CS 410 Final Project Documentation: Team Lightning Mcqueen
Akash Patel (ayp2)

Overview:

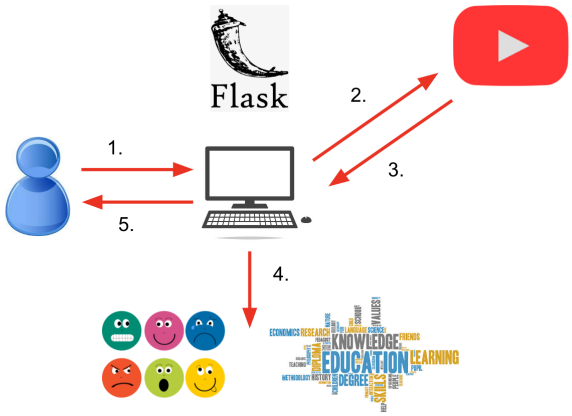
My project involves performing sentiment analysis on any given topic on Youtube. A user simplys has to provide a topic, and my program will provide a visual and analytic summary of sentiments shared within the top videos relevant to the subject. My tool can be utilized to understand the general feelings about subjects on Youtube, which can be important when trying to gain a broader understanding about the views of a certain topic.

Software Implementation:

The entire project is written in python, and is executed through a Flask instance hosted on the local machine.

1. User gives an input topic (enters it into the webpage)
2. Software makes requests to top 30 video titles from YouTube relevant to the topic input.
3. Youtube returns back titles.
4. Code combines titles into a string, and performs unigram sentiment analysis on the returned titles (utilizing LeXmo). Also constructs a WordCloud and a chart (utilizing plotly) detailing present sentiments and common words amongst the titles, which are returned back to the user.
5. A new webpage **analysis.html** containing the generated charts is loaded.

The following illustration clarifies the steps of my software implementation.



Usage of Software:

1. Install python3 and pip
2. Clone/download and navigate to the Final_Project Folder
3. Install dependencies by running `pip install -r requirements.txt`
4. Start your Flask instance by executing `flask run` (Mac) from your terminal within the Final_Project directory. If you are in windows, type `python -m flask run.` If you are on Ubuntu, type `python3 app.py`
5. If you are on Ubuntu, you may get an error `ImportError: No module named dateutil.parser`, please run `pip install python-dateutil --upgrade`
6. Navigate to `127.0.0.1:5000` on your internet browser (check terminal for correct port). If on Ubuntu, navigate to `127.0.0.1:5001`
7. Have fun!

Testing Case:

To test my sentiment analyzer, please type '**terrorism'** into the search box. This should guarantee high negative/fearful weights.

Team Contribution:

Since this was a solo-project, I was the only individual working on the YouTube sentiment analyzer. It took around 30 hours total to develop my software!