



Project Title:

Real Estate Data Team Website Analysis & Data Visualization Report

Course Code: COMP7507

Group Number: 01

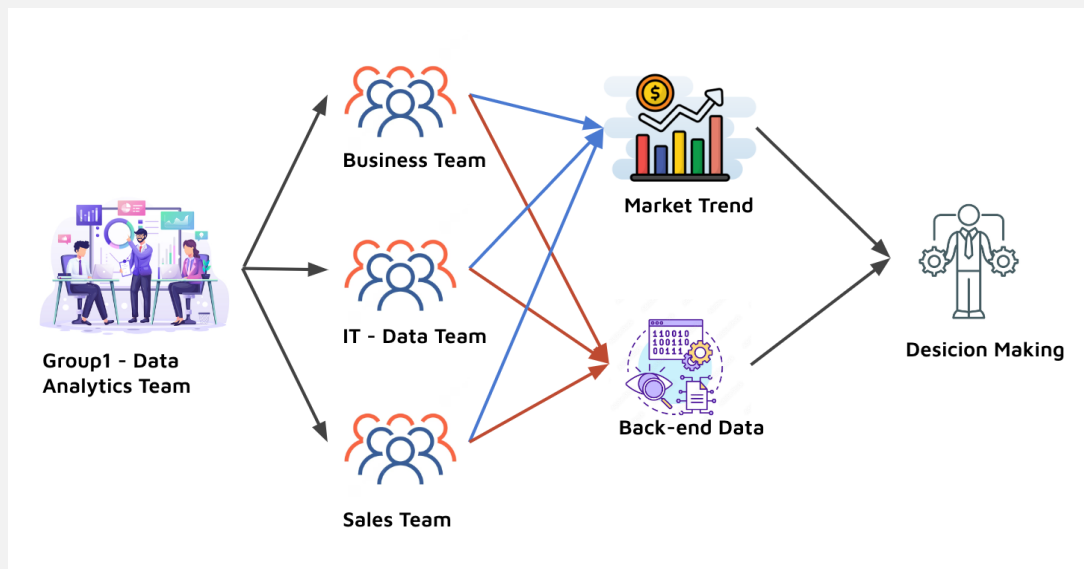
Group Member: Yan Tsang Ying, Jensen 3036034203
Fung Ka Yan, Kris 3035537818
Tsui Tsz Hin, Hin 3036033948



Objectives:

Our team would act as data analytics team for House730, our objective is to leverage the company's database data to gain insights into the Hong Kong property market. Through data visualization and statistical analysis techniques, we aim to identify key market trends, customer behavior, and operational inefficiencies that can inform business strategy, improve customer experience, and drive growth for House730.

Storyline:



The storyline for our project is that we act as a House730 data analytics team and we are going to present our designed 3-4 dashboard to the Business/ IT Data/ Sales Team. Which can help all the teams understand the market trend, back-end data in order to make better business decisions in the future.

Description:

Data Source: <https://www.house730.com>

Method: Web Scrapping

Our group will be using the data from the House730 website, it is public data in which all the data is aggregated from other property agencies and directly from the owners. The data does not contain any personal information. The dataset conducts both for rental and for sales data. The data information is mainly within 3 months due to website restriction.

We would keep 2 days of rental data and 1-2 weeks of sales data.

The rationales for selecting the the data from House730:

1. House 730 gathered all the property data from different agencies, also the property directly from owners. It is basically a housing hub. Therefore, we think of many possibilities for presenting the data.
2. We would like to know which property is more popular among Hong Kong citizens. Which district gets more attention while website users are looking for property. (This is back-end analytics)
3. We would like to know the trend of the sales price.
4. We would like to know which factors affect buyers to rent or buy the property.

5. As a data analytics team of House730, we would like to provide the insight to the Business/IT Data/sales team, to help the company with making good decisions on how to improve House730 business strategy.

Methodology:

Tools: Tableau Desktop, Tableau Public, Gephi (Tbc)

The methodology for this project will involve several steps to ensure accurate and informative data visualization.

First, the data will be extracted from the House730 website using web scraping. Data cleaning and conversion will also be performed during this stage to ensure that the data is in a usable format for analysis. This will include converting timestamp values into dates, converting property tags into strings, and converting locations into distinct areas on a map.

Next, data exploration will be conducted to identify patterns and insights in the data. This will include analyzing the number of new rental properties in different locations, rental prices, and the average building price. The analysis will also identify areas with lower rental prices and provide insights into which rental properties are more attractive to people based on browser numbers and recommendations.

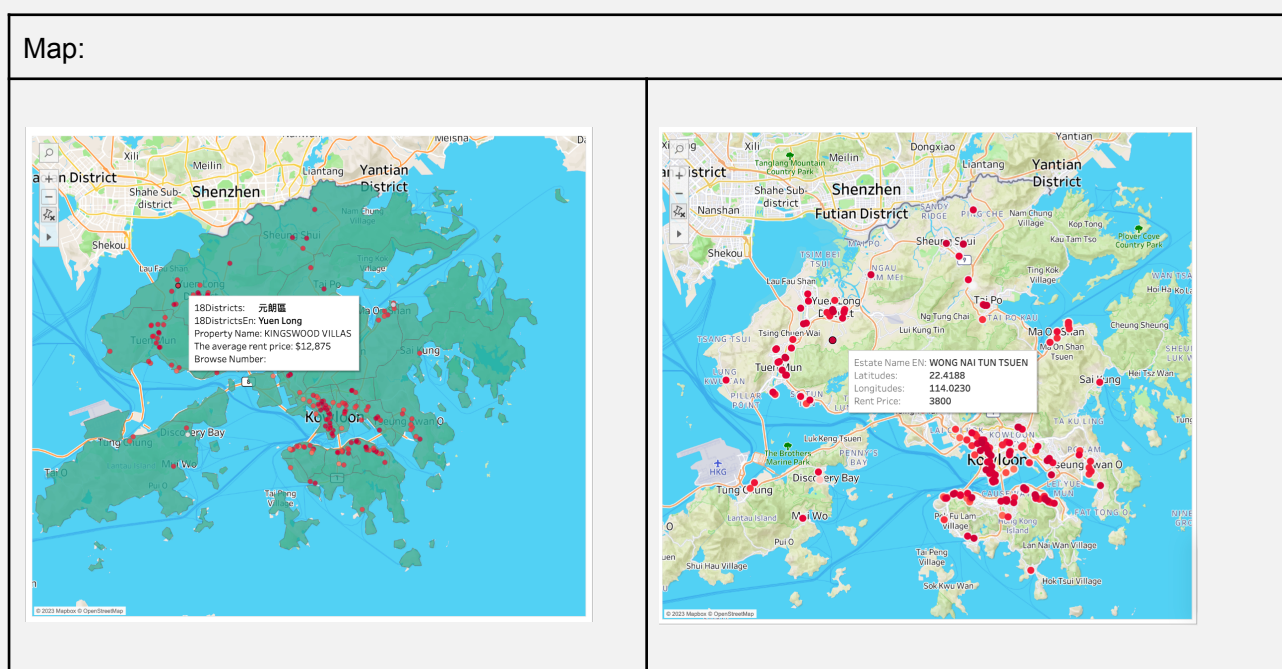
Finally, an interactive dashboard will be created to present the data on a monthly basis. The dashboard will include a map to show the distribution of the number of properties as well as heatmaps to show the distribution of rental prices and areas with high or low rental prices. Line charts will be used to show trends in rental prices over time, and scatter plots will be used to show the relationship between rental prices and other factors such as property size, location, and amenities.

In conclusion, this methodology ensures that the data is accurate and informative, and that the resulting dashboard provides valuable insights into rental property trends.

Suggested Dashboard Ideas:

1. Browsing number back-end data analysis for rent/sales (With map, tree map, text table)
2. Daily trend for rent/sales (With line chart, bar chart, mao)

Below are some demonstration for some graphics:



Text Table:

Demonstration of interactive dashboard:

18DistrictsEn	Count of Propert..	Sum of Browse..	COUNT([Propert..
Central and Western	19	5,361	0.35%
Eastern	23	8,936	0.26%
Kowloon City	16	4,387	0.36%
Kwai Tsing	1	309	0.32%
Kwun Tong	2	197	1.02%
Sai Kung	4	445	0.90%
Sha Tin	9	4,103	0.22%
Sham Shui Po	8	2,827	0.28%
Southern	1	110	0.91%
Tai Po	8	5,088	0.16%
Tsuen Wan	5	1,257	0.40%
Tuen Mun	17	6,788	0.25%
Wan Chai	10	1,219	0.82%
Yau Tsim Mong	7	1,402	0.50%
Yuen Long	5	860	0.58%

The dashboard displays a map of Hong Kong with districts highlighted. Below the map, there are two main sections: 'Sales Price by 18 Districts' and 'Browsing Number'.

Sales Price by 18 Districts

Location	Price Range
大嶼山	1,200 - 1,500
新界	1,500 - 2,000
香港市中心	2,000 - 3,000
南丫及離島	3,000 - 4,000
坪洲及離島	4,000 - 5,000
離島	5,000 - 6,000

Browsing Number

18Districts	Estate Name EN	F
Islands	DISCOVERY BAY	12,700
	COASTAL SKYLINE	8,823
	SEAVIEW CRESCENT	2,090
	THE VISIONARY	1,857
	CENTURY LINK	1,644
	CARIBBEAN COAST	1,387
	TRISTAR VILLA	1,307
	Tong Fuk [Village House]	1,281
	Sun Shue Wan [Village Ho..	1,058
	TUNG CHANG CRESCENT	1,233
	Tai Wan Nam	734
	Bayview Drive	686
	YU TUNG COURT	551
	LAMER	549
	Ho Lee Street	454
	LE BLEU DUEX	342

List of Tasks:

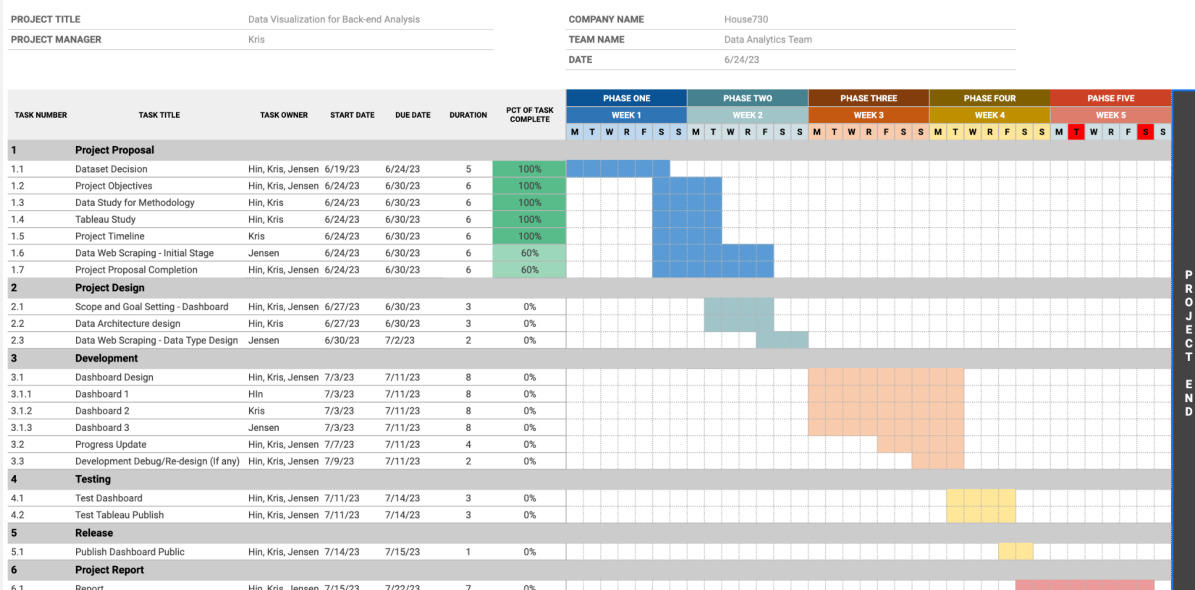
Based on our own strengths, we have distributed our role in below table:

Member	Major Role (Role play in House730 data analytics team)	Tasks	Status
	Data analyst, Tableau Creator	Dataset Decision	Completed
		Data Study for Methodology	Completed
		Tableau Study	Completed
		Project Proposal Completion	Completed
		Scope and Goal Setting - Dashboard	In Progress
		Data Architecture design	In Progress
		Dashboard Design	In Progress
		Progress Update	Not Started
		Development Debug/Re-design (If any)	Not Started
		Test Dashboard	Not Started
		Test Tableau Publish	Not Started
		Publish Dashboard Public	Not Started
		Report	Not Started
Kris	Project Manager, Data analyst, Tableau Creator	Dataset Decision	Completed
		Project Objectives	Completed
		Data Study for Methodology	Completed
		Tableau Study	Completed
		Project Timeline	Completed
		Project Proposal Completion	In Progress
		Scope and Goal Setting - Dashboard	In Progress
		Data Architecture design	In Progress
		Dashboard Design	In Progress
		Progress Update	Not Started
		Development Debug/Re-design (If any)	Not Started
		Test Dashboard	Not Started
		Test Tableau Publish	Not Started

Jensen	Programmer, Tableau Creator	<ul style="list-style-type: none"> Publish Dashboard Public 	Not Started
		<ul style="list-style-type: none"> Report 	Not Started
		<ul style="list-style-type: none"> Dataset Decision 	Completed
		<ul style="list-style-type: none"> Project Objectives 	Completed
		<ul style="list-style-type: none"> Data Web Scraping - Initial Stage 	Completed
		<ul style="list-style-type: none"> Project Proposal Completion 	Completed
		<ul style="list-style-type: none"> Scope and Goal Setting - Dashboard 	In Progress
		<ul style="list-style-type: none"> Data Web Scraping - Data Type Design 	In Progress
		<ul style="list-style-type: none"> Dashboard Design 	In Progress
		<ul style="list-style-type: none"> Progress Update 	Not Started
		<ul style="list-style-type: none"> Development Debug/Re-design (If any) 	Not Started
		<ul style="list-style-type: none"> Test Dashboard 	Not Started
		<ul style="list-style-type: none"> Test Tableau Publish 	Not Started
		<ul style="list-style-type: none"> Publish Dashboard Public 	Not Started
		<ul style="list-style-type: none"> Report 	Not Started

The project timeline has created and the project is now in progress (Please refer to below capture)

Group 1 - Project Timeline



Remarks:

All tasks are fairly distributed and agreed by our members (Each of us are responsible for at least one dashboard). There will be group meetings twice a week.

References:

1. House730 Limited (2023). House730. Retrieved June 26, 2023, from <https://www.house730.com/en-us/>
2. Tableau, from <https://www.tableau.com>