Power Code Girls - Jamie Spiel, Rachel Waltzer, Sofia Levinson

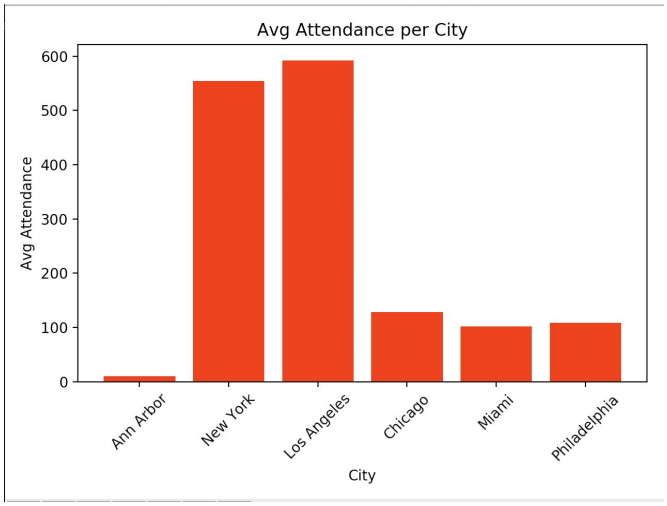
1. **The goals for your project.**
    a. Originally, we wanted to collect data from OpenUV, Open Weather Map and Yelp. From there, we wanted to calculate the following: relationship between UV index and temperature, relationship between UV index and Fiz score and relationship between Temperature and Fiz Score.

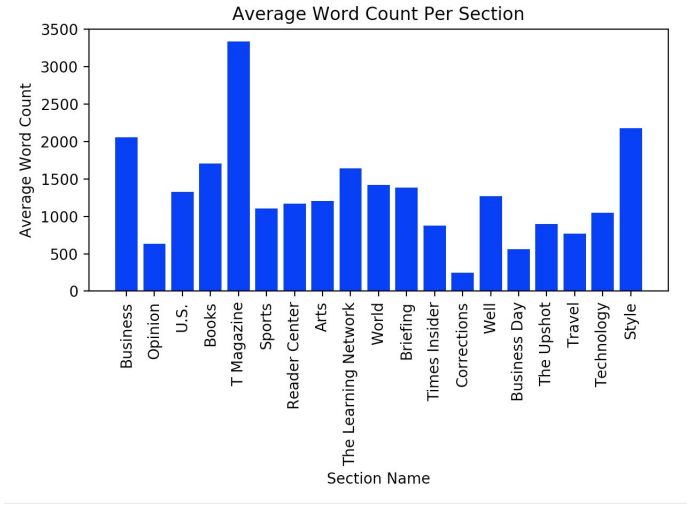
2. **The goals that were achieved.**
    a. Calculate the average attendance per city of the top 20 events collected from the Yelp API
    b. Calculate the average word count per section from the articles in the DB
    c. Calculate the frequencies of the different cloud statuses in the DB

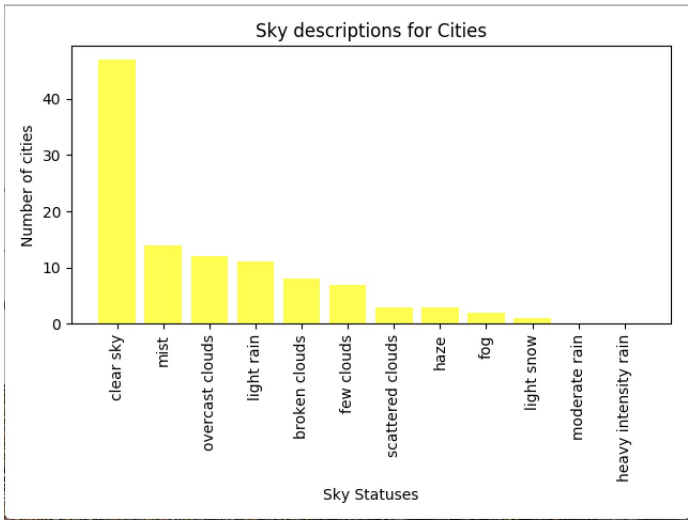
3. **The problems that you faced.**
    a. After starting our project, we realized that OpenUV had restrictions that wouldn't allow us to use the API as we wanted so we got rid of that idea. We also realized that we didn't have to calculate a relationship between the different API's, instead we had to calculate something for each API. This is why we decided to do Open Weather Map, Yelp and NY Times, and stick with the same 5 cities as our search criteria.
    b. We initially struggled with getting our JSON files in the correct format. The Yelp API was returning a JSON that had a string as the object instead of a dictionary. After some Googling and help from a friend who had previously used the Yelp API, we were able to resolve the issue

4. **Your file that contains the calculations from the data in the database.**
    In repository (https://github.com/sofialev/206_finalproj). Name is **analysis.txt**

5. **The visualization that you created (i.e. screenshot or image file).**







6. **Instructions for running your code.**

   Our code is split up into 3 files:

- apiCalls.py
- createDB.py
- visualCreation.py

In order to add more information to the DB, you have to run the file, createDB.py. Depending on the table you want to add information to determines which function you call.
Calling yelp_info will ask for a city name and then add 20 events to the table 'Top20EventsInCities' if that city has not already been entered. Calling nyt_info will ask for a search_term and then add 10 articles to the table 'NYT' if that search term has not already been entered into the DB. Calling openweather_sqlite will ask for a city name and add that city's weather information to the table 'Weather' if it has not already been added to it.

To run the calculations and create the visuals you have to run the file visualCreation.py. There is a separate function for each calculation-visual pair. In order to create the 3 visualizations, you need to call all three functions that create visuals.

7. **Documentation for each function that you wrote. This includes the input and output for each function.**

- apiCalls.py
  - yelpRequest
    - This function makes a call to the Yelp API using the city inputted by the user and returns no more than 20 events in a dictionary
  - cityInfo
    - This function goes through the dictionary returned by yelpRequest to create a list of dictionaries, where each dictionary contains information about an individual
  - inputCity
    - This function asks the user to input a city name, which is returned as a string
  - nytRequest
    - This function makes a call to the NYT API using the provided search term and returns a list
  - input_term
    - This function asks the user to enter a search term and returns it as a string
  - NYT_parse_request

        - This function calls the function input_term, and then uses it to make a call to nytRequest, it then returns a list of dictionaries. Each dictionary contains information about one of the articles returned by nytRequest
    - ow_make_request
        - This function makes a call to the Open Weather API using the city that the user inputted and returns a dictionary
    - input_city
        - This function asks the user to input a city and returns it as a string
    - city_info
        - This function goes through the object returned by ow_make_request and returns a dictionary that includes selected information
- createDB.py
    - Yelp_info
        - This function calls cityInfo and inputs the data into the table, Top20EventsinCities, if it is not already there
    - Nyt_info
        - This function calls NYT_partse_request and inputs the data into a table, NYT, if it is not already there
    - Openweather_sqlite
        - This function calls city_info and inputs the data into a table, Weather, if it is not already there
    - To run each function, uncomment the function calls at the bottom of the respective function
- visualCreation.py
    - calcAvgAttendance
        - This function calls information from the table, Top20EventsinCities, specifically city and attendanceCount column to calculation the average attendance per city
    - createAttendanceVisual
        - This function creates a bar chart that plots the city on the x axis and the average attendance on the y axis
    - avg_wordcount
        - This function calls information from the table, NYT, specifically section and words columns to calculate the average word count per section
    - createWordCountVisual

        - This function creates a bar chart that plots the section name on the x axis and the average word count on the y axis
    - cloud_status
        - This function calls information from the table, Weather, specifically clouds column to calculate the frequencies of clous statuses
    - createCloudStatusVisual
        - This function creates a bar chart that plots the cloud status on the x axis and the frequency on the y axis

8. **You must also clearly document all resources you used. The documentation should be of the following form:**

Date	**Issue Description**	**Location of Resource**	**Result: did it solve the issue?**
4/16	Value in Yelp JSON file is a string rather than a JSON object	https://stackoverflow.com/questions/2835559/why-cant-python-parse-this-json-data	Yes
4/16	Trouble parsing JSON file and pulling desired information	https://www.yelp.com/developers/documentation/v3/event_search	Yes
4/16	Trouble creating Yelp DB	Partner, compared our code found small errors	Yes
4/18	Questions about ensuring no duplicates are added to DB	Office hours	Yes
4/18	Figure out how to rotate x labels in graph	https://stackoverflow.com/questions/10998621/rotate-axis-text-in-python-matplotlib	Yes
4/18	Figure out how to test an except block by: except Exception as	https://docs.python.org/3/tutorial/errors.html	Yes

	e:		
4/18	How to better fit the x axis information on matplotlib	https://matplotlib.org/users/tight_layout_guide.html	Yes
4/19	Trouble parsing NY Times JSON file and pulling desired information	https://developer.nytimes.com/docs/articlesearch-product/1/overview	Yes