

Proposing Best Areas to Live Nearby Colombo



Introduction

- Audience:
 - For people those who are shifting to Colombo & Its Suburbs due to various reasons
- Objective of the Project:
 - Helping these people to find an area with fairly modern neighborhoods with less populated and lies within reasonable distance to Colombo City

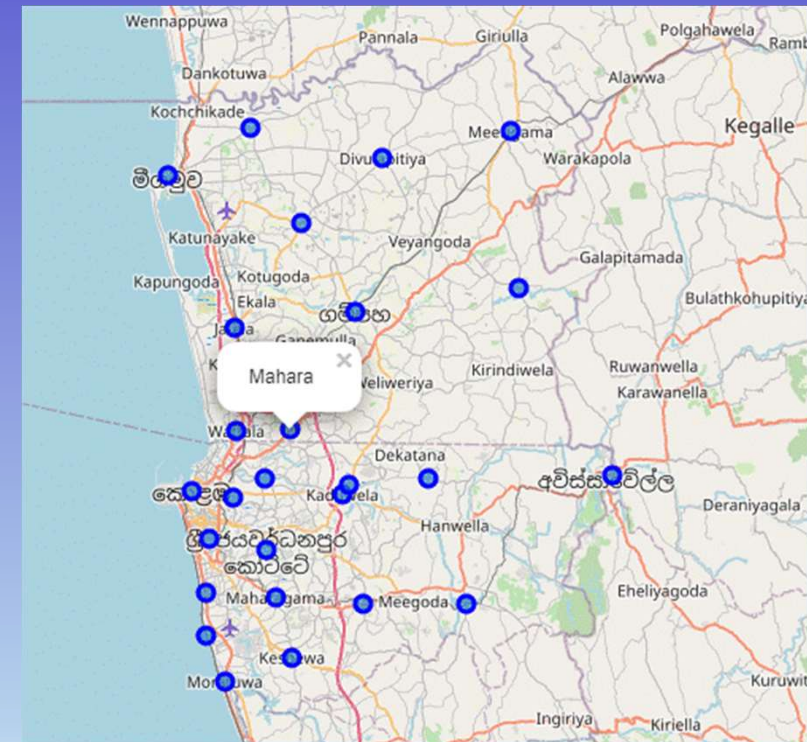
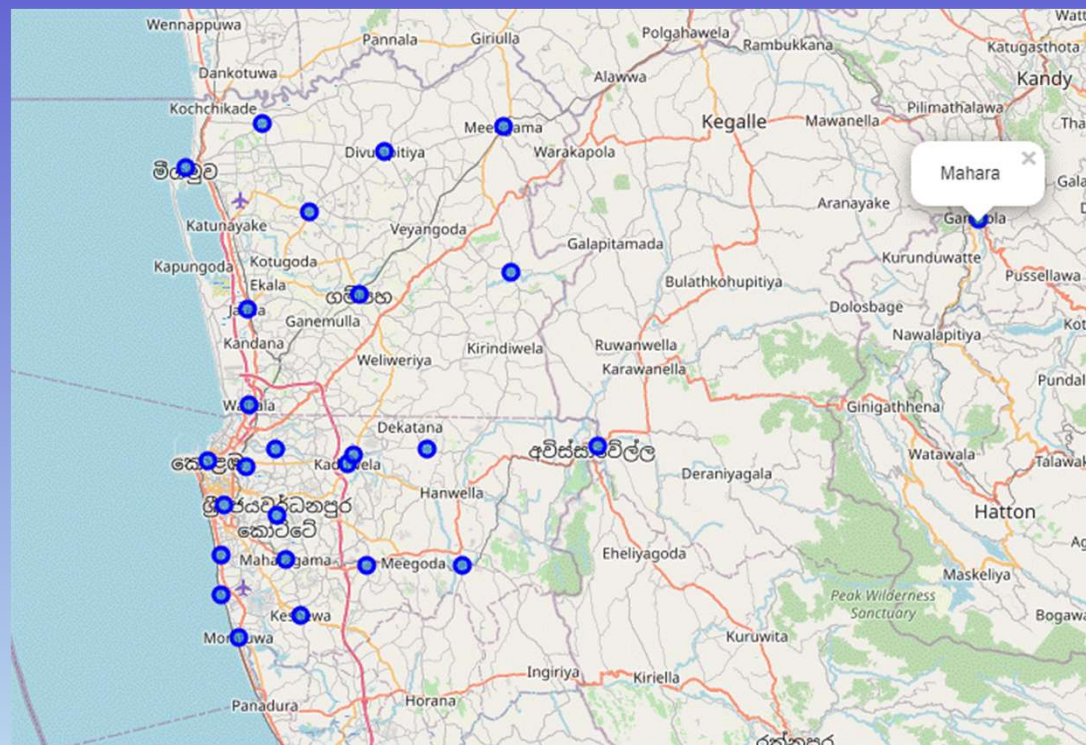
Data

- Following Wikipedia Sites:
 - https://en.wikipedia.org/wiki/Colombo_District
 - https://en.wikipedia.org/wiki/Gampaha_District
- Nominatim Geocoding service to obtain latitude & longitude
- Foursquare API to get the nearby venues



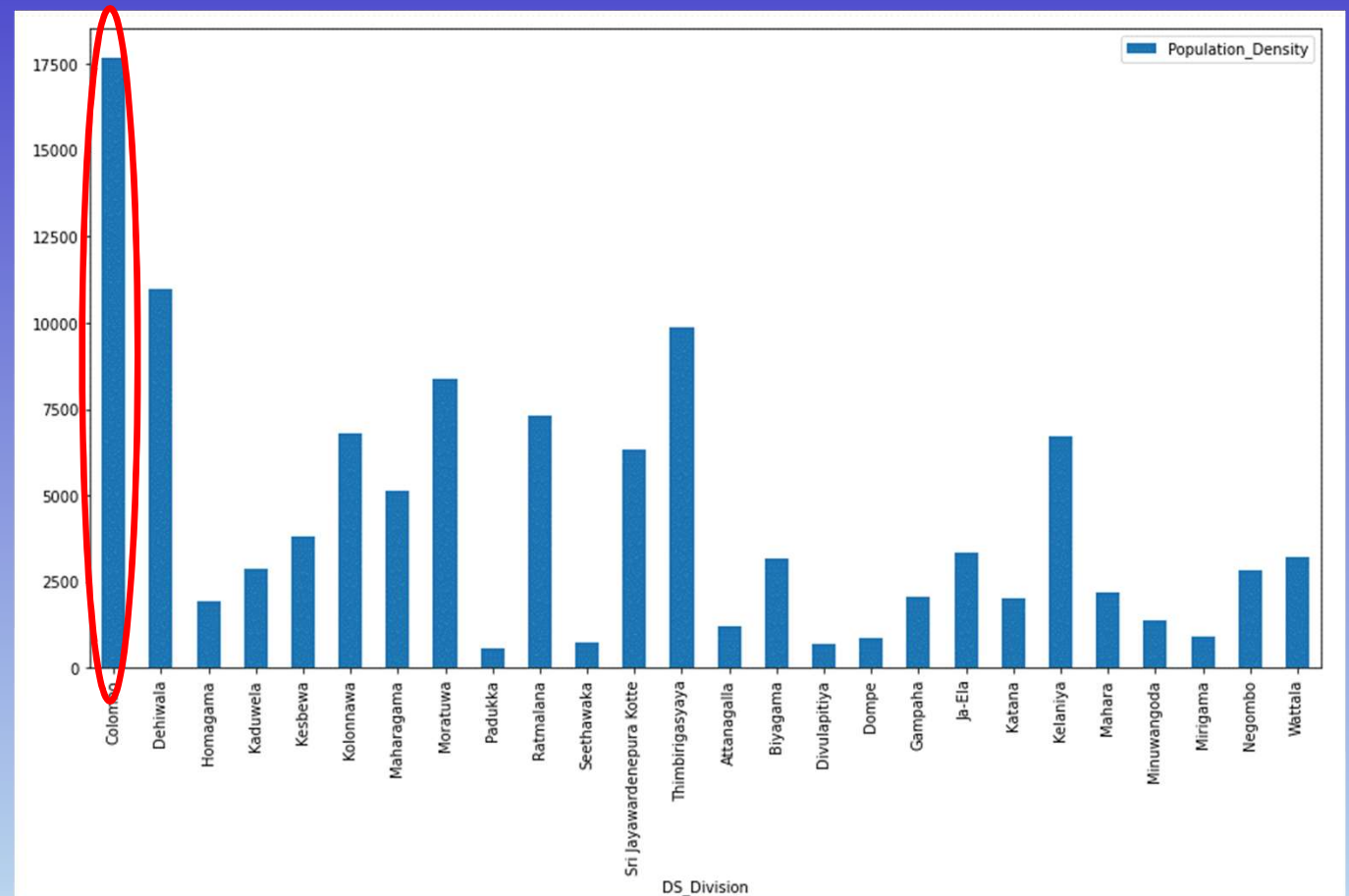
Data Visualization & Cleaning

- Correcting Data:
 - Correcting location data for Mahara DS Division



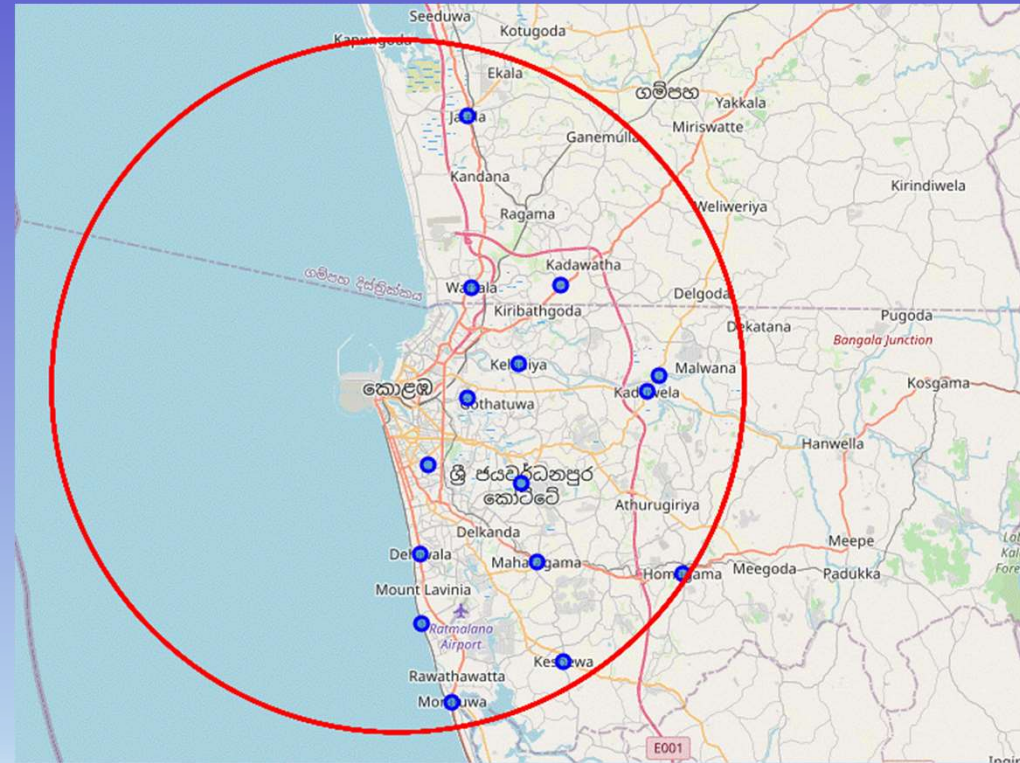
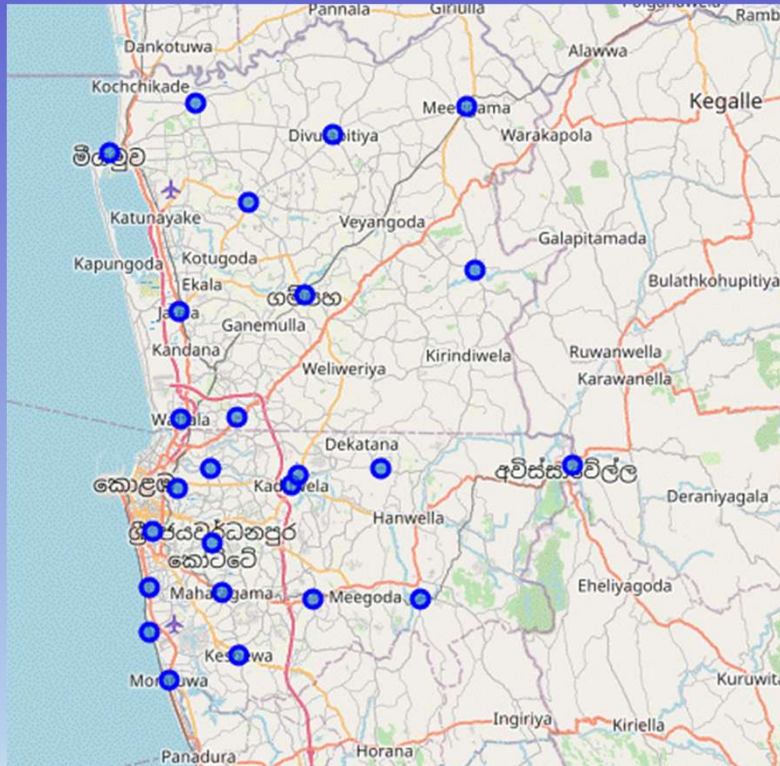
Data Visualization & Cleaning

- Removing Data:
 - Colombo DS Division was removed as it is extremely highly populated area



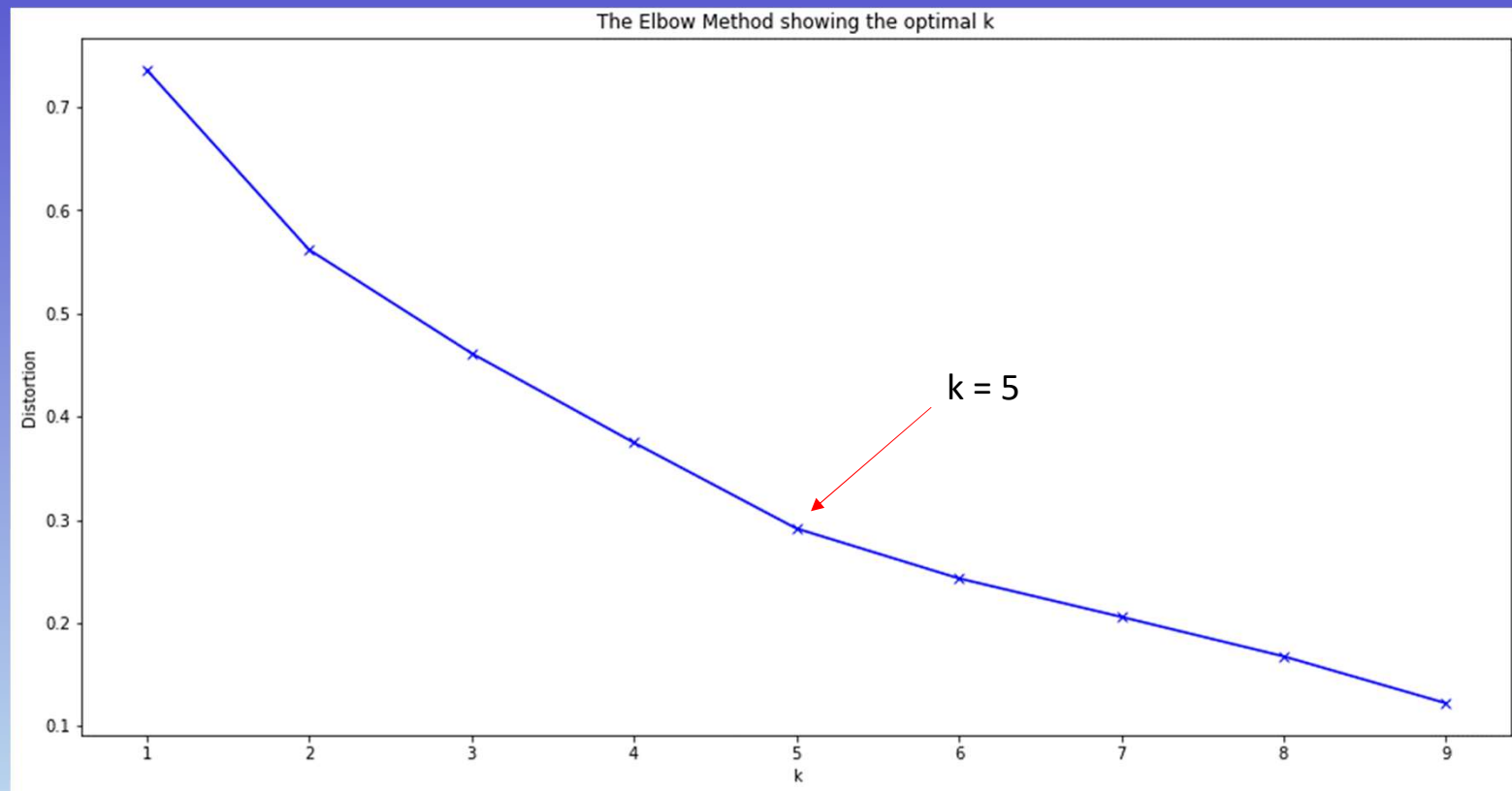
Data Visualization & Cleaning

- Removing Data:
 - DS Divisions which are 20km away from Colombo city was removed



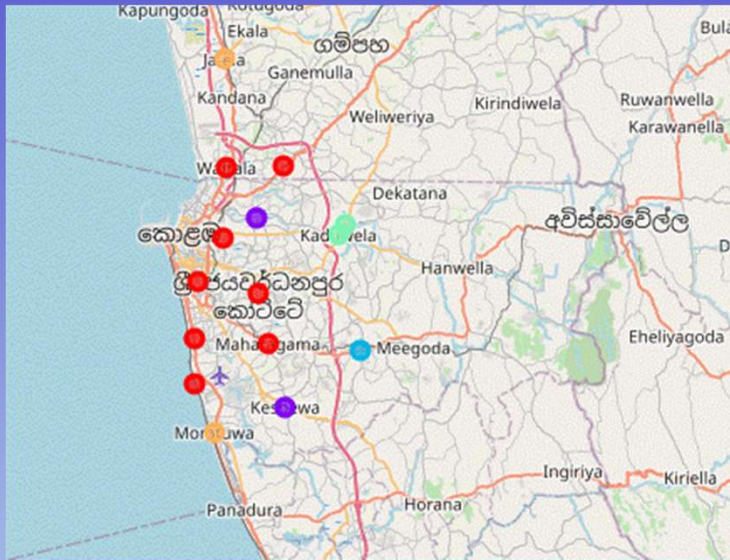
Clustering

- Selection of a optimum k value for K-Means:



Clustering

- K-Means clustering with $k=5$



Red Circle Cluster

	DS_Division	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 Most Common Venue
0	Dehiwala	Bakery	Clothing Store	Asian Restaurant	Restaurant	Pizza Place	Fast Food Restaurant	Supermarket	Seafood Restaurant	Cosmetics Shop	Shopping Mall
4	Kolonnawa	Convenience Store	ATM	IT Services	Bus Stop	Gym	Juice Bar	Fruit & Vegetable Store	Office	Department Store	Park
5	Maharagama	Supermarket	Bakery	Diner	Gym / Fitness Center	Asian Restaurant	Gym	Burger Joint	Pizza Place	Chinese Restaurant	Movie Theater
7	Ratmalana	Train Station	Bakery	Restaurant	Supermarket	Clothing Store	Bookstore	Pharmacy	Pizza Place	Department Store	Pub
8	Sri Jayawardenepura Kotte	Bakery	Chinese Restaurant	Fast Food Restaurant	Convenience Store	Coffee Shop	Juice Bar	Track	Supermarket	Restaurant	Food
9	Thimbirigasyaya	Café	Bakery	Dessert Shop	Restaurant	Pub	Bookstore	Coffee Shop	Hotel	Office	Chinese Restaurant
13	Mahara	Restaurant	Supermarket	Bus Station	Pizza Place	Clothing Store	Bakery	Ice Cream Shop	Grocery Store	Hotel Bar	Gym
14	Wattala	Bakery	Train Station	Clothing Store	Restaurant	Supermarket	Toll Booth	Food	Fast Food Restaurant	Pizza Place	Comfort Food Restaurant

Red circle cluster is the DS divisions with fairly modern neighborhoods

Results

DS_Division	Population_Density	Latitude	Longitude	Dis_To_Colombo
Dehiwala	10979.0	6.851279	79.865977	9.8
Kolonnawa	6815.0	6.932625	79.890314	4.1
Maharagama	5141.0	6.847278	79.926608	12.9
Ratmalana	7320.0	6.815259	79.866778	13.8
Sri Jayawardenepura Kotte	6324.0	6.888322	79.918741	9.1
Thimbirigasyaya	9874.0	6.897905	79.869608	4.9
Mahara	2205.0	6.991303	79.939375	11.1
Wattala	3228.0	6.989871	79.892709	7.1

- One can select area from the above table depending on his/her priority of Population density & Distance to Colombo city

Conclusion

- In this study, neighborhoods around the DS Divisions which are within 20kms from the Colombo city were analyzed to find out the DS Divisions which are of modern neighborhoods.
- Population density and Distance to Colombo city also compared in selected area so that one could easily select a DS division depending upon his/her priority

Further Directions

- It was observed that venues explored were lower than the actuals. This will definitely give the better clustering output. Therefore it needs to be addressed.
- Land prices in each DS divisions were not considered. it would be useful for selecting an area.