Cluster district in Bangkok

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- Bangkok have a lot of venues i.e. megamalls, modern spaces, golden temples and shrines, and floating markets.
- However, Bangkok is also very high-density population and very high traffic jams.
- If, I want to buy a new house or condo in Bangkok, it is advantageous for me to cluster each district in Bangkok for decision what location is best to buy.
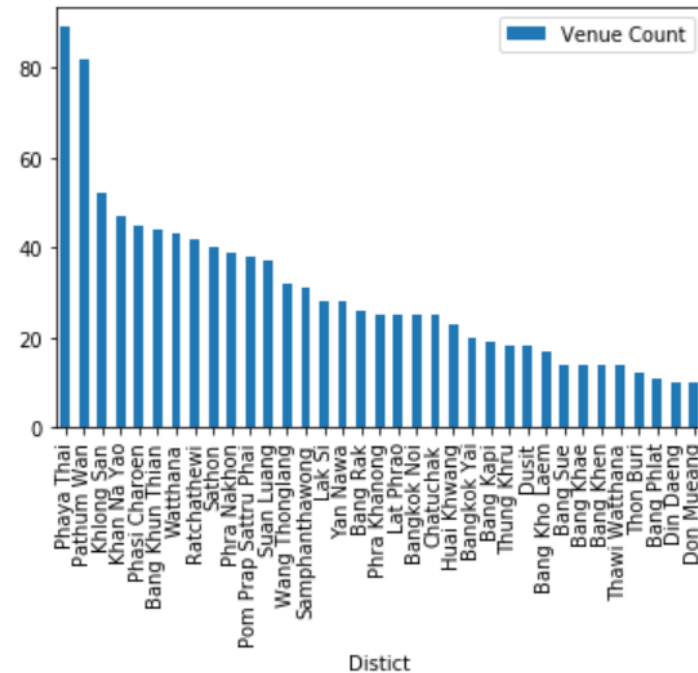
Data acquisition and cleaning

- Scraping common districts in Bangkok data from Wikipedia
- Statistics data about area in each district in Bangkok and calculate density population
- Forsquare API for get the venues of each district in Bangkok
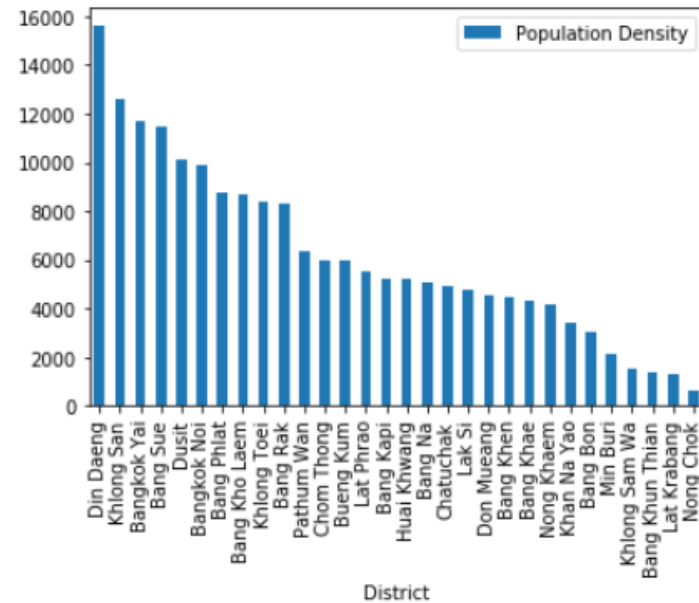- There are not too many public data related to demographic and social parameters. In many case, I setup my on table.

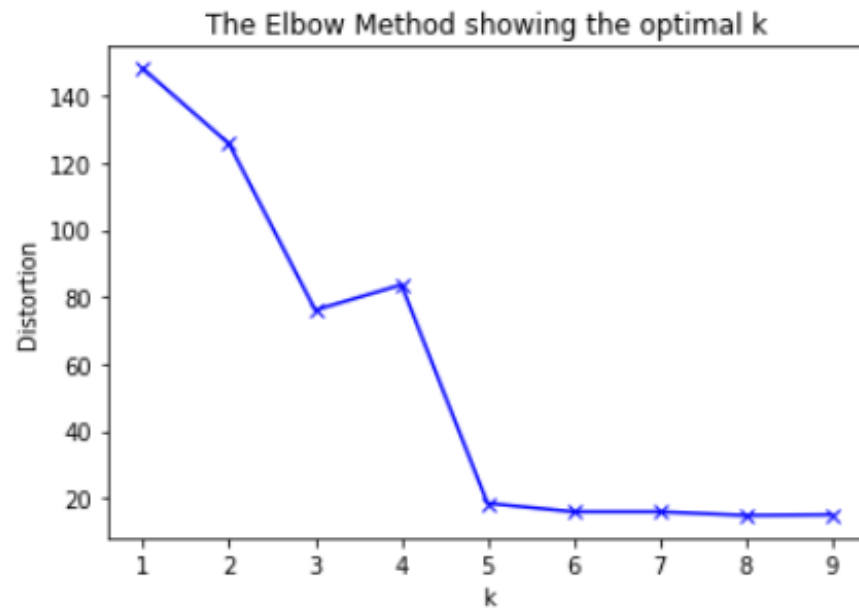# Number of venue category in each district

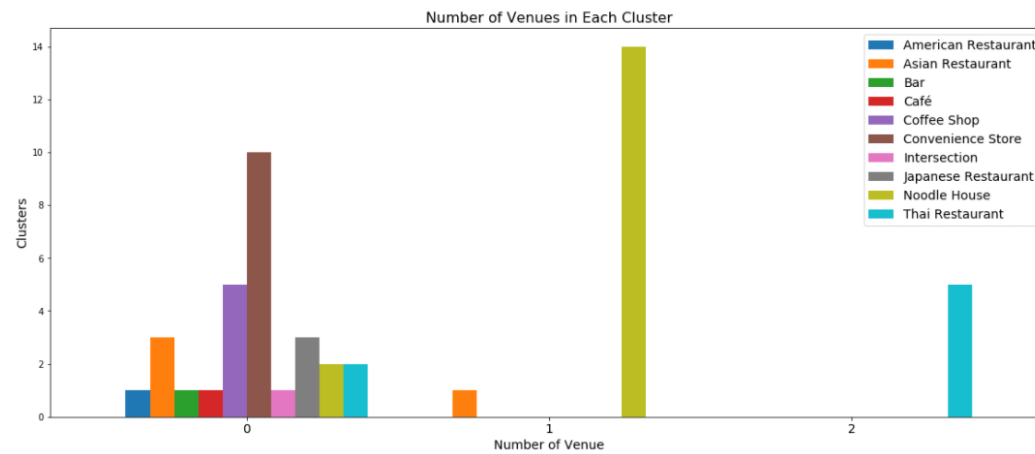# Population density in each district

Sample of top 10 venues in each district

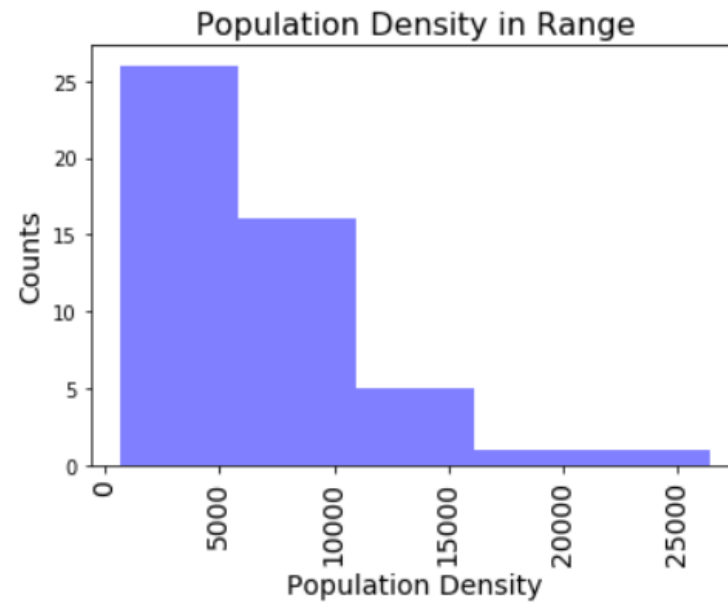|	District	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
0	Bang Bon	Thai Restaurant	Japanese Restaurant	Automotive Shop	Shopping Mall	Convenience Store	Noodle House	Grocery Store	American Restaurant	Optical Shop	Organic Grocery
1	Bang Kapi	Noodle House	Convenience Store	Flea Market	Som Tum Restaurant	Neighborhood	Shabu-Shabu Restaurant	Museum	Multiplex	Coffee Shop	Thai Restaurant
2	Bang Khae	Japanese Restaurant	Convenience Store	Shopping Mall	Noodle House	Asian Restaurant	Pizza Place	Supermarket	Fast Food Restaurant	Coffee Shop	BBQ Joint
3	Bang Khen	Noodle House	Asian Restaurant	Som Tum Restaurant	Convenience Store	Thai Restaurant	Vietnamese Restaurant	Garden	Café	Coffee Shop	Garden Center
4	Bang Kho Laem	Noodle House	Thai Restaurant	Coffee Shop	Chinese Restaurant	Hotpot Restaurant	Vietnamese Restaurant	Shopping Mall	Museum	Fast Food Restaurant	Convenience Store

Elbow of K-Mean predict algorithm
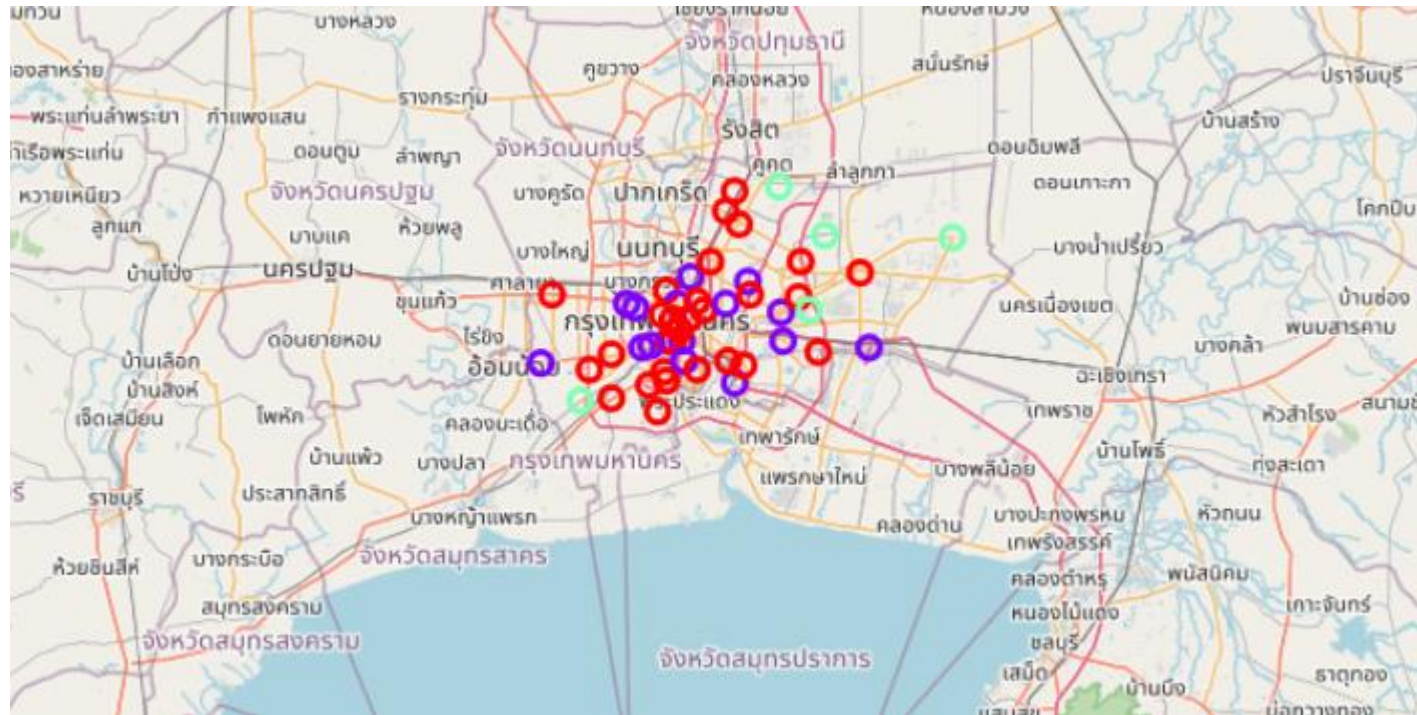
Number of venues in each cluster

Number of Venues in Each Cluster

Clusters		Labels
0	0	Multiple Social Venues
1	1	Noodle House Venues
2	2	Thai Restaurant

Population density in range

Map with results

Conclusion and future directions

- Built a clustering model for understanding the cluster of each district in Bangkok according to population density and social place density
- Now, it's only an approximate cluster. But this model is a good basis for improvement and adding more features to more precision in the future.
- There are many factors if you are on decision what location you should buy or lend house or condo in Bangkok, for example, your work location, budget, etc.