

# **Peer-graded Assignment: Capstone Project – The battle of the Neighbourhoods (Week 2)**

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## Introduction/Background

Mr. Corleone Prego, a British entrepreneur, is planning to open a new office for his consultancy company, and he has decided that the new office will be in the United Kingdom (UK). The company aims to provide Technical and Commercial advice to companies related with the Oil and Gas sector; therefore it is relevant to start expanding the business in Europe and the strategy is to begin opening a new HQ in the UK.

Some research already carried out, has pre-selected three possible locations for the new office, in three different cities in the United Kingdom, Manchester, Aberdeen and Reading. The logistics department of the company has already searched for one location in each city, detailed as follows:

- 1) 101 Hilton Street, Manchester, UK.
- 2) 101 Crown Street, Aberdeen, UK
- 3) 25 Friar Street, Reading, UK.

The CEO of the company is an Italian food lover; therefore, he is expecting the final decision about the location of the new office to be made solely based on the availability of good quality Italian restaurants nearby the office location.

## Data description

Mr. Corleone Prego, has requested a small-scale research around the areas of the pre-selected locations for the new office in the three different cities and he is expecting to have information related to:

- 1) How many Italian restaurants are located nearby the office location in each city (within 500 meters).
- 2) What are the ratings of those restaurants, respectively?

The decision for the location of the new office will be made considering, first, the number of options, secondly the better rating, in case the number of options is the same.

Once the location has been defined following the above criteria, then the selected area will be further explored in order to assess other recommended venues around the area, using tips and other recommendations.

Foursquare API data base was used to access key information from the neighbouring areas to the preselected locations, some key information such as number of Italian restaurants nearby, their locations, distance to the office, rating and id, extracted from the database was used in the analysis which allowed to select the best location for the new office.

## Methodology

First, I created a Jupiter Notebook in IBM Watson Studio to access the Foursquare data base and to carry out the analysis. Then, using my Foursquare developer account details (Client ID and Secret) the first task was to find the latitude and longitude of the three pre-selected locations, which are summarised in the table below:

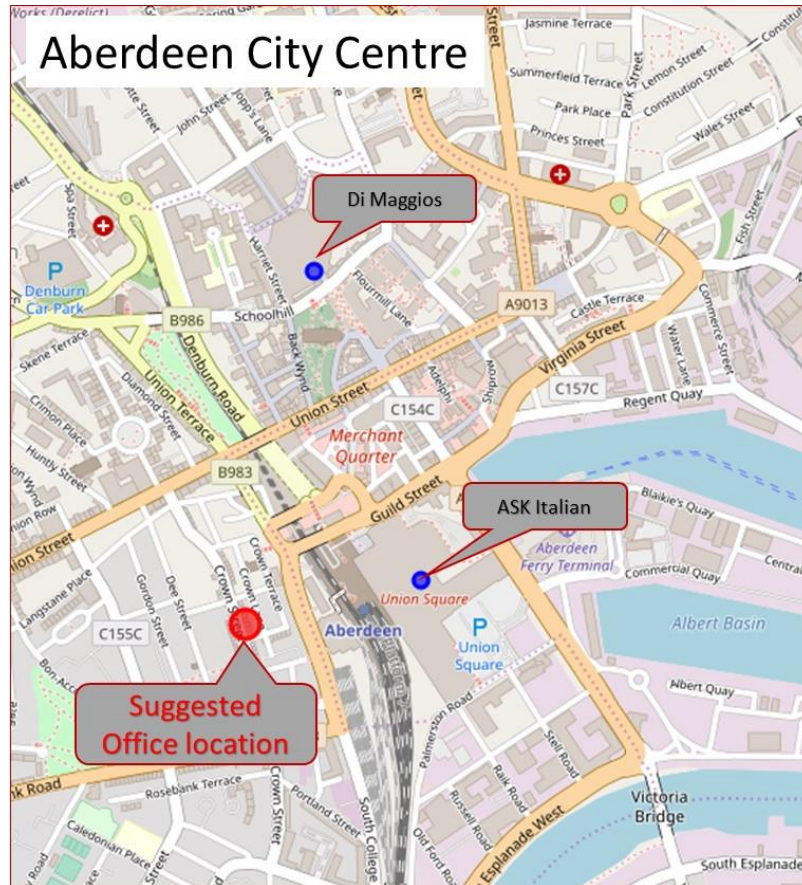
City	Office address	Latitude	Longitude
Manchester	101 Hilton Street	53.4832203	-2.23448
Aberdeen	101 Crown Street	57.1429129	-2.1016762
Reading	25 Friar Street	51.4566719	-0.9742038

With the above locations, then I carried out a search, around each of these locations, for the Italian Restaurants within 500 meters radius, and combined with the use of Folium to visualize them on a city map.

In Manchester City, three Italian restaurants were found nearby the proposed office location, all of them located within reasonable walking distance (< 300 meters). As shown in the map below:

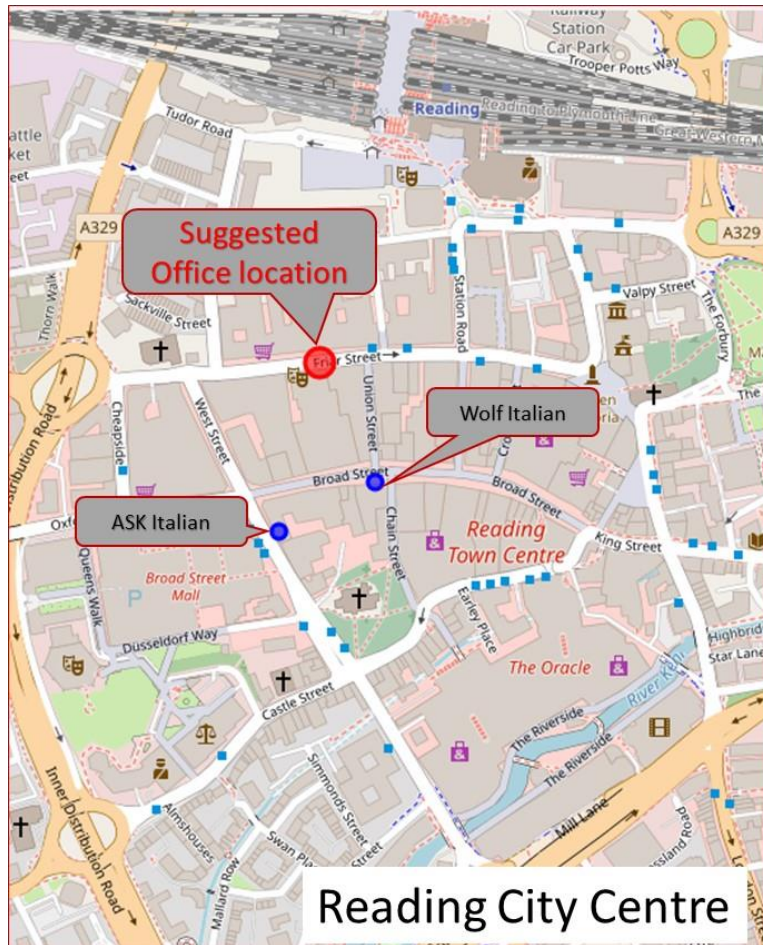


In Aberdeen City, two Italian restaurants were found within 500 meters from the suggested office location, and these two options are shown in the map below.



In Reading City Centre, also two Italian Restaurants were found within 500 meters of the desired office location in this town, and they are shown in the map below.





## Results

The ratings for each of the options in the three different city centres were also explored using the data base, and the results are summarised in the table below

	Rating
<b>Manchester City Centre</b>	
ASK Italian	7.9
The Italian Gelato	6.5
Italian and Peruvian	Not rated
<b>Aberdeen City Centre</b>	
ASK Italian	6.3
Di Maggios	6.2
<b>Reading City Centre</b>	
ASK Italian	6.3
Wolf Italian	6.3

It can be seen, that actually the three city centres have similar number of Italian restaurants around the pre-selected office locations, however is quite clear that the options available in Manchester city have better ratings, which suggest they might be of better quality or more popular options in this particular area.

Solely based on the above results, the city that should be selected for the new office is Manchester, therefore, Foursquare API data base was also used to explore a bit further this particular area in order to have a better knowledge on other interesting places and venues around the office.

So, for instance the highest rated Italian Restaurant in Manchester, ASK Italian, has 40 “likes” and a total of 14 tips, and when we explore some details in those tips (we can only see 1 of them due to account restrictions), one user named Sorayasha says “The pancetta and asparagus linguine is delicious!”

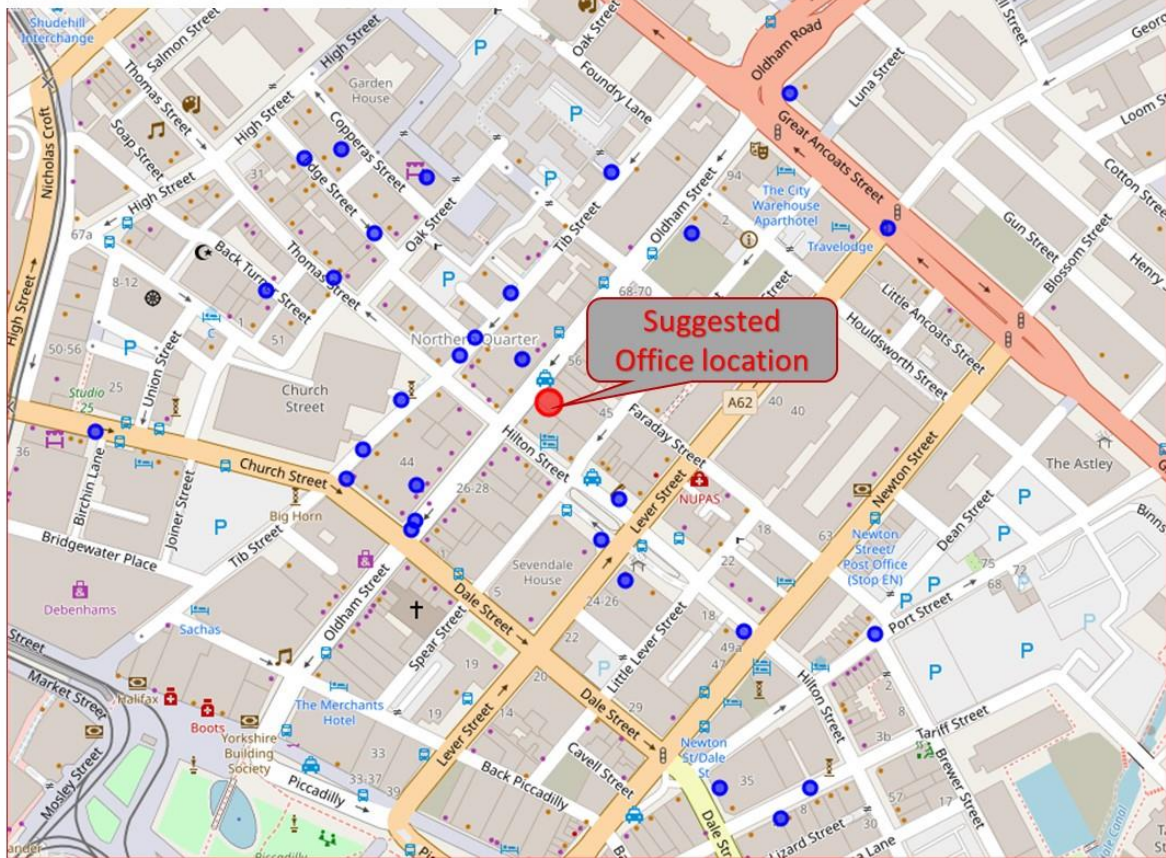
	text	agreeCount	disagreeCount	id	user.firstName	user.lastName	user.gender	user.id
0	The pancetta and asparagus linguine is delicious!	6	0	56dd7f8f498e0ae64c2771a2	Sorayasha	NaN	male	387255

On the other side, exploring a bit around the office area in Manchester City centre I also discovered a variety of other places and venues, including other restaurants, pubs, coffee shops, art galleries, Tea rooms and even a Jazz Club!! That is amazing!!. It looks like the pre-selected location for the office is well located with lots of options around at walking distance. A summary list of these 30 place including category and address are summarised in the table below.

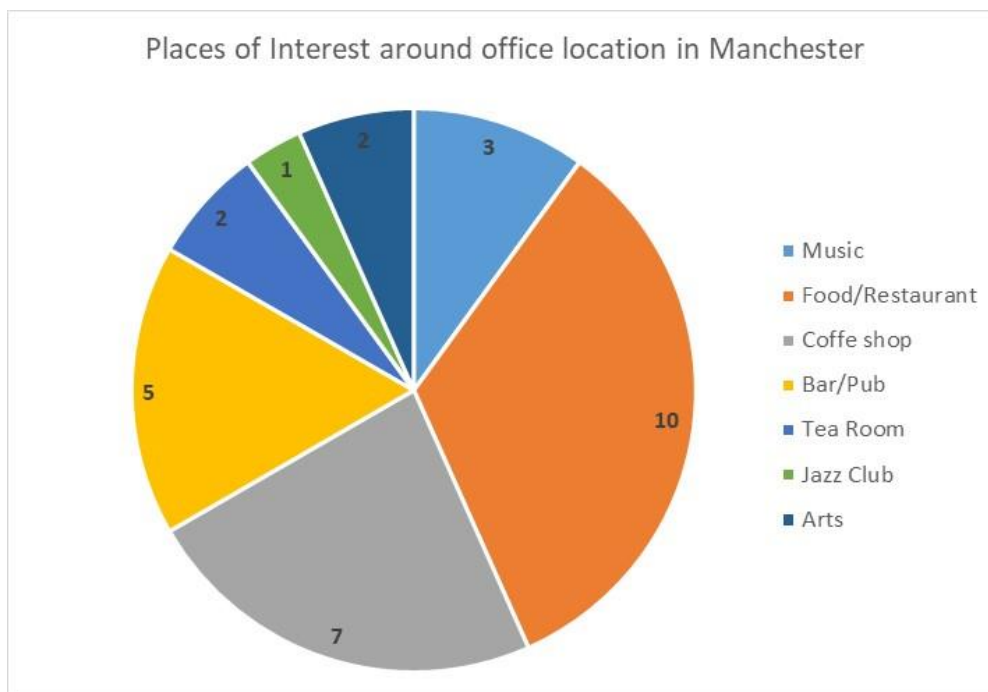
Name	Category	Address	Latitude	Longitude
Picadilly Records	Record Shop	53 Oldham St	53.482801	-2.235603
Ezra & Gil	Coffee Shop	20 Hilton St	53.482068	-2.232842
Pieminister	Pie Shop	53 Church St	53.482834	-2.23619
Fred Aldous	Arts & Crafts Store	37 Lever St	53.48253	-2.234045
Fig and Sparrow	Coffee Shop	20 Oldham St	53.482626	-2.235609
North Tea Power	Tea Room	36 Tib St	53.482981	-2.2360533
Siop	Donut Shop	53 Tib St	53.484374	-2.233957
Yard & Coop	Fried Chicken Joint	37 Edge St	53.48449	-2.236236
Bem Brasil	Brazilian Restaurant	58 Lever St	53.484092	-2.231634
V-Rev	Vegetarian/Vegan Rest	20-26 Edge St	53.484448	-2.23654
Sugar Junction	Tea Room	60 Tib St	53.48435	-2.235511
Manchester Craft and Design Centre	Arts & Crafts Store	17 Oak St	53.48435	-2.235511
Marble Bar	Bar	57 Thomas St	53.483844	-2.236292
Just Between Friends	Coffee Shop	56 Tib St	53.483454	-2.235236
Vinyl Exchange	Record Shop	18 Oldham St	53.482581	-2.235641
Home Sweet Home	Café	49 Edge St	53.484066	-2.235957
El Taquero	Taco Place	42 Back Turner St	53.483779	-2.236866
Beer House	Beer Bar	39-41 Port st	53.482054	-2.231739
Evelyn's Café Bar	Restaurant	44 Tib St	53.484772	-2.232459
Crown And Kettle	Pub	2 Okdham Rd	53.484772	-2.232459
Beermoth	Beer Store	70 Tib St	53.483767	-2.234807
Idle Hands	Coffee Shop	35 Dale St	53.481288	-2.233041
Mackie Mayor Building	Food court	Eagle St	53.485488	-2.23487
Matt & Phreds Jazz Club	Jazz Club	64 Tib St	53.483434	-2.234707
Northern Soul Grilled Cheese	Sandwich Place	10-11 Church St	53.483074	-2.238303
Northern Monk Refectory	Beer Bar	10 Tariff Street	53.481286	-2.232283
Ply	Pizza Place	26 Lever St	53.482328	-2.233837
Takk	Coffee Shop	6 Tariff St	53.48113	-2.233282
The Koffee Pot	Café	84-86 Oldham St	53.484071	-2.233282
Eastern Bloc Records	Record Shop	5A Stevenson Sq	53.482734	-2.233898

All these venues were also mapped to better visualise their locations around the location selected for the new office, shown below.

## Manchester City Centre



These places were grouped into fewer categories and the results are shown in the pie chart below



## Conclusion

Given the conditions for the criteria to be used on selecting the location for the new office, Manchester City centre is the best option for the company to move forward with. Few options for Italian Restaurants with the highest rating. In addition to that, Manchester city Centre offers a variety of other options for food, bars, coffee shops and entertainment. GREAT LOCATION!!

The Jupiter Notebook created to develop this project can be accessed using the following link

[https://dataplatform.cloud.ibm.com/analytics/notebooks/v2/248b11cd-c9fc-4142-8126-3ead6905f3cd/view?access\\_token=1e76572d708b71ebe9959281939f991eddcf4e721877dc0a293e0614fdb2523](https://dataplatform.cloud.ibm.com/analytics/notebooks/v2/248b11cd-c9fc-4142-8126-3ead6905f3cd/view?access_token=1e76572d708b71ebe9959281939f991eddcf4e721877dc0a293e0614fdb2523)