

The Battle of Neighborhoods

By Thangappan

Objective

- To provide support to homebuyers clientele in to purchase a suitable real estate in London in this uncertain economic and financial scenario



Approach

- Cluster London neighbourhoods in order to recommend venues and the current average price of real estate where homebuyers can make a real estate investment.
- Recommend profitable venues according to amenities and essential facilities surrounding such venues i.e. elementary schools, high schools, hospitals & grocery stores.

Data Set

- Data on London properties and the relative price paid data were extracted from the HM Land Registry
 - <http://landregistry.data.gov.uk/>
- FourSquare API interface

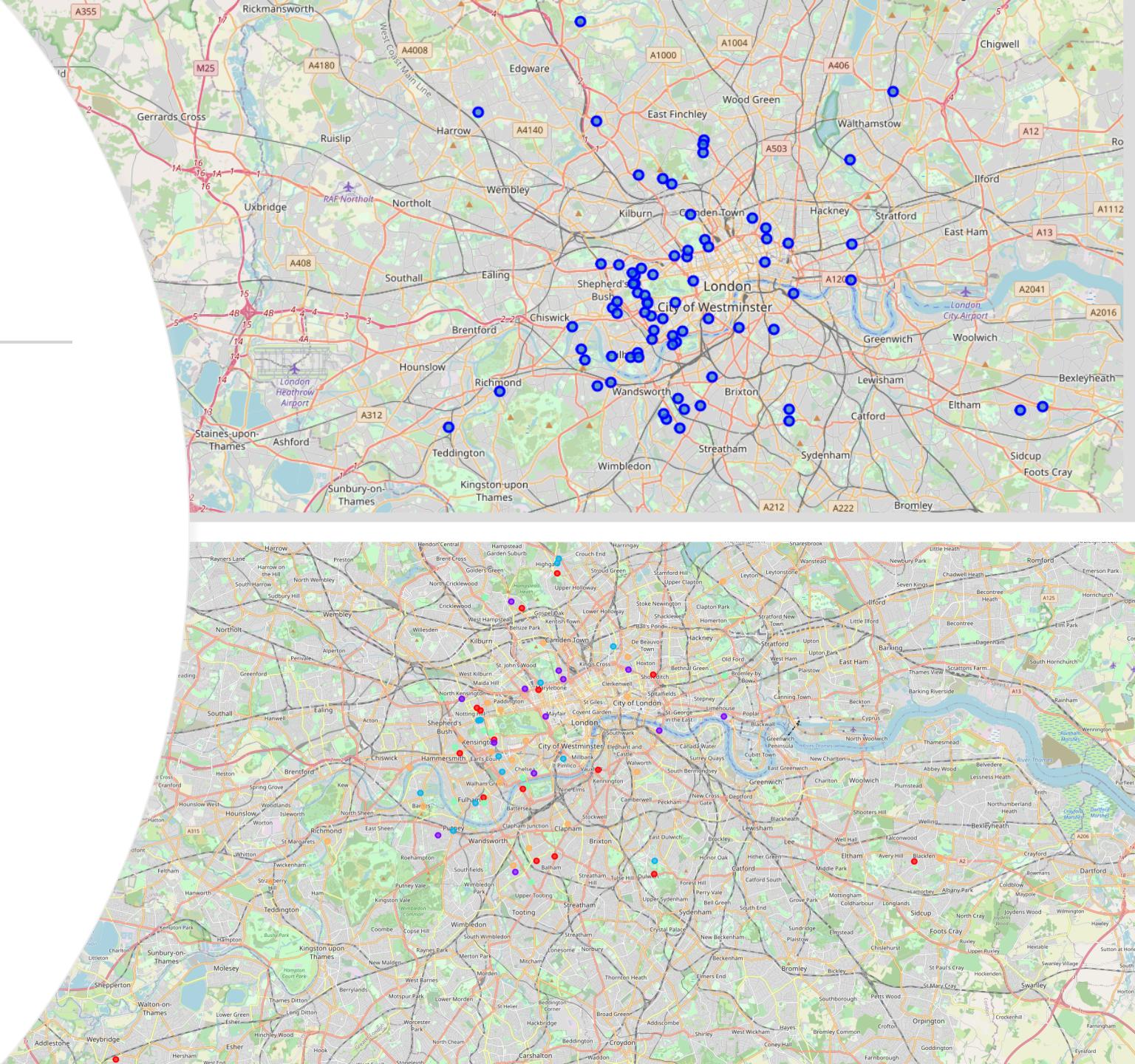
Methodology

Analysis and predication system are divided into 4 Stages:

1. Collect Inspection Data
2. Explore and Understand Data
3. Data preparation and pre-processing
4. Modelling



Map around London City of Westminster and 5 Clusters



Recommended Clusters

Cluster 1

	Avg_Price	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
405	2250000.0	Restaurant	Juice Bar	Italian Restaurant	Hotel	Clothing Store	Indian Restaurant	Bakery	Pub	Garden	Sushi Restaurant
1215	2208500.0	Pizza Place	Café	Hotel	Restaurant	Bar	Garden	Italian Restaurant	Gastropub	Bakery	Movie Theater
1253	2217000.0	Pub	French Restaurant	Bakery	Chinese Restaurant	Brewery	Coffee Shop	Lake	Train Station	Dry Cleaner	Eastern European Restaurant
2225	2200000.0	Nan									
2638	2250000.0	Outdoor Sculpture	Grocery Store	Pizza Place	Hotel	Bakery	Bookstore	Coffee Shop	Clothing Store	Pharmacy	Outdoor Supply Store

Cluster 2

	Avg_Price	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
196	2450000.0	Café	Bar	Indian Restaurant	Coffee Shop	Restaurant	Pub	Fish & Chips Shop	French Restaurant	Brewery	Supermarket
981	2480000.0	Automotive Shop	Pizza Place	Zoo	Factory	Eastern European Restaurant	Egyptian Restaurant	Electronics Store	English Restaurant	Ethiopian Restaurant	Event Space
1553	2456875.0	Construction & Landscaping	Home Service	Zoo	Falafel Restaurant	Eastern European Restaurant	Egyptian Restaurant	Electronics Store	English Restaurant	Ethiopian Restaurant	Event Space
1980	2492500.0	Supermarket	English Restaurant	Park	Rental Car Location	Dry Cleaner	Café	Gym	Hardware Store	American Restaurant	Pub
2136	2461000.0	Spa	Windmill	Soccer Field	Factory	Dry Cleaner	Eastern European Restaurant	Egyptian Restaurant	Electronics Store	English Restaurant	Ethiopian Restaurant

Cluster 3

	Avg_Price	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
855	2375000.0	Pizza Place	Restaurant	Bookstore	Farmers Market	Food & Drink Shop	Nature Preserve	Café	Thai Restaurant	Movie Theater	Park
1102	2340000.0	Pool	Playground	Factory	Dry Cleaner	Eastern European Restaurant	Egyptian Restaurant	Electronics Store	English Restaurant	Ethiopian Restaurant	Event Space
2068	2375000.0	Pub	Hotel	Park	Grocery Store	Pizza Place	Ice Cream Shop	Yoga Studio	Indian Restaurant	Breakfast Spot	Sandwich Place
2129	2379652.7	Pub	Grocery Store	Coffee Shop	Yoga Studio	Bakery	Park	Pizza Place	Ice Cream Shop	Indian Restaurant	Hotel
2944	2367500.0	Hotel	Pub	Garden	Italian Restaurant	Café	Coffee Shop	Chinese Restaurant	Mediterranean Restaurant	Bar	Residential Building (Apartment / Condo)

Cluster 4

	Avg_Price	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
390	2435000.0	Pub	French Restaurant	Grocery Store	Plaza	Art Gallery	English Restaurant	Garden	Gym / Fitness Center	Japanese Restaurant	Diner
422	2400000.0	Pub	Casino	Nightclub	Zoo	Factory	Eastern European Restaurant	Egyptian Restaurant	Electronics Store	English Restaurant	Ethiopian Restaurant
1632	2397132.0	Health & Beauty Service	Convenience Store	Breakfast Spot	Coffee Shop	Grocery Store	Italian Restaurant	Falafel Restaurant	Egyptian Restaurant	Electronics Store	English Restaurant
1797	2400000.0	Art Gallery	Zoo	Falafel Restaurant	Eastern European Restaurant	Egyptian Restaurant	Electronics Store	English Restaurant	Ethiopian Restaurant	Event Space	Exhibit
1914	2445000.0	Construction & Landscaping	Bar	Grocery Store	Gym	Athletics & Sports	Dance Studio	Exhibit	Egyptian Restaurant	Electronics Store	English Restaurant

Cluster 5

	Avg_Price	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
2242	2.300000e+06	Soup Place	Farm	Zoo	Exhibit	Dry Cleaner	Eastern European Restaurant	Egyptian Restaurant	Electronics Store	English Restaurant	Ethiopian Restaurant
2406	2.286679e+06	Café	Italian Restaurant	Coffee Shop	Pub	Bar	Park	French Restaurant	Belgian Restaurant	Modern European Restaurant	Portuguese Restaurant
2686	2.287500e+06	Pub	Art Museum	Brewery	Gym / Fitness Center	Gift Shop	Fish & Chips Shop	Filipino Restaurant	Dry Cleaner	Eastern European Restaurant	Egyptian Restaurant
3377	2.298000e+06	Hotel	Zoo	Falafel Restaurant	Eastern European Restaurant	Egyptian Restaurant	Electronics Store	English Restaurant	Ethiopian Restaurant	Event Space	Exhibit
4285	2.265000e+06	Pub	Zoo	Factory	Dry Cleaner	Eastern European Restaurant	Egyptian Restaurant	Electronics Store	English Restaurant	Ethiopian Restaurant	Event Space

Observation

- West London (Notting Hill, Kensington, Chelsea, Marylebone) and North-West London (Hampstead) might be considered highly profitable venues to purchase a real estate according to amenities and essential facilities surrounding such venues i.e. elementary schools, high schools, hospitals & grocery stores
- South-West London (Wandsworth, Balham) and North-West London (Islington) are arising as next future elite venues with a wide range of amenities and facilities
- All clusters could praise an optimal range of facilities and amenities, we have found two main patterns.
 1. Clusters 1, 3 and 5, may target home buyers prone to live in 'green' areas with parks, waterfronts.
 2. Clusters 2 and 4, may target individuals who love pubs, theatres and soccer.

Conclusion

- Even though the London Housing Market may be in a rut, it is still an "ever-green" for business affairs. We discussed our results under two main perspectives.
 1. Examined them according to neighborhoods/London areas. although West London (Notting Hill, Kensington, Chelsea, Marylebone) and North-West London (Hampsted) might be considered highly profitable venues to purchase a real estate according to amenities and essential facilities surrounding such venues i.e. elementary schools, high schools, hospitals & grocery stores, South-West London (Wandsworth, Balham) and North-West London (Islington) are arising as next future elite venues with a wide range of amenities and facilities. Accordingly, one might target under-priced real estates in these areas of London in order to make a business affair.
 2. Analysed our results according to the five clusters we produced. While Clusters 1, 3 and 5 may target home buyers prone to live in 'green' areas with parks, waterfronts, Clusters 2 and 4 may target individuals who love pubs, theatres and soccer.

Thank You

