Visualizations of Twitter US Airline Sentiment

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Overview

Visualizations of how travelers in February 2015 expressed their feelings on Twitter

https://www.kaggle.com/crowdflower/twitter-airline-sentiment

Twitter US Airline Sentiment

Analyze how travelers in February 2015 expressed their feelings on Twitter

JQuery
D3
Plotly
Leaflet

MySQL

Airlinetwitter database contains of 14,000 tweets. In a cleaning process performed on the original CSV dataset using SQL code, datetime and coordinates text fields in these records parsed to extract date, time, longitude and latitude information.

Negative	Virgin America	help, left expensive headphones on flight to LAX today. Seat 2A. No one answering	2/23/2015	33.94	-118.40
Positive	United	@united Definitely a compliment! I really thought my bag was lost after it was sent on to another airport. In the end I am a happy customer	2/23/2015	59.38	18.00

esult Grid | Filter Rows: | Export: | Wrap Cell Content:

airline_sentiment	airline	text	tweet_date	lat	lng
positive	Virgin America	@VirginAmerica I love this graphic. http://t.co/UT5GrRwAaA	2/24/2015	40.74804263	-73.99295302
negative	Virgin America	@VirginAmerica amazing to me that we can't get any cold air from the v...	2/24/2015	42.361016	-71.02000488
neutral	Virgin America	@VirginAmerica LAX to EWR - Middle seat on a red eye. Such a noob m...	2/23/2015	33.94540417	-118.4062472
negative	Virgin America	@VirginAmerica help, left expensive headphones on flight 89 IAD to LA...	2/23/2015	33.94209449	-118.404101
positive	Virgin America	@VirginAmerica this is great news! America could start flights to Hawaii...	2/23/2015	33.2145038	-96.9321504
negative	Virgin America	@VirginAmerica everything was fine until you lost my bag	2/23/2015	40.6413712	-73.78311558
positive	Virgin America	@VirginAmerica not worried, it's been a great ride in a new plane with g...	2/23/2015	36.08457854	-115.1378014
neutral	Virgin America	@VirginAmerica I was scheduled for SFO 2 DAL flight 714 today. Chang...	2/23/2015	37.79374402	-122.3932756
negative	Virgin America	@VirginAmerica should I be concerned that I am about to fly on a plane...	2/23/2015	26.074379	-80.1416831
positive	Virgin America	@VirginAmerica you have the absolute best team and customer service...	2/22/2015	33.9469039	-118.4071685
negative	Virgin America	@VirginAmerica i need to change my flight thats scheduled in 9 hours a...	2/22/2015	51.04345575	-114.0607136
neutral	Virgin America	@VirginAmerica How can I watch the #Oscars2015 on my JFK->SFO...	2/22/2015	40.64662464	-73.77090177
positive	Virgin America	Always have it together!!! You're welcome! RT @VirginAmerica: @jessi...	2/22/2015	33.94652852	-118.4076626
positive	Virgin America	@VirginAmerica you will match my #AmericanAirlines status? Cool!	2/21/2015	38.9128188	-77.00798226

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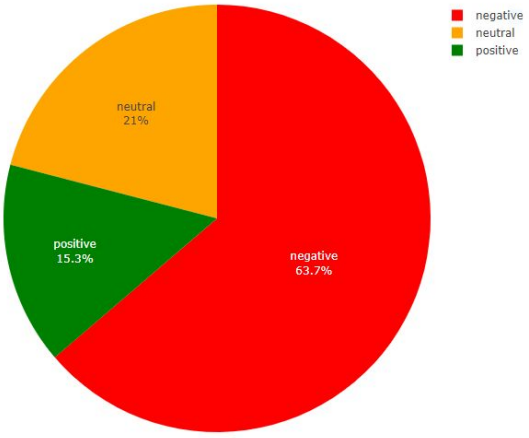
Flask (App.py)

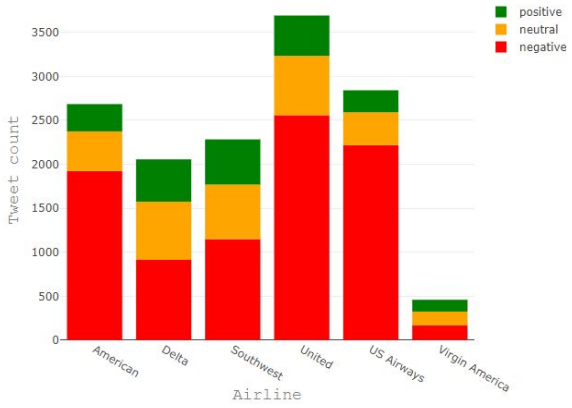
What this api does is to query the database and only returns the required fields for visualisation purposes.

@app.route('/api/wordcloud', methods=['GET'])

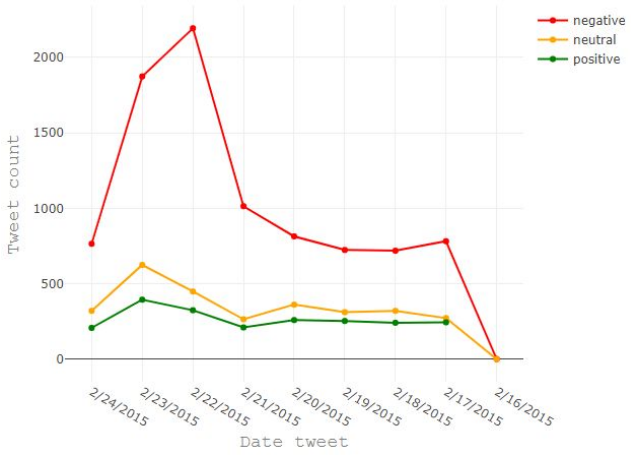
@app.route('/api/pie', methods=['GET'])



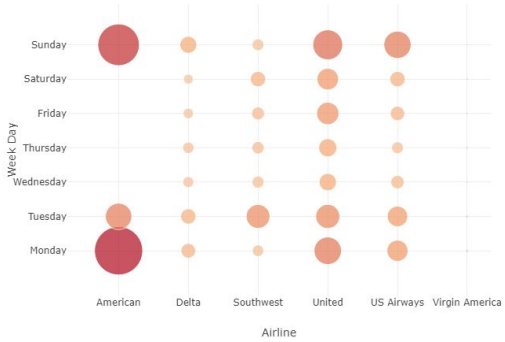
@app.route('/api/bar', methods=['GET'])



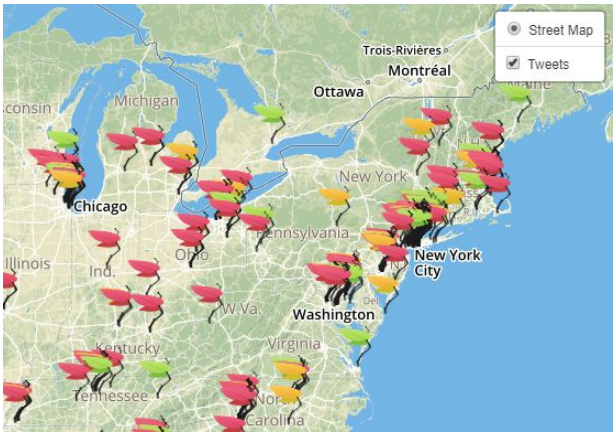
@app.route('/api/line', methods=['GET'])



@app.route('/api/bubble', methods=['GET'])



@app.route('/api/map/', methods=['GET'])



A sample template of our API:

```
'''
Pie Chart
'''
@app.route('/api/pie', methods=['GET'])
def pie():
    searchParam = request.args.to_dict()
    #Pie chart
    results=searchQuery(searchParam,'pie').all()
    piechart_data=[]
    for result in results:
        tweet= {}
        tweet["sentiment"] = result.airline_sentiment
        tweet["count"] = result.count
        piechart_data.append(tweet)
    # Format the data to send as json
    return jsonify(piechart_data=piechart_data)
```

Javascript (App.js)

To improve the responsiveness and performance of the application, each graph does asynchronous call to its api which its like parallel programming to fetch the data.

So basically each graph acts separately without interrupting the other graphs.

```
*  API Call
*/
function apiCall(airlineValue, tweetValue) {

 $("#loaddivData").show();
 $.getJSON('/api/data', {
   airline: airlineValue,
   tweet: tweetValue
 }, function (data) {
   populateData(data.all_tweets);
   $("#loaddivData").hide();
 });

 $("#loaddivWord").show();
 $.getJSON('/api/wordcloud', {
   airline: airlineValue,
   tweet: tweetValue
 }, function (data) {
   wordcloud(data.wordcloud_data);
   $("#loaddivWord").hide();
 });

 $("#loaddivPie").show();
 $.getJSON('/api/pie', {
   airline: airlineValue,
   tweet: tweetValue
 }, function (data) {
   pieChart(data.piechart_data);
   $("#loaddivPie").hide();
 });

 $("#loaddivBar").show();
 $.getJSON('/api/bar', {
   airline: airlineValue
```

WebApplication