**Startup**

Need to initiate BPCI\_monitor object. Execute following on GUI startup. We will need to make sure we have initial set of tweets saved in “output/BPCIA\_tweets\_raw.csv” and “output/BPCIA\_tweets\_clean.csv” on deployment.

from BPCI\_monitor\_class import BPCI\_monitor

monitor = BPCI\_monitor()

monitor.load\_tweets(filename="BPCIA\_tweets\_clean.csv")

This will load the current cleaned tweets data set as a pandas dataframe referenced as the monitor.tdf property.

**Total Number of Tweets Found**

Non-interactive integer field. Populated on startup after loading tweets by simply counting number of records in monitor.tdf dataframe.

**Date that BPCI Tweets were Last Retrieved**

Non-interactive date field. Populated by retrieving latest date in the “date” column from the “output/BPCIA\_tweets\_raw.csv” file.

**Update Tweet Database**

Button. Requires “output/BPCIA\_tweets.csv” to exist. Reads start date from ***“Date that BPCI Tweets were Last Retrieved”*** field (must be a string in ‘YYYY-MM-DD’ format, e.g. ‘2019-09-11’ ). Updates “output/BPCIA\_tweets.csv”, cleans it, then creates “output/BPCIA\_tweets\_clean.csv”.

Clicking button executes:

monitor.extract\_tweets(get\_retweets=True,geocode\_loc=True,\ start\_date=*“****Date that BPCI Tweets were Last Retrieved”*** field)

monitor.save\_tweets(filename="BPCIA\_tweets\_raw.csv",append=True)

monitor.load\_tweets(filename="BPCIA\_tweets\_raw.csv")

monitor.clean\_tweets()

monitor.save\_tweets(filename="BPCIA\_tweets\_clean.csv")

**Number of Tweets over Time Graph**

Button. Graphs frequency of tweet by week. Accompanied by date optional input field, labeled “Comparison Date – Use to highlight new tweets from a certain date”. Clicking executes the following:

monitor.graph\_tweet\_arrivals(mark\_date=datetime.date(year= Comparison Date Field (Year), month= Comparison Date Field (Month), day= Comparison Date Field (Day)))

Then opens “output/tweets\_over\_time.png” for user to view.

**Sentiment Word Cloud**

Button. Produces word clouds of positive and negative words used by all tweets in monitor.tdf. Word size indicates frequency of use, shade indicates severity of sentiment. Clicking executes the following:

monitor.gen\_word\_cloud()

Then opens “output/pos\_wordcloud.png” and “output/neg\_wordcloud.png” for user to view.

**Heat Map of Tweet Locations**

Button. Produces heat map of locations of all tweets in monitor.tdf. Clicking executes the following:

monitor.create\_USA\_heat\_map()

Then opens “output/ tweet\_location\_heatmap.html” for user to view.