TRAVEL INFO WITH FOURSQUARE

Choi Hyun Bin

WHY TRAVEL INFO?

➤ Although traveling is a pure joy, preparing it is full of agony.

➤ Foursquare API provides great amount of quality datas about locations.(caffe, restaurant etc)

➤ Using this data will allow tourists to easily decide where to go when they are in a specific city.

New York

Toronto

San Francisco

Regions(These cities were used throughout the capstone projects and also will be used for this project)

OBJECTIVES

➤ First of all, the geojson data for each city's neighborhood is required.

➤ Then, analyzing the data using the Foursquare API.

➤ Use clustering to identify each area and its category.

GEOGRAPHICAL DATA(DATA FRAME)

	Neighborhood	Latitude	Longitude
0	CENTRAL	37.8069	-122.405
1	SOUTHERN	37.79	-122.388
2	BAYVIEW	37.7084	-122.393
3	MISSION	37.7694	-122.408
4	PARK	37.7759	-122.447
5	RICHMOND	37.7824	-122.448
6	INGLESIDE	37.7083	-122.408
7	TARAVAL	37.711	-122.456
8	NORTHERN	37.8054	-122.446
9	TENDERLOIN	37.786	-122.418

San Francisco

	Neighborhood	Latitude	Longitude
0	Wakefield	40.8947	-73.8472
1	Co-op City	40.8743	-73.8299
2	Eastchester	40.8876	-73.8278
3	Fieldston	40.8954	-73.9056
4	Riverdale	40.8908	-73.9126
5	Kingsbridge	40.8817	-73.9028
6	Marble Hill	40.8766	-73.9107
7	Woodlawn	40.8983	-73.8673
8	Norwood	40.8772	-73.8794
9	Williamsbridge	40.881	-73.8574
10	Baychester	40.8669	-73.8358
11	Pelham Parkway	40.8574	-73.8548
12	City Island	40.8472	-73.7865
13	Bedford Park	40.8702	-73.8855
14	University Heights	40.8557	-73.9104
15	Morris Heights	40.8479	-73.9197
16	Fordham	40.861	-73.8964
17	East Tremont	40.8427	-73.8874
18	West Farms	40.8395	-73.8777
19	High Bridge	40.8366	-73.9261
20	Melrose	40.8198	-73.9094
21	Mott Haven	40.8062	-73.9161
22	Port Morris	40.8017	-73.9132

New York

	Neighborhood	Latitude	Longitude
0	Parkwoods	43.7533	-79.3297
1	Victoria Village	43.7259	-79.3156
2	Regent Park / Harbourfront	43.6543	-79.3606
3	Lawrence Manor / Lawrence Heights	43.7185	-79.4648
4	Queen's Park	43.6623	-79.3895
5	Islington Avenue	43.6679	-79.5322
6	Malvern / Rouge	43.8067	-79.1944
7	Don Mills	43.7459	-79.3522
8	Parkview Hill / Woodbine Gardens	43.7064	-79.3099
9	Garden District, Ryerson	43.6572	-79.3789

Toronto

RESULTS

➤ Using techniques such as K-means clustering, I was able to get results about common venues of each city

➤ This information can be really helpful to tourists since they can focus on what they are trying to experience most during their travel.(food, culture, sport etc)

➤ These techniques also provides the visualization of clustering of each city

Results of common venues of each city

San Francisco

	Neighborhood	Latitude	Longitude	Cluster Labels	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	Co...
0	Rincon Hill	37.7941	-122.392	1	Coffee Shop	Café	New American Restaurant	Japanese Restaurant	Seafood Restaurant	Candy Store	Mediterranean Restaurant	De... Sho
1	South Beach	37.7829	-122.388	4	Baseball Stadium	Sandwich Place	Coffee Shop	Gym	American Restaurant	Pizza Place	Café	Ind... Mo... The
2	Chinatown	37.7953	-122.405	0	Chinese Restaurant	Italian Restaurant	Coffee Shop	Men's Store	Dive Bar	New American Restaurant	Bakery	Co... Bar
3	Nob Hill	37.8083	-122.42	0	Ice Cream Shop	Tour Provider	Historic Site	Hotel	Seafood Restaurant	Boat or Ferry	Gift Shop	Foo
4	Ingleside	37.7319	-122.421	0	Liquor Store	Playground	Bus Stop	Street Art	Farm	Fried Chicken Joint	Baseball Field	Do...
5	Castro	37.7696	-122.428	0	Sushi Restaurant	Cocktail Bar	Coffee Shop	Café	Dive Bar	Pet Store	Grocery Store	Re... Sho
6	Sunset	37.7638	-122.457	0	Playground	Athletics & Sports	College Gym	Performing Arts Venue	Coffee Shop	Park	Chinese Restaurant	San Pla
7	Bayview	37.7528	-122.38	2	Rental Car Location	Beach	Print Shop	Soccer Field	Light Rail Station	Park	Donut Shop	Du... Res
8	Portola	37.7316	-122.444	0	Park	Deli / Bodega	Light Rail Station	Convenience Store	Pizza Place	Spa	Bar	Tra
9	Lake Merced	37.7368	-122.486	0	Park	Sandwich Place	Coffee Shop	Shipping Store	Hawaiian Restaurant	Dog Run	Gym	Asi Res
10	Twin Peaks	37.7581	-122.453	0	Trail	Park	Scenic Lookout	Mountain	Lake	Doctor's Office	Farmers Market	Far
11	North Beach	37.8116	-122.419	0	Seafood Restaurant	Boat or Ferry	Ice Cream Shop	Historic Site	Art Gallery	Candy Store	Tour Provider	Mu
12	Tenderloin	37.7857	-122.406	0	Coffee Shop	Boutique	Clothing Store	Cosmetics Shop	Department Store	Gym / Fitness Center	Hotel	Tea
13	SoMa	37.7838	-122.399	0	Coffee Shop	Café	Sandwich Place	Pizza Place	Thai Restaurant	Museum	Sushi Restaurant	Art Mu
14	Mission	37.7646	-122.405	0	Art Gallery	Furniture / Home	Coffee Shop	Brewery	Nightclub	Gym	Dive Bar	Ice Sho

San Francisco

New York

|	Borough	Neighborhood	Latitude	Longitude	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue
0	Bronx	Wakefield	40.8947	-73.8472	3	Food Truck	Caribbean Restaurant	Ice Cream Shop	Pharmacy	Dessert Shop	Sandwich Place
1	Bronx	Co-op City	40.8743	-73.8299	3	Pizza Place	Bus Station	Mattress Store	Shopping Mall	Trail	Gift Shop
2	Bronx	Eastchester	40.8876	-73.8278	0	Caribbean Restaurant	Diner	Deli / Bodega	Donut Shop	Bus Station	Fast Food Restaurant
3	Bronx	Fieldston	40.8954	-73.9056	0	River	Rock Club	Plaza	Women's Store	Filipino Restaurant	Event Service
4	Bronx	Riverdale	40.8908	-73.9126	0	Park	Bank	Gym / Fitness Center	Gym	Bus Station	Plaza
5	Bronx	Kingsbridge	40.8817	-73.9028	3	Pizza Place	Sandwich Place	Discount Store	Supermarket	Latin American Restaurant	Bar
6	Manhattan	Marble Hill	40.8766	-73.9107	4	Discount Store	Yoga Studio	Diner	Shoe Store	Seafood Restaurant	Gym
7	Bronx	Woodlawn	40.8983	-73.8673	3	Deli / Bodega	Food & Drink Shop	Bar	Playground	Pizza Place	Indian Restaurant
8	Bronx	Norwood	40.8772	-73.8794	3	Pizza Place	Park	Bank	Bus Station	Pharmacy	Fast Food Restaurant
9	Bronx	Williamsbridge	40.881	-73.8574	3	Soup Place	Bar	Caribbean Restaurant	Nightclub	Women's Store	Eye Doctor
10	Bronx	Baychester	40.8669	-73.8358	4	Spanish Restaurant	Supermarket	Gym / Fitness Center	Mattress Store	Fast Food Restaurant	Sandwich Place
11	Bronx	Pelham Parkway	40.8574	-73.8548	4	Italian Restaurant	Chinese Restaurant	Pizza Place	Sandwich Place	Bus Station	Performing Arts Venue
12	Bronx	City Island	40.8472	-73.7865	3	Harbor / Marina	Thrift / Vintage Store	Seafood Restaurant	Spanish Restaurant	Pizza Place	Sandwich Place

New York

Toronto

		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 Co... V
0	Agincourt	Lounge	Breakfast Spot	Skating Rink	Sandwich Place	Chinese Restaurant	Diner	Discount Store	Dog Run	Doner Restaurant	Donu
1	Alderwood / Long Branch	Pizza Place	Pharmacy	Athletics & Sports	Bank	Sandwich Place	Pub	Dance Studio	Coffee Shop	Gym	Dump Resta
2	Bathurst Manor / Wilson Heights / Downsview North	Coffee Shop	Ice Cream Shop	Deli / Bodega	Sushi Restaurant	Restaurant	Shopping Mall	Bank	Fried Chicken Joint	Frozen Yogurt Shop	Diner
3	Bayview Village	Chinese Restaurant	Café	Japanese Restaurant	Bank	Dim Sum Restaurant	Discount Store	Dog Run	Doner Restaurant	Donut Shop	Wome Store
4	Bedford Park / Lawrence Manor East	Coffee Shop	Fast Food Restaurant	Sushi Restaurant	Greek Restaurant	Restaurant	Butcher	Café	Pub	Pizza Place	Phar
5	Berczy Park	Coffee Shop	Restaurant	Cocktail Bar	Bakery	Café	Farmers Market	Seafood Restaurant	Sushi Restaurant	Cheese Shop	Steak
6	Birch Cliff / Cliffside West	College Stadium	Café	Skating Rink	General Entertainment	Women's Store	Doner Restaurant	Dim Sum Restaurant	Diner	Discount Store	Dog R
7	Brockton / Parkdale Village / Exhibition Place	Coffee Shop	Café	Breakfast Spot	Gym / Fitness Center	Furniture / Home Store	Performing Arts Venue	Pet Store	Convenience Store	Climbing Gym	Carib Resta
8	CN Tower / King and Spadina / Railway Lands / …	Airport Lounge	Airport Terminal	Airport Service	Boat or Ferry	Boutique	Plane	Sculpture Garden	Harbor / Marina	Airport Gate	Airpo Court
9	Caledonia-Fairbanks	Park	Women's Store	Fast Food Restaurant	Market	Pharmacy	Comfort Food Restaurant	Comic Shop	Ethiopian Restaurant	College Rec Center	Empa Resta
10	Cedarbrae	Hakka Restaurant	Bank	Fried Chicken Joint	Thai Restaurant	Caribbean Restaurant	Bakery	Athletics & Sports	Discount Store	Dog Run	Doner Resta
11	Central Bay Street	Coffee Shop	Café	Italian Restaurant	Sandwich Place	Bubble Tea Shop	Burger Joint	Bar	Japanese Restaurant	Thai Restaurant	Salad
12	Christie	Grocery Store	Café	Park	Nightclub	Diner	Italian Restaurant	Baby Store	Athletics & Sports	Restaurant	Conve Store
13	Church and Wellesley	Coffee Shop	Japanese Restaurant	Gay Bar	Sushi Restaurant	Burger Joint	Restaurant	Pizza Place	Men's Store	Fast Food Restaurant	Smok
14	Clairville / Humberwood / Woodbine Downs / Wes…	Drugstore	Rental Car Location	Bar	Donut Shop	Dim Sum Restaurant	Diner	Discount Store	Dog Run	Doner Restaurant	Wome Resta
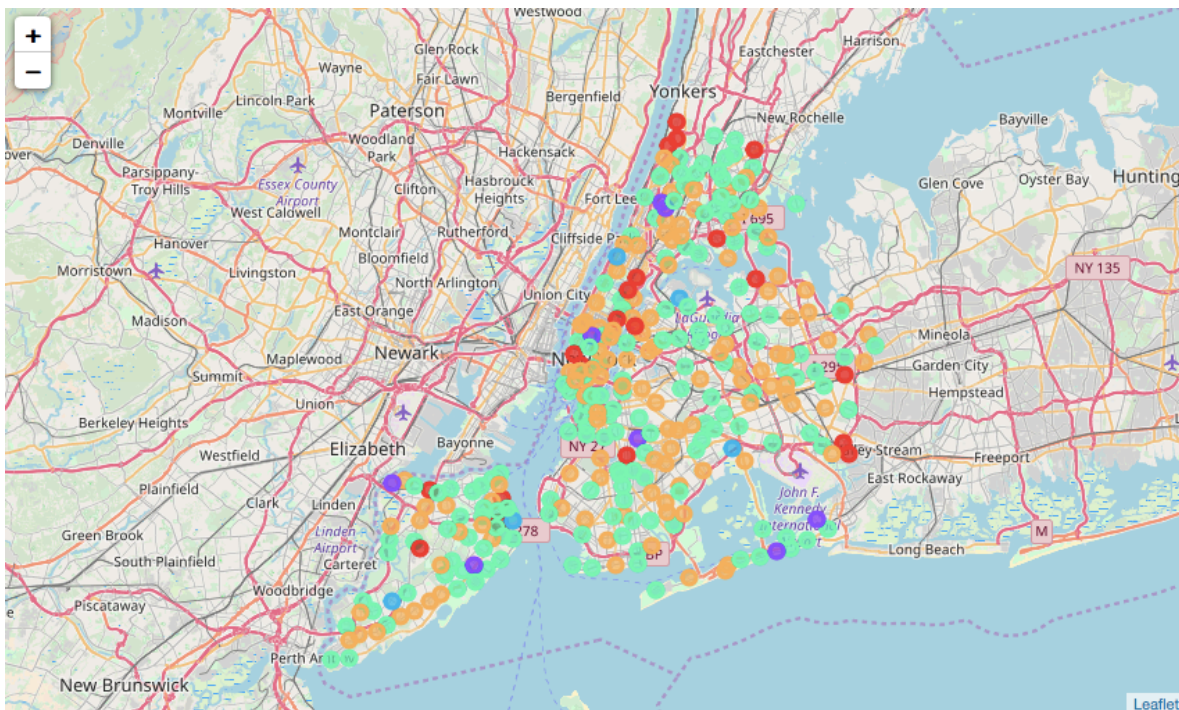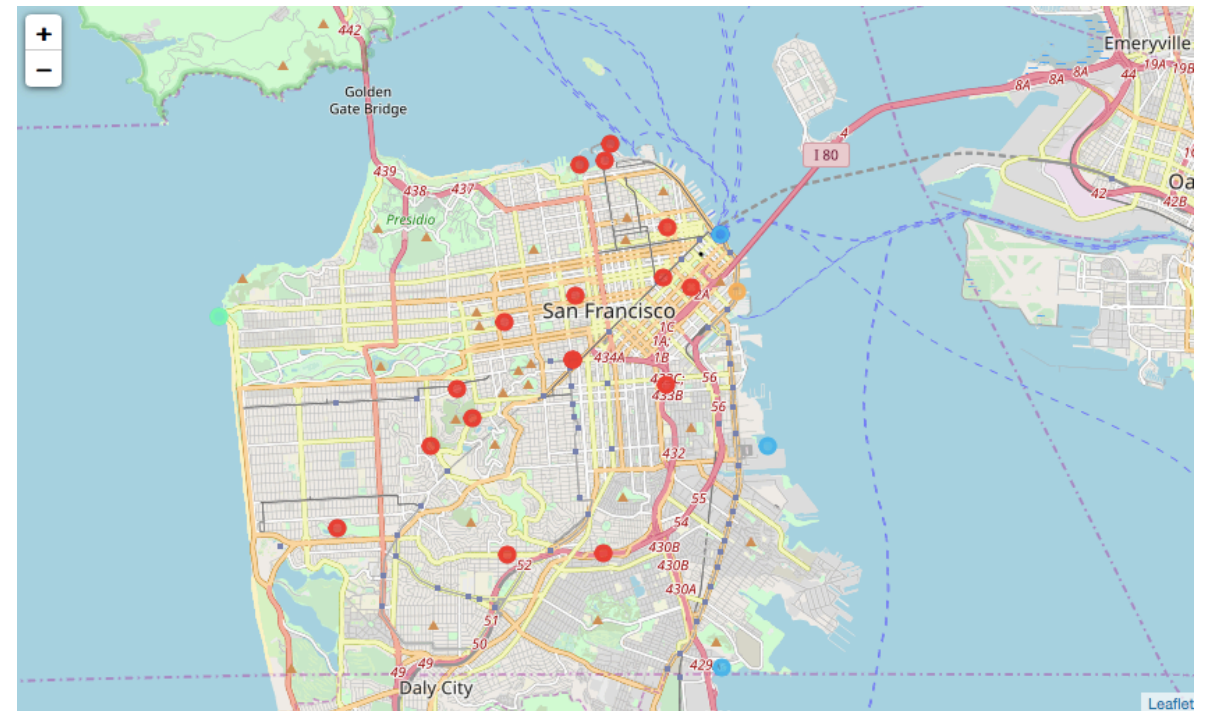
Toronto

New York

San Francisco
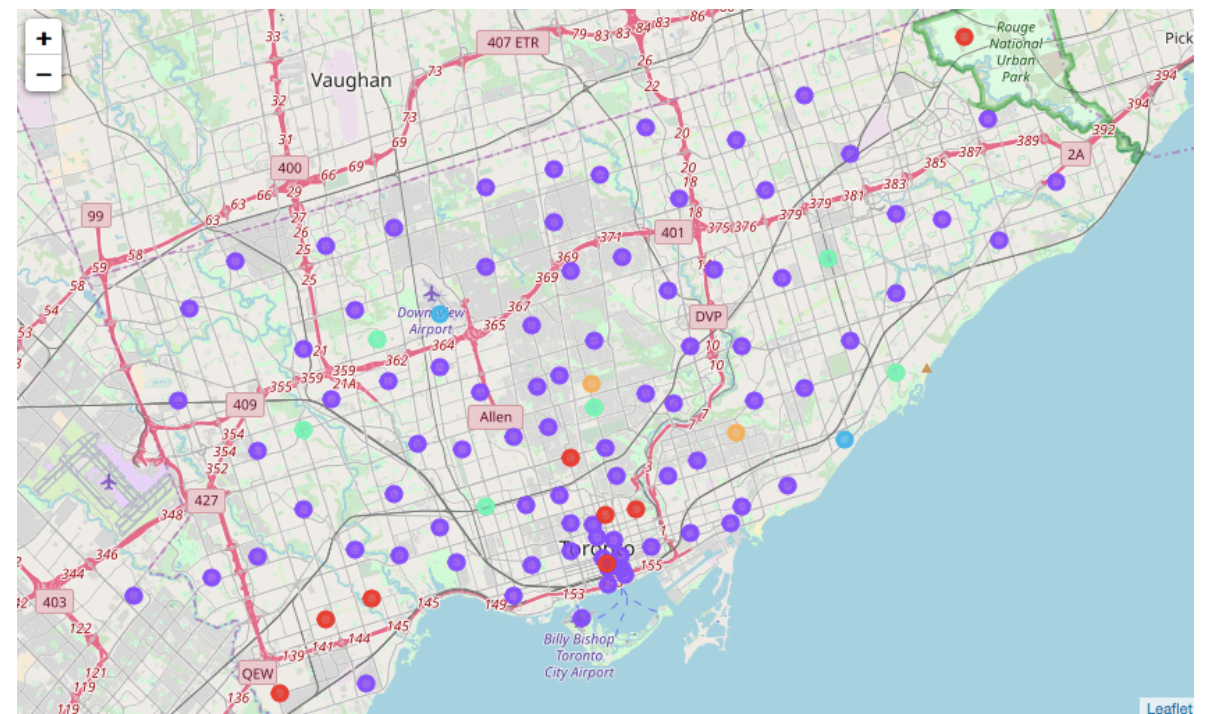
Toronto

Clustering Results of each city

PERSONAL RECOMMENDATION

➤ It seems New York is appropriate for tourists who are looking for the urban experience(various urban infrastructures and facilities)

➤ Toronto can also be appropriate for tourist who are looking for urban experience

➤ All three cities would provide tourists rich 'foodie' experience(They all have various restaurants as well as cafe)