RELOCATION FINDER

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PREDICTION SIMILAR LOCATION WHEN RELOCATING

When people need to relocate they want to be able to find location near to their new place of work that share similarities with where they currently live.

The factors that have been used to categories similarity are:

- Crime rates
- Average income
- Local amenities
- Number of household / population

BUSINESS PROBLEM

- A chain of popular estate agents, within the UK, is looking for a USP to bring into their brand. There is currently saturation in the market for estate agents and they feel that they need to stand out if they are to prosper.

- We need to be able to recommend areas that are simular to the clients current location, so that we can focus where to search. We would like to run a POC only using data for Hertfordshire and Cambridgeshire

DATA ACQUISITION AND CLEANING

Data was obtained from:

- www.doogal.co.uk - postcodes, population sizes and LSOAs
- www.data.police.uk – all crime data for last 9 months
- Foursquare API – All amenity data

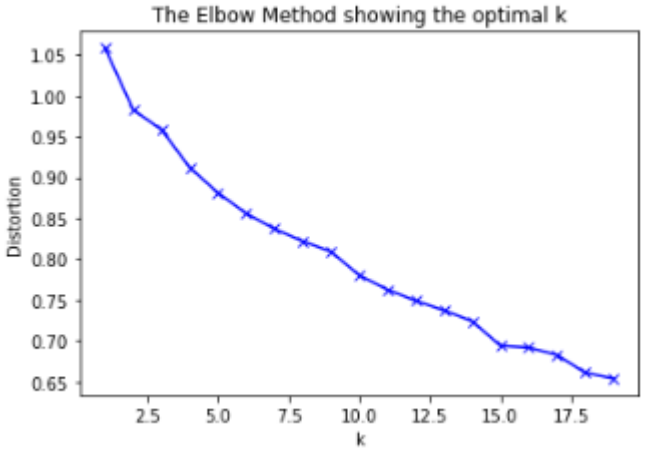
All unwanted data was stripped and remaining data was reshaped for analysis and merging.

METHODOLOGY

1. Load and transform data
2. Use Foursquare API to find amenity information
3. Calculate number of clusters
4. Perform k-mean clustering algorithm to cluster data
5. Visualise clusters using Folium
6. Add input box for current postcode
7. Visualise all prospective locations

ANALYSIS

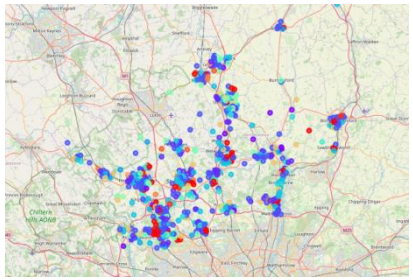
K-Means elbow method was used to identify the optimal number of clusters

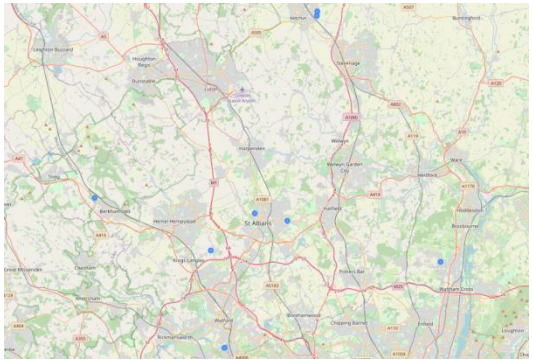


For the purposes of this project a K of 19 was used

RESULTS

- All LSOAs clustered across the 2 counties





- Using the sample postcode supplied 8 possible LSOAs where identified

CONCLUSION

Currently there is a acceptable level of accuracy. To gain more datasets are needed in order to make the clustering more accurate, these include:

- Age ranges
- Social demographic
- Transport links
- School ratings