

## **FIT3179 Data Visualisation 2 Proposal**

### **DOMAIN:**

The domain of my visualisation is housing affordability in Malaysia, focusing on the relationship between house prices and household income from 2012 to 2022. The visualisation will explore how affordability has changed over time across different states, highlight the widening or narrowing gaps between income growth and house price increases, and allow comparisons of affordability rankings between states. By examining price-to-income ratios, the charts will reveal spatial and temporal disparities, provide insights into regional inequality, and illustrate how economic shifts during this period have affected housing accessibility for Malaysian households. This visualisation will be useful for policymakers, urban planners, and researchers to identify areas with critical affordability challenges, as well as for the public and prospective homeowners to better understand the housing market landscape in Malaysia.

### **WHY:**

Housing affordability is a growing concern in Malaysia, where the rise in house prices has often outpaced household income growth. Understanding the dynamics between these two variables is essential for assessing whether Malaysians can realistically afford homes in different states. By visualising the relationship between median house prices and median household income over time, this project aims to reveal trends in affordability and highlight regions where the cost of housing has become increasingly disproportionate to income levels.

This analysis is significant because it provides a clear, data-driven perspective on an issue that directly affects quality of life, economic stability, and social equity. Policymakers can use the insights to design targeted interventions and housing policies, while researchers and the public can better understand how economic and regional differences influence housing accessibility.

## DATASETS:

### Source:

National Property Information Centre: <https://napic2.jpph.gov.my/en/data-visualization?category=18&id=64>

OpenDOSM: [https://open.dosm.gov.my/data-catalogue/hh\\_income\\_state](https://open.dosm.gov.my/data-catalogue/hh_income_state)

**Author of datasets:** National Property Information Centre, Department of Statistics Malaysia

## DESIGN IDEAS:

To effectively communicate the relationship between house prices and household income across Malaysian states and over time, several visualisation idioms are suitable to be used:

- **Choropleth Map:**  
To display the spatial distribution of housing affordability across Malaysian states. Each state will be shaded according to its price-to-income ratio, allowing quick identification of regions that are more or less affordable. This idiom is ideal for revealing regional disparities and spatial inequality.
- **Bar Chart:**  
To compare affordability levels (price-to-income ratios or median prices) between states for a selected year. It effectively highlights rankings and relative differences across regions, especially when emphasizing the top or bottom performers.
- **Line Chart:**  
To show how median house prices, median household income, and affordability ratios have changed over time (2012–2022). This idiom is suitable for illustrating temporal trends and detecting widening or narrowing gaps between income and price growth.
- **Bump Chart:**  
To visualise the changes in state affordability rankings over time. This idiom effectively highlights how states have moved up or down in terms of affordability, revealing shifts in relative housing accessibility across regions.