User Manual

For

Political Mood Gauge Based on Social Media

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1.0 Introduction

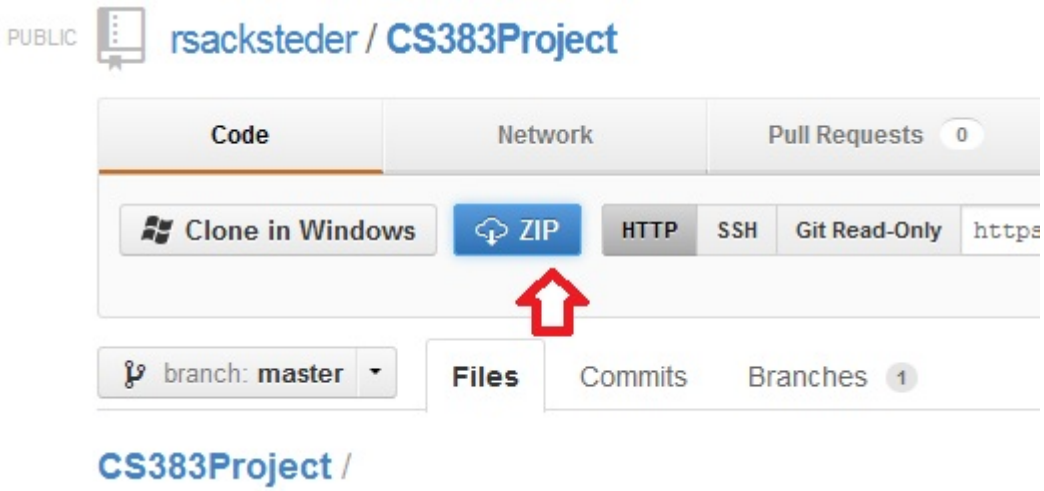
This document will describe the steps needed to install and run the Twitter Political Mood Gauge application.

2.0 System Requirements

This program is designed to run on Linux-based systems. Instructions on additional system packages needed to run this program are available in the README file.

3.0 Installation

To begin, the user must go to the GitHub repository where the program is available, Open Source, to the public: https://github.com/rsacksteder/CS383Project. Next, click on the Zip button to download the program folder.



Select Save File and then extract the folder by unzipping it and extracting the master folder into the desired location.

4.0 Optional and Required Modifications

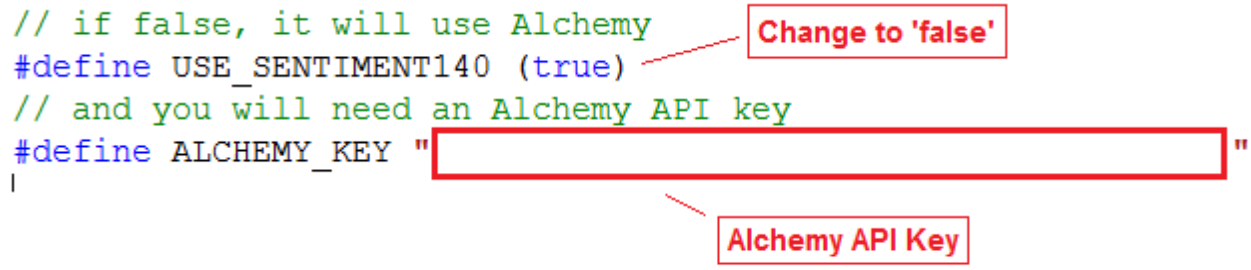
Config.h:
Before running the program, the user must first open the **config.h** file, located in the **config** folder of the downloaded package and add or change the information in it. The config.h file contains changeable values used by the application when calculating the output of the webpage.

Required Changes:

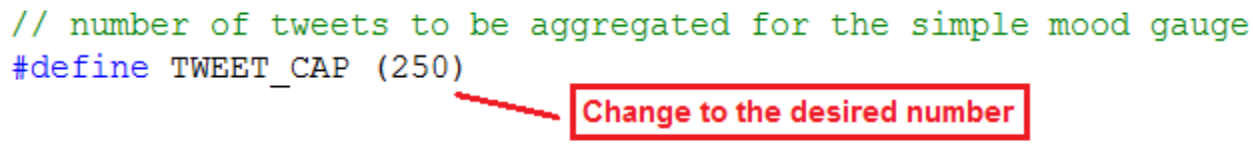
Twitter Account
Before the application can run, the user must create a valid Twitter account and password at https://twitter.com/. Once the user has a Twitter account, the account name and password must be entered in the defined TWITTER_ACCOUNT section. The file can then be saved.

Optional Changes:

a) Alchemy, a more accurate sentiment
To get the most accurate sentiment, the user has the option of purchasing an Alchemy API key from http://www.alchemyapi.com/api/register.html. (As a default, the program is setup to utilize a different sentiment analysis tool.)
Once the user has obtained an API key, it can be entered in the section named ALCHEMY_KEY. The user must also change the USE_SENTIMENT140 section to “false”



b) Gauge Numbers
The simple mood gauge is set to reflect the latest 250 tweets by default. The user has the option of changing this number as desired.
(Note: A low number here will cause the gauge to fluctuate at a faster rate.)



c) Test Sentiment
A randomly generated sentiment, used to test the program's output, is included in the package and can be utilized by setting the FAKE_SENTIMENT to 'true'.

d) Average Follower Number
The AVG_FOLLOWERS is a statistical value for the average number of followers per twitter user. (Note: This value was retrieved from a third party source. It is not recommended that the user change this value unless a new statistical average number of followers is announced.)

e) Popular Tweets
The POPULAR_LIMIT value indicates the minimum weight a tweet must have in order to appear on the website as a popup notification.

f) Graph Times
The TIME_ZONE_OFFSET is set to pacific time as a default but the user has the option to change it as necessary. This information is used to set the time frame of the graph and other output files.

g) Spreadsheets
The CSV_OUTPUT section, when set to 'true', will save the output information into a spreadsheet file in the **csv** directory.

h) Update Averages Interval
The value of the UPDATE_AVG_INTERVAL section indicates how many seconds will elapse before the daily averages table and csv file are updated.

i) Graph Update Intervals
The value of the GRAPH_UPDATE_INTERVAL section indicates how many seconds will elapse before the graph is updated.

Keywords:
Besides changing the **config.h** file, the user has the option to add or remove keywords to the list of keywords which are used to obtain tweets. This can be done by opening the **keywords** folder and editing the **liberal.txt** or **conservative.txt** files.

5.0 Execution

To run the program, the user will need to open the terminal, navigate to the **CS383Project-master** directory and execute **make test** to confirm the program will run properly.
Build the program by executing **make** and run it by executing **./run.sh**

(Note: If the user receives errors concerning missing system tools, please view the instructions on additional system package installations located in the README file.**)**

6.0 Viewing The Output

Once the program is running, the user can view the output by opening the **index.html** file with a web browser or simply open it by double clicking on it in the **html** folder.

Once the webpage is open in the browser, various graphics will display the information received from Twitter and processed through the program.

Figure 1: Mood of the Nation Gauge
This graphic will provide a simple gauge which shows the current political mood of the nation. This will be done by giving the percentage of the nation who are currently pro-conservative versus a percentage of the nation who are pro-liberal. The gauge will use the color red to represent pro-conservative, and blue to represent pro-liberal.

Figure 2: Mood of the Nation Time-Lapse
This graphic will show the most recent trends in the nation's political moods. These trends will be constructed by periodically taking snapshots of the Mood Gauge. These snapshots will provide the user with a time-lapse view of the nation's political mood. The points that fall beneath the axis represent a negative sentiment for that point.

Figure 3: Popular Tweets and Error Messages
When the program encounters a tweet with a strong weight it will be displayed temporarily on the web page. Similarly, if the program encounters an error, it will be displayed in the same manner.

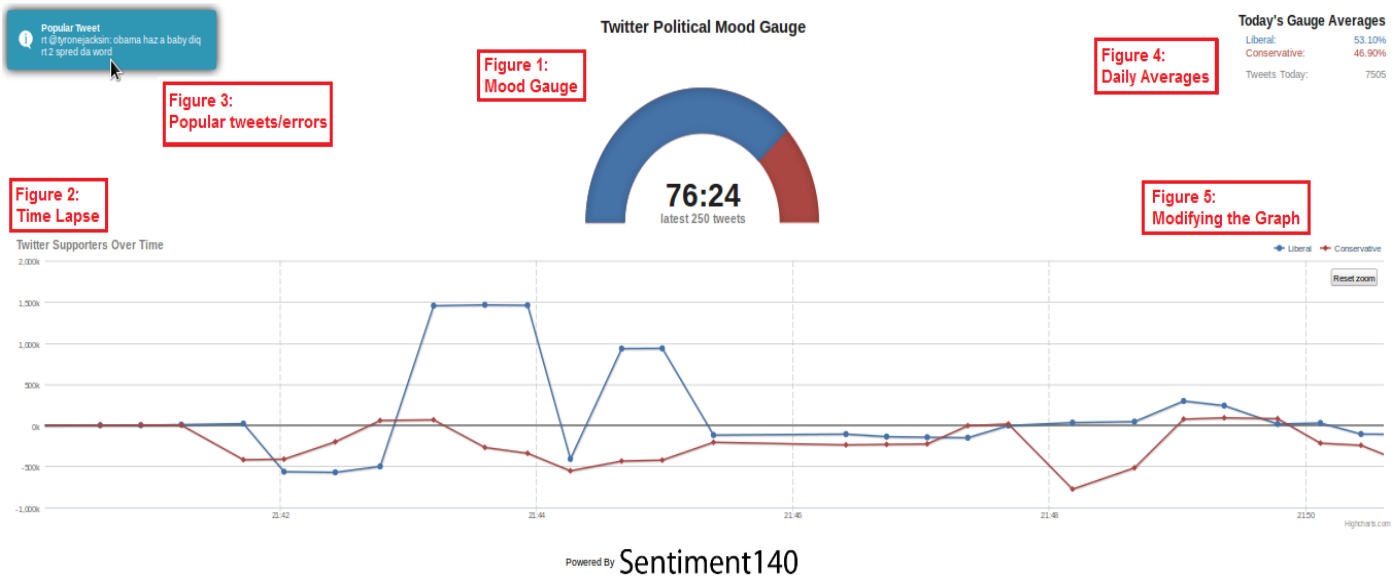
Figure 4: Daily Averages
This table will display the gauge's averages for the day, including the total number of tweets processed throughout the day. Daily statistics reset each day and are recorded across all executions of the application throughout the day.

Figure 5: Modifying the Graph

a) The graph has several interactive capabilities associated with it. Clicking on either the Liberal or Conservative graph label buttons will hide their respective lines on the graph, providing a closer look at the other. Clicking on it again will restore the line.

b) Hovering the cursor over a point on the graph will display additional information for both the Liberal and Conservative sentiments at that point in time.

c) The user can zoom into a specific section of the graph by holding down left-click and selecting the desired area. This can be done multiple times to zoom in further. The user can then click the Reset Zoom button to return the graph to its original size.



(Note: If the user has opted to enter a valid Alchemy API key, the Logo at the bottom will change appropriately.)