MASTER OF TECHNOLOGY

PROJECT REPORT

HDB RESALE RECOMMENDER SYSTEM

TEAM MEMBERS

YEE WEI LIANG - 1

JOVIN TOH - 2

JEON SUNG MIN - 3

AHMED SYALABI SEET – 4

**1. EXECUTIVE SUMMARY**

**2. BUSINESS PROBLEM DESCRIPTION**

* 1. **PROJECT OBJECTIVE**

Explain on current issue with HDB Resale prices

<https://www.straitstimes.com/business/property/hdb-resale-prices-rise-for-9th-straight-month-in-march-with-cash-over-valuation>

**2.2 MARKET RESEARCH**

Compare PG, 99.co, etc and comment what they do not have.

Compare with existing recommender systems made by other people.

**2.3 SUCCESS MEASUREMENTS**

Think of ways to measure system’s success.

Example like incorporate forecasted price and compare with actual price on various websites.

**3. KNOWLEDGE MODELING**

Knowledge modelling can be decomposed into three main stages, namely;

1. Knowledge identification
2. Knowledge specification
3. Knowledge refinement

Various activities are carried out during each of these stages and the crux of the model construction lies in stage (ii), Knowledge specification.

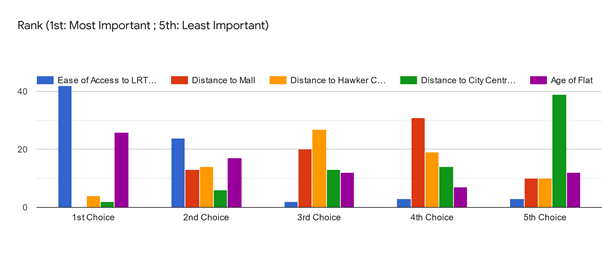
<http://ksi.cpsc.ucalgary.ca/KAW/KAW98/schreiber/>

**3.1 KNOWLEDGE IDENTIFICATION**

*Table 1: Knowledge source and acquisition technique*

|  |  |  |  |
| --- | --- | --- | --- |
| **S/N** | **Source of information** | **Insights from information source** | **Knowledge acquisition technique** |
| 1 | Data.gov.sg | Historical resale flat prices from 1990 to current.  Provides data for the prediction model training. | Extracted using Data.gov.sg API |
| 2 | PropertyGuru.com.sg | Individual property listings posted by property agents, inclusive of features such as listing price, type of flat model, location, etc  Provides listing prices available for comparison with prediction values | Web scrapping to obtain actual listings of HDB resale units available to the public |
| 3 | Generic population | Obtain a ranking of the features that are most important to users for the recommender system. | Anonymous online survey |

**3.2 KNOWLEDGE SPECIFICATION**

*Table 2: Survey responses on feature importance when scouting for a resale flat*

INSERT FORMULA USED TO OBTAIN RANKING SCORE

**3.3 KNOWLEDGE REFINEMENT**

**4. SOLUTION**

**4.1. PROJECT IMPLEMENTATION**

To detail system development and testing approach.

Explain in detail, the whole data flow and process flow. From data.gov to database to output website.

**4.2 PROJECT PERFORMANCE & VALIDATION**

To prove project objectives are met.

Make a statistical comparison between prediction and actual listing prices.

Possibly map out the recommended listings on a geographical map and show the distances for all the amenities nearby.

**5. CONCLUSION**

* 1. **PROJECT CONCLUSION**

Findings and recommendations.

What to improve on.

**6. APPENDIX**

**6.1 PROJECT PROPOSAL**

**6.2 SKILLS OF MODULAR COURSES: MR, RS, CGS**

* **Web scrapping - CGS**
* **Prediction Tree Modelling - MR**
* **User-based Recommender system – RS**

**6.3 Installation and User Guide**

**6.4 Individual Project Reports**

**6.5 List of Abbreviations**

**6.6 References**