UI/UX Project

2020 Summer Olympics opening ceremony: Data Analysis

Outline

Unit of Analysis

↓

Overall Analysis

↓

Individual Analysis

↓

Conclusion

Unit of Analysis

-The given data is acquired by Wi-Fi sensors . The investigated location is Sendagaya, Tokyo, on 23/07/2021, where the 2020 Summer Olympics opening ceremony is held.

-The obtained number of people (according to Mac Address) is 14,764.

Unit of Analysis

-First, the given data is acquired by **Wi-Fi sensors**. They detected

1. who(by anonymous Mac Address) connected to them
2. when(date and time) they were connected
3. where(by location)

and 4. how strong the Wi-Fi signals were (by RSSI)

Mac Address

mac
17c1fd4db783884cb3c53c85ddfc737ed6dbfeddf1016c4d5
17c1fd4db783884cb3c53c85ddfc737ed6dbfeddf1016c4d5
17c1fd4db783884cb3c53c85ddfc737ed6dbfeddf1016c4d5
17c1fd4db783884cb3c53c85ddfc737ed6dbfeddf1016c4d5
17c1fd4db783884cb3c53c85ddfc737ed6dbfeddf1016c4d5
17c1fd4db783884cb3c53c85ddfc737ed6dbfeddf1016c4d5
17c1fd4db783884cb3c53c85ddfc737ed6dbfeddf1016c4d5
17c1fd4db783884cb3c53c85ddfc737ed6dbfeddf1016c4d5
17c1fd4db783884cb3c53c85ddfc737ed6dbfeddf1016c4d5
17c1fd4db783884cb3c53c85ddfc737ed6dbfeddf1016c4d5
17c1fd4db783884cb3c53c85ddfc737ed6dbfeddf1016c4d5

Date&Time

datetime1
23/07/2021 13:28:44
23/07/2021 13:30:53
23/07/2021 13:28:48
23/07/2021 13:30:21
23/07/2021 13:29:50
23/07/2021 13:30:29
23/07/2021 13:30:42

Location

latitude	longitude	location1
35.6787	139.710603	sens34
35.6787	139.710603	sens36
35.6787	139.710603	sens32
35.6787	139.710603	sens32
35.6787	139.710603	sens34
35.6787	139.710603	sens33
35.6787	139.710603	sens33
35.6787	139.710603	sens36
35.6787	139.710603	
35.6787	139.710603	
35.6787	139.710603	
35.6787	139.710603	
35.6787	139.710603	
35.6787	139.710603	

RSSI

rssi
-86
-89
-88
-88
-87
-86

Unit of Analysis

-We will consider each unit of analysis as separated topics below.

Mac Address

- Average, minimum and maximum Wi-Fi usage time per person

Unit of Analysis

-We will consider each unit of analysis as separated topics below.

Mac Address	- Average, minimum and maximum Wi-Fi usage time per person
Date&Time	- By hour, where were people at? - When did people start and stop to use Wi-Fi?

Unit of Analysis

-We will consider each unit of analysis as separated topics below.

Mac Address	- Average, minimum and maximum Wi-Fi usage time per person
Date&Time	- By hour, where were people at? - When did people start and stop to use Wi-Fi?
Location	- How many people were toeach location for each hour?

Unit of Analysis

-We will consider each unit of analysis as separated topics below.

Mac Address	- Average, minimum and maximum Wi-Fi usage time per person
Date&Time	- By hour, where were people at? - When did people start and stop to use Wi-Fi?
Location	- How many people were at each location for each hour? - How many people visited to each location on this day?
RSSI	- Average RSSI of each location

Overall Analysis

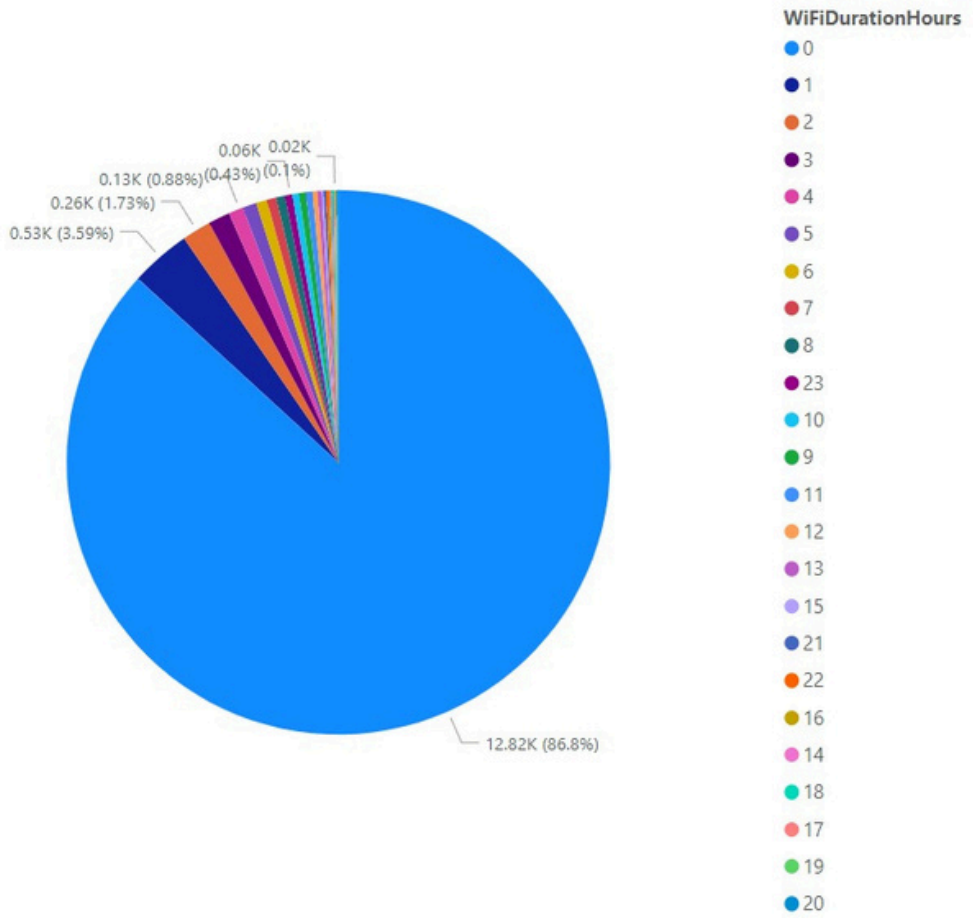
-For the whole-day duration limit, we will discuss about

Mac Address	- Average, minimum and maximum Wi-Fi usage time per person
Date&Time	- When did people start and stop to use Wi-Fi?
Location	- How many people visited to each location on this day?
RSSI	- Average RSSI of each location

Overall Analysis

Mac Address

Average, minimum and maximum Wi-Fi usage time per person

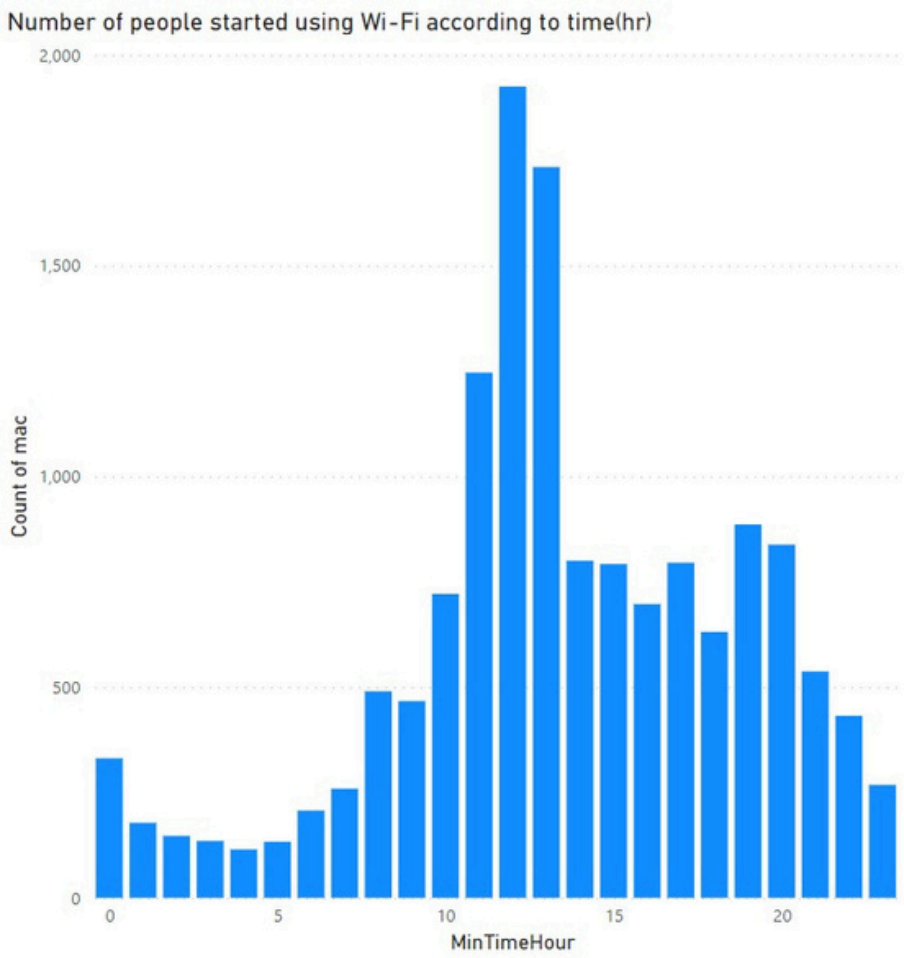


- Almost 86.8% (12, 815 from 14,746) used Wi-Fi less than 1 hour.
- The maximum Wi-Fi usage is more than 20 hours
- TheminimumWi-Fi usage can't be determined since its lowest is 0, which is not possible.

Overall Analysis

Date&Time

When did people start and stop to use Wi-Fi?



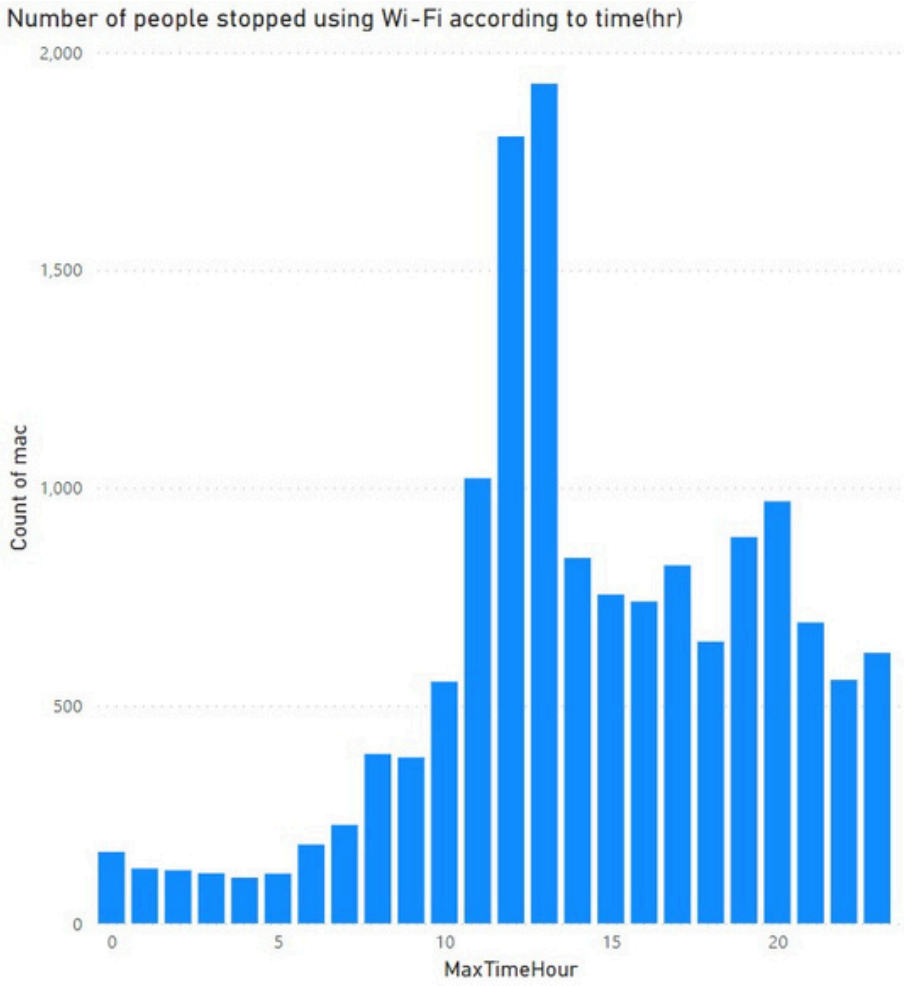
- Most people started to use Wi-Fi around 11 –13 A.M. (GMT +9), or 9 –11 A.M. (GMT +7)

- The another peak is about 19 –20 A.M. (Olympic Ceremony began at 20 A.M.)

Overall Analysis

Date&Time

When did people start and stop to use Wi-Fi?



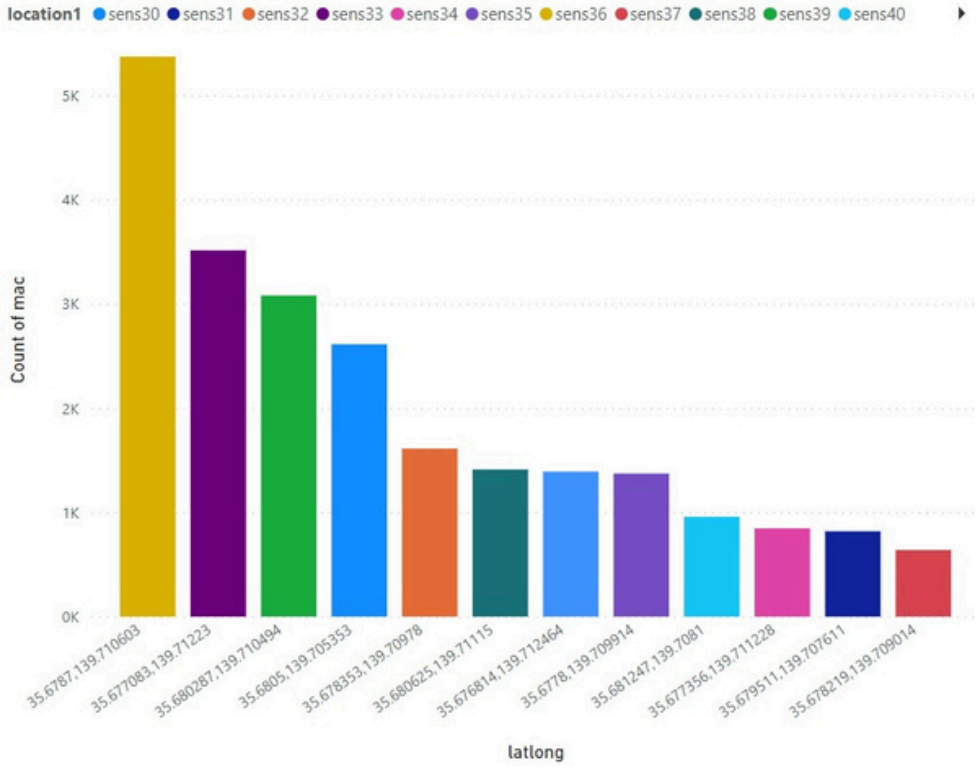
- Most people stopped using Wi-Fi around 12 –13 A.M. (GMT +9), or 10 –11 A.M. (GMT +7)
- The another peak is about 19 –20 A.M. (Olympic Ceremony began at 20 A.M.)

- We can see that both of the graphs are similar since most of the people use Wi-Fi inlessthan1hour.

Overall Analysis

Location

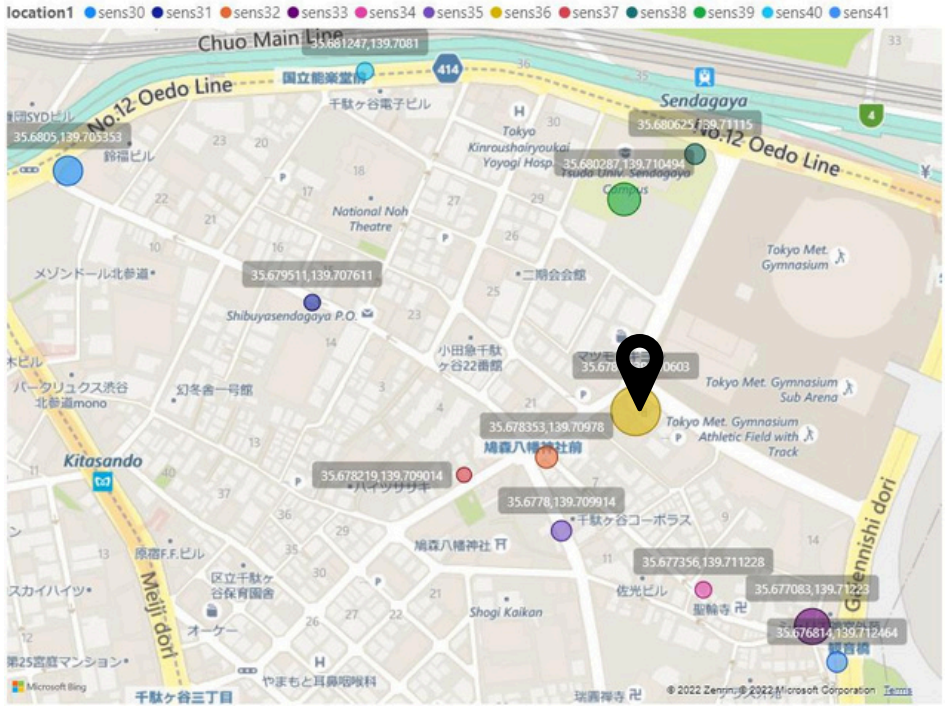
How many people visited to each location on this day?



Overall Analysis

Location

How many people visited to each location on this day?

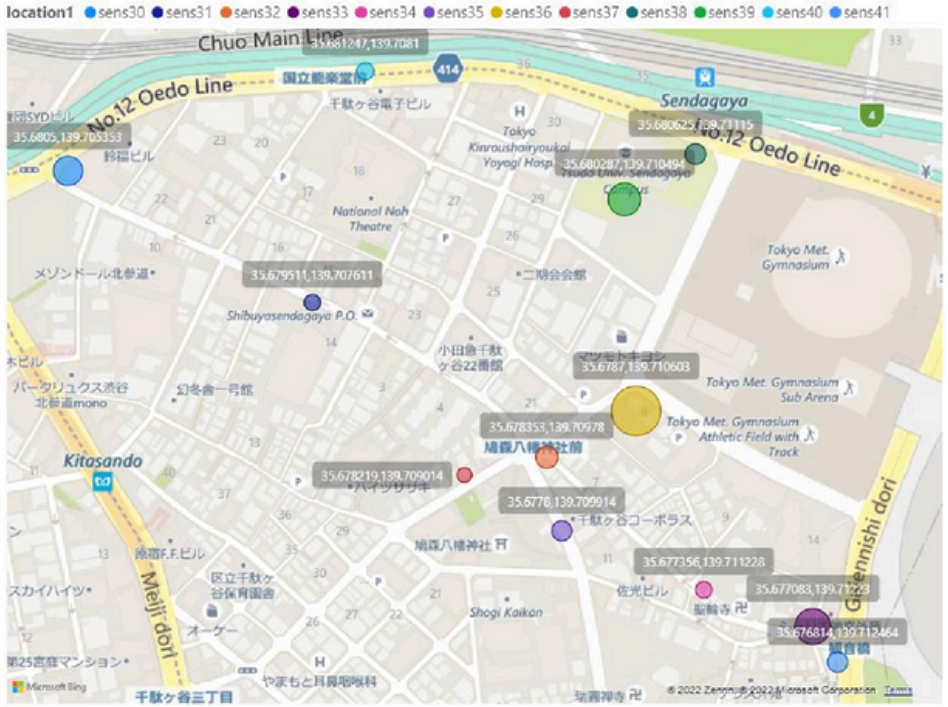


No.1 : Restaurant (Mos Burger)

Overall Analysis

Location

How many people visited to each location on this day?



No.2 : The road near Japan National Stadium (2)

Overall Analysis

Location

How many people visited to each location on this day?

No.3 : Inside Tsuda University SendagayaCampus

Overall Analysis

Location

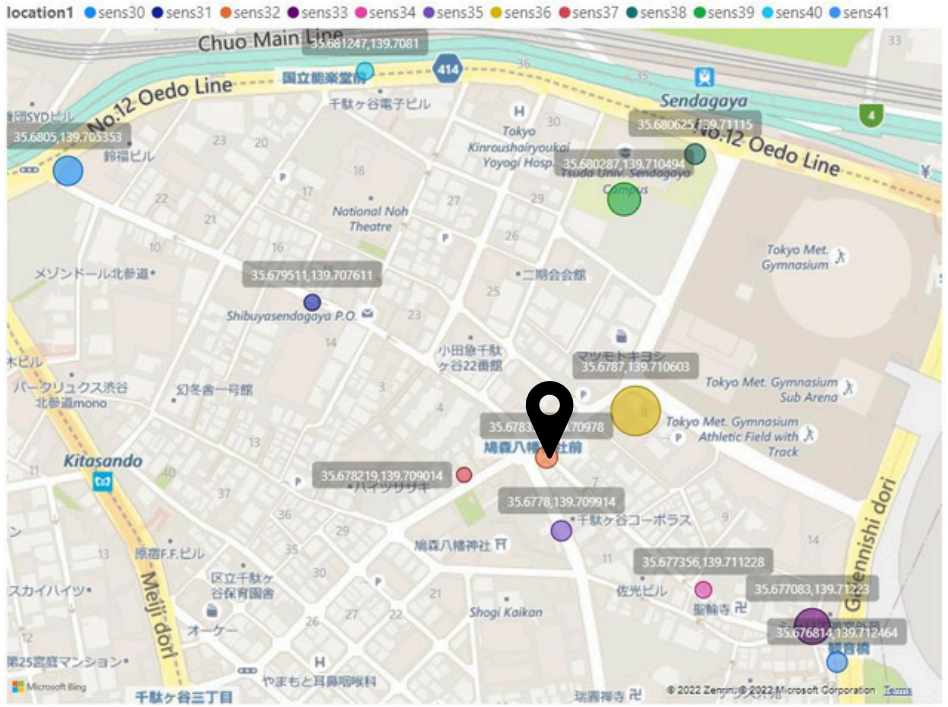
How many people visited to each location on this day?

No.4 : MinistopConbini

Overall Analysis

Location

How many people visited to each location on this day?

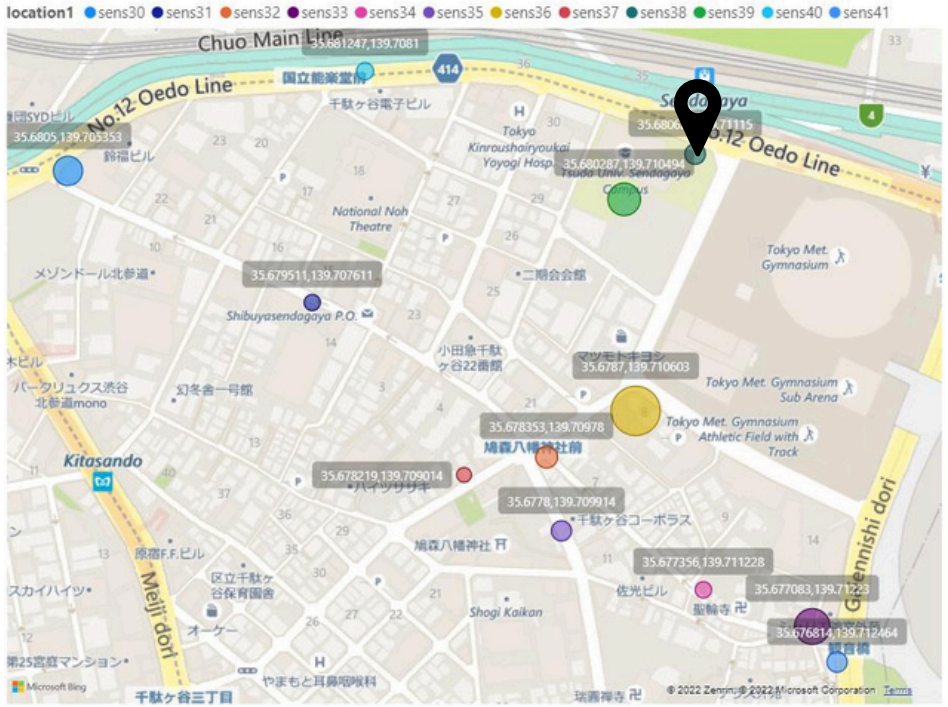


No.5 : Intersection

Overall Analysis

Location

How many people visited to each location on this day?



No.6 : Inside of Tsuda University SendagayaCampus (near SendagayaStation)

Overall Analysis

Location

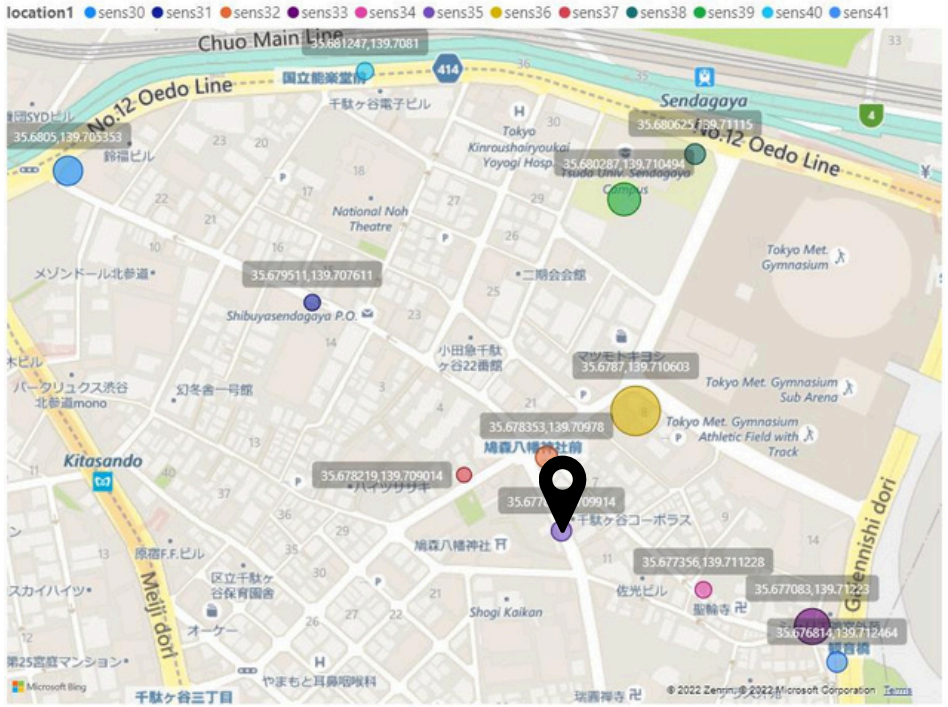
How many people visited to each location on this day?

No.7 : The main road nearJapan National Stadium (1)

Overall Analysis

Location

How many people visited to each location on this day?



No.8 : Near Fujisengenjinja (Fujizukain Sendagaya)

Overall Analysis

Location

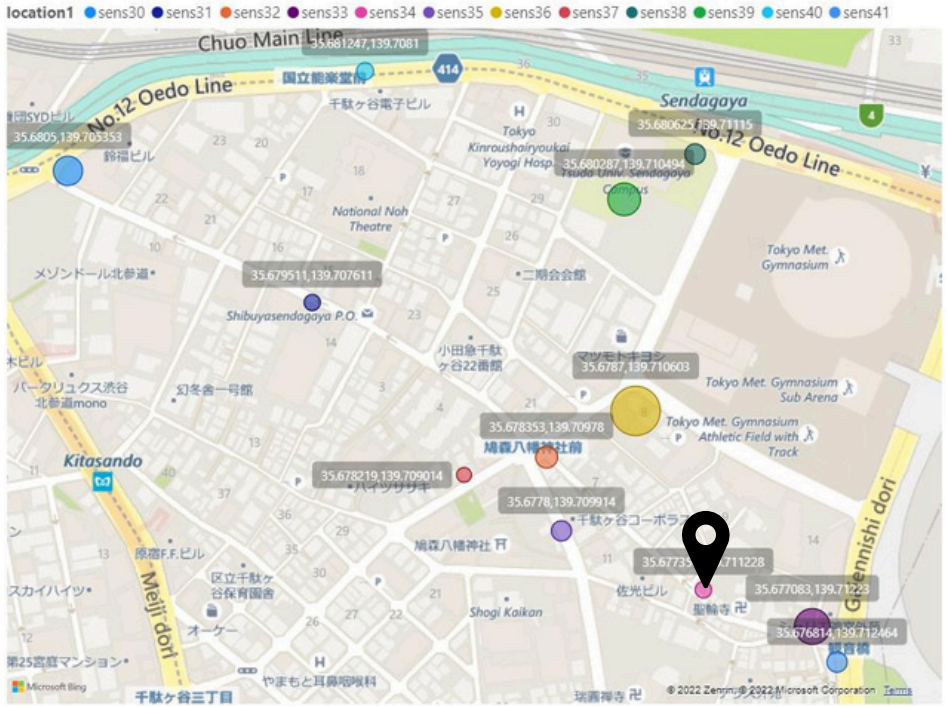
How many people visited to each location on this day?

No.9 : Parking Lot (Above Toei OedoLine)

Overall Analysis

Location

How many people visited to each location on this day?



No.10 : Near Japan National Stadium (3)

Overall Analysis

Location

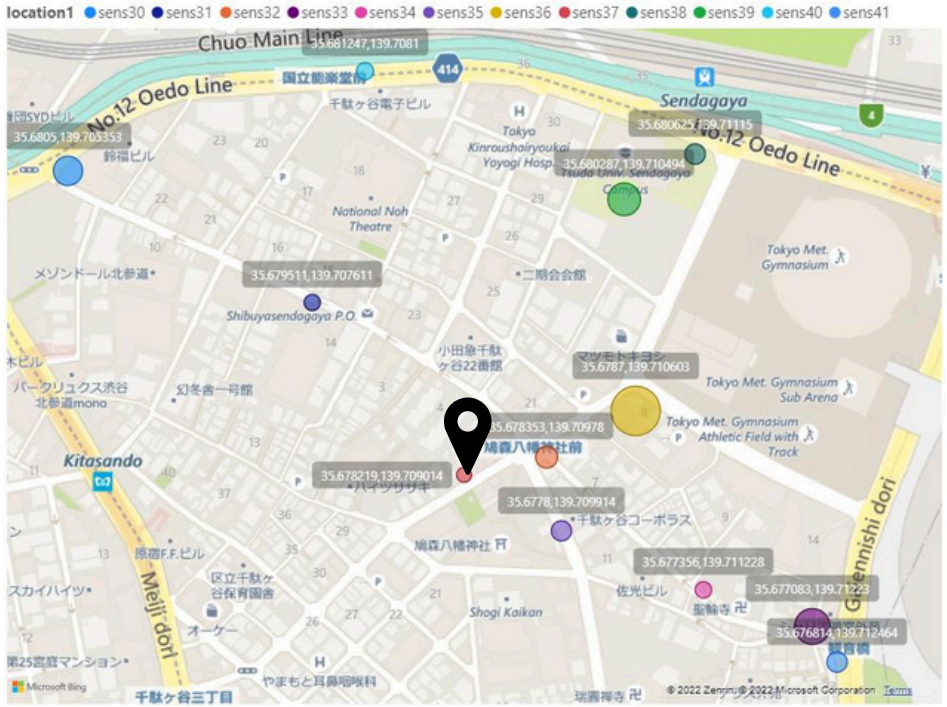
How many people visited to each location on this day?

No.11 : Entrance of Tokyo Marine Nichido

Overall Analysis

Location

How many people visited to each location on this day?

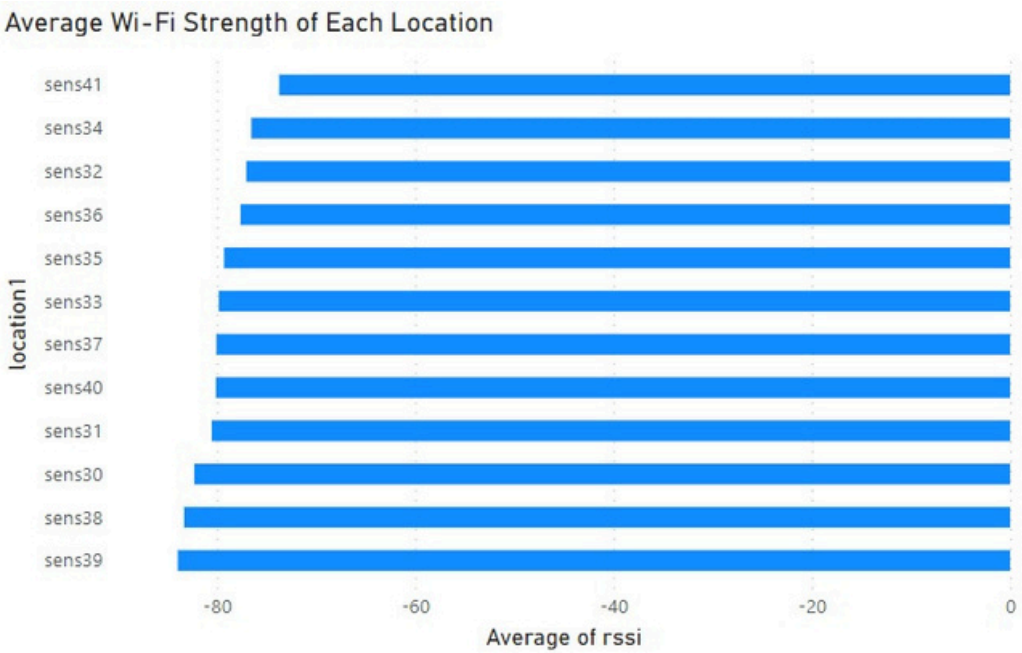


No.12 : Near TEORY Inc.

Overall Analysis

RSSI

Average RSSI of each location



- The more RSSI is, the more Wi-Fi signal strength is.

Individual Analysis

-For specific analysis, the following topics will be considered.

Date&Time	- By hour, where were people at?

Individual Analysis

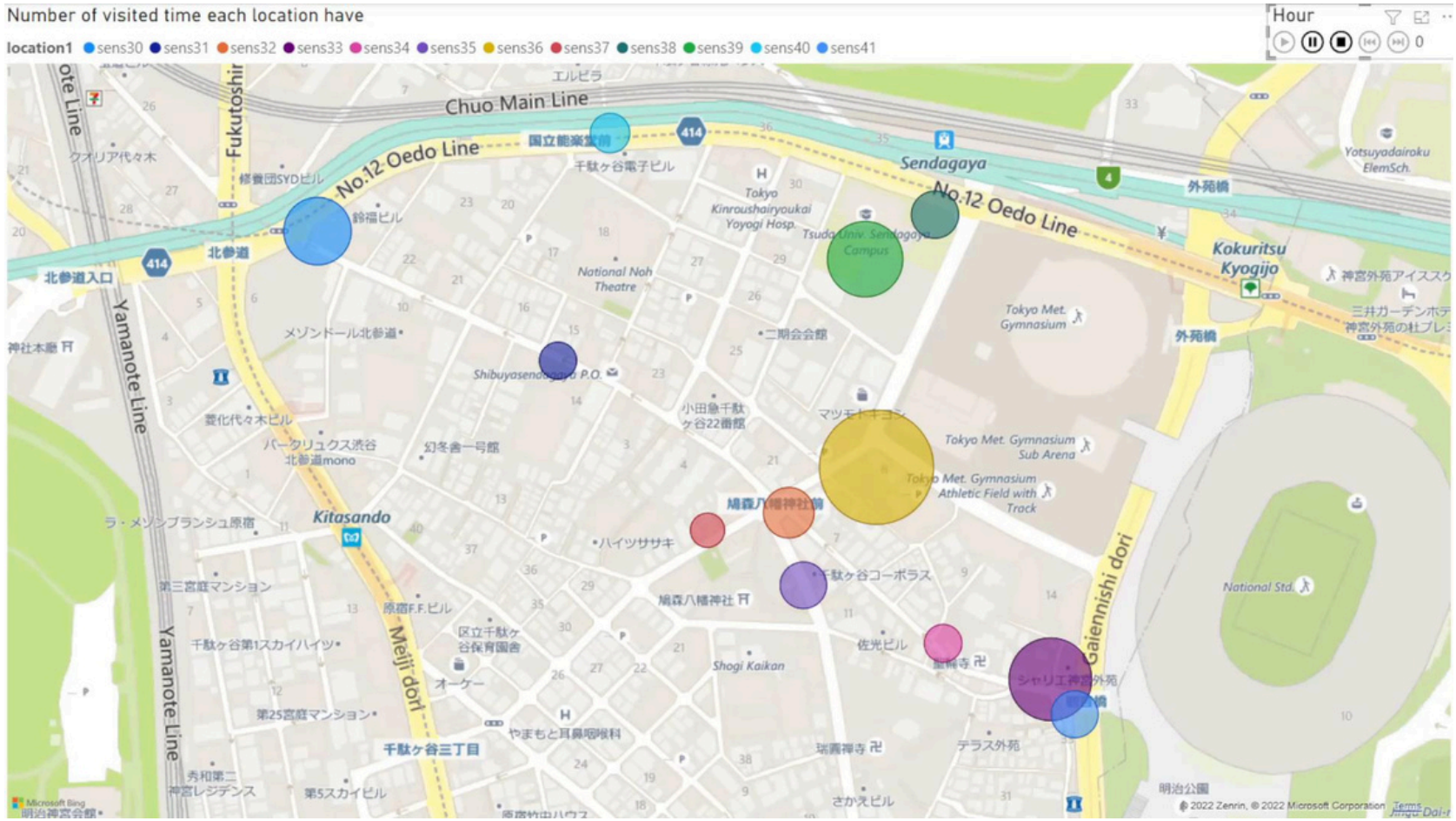
-For specific analysis, the following topics will be considered.

Date&Time	- By hour, where were people at?
Location	- How many people were at each location for each hour?

Individual Analysis

Date&Time

By hour, where were people at?



Individual Analysis

Date&Time

By hour, where were people at?

- Around 0–6 A.M., Ministore (Convenience Store) was at peak

Individual Analysis

Date&Time

By hour, where were people at?

- Around 6 –18 A.M., Restaurant (Mos Premium) was extremely busy

Individual Analysis

Date&Time

By hour, where were people at?

- Around 6 –18 A.M., Restaurant (Mos Premium) was extremely busy

Individual Analysis

Date&Time

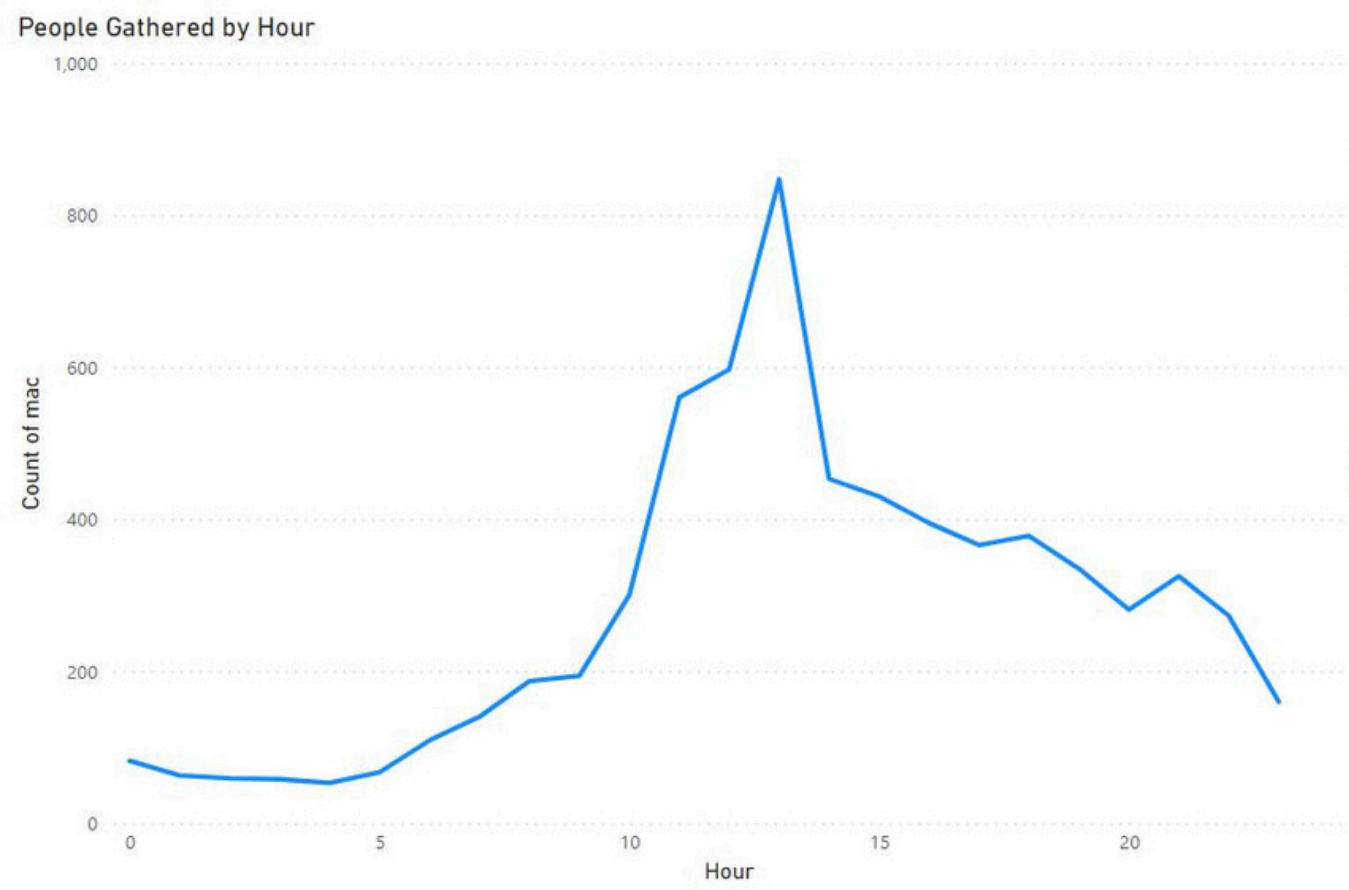
By hour, where were people at?

- Around 19–20 A.M., the area nearby Japan National Stadium was crowded
- The reason behind this is this time is the time when Tokyo Olympic 2020 Ceremony began.

Individual Analysis

Location

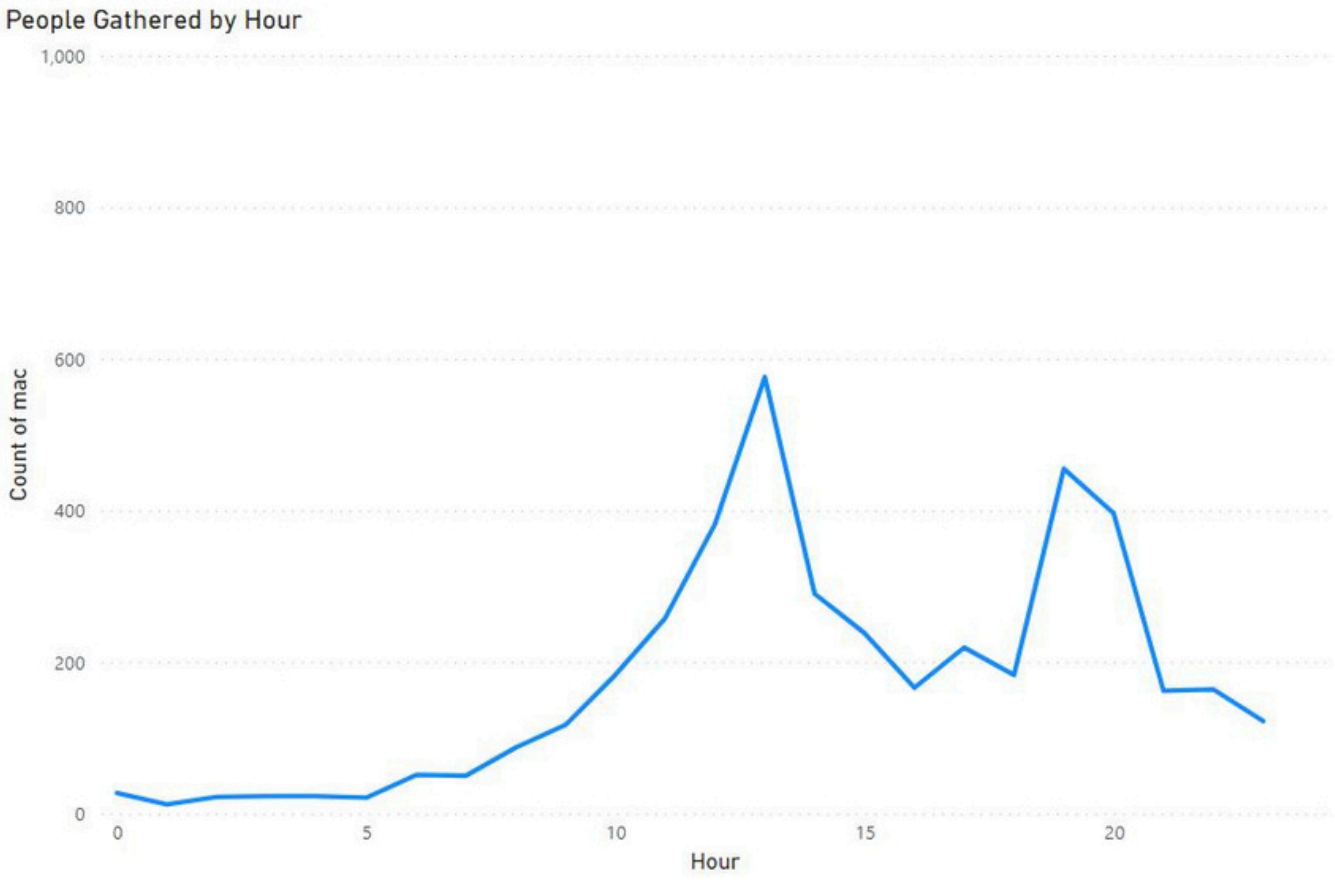
How many people visited to each location on this day?



Individual Analysis

Location

How many people visited to each location on this day?



Individual Analysis

Location

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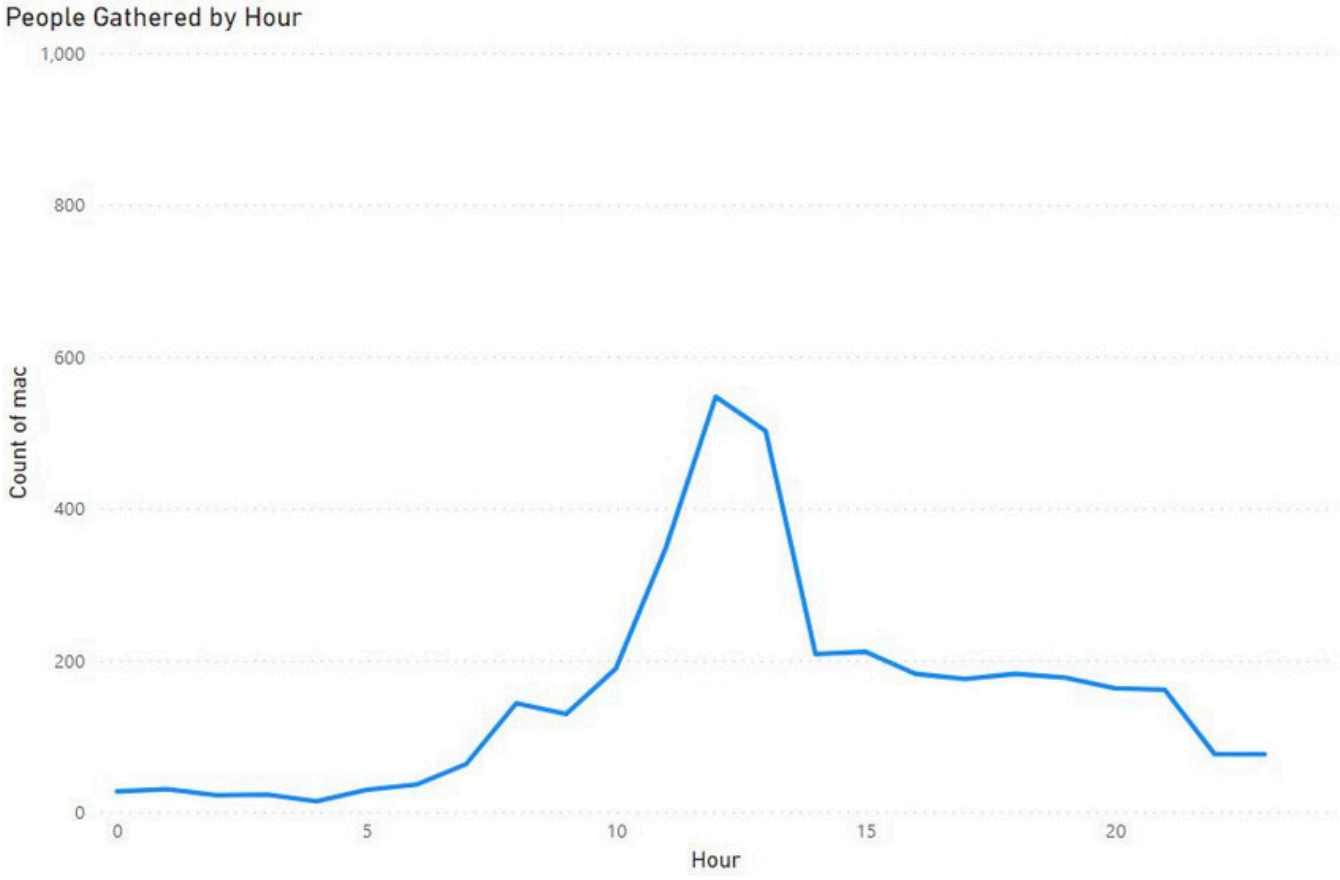
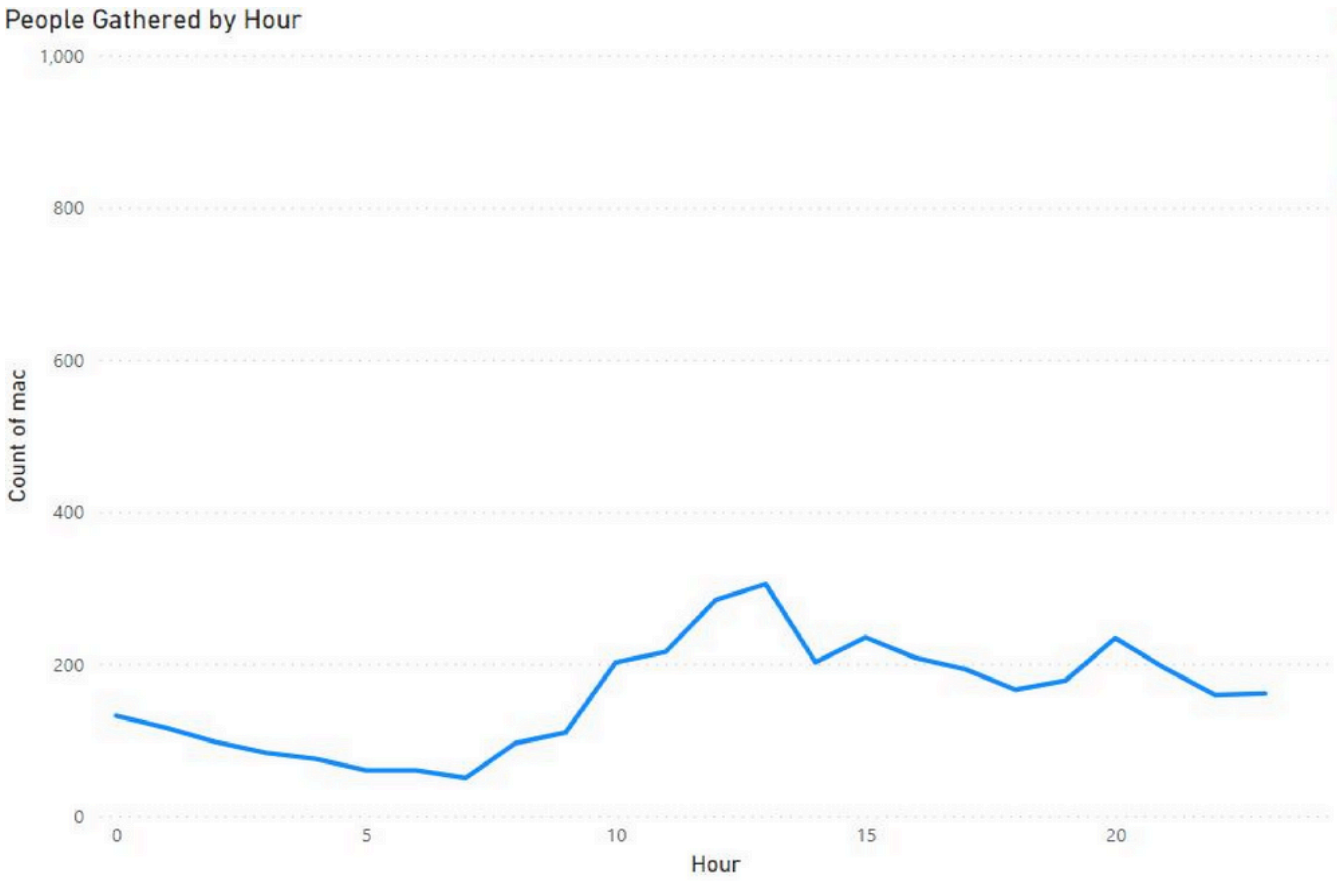
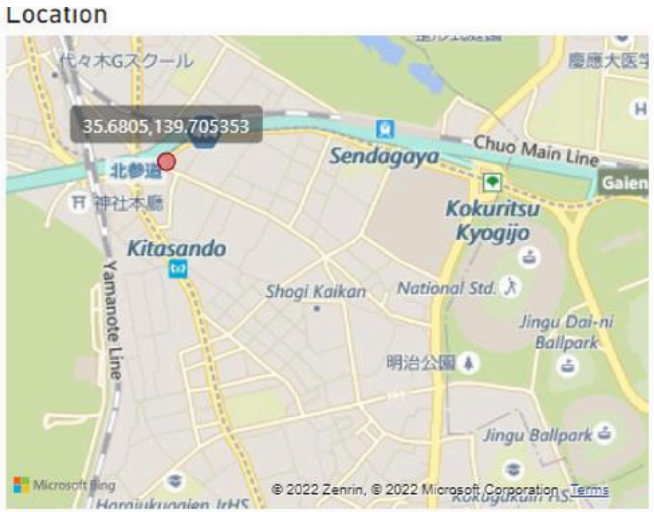


Individual Analysis

Location

How many people visited to each location on this day?

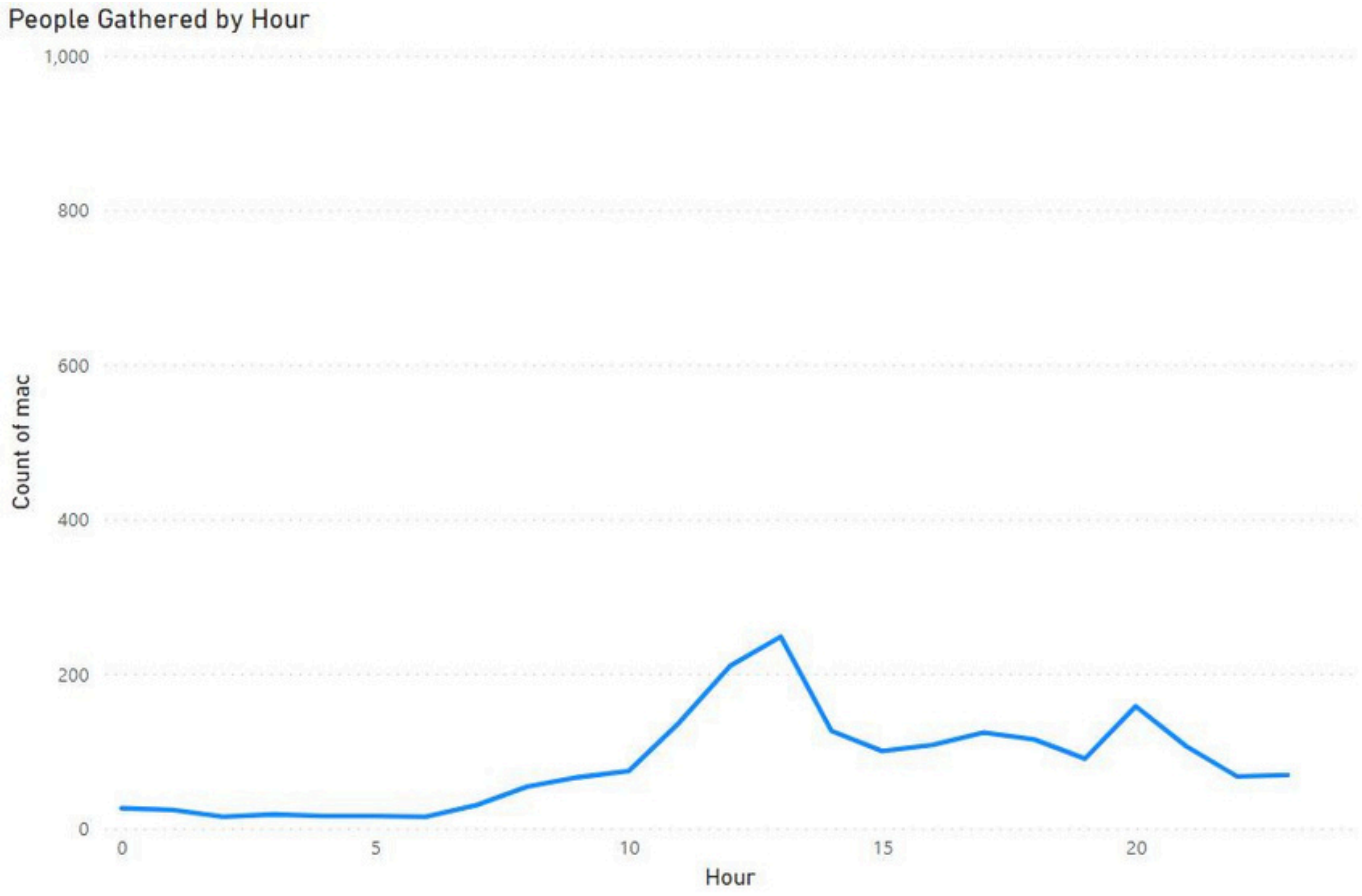




Individual Analysis

Location

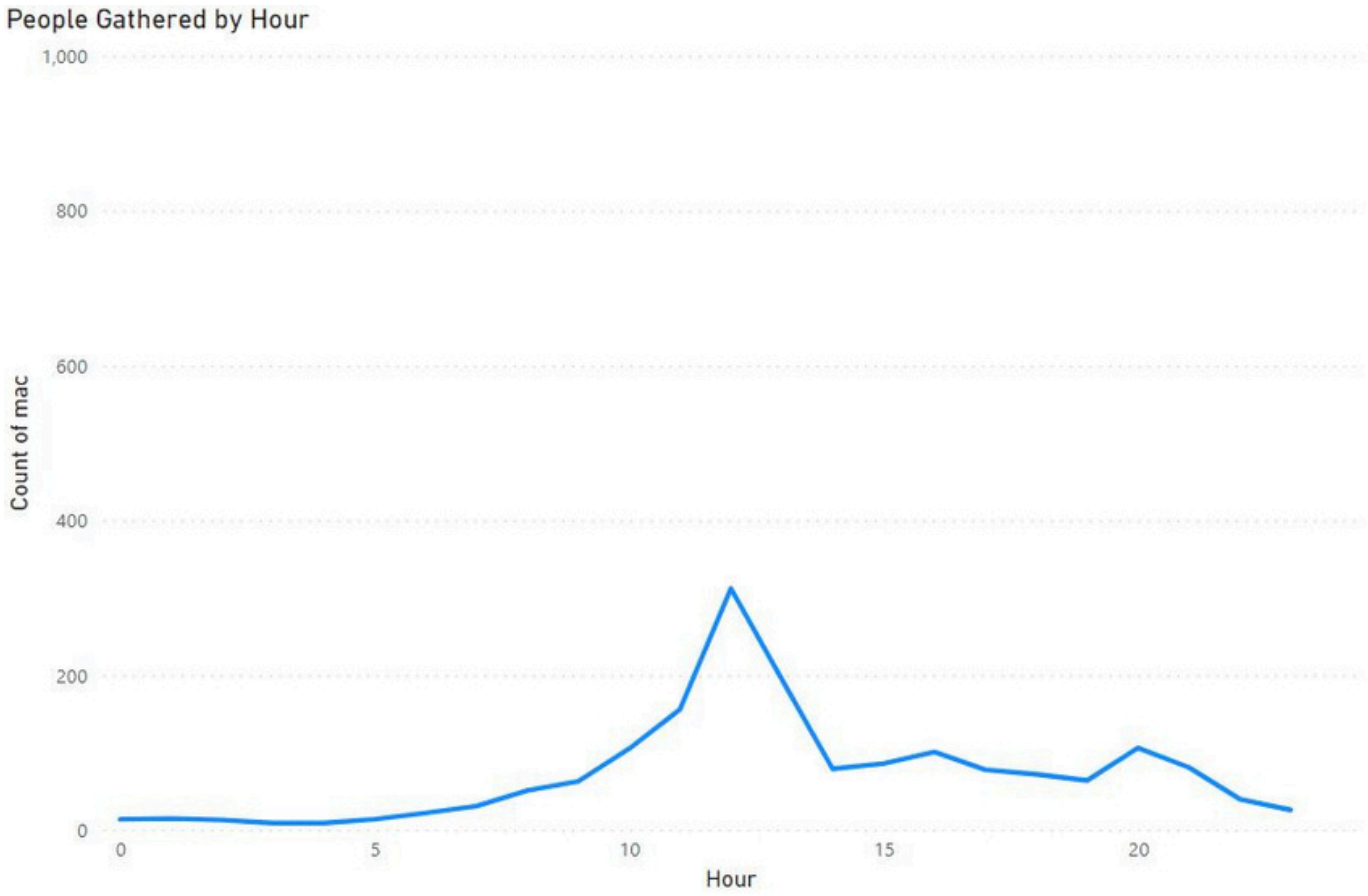
How many people visited to each location on this day?



Individual Analysis

Location

How many people visited to each location on this day?

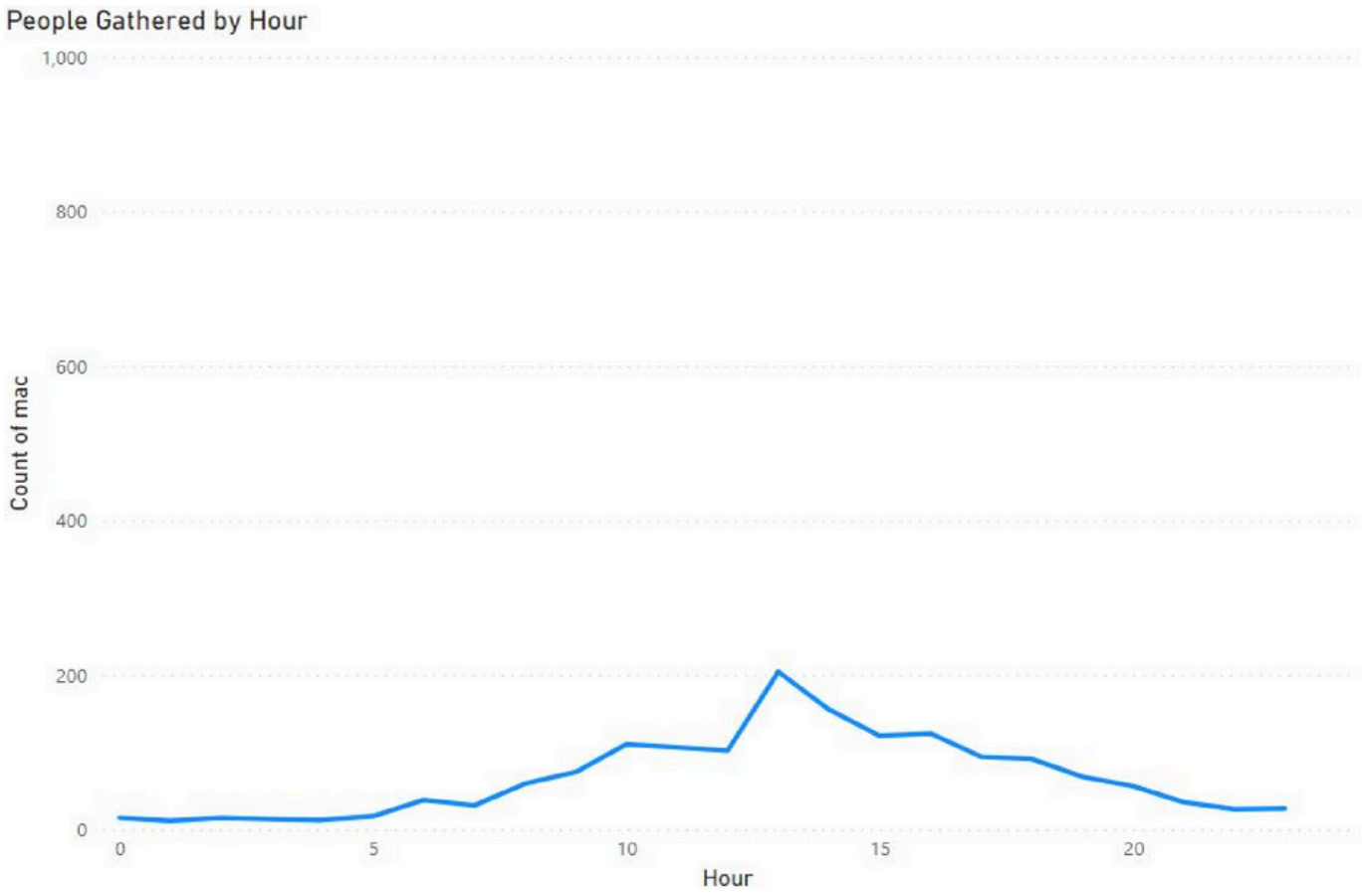


Location

Individual Analysis

Location

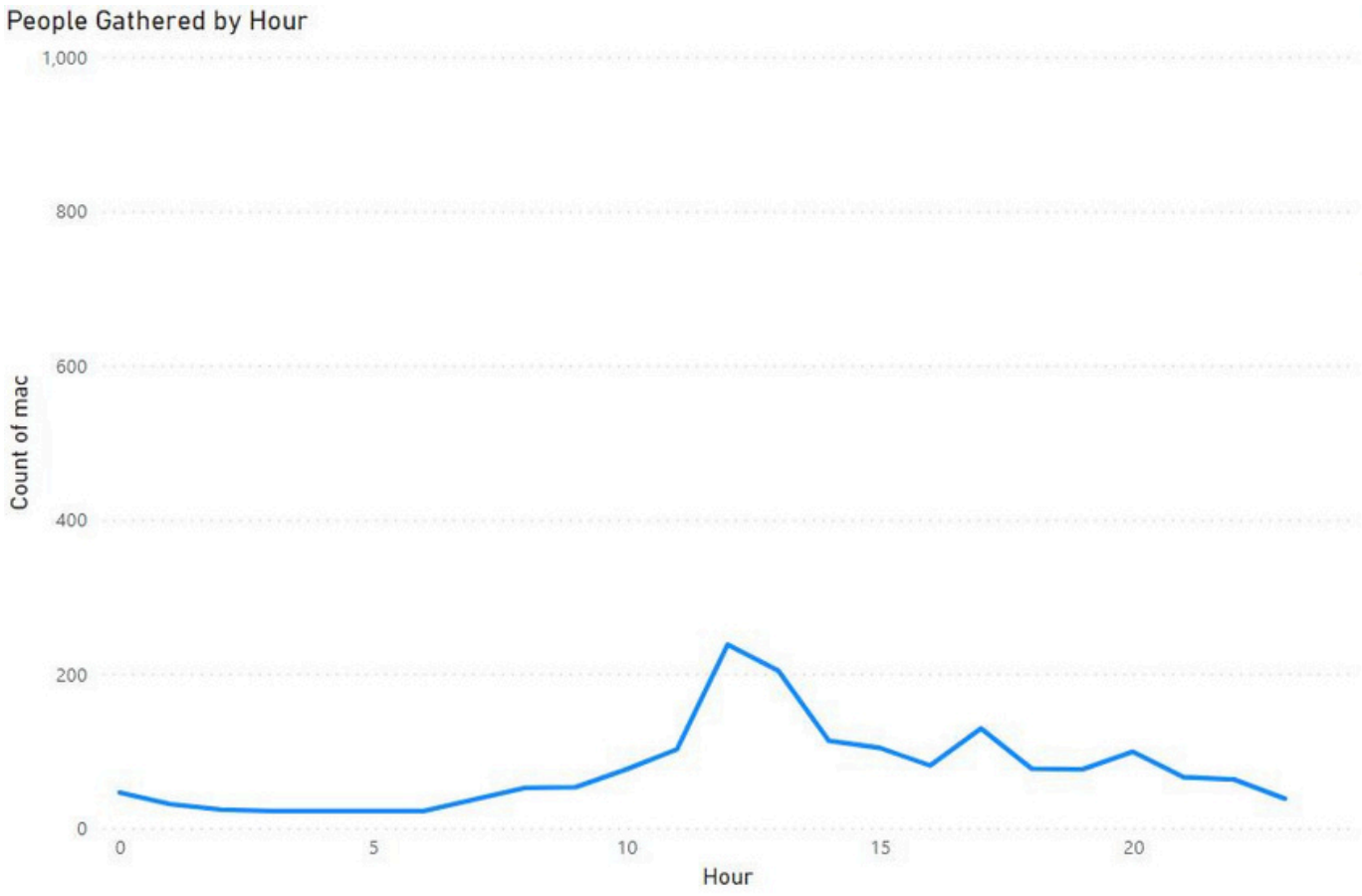
How many people visited to each location on this day?



Individual Analysis

Location

How many people visited to each location on this day?



Individual Analysis

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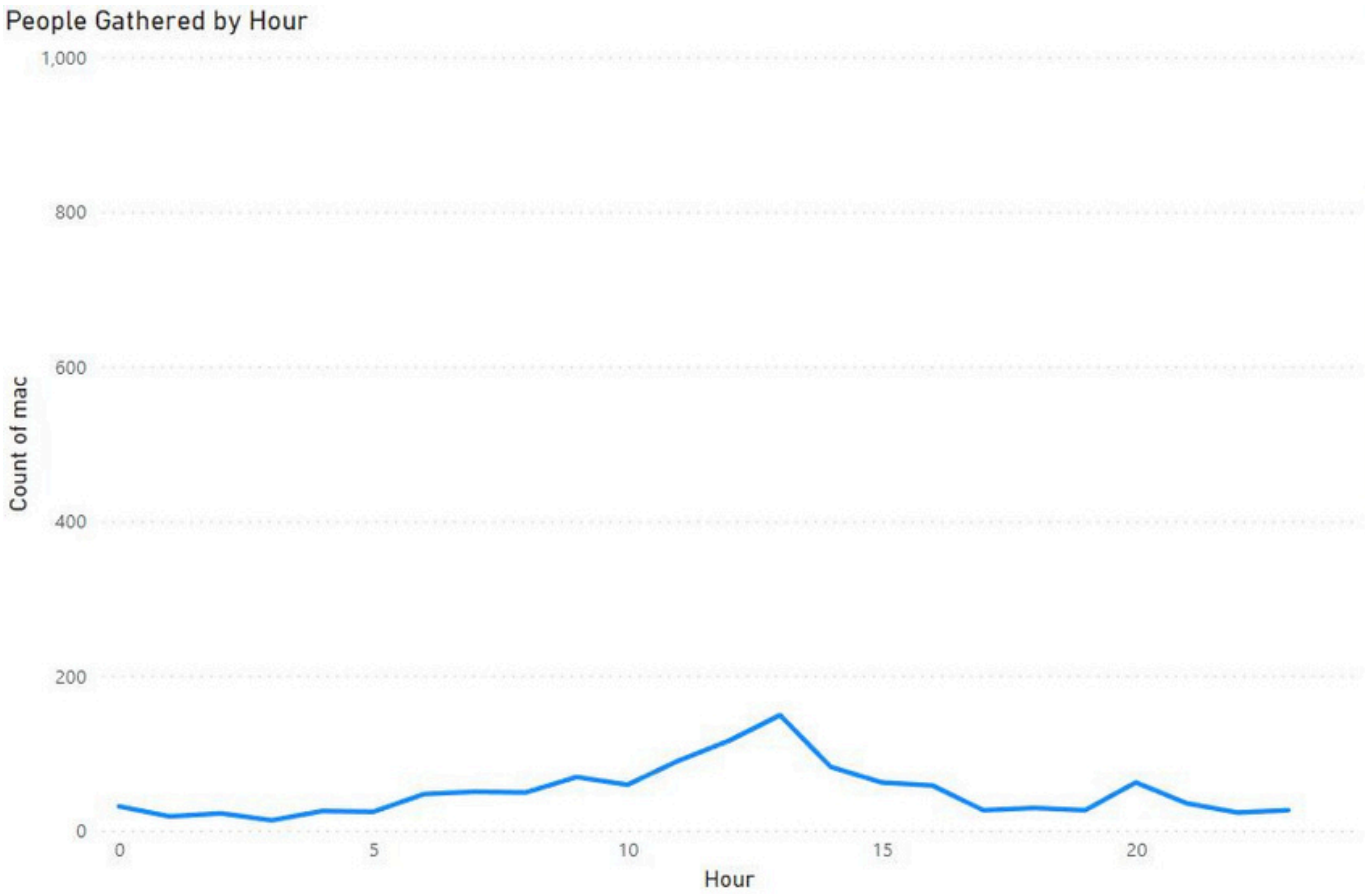
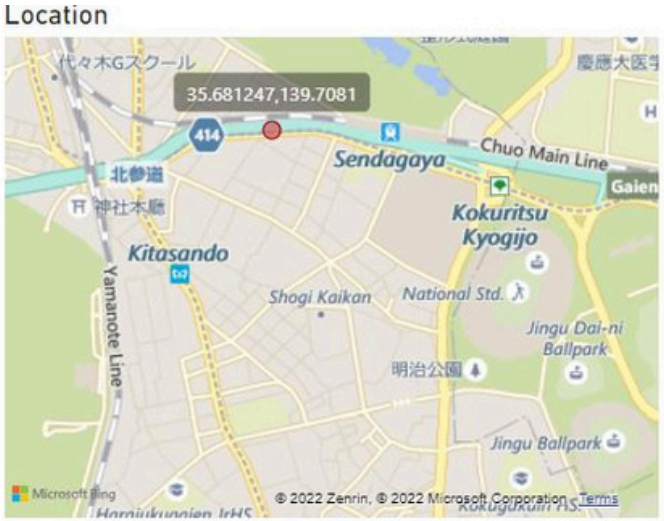
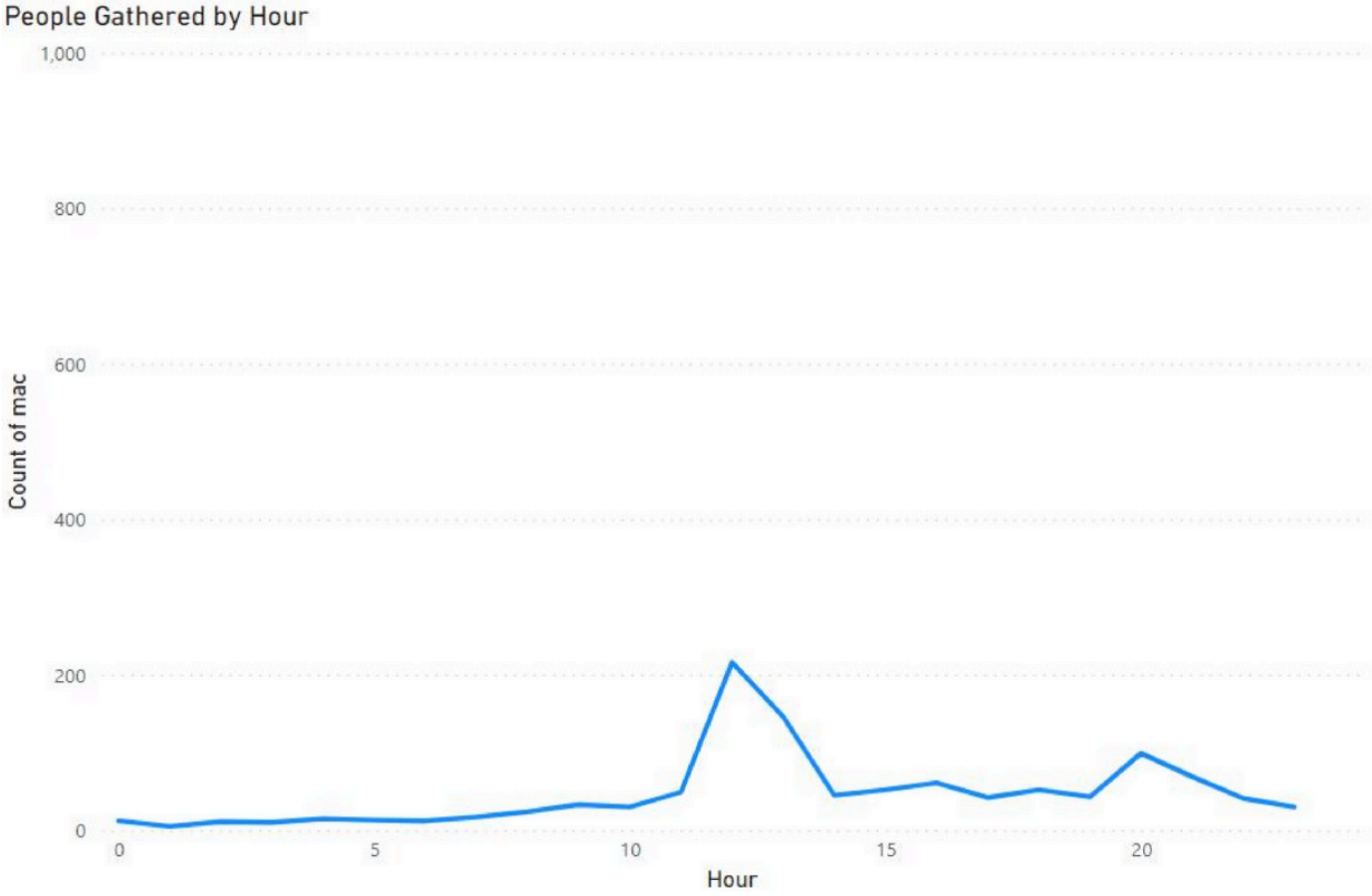




Individual Analysis

Location

How many people visited to each location on this day?



Individual Analysis

Location

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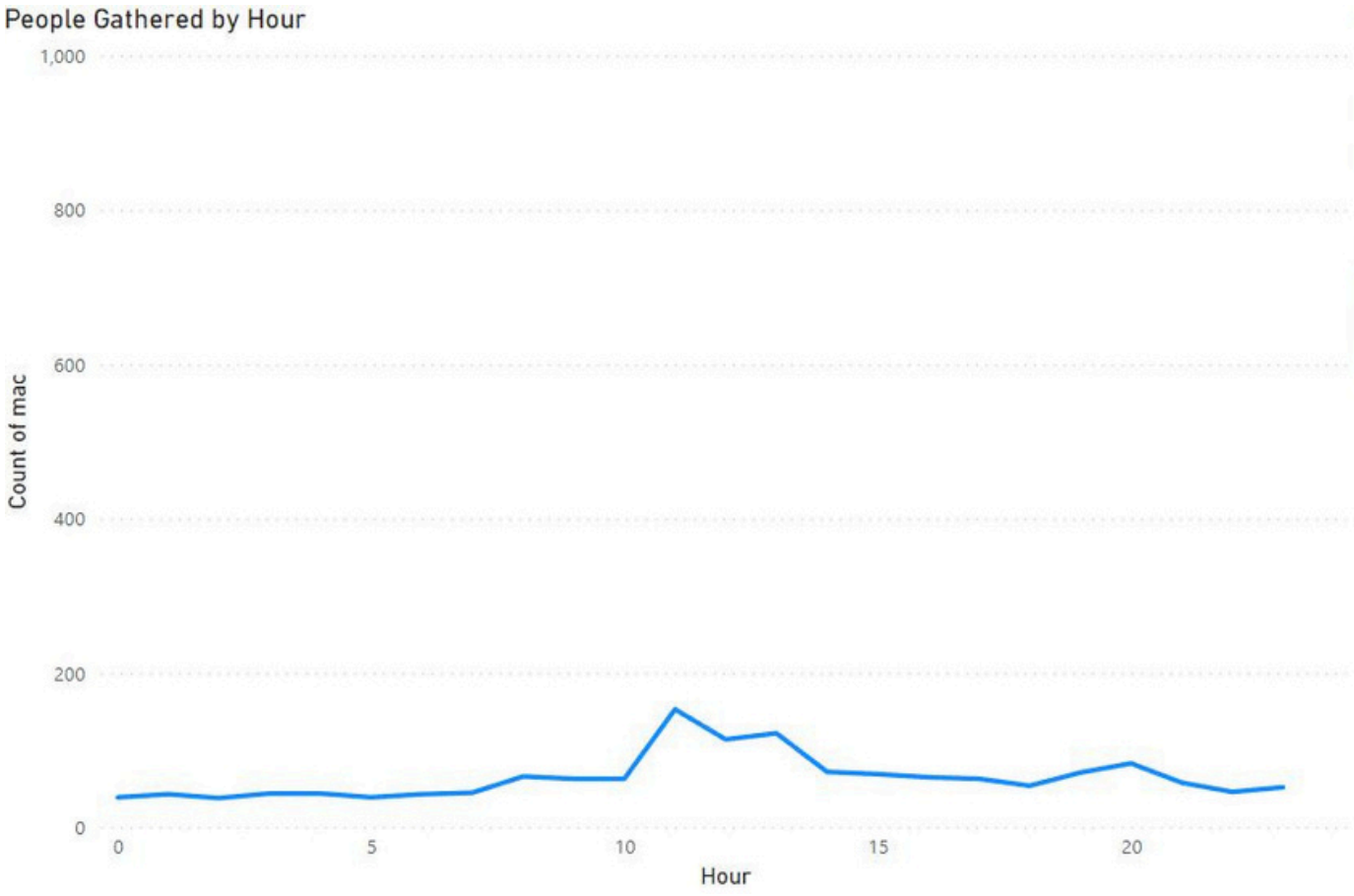
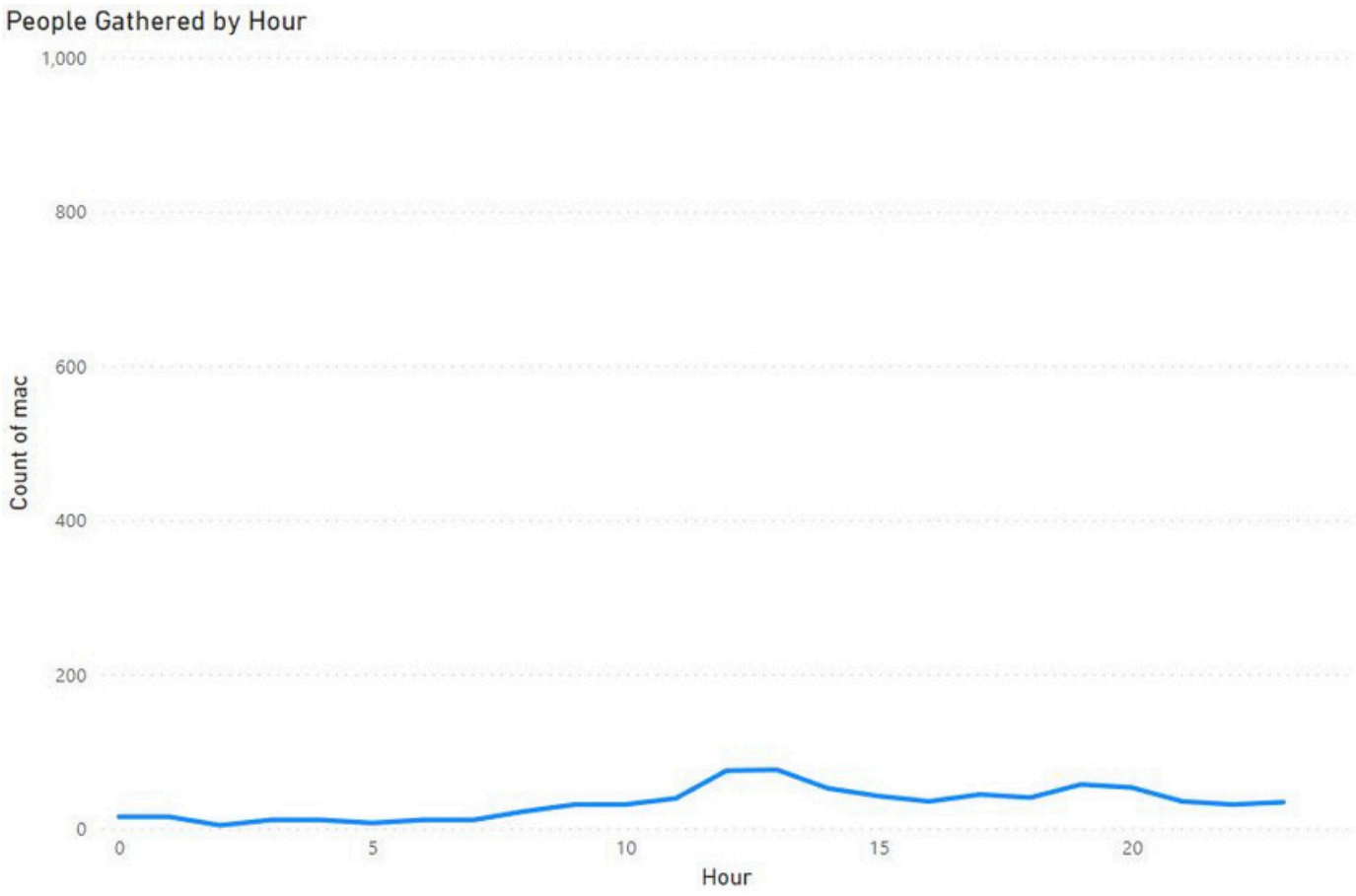


Individual Analysis

Location

How many people visited to each location on this day?

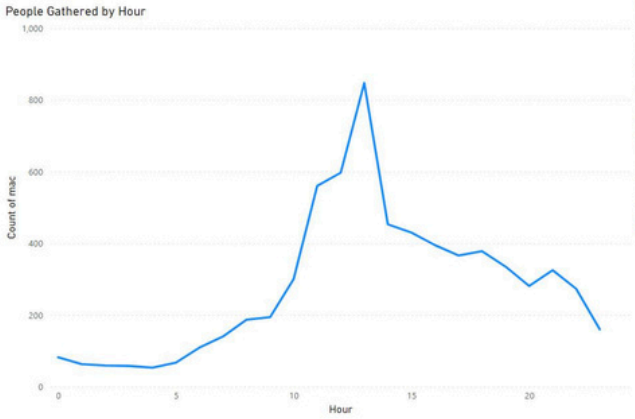
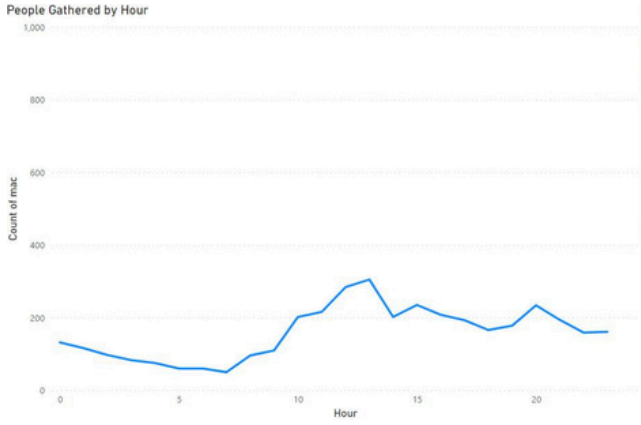
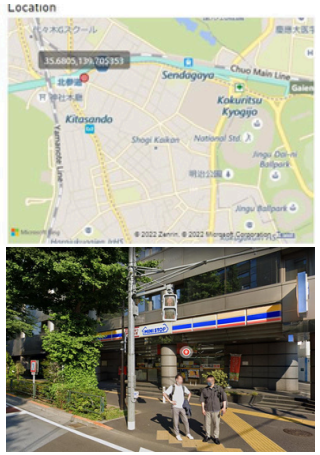


Conclusion

- From the data we analyzed, there are some noteworthy things that can be used formarketing and developing something useful. For instance,

1. For marketing

-People seems to have/buy a meal from 9 up until 18 A.M.
-People seems to still go to Conbini store after midnight to 6 A.M.

2.For development

-Average RSSI may can be used to realize that what area need to be improved the Wi-Fi strength