Capstone Project – The Battle of Neighborhoods (Week 1)

Part 1. Description of problem

Background

Toronto is the provincial capital of the province of Ontario, and is the most populous city in Canada. It is known to have huge populations of immigrants and ethnic enclaves.

At the most recent (2016) census, the wider Greater Toronto Area (GTA) population was 6,417,516. This makes the GTA the largest metropolitan area in Canada and the seventh largest metropolitan area in North America.

Business Problem

According to the latest census, there are 332,830 ethnic Chinese in the city of Toronto. It's the largest ethnic origin in Toronto. There are well over 120,000 ethnic Chinese living in the Scarborough borough itself. It is the most populous borough for ethnic Chinese in Ontario.

With the huge ethnic Chinese population in Toronto area, plus a constant influx of Chinese students, immigrants and tourists within the area , a business start up is looking to setup a food delivery platform for the Chinese speaking segment, with the aim to expand to other Asian ethnic group like Korean and Japanese. Unlike other food delivery platform like UberEats or DoorDash, this platform will feature some distinguish features that will be attracted to its future users and restaurants partner.

1. Provide a Chinese interface on the ordering app, both the menu and its order itself can be in Chinese language. That's a critical feature for Chinese users as a lot of English menus in restaurants are vary difference from the Chinese ones. A lot of food items are not available on English menu. This feature would attract Chinese users over other existing food delivery platforms.

2. Non English speaking Chinese cooks and staffs work in the restaurant can read the orders by themselves in Chinese. This can prevent those lost in translation errors and minimize ordering errors. A huge convenience for Chinese speaking restaurant owners and cooks. It is a bonus in comparing to other platforms that only give out orders in English.

3. Beside credit cards, the platform will setup a payment options that is hugely popular by mainland Chinese students, immigrants and Chinese visitors, namely the Wechat Pay and Alipay. The Chinese payment options would bring additional segment of customers to the platform. That's another incentive for restaurants owner to join the network.

Target audience

This project will do a demographical and location based analysis, and will become part of market analysis for the startup to choose which neighborhood or borough to be start up with building up their restaurants network. Before this analysis, the company is considering to target restaurants in the Scarborough borough area first as it has the largest Chinese population resides there. This project will help the company to better understand the distribution of Chinese restaurants within the City and whether it is viable to start the network in most populous borough only.

Part 2. Description of data

To consider the objective stated above, we use the following data /tools for the analysis:

a) Toronto borough/neighborhood Data: A postal code table for Toronto was pulled from Wikipedia page. The table was transformed into a Pandas dataframe for further use.

   https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M

b) The coordinate data for each neighborhood in Toronto was read from a CSV file in http://cocl.us/Geospatial_data . The data was merged into a dataframe that contains the postal code for further analysis.

	Postcode	Borough	Neighborhood	Latitude	Longitude
0	M1B	Scarborough	Rouge, Malvern	43.806686	-79.194353
1	M1C	Scarborough	Highland Creek, Rouge Hill, Port Union	43.784535	-79.160497
2	M1E	Scarborough	Guildwood, Morningside, West Hill	43.763573	-79.188711
3	M1G	Scarborough	Woburn	43.770992	-79.216917
4	M1H	Scarborough	Cedarbrae	43.773136	-79.239476
5	M1J	Scarborough	Scarborough Village	43.744734	-79.239476
6	M1K	Scarborough	East Birchmount Park, Ionview, Kennedy Park	43.727929	-79.262029
7	M1L	Scarborough	Clairlea, Golden Mile, Oakridge	43.711112	-79.284577
8	M1M	Scarborough	Cliffcrest, Cliffside, Scarborough Village West	43.716316	-79.239476
9	M1N	Scarborough	Birch Cliff, Cliffside West	43.692657	-79.264848
10	M1P	Scarborough	Dorset Park, Scarborough Town Centre, Wexford ...	43.757410	-79.273304

c) Utilizing Foursquare API to explore the neighborhoods and find outs all the Chinese restaurants in the neighborhoods. The results of its search is used to analysis the distributions of Chinese restaurants within the city.

Top 5 neighborhoods with Chinese restaurants