NextGen Vegan Restaurant

Battle of the Neighborhoods Presentation

April 2020

Introduction

- ***NextGen*** is a vegan restaurant that aims to recreate healthier versions of common ‘comfort’, and ‘bar’ foods. ***NextGen’s*** menu is kept simple and affordable to attract younger crowds and those always on the go. Its mission is to make health foods easily accessible and to educate patrons on the importance of making better food choices daily.

Problems that need Solutions…

Problem Background:

NextGen was an idea that began based on the rising obesity rates in Canada.

- In 2004, the Canadian Community Health Survey found that 29% of Canadians 18 and older were obese.
- Ontario, which is one of the three most populated Canadian provinces, was found to have an obesity rate of 22.
- Obesity in populated areas tends to affect young adults ages 16-21.
- Individuals partaking in extensive learning often binge on food.
- Stress leads people to overeat in effort to cope with their problems.

Problem Description:

NextGen is looking to open a location in Toronto, Ontario Canada.

- Toronto is the capital of Ontario and the largest city in Canada.
- Heavily populated with an estimated 6.1 million residents.
- May have the right surrounding venues to target a young crowd as the study stipulated were at risk (adults aged 16-21).

Target Audience:

NextGen's target market is centered on young adults aged 16-25. Although the hope is to inspire and serve customers of all ages, by targeting a younger crowd, ***NextGen*** hopes to expose patrons to healthy standards as early as possible.

Data Description:
Based on the target audience and observations in the Obesity in Canada article, universities will be used as a location focal point. Data gathered from the following webpages below have been used to determine the top 3 universities in Toronto Canada:

-University of Toronto
-York University
-Ryerson University

- **Data Problem Solving:**

  * The Toronto geographical coordinates data will be used as input for the Foursquare API.

  * Top 3 universities will be queried to pin-point location data.
  * Foursquare API will be used to locate venues that may be surrounding the universities.
  -Gyms
  -Bars
  -Shopping Malls

  These venues were selected based on ***NextGen's*** mission to encourage young adults in a wide variety of backdrops to eat healthy.

  Using a cluster map, the university with the highest number of surrounding venues will determine ***NextGen's*** restaurant location.

Methodology:

- Cluster analysis was used to determine a top ranked university in which NextGen would open their new restaurant near. This technique was used in order to find the university with the highest number of surrounding venues which included gyms, bars and shopping malls.

Gathering Data, Cleaning the Dataframes, Clustering…

For each venue: University, Gym, Bar, Shopping Mall

1. Search for venue using Foursquare API
2. Clean returned dataframe to rid of unnecessary columns
3. Clean returned dataframe to rid of NaN values
4. Select all associated Bar locations and similar locations to be included in dataframe. Exclude categories that don't match (i.e. Nail Bar)
5. Clean returned dataframe to rename similar venues to match category naming convention (i.e. Hotel Bar = 'Bar')
6. Once all dataframes cleaned, merge the dataframes
7. Cluster the venues and color code each map marker
8. Create cluster map

Cleaning the Dataframes Example

Shopping Mall Dataframe depicted below. Dataframe cleaned to only include categories = ‘Shopping Mall’

	name	categories	address	lat	lng	postalCode	state
0	Saks Fifth Avenue Club - Personal Shopping	Department Store	176 Yonge Street	43.651810	-79.379192	M5C 2L7	ON
1	TD Centre Shopping Concourse	Shopping Mall	66 Wellington St W	43.647184	-79.380932	M5K 1A1	ON
2	CF Toronto Eaton Centre	Shopping Mall	220 Yonge St	43.654540	-79.380677	M5B 2H1	ON

	name	categories	address	lat	lng	postalCode	state
1	CF Toronto Eaton Centre	Shopping Mall	220 Yonge St	43.654540	-79.380677	M5B 2H1	ON
2	TD Centre Shopping Concourse	Shopping Mall	66 Wellington St W	43.647184	-79.380932	M5K 1A1	ON

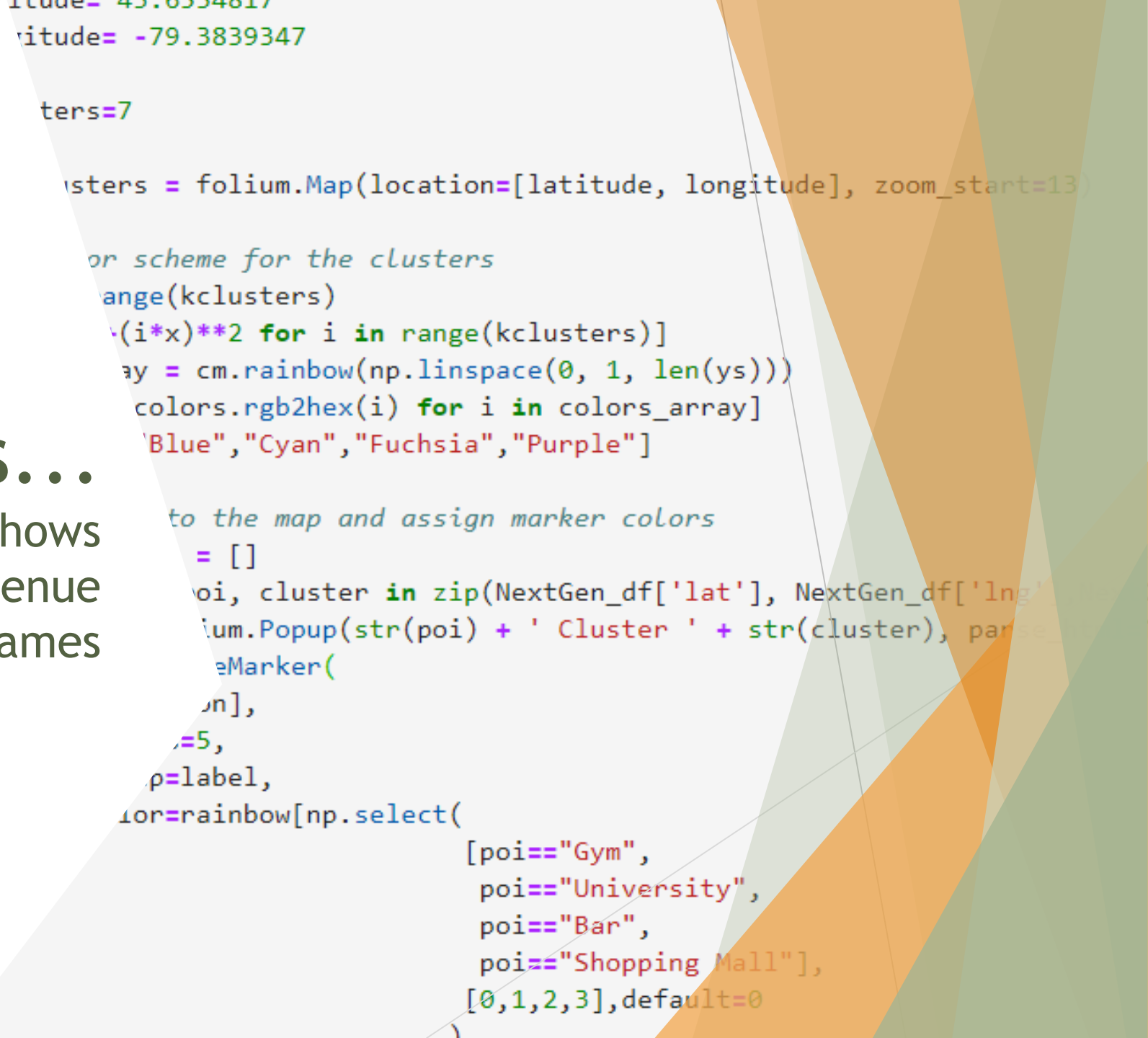
Merge the Dataframes

- Dataframes were merged based on the categories displayed.
- Take a look at the category column depicted in the sample screen clip

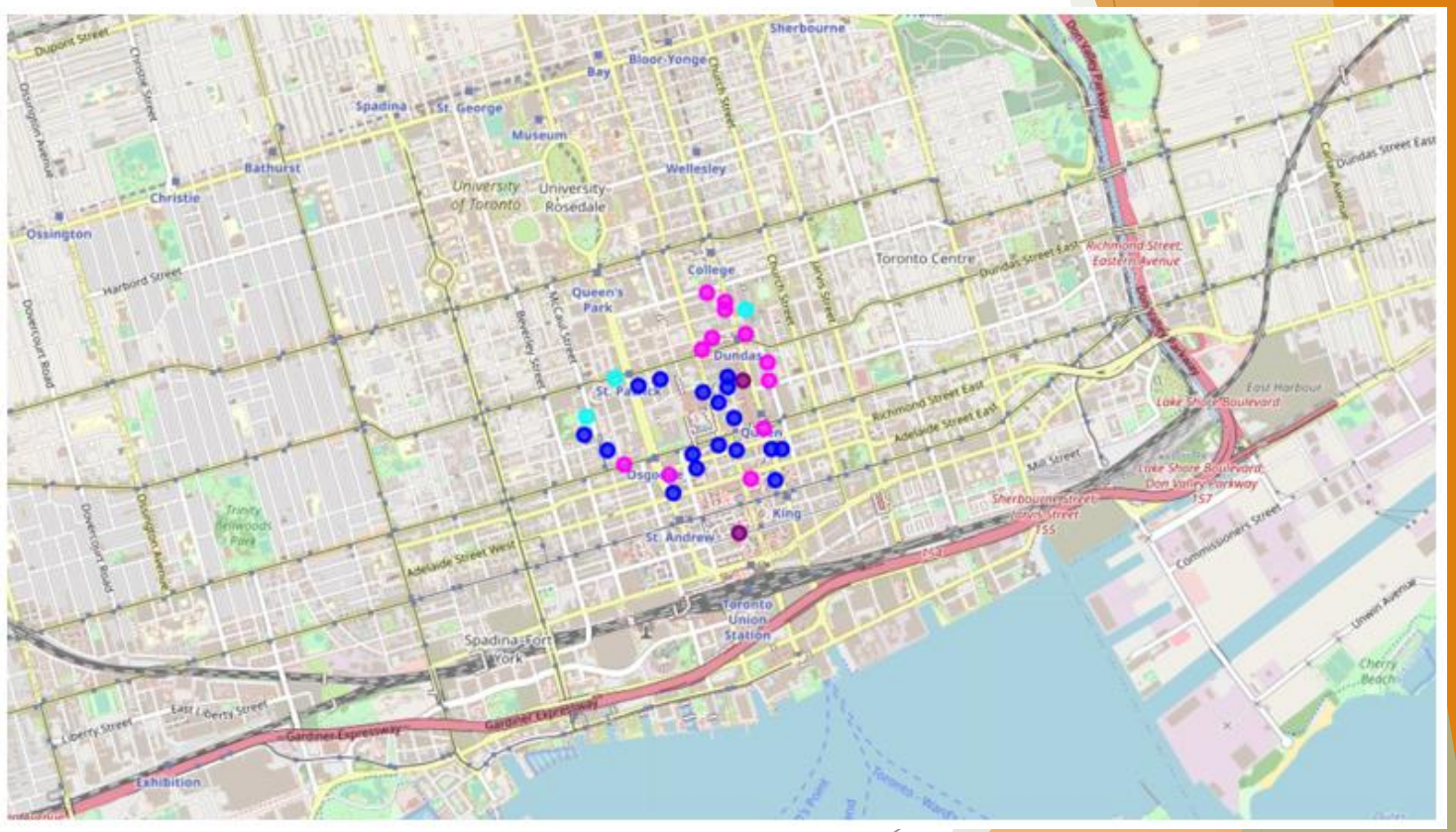
	address	categories	lat	lng	name	postalCode	state
12	100 McCaul St	University	43.652803	-79.391074	OCAD University	M5T 1W1	ON
31	350 Victoria St.	University	43.657935	-79.380490	Ryerson University	M5B 2K3	ON
39	University Ave	University	43.654620	-79.389150	University of Toronto	M5G 1V1	ON
2	372 Bay St.	Bar	43.651187	-79.381139	Blue Stone Grill & Bar	M5H 1M7	ON
4	360 Yonge St.	Bar	43.658338	-79.381902	Bar+ Karaoke Lounge	M5B 1S5	ON
5	200 Victoria St.	Bar	43.654493	-79.379000	Pantages Lounge & Bar	M5B 1W8	ON
7	595 Bay St #A09	Bar	43.656562	-79.382737	St. Louis Bar & Grill	M5G 2C2	ON
8	194 Queen St W	Bar	43.650505	-79.388577	The Rex Hotel Jazz & Blues Bar	M5V 1Z1	ON
19	595 Bay St.,Unit A08	Bar	43.655992	-79.383463	St. Louis Bar & Grill	M5G 2C2	ON
20	249 Victoria Street	Bar	43.655380	-79.379088	Bar Senator	M5B 1V8	ON
26	360 Yonge St	Bar	43.657968	-79.381907	Bar+ Karaoke	M6S 1Z9	ON
28	33 Gerrard Street West	Bar	43.658727	-79.383047	T|Bar	M5G 1Z4	ON
30	325 Bay Street	Bar	43.649800	-79.380160	Bar Adelaide	M5H	ON
34	Pusateri's @ Saks Fith Avenue	Bar	43.652209	-79.379316	Champagne Bar	M5C 1X7	ON
35	145 Richmond St W	Bar	43.649999	-79.385607	Tundra Bar	M5H 2L2	ON
39	10 Dundas St E	Bar	43.656745	-79.380484	Shark Club Sports Bar & Grill	M5B 0A1	ON
41	22 Duncan St.	Bar	43.649962	-79.386945	The Vegas Bar	M5H 3G8	ON
1	220 Yonge St	Shopping Mall	43.654540	-79.380677	CF Toronto Eaton Centre	M5B 2H1	ON
2	66 Wellington St W	Shopping Mall	43.647184	-79.380932	TD Centre Shopping Concourse	M5K 1A1	ON
0	Sheraton Centre	Gym	43.650985	-79.384002	Fitness Centre	M5H 2M9	ON

Cluster the venues...

Sample code in the background shows color assignments used to venue dataframes



Cluster Map



Results!

The map depicts the returned clusters of venues near the University of Toronto, Ryerson University and OCAD University. All markers were assigned a color based on their category. The Universities are the markers in the color ‘Cyan’ (aqua colored). Gyms are the markers that are dark blue colored. Bars make up the pink colored markers. And Shopping Malls are the 2 markers that are purple colored.

Discussion…

- Looking at the clusters it was noted that Ryerson University appears to have the highest number of venues clustered around its campus.
- OCAD University appears to have the second highest number and the
- University of Toronto came in last with the least amount of surrounding venues.
- Ryerson University came out on top, but the venues that gave it the highest surrounding numbers were all bars.
- Ryerson was the furthest university from a gym location.
- However, it was the closet to a shopping mall venue in comparison to the other universities.

NextGen could do well if they open a restaurant near Ryerson University.

Especially if they do the following:

- Increase the bar foods on the menu
- Adjust hours of operation to accommodate bar crowd
- Advertise off campus to establish mature customer base when the university is closed for breaks
- Expand research is surrounding bars as the variety of bar types offer a diverse list of potential patrons

Conclusion….
NextGen for the Win!

NextGen has the potential to become a profitable restaurant if located near Ryerson University. Given the right access to its target audience, the number of surrounding bar venues and Ryerson's proximity to a shopping mall, the location could acquire a large customer base to address the need for healthier food options.

Thank you!