using "-" to indicate that you do not want something to show in the results. This works on all of the search engines.

The website allows for more than one search, so once you are done looking at the results of one search, you can do another search with the same or different search engines and the site will automatically update the display to show you the desired result.