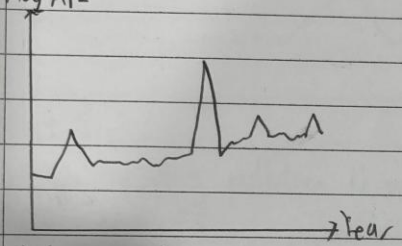
Date:

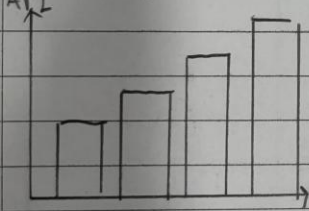
Ideas

a) Choropleth map

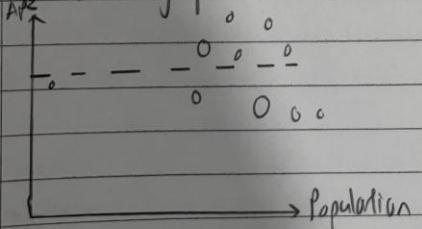
b) Line graph



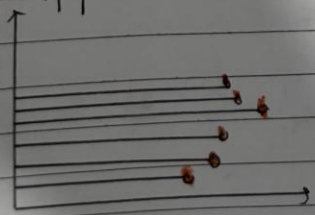
c) bar graph



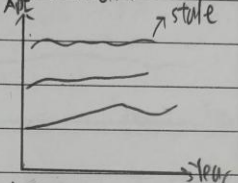
d) Scatter graph



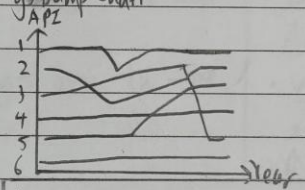
e) Lolipop



f) Line chart



g) Bump chart



Author: Xu Peng Chan
Date: 12/10/2025
Sheet: 1
Task: Planing visualisation

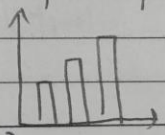
5) Question

* Is the scatter plot messy
* Is it too less content
* Which chart could be improved
* Any combination

2) Filter

(c) and (f) showing same content

keep c drop (f)



3) Categorise

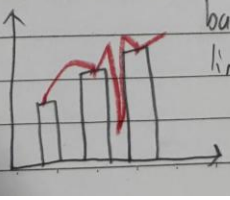
Spatial view: choropleth map, small multiples

Temporal: line chart, bump chart

Comparative view: bar, lolipop

Relational view: scatter

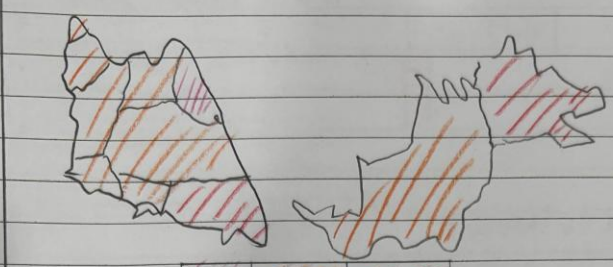
4) Combine & Refine

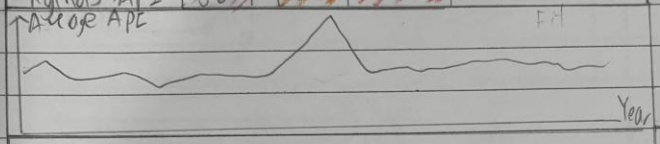


No.: Date:

Author: Xu Peng Chan
Title: Malaysia Air pollution
Date: 12/10/2025
sheet: 2
Task: Planing Visualisation

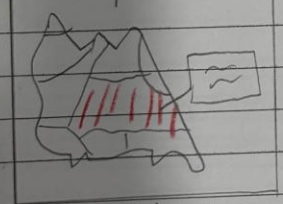
Layout





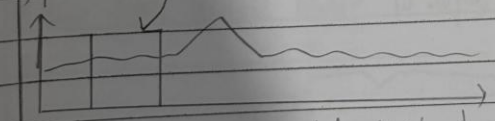
2) Parti/Focus

* showing where pollution is worst, which state are most affected,
* how pollution level have changed over the time



use full tooltips that provide additional information.

3) Operation



* Sliders → Changes data displayed across chart
* showing years 2017 – 2020
* Hover over the container show tooltips

Pros & Cons

- well segmented into clear section
- viewer easy to understand and interact
- Directly answer key user question

Cons

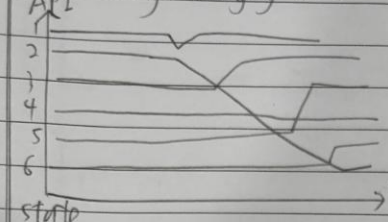
* Hectic color scale may reduce perception
* Map and bar show similar data
* Space limitation

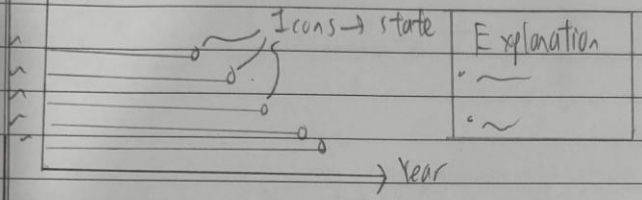
No.: Date:

Author: Xu Deng Chan
Date: 10/21/2021
Sheet: 3
Task: Initial Design

Layout

Ranking Changing View



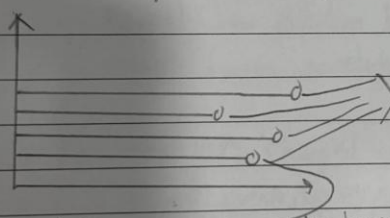


Discussion Pros:
* Strong temporal story telling
* Compact layout
* Works well for highlight progress

Cons.
* Ranking can exaggerate minor different in API
* Too many lines in bump chart

Focus

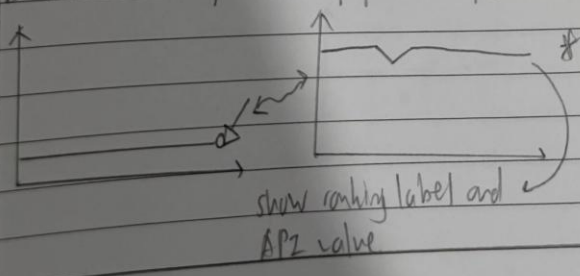
* showing the relative position of each state of air pollution change over years



tooltips to get all the ratios. when hover

Operation

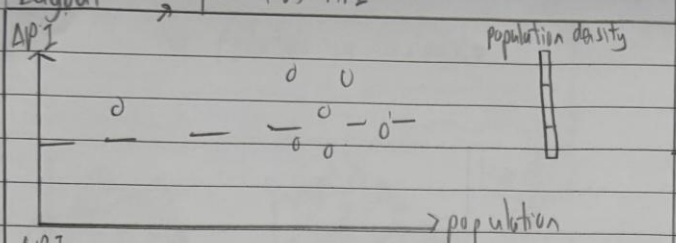
* Year sliders. Update lolipop to display year ranking.

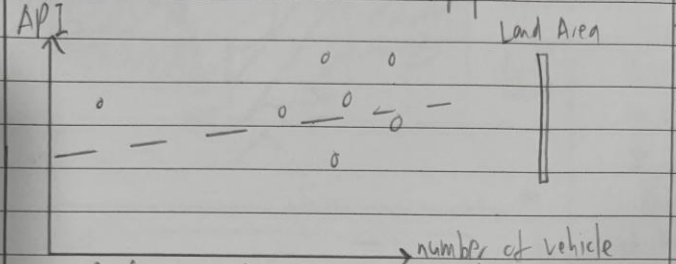


Author: Xu Peng Chan
Date: 10/10/2025
Sheet: 4
Task: Initial Design

Layout

Population vs API





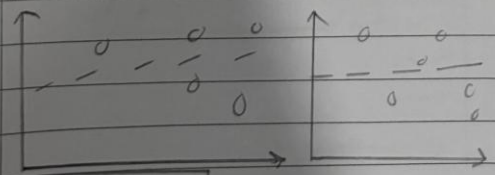
Title: Pattens and corelation in Malaysia's Air Pollution.

Pros
* Multi-angle understanding pattern + cause + trend
* Interactivity encourages comparison

Cons
* Two scatter may cluster screen
* Vehicle data may differ in scale.

Focus:
* Idea: Reveal how pollution behaves over time and human factor correlate with it.
* Insight:
1) How has API changed yearly?
2) Does vehicle ownership explain higher API?
3) Which state break or follow the national pattern?

Operations
* Interaction

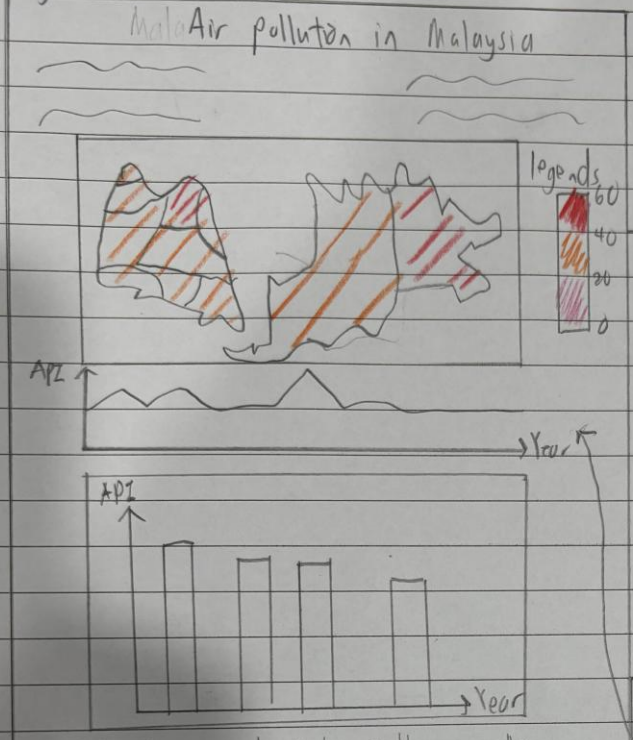


Filter: Year

upated all two charts
* Hover → highlight one state accross all view.

Date:

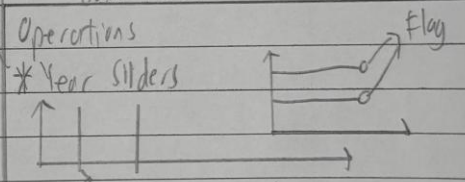
Layout



Title : Air Pollution
Author : Xu Peng Chen
Date : 10/10/2025
Sheet : 5
Task : Final layout

Focus
* All questions are important
* Add more explanation
* Constistant colour in Text

Question Answered
1) Whee are API level highest
2) When do pollution spikes
3) Which state improved
4) Is there link between vehicle and API?



selected month, auto filter with maps
* Tool tips
* Time brush

Pros
* Multi view story telling connects space, Time
* High interactivity (Year sliders)
* Integrates alot idioms

Cons
* Too many idioms (messy)
* Corellations view may implies causation