Exploring venues in Delhi, India using Foursquare and Zomato API

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1. Introduction

1.1 Background

Whenever a person searches for a venue in a new city, they're highly interested in the best places that the city has to offer. The person might want to know how good a given restaurant is or the price range it falls under. This extra information would help decide which venue to choose amongst the many venues in the city. Combining the location of the venues int the city with their price and rating information would surely help visitors in a city make better informed decisions about the places they should visit.

Delhi is composed of number of sectors and colonies spread across a total area of 1484 sq.km. There are many venues especially restaurants, hotels and cafes that can be explored.This project explores various venues in Delhi and attributes the data based on user ratings and average price. To explore this information, this project involves the juxtaposition of both the Foursquare API and Zomato API to fetch complete information of various venues including name, address, category, rating and price. Further,a map of the venues with specific color attributes will be plotted to highlight their position and information about these venues. Such plots imbibe bountiful information in the form of their colored representations and location on the map. This enables any visitor to take a quick glance and decide what place to visit.

1.2 Interested Audience

The target audience for such a project is twofold. Firstly, any person who is visiting Delhi can use the plots and maps from this project to quickly select places that suit their budget and rating preferences. Secondly, a company can use this information to create a website or a mobile application, which is updated on a regular basis, to allow individuals to the city or even expand same functionality to other places.

2. Data

To get location and other information about various venues in Delhi, I used two APIs and decided to combine the data from both of them together.

Using the Foursquare's explore API(which gives venue recommendations), I fetched venues up to a range of 4Km from the center of Delhi and collected their names, categories and locations(latitude and longitude)

Using the name,longitude and latitude values,I used the Zomato search API to fetch venues from its database. This API allows to find based on search criteria(usually the name),latitude and longitude values and more. Given that the data from the two APIs did not align completely, I had to use data cleaning to combine the two datasets properly.

From Foursquare API (https://developers.zomato.com/api), I retrieved the following for each venue:

- **Name:** The name of the venue.
- **Category:** The category type as defined by the API.
- **Latitude:** The latitude value of the venue.
- **Longitude:** The longitude value of the venue.

From Zomato API (https://developers.zomato.com/api), I retrieved the following for each venue:

- **Name:** The name of the venue.
- **Address:** The complete address of the venue.
- **Rating:** The ratings as provided by many users
- **Price range:** The price range the venue belongs to as defined by Zomato.
- **Price for two:** The average cost for two people dining at the place. I later convert the same to average price per person by dividing by 2.
- **Latitude:** The latitude value of the venue.
- **Longitude:** The longitude value of the venue.