

# BEST PLACE TO OPEN A JAZZ CLUB IN NY

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## **Problem**

**Client wants to find the best neighborhood to open a Jazz Club in New York**



# Params

- **The neighborhood has to have places that a people who likes jazz will enjoy**
  - Arts places
  - Music Stores and Recording Studios
  - Cafés
  - Bookstores and library
  
- **The new place can't be placed near another jazz club**



# Data

- NY Json with neighborhoods location
- NY json with neighborhoods area
- Foursquare data with the venues



# NY neighborhood location data

	Borough	Neighborhood	Latitude	Longitude
0	Bronx	Wakefield	40.894705	-73.847201
1	Bronx	Co-op City	40.874294	-73.829939
2	Bronx	Eastchester	40.887556	-73.827806
3	Bronx	Fieldston	40.895437	-73.905643
4	Bronx	Riverdale	40.890834	-73.912585



# Foursquare API

- Return list of venues, indicating the name and category
- Categories:
  - Jazz Club
  - Record Shop
  - Recording Studio
  - Music School
  - Music Store
  - Art Museum
  - Art Gallery
  - Outdoor Sculpture
  - Bookstore
  - Library
  - Park
  - Café



# Foursquare Data

- Final dataframe from the foursquare API

Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
Wakefield	40.894705	-73.847201	Library	40.896087	-73.845952	Library
Co-op City	40.874294	-73.829939	New York Public Library - Baychester Library	40.870640	-73.829248	Library
Co-op City	40.874294	-73.829939	The Park	40.877645	-73.830836	Park
Co-op City	40.874294	-73.829939	Givens Creek Park	40.878337	-73.829072	Park
Eastchester	40.887556	-73.827806	Da SubBasement Recording Studio	40.885462	-73.829252	Recording Studio
Eastchester	40.887556	-73.827806	Blazin Recordings Studio	40.890682	-73.827401	Recording Studio
Riverdale	40.890834	-73.912585	Bell Tower Park	40.889178	-73.908331	Park
Riverdale	40.890834	-73.912585	Seton Park	40.887914	-73.916113	Park
Riverdale	40.890834	-73.912585	Raoul Wallenberg Forest	40.887935	-73.916022	Park
Riverdale	40.890834	-73.912585	Boston Common Frog Pond	40.886800	-73.912000	Park
Riverdale	40.890834	-73.912585	Boston Common Carousel	40.886700	-73.911600	Park
Kingsbridge	40.881687	-73.902818	Sugarboy Bakery Cafe	40.877948	-73.902860	Café
Kingsbridge	40.881687	-73.902818	New York Public Library - Kingsbridge	40.880664	-73.907940	Library
Kingsbridge	40.881687	-73.902818	Gold Mine Cafe	40.878916	-73.904698	Café
Kingsbridge	40.881687	-73.902818	Bailey Playground	40.881352	-73.900729	Park
Kingsbridge	40.881687	-73.902818	Bailey Park	40.881115	-73.900815	Park

# Jazz Data

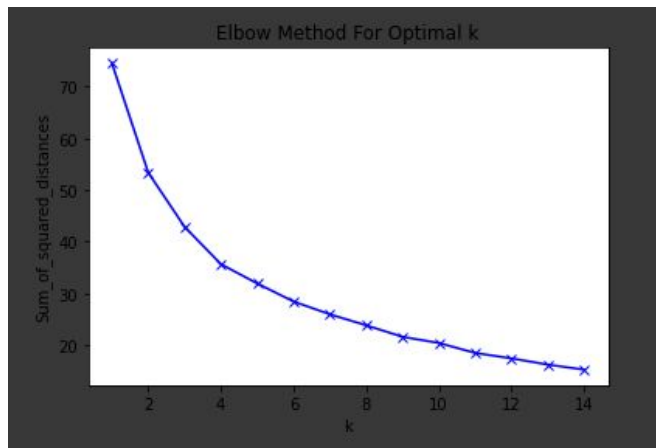
Neighborhood	Neighborhood	Latitude	Neighborhood	Longitude	Venue	Venue	Latitude	Venue	Longitude	Venue	Category
	Country Club	40.844246		-73.824099	jazz		40.843457		-73.820357		Jazz Club
	Manhattan Terrace	40.614433		-73.957438	Jazz. Club		40.615307		-73.954750		Jazz Club
	Lefferts Gardens	40.658420		-73.954899	Inkwell Cafe		40.662776		-73.953789		Jazz Club
	North Side	40.714823		-73.958809	Hoi Polloi		40.717966		-73.961712		Jazz Club
	South Side	40.710861		-73.958001	WMC Jazz		40.711278		-73.963099		Jazz Club
	South Side	40.710861		-73.958001	Williamsburg Music Center		40.711145		-73.963120		Jazz Club
	Central Harlem	40.815976		-73.943211	Bill's Place		40.813366		-73.943701		Jazz Club
	Upper East Side	40.775639		-73.960508	Café Carlyle		40.774466		-73.963369		Jazz Club
	Yorkville	40.775930		-73.947118	Wave Studio		40.779666		-73.946987		Jazz Club
	Murray Hill	40.748303		-73.978332	The Jazz Room at The Kitano		40.749731		-73.979990		Jazz Club
	Greenwich Village	40.726933		-73.999914	Blue Note		40.730833		-74.000808		Jazz Club
	Greenwich Village	40.726933		-73.999914	Special Club		40.727704		-74.002588		Jazz Club
	Greenwich Village	40.726933		-73.999914	Bar Next Door		40.730655		-74.000053		Jazz Club
	East Village	40.727847		-73.982226	Rue B		40.727891		-73.979178		Jazz Club
	West Village	40.734434		-74.006180	Smalls Jazz Club		40.734358		-74.002789		Jazz Club
	West Village	40.734434		-74.006180	Village Vanguard		40.735953		-74.001516		Jazz Club
	West Village	40.734434		-74.006180	Fat Cat		40.733665		-74.002950		Jazz Club





# Cluster

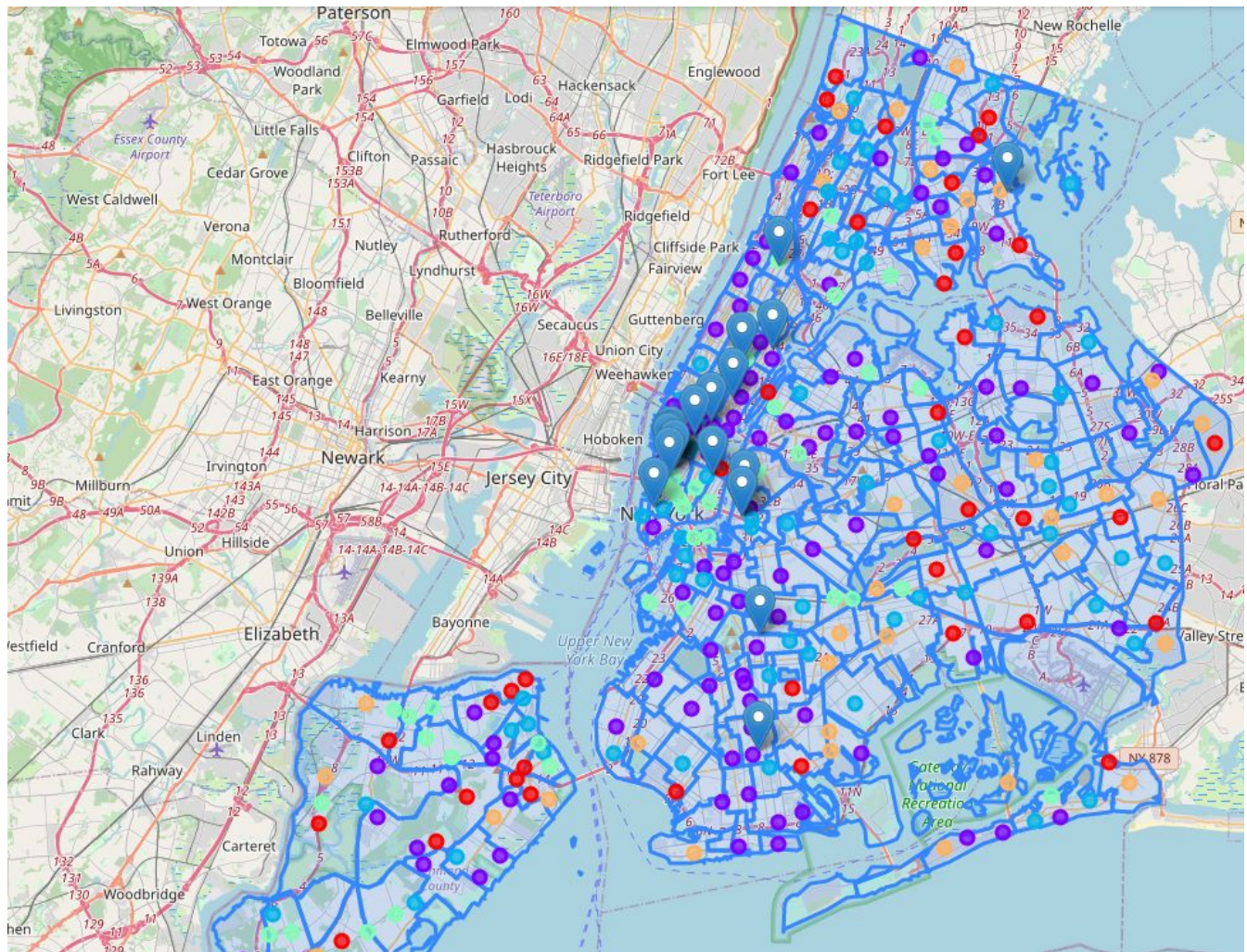
- Applying K-means clustering to see the similarity between neighborhoods
- Divided by 5 categories





# Map

- Circles illustrate the neighborhoods in NY. The circle color is by the label assigned by the cluster
- The blue area is the neighborhoods area
- The markup is all the Jazz Clubs established in NY





# Categories per Neighborhood

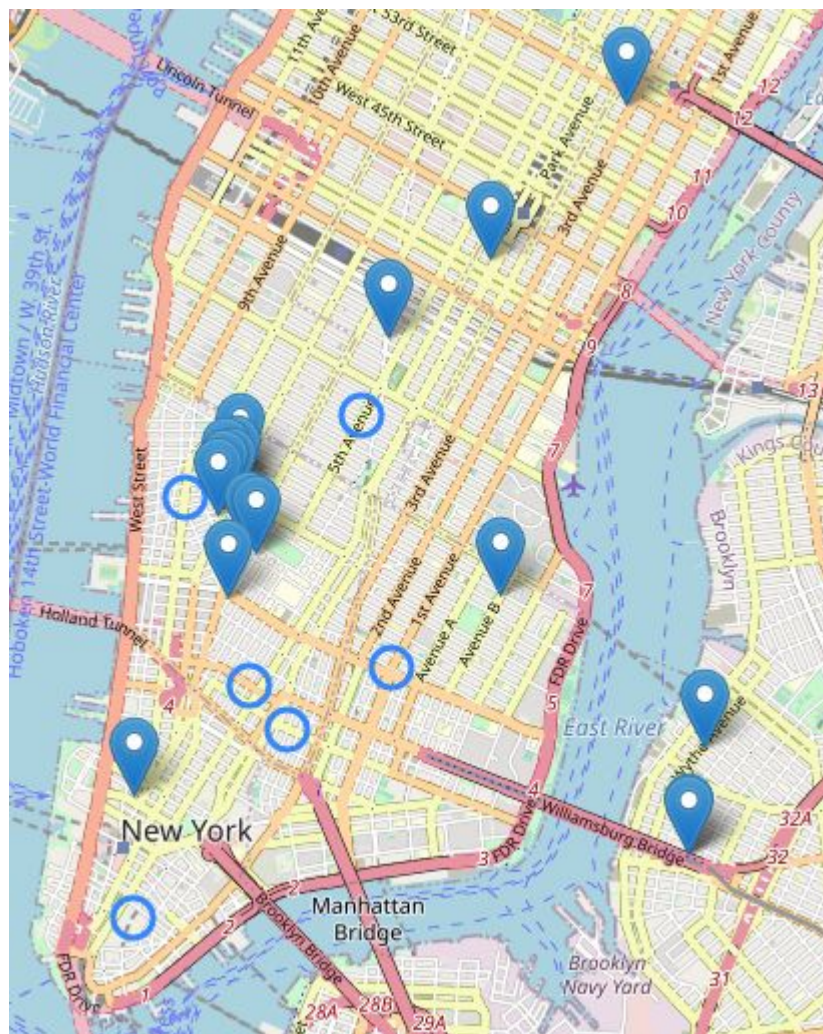
- Searching for the top places with venues from different categories
- Noho has 10 categories venues

Neighborhood	places
Noho	10
Soho	9
Clinton	9
Financial District	9
Little Italy	9
Greenwich Village	9
Midtown	9
Dumbo	8
South Side	8
Civic Center	8



# Map

- Markup shows the jazz clubs in NY
- Circles are the best places to open a new one according with the previously dataframe







# Distance

- Determine the distance of the neighborhood from others jazz clubs by euclidean distance

	Name	Distance
0	Noho	0.010350
1	Little Italy	0.009907
2	Financial District	0.007714
3	Soho	0.005848
4	Flatiron	0.005453
5	West Village	0.003154



# Conclusion

- According to the method established, the Noho neighborhood will be the best location for a new jazz club
  - Do not have any Jazz location
  - Lot of requested categories (10)
  - Far from others Jazz Clubs