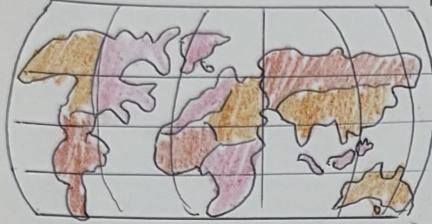
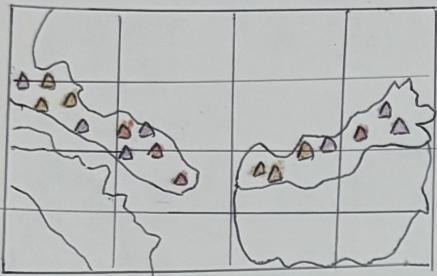
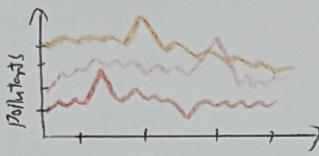
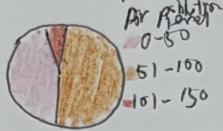


IDEAS

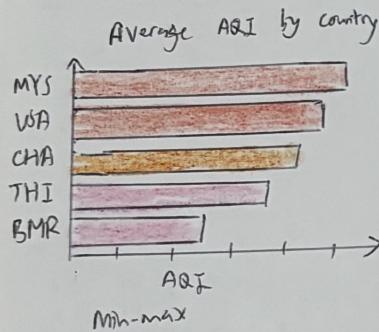


MOST POLLUTED CITY IN AQI
Selangor Johor Bahru
Penang Klang Sabah
Kedah Terengganu Melaka

API Level porportion



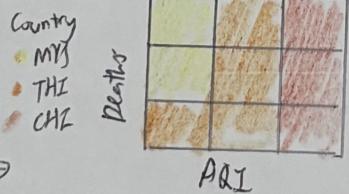
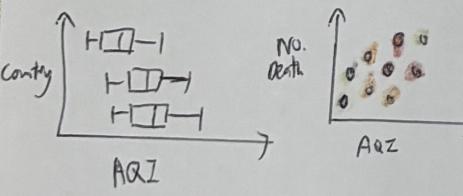
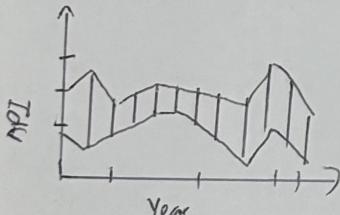
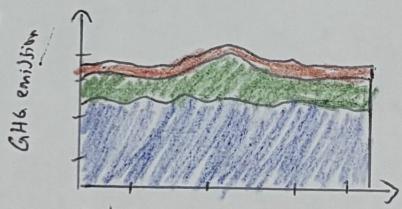
Malaysia air pollution index range



AIR POLLUTION LEVEL

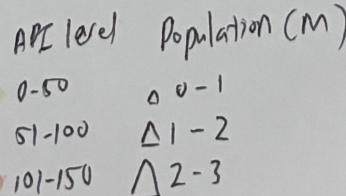
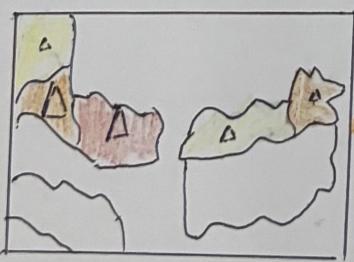
Pollutants

- CO
- O₂
- N₂O



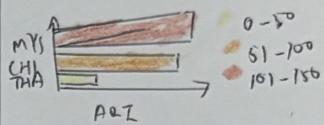
COMBINE & REFINING

COMBINE CHLOROPHIL MAP & SYMBOL MAP

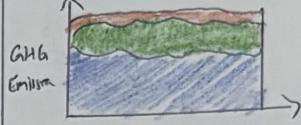


TWO ZODIAMS IN 1 MAP

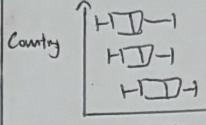
FILTER



APZ

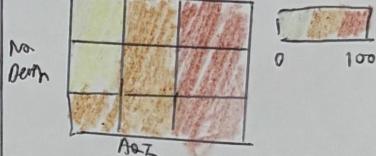


GHG Emission



Country

APZ



No. Deaths

APZ

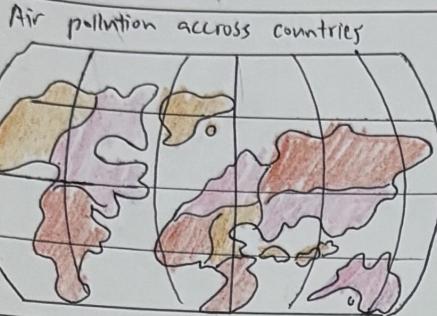
CATEGORIZE

- Time based
 - Stacked area chart (GHG emission overtime)
- Correlation
 - Heatmap (No. Death vs APZ)
- Comparison
 - Chlorophyll map (API level)
 - Bar chart (Country API)
- Analysis
 - Boxplot (country distribution APZ)

QUESTION

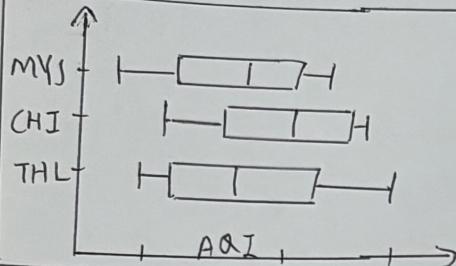
- Does viewer understand idioms?
- Does the map show clear comparisons?
- Is the correlation valid?

LAYOUT



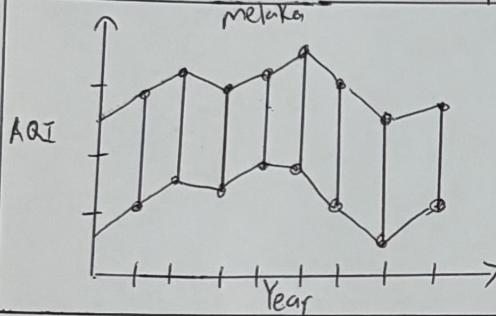
Air pollution levels (click to filter)

- 0-50
- 51-100
- 101-150



Country AQI Distribution

- MYS
- CHI
- THL
- USA



Min-Max AQI over the years in Malaysia

Districts

- Melaka
- Pahang
- Kuala Lumpur
- Penang

No. Deaths vs AQI



AQI Concentration of Gas

AQI



FOCUS

- Show different countries air pollution level
- Show correlation between death rate and air pollution
- Which state is cleanest in Malaysia

Shows

Title : Air pollution in Malaysia

Author : Tan Hong Sze

Date : 18/10/2025

Sheet : 2

Task : Design sheet Two

OPERATIONS

- Map

- Click filter legend to highlight countries that are in selected air pollution level

- Box plot

- Filter to select multiple countries for easier comparison

- Min max chart

- Select districts in Malaysia to filter

DISCUSSIONS

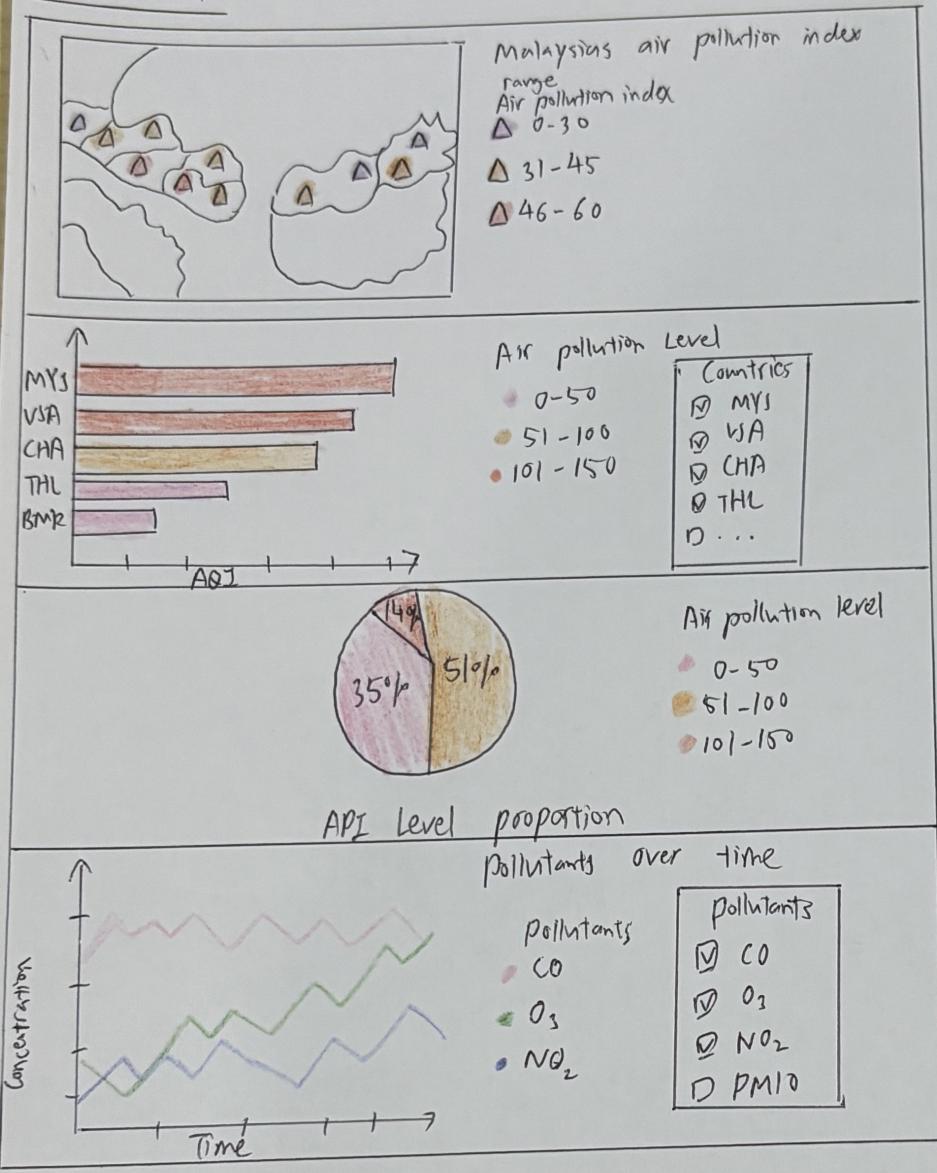
Advantages :

- Interactive map to highlight air pollution level
- Filters for easy comparison

Disadvantages :

- Too much countries to filter in box plot
- Heatmap might not show accurate correlation

LAYOUT



Title : Air pollution comparison
Author : Tan Hong Sze
Date : 18/10/2025
Sheet: 3
Task: Design sheet Three

OPERATIONS

- Bar chart
 - Selectable checkbox to filter out countries
- Line chart
 - Selectable checkbox to filter out pollutants

DISCUSSIONS

- Advantages :
- interactive filters for easy comparison
 - zoomed in map of Malaysia to compare states pollution level

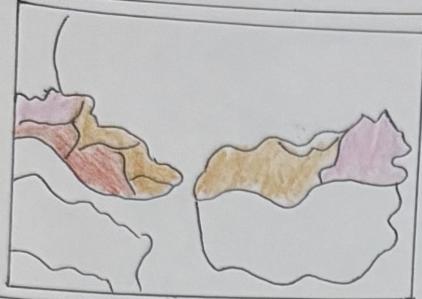
Disadvantages

- Too much countries to filter out in the bar chart
- Proportional symbol map might get too cluttered

FOCUS

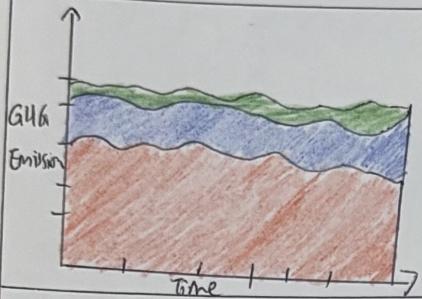
- Show state level air pollution level in ~~Malaysia~~ Malaysia
- compare pollutants over time in Malaysia
- See proportion of air pollution levels

LAYOUT



Malaysian states air pollution index range (click to filter)

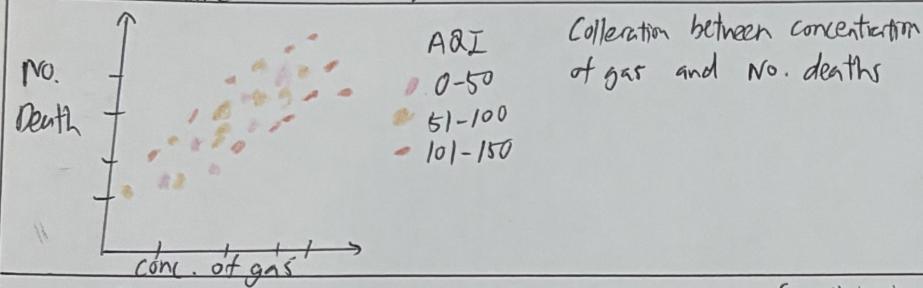
- 0-30
- 31-45
- 46-60



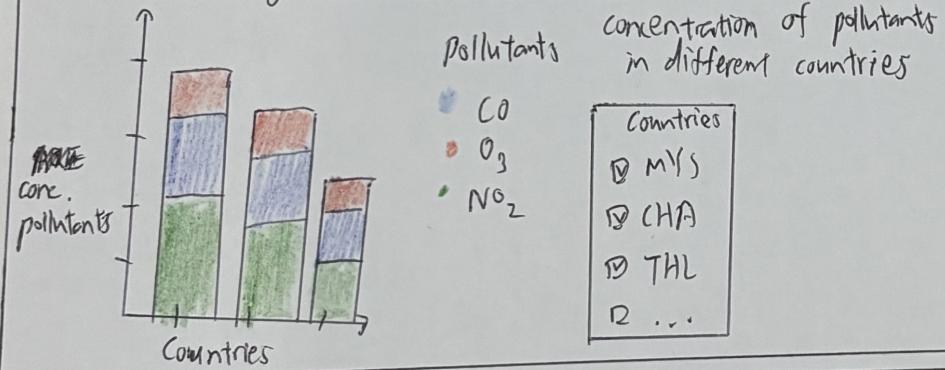
GHG Emission overtime

Sectors

- Energy
- Waste
- Industrial



Correlation between concentration of gas and No. deaths



concentration of pollutants in different countries

- CO
- O₃
- NO₂

countries
MYS
CHA
THL
...

FOCUS

- compare state level pollution in Malaysia
- see what sectors are main source of air pollution
- compare country air pollution concentration

Title: Air pollution & Emission

Author: Tan Hong See

Date: 18/10/2025

Sheet: 4

Task: Design sheet Four

OPERATIONS

• Choropleth map

- Click to filter legend to highlight states that are in selected air pollution index range

• Stacked bar chart

- Filter to select countries for comparisons

DISCUSSIONS

Advantages:

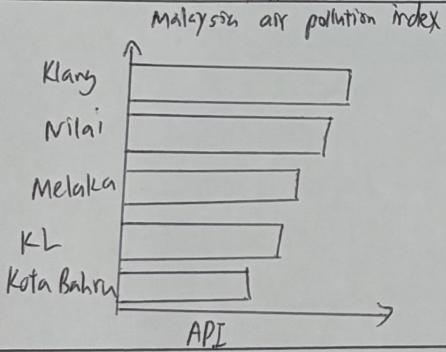
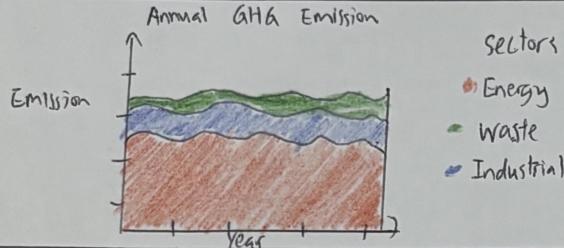
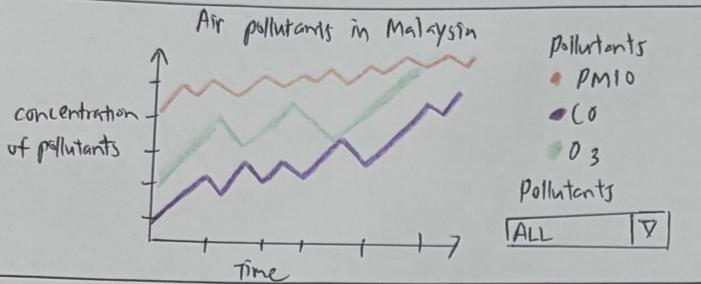
- Interactive map filter to highlight air pollution index range

- See total emissions with stacked chart

Disadvantages

- Too many countries to filter in stacked bar chart

AYOUT



FOCUS

- Show different countries air pollution level
- Show ghg emissions and sector its from
- compare malaysias state air pollution indexes

Title: Malaysia's air and emission
- global and local trends

Author: Tan Hong See

Date: 18/10/2025

Sheet: 5

Task: Design sheet Five

OPERATIONS

- Choropleth map
 - click legend filter to highlight countries that are in selected air pollution level range
- Line graph
 - filter pollutants individually

DETAILS

- Cleaning is required for map countries to match top.json map
 - Aggregation are required for some datasets
- 2) Dependencies:
- python (clean csv files)
 - HTML (dashboard for multiple views)
 - CSS (designing html)
 - vegalite (build visualization)
- 3) Time estimates:
- 2 days for finding, cleaning and combining dataset
 - 5 days for building idioms using vega-lite
 - 3 days to refine and designing dashboard with annotations and tooltips