CAPSTONE PROJECT REPORT : BATTLE OF THE CITIES

INTRODUCTION

An enthusiastic entrepreneur wants to open up a bookstore in a populated city in Finland. Finland, a hidden gem tucked into the far up North, known for its clean air and water, beautiful forests, amazing blue lakes and its education. Bookstores are vanishing these days due to online books or eBooks but some people still prefer reading from an actual book, some folks are still not very familiar or one could say not comfortable with using the internet to read books, magazines or newspapers. Some people like the feel of reading from an actual book, sit by the window and have a hot beverage along with it. This entrepreneur wants to bring back this same feel of reading from a book, wants to open a bookstore with an in house cafe, a place to sit so the customers can enjoy their book after their purchase and also a kids' corner to enhance their knowledge as well, but the entrepreneur faces a problem in choosing a suitable city among all the beautiful cities in Finland. This project would be aiming at solving this very problem of finding appropriate city.

Use of this project:

This project can be used by anyone who intends to

- open a bookstore or,
- open any other retail business or,
- a chain of bookstores in different cities or,
- a chain of any other retail business in different cities in Finland.

DATA

For this project a lot of data would be required, in order to find a suitable city in Finland one needs to know the cities in Finland for that the names of the cities in Finland would be required, also to pinpoint the location of the cities on a map , the latitude and longitude of the respective cities would also be needed this data can be found on the internet to be specific on a website called: Simple maps, Finland Cities Database. This website provides a table consisting of the names of the city and their latitudes and longitudes in the form of a CSV file which can later be transformed into a pandas dataframe.

Also for this project, data regarding the most common places visited in the cities would be needed as well. This data helps in finding out what the city is famous for or what the people in that particular city prefer to do for leisure, which is what we are interested in for this project. To get this data, Foursquare API is used.

Foursquare is a social location service that allows users to explore the world around them. The Foursquare API allows application developers to extend the platform in interesting ways. Developers can build location management tools, custom search engines, and even games and other tools that interact with the Foursquare API. For example, one could build a geolocation game that allows players to also check in to Foursquare locations as a natural by-product of normal gameplay. In this case the Foursquare API, would be used to get the names, id, latitude and longitude of the respective venues in and around the cities of Finland.

Packages and libraries used in this project to work with the data are:

- numpy,
- pandas
- random
- requests
- matplotlib
- nominatim

- json_normalize
- Folium
- Kmeans
- geopy
- geocoder