Travel Data Analysis –

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Introduction

In this age of online business, we have found that there are plenty of new companies coming and creating competition in different fields. Here we will talk about the hotel and stay chain business and particularly we will going to have a discussion on "AirBNB". We have received a problem statement for analyzing the data of AirBNB stating, since 2008, guests and hosts have used AirBNB to expand on travelling possibilities and present unique, personalized way of experiencing the world. This dataset describes the listing activity and metrics in Amsterdam, Netherlands for 2017. Keeping the above statement in mind, we have done a Data Analysis and Visualization of Data using Python (Jupyter Notebook).

Objective

Objective:

In the world of rising new technology and innovation, Travel industry is advancing with the role of Data Science and Analytics. Data analysis can help them to understand their business in a quiet different manner and helps to improve the quality of the service by identifying the weak areas of the business.

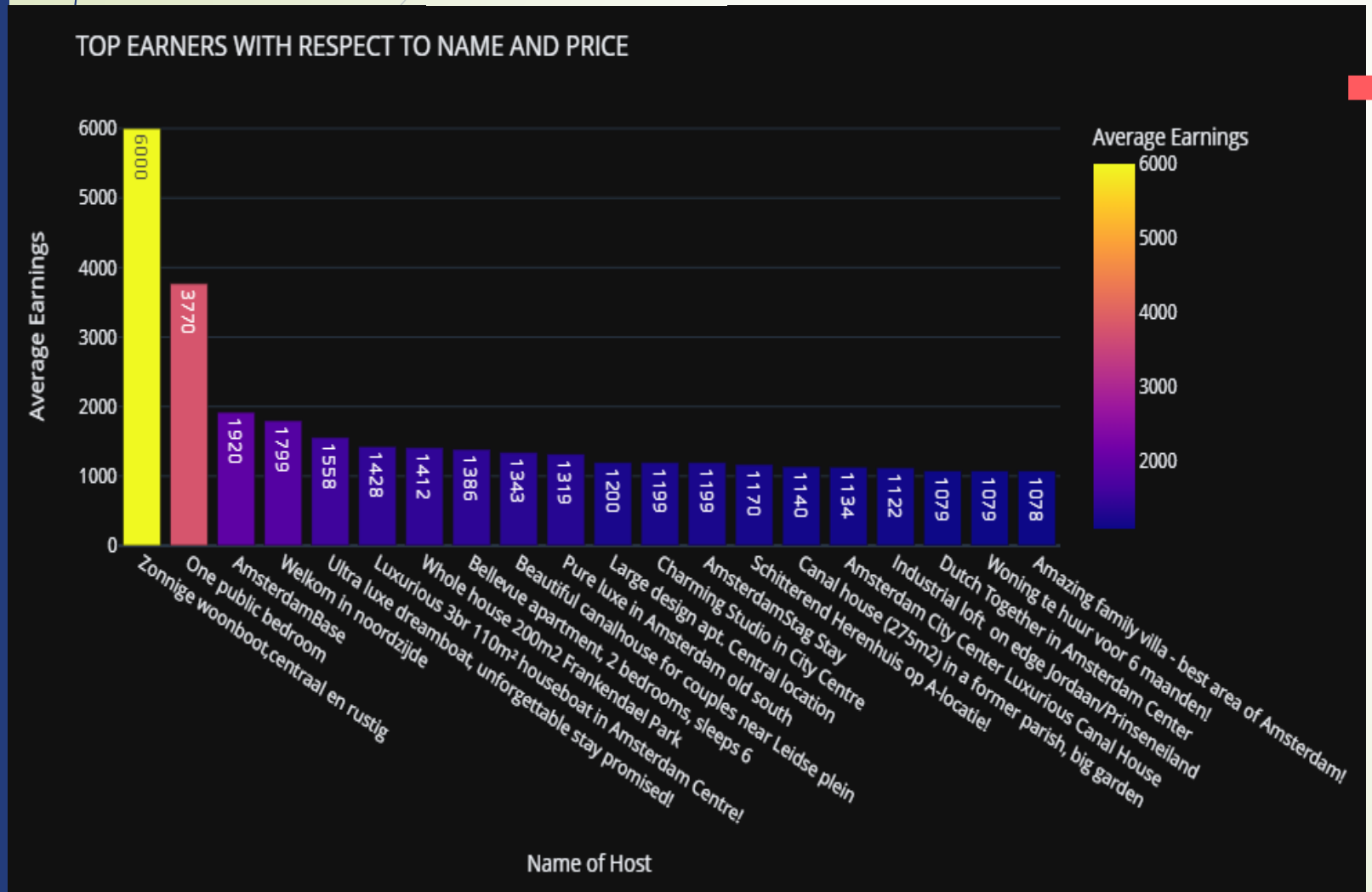
Benefits:

- Help out to make better business decisions.
- Help analyze customer trends and satisfaction, which can lead to new and better products and services.
- Gives better insight of customers base.
- Helps in easy flow for managing resources.

Problem Statement

Travel industries are having important reflection of the economy from past few decades, and Airbnb housing price ranges are of great interest for both Hosts and Traveler. In this project, we are analyzing the various aspects with different use cases which covers many aspects of airbnb listings. It helps in not only understanding the meaningful relationships between attributes but it also allows us to do our own research and come-up with our findings.

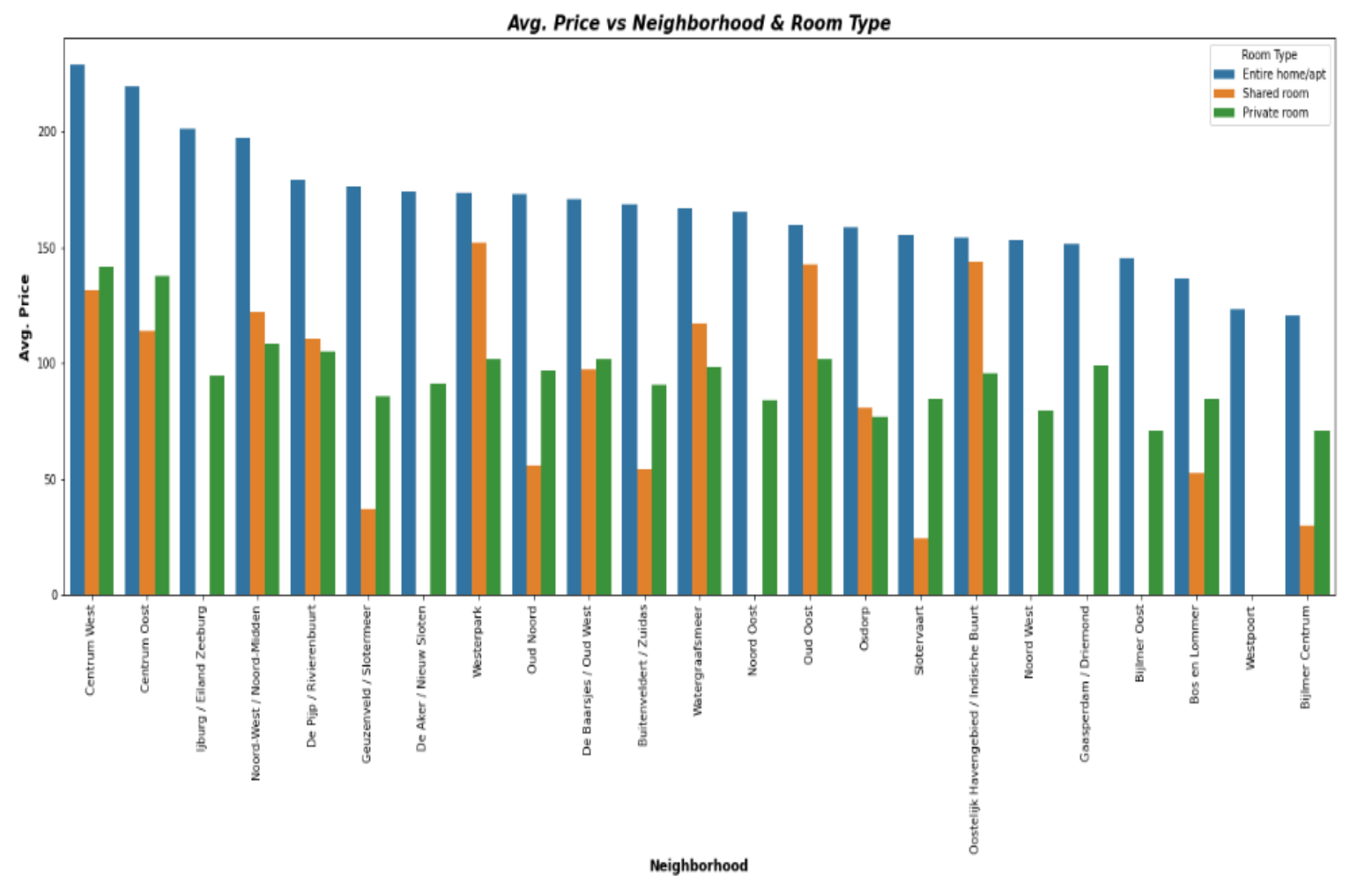
1. Top Earners (Hosts):



Conclusion:

- In the above Chart, we've listed/ploted ***Top 20 Earners in terms of Hosts***, one after the other.
- From the above visual, We can say that "***Zonnige woonboot,centraal en rustig***" is the ***Top Earner*** followed by "***One public bedroom***" and "***AmsterdamBase***".

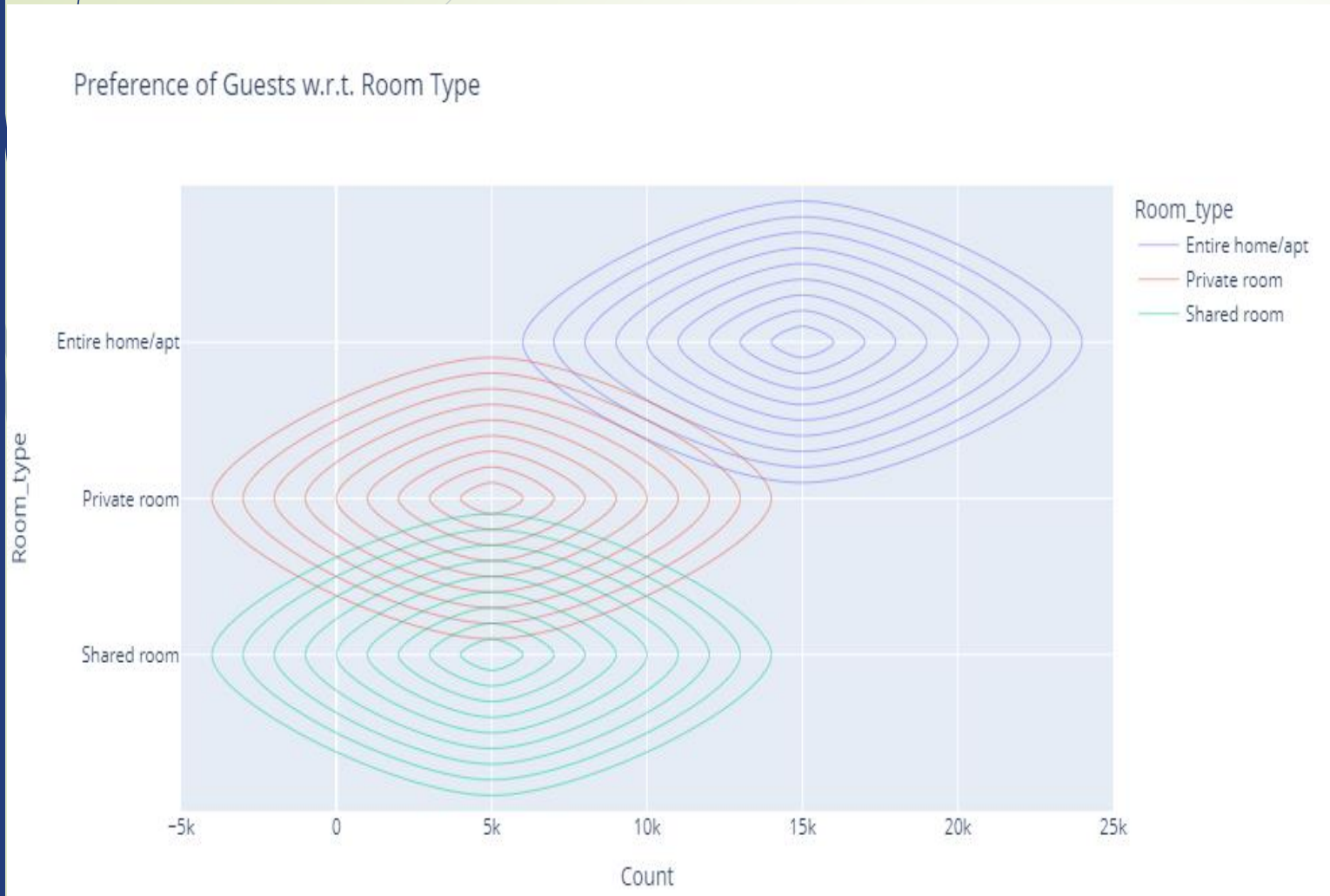
2. Price comparison in terms of "Room Type":



Conclusion:

- From this **"Bar Plot"**, We can say, the ”Centrum West” Neighborhood has the ***Most Expensive “Room Type"*** in terms of **"Entire Home/Apt."**.
- Next, In terms of **"Private Room"**, **"Centrum West** is the ***Most Expensive “Room Type"***.
- Similarly, In terms of **"Shared Room"**, We can see that **"Centrum West", is** the ***Most Expensive “Room Types"***.
- Also we can see that The “Blue” bar represents the Entire Home/ Apt. Also “Orange” bar represents Shared Room and at last “Green” bar represents the private rooms in the visualization.

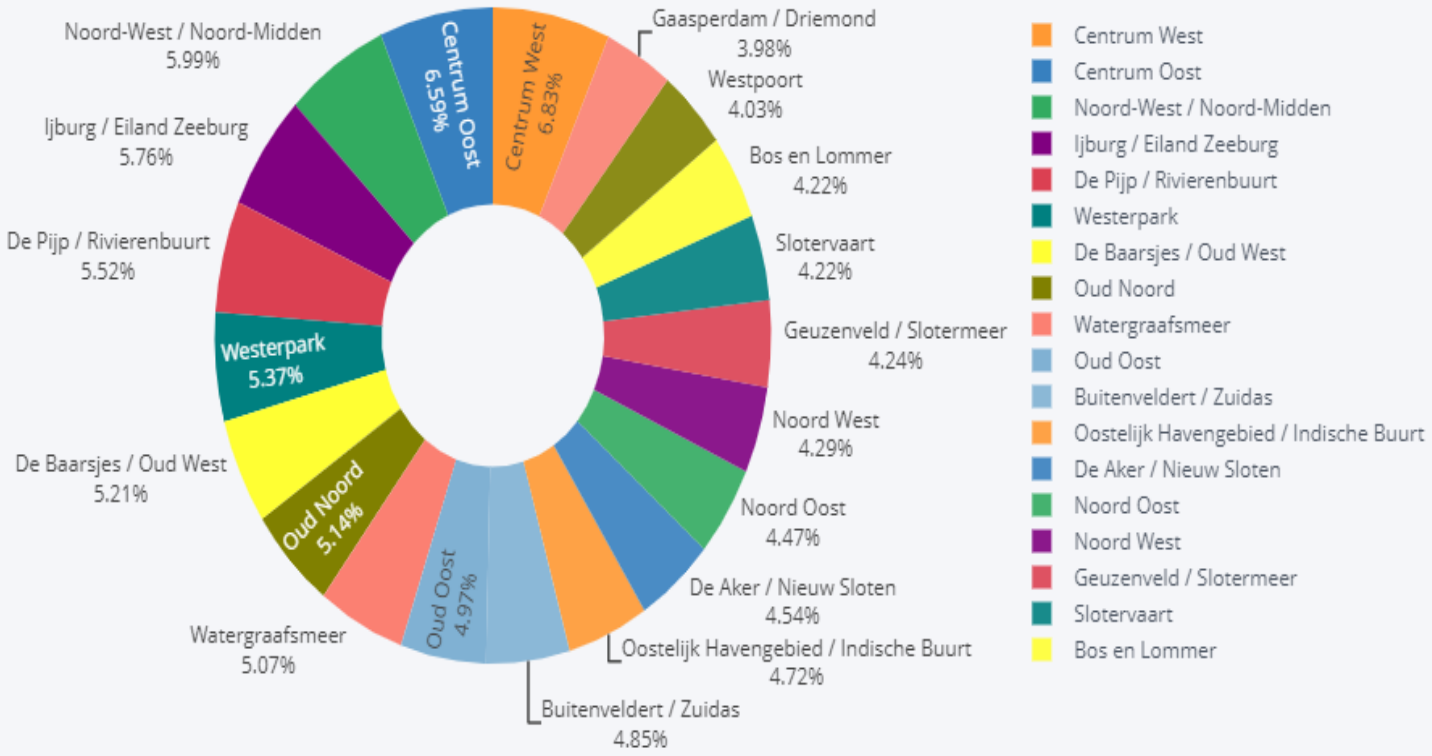
3. Preference of Guests w.r.t. Room Type:



Conclusion:

- This beautiful “Contour" displays the Most preferred ‘Room Type' by Guests.
- To conclude this Chart, We can say, ”**Entire House/Apt”** is the **'Top Most Preferred Room Types”** by the **Guests**.
- From All these Guests Room Preference, We can observe the one thing that ***Mostly Guests*** *prefer* **"Moderate Level Priced" Rooms** not Much Expensive, nor Much Less.

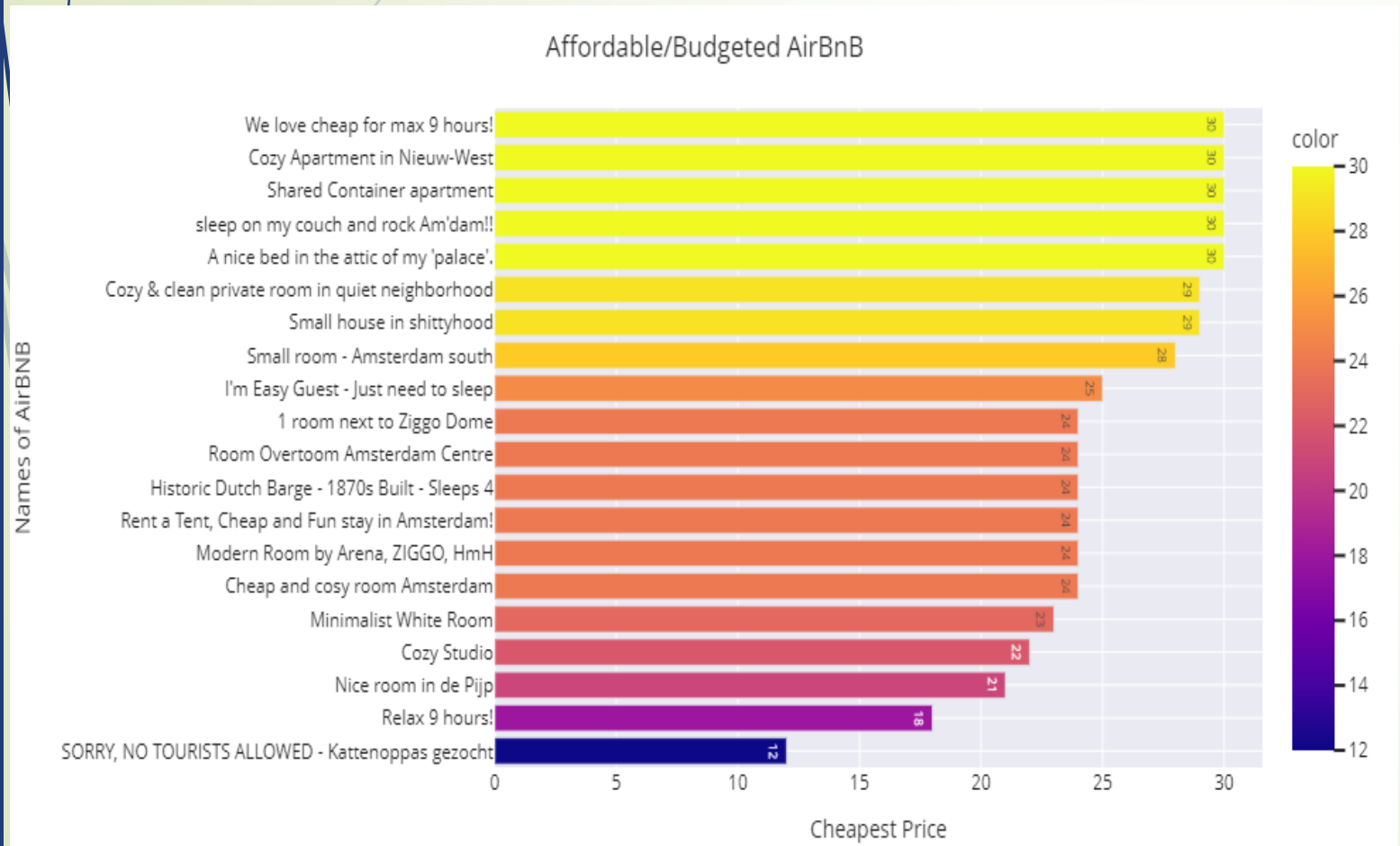
4. Average Price w.r.t Neighbourhood:



Conclusion:

- This beautiful **“Donut Chart"** displays the Most Preferred 'Room Type' by Guests.
- For better understanding lets take an view and analyse the above donut chart. We can clearly see that the percentage of average price in **"Centrum West"** holds **6.83%,** which is higher than all the other neighbourhood.
- And also, we can see the share of **"Gaasperdam / Driemond"** is only **3.98%** which is less as compare to other neighbourhood.

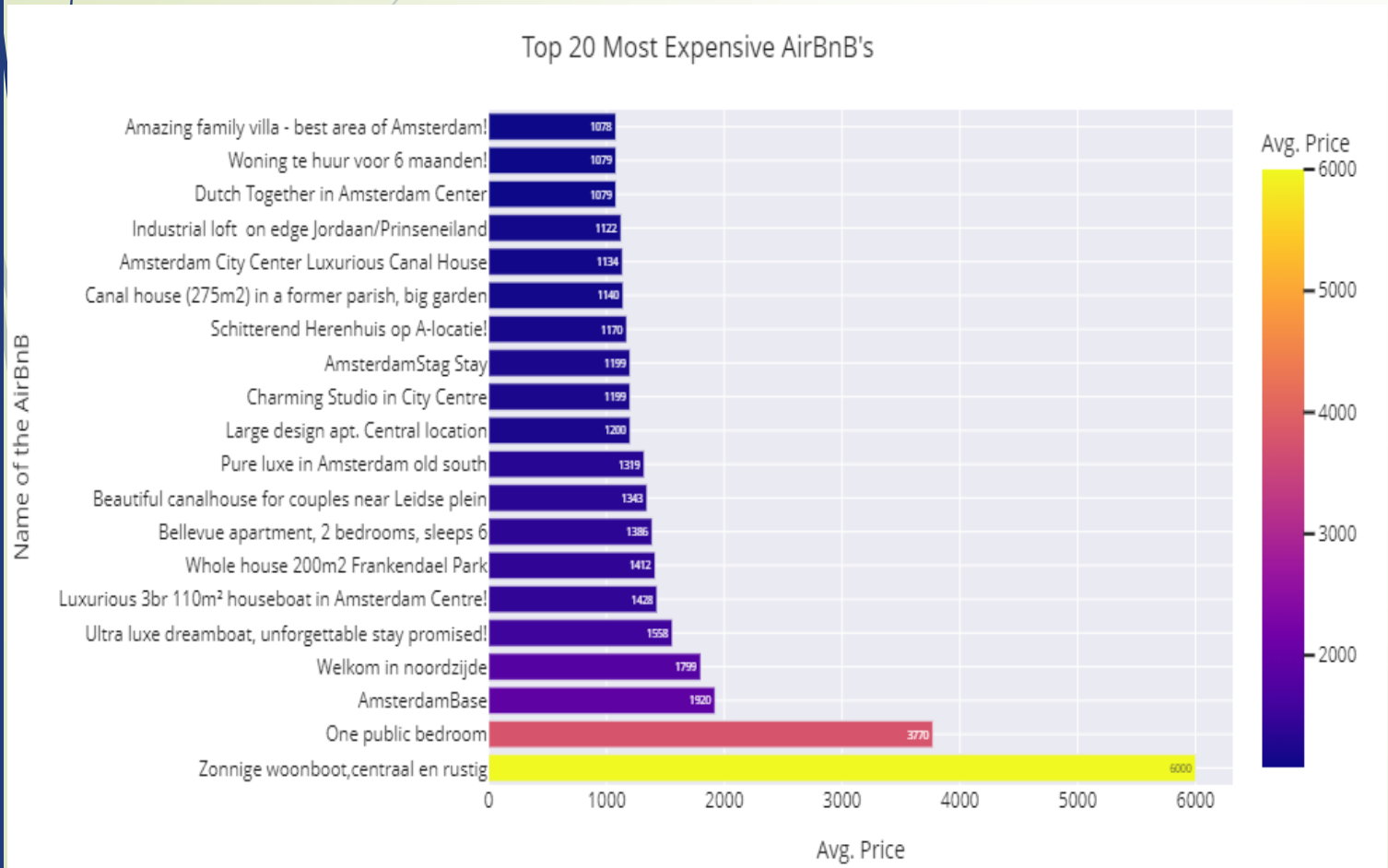
5. Top 20 Cheapest AirBnB with Approx. Price :



Conclusion:

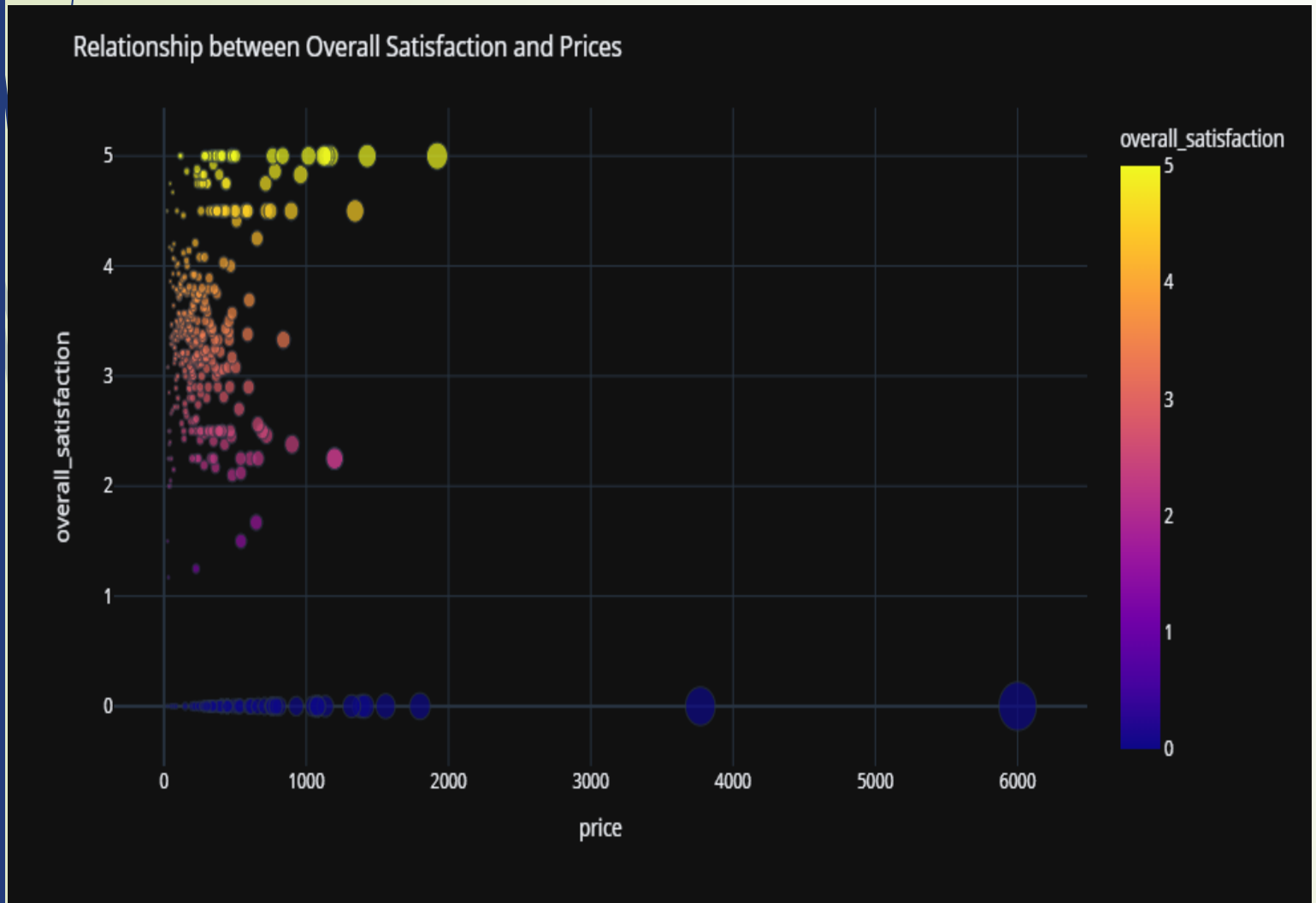
- From the above Bar Chart we can clearly see that in the top 20 cheapest AirBNB **"Kattenoppas gezocht"** is having the lowest price of **"€ 12"**.

6. Top 20 Most Expensive AirBNBs:



- **Conclusion:**
  - From the above Bar Chart we can clearly see that in the top 20 most expensive AirBNB **"Zonnige woonboot, centraal en rustig"** is having the most expensive price of **"€ 6000".**

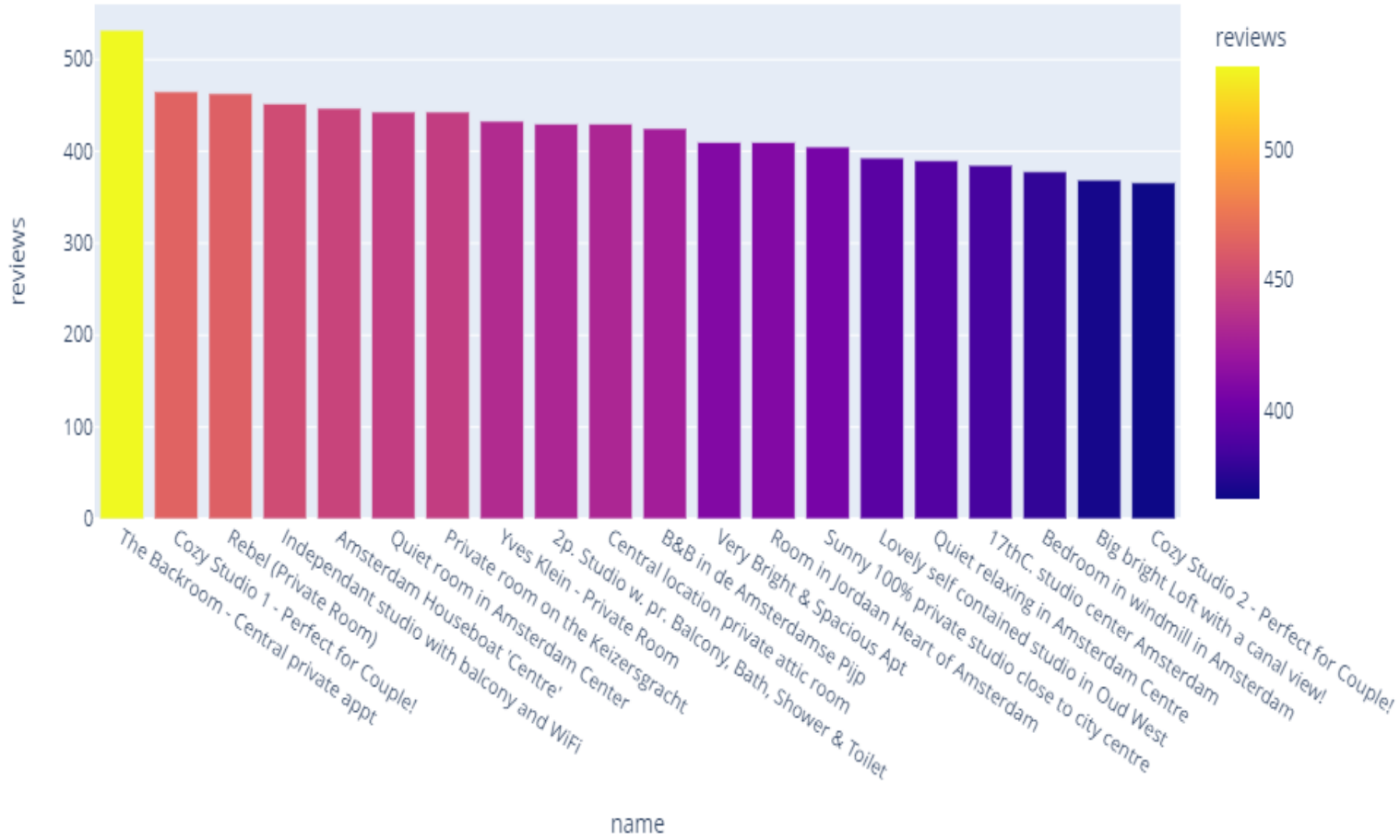
7. Overall Satisfaction w.r.t. Price :



Conclusion:

- In the above scatter plot we can clearly see that if the **"Price"** is **high** than the **"Overall Satisfaction (Quality)"** is **less** and where **"Price"** is **low** the **"Overall Satisfaction (Quality)"** is **High**, for an instance lets take the example where **Price = "€ 112.0"** the Overall Satisfaction is **"5.0"** where if we talk about the **Price = "€ 6000.0"** the Overall Satisfaction is **"0.0"**

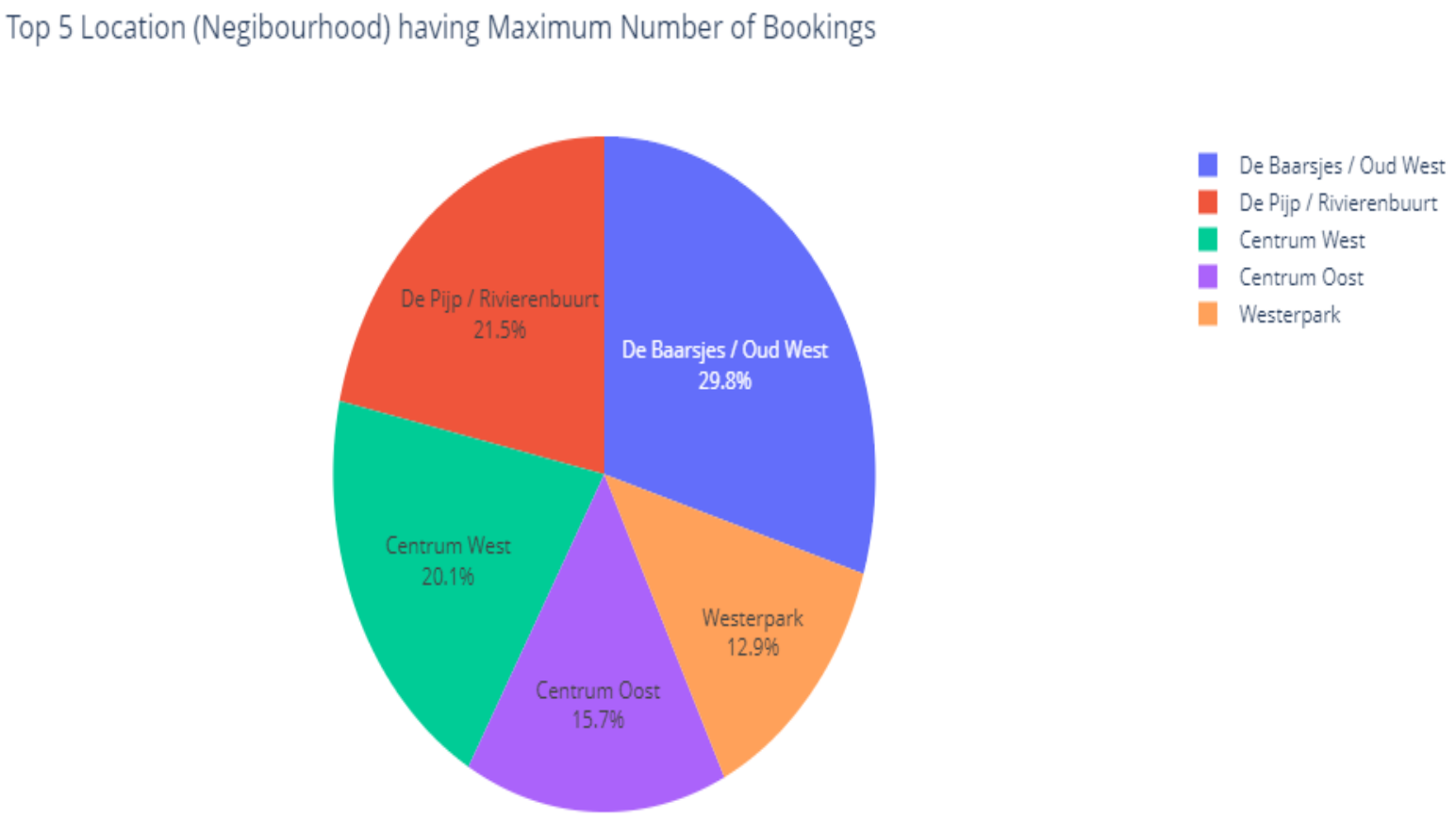
8. Maximum Number Of Booking on an AirBNB



Conclusion:

- From this, we can conclude that “The Backroom - Central private appt ” is Booked sevral times,
- On the other hand we can see that “Cozy Studio 1 - Perfect for Couple!” is at the second position.
- Lastly we can see that “Rebel (Private Room)” is on the 3rd position overall.

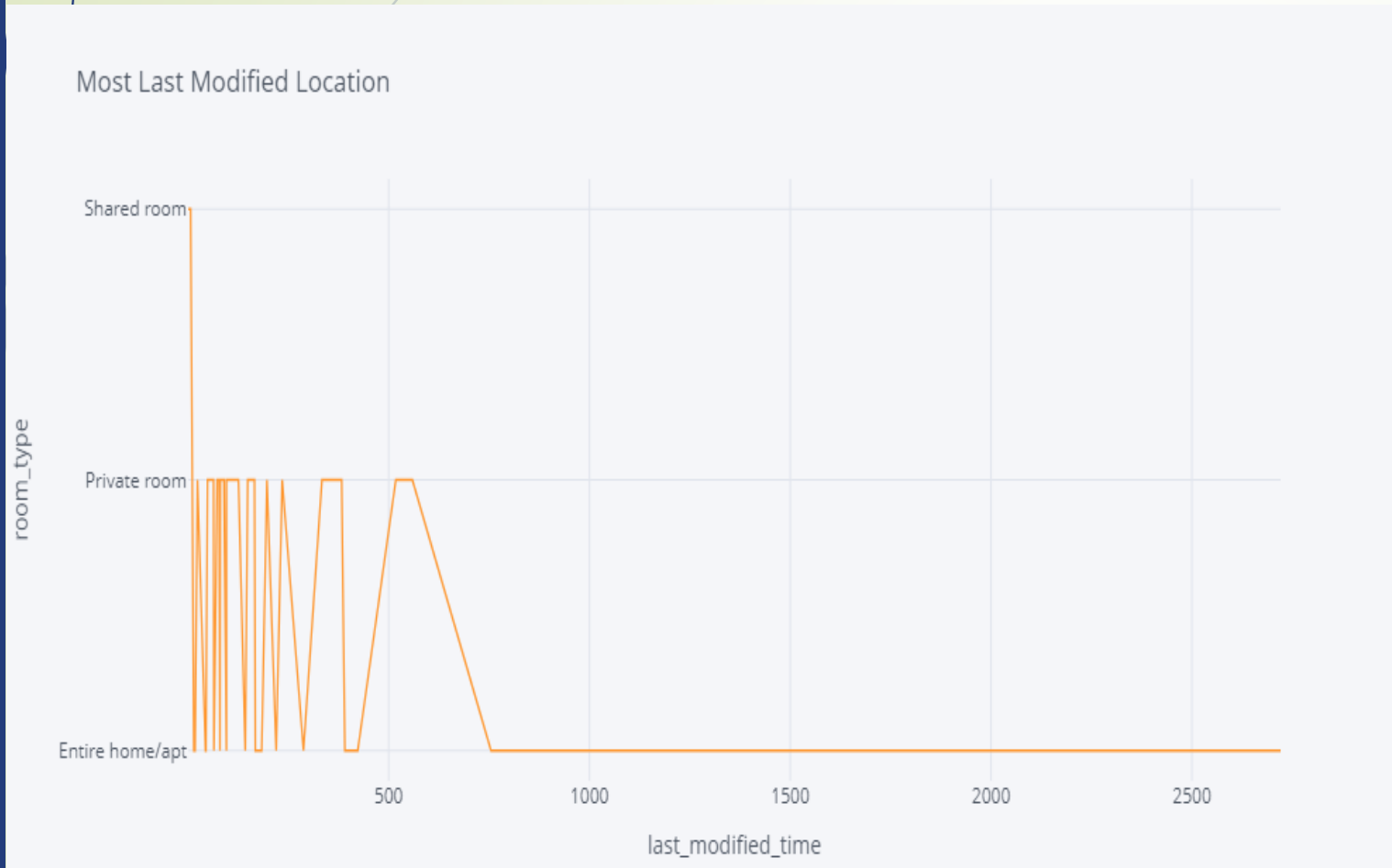
9. Top 5 Locations Having Maximum Booking :



Conclusion:

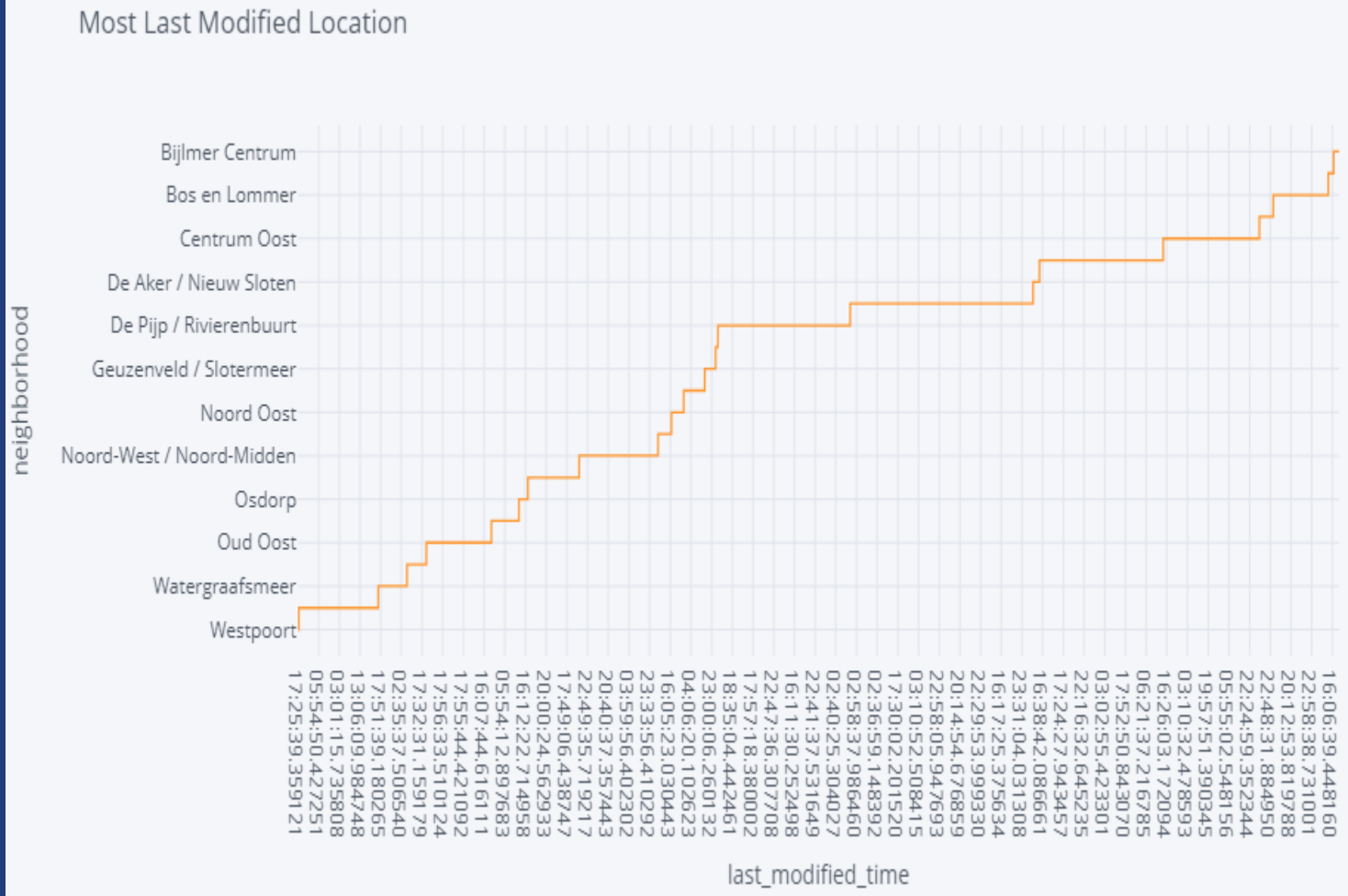
- This Pie Chart, shows ***Top 5 Cities*** who's having ***Maximum Number of Bookings***.
- To conclude above Chart, We can say, ***Most of the Bookings of around "94.4%"*** were takes place for **"De Baarsjes / Oud West" City** as ***lot of Tourist Attractions/Places (Neighborhood)*** are there to ***Explore in the Vicinity of "Amsterdam"*** followed by **"De Pijp / Rivierenbuurt ", "Centrum West"** and so on...

10. Most Last Modification w.r.t. Room Type :



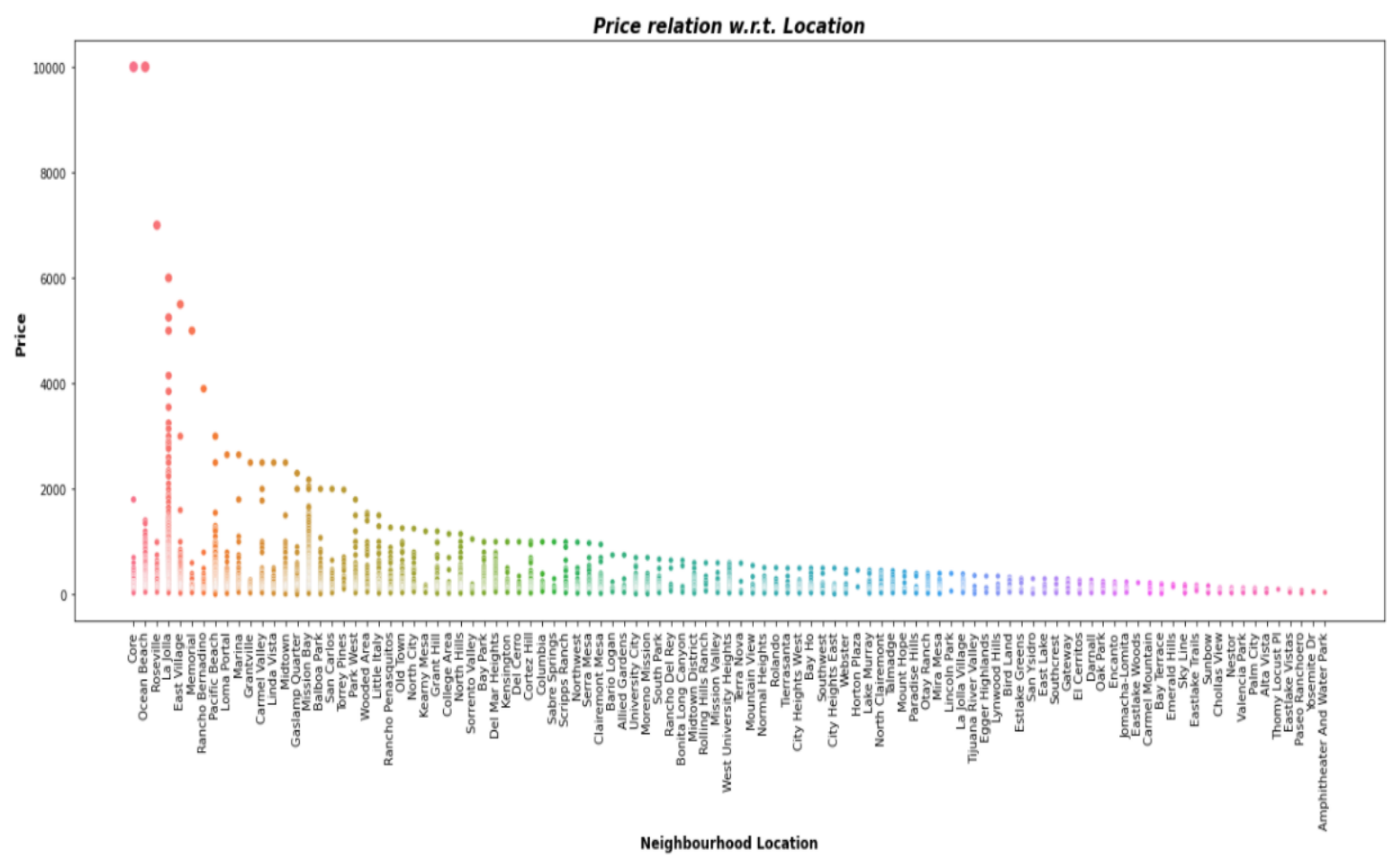
- **Conclusion:**
  - From the above plot we can clearly see the modification with respect to room type and with the help of visual we can clearly see that **"Entire Home/Apt"** has maximum number of modifications

11. Most Last Modified Location:



- **Conclusion:**
  - From the above line plot we can clearly see that the maximum number of modification with respect to location was encountered in different neighbourhood' across Amsterdam, Neatherlands.

12. Price relation with respect to Location - (Price vs. Location)



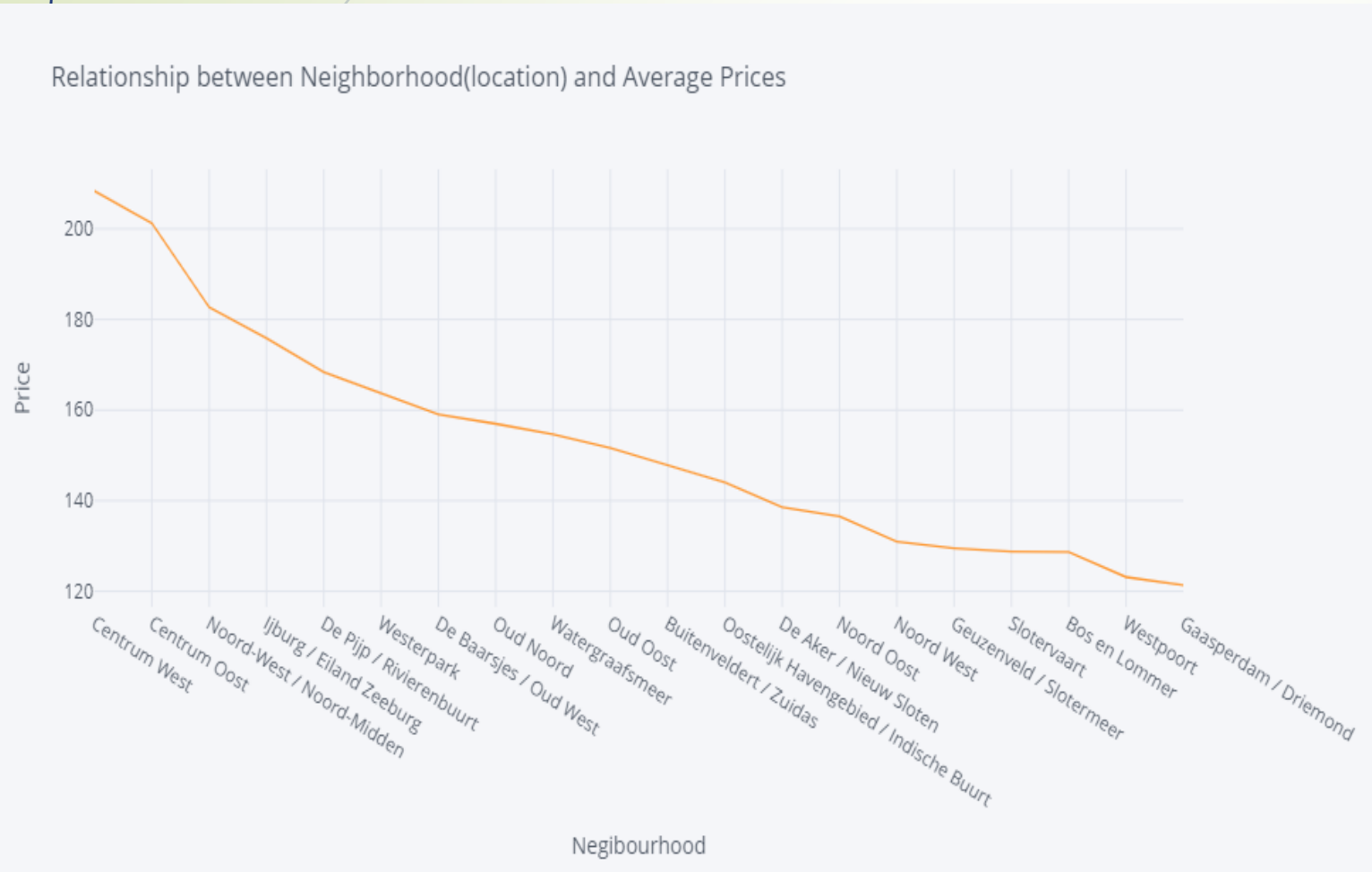
Conclusion:

- In the above Scatter Plot we can see the relationship between Price and Location an it came to our knowledge that the prime location of Amsterdam having higher rates as compare to other locations.

13. Names Of AirBNB on Word Cloud:

- **Conclusion:**
  - From this **"Word cloud"**, We can definitely come-up with some ***Conclusion*** like - These are ***exactly the "Neighborhood" of the AirBNB located within***.

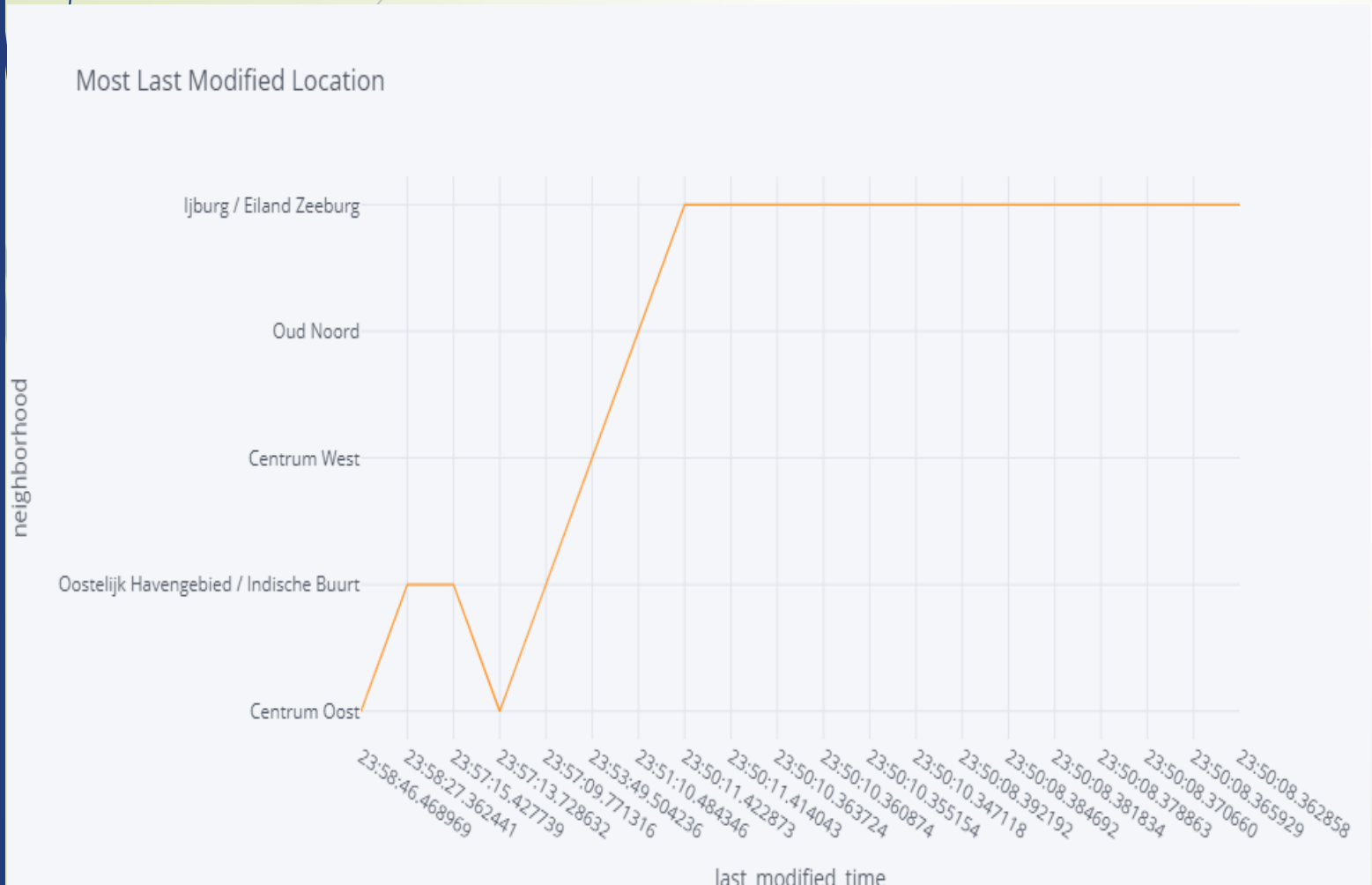
14. Relationship b/w Neighbourhood and Price:



Conclusion:

- In the above analysis we have found that the price and location have a unique relation as the prices are unique on the basis of location or name .
- On the other hand we can clearly see the anlysis of negibourhood vs price in the Scatter Plot and Line Graph. In which it came to our knowledge that the **"Centrum West"** has the highest average price i.e. **"€ 208.31"** also **"Centrum Oost"** is on second position with the average price of **"€ 201.22" while "Noord-West / Noord-Midden"** retains the 3rd position in terms of average price of **"€ 182.73".**

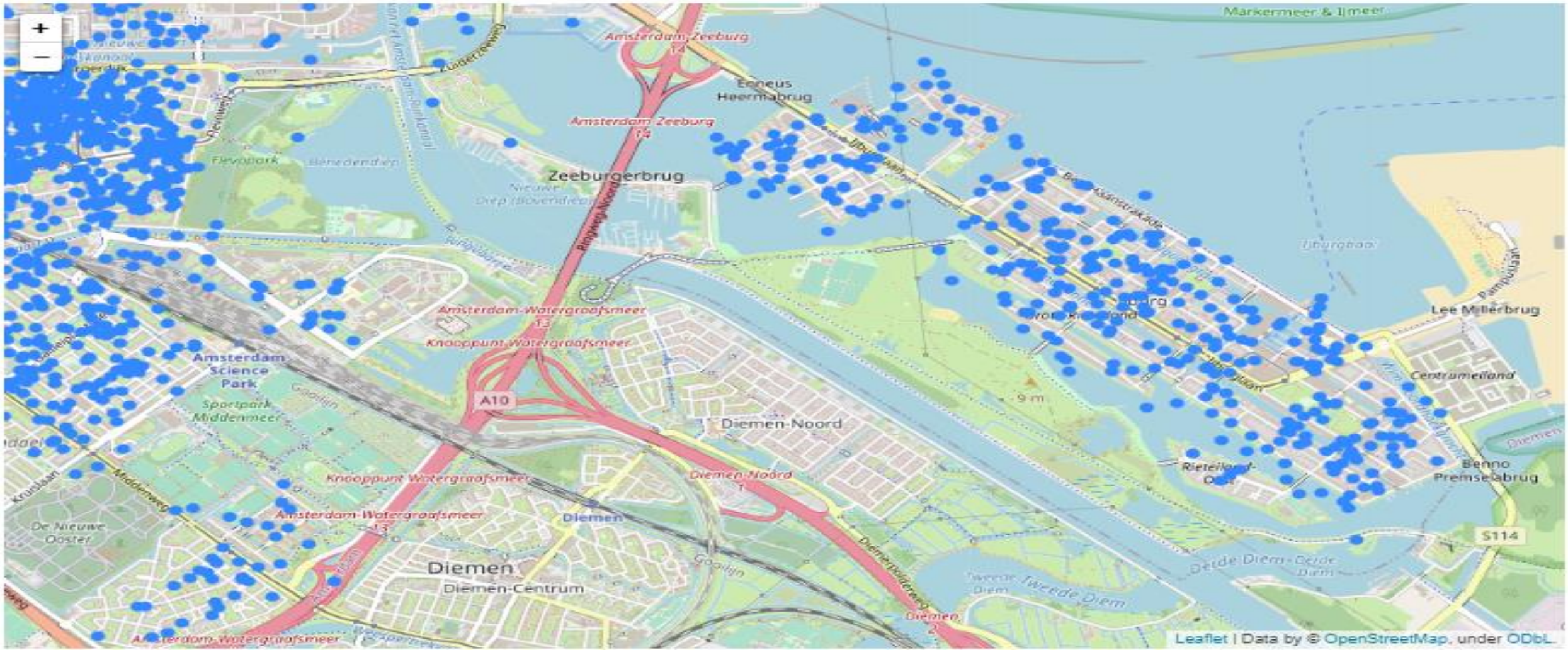
15. Last Modification w.r.t. Top 5 Neighbourhood :



Conclusion:

- From the line plot we can clearly see that the top 5 location where most modification was performed.
- Also we can clearly see that “Ijburg / Eiland Zeeburg” have the most number of modification done by the host.

15. Map View Of AirBNB in Amsterdam:



Thank You,
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