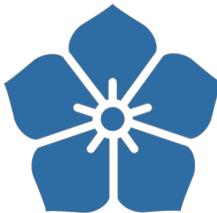


Capstone Project: The Battle of the Neighborhoods

Selection of Corners for Flower Shop vendors



Introduction

A flower shop is looking to select corners for placing on-field sellers in the city of Santiago

5

Corners are to be selected out of a pool of 30 corners with high foot traffic

The selection should be based on the amount of nearby:



Flower shops



Chocolate shops



Restaurants



Movie Theaters

The audience for this project are businesses that use on-field sales force interested in a model to select the placement for their employees



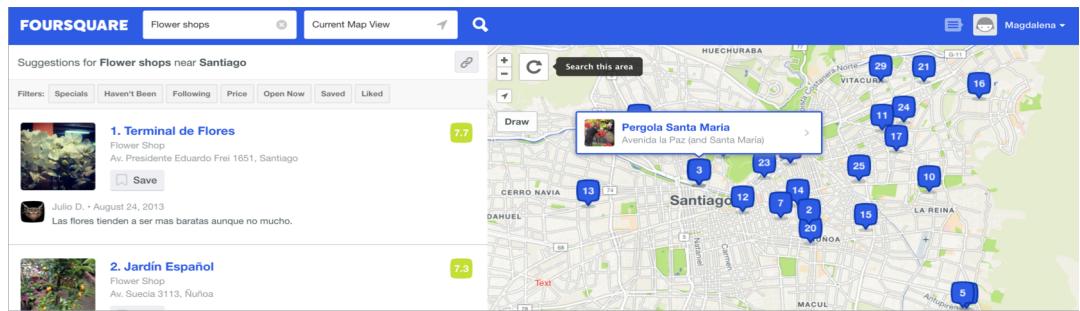
Data

The project has two main sources of data:

CSV file with 30 potential corners and their coordinates

Corner	Address	Neighborhood	Latitude	Longitude
1	Plazuela Los Leones	Providencia	-33.419869	-70.605912
2	Avenida Nueva Providencia 2200	Providencia	-33.422751	-70.60956
3	Avenida Pedro de Valdivia 101	Providencia	-33.424649	-70.611985
4	Avenida Suecia 780	Providencia	-33.427532	-70.605505
5	Avenida El Bosque 963	Providencia	-33.428427	-70.596128
6	Avenida Nueva Providencia 1398	Providencia	-33.428874	-70.618359
7	Metro Francisco Bilbao	Providencia	-33.430808	-70.586816
8	Latadia 4141	Las Condes	-33.431166	-70.578576
9	Avenida Ossa 1552	Ñuñoa	-33.439474	-70.572611
10	El Alcalde 15	Las Condes	-33.416337	-70.595227
11	Avenida Apoquindo 3898	Las Condes	-33.415298	-70.590077
12	Avenida Apoquindo 4483	Las Condes	-33.413435	-70.583082

Foursquare location data

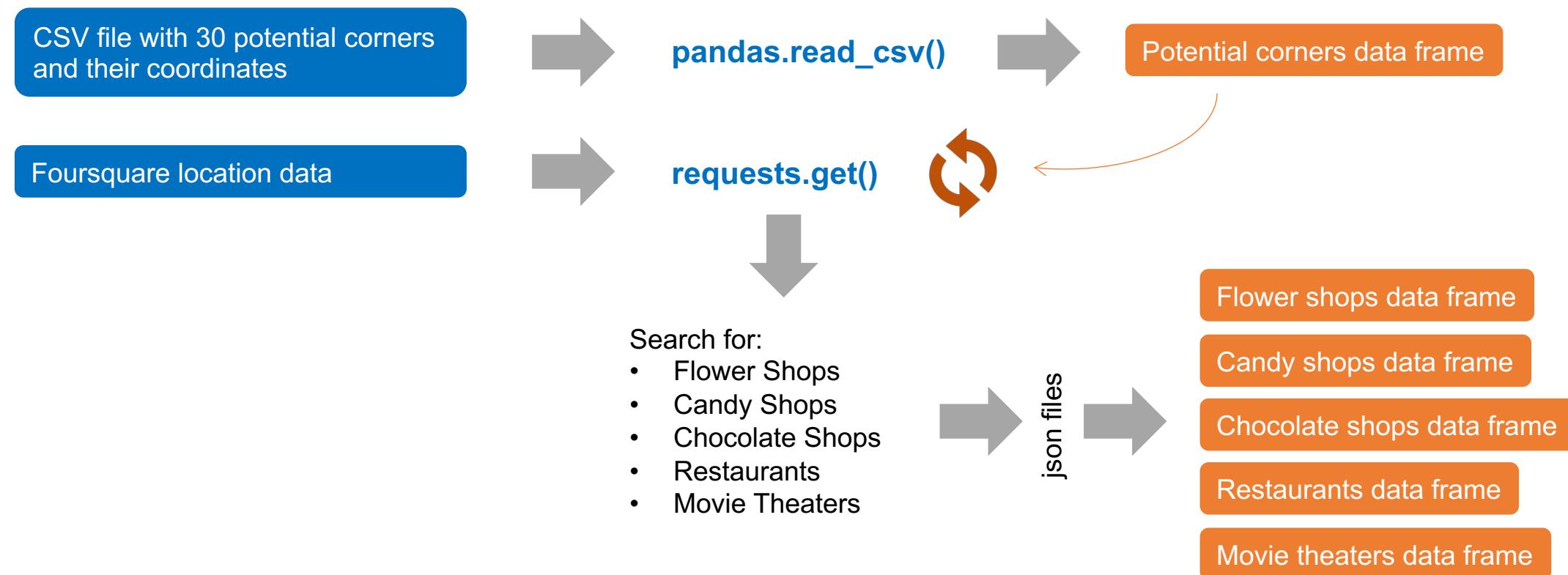


Accessed through search request and turned
into a data frame

Corner	Venue	Venue Category
0	Cineplanet	Multiplex
1	Sala Prime Cineplanet	Multiplex
2	Cine Planet Sala 3D	Movie Theater
3	Cine Arte Tobalaba	Movie Theater

Methodology

1. Extract the information



Methodology

2. Process the information

Flower shops data frame

Candy shops data frame

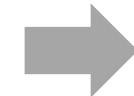
Chocolate shops data frame

Restaurants data frame

Movie theaters data frame



`groupby().count()`



Potential corners data frame

`dataframe.join()`



Add columns Chocolate shop and Candy shop

Unsorted results data frame

Corner	Address	Neighborhood	Latitude	Longitude	Flower_Shops	Restaurants	Movie_Theaters	Chocolate_Stores
1	Plazuela Los Leones	Providencia	-33.419869	-70.605912	0.0	31.0	6.0	1.0
2	Avenida Nueva Providencia 2200	Providencia	-33.422751	-70.609560	0.0	43.0	1.0	0.0
3	Avenida Pedro de Valdivia 101	Providencia	-33.424649	-70.611985	0.0	31.0	0.0	1.0
4	Avenida Suecia 780	Providencia	-33.427532	-70.605505	0.0	1.0	0.0	0.0
5	Avenida El Bosque 963	Providencia	-33.428427	-70.596128	0.0	0.0	0.0	0.0
6	Avenida Nueva Providencia 1398	Providencia	-33.428874	-70.618359	0.0	26.0	0.0	1.0
7	Metro Francisco Bilbao	Providencia	-33.430808	-70.586816	0.0	1.0	1.0	0.0
8	Latadia 4141	Las Condes	-33.431166	-70.578576	0.0	2.0	0.0	0.0

Methodology

3. Sort the results

Unsorted results data frame



`sort_values()`

By:

1. Flower shops



2. Chocolate shops



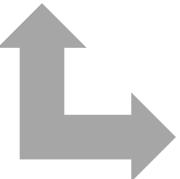
3. Restaurants



4. Movie theaters



Sorted results data frame

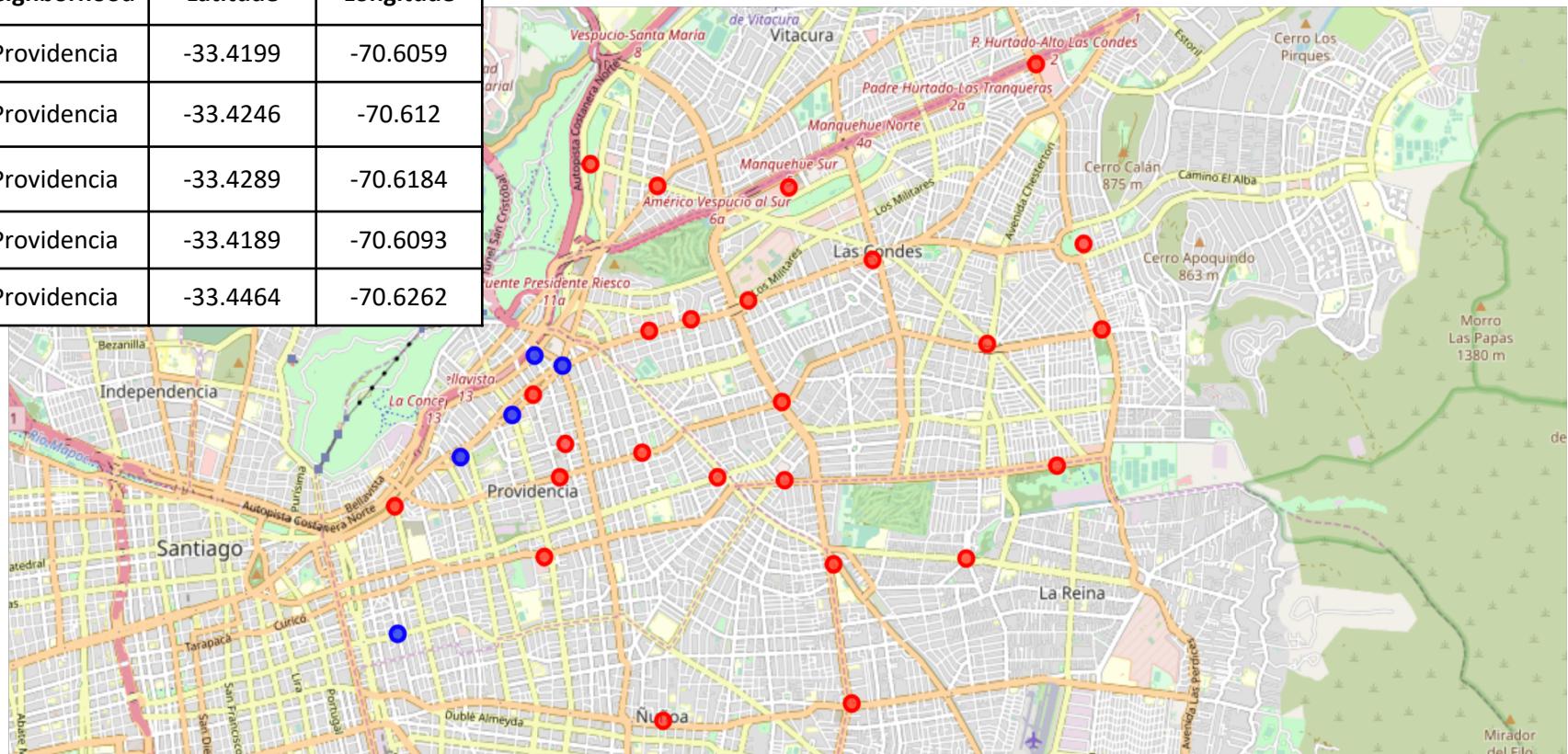


Corner	Address	Neighborhood	Latitude	Longitude	Flower_Shops	Restaurants	Movie_Theaters	Chocolate_Stores
1	Plazuela Los Leones	Providencia	-33.419869	-70.605912	0.0	31.0	6.0	1.0
3	Avenida Pedro de Valdivia 101	Providencia	-33.424649	-70.611985	0.0	31.0	0.0	1.0
6	Avenida Nueva Providencia 1398	Providencia	-33.428874	-70.618359	0.0	26.0	0.0	1.0
25	Avenida Suecia 181	Providencia	-33.418879	-70.609346	0.0	22.0	6.0	1.0
22	Santa Isabel 400	Providencia	-33.446353	-70.626189	1.0	8.0	0.0	1.0
29	Mall Alto Las Condes	Las Condes	-33.390066	-70.547686	1.0	4.0	3.0	1.0
19	Avenida Larraín 5862	La Reina	-33.453282	-70.570271	0.0	2.0	4.0	1.0
2	Avenida Nueva Providencia 2200	Providencia	-33.422751	-70.609560	0.0	43.0	1.0	0.0
23	Avenida Salvador 42	Providencia	-33.433757	-70.626389	0.0	10.0	0.0	0.0
10	El Alcalde 15	Las Condes	-33.416337	-70.595227	0.0	9.0	0.0	0.0
30	Manuel de Salas 39	Ñuñoa	-33.454969	-70.593477	0.0	9.0	0.0	0.0
28	Avenida Vitacura 3744	Vitacura	-33.402006	-70.594212	0.0	8.0	0.0	0.0

Results

Top 5 corners selected from the original 30 options

Corner	Address	Neighborhood	Latitude	Longitude
1	Plazuela Los Leones	Providencia	-33.4199	-70.6059
3	Avenida Pedro de Valdivia 101	Providencia	-33.4246	-70.612
6	Avenida Nueva Providencia 1398	Providencia	-33.4289	-70.6184
25	Avenida Suecia 181	Providencia	-33.4189	-70.6093
22	Santa Isabel 400	Providencia	-33.4464	-70.6262

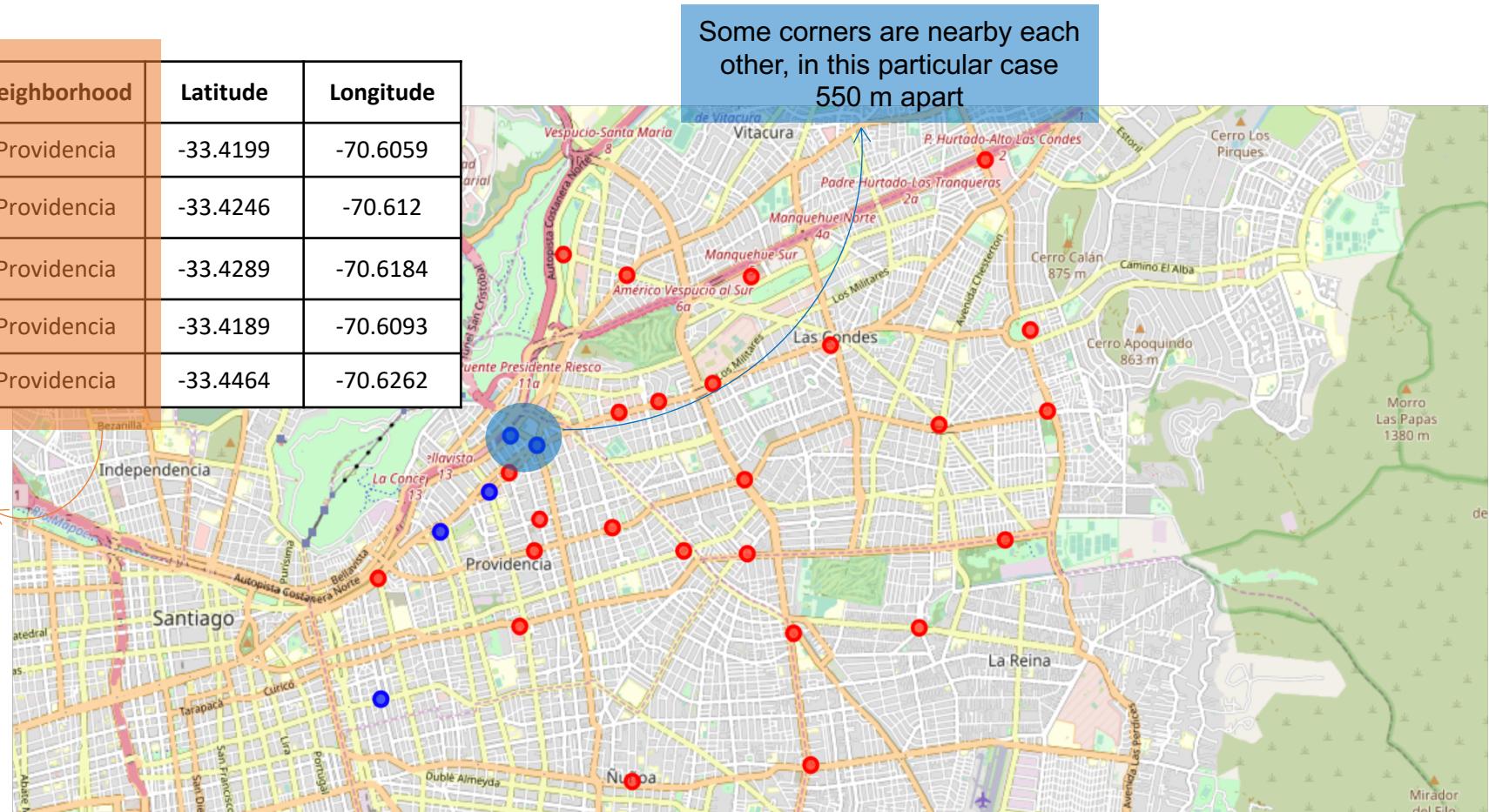


Discussion: Observations

Corner	Address	Neighborhood	Latitude	Longitude
1	Plazuela Los Leones	Providencia	-33.4199	-70.6059
3	Avenida Pedro de Valdivia 101	Providencia	-33.4246	-70.612
6	Avenida Nueva Providencia 1398	Providencia	-33.4289	-70.6184
25	Avenida Suecia 181	Providencia	-33.4189	-70.6093
22	Santa Isabel 400	Providencia	-33.4464	-70.6262

All of the corners are in the same Neighborhood, due to high commercial activity and low results for flower shops

Some corners are nearby each other, in this particular case 550 m apart



Discussion: Recommendations

1

Including more informal venues than the ones offered by Foursquare, like kiosks

2

Restricting distance between the selected corners

1

Including more corners in different neighborhoods of Santiago

Conclusion

In conclusion, python and its libraries are an important tool that can help businesses retrieve information and process the data in order to carry out analysis that will help them make intelligent decisions. In this case the client can increase its profit by placing on-field sellers in the five corners selected for weekends and special dates.

