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CS 410 (Text Information Systems) - Project Proposal

We chose to go with the **Free Topics** option for this project because we want to do a **Twitter sentiment analysis on companies**. We have noticed that there are multiple use cases for a product like this. People are looking to understand the company culture of certain companies if they are interested in interviewing with them or are considering accepting an offer from them. Others are looking to gauge what people think of a company before investing in their stock. Knowing if the public is having more positive versus negative conversation about said company can act as a supplement for people who are looking to make these kinds of decisions. It would be very difficult and time consuming for people with these use cases to go through many tweets to be able to have some sort of conclusion. By developing this sentiment analysis of tweets for them, we are saving them time and giving them the ability to focus more on researching other information on the company. Furthermore, companies can use this sentiment analysis to learn more about how the public perceives them and then look further into why they may have that perception if the company is looking to improve their image. These companies can also see what people think about their competitors if they want to see how they compare to others in the same market. This will especially be helpful for business to consumer (B2C) companies.

We will be using Python for our programming language for our project. We want to use Python because it is a high level, multi-purpose language that all of our team members are somewhat familiar with. There are many machine learning (ML) and sentiment analysis packages that interface beautifully with Python.

Since we have 3 members on our team, we will make sure that we dedicate at least 60 hours. We will be spending 5 hours on researching implementation methods, 5 hours on formulating our sentiment analysis process, 5 hours on learning how to use the Twitter API and connecting to it, 10 hours building a sentiment analysis of a single tweet, 5 hours on being able to choose a selection of tweets and run the sentiment analysis on them, 20 hours adapting the ML algorithm that we choose to use to fit the needs of our project, and 10 hours to ensure that the design of our user interface (UI) is usable.