



Opening a new Restaurant in London

IBM CAPSTONE PROJECT

Introduction



London is the capital and the largest city of England and the United Kingdom.

According to Office for National Statistics, London has 201,1 restaurants per 100,000 population, which is quite high score, that show demand for restaurants.*

* <http://www.worldcitiescultureforum.com/data/number-of-restaurants-per-100.000-population>

Problem Description



The objective of this project to analyze and select best location for a new Mediterranean food restaurant in one of the London central districts.

Using data science methodology and machine learning techniques, this project aims to provide solutions to business problem.

In the central districts London, an investor wants to open a Mediterranean food restaurant, and looking for a location that there is little competition for business. Which location would be best for that?

Data Collection 1



The postal districts of London city will be extracted from Wikipedia.*

The source page has a table with Location, London borough, Post town, Postcode district, Dial code, OS grid ref attributes.

Location, London borough and Postcode district columns will be used.

* https://en.wikipedia.org/wiki/List_of_areas_of_London

Data Collection

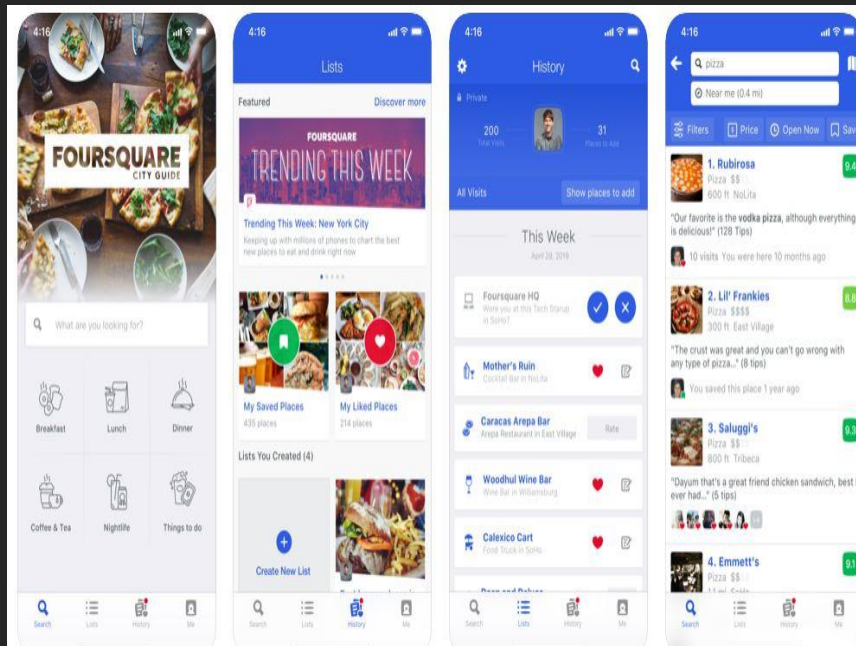
2



With the help of Nominatim geolocator geographical coordinates of each postal code district will be collected.

Data Collection

3



Using Foursquare API, venues will be collected by each district.

The most common types of restaurants will be identified for each location. District latitude and longitude data will be used in order to get venue information.

For each venue distance center, category, popularity and venue category feature will be taken into consideration.

Methodology



- Web scraping, Identifying the neighbourhoods in central London
- Nominatim, coordinates of districts
- Visualizing neighbourhoods in target area
- Foursquare API, retrieving venue information for each neighbourhood
- Processing the data, selecting required features
- Applying K-Means Clustering machine learning techniques.
- Analyzing each neighbourhood and the most common restaurant type
- Reporting the results and making recommendations.