FINAL PROJECT CAPSTONE

I chose to confront myself with the following problem:

In a city of your choice, if someone is looking to open a restaurant, where would you recommend that they open it? Similarly, if a contractor is trying to start their own business, where would you recommend that they setup their office.

When a person starts a business, he needs visibility. That is, he needs his business to be seen by others, hence the importance of advertising. However, advertising is expensive and not everyone can afford it. Therefore, you must be in strategic locations in order to be seen by as many people as possible. In the case of a restaurant, it is therefore necessary to study which avenue or street is the most crowded during lunch and dinner hours. For a business such as an agency, it will therefore be necessary to check throughout the day, at strategic times. You will then have to make a list of the most popular avenues at these times. Of course, you cannot always open your business in the most popular street, which is the one you want because of two main criteria:

1- The most popular streets are often the most expensive ones

2- You have to find a rental on that street and affordable too.

So, making a list will be perfect for someone who wants to start a business. This will allow them to search for a location, starting with the most popular street. Data Description : For this project, I will focus on Paris, the city where I live. In order to address this issue, I will simply make a list of the most popular places in the city of Paris. We will then be able to look for a location around its streets, which are very crowded.

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In order to find the data I needed. I used FourSquare which allowed me to explore the streets of Paris to extract the most popular squares. Indeed, searching for its squares allows you to know which streets are the most frequented.

In order to use FOURQUARE I had to take my IDs as well as my secret.

```
CLIENT_ID = 'W5TWHZXTBRJ4SGEECYSONRS4KCXCOAOMQHEDWYMWSLPQ1EWO' # Foursquare ID
CLIENT_SECRET = '4LIMGPMWXTMFOOUHGURSCAMHPIAYJHPUHTOS5WTI0JMRLVCE' # Foursquare Secret
VERSION = '20180604'
LIMIT = 30
print('Your credentails:')
print('CLIENT_ID: ' + CLIENT_ID)
print('CLIENT_SECRET:' + CLIENT_SECRET)
```

It was then necessary to use the panda library to present the extracted data in a table. Thus, we can first look at the most popular streets of Paris in a table. The person who wants to open a business only has to look at the locations in these streets.

	name	categories	address	lat	lng
0	Cathédrale Notre-Dame de Paris	Church	6 place du parvis Notre-Dame	48.853124	2.349561
1	Shakespeare & Company	Bookstore	37 rue de la Bûcherie	48.852568	2.347096
2	Place de l'Hôtel de Ville – Esplanade de la Li...	Plaza	Place de l'Hôtel de Ville	48.856925	2.351412
3	La Maison d'Isabelle	Bakery	47 ter boulevard Saint-Germain	48.850007	2.348443
4	Centre Pompidou – Musée National d'Art Moderne	Art Museum	Place Georges Pompidou	48.860730	2.351660

After putting the collected data into a table and sorting the important data, we have the above table. It contains the most important data, i.e. the street, the coordinates and the type of spot to which it corresponds.

These data are relevant because they already allow the person who wants to open a restaurant to know which streets to go to in order to reach a maximum number of people.

Moreover, in order to better visualize these data, I decided to place them on a map of the city of Paris. I bought markers so that the person who uses it can know which spot corresponds to a marker.

Now we have a dataframe with the most popular spot in a radius of 2Km of the center of Paris and a map that help us to visualize where these popular spots are located. As we want to help customers to know where they can open a new business or restaurant, they can easily get the information of the most popular spots in the dataframe but also have some idea of where it is located in Paris thanks to the map.

Indeed, opening a new business/restaurant near a popular spot will give the owner some visibility.