The Battle of Neighborhoods

Finding a Suitable Location to Open A New Restaurant

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Introduction

There was a time when eating out at a restaurant was considered a luxury only the chosen could afford but thankfully the time has passed and eating out at a restaurant has become a daily habit in the life of New Yorkers. New York has been described as the cultural, financial, media and entertainment capital of the world. New York being the cultural hub is home to many ethical backgrounds, which drives the city's diverse style of restaurant – these include restaurants serving Chinese, Italian, French, Korean Cuisines.... etc. New Restaurants are continuously opening up around the city to meet the high demand and appetite. Although eating out is a popular habit there are certain restaurants that are unfortunately unsuccessful in keep the shop running – perhaps because of poor restaurant location. When opening a new restaurant there are many factors to keep in mind about the location where you set the shop.

Problem

This research project aims to provide a recommendation for the style and location of a new restaurant in New York. There are many factors to consider when creating this recommendation project such as: the number of existing restaurants and their popularity, the popularity of different types of cuisines in New York

Data Acquisition and Utilization

Data Sources

To explore the city of New York and get an understanding of neighborhoods it includes, json file of neighborhoods and their corresponding locations was downloaded. The following table provides a snapshot of the data collected:

*For the sake of simplicity, we will only use boroughs with Manhattan in it

Table 1: New York Neighborhood data

	Borough	Neighborhood	Latitude	Longitude
0	Bronx	Wakefield	40.894705	-73.847201
1	Bronx	Co-op City	40.874294	-73.829939
2	Bronx	Eastchester	40.887556	-73.827806
3	Bronx	Fieldston	40.895437	-73.905643
4	Bronx	Riverdale	40.890834	-73.912585
5	Bronx	Kingsbridge	40.881687	-73.902818
6	Manhattan	Marble Hill	40.876551	-73.910660
7	Bronx	Woodlawn	40.898273	-73.867315

Foursquare information services were utilized, via an API connection, to retrieve data on popular venues across Manhattan, New York. This dataset returned all recorded venue in the searched proximity, including restaurants, gas stations, convenience stores, pubs, etc.

How the data will be used

The Manhattan neighborhood data will be utilized to retrieve venue information from the FourSquare API. With this API, we can easily match neighborhoods with available venues, and filter out the venues we are interested in – restaurant venues.

With the FourSquare data, we can understand the different types of restaurants that currently exist in Manhattan, which neighborhood have the most and least number of restaurants, and which restaurants are the most popular based on occurrence frequency. This information allows to cluster popular restaurants, and get an idea of how restaurant taste vary across the neighborhoods.