



IDENTIFYING NEIGHBOURHOOD TYPES IN MANCHESTER UK FOR COMPANY EMPLOYEE RELOCATIONS

IBM Data Science Professional Capstone Project

Abstract

To be completed once the project is finished

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Introduction

Relocating for a job in a new city can be a stressful experience for anyone and a move that goes badly can quickly lead to an employee leaving the company.[1] The role of a good HR department is to ease this process for any new hires to help them integrate into their new location quicker. A question that is often asked by relocating employees is “where are the best neighbourhoods?” to live in near their new location of employment. This is not a simple question to answer as different people have different needs, some may crave the hustle and bustle of a city centre with lots of night time activity while others may want a nice quiet neighbourhood to relax in after work.

This project aims to demonstrate a method for analysing the locations of a new city to allow informed recommendations of neighbourhoods to set up home based on the preferences of a moving employee using a worked example of the UK city of Manchester. The goal is to demonstrate that companies and HR departments have the ability to easily develop tools to aid relocating personnel and hopefully increase staff retention following such moves. The tool will categorise prospective neighbourhoods according to their key features to allow the quick and easy generation of recommendation lists based on employee preferences. In addition the average house price for each of the neighbourhoods will be sourced to allow a user to assess the affordability of each of the recommended neighbourhoods.

Data

In order to generate the tool the following data will be required:

- Name and location for all the neighbourhoods in Manchester
- Average house prices for each of the neighbourhoods
- List of the venue types and their frequency in each of the neighbourhoods

Sources identified to find this data are as follows:

- Name of each of the neighbourhoods to be web scraped from Wikipedia, which contains a comprehensive list of the areas of greater Manchester separated by postcode outcodes [2] (these are the first section of standard UK postcodes)
- Location of each borough will be sourced from freemaptools.com [3] which contains downloadable CSV files of UK locations defined by latitude and longitude, separated by postcode
- Average UK house pricing is to be obtained from the UK gov.uk website [4] containing an up to date list of properties sold in the UK in the current year with postcode information
- Neighbourhood venue types will be sourced using the foursquare API [5] which allows the search for venues in a location given the geographic co-ordinates, these venues can then be arranged by type and frequency using simple manipulation in python

References

- [1] 'Managing Employee Relocation', *SHRM*, Aug. 16, 2019.
<https://www.shrm.org/resourcesandtools/tools-and-samples/toolkits/pages/managingemployee relocation.aspx> (accessed Aug. 07, 2020).
- [2] 'M postcode area', *Wikipedia*. Aug. 07, 2020, Accessed: Aug. 16, 2020. [Online]. Available:
https://en.wikipedia.org/w/index.php?title=M_postcode_area&oldid=971595438.
- [3] 'Download UK Postcodes with Latitude and Longitude'.
<https://www.freemaptools.com/download-uk-postcode-lat-lng.htm> (accessed Aug. 16, 2020).
- [4] 'Price Paid Data', *GOV.UK*. <https://www.gov.uk/government/statistical-data-sets/price-paid-data-downloads> (accessed Aug. 16, 2020).
- [5] 'Foursquare Developer'. <https://developer.foursquare.com/> (accessed Aug. 16, 2020).