1. *What is the problem that you want to tackle?*

Investing in real estate can be intimidating. Either you are seeking to profit off appreciating prices or you are looking to earn rental income, choosing the right property type or the right property for that matter, can feel like an impossible task, especially if you’re new to the game. One of the main problems is to filter the enormous amounts of data that is available out there. That is where we come in. Our purpose is to smoothen and enhance your searching process by providing data driven analysis along with visual charts to allow you to make an informed decision when deciding which and what properties to invest in. We are leveling the playing field for all participants.

1. *What is the current market practice?*

Investors typically use PropertyGuru or similar platforms which has a web and app version, allowing them to search for properties according to the location with filters such as property type, price range, new projects option, affordable properties option, number of bedroom, floor size, PSF, number of bathroom, tenure, build year, floor level, furnishing, keyword search, listed duration and listing features. Investors could also engage a property agent to conduct market research and analysis in their interest as property agents have exclusive and paid resources on different platforms according to their agency which allows them to analyze the market trends and view historical transactions.

1. *What are the pain points of current market practice to consumers?*

*Retail investors currently do not have the necessary resources to engage in deep analysis using historical data in the real estate market without engaging a property agent who has greater access to exclusive and paid resources such as historical transactions and market trends. By leveraging on our app, these retail investors are able to navigate the real estate market on their own through data analysis with visual aid, allowing them to conduct their own due diligence without having to engage a property agent to do so, before they decide to contact sellers or property agents working for sellers once their investment decision has been made. Our app also level the playing field between property agents and retail investors by increasing transparency between the agents and investors as retail investors are now able to conduct their own analysis, reducing potential agency problems with property agents acting on their own interests instead of their clients’.*

1. *How are you going to tackle the problem?*
   1. *What data to use and where to get them?*

Our team will be collecting rental prices from the public datasets published by URA and Data.gov. These datasets include attributes of the properties like the district/town, address, housing type and floor area. We will also use the property listings from the file “srx\_new.csv”. For more up to date data, an alternative would be to scrape the listings from property listing sites like 99.co.

| Signed rental contracts for | Private property | <https://www.ura.gov.sg/realEstateIIWeb/resiRental/search.action> |
| --- | --- | --- |
| Public housing | <https://data.gov.sg/dataset/renting-out-of-flats> |
| Listings for | All properties | srx\_new.csv from Lesson 4 |

* 1. *What kinds of data visualization to develop?*
* Data tables with filtering and sorting function for the above datasets
* Model to predict potential rental price for properties (to be added as a column for property listings)

Analysis on determinants of rental price:

* Box plots of rental prices for different housing types / district / number of bedrooms
* Scatter plots of rental prices against floor area. Users can select a specific district / housing type / number of bedrooms / property name.
* Time series charts for rental prices for each district/housing type/floor area
* Linear regression model

Analysis on determinants of asking price:

* Box plots of asking price for different housing types / tenure / floor / distance to nearest train station, etc
* Linear regression model

• Project Plan

* Week 8 - Finalize project scope and requirements + data cleaning
* Week 9 - 11: Create data tables and visualizations in R Shiny
* Week 12 - 13: Create business plan document and record video presentation
* Submission at end of Week 13
* Identify correlations between Asking and other factors
  + Correlation matrix
  + Visualisations
  + Linear regression model (TBD)
* Identify which sectors command a higher PSF for each type of property (selected by
  + On a heatmap

**Dashboard**

**Trends**