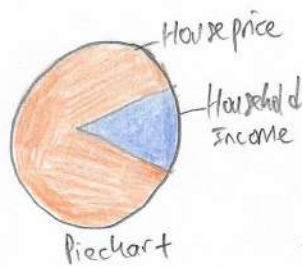
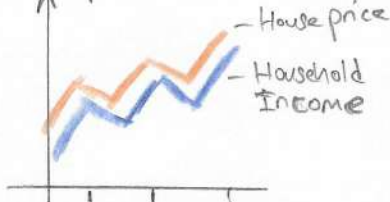
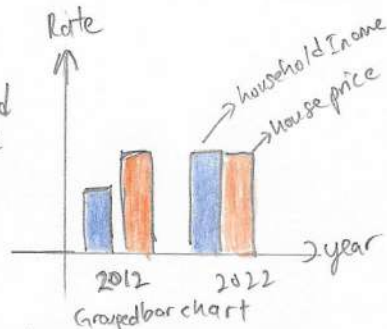


IDEAS

Rate per 1000

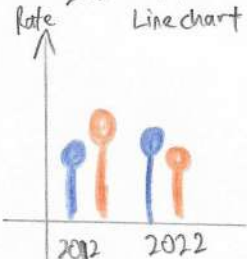


Piechart

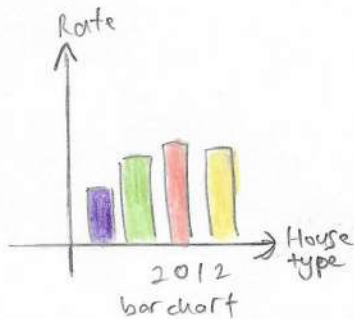


Grouped bar chart

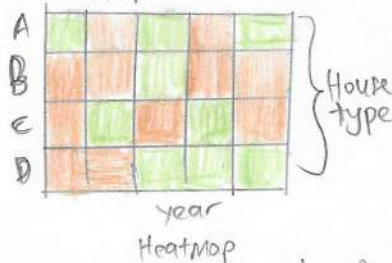
2012 2019 2022
Line chart



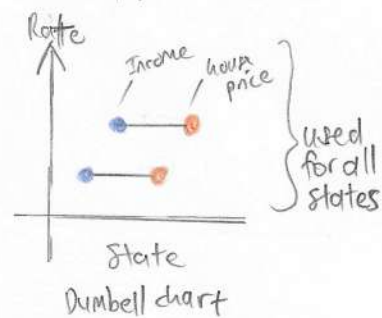
lollipop chart



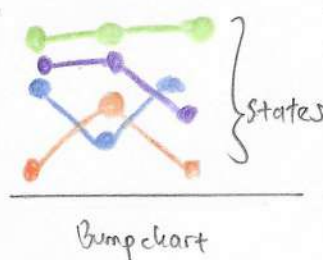
bar chart



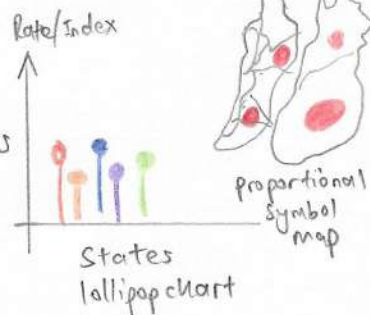
Heatmap



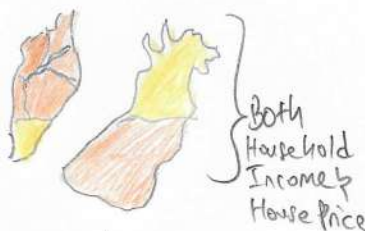
State Dumbbell chart



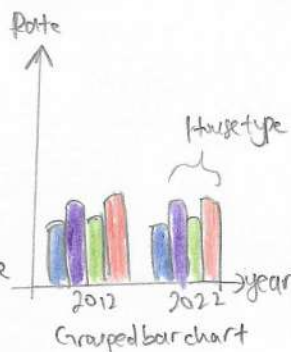
Bump chart



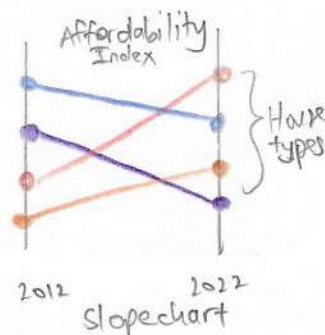
States lollipop chart



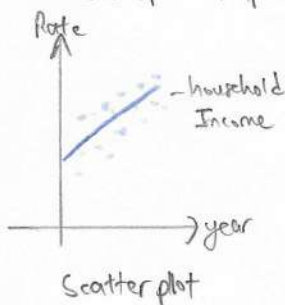
choropleth map



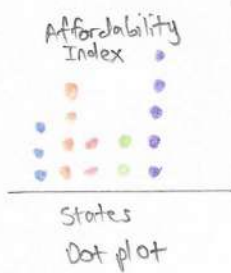
Grouped bar chart



Slope chart



Scatter plot



States Dot plot

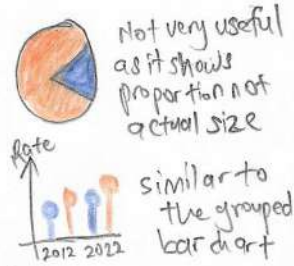


Stacked bar chart



Dot map

FILTER



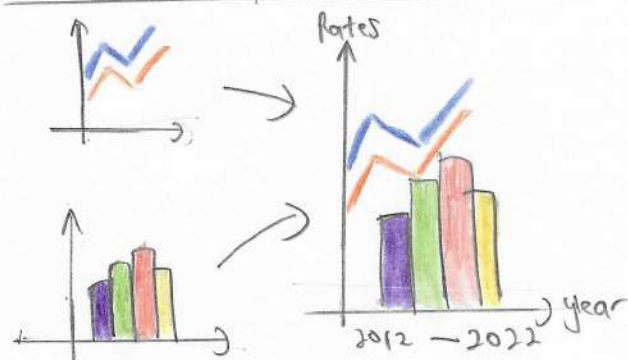
CATEGORISE

Overall Trend in time series
↓
State based comparison
↓
House type comparison
↓
Gap between income and house price
↓
Relationship between price and income

QUESTION

- 1) Does it show how the household income and house price changed over time?
- 2) Is the visualisation doable?
- 3) Does COVID-19 (2020-2021) affect the household income and house price?

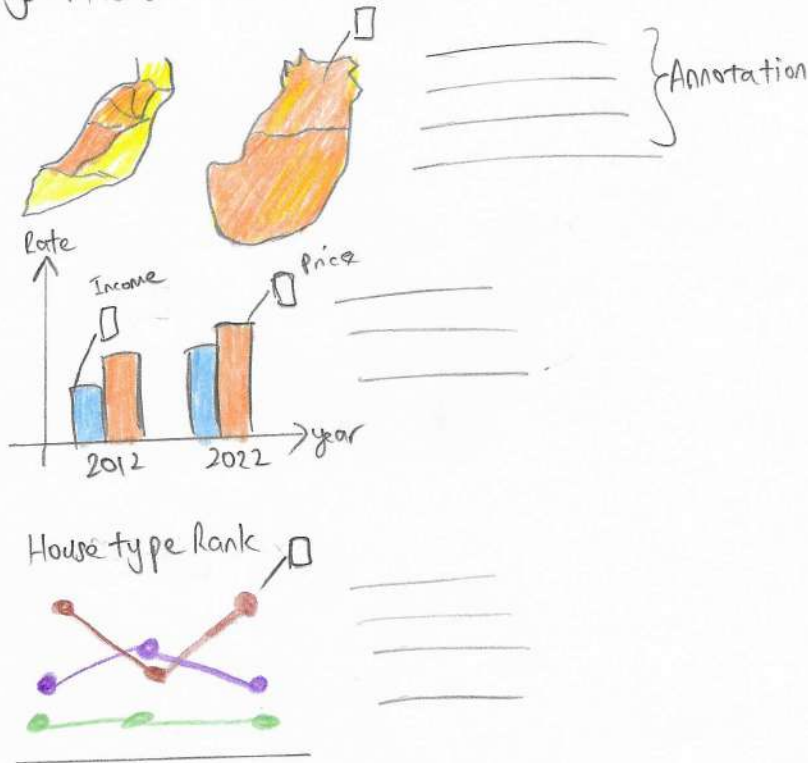
COMBINE & REFINES



LAYOUT

Title: Vertical layout
Author: Gurgobind Singh
Date: 10/10/2025
Sheet: 2
Task: Design vertical magazine

Malaysia Household Income vs House Price



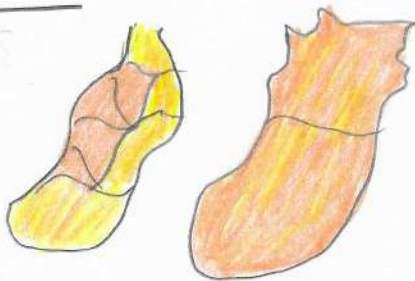
OPERATIONS

- - Refers to the tooltips (annotated description) when the cursor is above the idiom.
- ≡ - Annotation/description of the idiom.

DISCUSSION

- 1) The idioms are arranged neatly.
- 2) Maybe not suitable for a single HTML page cause it might need more space.
- 3) Provides lesser engagement with user.

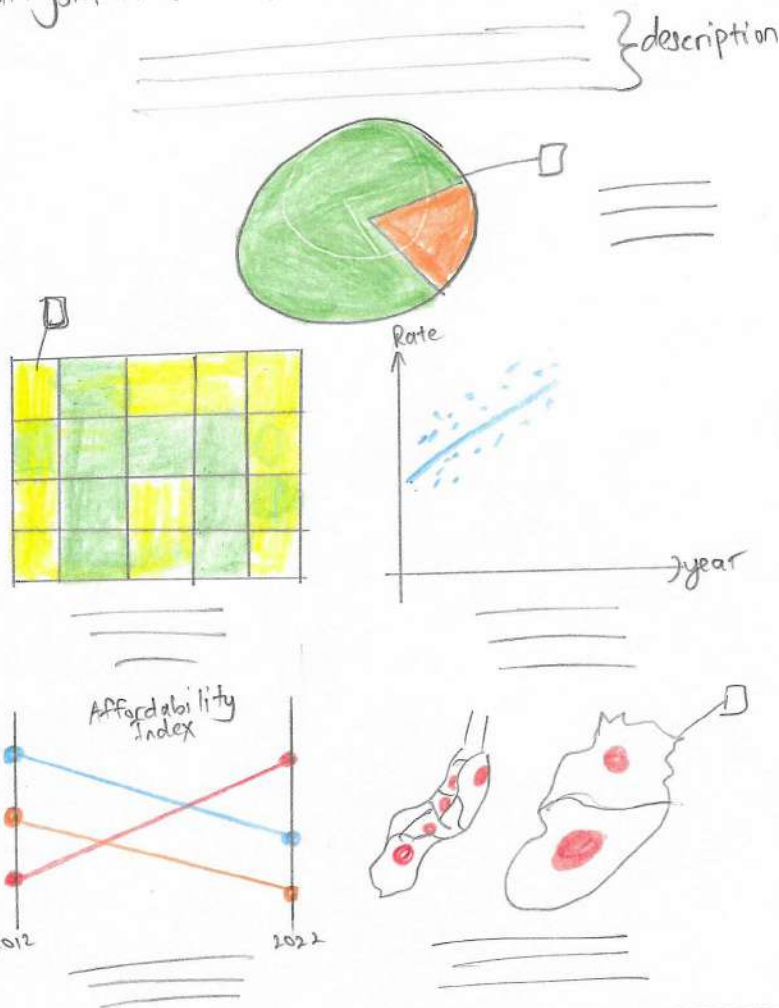
FOCUS



Focus on highlighting the overall affordability of houses by states throughout the years (2012-2022). The user attention is drawn to the first idiom as it is at the top and often bigger than other idioms. This idiom tells the story of the evolving of house affordability throughout the years for each state in Malaysia.

LAYOUT

Malaysia Household Income vs House Price (2012-2022)



Title: Narrative view
Author: Gurgubind Singh
Date: 10/10/2025

Sheet: 3

Task: Narrative visualisation for viewers

OPERATIONS

☐ Refers to the tool tips when the cursor is above the idiom.

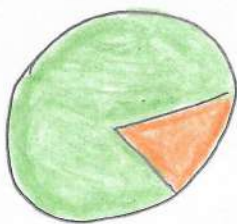
▨ - scrollable option, easier for viewers to view bigger idioms.

≡ - provide descriptive story based on the idiom.

DISCUSSION

- 1) The large font size will attract viewers attention as it has a higher visual hierarchy
- 2) The scroll option is good if the idioms require more space to be displayed.
- 3) There are no filter for the viewers which makes it difficult if a viewer wants to observe a particular state income or house price.
- 4) The white space between the idioms might be too little which may cause the idioms to look like it's joined and not separate.
- 5) A proportional symbol map might not be suitable as some states are small size. Thus, it may overlap or obscure the smaller states.

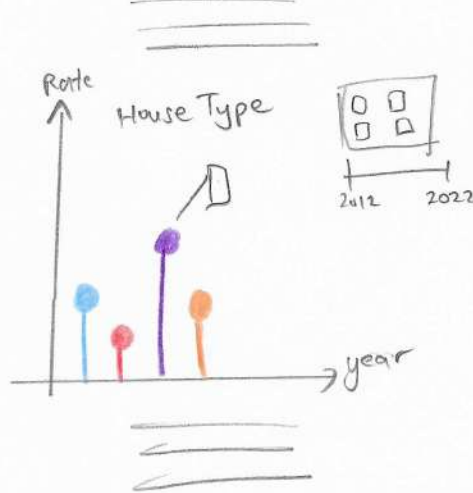
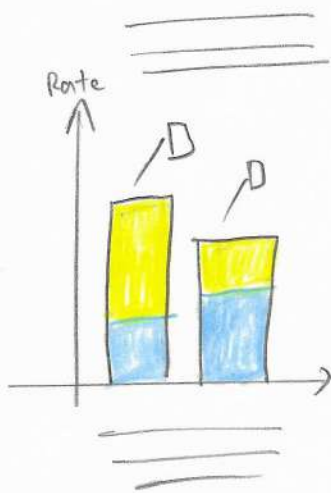
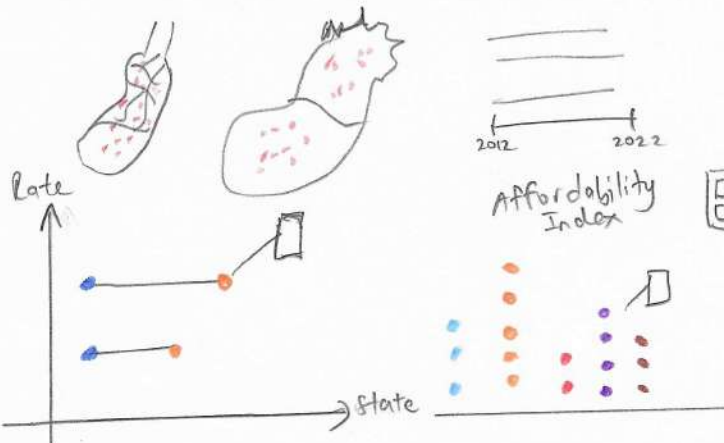
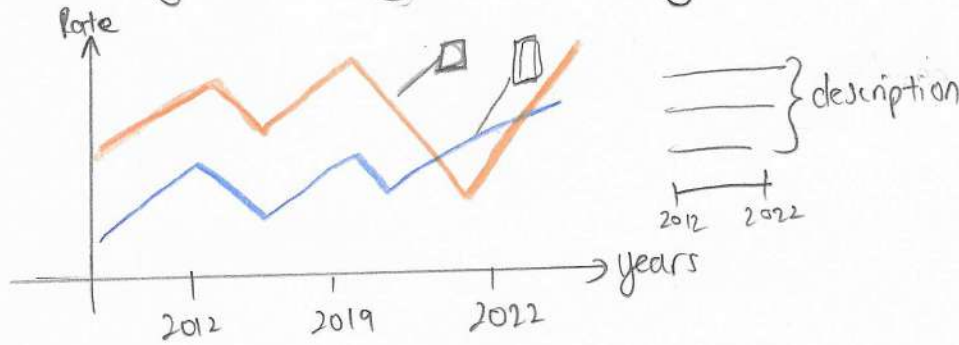
FOCUS



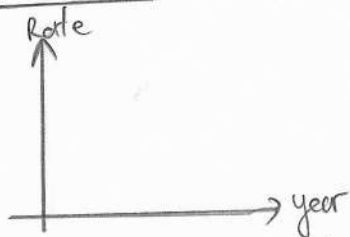
Focus on highlighting the overall total 'Household Income' and 'House Price' in percentage from 2012-2022. This idiom is bigger to capture viewers attention, thus making it the main focus.

LAYOUT

Malaysia Housing Affordability



FOCUS



Focus on highlighting the overall long term trend of the household income and house price. The user attention is drawn at the lines which tells the story of the housing affordability, whether its increasing or decreasing.

Title: Storytelling
Author: Nurgobind Singh
Date: 10/10/2025
Sheet: 4
Task: Malaysia Household income and house price visualisation

OPERATIONS

□ - Refers to the tool tips when the cursor is above the idiom.

□□ - Refers to the legend selector

2012 2022 - Refers to the year slider to adjust the years displayed.

≡ - Provide descriptive story based on the idiom.

▨ - scrollable option for viewers to view bigger idioms.

DISCUSSION

1) The main focus idiom might be too larger which may disrupt the sightlines.

2) The dot map might not be suitable as the dataset is aggregated at state level not district or individual locations.

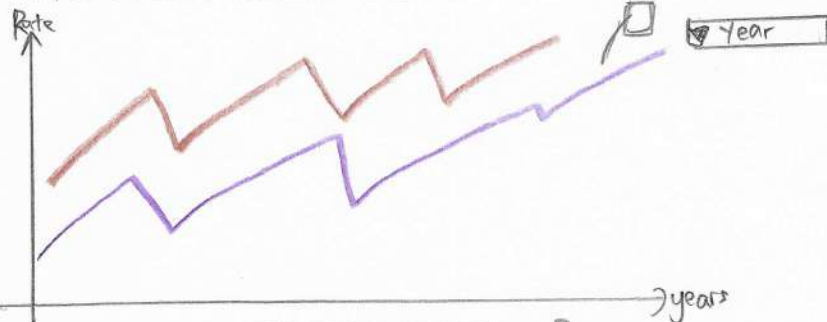
3) Scroll option is good for viewers to view bigger idioms.

4) The legend selector is good for viewers to filter for a particular state.

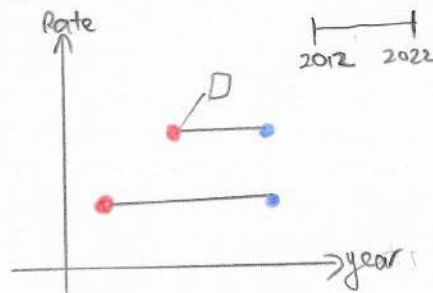
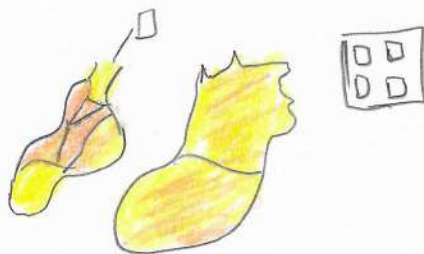
LAYOUT

Malaysia Housing Affordability

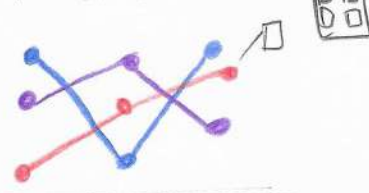
Intro:



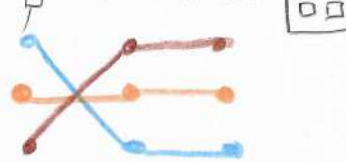
} description



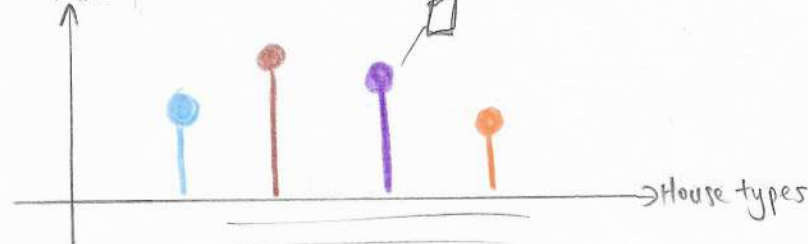
Household Income



House Price



Rate



Title: Malaysia Housing Affordability

Author: Gurubind Singh

Date: 10/10/2025

Sheet: 5

Task: Design Final layout

OPERATION

□ - Refers to the tooltips which works when the cursor is on the idiom.

▼ Year - Dropdown selection for year

2012 2022 - Slider selection for year

□ □ □ □ - Legend selector

DETAILS

- Dependencies: HTML, Excel, Vega-Lite, R and JavaScript for data cleaning and website development
- Estimated time and effort: At least 4 days to build all idioms and 2 days for final design and layout.
- Should be free cost.
- Requirements: Need a decent screen (13 inch and above) to observe all idioms clearly.

FOCUS



The main focus chart is the overall household income and house price over the years (2012-2022). This chart is the first chart to be seen and the biggest to attract viewers attention. The other charts are equally important and will have similar sizes.