Capstone Project – The Battle of Neighborhoods

INTRODUCTION

Every year, lots of people travel to different places for their vacations or get-togethers. People have different preferences and choices and they would want to select their destination vacation city according to that. This report proposes a business venture to create a mobile and web application to help people decide on finding a vacation city which matches their likings.

BUSINESS PROBLEM

It has always been a challenge for people to find a vacation destination as per their criteria. People just randomly search for most popular destinations on internet and take decisions. However a popular vacation city in the world does not mean that everyone will like that city for tourism. E.g. people with small kids may like Florida, but people with a taste of history may like Athens. Also some people wants family vacations whereas others may want to have bachelor theme vacation. Some people may like vacation in a quiet place whereas other people may need vacations with lots of activities.

People can search on internet for most popular vacation spots but they don't get an option to select one or more criteria based on which data can be presented for different cities. As a user, I would like evaluate different cities in world based on my criteria and preference.

To provide a solution to this challenging problem, a new business venture in the shape of a mobile or web application is proposed. Using this app, people will get an option to assess different cities based on various categories like food, arts, entertainment, recreation etc. Users can select one or more cities, select one or more categories and then the application will provide comparison of these cities based on data available for likes, cost, activities, trends etc. As an output, user will see a table where he can see a city rated based on different criteria. This will help them make an effective decision.

CityName	Venue Likes	Weighted Like	Low Cost
Athens, Greece	10441.2	2682.94	1377.69
Madrid, Spain	9797.8	2314.99	903.45
Paris, France	5552.8	1265.99	1185.60
Prague, Czech Republic	11354.0	2262.36	1434.04
Rome, Italy	6638.6	1168.34	1092.97
Vienna, Austria	6629.0	1551.86	935.91

DATA

User will have an option to select or enter name of one or more cities. Application will then use Nominatim geocoding API to retrieve the latitude and longitude of this location. This data will be further used to generate more data for analysis.

https://nominatim.openstreetmap.org/search?

For the purpose of this project and analysis, we will use the following six cities:

1. 'Athens, Greece'
2. 'Paris, France'
3. 'Prague, Czech Republic'
4. 'Vienna, Austria'
5. 'Madrid, Spain'
6. 'Rome, Italy'

Users will also have an option to select one or more categories and define a weightage to each of the category. If no weightage is defined, then each category will be given equal weightage. For the purpose of this project and analysis, we will use the following five categories:

1. 'Museum'
2. 'Shops and Service'
3. 'Italian Restaurant'
4. 'Bars'
5. 'Outdoors and Recreation'

For the actual analysis, we will fetch further data using Foursquare API's. Using these API's, we will get information of the venues which falls under the selected city and categories selected. API's like search, likes, and explore will be used to get information about the selected cities. This data will help us get the following data for each selected city and category.

1. How many users liked venues in each city
2. How much expensive are the venues in each city

Based on above data, aggregation and other calculations will be done to calculate the mean of likes, mean of weighted means and cost/price for each city. Users with use this analysis and information to make a decision on whether they would like to select this city as their destination for vacation.

Following FourSquare APIs will be called to retrieve data:

https://api.foursquare.com/v2/venues/explore?

https://api.foursquare.com/v2/venues/search?

https://api.foursquare.com/v2/venues/{}/likes?