Choosing a Hotel Location in London

Preface

The report outlined in this document form part of IBM Data Science Professional Certificate and aims to address the requirements of Course 9: "Applied Data Science Capstone". It shall be noted that the business scenario outlined in this paper while based on a real organisation, it is completely fictitious and has been defined to meet the course requirements.

1 Introduction

The Library Hotel by the Library Hotel Collection offers its guests in New York a unique experience centred around books where each of the 10 guestroom floors honours one of the 10 categories of the Dewey Decimal Classification® system and each of the 60 rooms are uniquely adorned with about 50-150 books and artwork exploring a distinctive topic within the category it belongs to (Library Hotel Collection, n.d.).

The portfolio of the Library Hotel Collection is made up of six boutique hotels, of which four are located in New York, one in Budapest and one in Toronto. However, none of the six hotels are centred around the same guest experience in terms of theme. For instance, the Aria Hotel in Budapest, its design and guest experience is inspired by and centred around music (Library Hotel Collection, n.d.).

The senior management are considering an expansion strategy where they would replicate the Library Hotel guest experience in New York at a cultural European city. The city of London has been shortlisted as a potential location of choice.

Spatial location is considered to be one of the most important factors of a new hotel establishment (Yang, et al., 2012), especially in the case of the Library Hotel Collection where the target audience is a niche segment. More importantly, the final location of choice will have a significant impact on the revenue generation of the hotel, both in the short and long run (Johns, et al., 1997).

The objective of this paper is to identify Wards in London which have similar geospatial characteristics to the current address of the Library Hotel in New York. The shortlisted London Wards will then be provided to the senior management of the Library Hotel Collection as potential candidates for a new hotel location.

2 Data Requirements and Collection Method

The data requirements were selected to address the business problem of the senior management at the Library Hotel Collection. The intention is to construct observations with the following feature sets: Venue Categories.

The Places API (Foursquare, 2020) which offers real-time access to Foursquare's global database of rich venue data will be used to populate the feature sets. The Places API allows access to the full details about a venue including location, tips and categories. For the purposes of this study, I will extract the category type (e.g.: Vietnamese Restaurant) of venues surrounding an address of interest.

Access to venue categories via the Places API is dependent on locational latitude and longitude coordinates as input. Therefore, the data collection exercise first focused on identifying physical addresses of interest, such as:

- Library Hotel in New York; and
- London Wards

The addresses were then converted into latitude and longitude coordinates for later use in the Places API. The following sections describe how the addresses as well as the latitude and longitude information were obtained.

2.1.1 Library Hotel: Address

The Library Hotel current address was obtained from its official website at https://libraryhotel.com.

2.1.2 London Wards: Addresses

The mapping tools by the Greater London Authority (GLA) were used to download the data for all London Wards (GLA, 2014). According to the dataset, there are 33 Borough Councils and 625 Wards (GLA, 2014).

2.1.3 Locational Latitude and Longitude Coordinates

Pyhton Geopy and Geopandas libraries were used together with Nominatim Geocoding service to convert the physical addresses of the London Wards and Library Hotel into latitude and longitude geographic locations.

Works Cited

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