

Battle of the Neighbourhoods



Integration Hub Singapore

Introduction

- ***Aim:*** Building of Integration Hub
- ***Goal:*** Best location for investment
- ***Target Audience:***
 - Working professionals
 - Companies who do not have physical workspaces and/or whose employees require work flexibility.



Criteria

- *High number of Professionals living in that district*
- *District with few amenities and eateries*



A dark, atmospheric photograph of the Singapore skyline at night, featuring the Marina Bay Sands hotel and other illuminated skyscrapers. The image is used as a background for the presentation slide.

Singapore *Background*

- Singapore was among the bottom 10 for work-life balance and ranked the second most overworked city in a study of 40 cities.
- Recommended changes in the country: Increase work flexibility.
- Problems with recommendation:
 - ❑ - lack of discipline and for working parents
 - ❑ lack of personal space and time.
 - ❑ Employers find it difficult to trust employees

Data 1 and 2

Description

1. Obtaining districts via Postalcodes listed on Wikipedia :
https://en.wikipedia.org/wiki/Postal_codes_in_Singapore
2. Using Geopy Client to obtain the longitudes and latitudes of the various districts

Data 3 and 4

Description

1. Obtaining various locations of local eateries (Hawker Centre) via local government website:
<https://data.gov.sg/dataset/hawker-centres>
2. Obtaining number of professionals above the age of 15 living a particular district via local government website:
<https://data.gov.sg/dataset/resident-working-persons-aged-15-years-and-over-by-planning-area-and-occupation-2015>

Methodology

Data 1

Data 1 – Wikipedia

- Data was extracted from Wikipedia to obtain the different postal codes in Singapore.
- Data was then converted to dataframe and filtered into columns Postal District, Postalcode and Neighbourhood.

	Postal_District	Postalcode	Neighborhood
0	01	01, 02, 03, 04, 05, 06	Raffles Place, Cecil, Marina, People's Park
1	02	07, 08	Anson, Tanjong Pagar
2	03	14, 15, 16	Bukit Merah, Queenstown, Tiong Bahru
3	04	09, 10	Telok Blangah, Harbourfront
4	05	11, 12, 13	Pasir Panjang, Hong Leong Garden, Clementi New...



Methodology

Data 2

Data 2 – Coordinates for neighbourhoods

- Based on the Neighbourhood generated, longitude and latitude of these areas were obtained via Geopy Client.
- Nearby venues, categories and top 10 most common venues were then obtained as well from Foursquare API.



Methodology

Data 3

Data 3 - Obtaining nearby eateries (Hawker Centre)

- Dataframe was downloaded from website and analysed.
- A folium map was generated, integrating the clustering map from Data 1 with the locations of the hawker centres.



Methodology

Data 4

Data 4 - Number of Professionals above age 15 based on districts

- **Maximum** number of professionals in one area: **158,700**
- District where **maximum** number professionals was situated: **Jurong West, Singapore**
- **Minimum** number of professionals in one area: **45,900**
- District where **minimum** number of professionals was situated: **Clementi, Singapore**



Results

Data 1:

Total no of clusters = 8

Cluster 0 (red dots) – areas with a lot of amenities

Cluster 1 (Purple dot) – Tuas

Cluster 2 (Blue dot) – Loyang

Cluster 3 (Dark Green dot) – Lim Chu Kang

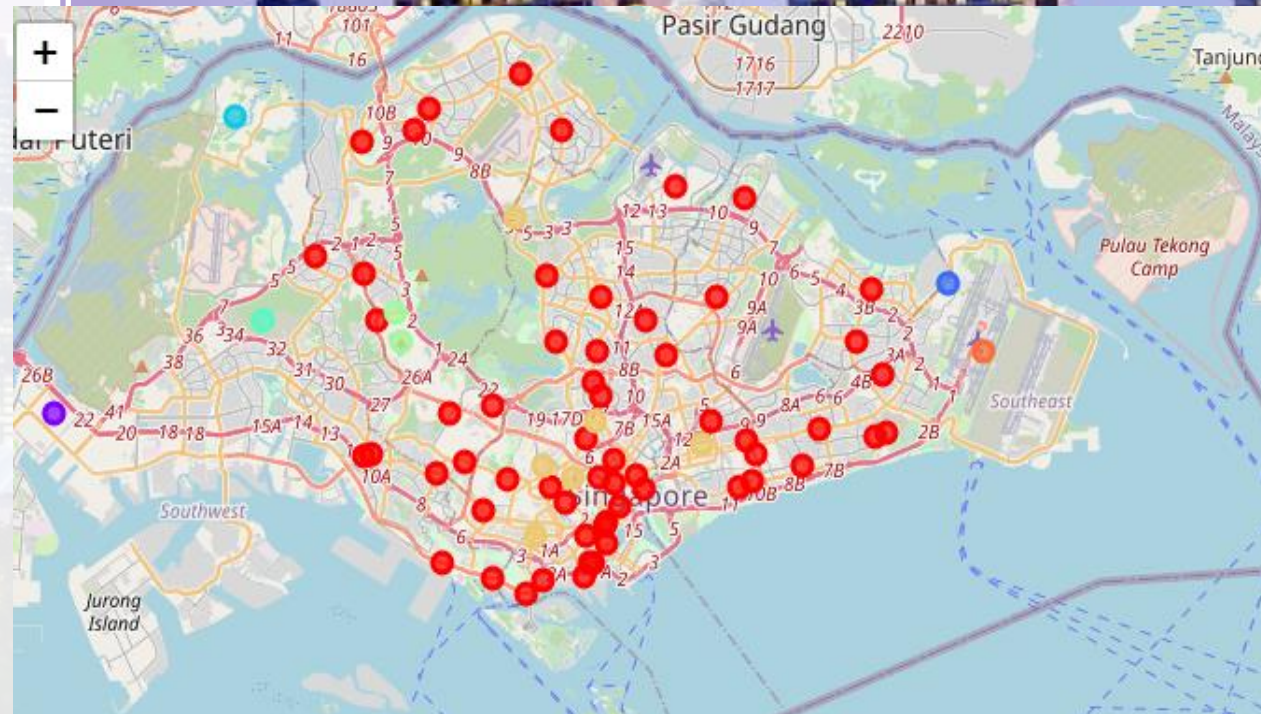
Cluster 4 (Turquoise dot) – Tengah

Cluster 5 (Light Green dot) – Dairy Farm

Cluster 6 (Brown dot) – South, Southeast areas (Tiong Bahru, Geylang)

Cluster 7 (Orange dot) – Airport

Cluster 8 (Light Orange dot) -



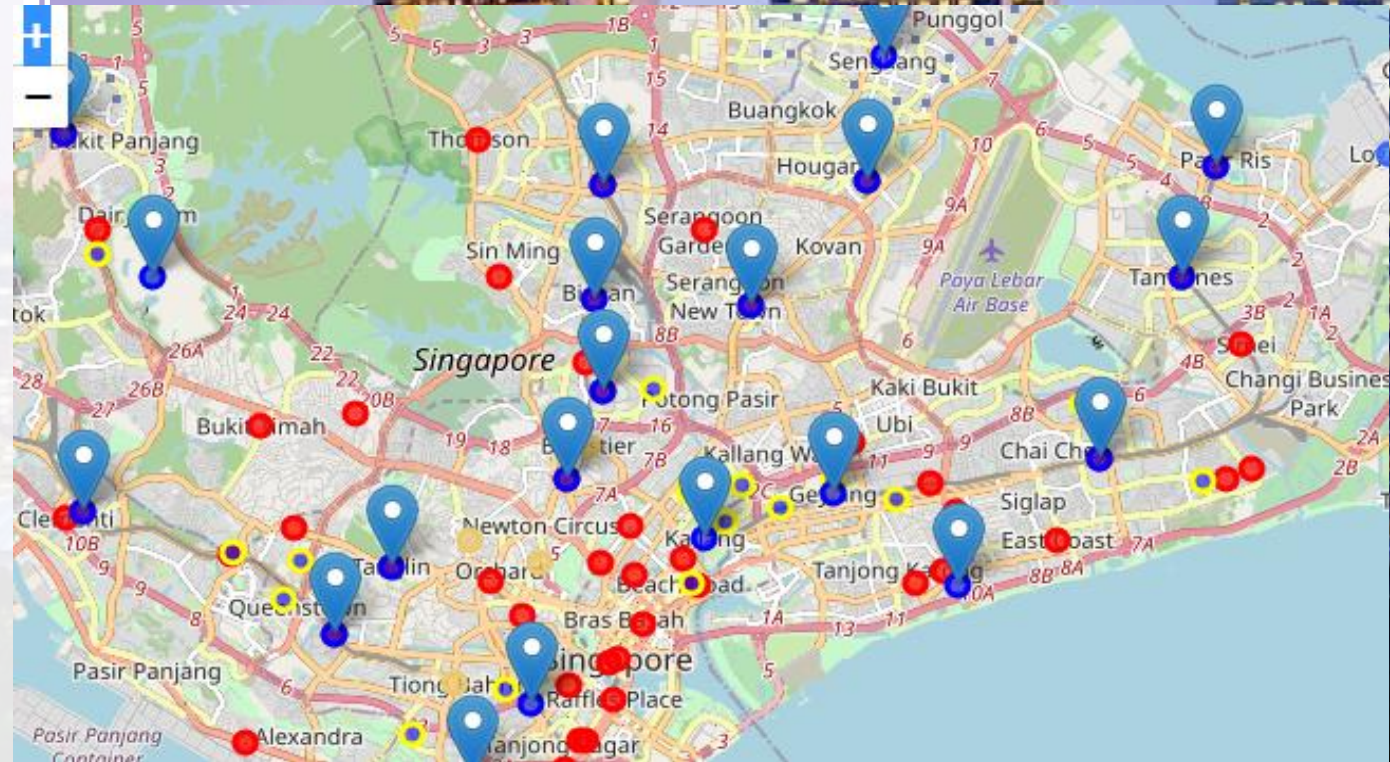
Results

Data 2 - 4:

Integration of data on map

Yellow Dots – Location of Hawker Centre
(local eateries)

Blue popup – Number of Professionals



Discussion

- Based on the criteria given by the investor group and the cluster data, we focused on clusters 4 - Tengah.
- This cluster is surrounded by 3 areas where a lot of professionals lived.
- The 3 areas are Jurong West, Jurong East and Bukit Batok.
- In addition, despite the high number of people living there (Jurong West: 158,700, Jurong East: 46,100, Bukit Batok: 75,600), there were only a few amenities and 2 local eateries.

Conclusion

- The analysis is performed on limited data.
- The information afforded may be dated
- Land price should be monitored to maximise profits. However, this information was not readily available.
- Overall, model created can be easily replicated and monitored closely once recent numbers are available.