

# **Capstone Project - The Battle of Neighborhoods**

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## **Introduction**

Buenos Aires City is one of the largest cities in South America also a city with a look and some European customs. Buenos Aires and entire Argentina have a long history of international immigration. Migration mostly European and to a lesser extent from the Middle East occurred between the end of the 19th century and the first half of the 20th century (particularly Italian and Spanish, in that order)

Buenos Aires City is home to nearly 3 million people (2010 census) and in the metropolitan area home to approximately 16 million.

Buenos Aires' quality of life was ranked 91st in the world, being one of the best in Latin America in 2018. It is the most visited city in South America, and the second-most visited city of Latin America (behind Mexico City)

The city is a top tourist destination and is known for its preserved European (mostly french and english) architecture and rich cultural life.

In the last 151 years, the city has received millions of immigrants from all over the world, making it a melting pot where several ethnic groups live together and being considered one of the most diverse cities of the Americas.

With all this cultural diversity, many businesses also saw an excellent business opportunity in Buenos Aires. Such is the case, that large companies decided to open their doors in "La Reina del Plata".

Buenos Aires has an old coffee tradition. The city is well known for having a large number of "porteños" coffees, and Cafe Tortoni, for example, has been preparing coffee for more than 160 years.

Today the tradition is maintained but the public is changing and looking for other ways to enjoy their coffee. This is how large chains of coffee shops were opening in the city in recent years.

So as part of my final project, we will list and visualize all neighborhoods of Buenos Aires City looking for the best place to open a Starbucks Coffe Shop.

# **Data**

*Datasets Extracted from the Website of the Government of the City of Buenos Aires*

## **GeoSpace Data**

**Dataset:** <http://cdn.buenosaires.gob.ar/datosabiertos/datasets/barrios/barrios.geojson>

**Description:** By using this GeoSpace data we will get the Buenos Aires borough boundaries that will help us visualize the Choropleth map.

## **Apartment sale price**

**Dataset:**

<http://cdn.buenosaires.gob.ar/datosabiertos/datasets/acceso-vivienda-y-mercado-inmobiliario/precio-venta-deptos.csv>

**Description:** This dataset contains all the neighborhoods of Buenos Aires city. The average price of m2 (dollars) of apartments used and brand new for sale of 2 and 3 rooms. Source DGEyC-GCBA based on Argenprop database.

## **Cultural Dependencies**

**Dataset:**

<http://cdn.buenosaires.gob.ar/datosabiertos/datasets/dependencias-culturales/dependencias-culturales.csv>

**Description:** This dataset contains the geographical location of the cultural dependencies in the City including bookstores, bars, clubs, radios, libraries, discotheques, museums, art galleries and carousels in the City.

## **Universities**

**Dataset:**

<http://cdn.buenosaires.gob.ar/datosabiertos/datasets/universidades/universidades.csv>

**Description:** This dataset contains the geographical location and contact details of the Universities in the City

## **Starbucks in each neighborhood of Buenos Aires**

**Data source:** Foursquare API

**Description:** API to get information about all the venues in each neighborhood. We can filter these venues to get only Starbucks or Coffee Shops

## **Approach**

- First, we will obtain geospatial information about the city's neighborhoods. Also the list of neighborhoods and to which commune it belongs, the average of m2 in dollars by neighborhood, list of cultural dependencies and universities. We will count them and place them on the map using Folium.
- With the Foursquare API, we will look for all the venues that are around the neighborhoods.
- We will filter all the venues that are Coffee Shops, we will count them and place them on the map.
- Find ratings, likes, and tips for each Coffee Shops using FourSquare.
- Sort the data and find the best candidate neighborhoods.
- Visualize results on the map.

## **With the datasets mentioned above, we will answer the following questions:**

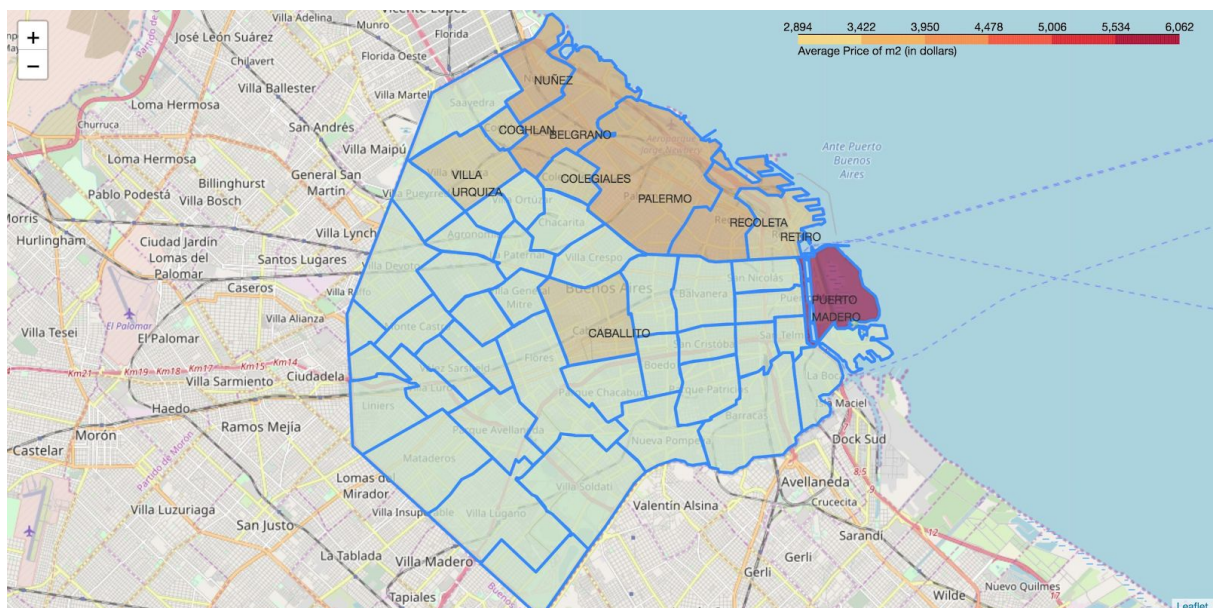
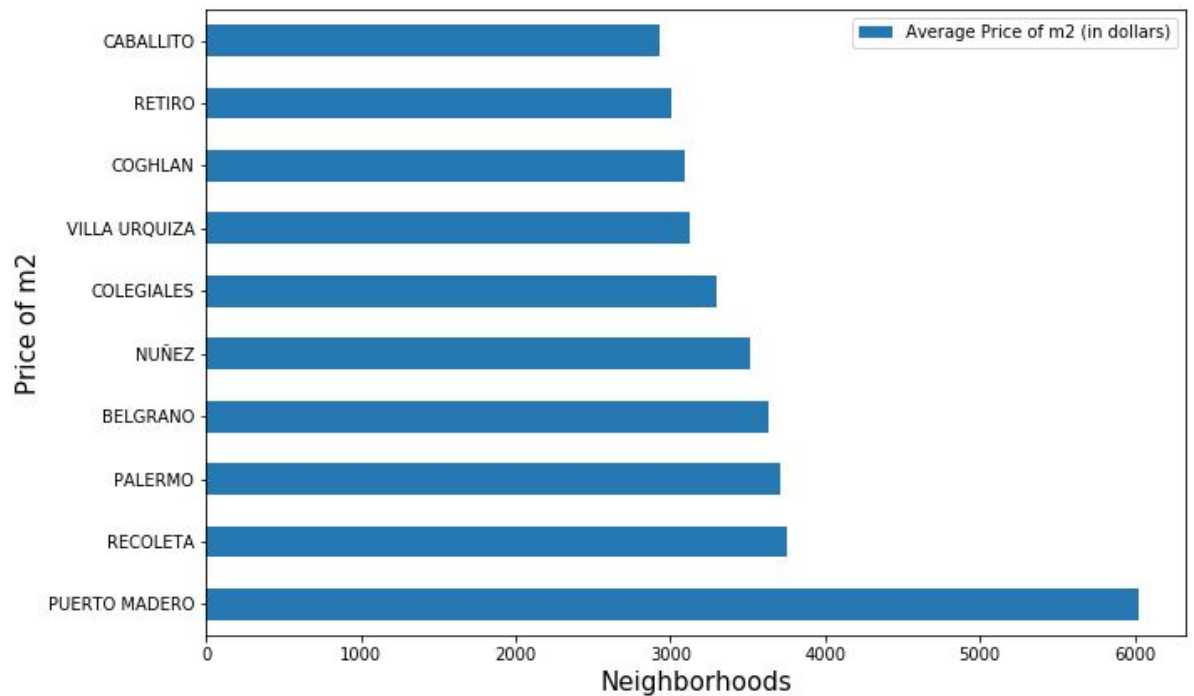
- What are the most expensive neighborhoods in Buenos Aires?
- What neighborhoods have more libraries, bookshops, cultural dependencies and universities?
- What neighborhoods have more Coffe Shops?
- What areas lack Coffe Shops?
- What areas have the potential to open a Starbucks?
- What is best the location in Buenos Aires to open a Starbucks?

## **Data Analysis**

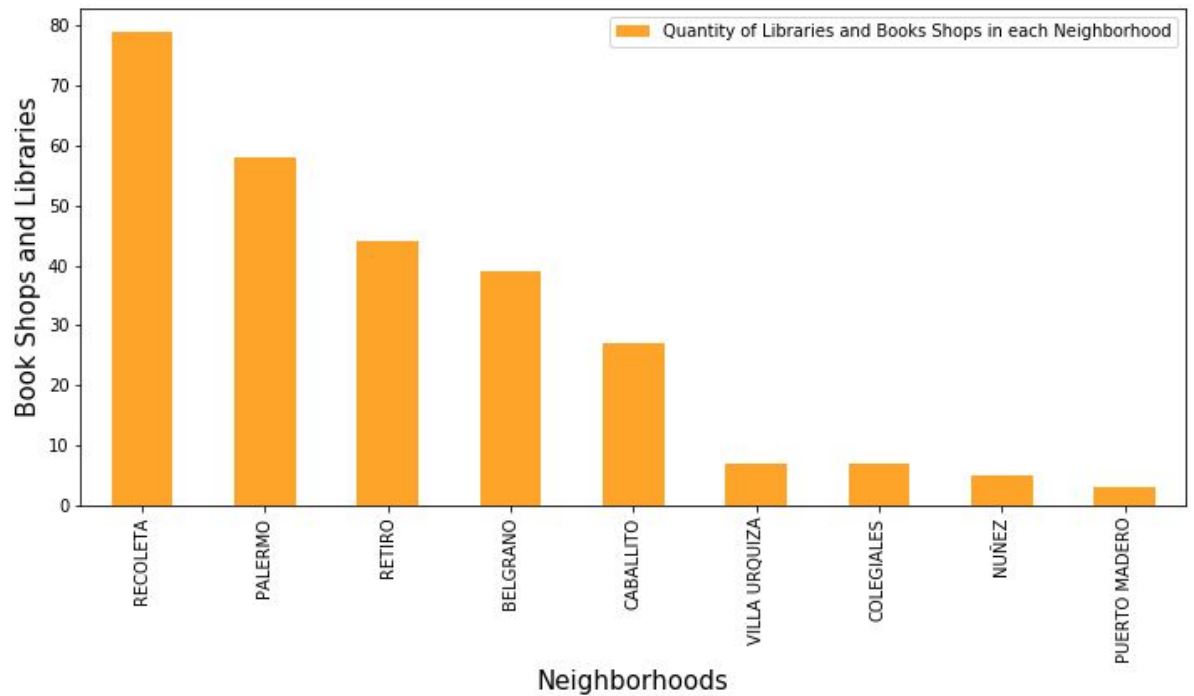
To get the full code, access to [my git repository](#).

# Results

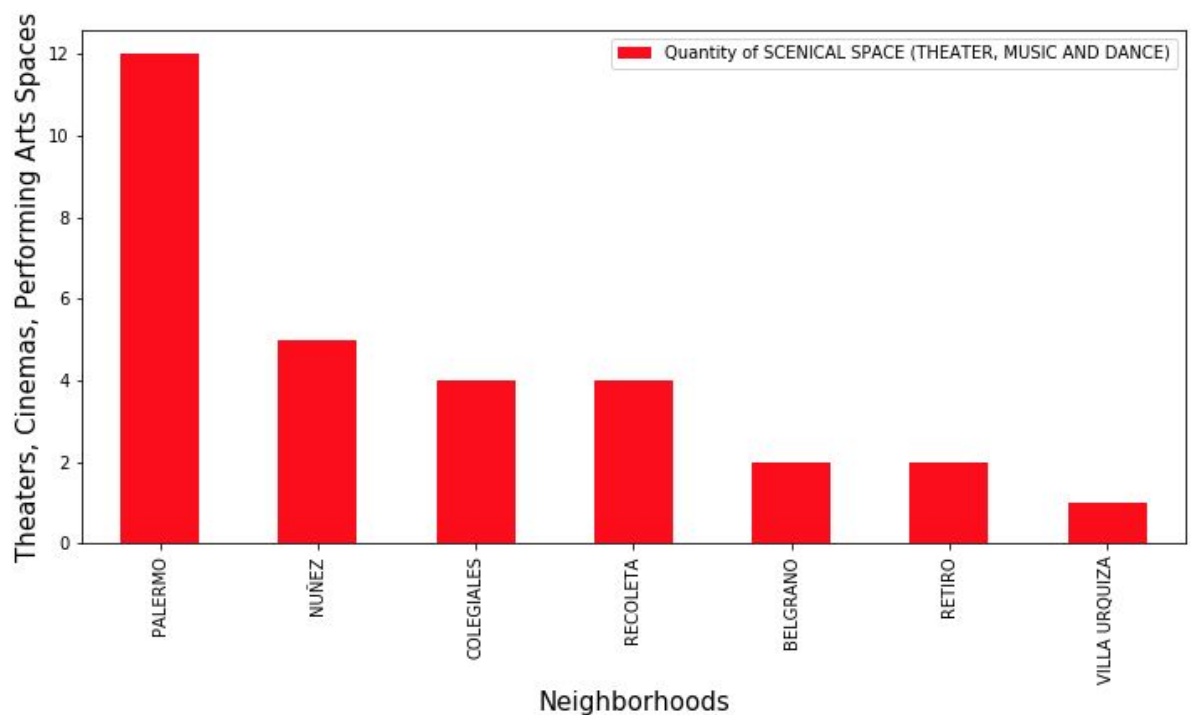
- We can see that Puerto Madero is the most expensive neighborhood in Buenos Aires and Caballito is the cheapest on the list. These are our 10 Candidate Neighborhoods



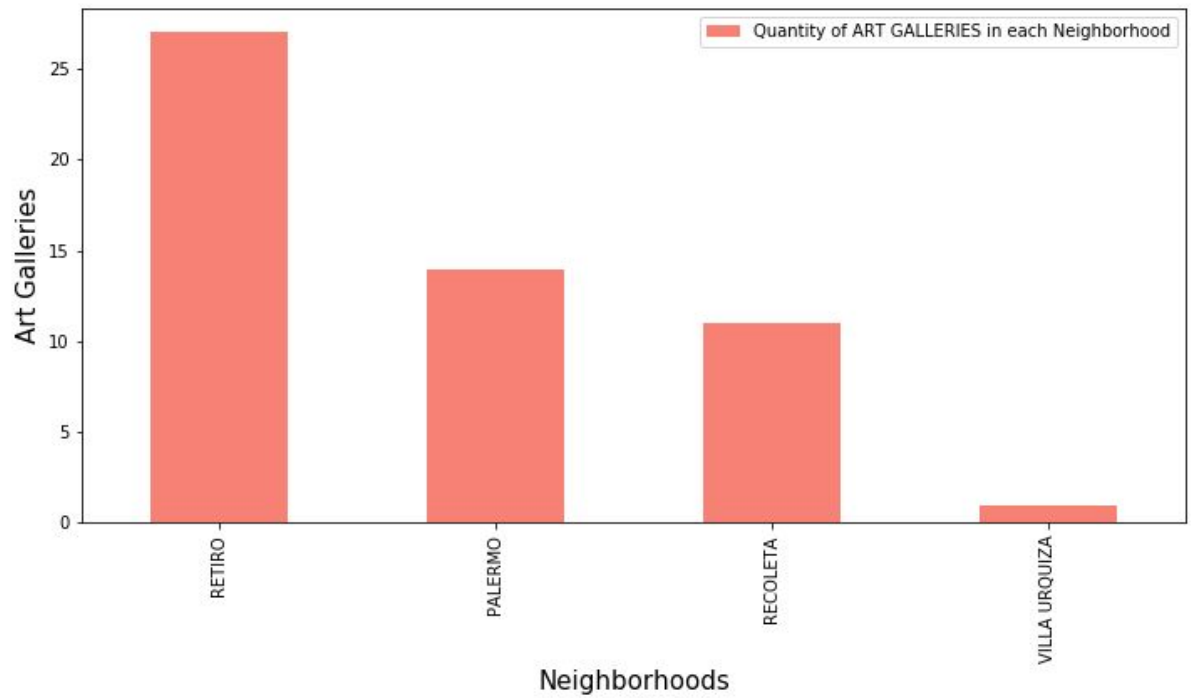
- Puerto Madero is the neighborhood with few Bookshops or Libraries and Recoleta's have more.



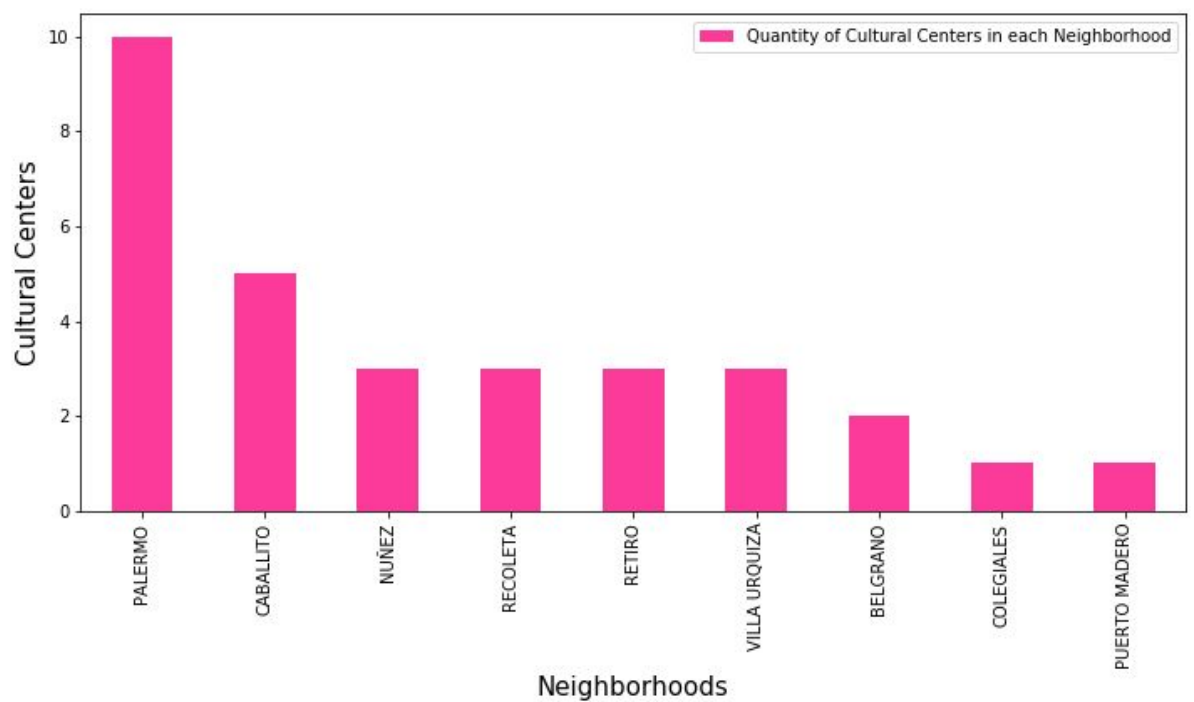
- Only a few neighborhoods have theatrical, music and dance activities. Film and TV studios are also located in one or two neighborhoods. Palermo is the area that has more activities of those listed above.



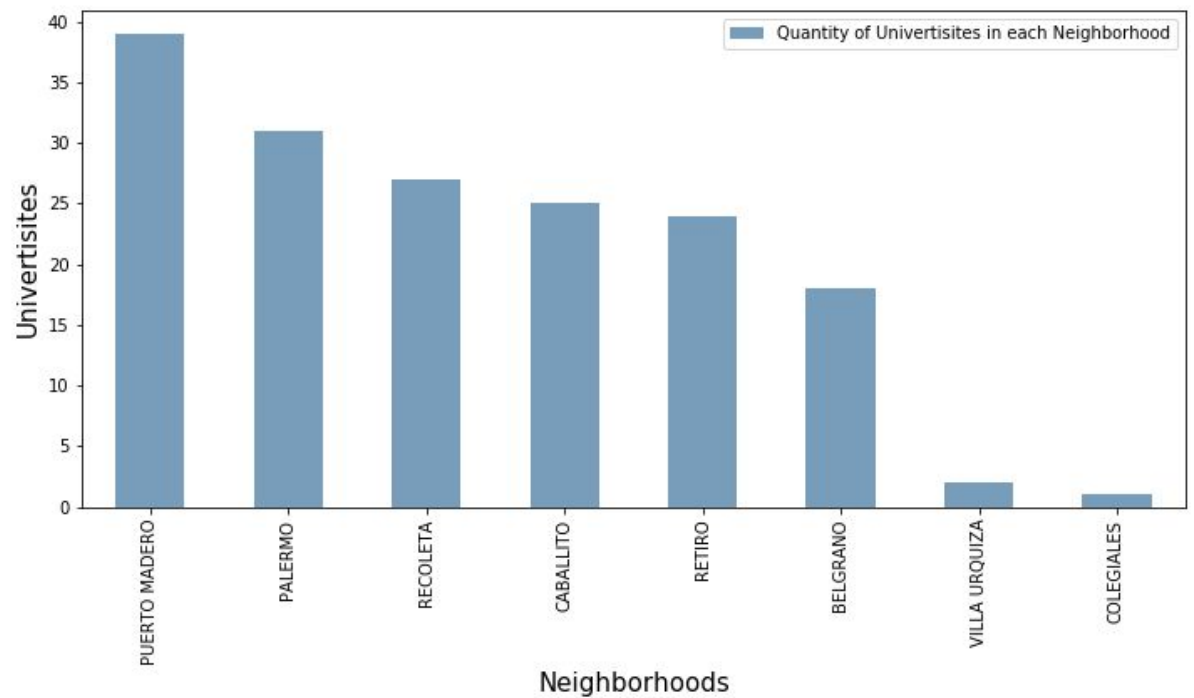
- We also found out that not all neighborhoods have art galleries. Retiro is the one where most art galleries are located.



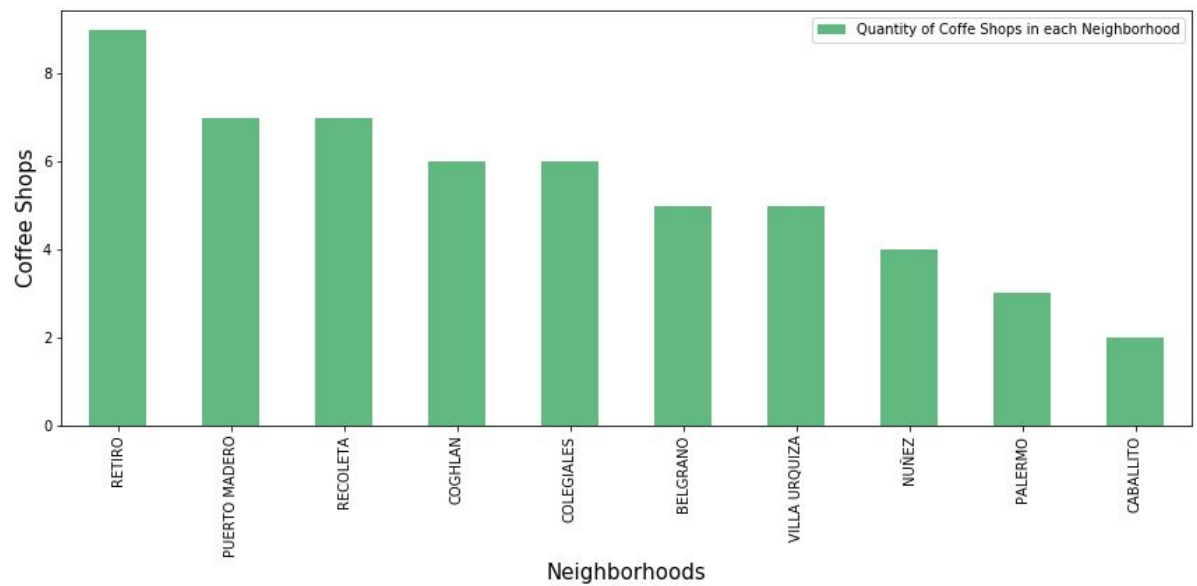
- Palermo has more Cultural Centers and Spaces in the city.



- Puerto Madero is the neighborhood that has more universities.

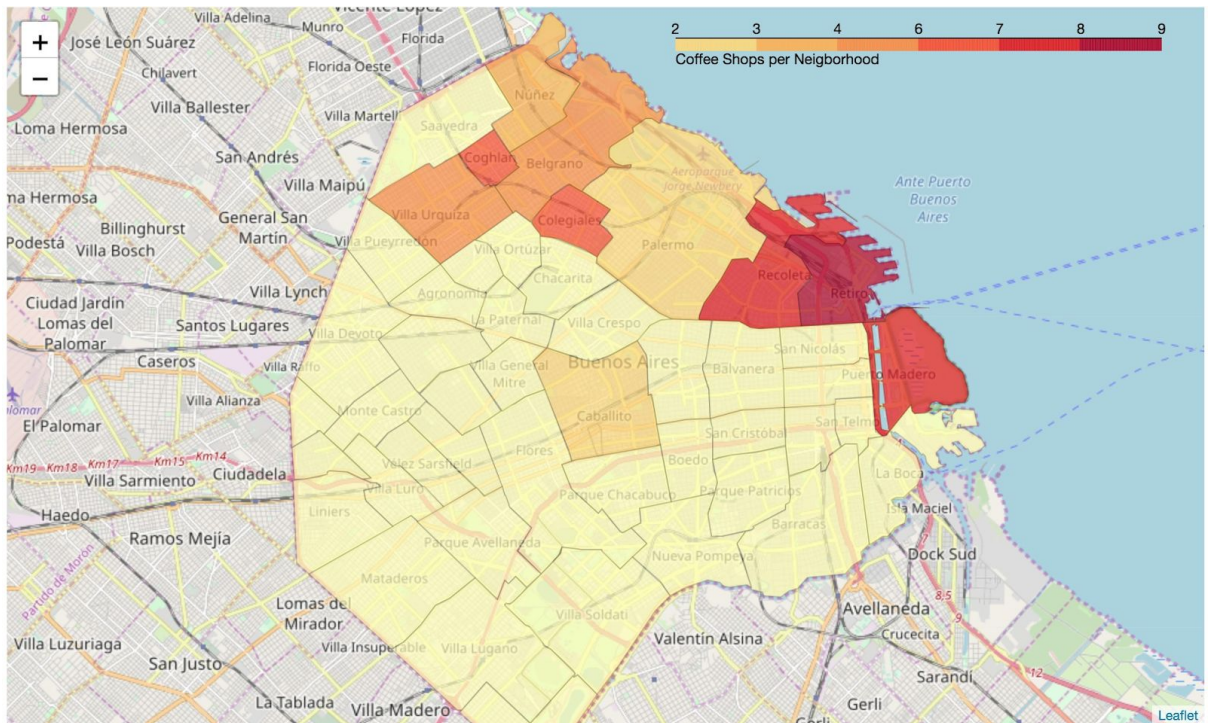


- Retiro and Puerto Madero are the neighborhoods with more Coffee Shops in the city. Caballito has less, so we found a lack of Coffee Shops in that area.





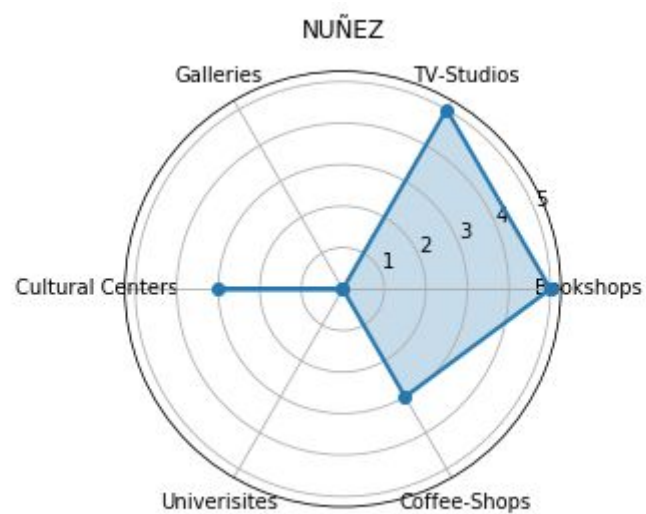
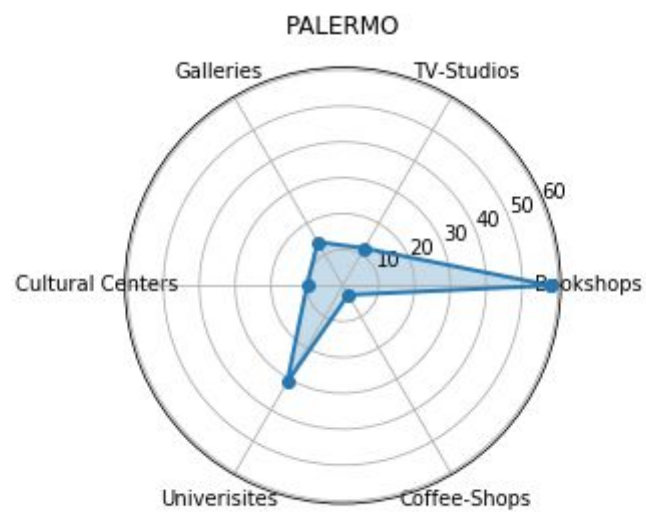
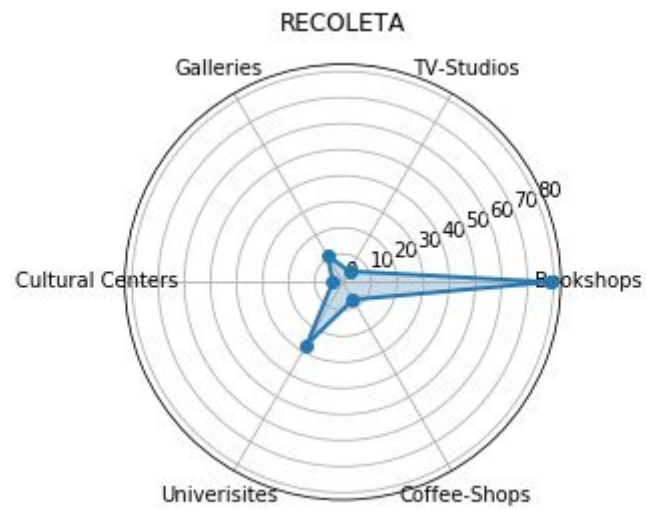
- Lets' see that on the map

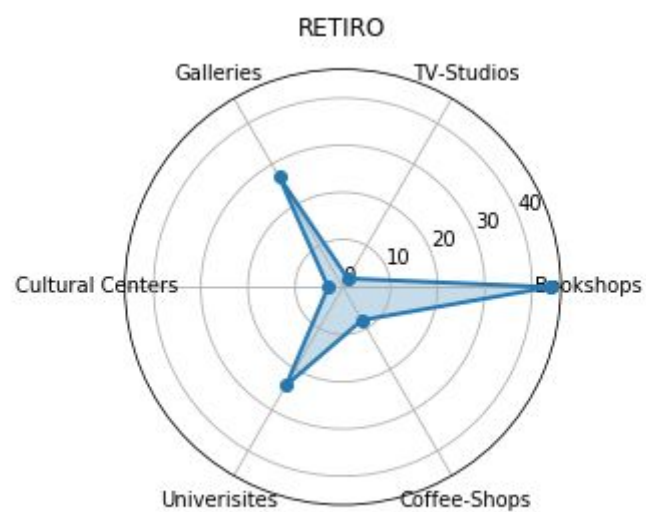
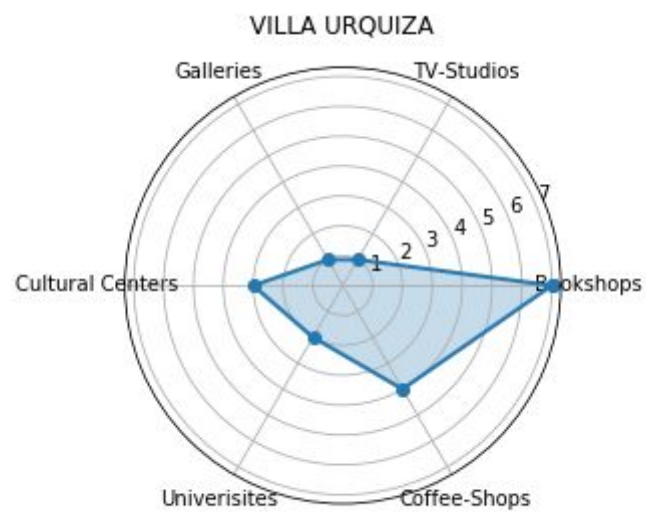


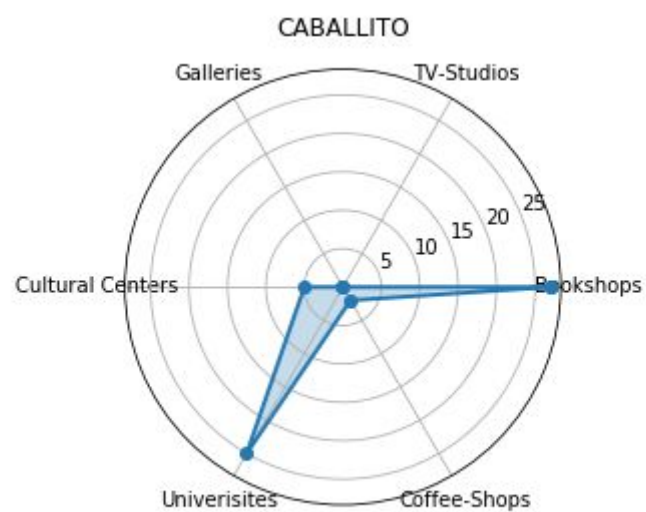
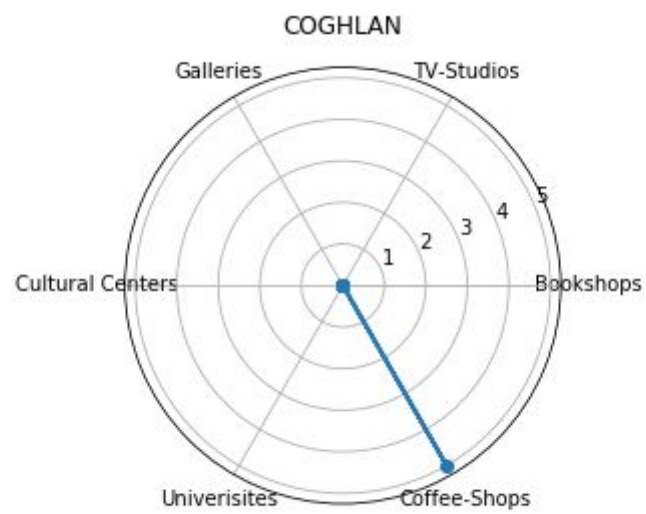
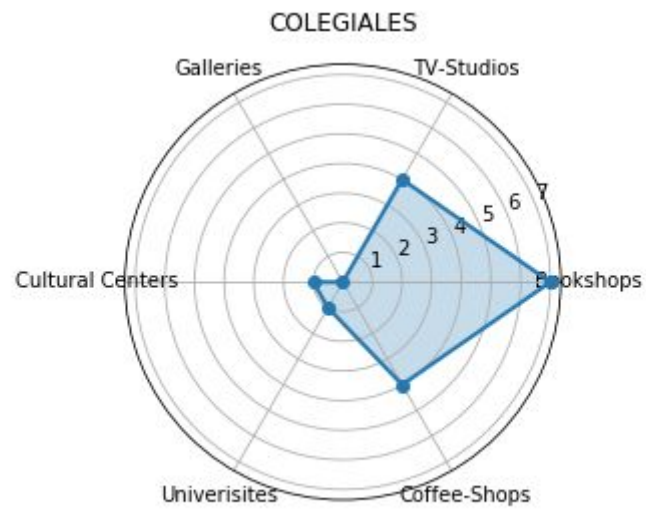
- All categories of all neighborhoods



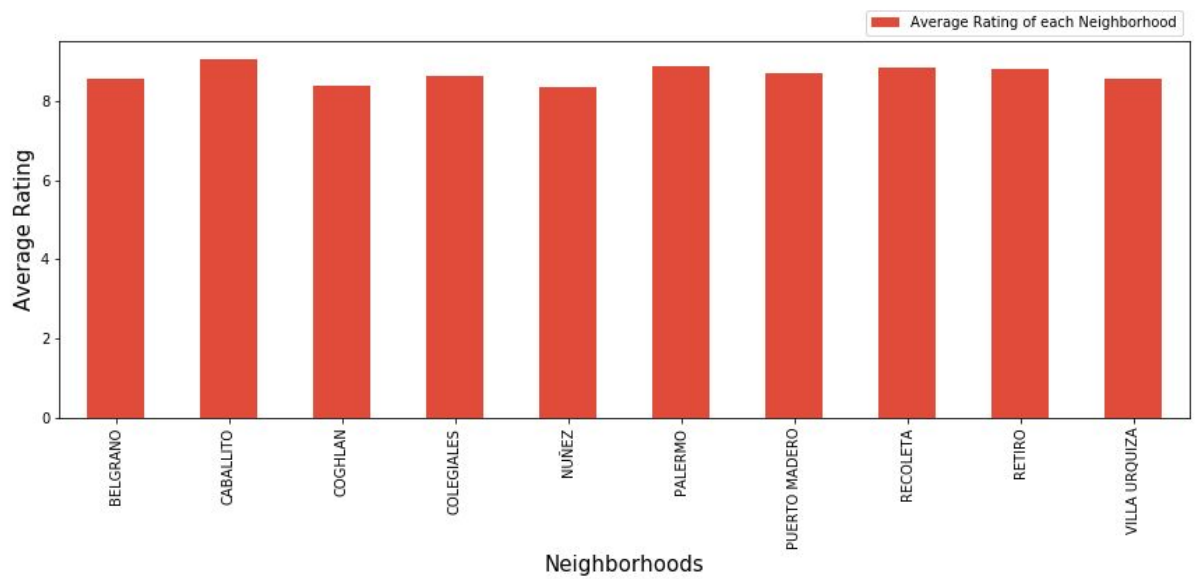




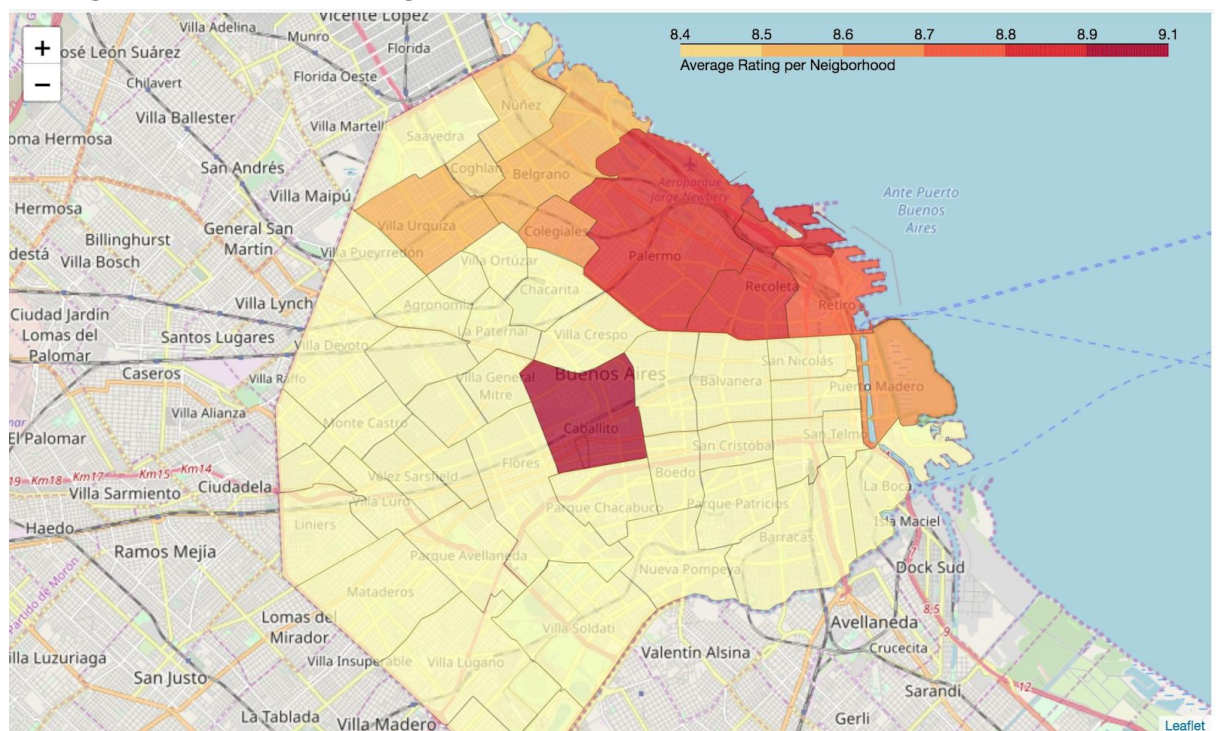




## Average rating of each neighborhood



## Average Coffee Shops Rating Map





The map displays the distribution of coffee shops across the city of Buenos Aires. The color scale indicates the density of coffee shops per neighborhood, ranging from 1.9 (light yellow) to 8.1 (dark red). The highest density is found in the Recoleta and Retiro neighborhoods, which are colored dark red. Other areas with high density include the surrounding urban areas, colored in shades of orange and red. The map also shows major roads, rivers, and surrounding cities like Montevideo and Rosario.

We discovered that Puerto Madero, Recoleta and Palermo are the most expensive neighborhoods to live, and so they are also the ones with more coffee shops. Caballito is the cheapest neighborhood and also the one with few coffee shops.

Puerto Madero and Retiro are the neighborhood with more coffee shops, but the customer's rating isn't the best.

## Conclusions

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Caballito has the potential to open a Starbucks. It's the neighborhood where there are fewer Coffee Shops and the average price of m2 is the lowest. It also has a significant number of Universities, Theaters, Cinemas, Cultural Centers which make the neighborhood a meeting point for many people and make this neighborhood the best candidate due to the low price and the low exploitation of the market.

## **Limitations**

The result of the analysis is based on the results obtained from Foursquare.

We use venues registered both in the Government of the City of Buenos Aires and in Foursquare.

Existing venues not registered are excluded from this analysis