# IST256 Project Phase 2: The Plan

## [1] Blackboard Group Number.

Enter your blackboard Group number: **1**

## [2] Group Members and their contributions to this deliverable

Enter the names of your group members and highlight their SPECIFIC contributions to the project for this phase. Please be as detailed as possible and remember that **each member of your group should contribute to writing code**.

|  |  |
| --- | --- |
| **Name** | **Summary of contributions to date (be specific as possible)** |
| Chaofan Chen | * Organized the idea for the project – from December 2-5, * find how does Facebook API work * evaluate possibility to use Facebook API in the project – From December 5-6 |
| Liwen Duan | * Research on Twitter API * find python package tweepy * create function for twitter * register API. |

## [3] Feedback from Proposal

Explain how your project has changed (if at all) based on the feedback provided by your Faculty Mentor.

* We had evaluated how will we process the data from all different platform. By using API and library like tweepy and Facebook API, we find out we are able to get index like ‘favourites\_count’, ‘ followers\_count’, ‘friends\_count’ just using the standard API.
* We are able to get location from each tweet, even the region boundary box from some function in Twitter API, giving us opportunity to present the data on a map.
* We might focus on a single platform just be able to extract more data from it.

## [4] Project Github Repository

Provide a link to your project’s GitHub repository. In this repository should be code examples your team has written which demonstrate you know how to use the project requirements in section [5].

<https://github.com/liduan-su/fall-2019-ist256-project>

## [5] Project Requirements

Provide a list of Systems, API’s, Python Packages, Web Services, etc. you will believe you will require to complete your project, and include the purpose they serve within the scope of your program. For each explain what it is and provide a link to its source, so your Faculty Mentor can research them. **Include code samples in your project github repository which demonstrates your ability to use the resources you’ve chosen. It is expected at this point that you will try/experiment with far more resources than you will use in your final project.**

***We are good to use the API or package below:***

**- Twitter API:** <https://developer.twitter.com/> Standard API is what we have right now

**- tweepy:** <https://tweepy.readthedocs.io/en/latest/getting_started.html> a third-party Python twitter API package

- **json:** a python package for json

- **import\_ipynb:** a python package to import ipynb file, in this case we will use it for our API key

- **pandas:** a python package for data analysis

- **folium:** a python package for generate maps using dataset

***We are still evaluating the possibility using the API below:***

**- Facebook API:** <https://developers.facebook.com/docs>

**- Instagram Basic Display API:** <https://developers.facebook.com/docs/instagram-basic-display-api>

**- Weibo API:** <https://open.weibo.com/> (Majority document are written in Chinese)

## [6] Program Design

Provide a high-level program design and flow for your project. This should mimic the final desired behavior of your project. This demonstrates to your Faculty Mentor that you’ve given some thought as to how the program will work and be demonstrated. Specifically, provide:

[6.1] Input:

The trend news users want to see

[6.2] Outputs:

The relevant topic under users’ choice and shows these tweets in chart and map.

[6.3] High-Level Algorithm (step by step, plain English no Python!)

Import module we will use for the program

Define the function by using the trend function from tweepy and get the trend news

Define the geographical position of trends and get the location

By using the panda function to put the trend in a data frame and get a chart

User need to enter the index number from the chart that we previously show and pick the one they like

Extract the key information from that trend and put it in the timeline function

We can get topics that is relevant with the trend

By comparing the comment and like number under each topic, we will filter the hottest top 20 topics

Put these hottest tweets to the panda and form another chart

User can pick the tweet they like and view more detail information.

By using the folium function, putting tweets from different locations into the map

Use the choropleth function, add data and color to tell which state is happening big things

More information on next page 

Expectation:

|  |  |
| --- | --- |
| ID | Trend Topic |
| 1 | … |
| 2 | … |
| 3 | … |
| 4 | … |
| 5 | … |
| 6 | … |
| 7 | … |
| 8 | … |
| 9 | … |
| 10 | … |

Select a trend topic  1

Search Result of Topic: \_\_\_\_\_\_\_\_

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ID | Tweet | Favorite Count | Retweet count | Place | URL |
| 1 | … |  |  |  |  |
| 2 | … |  |  |  |  |
| 3 | … |  |  |  |  |
| 4 | … |  |  |  |  |
| 5 | … |  |  |  |  |
| 6 | … |  |  |  |  |
| 7 | … |  |  |  |  |
| 8 | … |  |  |  |  |
| 9 | … |  |  |  |  |
| 10 | … |  |  |  |  |

MAP will generate using GEO data, tweet will be shown as message on push pin