

WRIGHT STATE UNIVERSITY

CS 7900

PROPOSAL

A Sentiment Analysis Application for Tweets

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1 Goal

Social media is a very ingrained component of our culture. In this day and age, there are social media users all over the world. In fact, social data is a very rich source of data in today's information age. For this project, we aim to leverage the power of social data from Twitter. As a micro-blogging outlet, users regularly churn out bite-sized chunks of information that can be analysed for information on just about any topic. By aggregating tweets about a certain topic from Twitter, one can get a general sentiment from the populous about that certain topic.

Since tweets can be retrieved in real time, the sentiment of current and trending topics, such as presidential debates and debate topics, can be evaluated to determine how the populous feels about each topic. Understanding and utilizing this user feedback can lead towards policy change.

2 Objective

We plan to create a web application that allows users to view the sentiment of topics on Twitter. Through the use of two APIs, we will 1) retrieve tweets from Twitter and 2) perform sentiment analysis on these tweets to aggregate the general sentiment about a topic.

3 Approach

This application can be split into two parts: a frontend for the user to select topics and view the sentiment, and a backend for the text retrieval and sentiment analysis to take place.

The user interface will be developed with HTML, CSS and Javascript, technologies that have been learned in class. Using these technologies we can create a dynamic layout that, given a search topic, can display several retrieved tweets with their individual sentiment, as well as the overall sentiment of a topic.

The backend will handle the routing and logic for extracting and analysing tweets. Backend technologies will be used based on compatibility with the chosen APIs. For simplicity, sentiment analysis will be performed at tweet level, rather than at phrase or entity level.

4 Evaluation

To evaluate the sentiment analysis component of the application, a selection of labeled tweets will be used and several metrics, such as precision and recall, will be computed to establish the performance of our algorithm.

Milestones & Timeline

Week of	Planned Tasks
February 29th, 2016	Write Project Proposal
March 7th, 2016	Project Proposal Presentation Start Constructing Project Report Research APIs
March 14th, 2016	Continued API Research Design Application Architecture
March 21st, 2016	Setup Backend Design UI
March 28th, 2016	Develop Backend Integrate APIs
April 4th, 2016	Integrate APIs Develop Front End
April 11th, 2016	Clean Up Front End
April 18th, 2016	Final Integration Testing and Evaluation Finish Project Report
April 25th, 2016	Finalize Project Report Finalize Demo Final Demo