Project Proposal - CS 401 - Fall 2021

Team - Group Name: Prestige Worldwide

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  - Team Leader/ Captain/ Coordinator

What topic have you chosen? Why is it a problem?

I have chosen a project from Theme 1: Intelligent Browsing, specifically a browser extension (for Chrome) that allows intelligent searching on a page's content. Existing browser functionality of find on page only finds exact matches of the user typed term. But with an intelligent search option, using BM25 as a ranking function, more useful results can be provided to the user. For example if the user enters a typo, or enters a term similar to a word on the page.

Briefly describe any datasets, algorithms or techniques

I plan to index current webpage content, and apply a ranking function like BM25, matching against a user provided search term.

Demonstrate that your approach will work as expected?

A Chrome extension that returns some kind of BM25 ranked result against a user entered search term (UI to be determined).

Programming Language

JavaScript (with HTML, CSS as needed for UI), Python if feasible.

20 Hours of Work Justification

5 hours for each point (20 hours total for a team of 1).

- Chrome extension development environment setup project
- Access visible text on page from extension to pass it to the indexer, avoiding non-visible text that the user would not want to search on.
- Find/ implement suitable BM25 algorithm in JavaScript (or see if there is a way to hook up JavaScript extension code to the Python based MeTA implementation).
- UI results - how to display search results to the user (Jump to spot on page? List of matching text?) Will require investigation to see what's feasible as a POC.