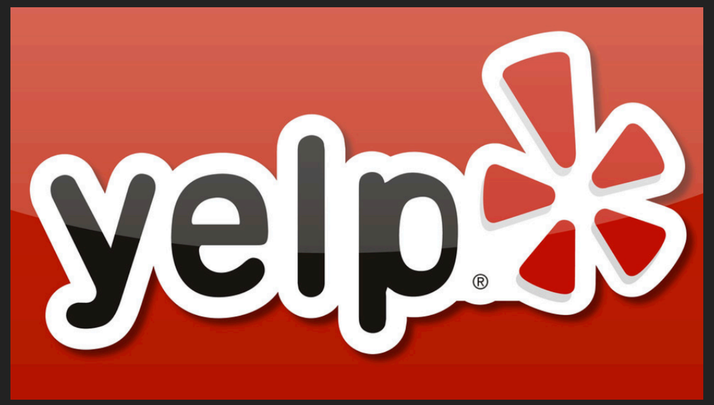
GERARD AGADA

MINI PROJECT II

LOCATION – DOWNTOWN OTTAWA

PROJECT FLOW – PART 1

- Generate and authenticate API keys for Yelp & Foursquare.
- Read the documentation to understand the API query parameters.
- Perform the GET requests and store the POI results in a JSON format.
- Convert JSON to Pandas DataFrame.
- Convert Pandas DataFrame to CSV and visualize the table.
- Export pandas DataFrames into SQLite with SQLAlchemy.



FOURSQUARE

PROJECT FLOW – PART 2

- Set up the SQLite3 database that will hold the relevant POI tables.
- Establish a connection.
- Create a table for the Foursquare POI data.
- Create a table for the Yelp POI data.
- Compare the results to see which API has better POI coverage.
- Filter the top 10 POI's based on the average rating.

RESULTS – CREATE TABLES

FOURSQUARE TABLE

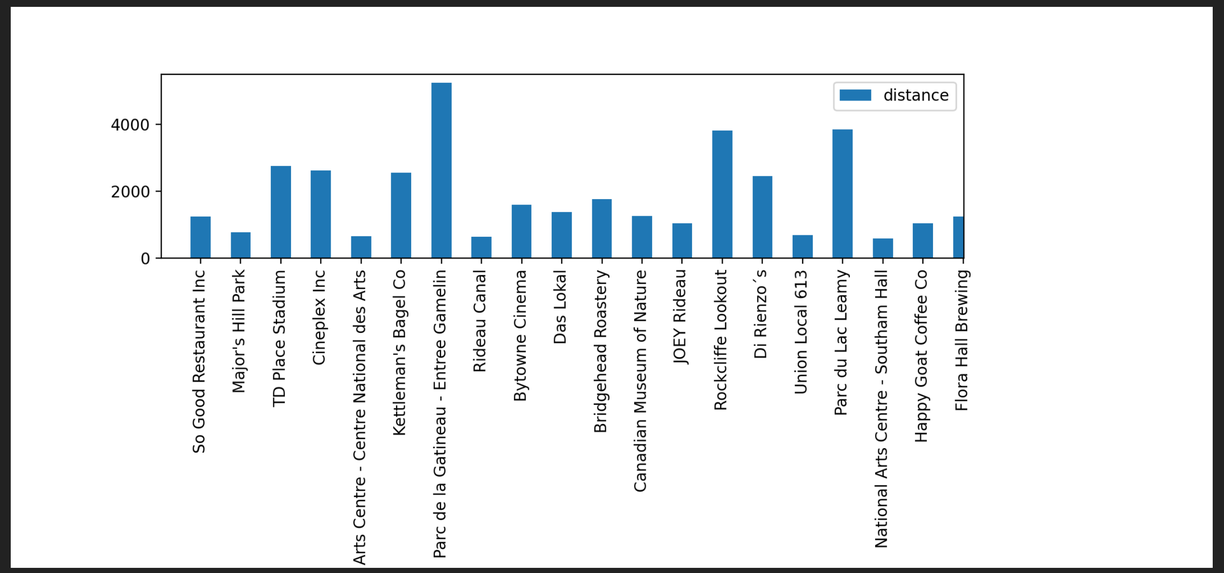
```
2022-01-20 18:04:33,534 INFO sqlalchemy.engine.Engine PRAGMA main.table_info("foursquare_table")
2022-01-20 18:04:33,535 INFO sqlalchemy.engine.Engine [raw sql] ()
2022-01-20 18:04:33,535 INFO sqlalchemy.engine.Engine PRAGMA temp.table_info("foursquare_table")
2022-01-20 18:04:33,535 INFO sqlalchemy.engine.Engine [raw sql] ()
2022-01-20 18:04:33,536 INFO sqlalchemy.engine.Engine
CREATE TABLE foursquare_table (
        "index" BIGINT,
        fsq_id TEXT,
        categories TEXT,
        distance BIGINT,
        name TEXT,
        popularity FLOAT,
        rating FLOAT,
        timezone TEXT,
        "geocodes.main.latitude" FLOAT,
        "geocodes.main.longitude" FLOAT,
        "location.address" TEXT,
        "location.country" TEXT,
        "location.cross_street" TEXT,
        "location.locality" TEXT,
        "location.neighborhood" TEXT,
        "location.postcode" TEXT,
        "location.region" TEXT,
        "location.address_extended" TEXT,
        "location.po_box" TEXT
)
```

YELP TABLE

```
2022-01-20 18:04:33,541 INFO sqlalchemy.engine.Engine COMMIT
2022-01-20 18:04:33,543 INFO sqlalchemy.engine.Engine PRAGMA main.table_info("yelp_table")
2022-01-20 18:04:33,543 INFO sqlalchemy.engine.Engine [raw sql] ()
2022-01-20 18:04:33,544 INFO sqlalchemy.engine.Engine PRAGMA temp.table_info("yelp_table")
2022-01-20 18:04:33,544 INFO sqlalchemy.engine.Engine [raw sql] ()
2022-01-20 18:04:33,545 INFO sqlalchemy.engine.Engine
CREATE TABLE yelp_table (
        "index" BIGINT,
        id TEXT,
        alias TEXT,
        name TEXT,
        image_url TEXT,
        is_closed BOOLEAN,
        url TEXT,
        review_count BIGINT,
        categories TEXT,
        rating FLOAT,
        price TEXT,
        phone TEXT,
        display_phone TEXT,
        distance FLOAT,
        "coordinates.latitude" FLOAT,
        "coordinates.longitude" FLOAT,
        "location.address1" TEXT,
        "location.address2" TEXT,
        "location.address3" TEXT,
        "location.city" TEXT,
        "location.zip_code" TEXT,
        "location.country" TEXT,
        "location.state" TEXT,
        "location.display_address" TEXT
)
```

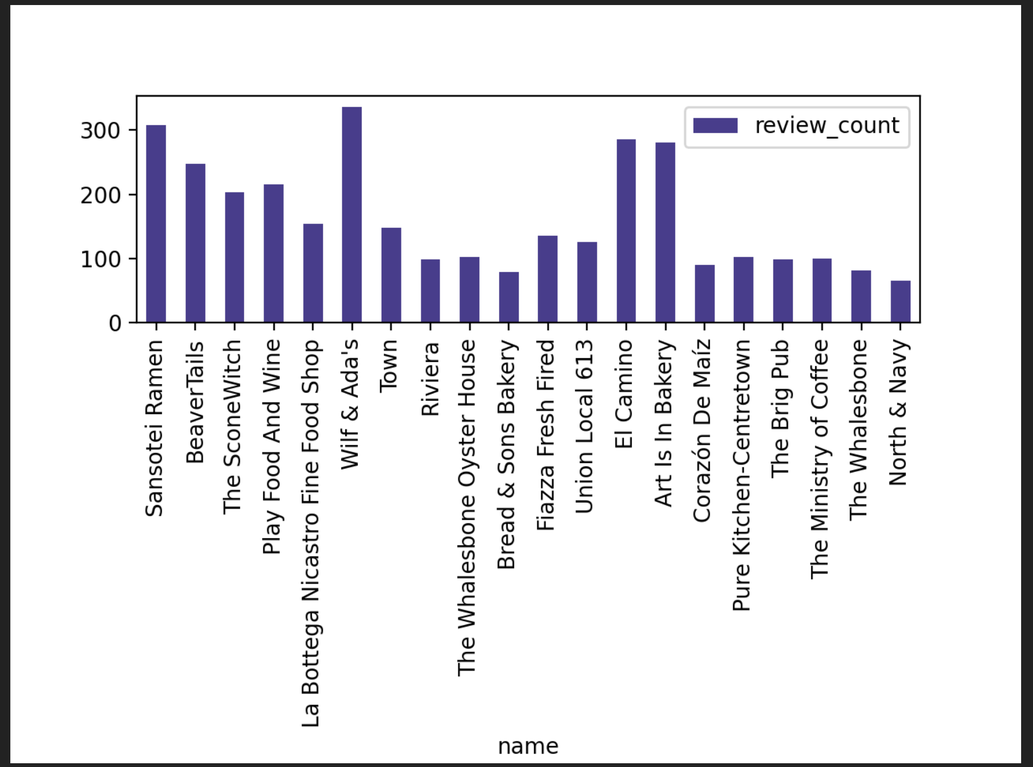
RESULTS – COVERAGE COMPARISON

FOURSQUARE DISTANCE FROM COORDINATES




```
#Using MATPLOTLIB
#foursquare_df.plot(kind='bar',x='name',y='distance')
#plt.show()
```

YELP REVIEW COUNT



RESULTS – TOP 10 POI'S AVERAGE RATING

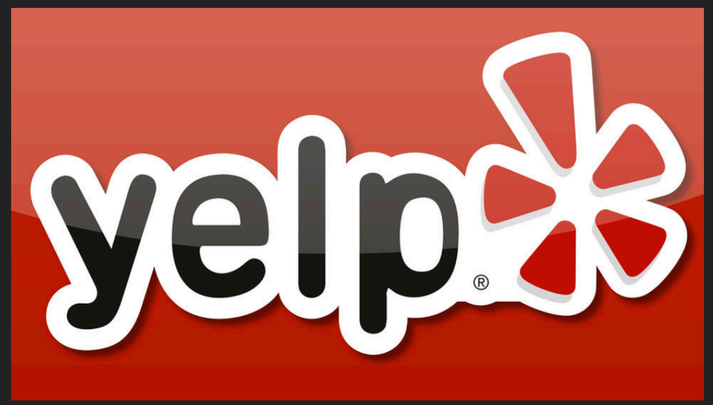
```
(base_env) gcagada@Chiemekas-MacBook-Pro mini-project-II % python miniproject_II.py
                                    name  rating location.locality location.region location.country
0                  So Good Restaurant Inc     9.1           Ottawa              ON               CA
1                       Major's Hill Park     9.1           Ottawa              ON               CA
2                        TD Place Stadium     9.0           Ottawa              ON               CA
3                           Cineplex Inc      9.0           Ottawa              ON               CA
4  National Arts Centre - Centre National des Arts     8.9           Ottawa              ON               CA
5                      Kettleman's Bagel Co     8.9           Ottawa              ON               CA
6      Parc de la Gatineau - Entree Gamelin     8.9              NaN             NaN               CA
7                           Rideau Canal     8.9           Ottawa              ON               CA
8                        Bytowne Cinema     8.8           Ottawa              ON               CA
9                            Das Lokal     8.8           Ottawa              ON               CA
********************SEPERATOR**********************/n
                              name  review_count  rating                          location.display_address
0                  Sansotei Ramen           307     4.5  ['153 Bank Street', 'Ottawa, ON K1P 5N7', 'Can...
1                     BeaverTails           247     4.5  ['69 George Street', 'Ottawa, ON K1N 1K1', 'Ca...
4  La Bottega Nicastro Fine Food Shop           154     4.5   ['64 George St', 'Ottawa, ON K1N 5V9', 'Canada']
5                   Wilf & Ada's           336     4.5  ['510 Bank Street', 'Ottawa, ON K2P 1Z4', 'Can...
6                           Town           148     4.5  ['296 Elgin Street', 'Ottawa, ON K2P 1M3', 'Ca...
7                        Riviera            99     4.5  ['62 Sparks Street', 'Ottawa, ON K1P 5A5', 'Ca...
8   The Whalesbone Oyster House           102     4.5  ['430 Bank Street', 'Ottawa, ON K2P 1Y8', 'Can...
9           Bread & Sons Bakery            79     4.5  ['195 Bank Street', 'Ottawa, ON K2P 1W7', 'Can...
2              The SconeWitch           203     4.0  ['150 Elgin Street', 'Ottawa, ON K1P 1L4', 'Ca...
3           Play Food And Wine           215     4.0  ['1 York Street', 'Ottawa, ON K1N 5S7', 'Canada']
```

```
pp.pprint(foursquare_df[['name','rating','location.locality','location.region','location.country']].head(10).sort_values(by=['rating'], ascending=False))

pp.pprint(yelp_df[['name','review_count','rating','location.display_address']].head(10).sort_values(by=['rating'], ascending=False))
```

FAVOURITE API & WHY?

- In this case I liked YELP better.
- The category list can be broken down into sub categories.
  - https://www.yelp.com/developers/documentation/v3/all_category_list
- The API documentation was clear and everything worked as intended.
- More concise data was available such as review count & if a place has been closed down.



BIGGEST CHALLENGES

- Getting a good response from Foursquare after authentication.
- Understanding what adding “Bearer” to the header meant for the YELP API.
- Looking for Key:Value pairs in the JSON output and selecting the relative columns.
- Configuring the DB through SQLAlchemy and reading additional documentation.
- If I had more time I would love to create a Foursquare object and a Yelp object .
  - (Object oriented approach using classes)