

Battle of the neighborhood

CAPSTONE FINAL PROJECT

BANGKOK THE CITY OF ANGEL AND
NAUGHTY NIGHT CLUB



Introduction:

Bangkok is by far one of the world's tourist destination cities, not just domestic tourists but also international tourists may be because it's the principal gateway for arriving visitors to Southeast Asia. Bangkok is a modern Asian never slept city

Besides from the recently Coup, all day heavy traffic congestion, high heat temperature and naughty there're a lot more you can find here.

Main objectives:

Explore Bangkok how place are located in Bangkok

- Is the inner core side of Bangkok have more tourist attraction?

If we are looking for an opportunity to open a Bar in Bangkok, where should we landed?

- Where we wanted to land is a place that we have enough customer but don't have a lot of bar around

Bangkok location data:

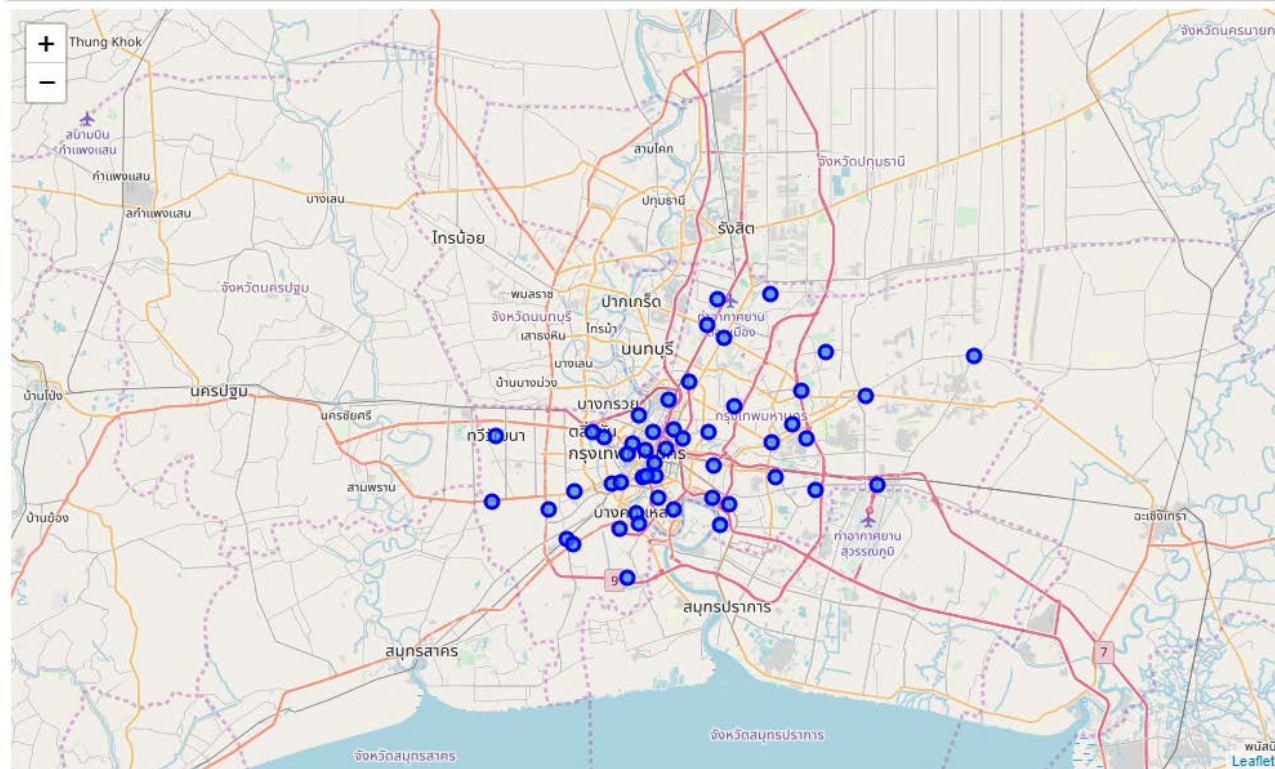
Out[9]:

	District	Side	Latitude	Longitude	PostalCode	Sub-district
0	Bang Bon	Thorn Buri	13.666503	100.428859	10150	บางบอน,บางบอนเหนือ,บางบอนใต้,คลองบางพราน,คลองบ...
1	Bang Kapi	Phra Nakhon	13.765833	100.647778	10240	คลองจั่น,วังทองกลาง,ลาดพร้าว,คลองกุ่ม,สะพานสูง...
2	Bang Khae	Thorn Buri	13.696111	100.409444	10160	บางแค,บางแคเหนือ,บางไผ่,หลักสอง
3	Bang Khen	Phra Nakhon	13.873889	100.596389	10220	ลาดยาว,อนุสาวรีย์,คลองถนน,ตลาดบางเขน,สีกัน,สาย...
4	Bang Kho Laem	Phra Nakhon	13.693333	100.502500	10120	บางคอแหลม,วัดพระยาไกร,บางโคล่

```
In [10]: df.to_csv('df.csv', index = False)
bkk_location = pd.read_csv('df.csv')
bkk_location.reset_index()
print(bkk_location.shape)
bkk_location.head()
```

(50, 6)

Map visualize Bangkok 50 districts:

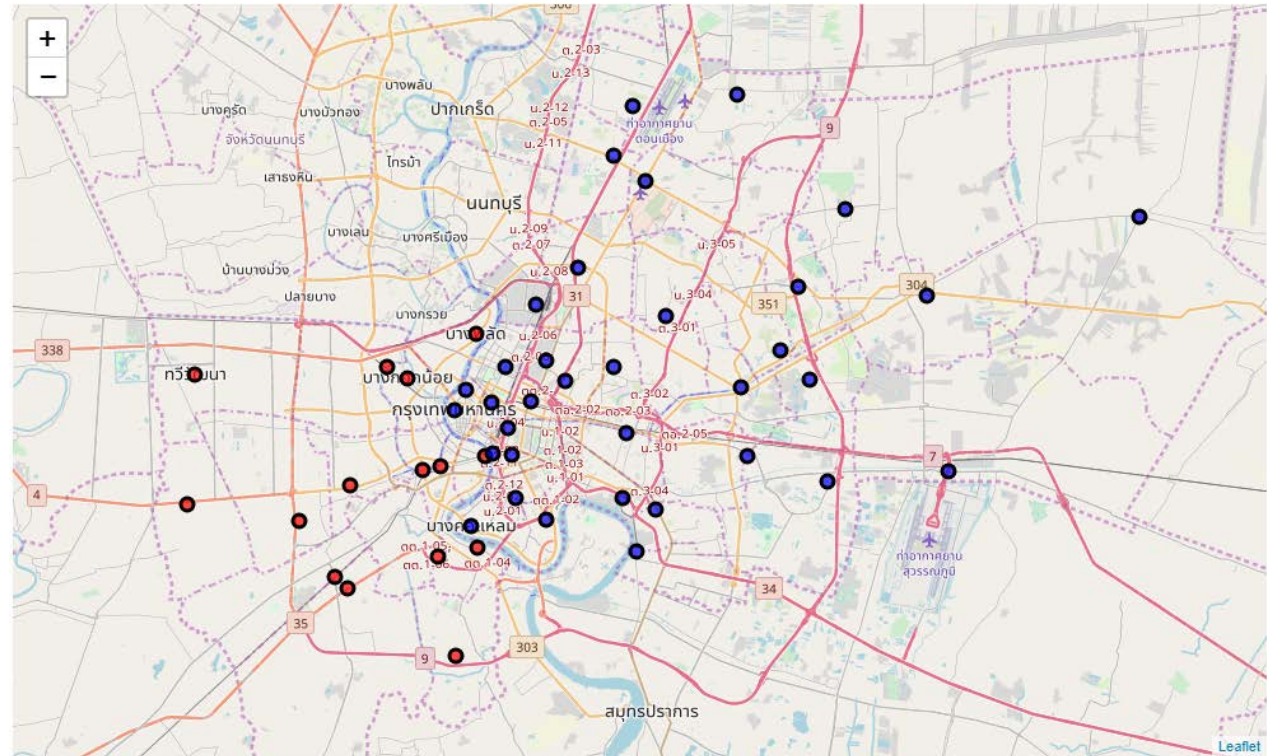


This Visualization shows before the cluster of Bangkok based on their Side of the river.

Map visualize Bangkok cluster by side of the Chao Phraya River:

Bangkok is separated by Chao Phraya River

- Blue is called 'Phra nakhon' side which is Bangkok inner core side
- Red is called 'Thonburi' side

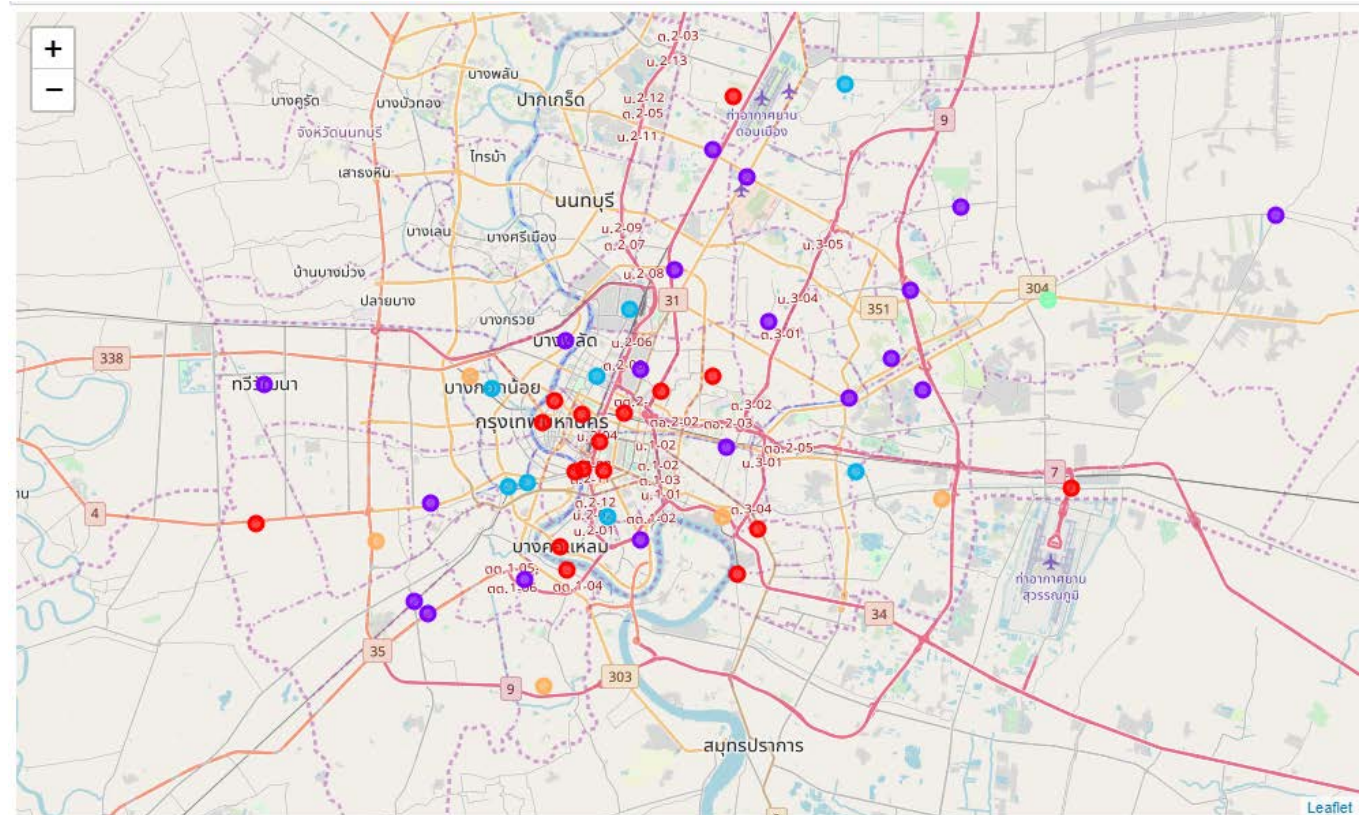


This Visualization shows cluster of Bangkok based on their Side of the river red is 'Thon Buri Side', blue is 'Phra Nakhon Side' .

K-means for clustering venues of Bangkok around neighborhood (K = 5):

Bangkok most common venues are Commercial venues.

Cluster 0 (Red) which is an inner city grouped together from both side of the city as shown in the map.



```
5]: cluster0 = merged_group.loc[merged_group['Cluster Labels'] == 0, merged_group.columns[[1] + list(range(0, merged_group.shape[1]
))]
print(cluster0.shape)
cluster0
```

(17, 14)

5]:

PostalCode	Sub-district	Cluster	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
10120	บางคอแหลม,วัดพระยาไกร,บางโคล่	1	0	Thai Restaurant	Convenience Store	Coffee Shop	Noodle House	Seafood Restaurant
10260	บางนา,บางนาเหนือ,บางนาใต้	1	0	Noodle House	Café	Thai Restaurant	Convenience Store	Asian Restaurant
10500	มหาพฤฒาราม,สีลม,สุริยวงศ์,บางรัก,สีพระยา	1	0	Noodle House	Thai Restaurant	Hotel	Chinese Restaurant	Café
10400	ดินแดง,รัชดาภิเษก	1	0	Noodle House	Convenience Store	Thai Restaurant	Sports Club	Stadium
10210	ตลาดบางเขน,สีกัน,ทุ่งสองห้อง,ดอนเมือง,สนามบิน	1	0	Convenience Store	Restaurant	Noodle House	Café	Buffet
10310	ห้วยขวาง,บางกะปิ,ดินแดง,สามเสนนอก	1	0	Thai Restaurant	Noodle House	Japanese Restaurant	Hotel	Convenience Store
10600	สมเด็จพระยา,คลองสาน,บางสาธุสัง,คลองตันไทร	0	0	Chinese Restaurant	Noodle House	Dessert Shop	Thai Restaurant	Coffee Shop
10520	ลาดกระบัง,คลองสองต้นนุ่น,คลองสามประเวศ,สาปลาที...	1	0	Thai Restaurant	Café	Hotel	Som Tum Restaurant	Noodle House
10160	หลักสอง,หนองแขม,หนองค้างพลู	0	0	Thai Restaurant	Market	Bar	Bus Stop	Convenience Store
10330	รองเมือง,วังใหม่,ปทุมวัน,ลุมพินี	1	0	Noodle House	Asian Restaurant	Chinese Restaurant	Thai Restaurant	Hostel
10260	คลองเตย,คลองตัน,พระโขนง,บางนา,บางจาก,สวนหลวง,ห...	1	0	Convenience Store	Coffee Shop	Hotel	Noodle House	Fast Food Restaurant

Where should we landed our Night club:

```
bkk_bar_venues = getNearbyVenues2(names = bkk_location['Sub-district'],  
                                  latitudes= bkk_location['Latitude'],  
                                  longitudes = bkk_location['Longitude'],  
                                  categoryIds = '4bf58dd8d48988d11f941735')  
  
print(bkk_bar_venues.shape)  
bkk_bar_venues.head()
```

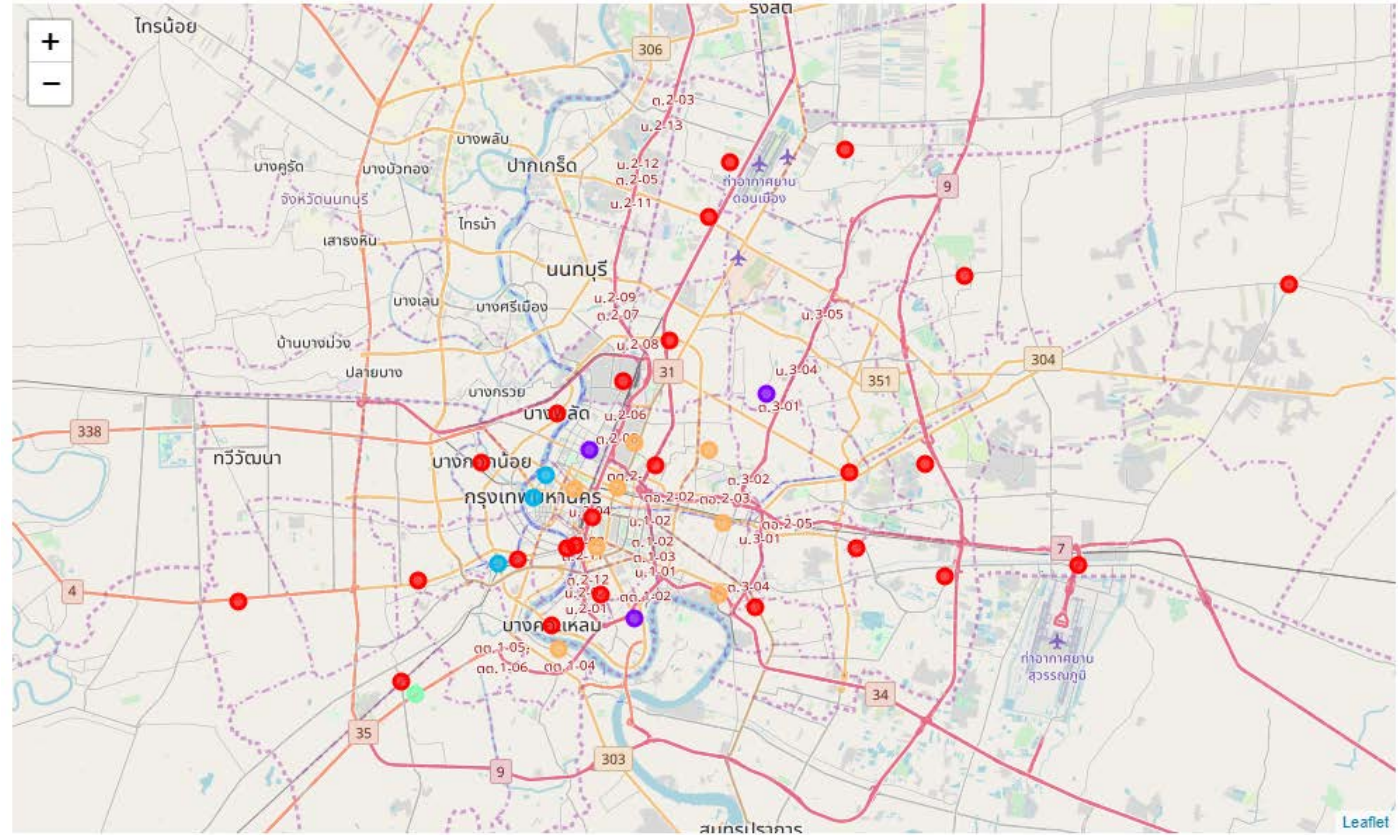
(296, 7)

	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	บางบอน,บางบอนเหนือ,บางบอนใต้,คลองบางพราน,คลองข...	13.666503	100.428859	RM2 Club	13.665800	100.428997	Nightclub
1	บางบอน,บางบอนเหนือ,บางบอนใต้,คลองบางพราน,คลองข...	13.666503	100.428859	vintage	13.660642	100.429293	Nightclub
2	บางบอน,บางบอนเหนือ,บางบอนใต้,คลองบางพราน,คลองข...	13.666503	100.428859	ศรีรัตนพัฒนา	13.675447	100.428840	Nightclub
3	คลองจั่น,วังทองหลาง,ลาดพร้าว,คลองกุ่ม,สะพานสูง...	13.765833	100.647778	ICK Pub	13.762867	100.644091	Nightclub
4	คลองจั่น,วังทองหลาง,ลาดพร้าว,คลองกุ่ม,สะพานสูง...	13.765833	100.647778	G-STAR Paradise Pub	13.769842	100.645406	Nightclub



K-means for clustering Night club of Bangkok around neighborhood (K = 5):

Cluster 1 (PURPLE) and Cluster 2 (BLUE) are our best places to land our business because there're not a lot rival and there are enough customer for our business.



```
cluster1 = merged.loc[merged['Cluster Labels'] == 1, merged.columns[[1] + list(range(2, merged.shape[1]))]]
print(cluster1.shape)
cluster1
```

(3, 12)

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	District	Side	Latitude	Longitude	PostalCode	Cluster
7	ดุสิต,วชิรพยาบาล,สวนจิตรลดา,สี่แยกมหานาค,บางชี...	Nightclub	Bar	Whisky Bar	Strip Club	Speakeasy	Dusit	Phra Nakhon	13.776944	100.520556	10300	1
10	ทุ่งวัดดอน,ยานนาวา,ช่องนนทรี,บางโพงพาง,วัดพระย...	Nightclub	Bar	Whisky Bar	Strip Club	Speakeasy	Yan Nawa	Phra Nakhon	13.696944	100.543056	10120	1
27	ลาดพร้าว,จรัญฯ	Nightclub	Bar	Whisky Bar	Strip Club	Speakeasy	Dusit	Phra Nakhon	13.776944	100.520556	10300	1

```
cluster2 = merged.loc[merged['Cluster Labels'] == 2, merged.columns[[1] + list(range(2, merged.shape[1]))]]
print(cluster2.shape)
cluster2
```

(3, 12)

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	District	Side	Latitude	Longitude	PostalCode	Cluster
22	พระบรมมหาราชวัง,วังบูรพาภิรมย์,วัดราชบพิธ,สำรา...	Nightclub	Pub	Bar	Music Venue	Whisky Bar	Phra Nakhon	Phra Nakhon	13.764444	100.499167	10200	1
29	วังทองหลาง,สะพานสอง,คลองเจ้าคุณสิงห์,พลับพลา	Nightclub	Pub	Bar	Music Venue	Whisky Bar	Wang Thonglang	Phra Nakhon	13.754253	100.493087	10310	1
31	วัดอรุณ,วัดท่าพระ	Nightclub	Pub	Other Nightlife	Bar	Whisky Bar	Bangkok Yai	Thorn Buri	13.722778	100.476389	10600	0

CONCLUSION:

After we clustering all over Bangkok venues. We found that there are commercial venues all over the place to support the demand of tourism industry and the more inner core of the city the more commercial venues you will find and then I go further for Night club venues on where should we start our business and the result are Cluster 1, Cluster 2 where not many rival and enough customer in the area.