HOMEINTEL

USER GUIDE V1.0

Visualizing HDB Resale Price

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1. Introduction

PROBLEM & MOTIVATION

82% of Singaporeans live in a HDB flat. Most Singaporeans only start dreaming of buying their own flats when they are getting married. Afterall, owning a flat in Singapore is a huge financial commitment and many are worried about the financial burden that comes together with owning their dream house. Thus, many potential buyers take time to look up the internet for information only to find out that these data do not offer great insights to them.

In addition, housing is also considered as a form of investment to many potential buyers as they intend to sell their houses one day to upgrade into a better house. They would like to see how each flat with specific traits like region, floor area, storeys and other factors may contribute to the resale price.

We hope that the visualization dashboards will help potential buyers see data that best represent the current resale flat industry and allow buyers to analyse and compare the costs of owning a flat across different towns, prioritize what is important to them, before deciding their dream home.

OBJECTIVES

1. Allow users to gain overall insights on resale price rends over the last 5 years (2015 to 2019)

2. Understand the key factors that affect resale prices (such as average resale price by region, storey etc)

3. Gain insight on the town area which has the highest investment potential for housing flat

TEAM MEMBERS

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Fig 1. Introduction

This is the home page of Home Intel as can be seen on https://homeintel.shinyapps.io/HomeIntel/. The user can read the problem, motivation and objectives that we would like to address. It is common for people to be worried about not getting the best price for their dream home and there is just too much information scattered all over the internet which would take hours for one to read up on. Therefore, we believe that it is important to address this issue and create a visualization tool that can aid the public in their decision-making process. In this project, we will be analyzing the resale prices of 26 towns in Singapore from 2015 to 2019.
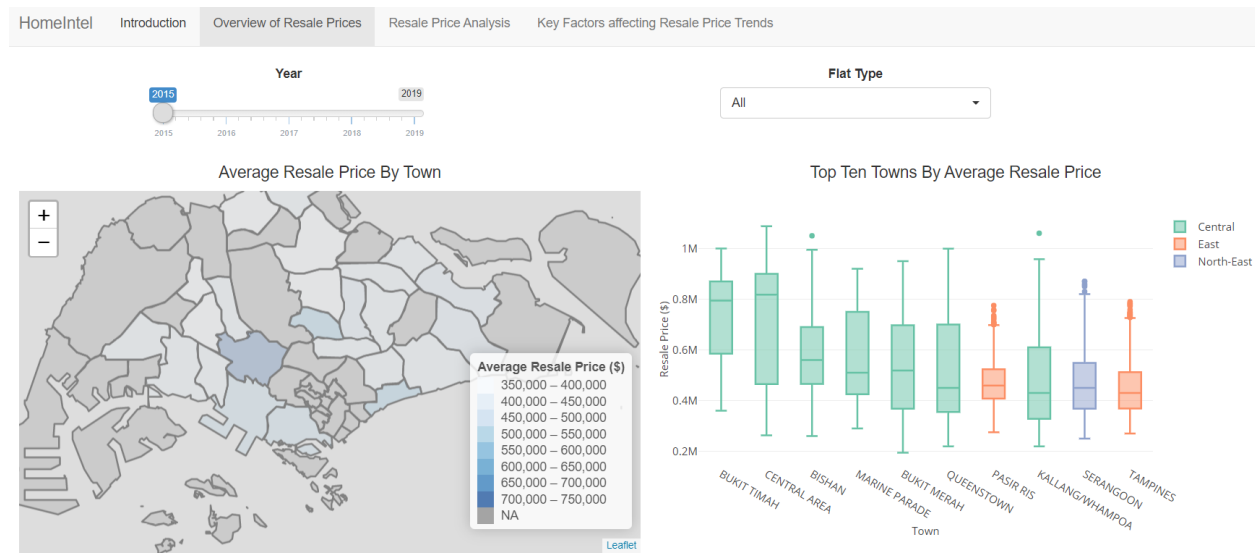
Dashboard 1: Overview of Resale Prices

Fig 2. Dashboard 1 – Overview of Resale Prices (Full)

In the Overview of Resale Price tab, user will be able to see a map which show the average resale prices across the different towns. The boxplot shows the distribution of resale prices for the top 10 towns sorted by the average resale price (left to right).

Fig 3. Dashboard 1 – Overview of Resale Prices (Filtering)

The user can filter these visualizations by the year using the slider (2015 -2019) and flat type of their preferred choice (1 Room, 2 Room, Executive, etc.).

When hovering over the town on the map, user will be able to view other relevant information such as the average, median and number of flats sold based on the filtered selection. As for the boxplot, the user can see the minimum, Q1, median, Q3 and maximum resale price.

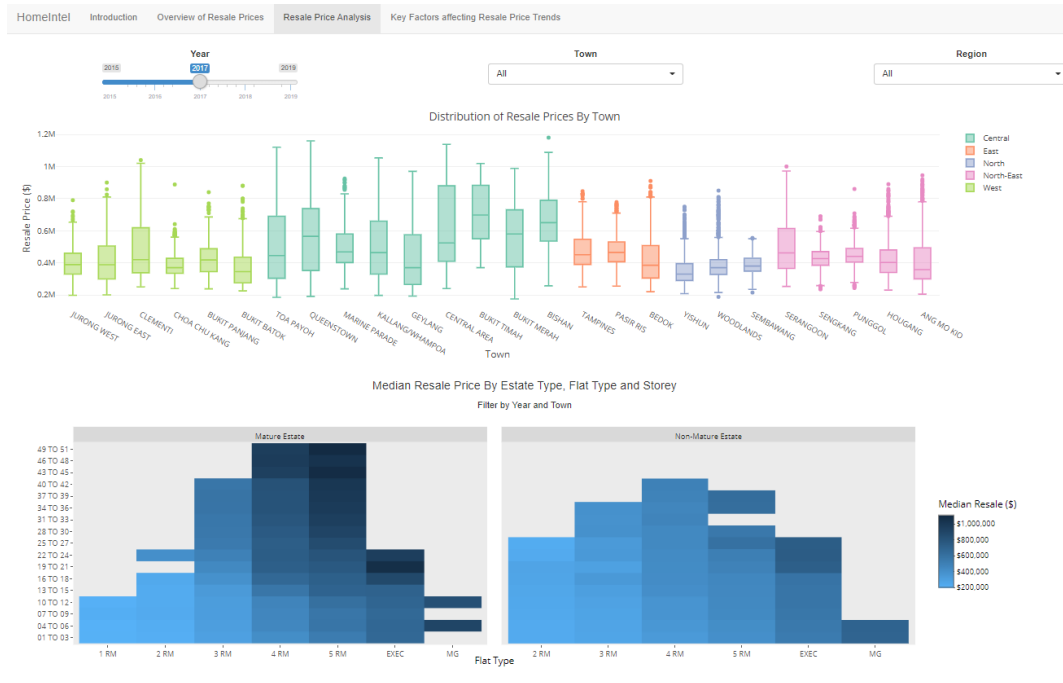## *Dashboard 2: Resale Price Analysis*

Fig 4. Dashboard 2: Resale Price Analysis (Full)

In the Resale Price Analysis tab, the user can see the boxplots and a heatmap. The boxplot shows the distribution of resale prices across the different towns. The color of each boxplot is based on the region. Refer to the legend on the right side to find out which region a town belongs to.
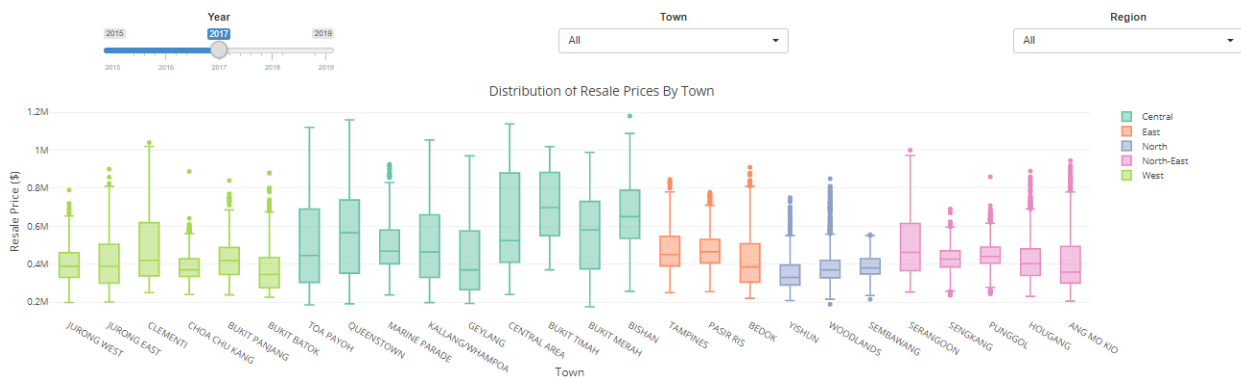

Fig 5. Dashboard 2: Resale Price Analysis – Distribution of Resale Prices By Town (Filtering)

The user can filter the boxplot by year, town and region. The range of years included is from 2015 till 2019. There are 26 towns that can be filtered. The boxplot can also be filtered by Region to make it easier for users to compare prices of towns within the same region.
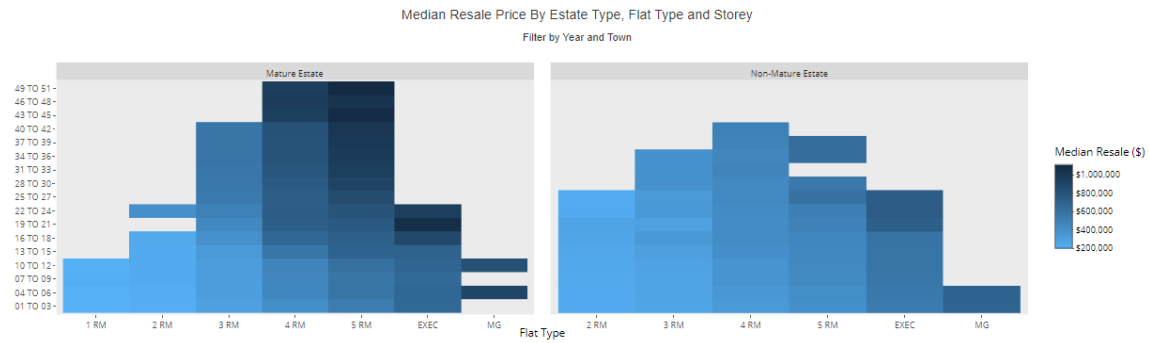
Fig 6. Dashboard 2: Resale Price Analysis – Median Resale Price by Estate Type, Flat Type and Storey (Full)

In the heatmap above, the user will be able to view the price density of each flat type against the various storey range. The color intensity of the heatmap represent the median resale price. The darker the color, the higher the amount. Some of the cells are empty (in grey) since some towns do not have a specific flat type/storey range available. The user can filter this visualization by year and town.

Dashboard 3: Key Factors Affecting Resale Price Trends

Fig 7. Dashboard 3: Key Factors affecting Resale Price Trends (Full)

In the "Key Factors Affecting Resale Price Trends" tab, the user can see a line chart which shows the number of units sold by town and the average resale price by town over time. With this information, the users may also see how the general market for this particular town or flat type is performing by multiplying the count and the average resale price.
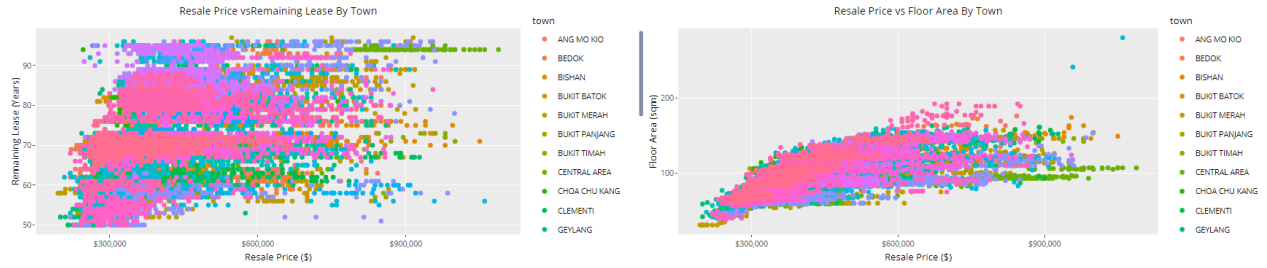
Fig 8. Dashboard 3: Key Factors affecting Resale Price Trends – Resale Price vs Remaining Lease By / Floor Area By Town

The scatterplots at the bottom of the dashboard shows the relationship between resale price and the remaining lease/floor area by town.
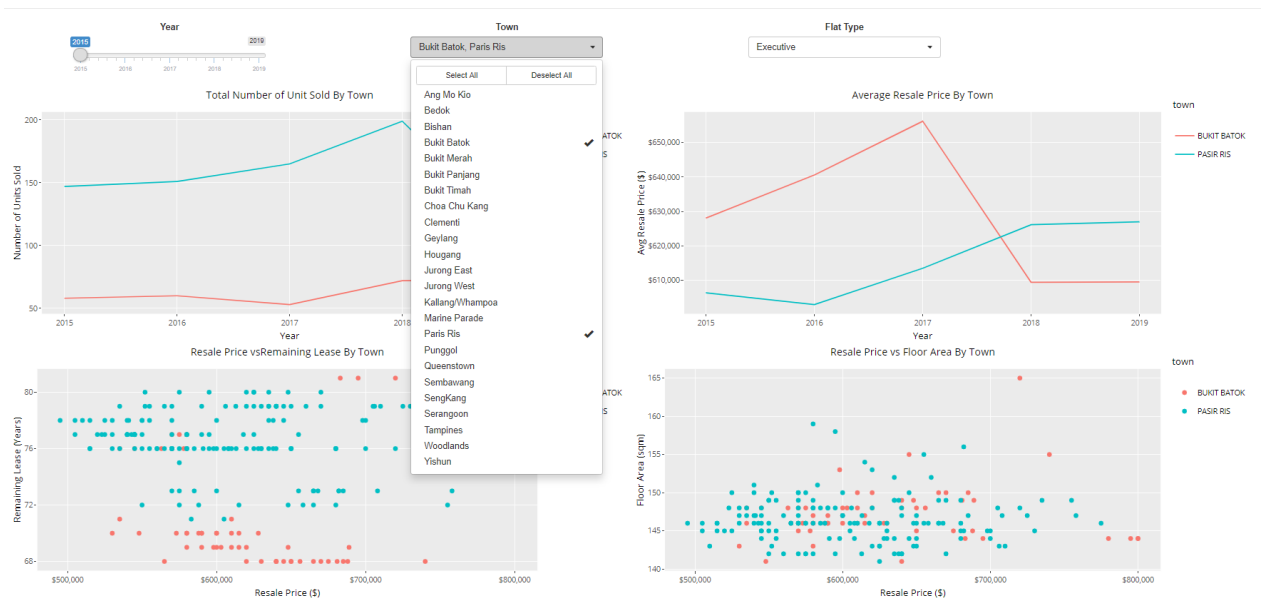

Fig 9. Dashboard 3: Key Factors affecting Resale Price Trends (Filtered)

The user can filter the visualizations in the dashboard by year, town and flat type. For the town filter, the user can select up to 5 towns at once. The user can then pick a flat type to produce a comparison. Based on the filters selected, the user will then be shown a graph like the one shown above.

If there is no such flat type in the town, an error message will be shown. Select a different option in the filter or select All.
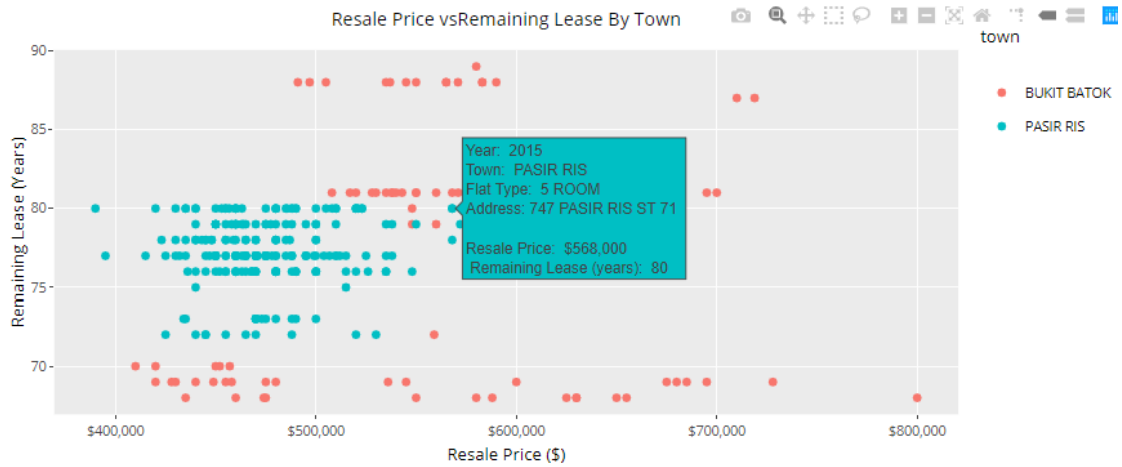
Fig 10. Dashboard 3: Key Factors affecting Resale Price Trends – Resale Price vs Remaining Lease By Town

User can also hover over each point to get more detailed information and have a better understanding of each node. User can also select a year that they are interested in to understand the relationship between the various factors at a deeper level.

- End of User Guide -