

Locating Hotel in London

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Introduction

- A hotel company wants to open a new hotel in London
- London and the UK are very attractive places for tourists, making London a suitable place
- The goal is to find the best neighborhood to build the hotel
- Venues and touristic attractions will be considered



Data

- London Maps, geoJson
- FourSquare API's venue data



Finding the best choice

- Analyzing venues
- Filtering neighborhoods
- Comparing neighborhoods
- K-Means Clustering



Analyzing Venues

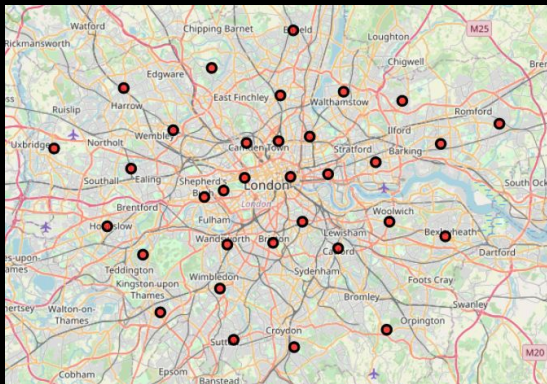
- A table was created to see which venues were present in which neighborhood
- Existence of specific venues are more important than others
- Leads to filtering.



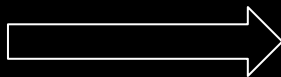
Filtering Neighborhoods

- Neighborhoods with low number of venues were excluded from the analysis
- Neighborhoods with hotels were excluded from the analysis

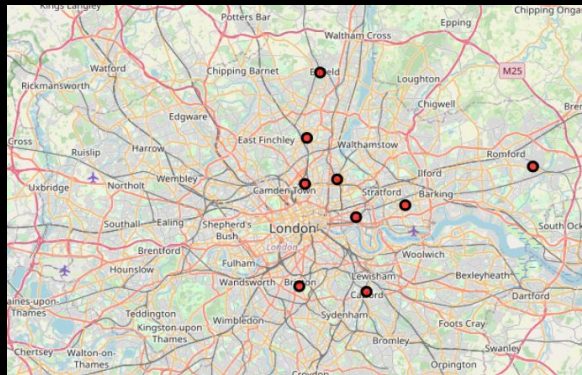
Initially, 33 possible neighborhoods:



FILTERING



Finally, 9 possible neighborhoods:



Comparing Neighborhoods

- For each of the possible neighborhoods, the 15 most common venues were listed
- This were then compared to find the best location for our hotel

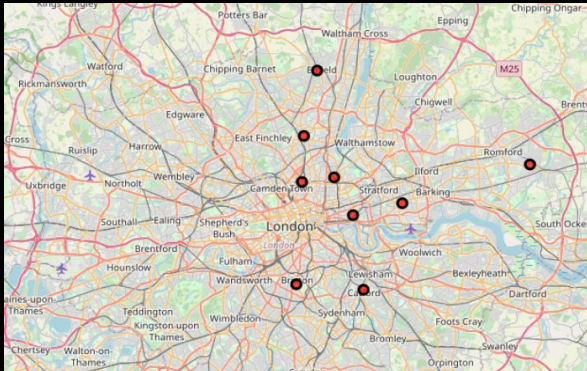
Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue	11th Most Common Venue	12th Most Common Venue	13th Most Common Venue	14th Most Common Venue	15th Most Common Venue
Enfield	Coffee Shop	Clothing Store	Café	Pub	Restaurant	Optical Shop	Shopping Mall	Sandwich Place	Supermarket	Bookstore	Department Store	Pharmacy	Gift Shop	Gym / Fitness Center	Grocery Store
Hackney	Grocery Store	Pub	Yoga Studio	Breakfast Spot	Café	Restaurant	Gourmet Shop	Park	Furniture / Home Store	Coworking Space	Brewery	Coffee Shop	Italian Restaurant	French Restaurant	Food Truck
Haringey	Clothing Store	Bus Stop	Coffee Shop	Sandwich Place	Pharmacy	Discount Store	Café	Chinese Restaurant	Smoke Shop	Shopping Mall	Pub	Dessert Shop	African Restaurant	Burger Joint	Park
Havering	Italian Restaurant	Grocery Store	Supermarket	Coffee Shop	Pub	Café	Pharmacy	Sandwich Place	Thai Restaurant	Theater	Train Station	Garden	Portuguese Restaurant	Bank	Bakery
Islington	Café	Coffee Shop	Pub	Italian Restaurant	Ethiopian Restaurant	Wine Shop	Vietnamese Restaurant	French Restaurant	Park	Gym / Fitness Center	Farm	Malay Restaurant	Pizza Place	Seafood Restaurant	Yoga Studio
Lambeth	Coffee Shop	Bus Stop	Indian Restaurant	Pub	Music Venue	Grocery Store	Pizza Place	Park	Caribbean Restaurant	Social Club	Spa	Modern European Restaurant	Café	Fried Chicken Joint	Yoga Studio
Lewisham	Grocery Store	Supermarket	Platform	Pub	Coffee Shop	Italian Restaurant	Bus Stop	Greek Restaurant	Dessert Shop	Pharmacy	Portuguese Restaurant	Sandwich Place	Cocktail Bar	Shopping Mall	Shopping Plaza
Newham	Grocery Store	Café	Fish & Chips Shop	Gym / Fitness Center	Pub	Home Service	Convenience Store	Toy / Game Store	French Restaurant	Food Truck	Food Court	Fish Market	Field	Fast Food Restaurant	Yoga Studio
Tower Hamlets	Canal Lock	Pub	Bakery	Chinese Restaurant	Museum	Skate Park	Go Kart Track	Persian Restaurant	Playground	Diner	Recreation Center	Athletics & Sports	Art Gallery	Eastern European Restaurant	Food Truck



K-Means Clustering

- A machine learning algorithm called K-Means Clustering was run to segment the neighborhoods into groups based on their similarity
- This was done to see if more than one neighborhood was a good fit

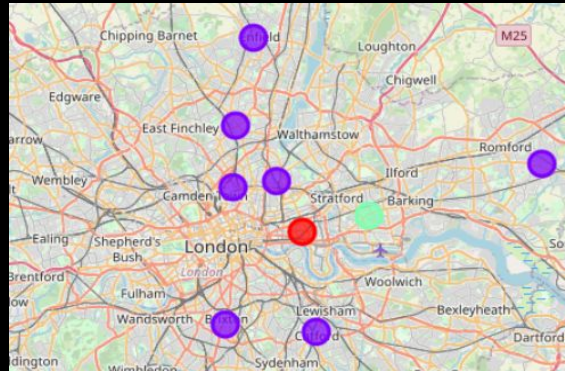
The 9 possible neighborhoods:



K-Means Clustering



The clustered neighborhoods:



Conclusion

TOWER HAMLETS IS THE BEST CHOICE

- Museums are 5th most common venue
- Art galleries are 13th most common venue
- Pubs 2nd are most common venue
- International cuisine spots are fairly common
- Second closest neighborhood to London City Airport

