

A stylized, pixelated graphic of a city skyline is positioned on the left side of the slide. It features various vertical bars and rectangular shapes in different shades of blue, creating a modern, digital aesthetic.

THE BATTLE OF TORONTO NEIGHBOURHOODS

CAPSTONE PROJECT

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FINDING BEST TORONTO NEIGHBOURHOODS

- Customer is the settlement agencies who work on settlement issues for newcomers. They want to find the best neighbourhoods in Toronto based on available services in a short distance. Their customers are mostly interested on those neighborhoods.
- Question need to Answer:
"Find best neighborhoods depending on the nearby available services"

BACKGROUND

- Toronto, the capital of the province of Ontario, is a major Canadian city
- Nearly one million immigrants will be coming to Canada over the next three years, and tens of thousands of them will wind up in Toronto
- Settlement services are one of the most important service provided by many government and non-profit organization
- Everyday hundreds of the newcomers are coming to get information about the neighborhoods where they can start their Canada life

ORGANIZATIONS

- Settlement service organizations are now trying to find the best neighborhoods based on the nearby services
- They have high volume of query to find the best Neighbourhoods to live

DATA PREPARATION

- Toronto neighborhoods are scraped from Wikipedia table

Toronto - FSAs [edit]		
Note: There are no rural FSAs in Toronto, hence no postal codes start with M0.		
Postcode ↕	Borough ↕	Neighbourhood ↕
M1A	Not assigned	Not assigned
M2A	Not assigned	Not assigned
M3A	North York	Parkwoods
M4A	North York	Victoria Village
M5A	Downtown Toronto	Harbourfront
M5A	Downtown Toronto	Regent Park
M6A	North York	Lawrence Heights
M6A	North York	Lawrence Manor
M7A	Queen's Park	Not assigned
M8A	Not assigned	Not assigned
M9A	Etobicoke	Islington Avenue
M1B	Scarborough	Rouge

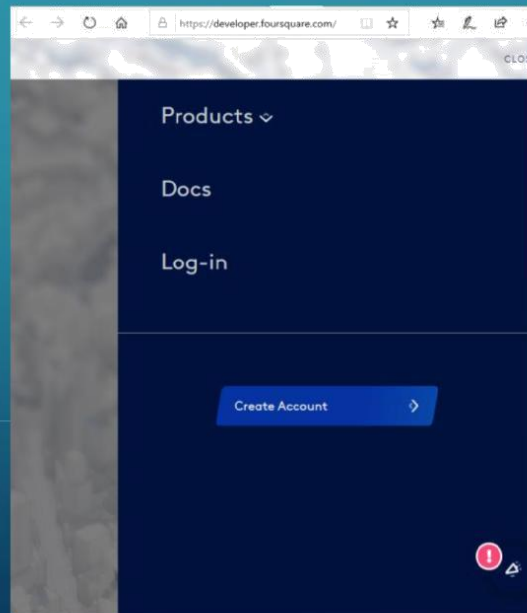
DATA PREPARATION

- Geological information like Latitude and Longitude for the postal areas

Postal Code	Latitude	Longitude
M1B	43.80669	-79.1944
M1C	43.78454	-79.1605
M1E	43.76357	-79.1887
M1G	43.77099	-79.2169
M1H	43.77314	-79.2395
M1J	43.74473	-79.2395
M1K	43.72793	-79.262
M1L	43.71111	-79.2846
M1M	43.71632	-79.2395
M1N	43.69266	-79.2648

DATA PREPARATION

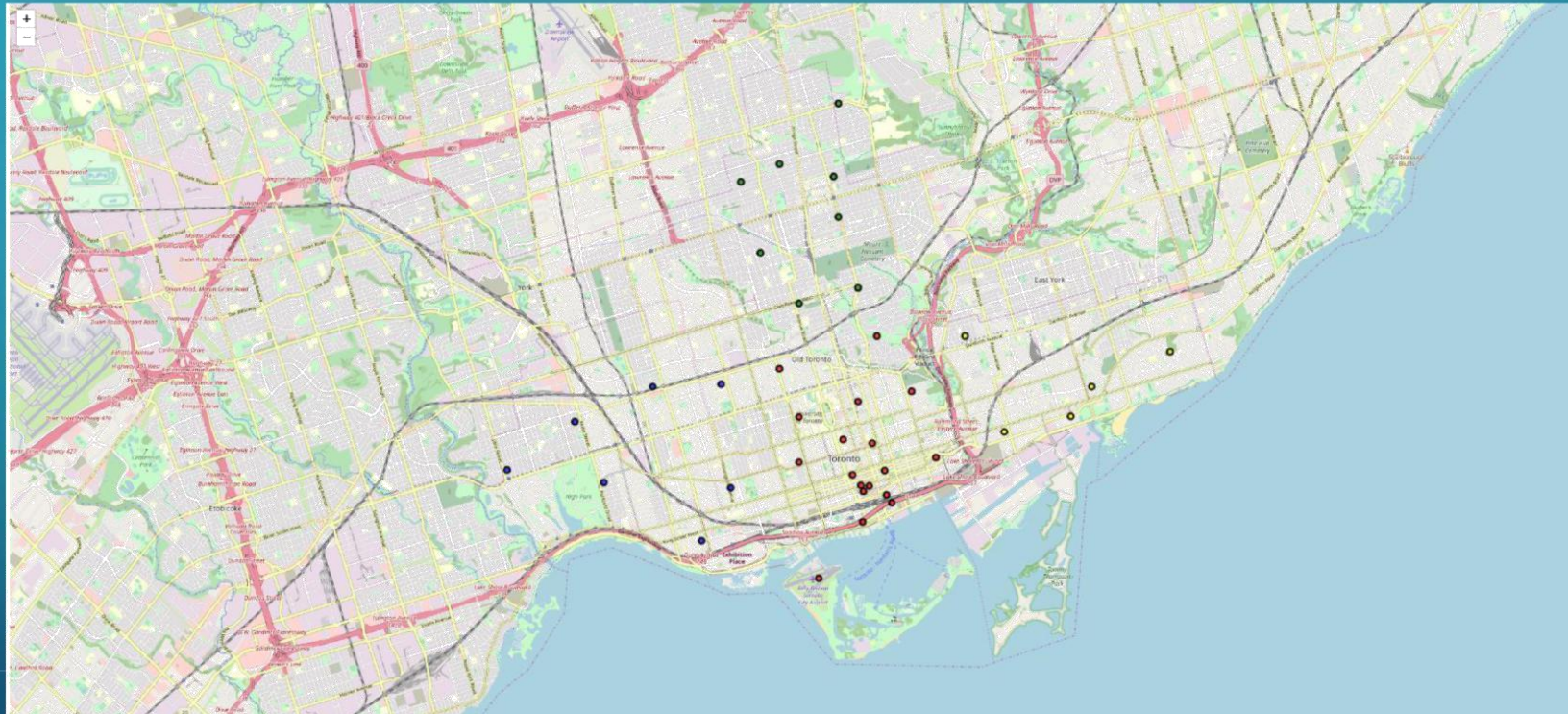
- Foursquare API to get the venues inside Toronto and their geographical information



DATA CLEANING AND PREPARATION

- Collect data from different sources
- Handled missing data / Not Assigned data
- Combined data set based on common column information
- Generate Toronto Map based on the prepared data

TORONTO NEIGHBORHOOD MAP



GRABBING DATA FROM FOURSQUARE

```
toronto_venues.head(15)
```

	Postal Code	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Summary	Venue Category	Distance
0	M5A	Harbourfront,Regent Park	43.65426	-79.360636	Roselle Desserts	This spot is popular	Bakery	143
1	M5A	Harbourfront,Regent Park	43.65426	-79.360636	Tandem Coffee	This spot is popular	Coffee Shop	122
2	M5A	Harbourfront,Regent Park	43.65426	-79.360636	Toronto Cooper Koo Family Cherry St YMCA Centre	This spot is popular	Gym / Fitness Center	247
3	M5A	Harbourfront,Regent Park	43.65426	-79.360636	Impact Kitchen	This spot is popular	Restaurant	376
4	M5A	Harbourfront,Regent Park	43.65426	-79.360636	The Distillery Historic District	This spot is popular	Historic Site	459
5	M5A	Harbourfront,Regent Park	43.65426	-79.360636	Distillery Sunday Market	This spot is popular	Farmers Market	475
6	M5A	Harbourfront,Regent Park	43.65426	-79.360636	SOMA chocolatemaker	This spot is popular	Chocolate Shop	452
7	M5A	Harbourfront,Regent Park	43.65426	-79.360636	Body Blitz Spa East	This spot is popular	Spa	80
8	M5A	Harbourfront,Regent Park	43.65426	-79.360636	Rooster Coffee	This spot is popular	Coffee Shop	479
9	M5A	Harbourfront,Regent Park	43.65426	-79.360636	Souk Tabule	This spot is popular	Mediterranean Restaurant	506
10	M5A	Harbourfront,Regent Park	43.65426	-79.360636	Arvo	This spot is popular	Coffee Shop	482
11	M5A	Harbourfront,Regent Park	43.65426	-79.360636	Figs Breakfast & Lunch	This spot is popular	Breakfast Spot	349
12	M5A	Harbourfront,Regent Park	43.65426	-79.360636	Cacao 70	This spot is popular	Dessert Shop	466
13	M5A	Harbourfront,Regent Park	43.65426	-79.360636	Corktown Common	This spot is popular	Park	387
14	M5A	Harbourfront,Regent Park	43.65426	-79.360636	Sumach Espresso	This spot is popular	Coffee Shop	440

DATA CATEGORIZATION (CONTD..)

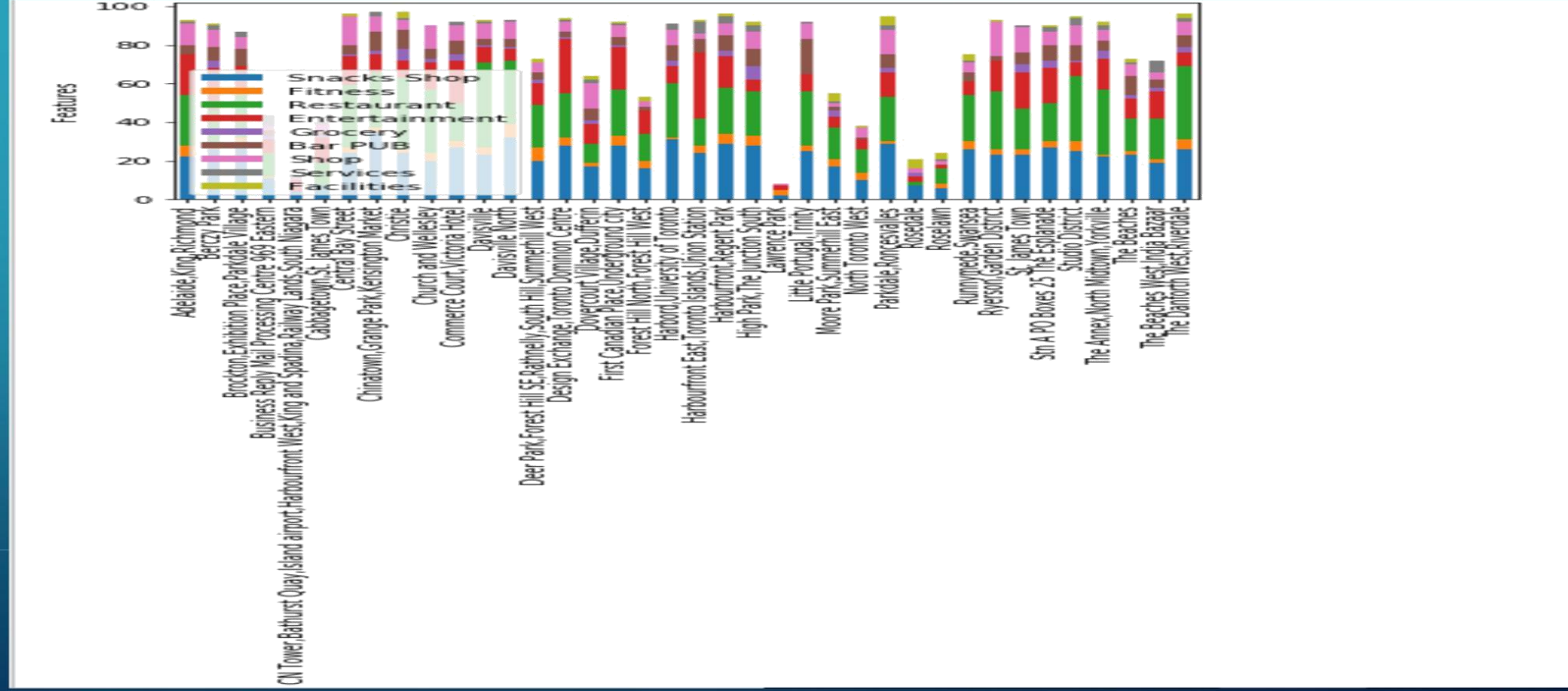
- Get 272 category
- Combined
- them into 9 main category

```
There are 272 uniques categories.  
Here is the list of different categories:
```

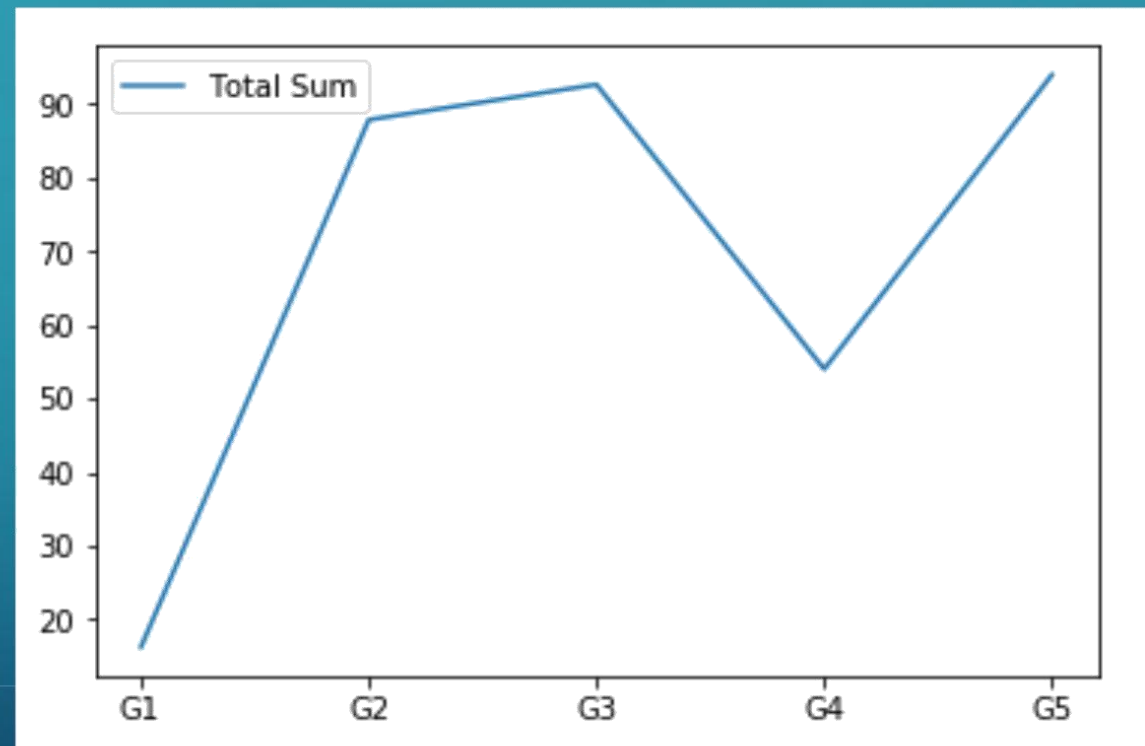
```
]: ['Bakery',  
    'Coffee Shop',  
    'Gym / Fitness Center',  
    'Restaurant',  
    'Historic Site',  
    'Farmers Market',  
    'Chocolate Shop',  
    'Spa',  
    'Mediterranean Restaurant',  
    'Breakfast Spot',
```

	Snacks	Shop	Fitness	Restaurant	Entertainment	Grocery	Bar	PUB	Shop	Services	Facilities
Neighborhood											
Adelaide,King,Richmond	22	6	26	21	0	5	11	1	1		
Berczy Park	26	2	18	22	4	7	9	2	1		
Brockton,Exhibition Place,Parkdale Village	27	5	23	14	0	9	6	3	0		
Business Reply Mail Processing Centre 565 Eastern	11	1	12	7	2	3	2	6	0		
CN Tower,Bathurst Quay,Island airport,Harbourfront West,King and Spadina,Railway Lands, South Niagara	4	0	0	6	0	0	1	2	0		

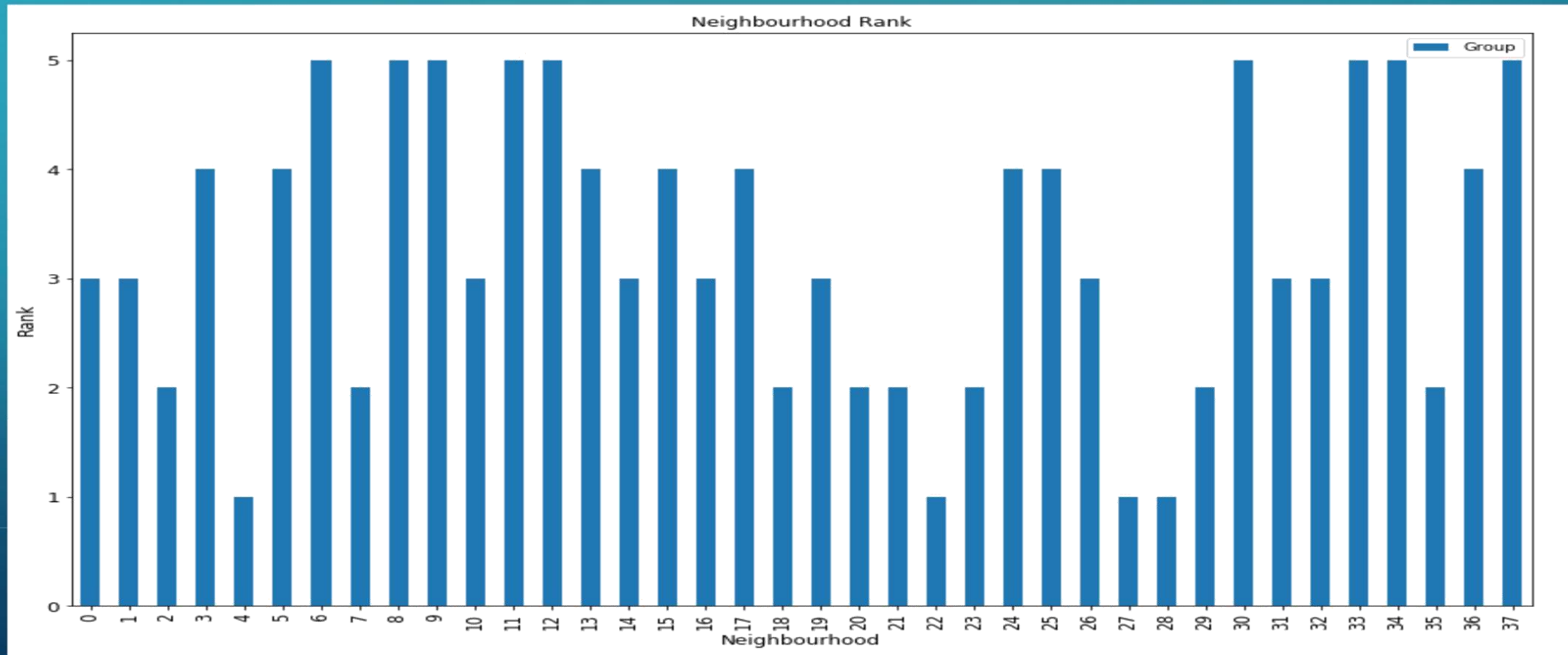
DATA CATEGORIZATION



CLUSTERING



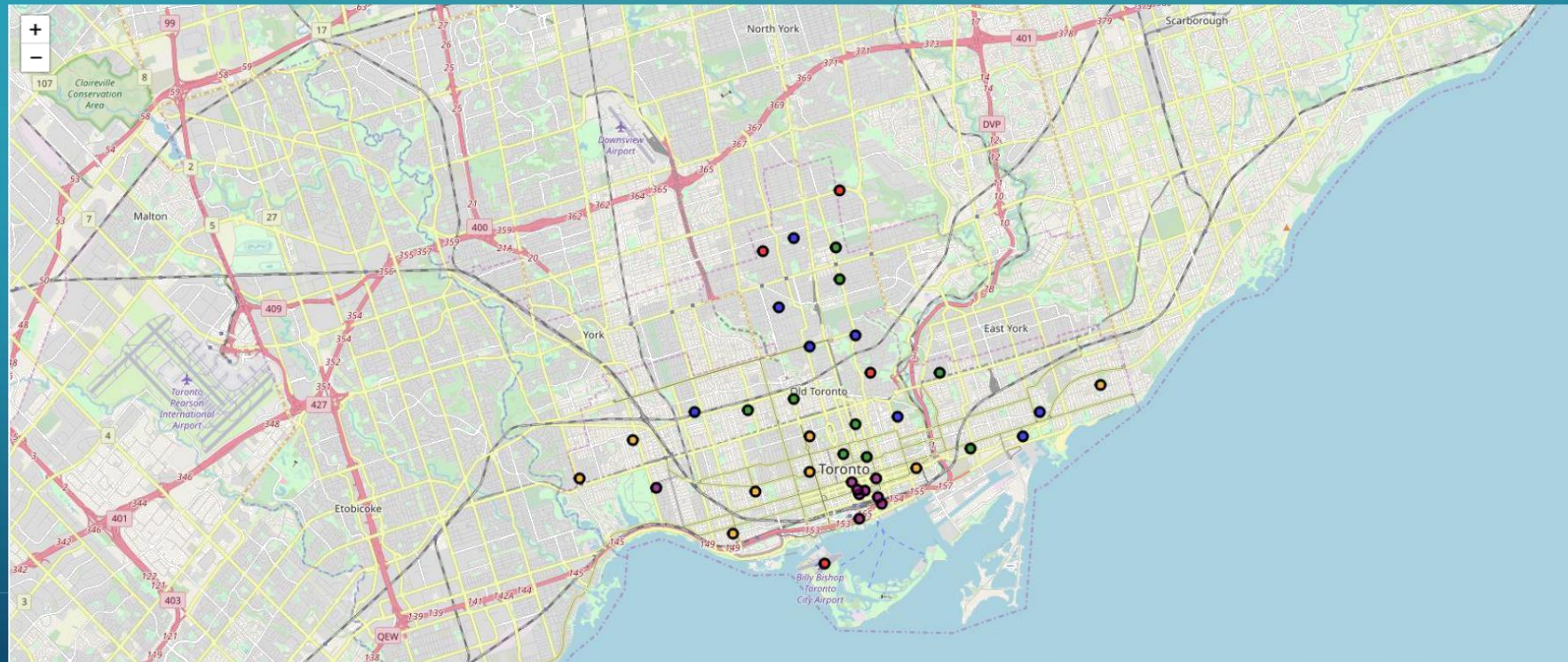
RANKING



BEST NEIGHBOURHOODS

	Neighbourhood	Group
6	Central Bay Street	5
8	Christie	5
9	Church and Wellesley	5
11	Davisville	5
12	Davisville North	5
30	Ryerson, Garden District	5
33	Studio District	5
34	The Annex, North Midtown, Yorkville	5
37	The Danforth West, Riverdale	5

BEST NEIGHBORHOOD MAP



CONCLUSION

- Best neighborhoods based on nearby services found on
- Foursquare Can be improved by adding other information like:
Population, Subway, Transportation, Education
- Considered all the data getting from
- Foursquare Approximately the best solutions