Group members: Xinyi Jin (Melody), Yan Ying (Eliza), Xinhao Hao (Budd), Liqin Zhang (Liqin)

1. Meeting 1 – 08/04/2022 5 p.m-6 p.m.

Timeline

Deadline: May 10th

Preferred finished date: **May 6th**

Required parts:

Code - Python (backend), JS (frontend)

Report - 20-25 pages

YouTube Video

Github link

Slides + Presentation

Questions:

Deploy on MRC? **Yes, the website should run all the time.**

Harvest twitter, AURIN data all in CouchDB?

2. Meeting 2 – 14/04/2022 9 p.m-10 p.m.

Discussion:

1. **Website Scope – Twitter (lang, coordinates, time, content) + AURIN (Transportation, Environment, Health or topics TBD)**
2. **Planned Structure:**
   - **MRC is used as servers to hold everything including JS, Python, CouchDB**
   - **CouchDB stores Twitter (lang, coordinates, time, content) and AURIN JSON files related to three topics. Tha AURIN data should be appropriate to support the livability of Melbourne.**
   - **JS use data from CouchDB (can be filtered according to choose in frontend) to draw graphs (3-5 for each topic) like heat map, bar charts and so on**
   - **Possible approach: Complex analysis can be completed in Python and then transported to JS to show**

To do:

- Melody:
  - learn how to save json data to couchDB with python;
  - Find appropriate AURIN data on environment
- Eliza:
  - Twitter API to get twitters and store in local disk
  - Find appropriate AURIN data on TBD suitable for livability topic (Crime?)
- Budd:
  - JS
    - Canvasjs.com
    - react
- Liqin:
  - Find health data from AURIN
  - Apply TWITTER API

3. Meeting 3 – 19/04/2022 4 p.m-6 p.m.

Discussion:

1. **Every code should use docker file to be sent to instances.**
2. **Backend harvests tweets on MRC once a day (schedular and time sleep) and store three topics separately. Essential Access gets text for content analysis and Elevated Access gets coordinates for map graphs. Use Elevated Access firstly to get text and coordinates. Finish all opportunities, change to Essential Access.**
3. **Frontend collects parameters from users and sends them to backend. Backend takes related data from CouchDB according to parameters and then do analysis (MapReduce or others). Backend sends analysis results in format of JSON to frontend for plotting graphs.**
4. **Frontend should use node.js to send parameters to backend and get results from backend.**
5. **CouchDB plan to store data of three topics separately and another part to store AURIN data.**
6. **Appropriate time-period for AURIN data is 2017-2022.**

To do:

- Melody:
    - Deploy couchdb and couchdb cluster with Ansible
    - Get familiar with using python to read/write to couchdb
- Eliza:
    - Complete the whole process of tweets harvesting and try to connect with CouchDB using docker
    - Select suitable AURIN datasets for one topic
- Budd:
    - Check node.js
    - Check how to pass parameter from front to back end
- Liqin:
    - Learn node.js

4. Meeting 4 – 23/04/2022 4 p.m-5 p.m.

Discussion:

1. **Show current progress**
2. **Deployments of instances, CouchDB are completed**
3. **Backend has figured out functions of Twitter API of search, stream and timeline and currently try to write data into CouchDB**
4. **Frontend has the original structure of website presentation and try to read data from CouchDB for drawing graphs**

To do:

- Melody:
    - Docker-compose backend (Twitter part)
    - Ansible deploy backend (Twitter part)
- Eliza:
    - Finish Twitter API functions
    - Write data into CouchDB and read data
- Budd:
    - Mapreduce
    - Access CouchDB data
- Liqin:
    - Finish the Dockerfile.
    - Work on chart js.

5. Meeting 5 – 28/04/2022 8 p.m-9 p.m.

Discussion:

1. **Show current progress**
2. **Docker of Twitter part works**
3. **Twitter API has worked to write data into CouchDB**
4. **Frontend has an original draft to read data from CouchDB and use MapReduce to show plots**

To do:

- Melody:
    - Deploy historical tweets to CouchDB
    - Deploy AURIN/external datasets to couchDB
    - Setup latex template for report
- Eliza:
    - Write historical tweets to CouchDB
    - Write AURIN or outer datasets into CouchDB
- Budd:
    - Implement charts
- Liqin:
    - Implement charts for aurin data

6. Meeting 6 – 30/04/2022 2 p.m-4 p.m.

Discussion:

1. **Show current progress**
2. **Docker of Twitter part works**
3. **Historical tweets have been successfully written into CouchDB**
4. **Frontend has an original draft to read data from CouchDB and use MapReduce to show plots**

To do:

- Melody:
    - Write report
    - Make system design overall Figure
- Eliza:
    - Write AURIN or outer datasets into CouchDB
    - Write report
- Budd:
    - Write report
    - Implement charts and maps
- Liqin:
    - Write report, finalize Aurin data
    - Implement charts and maps

7. Meeting 7 – 04/05/2022 8:30 p.m-9:30 p.m.

Discussion:

1. **Show current progress of frontend**
    a. **Budd's part of google map**
    b. **Latest version of stored twitter data**
2. **Discuss the method to draw plots for sentimental analysis of tweet text**
    a. **Rely on python, draw the static figure**

To do:

- Melody:
    - Write report
- Eliza:
    - Write report
- Budd:
    - Write report
    - Allocate tweets data and draw map
- Liqin:
    - Write report, update Aurin data
    - Implement charts and maps

8. Meeting 8 – 05/05/2022 10 p.m-11 p.m.

Discussion:

1. **Show current progress of frontend (Liqin's part of graphs and maps)**
2. **Discuss the solution of geographical graphs using geopandas for tweets coordinates allocation (councils)**
3. **Discuss some modifications to weather-climate data front-end visualization**
4. **Discuss the task allocation of user-guide section of report**

To do:

- Melody:
  - Write report
- Eliza:
  - Write report
- Budd:
  - Write report
  - Allocate tweets data and draw map
- Liqin:
  - Write report
  - Run html using the data from CouchDB

9. Meeting 9 – 09/05/2022 6 p.m-7 p.m.

Discussion:

1. **Show current progress of frontend (Tweets + AURIN are almost finished)**
2. **Discuss some changes in details of website**
3. **Update dataset of weather**
4. **Video arrangements (three separate parts for development of MRC, Twitter, and website)**

To do:

- Melody:
    - Write report
- Eliza:
    - Write report
- Budd:
    - Write report
    - Discuss the scenario cases
    - Allocate tweets data and draw map
    - A few front end changes
- Liqin:
    - Write report
    - Discuss the scenario cases
    - Run html using the data from CouchDB

10. Meeting 10 –12/05/2022 4:30 p.m-5:30 p.m.

Discussion:

1. **Discuss some changes in details of website like overall structure, bar colors.**
2. **Need to make titles of figures larger**
3. **Go through all charts together and discuss any possible better modification**
4. **Discuss scenarios that we finally choose to show on the website.**

To do:

- Melody:
    - Write report
    - Implement sentiment analysis program
- Eliza:
    - Write report
    - Implement sentiment analysis program
- Budd:
    - Write report
    - Discuss the scenario cases
    - Use chart.js to draw sentiment analysis vs. time
    - A few front end changes in detail
- Liqin:
    - Write report
    - Discuss the scenario cases
    - Update new AURIN data decided to use

11. Meeting 11 –14/05/2022 4 p.m-5 p.m.

Discussion:

1. **Finalize the version of front-end website**
2. **Discuss some changes in details of website**
3. **Finalize the sentiment analysis application**

To do:

- Melody:
    - Write report
    - Implement sentiment analysis program
- Eliza:
    - Write report
    - Implement sentiment analysis program
- Budd:
    - Write report
    - Make some small changes in website
    - Read sentiment analysis from CouchDB to draw graphs
- Liqin:
    - Write report

12. Meeting 12 –16/05/2022 2 p.m-12 p.m.

Discussion:

1. **Finalize the report and all codes**
2. **Discuss some changes in details of website and development**
3. **Finalize the sentiment analysis application**
4. **Write readme files**
5. **Record videos**
6. **Finalize GitHub content**

To do:

- Melody:
  - Finalize report
  - Implement sentiment analysis program
  - Record video
  - Finalize reference
  - Update front-end
- Eliza:
  - Finalize report
  - Implement sentiment analysis program
  - Record video
  - Finish Readme
- Budd:
  - Finalize report
  - Make some small changes in website
  - Read sentiment analysis from CouchDB to draw graphs
  - Update front-end
- Liqin:
  - Write report
  - Record video