Twitter Mood Detection Light Box

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Project:

The "Twitter Mood Detection Light Box" would parse through Twitter to identify specific mood indication words, such as "wow" or "disaster", to create an overall mood representation of the world at any moment in time. The intended functionality of this product is for a user to visually and quickly tell if any major event has occurred such as a disaster, tragedy, or a major success such that an overwhelming amount of active tweets are related to that specific mood (anger, happiness, upset, etc). These moods would be reflected through a variety of colours displayed through the RGB lights in the box.

Software Components:

There are a variety of software components related to this project:

1. Using Twitter's API and supporting tools to actively read new tweets.
2. Parsing these tweets to search for specific keywords of emotions.
3. Using these values to generalize an overall mood of the world at that point in time.
4. Corresponding these moods with a colour and displaying it through RGB lights in the display.
5. Efficiently and effectively parsing through tweets, as these can come in high volume and could potentially be very disastrous if using a bad algorithm.

Prototype Plan (Evolutionary):

Our prototype will be used as an evolutionary step towards our final project. Here is what we plan to do:

1. Using an Arduino Wifi Shield to successfully configure it to connect to the internet.
2. Successfully configure the Arduino to make API calls.
3. Using the Arduino to control the RGB lights, creating colours to represent mood prompts.
4. Work on parsing through Tweets and extracting a count of a specific word.

To do later: Extract word count on specific emotional words, and calculate the respective colour. Work on efficiency and optimizing later as well.

Hardware Acquired and Used:

This project is heavily focused around software, but there are some hardware components:

1. Arduino to run the program.
2. Arduino Wifi Shield to allow access to the internet wirelessly.
3. RGB lights (3) to display the mood.
4. Circuit board and 9V battery.

Challenges:

With any project of this magnitude, there are bound to be challenges:

1. Accessing, parsing, and analysing Twitter tweets to create results.
2. Using these results to generate an overall mood, and displaying this mood through RGB fixtures.
3. Creating a constant flow of updates, and consistently updating results and the light display accordingly.
4. Optimizing process of retrieving and displaying data.