CAPSTONE PROJECT - THE BATTLE OF NEIGHBORHOODS (WEEK 1)

INTRODUCTION

Austin is the capital city of Texas in United States and is the fourth largest city in Texas and fourteenth largest city in United States. It has been one of the fastest growing large cities in the United States since 2010. The city consistently appears as one of the best cities to live in and best city to move and retire and is also considered as the most livable city based on its amenities, crime rates, cost of living, housing, and other factors. Austin, Texas offers a unique diversity of lifestyles within its boundaries, making the city an option for people in every walk of life. It is also known for its outstanding food and great live music venues.

Being a fast-growing city with diversified ethnicities, Austin can be a great place to start a business. Austin is better known for amazing Mexican food, Italian restaurants and in most recent years' sushi bars. But when it comes to Indian food, it may not be the first thing that comes to our mind when we think of ethnic food. Having lived in Austin for a few years, there are not many authentic Indian restaurants in Austin and would love to see more. To open an Indian restaurant, it requires some serious considerations, one of them is the location which affects the success or failure of the business.

The objective of this project is to analyze and select the best location in the city of Austin to open a new Indian restaurant. This can be done by segmenting and clustering the neighborhoods of Austin using different sources.

TARGET AUDIENCE

The target audience would be the people who are interested in opening or growing an Indian restaurant. The results obtained or the data obtained through cluster analysis would be useful for

entrepreneurs who would want to know more about a particular location which is best suited for them to open a restaurant.

DATA

To solve the problem, we will need the following data:

- Austin data containing the neighborhoods.
- Latitudes and Longitudes of those neighborhoods to plot the map and get the venues.
- Venue data particularly the data related to restaurants.

The Austin data is extracted from https://data.austintexas.gov/Building-and-Development/Neighborhoods/a7ap-j2yt . It is from the Housing and Planning Department of the Austin City Government and the dataset includes names and geometric location of the neighborhoods with their shapes and sizes. After extracting this data, we will use Google Geocoding API to find the approximate coordinates of the neighborhoods.

Finally, we will use Foursquare API to find the top 100 venues within a radius of 1500 meters of the center of the neighborhoods defined at the previous step. After finding out the top venues, we will use the cluster analysis method and find out the best location. This project will require using other methods like web scraping, data cleaning, data wrangling, data visualization and other methods which will be explained in detail in the methodology section.