CAPSTONE PROJECT – BUSINESS OPPORTUNITIES IN ROSARIO, SANTA FE, ARGENTINA

A study to detect food related business opportunities in Rosario, Santa Fe, Argentina

Rosario present itself as a city with great commercial opportunities

- ➢ Rosario is a big port city, and an economic center of the province and country
- ➢ The number of citizens is always growing, and given that there are two important universities, there is a lot of Young population.
- ➢ Based on the previous two points, we can see that it is of great interest to start a business in the city.
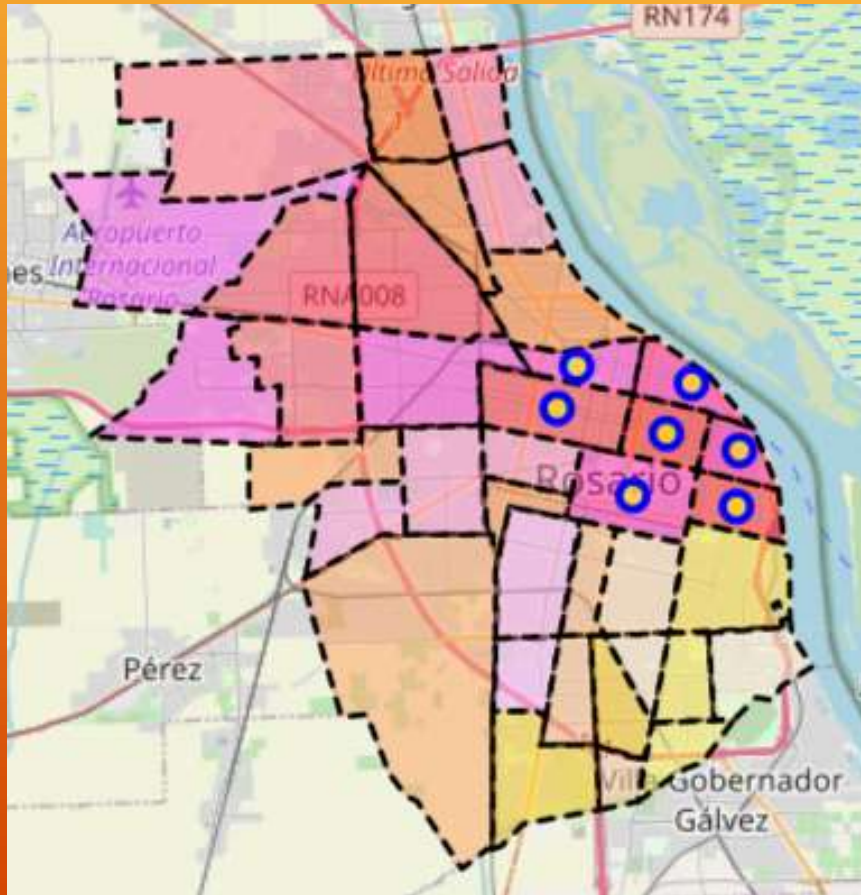- ➢ We will focus our efforts in the central área of the city.

Data acquisition and cleansing

➢ We will obtain information from the city hall web page about the districts, its geographical distribution, location and shape.
➢ We will obtain venue information from the Foursquare API

Filtering and cleansing Data
➢ We will download a .csv file with the information about the venues directly from the web, and store it into a pandas DataFrame.
➢ We will use a set of key words to filter the venues, obtaining only the food related ones

DEFINITION AND DISTRIBUTION OF DISTRICTS IN ROSARIO

We used the information obtained in the city hall web site to build a String emulating a GeoJson file.

Once we had this, we created a color palette, and used it to color each district, separated by a dashed line. All of this using the folium library.

Once again using the city hall's information, we selected and marked the districts in the central área of Rosario, where our study will take place.

VENUES ANALYSIS

district	name	categories
C1	Freedom Coffee Lounge	Ice Cream Shop
C1	Raggio's	Salon / Barbershop
C1	Vittorio	Latin American Restaurant
C1	Take It Easy	Tapas Restaurant
C1	Sablé París	Coffee Shop

Using the Foursquare API we obtained the venues in the area. After that we stored the Json file in the response into a DataFrame, and filter the information regarding the name and category. Finally we added the district to which the venue belongs and end up with a table as the one showed.

VENUES ANALYSIS

Finally we got the dummies for each category, grouped all according to the district and took the mean. We obtained the table showed below, which had detailed information about the kind of venues in each area.

	district	Argentinian Restaurant	Bakery	Bar	Beer Garden	Cafeteria	Café	Coffee Shop	Fast Food Restaurant	Fondue Restaurant	...
0	C1	0	0	0	0	0	0	0	0	0	...
7	C1	0	0	0	0	0	0	0	0	0	...
8	C1	0	0	0	0	0	0	0	0	0	...
12	C1	0	0	0	0	0	0	0	0	0	...
13	C1	0	0	0	0	0	0	1	0	0	...
15	C1	0	0	0	0	0	0	0	0	0	...
18	C1	0	0	0	0	0	0	0	0	0	...
26	C1	0	0	0	0	0	0	0	0	0	...
28	C1	0	0	0	0	0	0	0	0	0	...
30	C1	0	0	0	0	0	0	0	0	0	...

	district	Argentinian Restaurant	Bakery	Bar	Beer Garden	Cafeteria	Café	Coffee Shop	Fast Food Restaurant	Fondue Restaurant	...
0	C1	0.000000	0.181818	0.045455	0.000000	0.00	0.000000	0.090909	0.000000	0.000000	...
1	C2	0.058824	0.117647	0.058824	0.117647	0.00	0.000000	0.000000	0.058824	0.058824	...
2	C3	0.076923	0.000000	0.000000	0.000000	0.00	0.230769	0.076923	0.000000	0.000000	...
3	C4	0.142857	0.071429	0.071429	0.000000	0.00	0.214286	0.000000	0.142857	0.000000	...
4	C5	0.181818	0.090909	0.045455	0.045455	0.00	0.000000	0.045455	0.000000	0.000000	...
5	C6	0.000000	0.285714	0.142857	0.000000	0.00	0.071429	0.000000	0.000000	0.000000	...
6	C7	0.050000	0.100000	0.050000	0.000000	0.05	0.050000	0.150000	0.050000	0.000000	...

7 rows × 28 columns

RESULTS

➢ We end the Project analyzing the frequency of each kind of food venue in each area. Examples are show below. Using this information, stakeholders will be able to at least identify potential areas of opportunities in each district, and make further analysis to start a new business.

MOST FREQUENT

```
----C1----
                            venue  freq
0                  Ice Cream Shop  0.23
1                          Bakery  0.18
2               Salon / Barbershop 0.14
3                     Coffee Shop  0.09
4   Vegetarian / Vegan Restaurant  0.05
5                             Bar  0.05


----C2----
                       venue  freq
0         Salon / Barbershop  0.12
1                Beer Garden  0.12
2                     Bakery  0.12
3      Argentinian Restaurant  0.06
4                Gaming Cafe  0.06
5           Mexican Restaurant 0.06


----C3----
                        venue  freq
0                  Restaurant  0.23
1                        Café  0.23
2      Argentinian Restaurant  0.08
3            Food & Drink Shop 0.08
4          Spanish Restaurant  0.08
5                 Pizza Place  0.08
```

```
----C4----
                        venue  freq
0                        Café  0.21
1      Argentinian Restaurant  0.14
2         Fast Food Restaurant 0.14
3            Food & Drink Shop 0.14
4           Salon / Barbershop 0.14
5           Italian Restaurant 0.07


----C5----
                        venue  freq
0      Argentinian Restaurant  0.18
1                  Food Truck  0.18
2              Ice Cream Shop  0.09
3                      Bakery  0.09
4                 Pizza Place  0.09
5                 Coffee Shop  0.05


----C6----
                        venue  freq
0                      Bakery  0.29
1                         Bar  0.14
2          Salon / Barbershop  0.14
3            Food & Drink Shop 0.14
4                        Café  0.07
5                  Restaurant  0.07
```

LESS FREQUENT

```
----C1----
                           venue  freq
0         Argentinian Restaurant  0.0
1             Spanish Restaurant  0.0
2       South American Restaurant 0.0
3             Mexican Restaurant  0.0
4             Italian Restaurant  0.0
5                  Internet Cafe  0.0
6                    Gaming Cafe  0.0
7                     Food Court  0.0
8              Food & Drink Shop  0.0
9                      Hotel Bar  0.0
10          Fast Food Restaurant  0.0
11             Fondue Restaurant  0.0
```