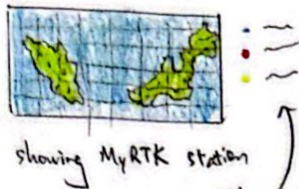


1. Ideas

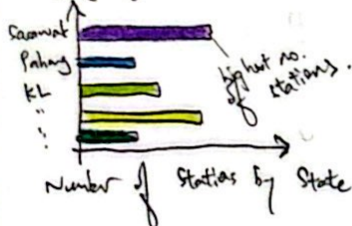
a) Map (with grid)



b) Bar Chart



c) Treemap



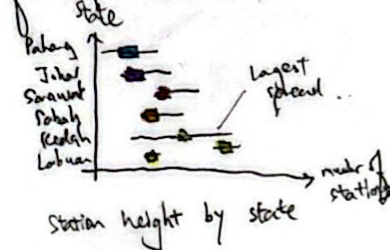
d) Heatmap (Geographical)



e) Donut Chart



f) Box plot (Distribution)



g) Scatterplot



h) Bump Chart



i) Lollipop Chart



4. Combine and Refine

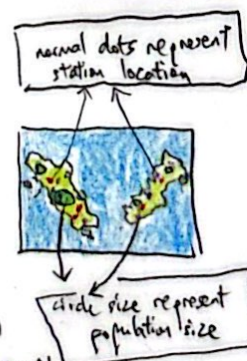
Most of the chosen ideas serve it's own purpose, not much combination / merging needed

① Lollipop Chart & Bar Chart → merged

- Since we are visualising the number of stations a normal bar chart is enough

② For Map → can add Population Density by showing where major cities are located

→ the city population can be shown using size of circle or by opacity



2. Filters

AUTHOR: Lee Jun Jun Thoma

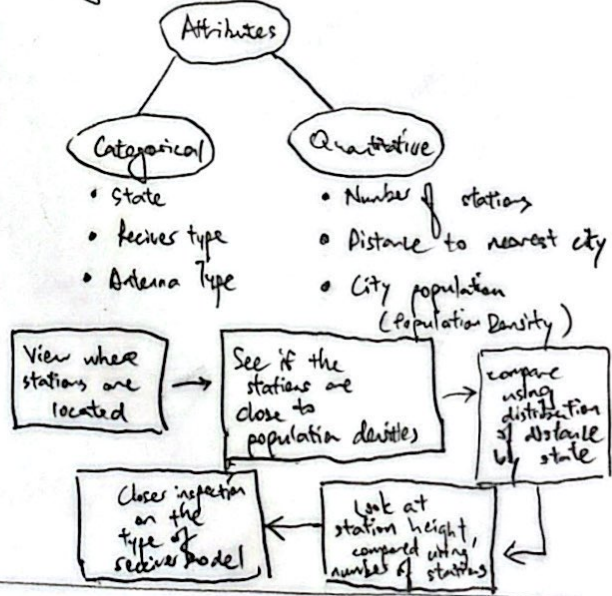
Drop

- Tree Map → why: Can't read small difference, rectangles are hard to compare
- Donut Chart → why: Hard to compare the slices, poor area perception, just change to bar chart
- Heatmap (Geographical) → why: A map as scatterplot would be much more suitable

Keep

- Map → why: Accurately show the locations of the MyRTKnet stations
- Bar Chart → why: See total numbers of stations by types of receiver / antenna / states more accurately
- Box Plot → why: Able to see the distribution of the data better

3. Categorise

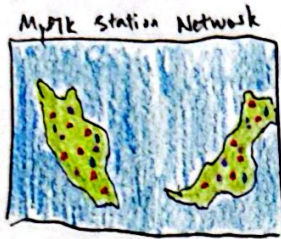


③ Box plots → it can be used to visualise distribution of distance to nearest city apart from station height (categorised by state too)

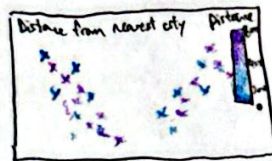
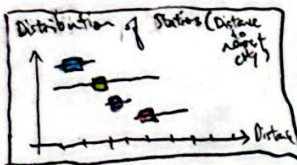
5. Question

- Should both data be split for the map, i.e. having 2 maps?
- Is not using lollipop chart and changing to bar chart a good idea?
- Does using scatterplot to represent the information we want to show sufficient, i.e. is a map needed or does it lead to more clutter?
- Do we need to visualise antenna type since the number of type is very small?

MALAYSIA MYRTKNET



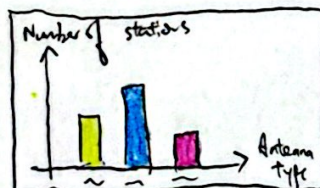
Station Proximity



Receiver Mode



Antenna Model



Title: MyRTKnet Network Dashboard 1

Author: Lee Jian Jun Thomas

Date: 11/10/2025

Sheet: 2

Task: FIT 3179 Assignment 2

Operation

Receiver type filter (map)

→ so that a clearer view of the chosen receiver type of stations can be visualised

Peninsular Malaysia / East Malaysia filter

→ users can view specifically stations in Peninsular Malaysia or East Malaysia

Elevation Height filter

→ for the Hardware visualisation, (Receiver & Antenna) can use minimum elevation filter to filter out stations that are above a minimum threshold.

Focus

Genre: Annotated Chart

Primary Story: Tells a story about how MyRTKnet Network Stations are distributed across Malaysia, and how do they differ on their hardware specifications.

Top Panel

Map 1 → Overview of the distribution of MyRTKnet stations across Malaysia

Map 2 → Highlights where population densities are situated for easy comparison

Second Panel

Box Plot → Shows the Distribution of how close the stations in each states are to the nearest cities

Scatter plot → Compare how dense stations are in Peninsular Malaysia, comparing with East Malaysia

Third Panel

Bar Charts → Both Bar Chart shows which type of hardware dominates the stations in Malaysia.

Discussion

1. Maybe the maps can be merged together, as long as it does not clutter the map

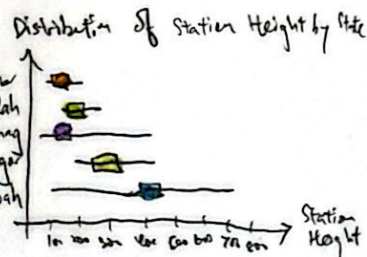
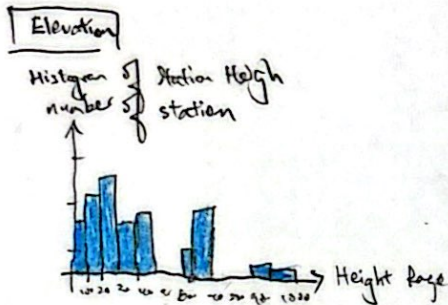
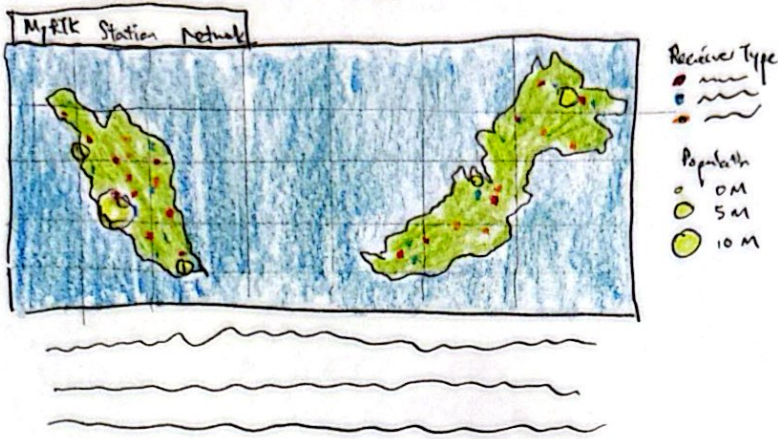
Advantages

1. Clear narrative top down, differentiated by distinct sections
2. Minimal visualisations to convey important messages, no repeating.

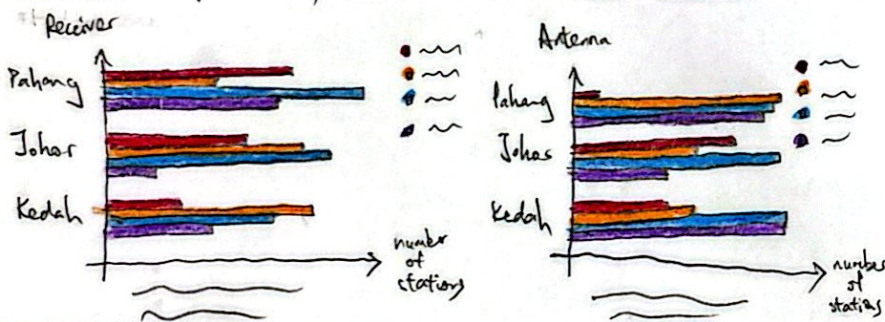
Disadvantages

1. Viewers might not be able to interpret the concept of Medians, Q1 & Q3, specifically for the boxplot
2. Lack of Station Elevation data

MALAYSIA MYRTKNET



Hardware (Top 3 states)



Focus Genre: Annotated Chart

Primary Story: Tells a story on how MyRTKnet Network Stations are distributed across Malaysia, how they differ in elevations from ground and the hardware models used for the stations in important states.

Top Panel

Map → Overview of the distribution of MyRTKnet stations and major cities across Malaysia

Second Panel

Bar Chart → show how the height of stations are distributed across Malaysia
Box Plot → shows the distribution of station height, categorised by state

Third Panel

Bar chart → Shows how the number of stations by receiver model and antenna model differs across the top 3 states that has the highest number of stations.

Operation

Receiver type filter (map)

→ so that a cleaner view of the chosen receiver type of stations can be visualised on a map that only shows the population size can be shown too.

Peninsular Malaysia / East Malaysia filter

→ users can view specifically the stations in Peninsular Malaysia or East Malaysia

Elevation Height filter

→ for the Elevation specific plots, an elevation height filter can be used to show stations that exceed a minimum threshold.

Discussion

Advantages

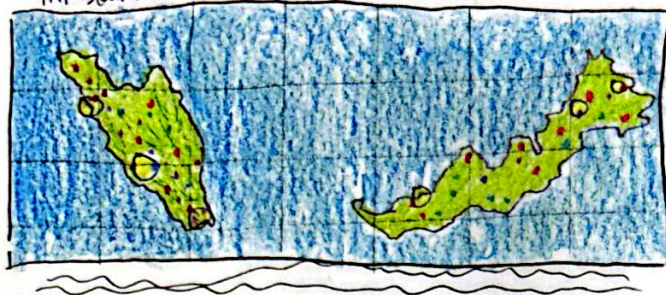
1. Clear overview of the main topic being visualised by utilising only the minimal charts

Disadvantages

1. Showing just top 3 states might not be sufficient in visualising how hardware components is being used across stations
2. Lack of distance to nearest city of stations data.

MALAYSIA MYRTK NET

MyRTK Station Network



Receiver type



Population

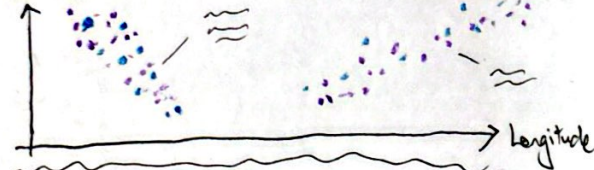
0M

5M

10M

Distance from Cities

Latitude

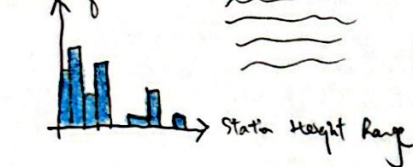


Distance

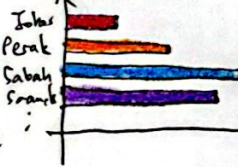


Elevation

Number of station

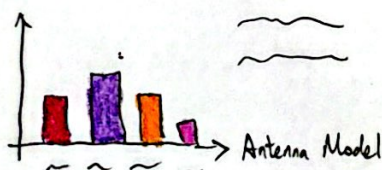


State



Hardware

Number of stations



Title: MyRTKnet Network Dashboard 3

Author: Lee Joon Jun Thomas

Date: 11/10/2025

Sheet: 4

Task: FIT3179 Assignment 2

Operations

Receiver type filter (map)

→ A clearer view on the chosen receiver type for stations can be visualised & a map that shows the population size only can be visualised too.

Peninsular Malaysia / East Malaysia filter

→ users can view specifically the stations in Peninsular Malaysia or East Malaysia

Elevation Height filter

→ for the Elevation specific plots, use a minimum height filter to show stations that exceed the chosen minimum threshold.

Focus

Genre: Annotated Chart

Primary Story: A story on how MyRTKnet Network Stations are positioned across Malaysia, how they differ in elevations from the ground and an overall look on the hardware utilisation for the stations.

Top Panel

Map → Overview of the distribution of MyRTKnet stations, together with the major cities across Malaysia

Second Panel

Scatterplot → A closer look on the distribution of distance from cities of the MyRTKnet stations.

Third Panel

Bar Chart → Shows how the overall elevation of stations differ and how they differ across states.

Fourth Panel

Bar Charts → Both Bar Chart shows which type of hardware dominates, the stations

DiscussionsAdvantages

1. Clear visualisation of all the topics by utilising only the necessary charts.
2. Using simple charts allows the viewers to easily understand, avoiding using complex jargons.

Disadvantages

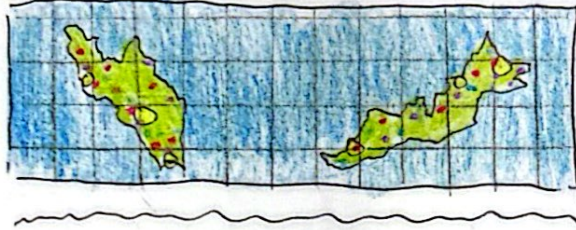
1. Separating into too many panels and visualisations might be confusing to the viewer, hence clear annotation is needed.

Layout

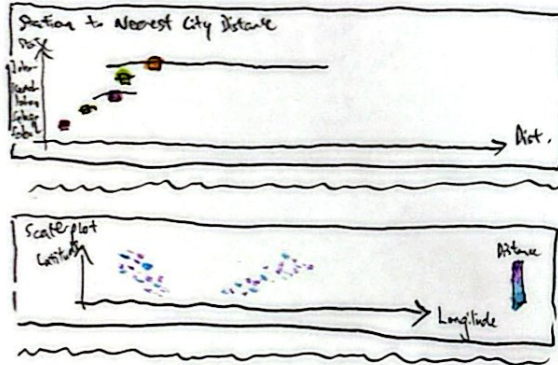
MALAYSIA MYRTKNET

Details on MyRTKnet
like how it works etc.

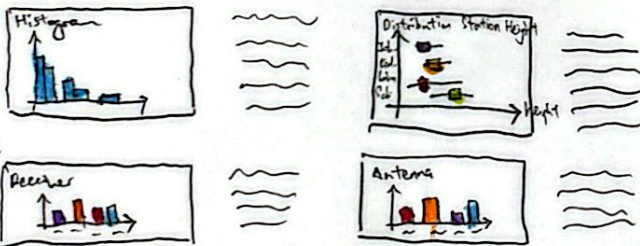
Overview



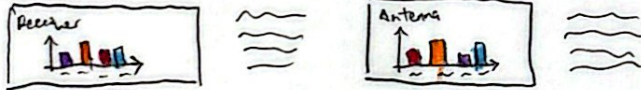
Remoteness



Elevation



Hardware



Title : MyRTKnet Network Dashboard (Final)

Author : Lee Jian Jun Thomas

Date : 11/10/2025

Sheet : 5

Task : FIT 3179 Assignment 2

Operation

Receiver type filter (map)

→ A clearer view could be visualised with chosen receiver type to be visualised or none at all to only show the population size.

Peninsular Malaysia / East Malaysia filter

→ can view data from Peninsular Malaysia only or East Malaysia only, default is view both together.

Elevation Height filter

→ For the Hardware section, we can filter the stations based on a minimum height to visualise hardware used for high altitude stations.

Focus Genre : Annotated Chart

Primary Story: Describes a story on the distribution of MyRTKnet Network Stations, how they differ in elevations and usage of different types of hardware for different stations.

Top Panel

Map → Overview on how stations are positioned across Malaysia and their proximity with Malaysian cities.

Second Panel

Box Plot → Shows how the stations in different state is distributed regarding their distance from the nearest cities.

Scatterplot → A closer observation on the distribution of distance from cities of the MyRTKnet stations.

Third Panel

Bar Chart → Shows how the stations are distributed across different elevation heights

Box plot → Shows the distribution of station height across different states

Fourth Panel

Bar Charts → Both bar charts shows which type of hardware dominates the stations.

Detail

1. Combined Remoteness visualisations from 2nd sheet with map, elevation, and hardware section from 4th sheet.
2. The bar chart showing highest station in each state from sheet 4 is changed to distribution of station height across the states.
3. Covers all the sections that is present in all 3 of the sheets to let viewers have a better understanding of the MyRTKnet stations.
4. Elevation Height filter not used as Elevation visualisation since we want a better overview on the elevation distribution. It is used in Hardware instead for reasons stated above.