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## CS 410 Project Proposal - Team Beans

Our team decided to build an intelligent browsing system on top of a popular computer science social news website. Currently, Hacker News relies on an upvote system coupled with a penalizing algorithm to rank articles for the users to view[1]. A user would go to the Hacker News website and browse the list of articles, which contains approximately 30 articles per page. The user has the ability while browsing to upvote the page, thus increasing the ranking of the article and the position on the platform. Our team proposes to build a new user interface that accepts a query, and returns a ranked set of articles that best matches the query.

The first step in building this new search tool is to build a user-interface that accepts a query from the user. After the user interface is built, this is where the team plans on doing some interesting implementation of the techniques we have learned throughout this course, by implementing a few options for the user to query the Hacker News website.

The team developed user-interface will accept a query from the user, which will trigger the program to perform a web scraping operation on Hacker News, based on a selected depth of the search, and return a set of articles that best matches the user query. We plan on implementing BM25, sentiment analysis, and allowing the user to view the articles in the order of highest ranked. Thus eliminating Hacker News penalization algorithm.

Once our team has completed the development work to complete this new search tool, we plan on presenting a working demonstration of the program to the class and instructor. We will demonstrate that a query will in fact result in a ranked list of articles pulled from Hacker News that match the user query. We will be able to run the query against our implemented search algorithms and even compare results between them.

Our team plans on mainly using Python and Flask to serve the HTML necessary to build a web-based user-interface. We approximate that the 20 hours per team member will be the minimum necessary to build each component, user-interface, web scraper for Hacker News, search algorithm implementation, and integration testing phase. The table below shows the breakdown of work assigned to each team member.

Task	ECT (hours)	Assignee
User Interface (UI) - Analysis, Design and Implementation	15	Chunjuan
Web Scraping	5	William
BM25	10	Kyle
Sentiment Analysis	10	William
Testing	5	Chunjuan
Project Proposal	5	William
Progress Report	2	Kyle
Presentation	3	Kyle
Documentation	5	Kyle

#### Works Cited

1. Ken Shirriff's Blog. How Hacker News Ranking Really Works: Scoring, Controversy, and Penalties. Data Accessed: October 18, 2022.  
<http://www.righto.com/2013/11/how-hacker-news-ranking-really-works.html>