

# Discovering the Most Popular Venues in Metro Cebu

**Jade R. Laranjo**

May 2021





# Problem Description and Discussion of the Background



- Metro Cebu is the Philippines' second largest metropolitan area next to Metro Manila
- comprises 13 cities/municipalities with a total land area of 1,063 sq. km. 2.8 million people
- a well-know domestic and international destination in the Visayas region and a global hub for business processing services, tourism, shipping, furniture-making, and heavy industry
- The main goal of this project is to identify the most common venues in each of the cities and municipalities of Metro Cebu. This project will help recommend entrepreneurs and investors of the potential businesses to start in the metro. This will serve as well as a guide to tourists in discovering the location of their favorite type of venues

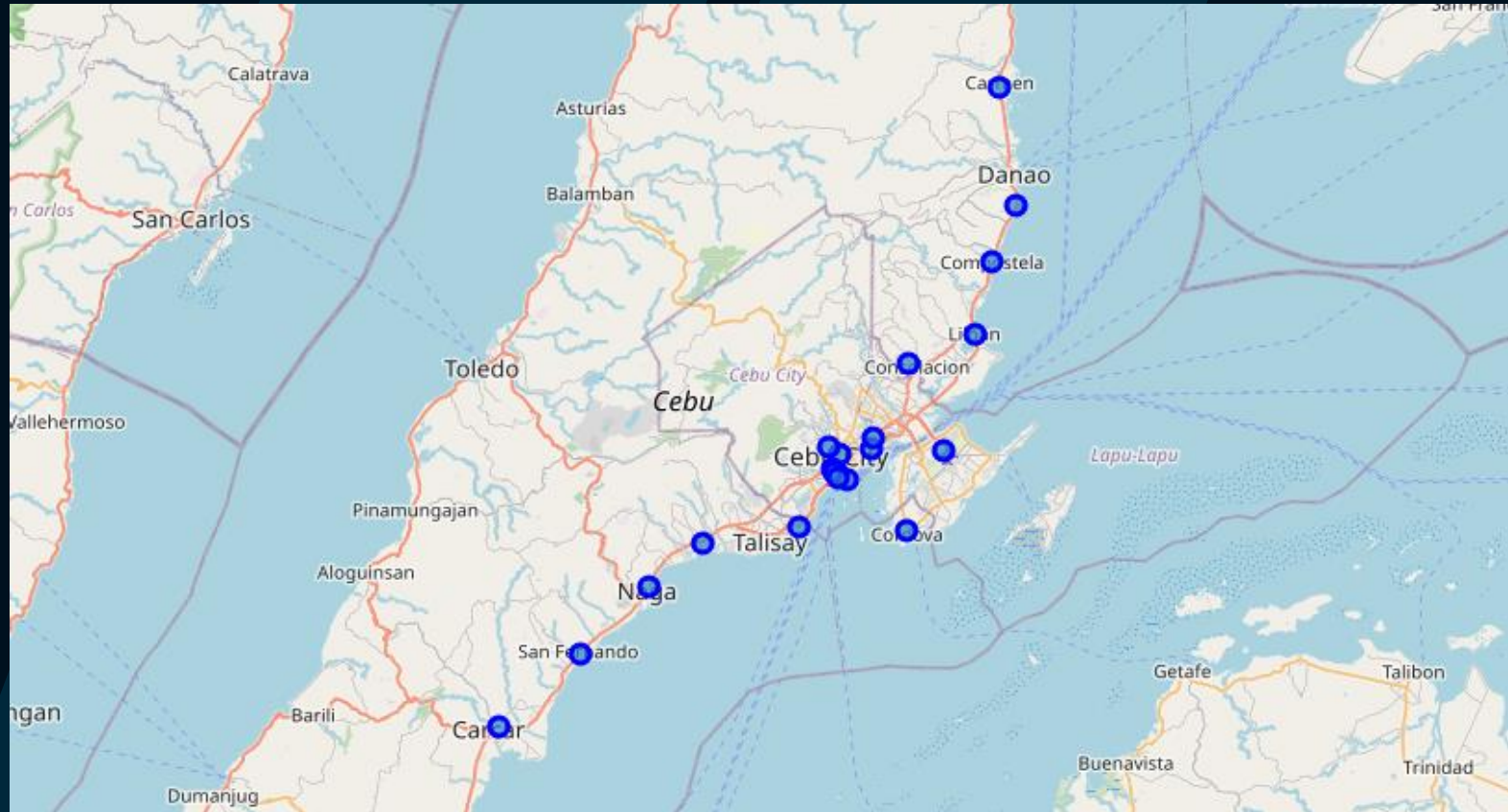
# Data

- Data used are the postal addresses located in the cities and municipalities of Metro Cebu, scraped from the Philippine Postal Corporation website
- The corresponding geographic coordinates of each postal address were also determined using the *Geocoder* package in Python
- Using all the collected information, Foursquare API was utilized to explore and segment the postal addresses to get the most common venues in each address

Postal Address	Municipality	Province	Latitude	Longitude
Poblacion, Carcar	Carcar	Cebu	10.108641	123.646669
D. Jakosalem St., Cebu City	Cebu City	Cebu	10.311481	123.899834
J. Urgello St., Cebu City	Cebu City	Cebu	10.30025	123.89372
Sanciangko St., Cebu City	Cebu City	Cebu	10.297502	123.896675
Osmeña Boulevard City	Cebu City	Cebu	10.296373	123.89816
Leon Kilat St. City	Cebu City	Cebu	10.297982	123.895811
A. Pigafetta Street City	Cebu City	Cebu	10.292608	123.905398
Magallanes Street City	Cebu City	Cebu	10.293582	123.897648
Camp Lapulapu Road City	Cebu City	Cebu	10.316685	123.890995
Poblacion, Compostela	Compostela	Cebu	10.454294	124.01283
Poblacion, Consolacion	Consolacion	Cebu	10.378031	123.950215
Poblacion, Cordova	Cordova	Cebu	10.253497	123.949757
Sabang, Danao	Danao	Cebu	10.495413	124.029537
Poblacion, Danao	Danao	Cebu	10.584171	124.017494
Pajo, Lapu-Lapu City	Lapu-Lapu City	Cebu	10.313216	123.976267
Liloan Municipal Hall, Liloan	Liloan	Cebu	10.399614	123.999513
M. Logarta Ave, Mandaue City	Mandaue City	Cebu	10.314392	123.923037
Subangdaku, Mandaue City	Mandaue City	Cebu	10.323101	123.924541
Poblacion, Minglanilla	Minglanilla	Cebu	10.244726	123.798738
Poblacion, Naga	Naga	Cebu	10.212782	123.758066
Poblacion, San Fernando	San Fernando	Cebu	10.162154	123.70715
City Hall of Talisay, Talisay	Talisay	Cebu	10.256674	123.86978

# Methodology

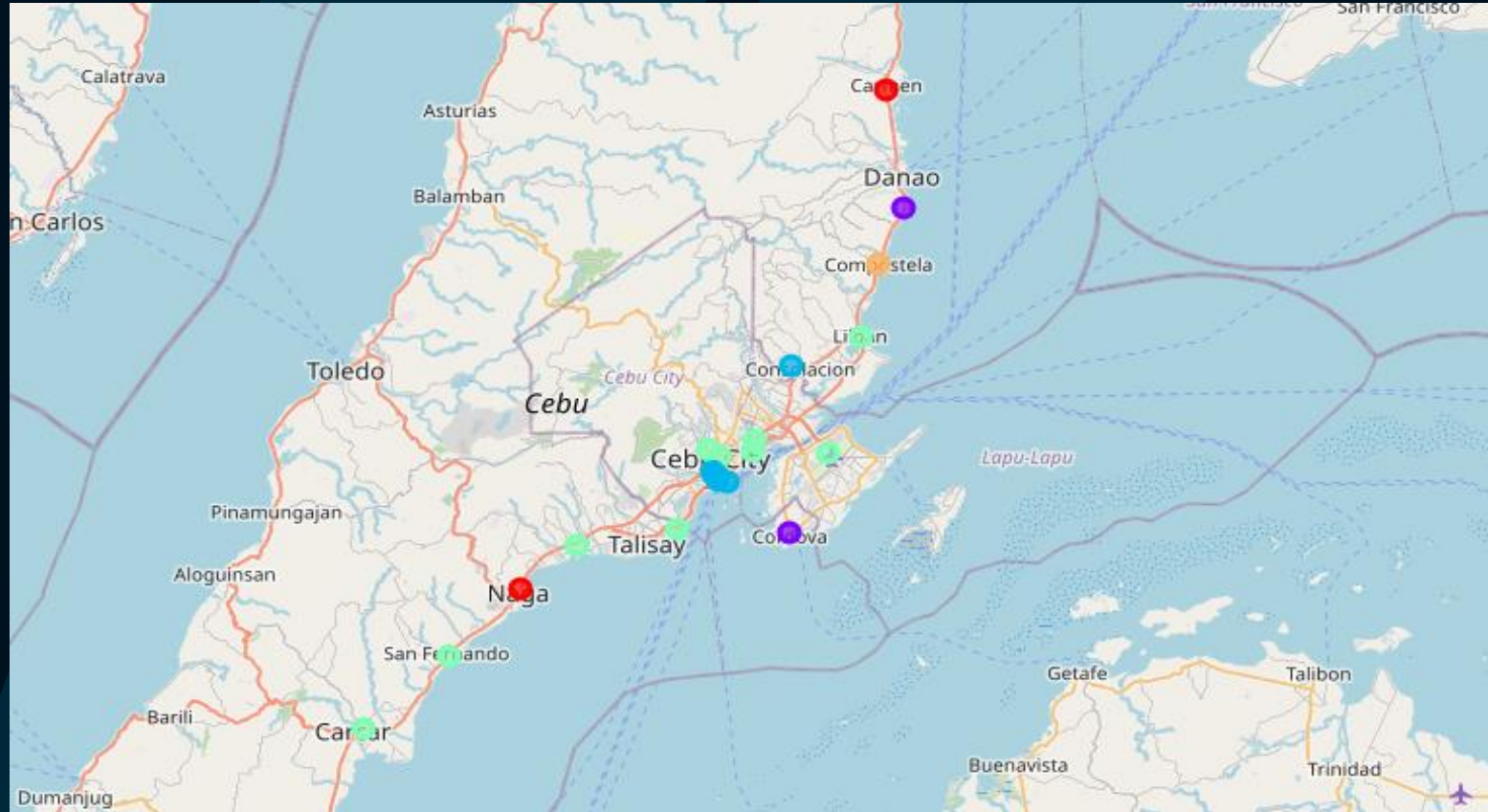
Using *folium* library of Python and the geographic coordinates, map of Metro Cebu was created to visualize the postal addresses of each city/municipality





# Methodology *continuation...*

- Foursquare API was used to explore the top 50 venues within 1 kilometer of each postal address
- A total of 637 venues were returned by Foursquare with 125 unique venue categories
- K-Means algorithm was applied to cluster the postal addresses into 5 clusters





# Results

- Using the analysis and clustering results, each cluster was examined to identify the venue categories that distinguish each cluster
- For this project, I focused only on the first most common venue to distinguish each cluster and city/municipality
- Based on the data, the 5 clusters were classified into the following:
  - Cluster 0 = Convenience stores and plazas
  - Cluster 1 = Event spaces and resorts
  - Cluster 2 = Restaurants
  - Cluster 3 = Cafés, bakeries, restaurant, and amusement venues
  - Cluster 4 = Spas

# Conclusion

---

- Through the outcome provided by this project, entrepreneurs or investors who would like to put-up business or invest in Metro Cebu can decide what type of business to start by looking at the most popular venues in the cities and municipalities. Aside from that, they will be able to identify which type of business are not present yet in those areas.
- Moreover, tourists going to Metro Cebu can use the information as guide in discovering their favorite venues.





**THANK  
YOU!**

---