Coursera Capstone Project

The Battle of Neighborhoods

Identifying a convenient place to Open a Shared Working place

1. Introduction

In our rapidly moving world, we all are busy with our jobs and striving to our goals. One thing that is widely believed to aid our productivity is a good workspace. Workspace refers to small premises provided, often by local authorities or economic development agencies, to help new businesses to establish themselves. These typically provide not only physical space and utilities but also administrative services and links to support and finance organizations, as well as peer support among the tenants. A continuum of sophistication ranges through categories such as 'managed workspaces', 'business incubators' and 'business and employment co-operatives'. In cities, they are often set up in buildings that are disused but which the local authority wishes to retain as a landmark. At the larger end of the spectrum are business parks, virtual offices, technology parks and science parks.

2. Business Problem

In this document we will go through the process in which Machine learning is used to identify a convenient place to set up a shared workspace rental service in the city of Izmir, Turkey. There will some requirements put up by our client which we have to take into consideration while identifying the required area. According to the client the new workspace should be located in an area which is surrounded by other complimentary services such cafes.

Based on the above requirements, 3 neighborhoods will be recommended for the client to set up a Shared Workspace rental service in the city of Izmir, Turkey.

3. Methodology

To identify a convenient place to set up the required business, we will go through the steps of acquiring data, cleaning and preparing the data, building a model and clustering the neighborhoods. To acquire the required data about the neighborhoods in Izmir, Turkey, we use the technique of web scraping using the BeautifulSoup tool. After that we create a dataset and clean up the acquired data to prepare to build our model. Once our model is ready, we cluster the neighborhoods according to their convenience to the stated goal.

4. Data

Our first data source will be Atlasbig.com (https://www.atlasbig.com/tr/izmirin-ilceleri). From there we scrap data of Izmir's neighborhoods with BeautifulSoup. Now that we have acquire the neighborhoods, we will use the technique of Geocoding to get the coordinates of the neighborhoods. For this purpose we make use of Geopy's Nominatim. After preparing the neighborhoods and their coordinates, next thing to do is get venues with in each neighborhoods with the use of the Foursquare API. We do this in order to choose a prefect and convenient surrounding for the business to be set up.