# FIT3179 Data Visualisation: Assignment 2

# Design Planning

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# Domain

The domain for this project is the state of the housing market in Melbourne between 2016-2018.

# Who are the users?

This visualisation will be targeted at anyone interested in **exploring** various aspects of how properties are bought and sold in Melbourne.

# Why?

Users may find this interesting as it shows the state of the housing market from a wider lens than if they were to conduct research on the market manually (e.g. browsing through Domain.com.au for house prices).

# Datasets

<https://www.kaggle.com/anthonypino/melbourne-housing-market>

# Design Ideas

I will attempt to create this visualisation following a Martini-glass style narrative structure [1, 2] that will display first display some key facts regarding the OVERALL state of the housing market.

The visualisation will then open to a wider visualisation view that encourage the user to explore and generate their own insights, given more complex prompts that require them to investigate further.

# Questions

# Author-driven questions (questions, annotations, labels)

1. **New Kids On The Block:** Which suburbs were considered popular and how it did it change from 2016 to 2018?
   * Popularity = High frequency in properties sold vs. unsold
   * Bump chart showing top 10 popular suburbs across 3 different years
   * Theme: suburb comparison, ‘hot’ properties
   * Chart, line chart

     Description automatically generated
   * Annotate massive changes between 2017 to 2018 compared to 2016-2018
   * Tooltip: Include suburb name, postcode, previous rankings
2. **Going once… going twice…**: Does selling frequency change month to month? Are there any seasonal trends here? ([e.g. less moving in holiday season](https://www.investopedia.com/articles/investing/010717/seasons-impact-real-estate-more-you-think.asp))
   * Selling frequency = amount of properties sold within a given month
   * Can either be multiple line chart overlaying 3 years OR single line chart varying year by year
   * Theme: seasonal trends
   * Chart, line chart

     Description automatically generated
   * 2016: Dip in July, October, December
   * 2017: Dip in April, August, December
   * Not really any seasonal trends except for dip in December
   * Allow highlighting of line instead of filtering
3. **SOLD!:** How is the method of selling distributed? How did the method of selling change from 2016 to 2018?
   * Stacked bar chart of total distribution of method of selling
   * Chart, bar chart

     Description automatically generated
   * Remains mostly consistent between the years, no drastic change in selling type
   * Choices:
     + Change to donut chart for total composition.
     + Chart, pie chart

       Description automatically generated
     + Property sold > Property Sold Prior > Property Passed In > Vendor Bid
     + Make donut chart for composition of house types too?
       - Chart, pie chart

         Description automatically generated
   * Theme: method of selling
4. What’s the price distribution like of the whole dataset? And between different regions?
5. **Living Lavish:** Which suburbs were considered pricier? What factors do you think contribute to this higher price? Could this be because they had more rooms, bathrooms, land size?
   * Choropleth map of different suburbs, coloured by average price
   * Map

     Description automatically generated
   * Include main question as prompt
   * ~~Pair with proportional symbol map of houses based on number of rooms, no. of bathrooms, land-size (binned)~~
   * Include click to hide and show insights

# Reader-driven stage where they can freely explore the data (interactivity, filtering, navigation, highlighting)

1. **Playing the Agent:** Interactive dot map that prompts the user to find properties based on a given criteria with filtering/searching/highlighting
   * **Suburb:** String -> Search bar
   * **Address:** String -> Search bar
   * **Rooms:** int -> minimum number of rooms -> Range
   * **Type:** String -> 3 choices so radio selection
   * **Price:** float -> Min price -> Range slider
   * **Distance from CBD:** float -> max distance from CBD -> range slider
   * **Bathroom:** int -> min number of bathrooms -> Range
   * **Car:** int -> min number of car spots -> Range
   * **Landsize:** float -> minimum landsize -> Range
2. **~~Packed to the Rafters:~~** ~~How do suburbs vary in terms of number of properties (normalised per suburb area)?~~
   * ~~Choropleth map of different suburbs, coloured by property density~~
   * ~~Not sure if technically possible~~
   * ~~Theme: suburb comparison, ‘hot properties’~~

**References**

[1]: https://modicum.agency/blog/responsive-storytelling/

[2]: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjh6pWr6v\_yAhV2zTgGHeFlBe8QFnoECAYQAQ&url=http%3A%2F%2Fvis.stanford.edu%2Ffiles%2F2010-Narrative-InfoVis.pdf&usg=AOvVaw3XP\_bZ6BSc0qJdptuIjS5P