



# EXPLORING BUSINESS START-UP

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## Introduction

Mr. Alex, our client, wants to start a business in area code 43226, Hilliard, Ohio, USA. He is a person of many skills, so he is looking to find what kind of businesses have less competition, and are in demand. His eyes are on some type of food service industry, and he is open on exploring different cuisines.

## Data

The main source of the data used in this study is coming from four square platform. Starting from an address in a shopping center in the area, Walmart store in our case, Mr. Alex wants a report about surrounding businesses and any other information that may be useful for him to take an educated decision. First I will get the coordinates latitude and longitude of the chosen address. Next part, I will be exploring the neighborhood to discover multiple venues, and do any necessary transformations such as filtering and converting to a pandas dataframe for processing.

## Methodology

I used IBM Watson to create a python3 notebook to carry the following tasks

**Step 1:** I imported and installed the following needed packages and libraries

```
import requests # library to handle requests
import pandas as pd # library for data analysis
import numpy as np # library to handle data in a vectorized manner
import random # library for random number generation
!conda install -c conda-forge geopy --yes
from geopy.geocoders import Nominatim # module to convert an address into latitude and longitude values
# libraries for displaying images
from IPython.display import Image
from IPython.core.display import HTML
# transforming json _le into a pandas dataframe library
from pandas.io.json import json_normalize

!conda install -c conda-forge folium=0.5.0 --yes
```

**Step 2:**

- With the following address '1755 Hilliard Rome Rd, Hilliard, Ohio, 43026', I used geocoder class to get the latitude and longitude coordinates of this location.
- I created a query to look for restaurants in this neighborhood.
- I defined the correct url to send the request to foursquare platform.
- I sent the request and stored the returned JSON file into a variable **results** as follows  
results = requests.get(url).json()

### Step 3:

- I extracted the relevant information from the JSON file in our case **venues** from the **response** field. **venues** = results['response']['venues'].
- I transform the venues to a dataframe as follows  
**dataframe** = json\_normalize(venues)
- I picked the two features name , categories, and location information for primary data analysis.
- I visualized the venues using Folium.

### Step 4:

- I checked the ratings of the venues to identify potential location where competition from higher rated venue is less.

Note: I consider this investigation to be in its early stages. This justifies the lack of use of none of the Machine learning algorithms learned in these courses.

## Results

I was able to identify the following restaurants in the area

Name	Rating
Restaurant De Candy	Has not been rated yet.
Number One Chinese Restaurant	Has not been rated yet.
Rusty Bucket Restaurant and Tavern	7.6
Louie's Grill Fusion Restaurant	7.7
Otie's Restaurant & Pub	Has not been rated yet.
Galaxy Restaurant	Has not been rated yet.
Perkins Restaurant & Bakery	7.4
Benito's Restaurant Bar and Grill	Has not been rated yet.
El Vaquero	8
Bob Evans Restaurant	7.3
Kyo Ichiban Buffet Restaurant	Has not been rated yet.
Dang ho Restaurant	Has not been rated yet.
Toro Loco Mexican Restaurant	Has not been rated yet.
Montelongo's Mexican Restaurant	Has not been rated yet.
Grand China	8
Louie's Grill & Fusion Restaurant	Has not been rated yet.
Bob Evans	6.2
First Watch	7.8

17 restaurants were identified in the area with only 8 with ratings. 'El Vaquero' and 'Grand China' both on top with the highest rating of 8, and 'Bob Evans' with the lowest rating of 6.2. Further the number of tips of the lowest rated restaurant was 12, and for 'El Vaquero' was 32.

## Discussion

We can observe that maybe dinners in the area prefer non-American food, so maybe it will be wise to start a food business with the focus on some cuisine other than American.

## Conclusion

I studied the possibility of starting a business in the food industry, it was determined that the best location for such adventure is to compete versus businesses with lower rating rather than the ones with higher ratings. Of course, that