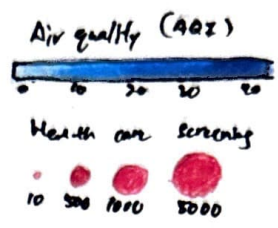
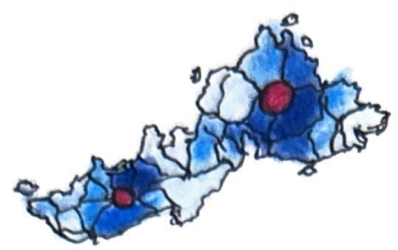
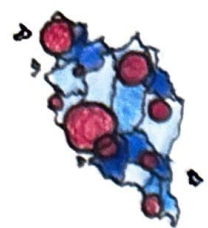
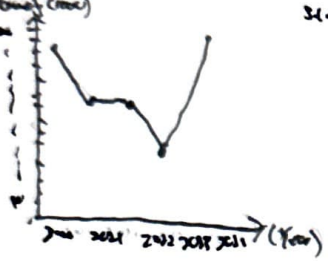


IDEA

→ Map



→ Line Chart



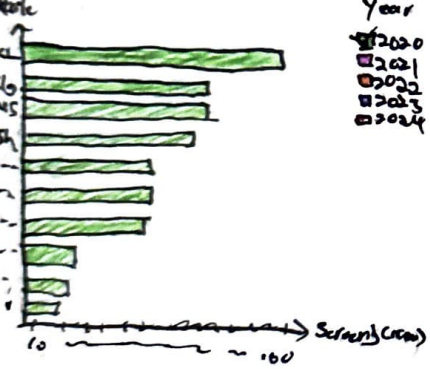
State: India

→ Scatter plot



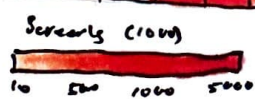
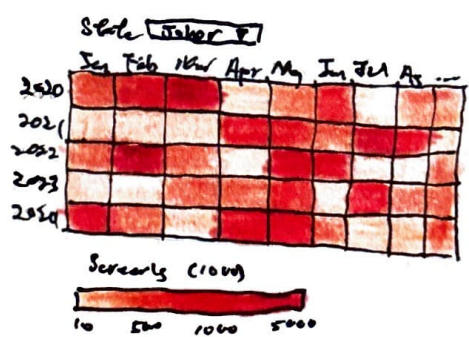
Year
 2020
 2021
 2022
 2023
 2024

→ Bar chart



Year
 2020
 2021
 2022
 2023
 2024

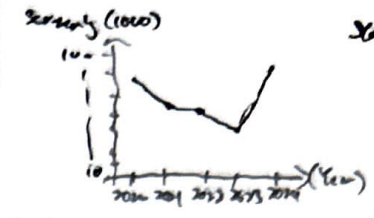
→ Heatmap



FILTER

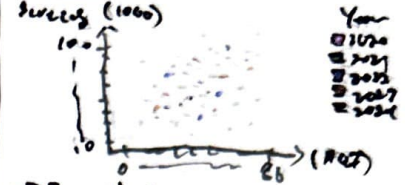
→ Choropleth map - KEEP

→ Line Chart



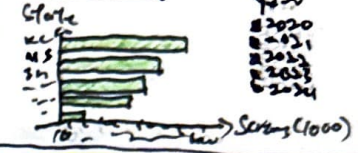
State: India

→ Scatter Plot



Year
 2020
 2021
 2022
 2023
 2024

→ Bar chart

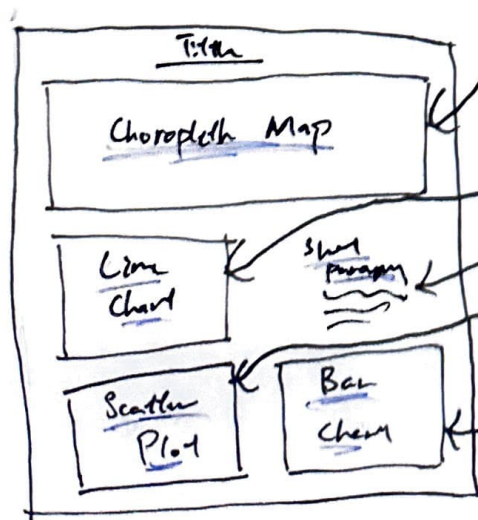


Year
 2020
 2021
 2022
 2023
 2024

CATEGORIZE

- Spatial : Choropleth map
- Temporal : Line Chart
- Relational : Scatterplot, Heatmap
- Comparative : Bar chart

COMBINE & REFINE



Start with Choropleth map showing the big overview of the domain.

Line chart to show the trend overtime.

Short paragraph of explanatory details.

Scatter plot to show the correlation between the AQI and Health care screening.

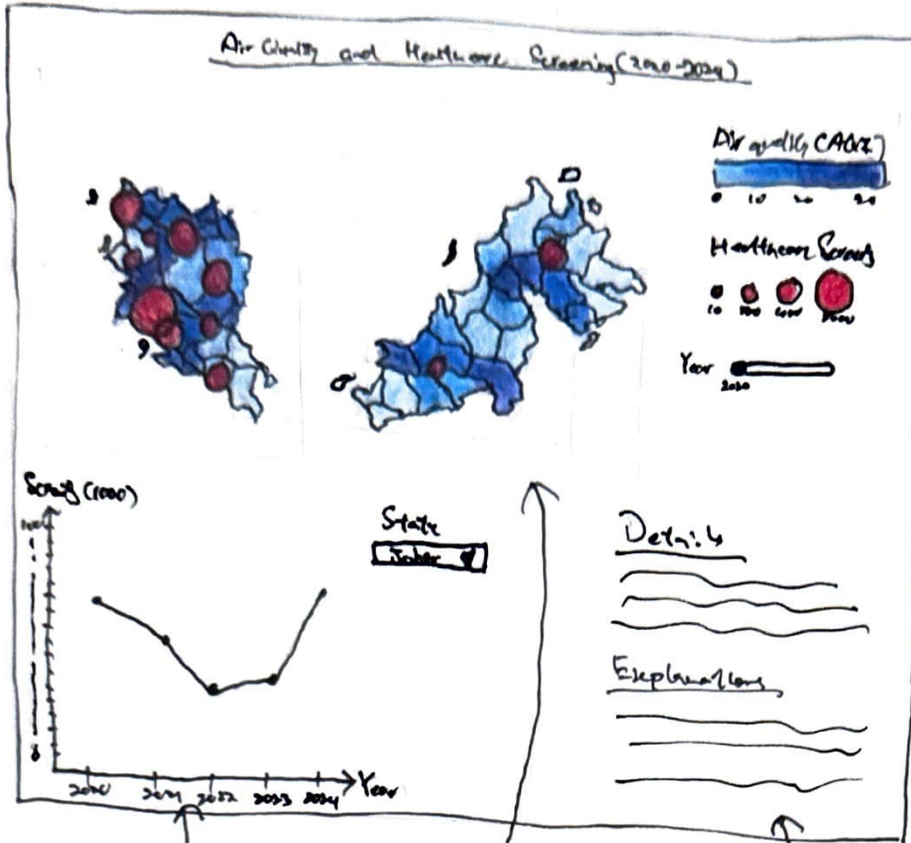
Bar chart to show the state ranking.

QUESTION

→ Does the answer the Research Goal?

→ Yes. It addresses trends (Time), quantities (Relationships), and identifies vulnerable groups (Matrix).

LAYOUT

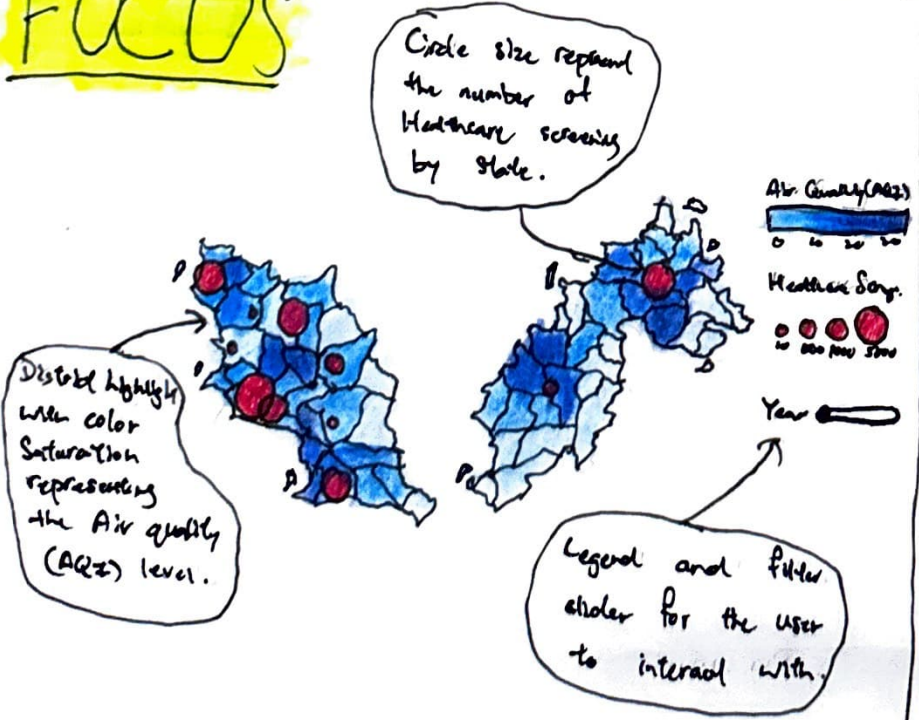


↳ This line chart highlights the trend of States in Malaysia overtime 2020-2024.

↳ Main chart - Choropleth Map showing the overview of Malaysia

↳ Short paragraph to have some explanation on the details.

FOCUS



TITLE : Group view and Trend
AUTHOR : LIAH KIEW LEE
DATE : 9/10/2025
SHEET : 2
TASK : Identify screening trends across states

OPERATION

- ↳ User can use the year slider to choose which year data to be shown on the choropleth map.
- ↳ User can use the dropdown filter to choose the state trend to be shown on the line chart.
- ↳ User can have over the map, circle, dot for details tooltips.

DISCUSSION

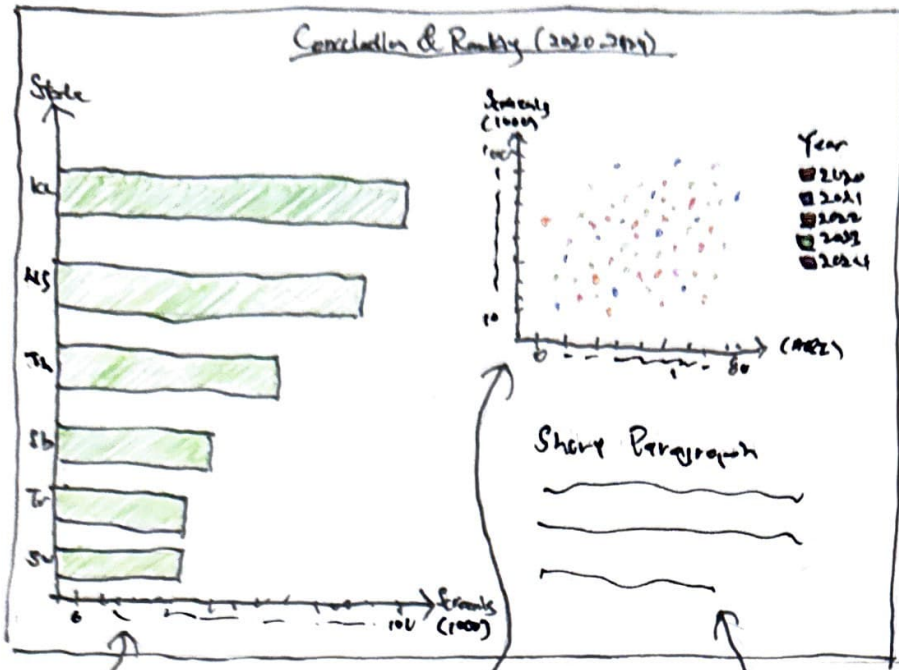
Pros:

- ↳ Highly engaging, tells a compelling story.
- ↳ Excellent for showing seasonal patterns and specific detailed

Cons:

- ↳ Less suited for precise numeric comparison.
- ↳ The correlation is implied rather than explicitly detailed.

LAYOUT



↳ This shows the ranking of the Screening by State in Malaysia, filter by year.

↳ This shows the correlation between the screening and the Adts level by year.

↳ Short Paragraph for a explanation of details/more information on the domain.

TITLE : Correlation & Ranking (2020-2024)
 AUTHOR : WONG KIAN WEN
 DATE : 8/10/2025
 SHEET : 3
 Task : Identify correlation between data.

OPERATION

↳ User can use the Year legend to filter the bar chart and scatter plot.

↳ User can hover over the bars / plots to have a details tool-tips for better understanding of the data.

DISCUSSION

↳ Pros:

↳ Directly and quantitatively answers the core research question.

↳ Clearly shows correlation strength and outliers.

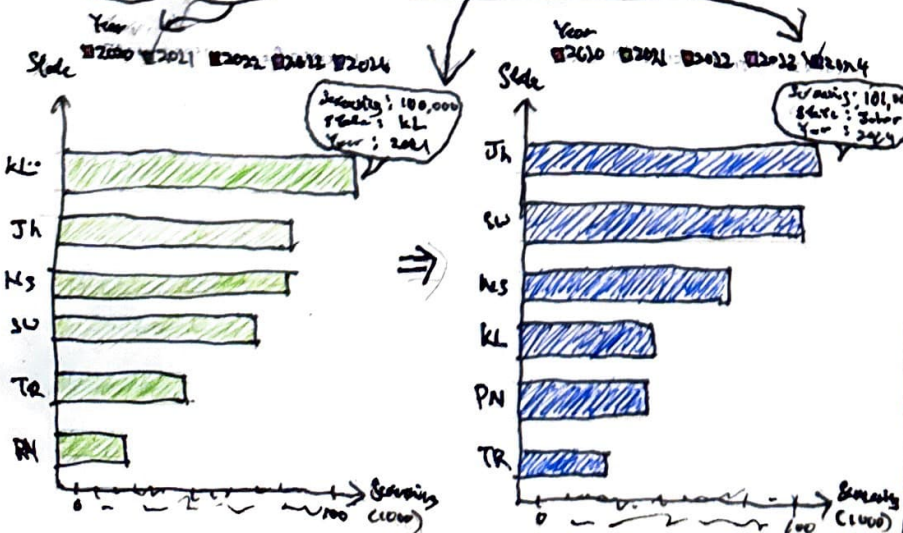
↳ Cons:

↳ Less intuitive for non-technical user (unfamiliar with scatter plot).

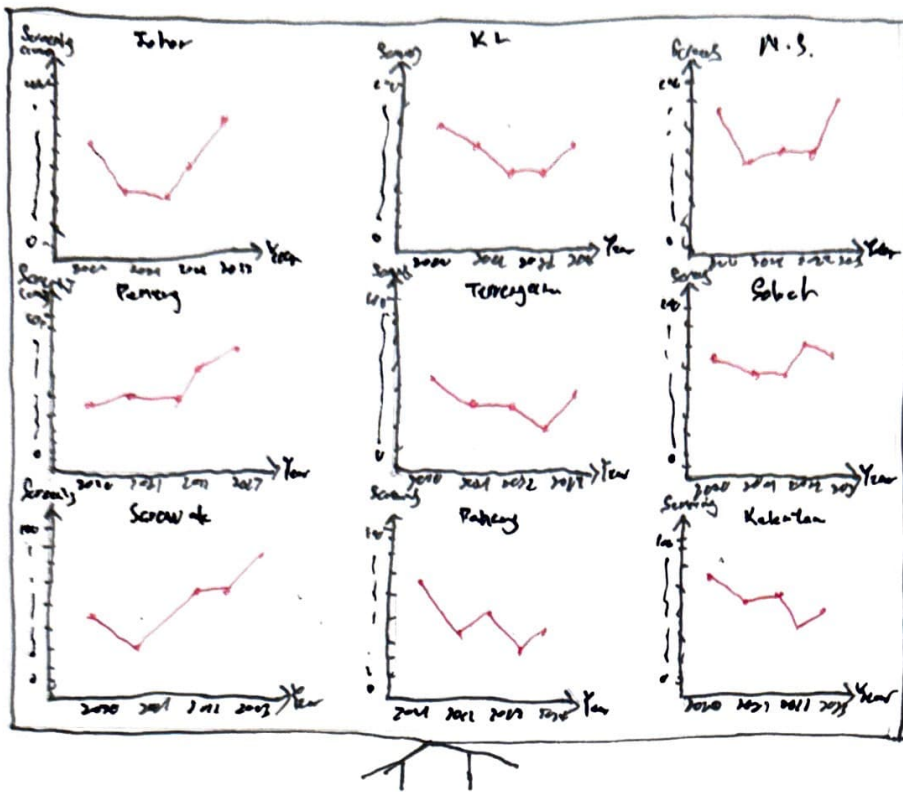
FOCUS

↳ Legend filter shows the selected Year ranking of State in Malaysia.

↳ Tooltips/annotation to shows details of the bar.



LAYOUT



- ↳ Small multiples of trend line chart for every state in Malaysia.
- ↳ Y-axis showing the number of Healthcare screening. X-axis showing the Year (Timeline).

TITLE: Travel overtime in Malaysia.
 AUTHOR: WONG KZEN WEN
 DATE: 8 / 10 / 2025
 SHEET: 4
 TASK: Identify trend of states.

OPERATION

- ↳ User can hover over the points to know the exact number of screening and Year for better comparison.
- ↳ The max/highest screening Year of every State is highlighted/annotated for easier analysis.

DISCUSSION

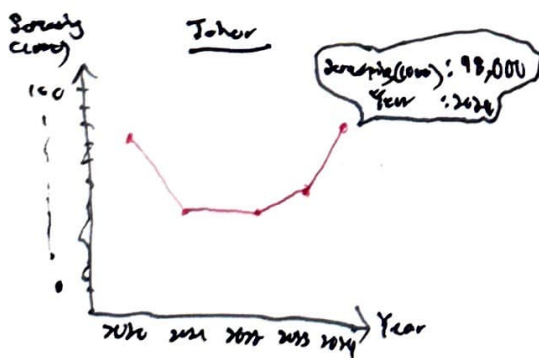
↳ Pros:

- ↳ Easy to see each state's trend in Malaysia.
- ↳ Trend lines help quantify the correlation strength.

↳ Cons:

- ↳ Too many small multiples (state in Malaysia), might be hard to have a good sight line layout.

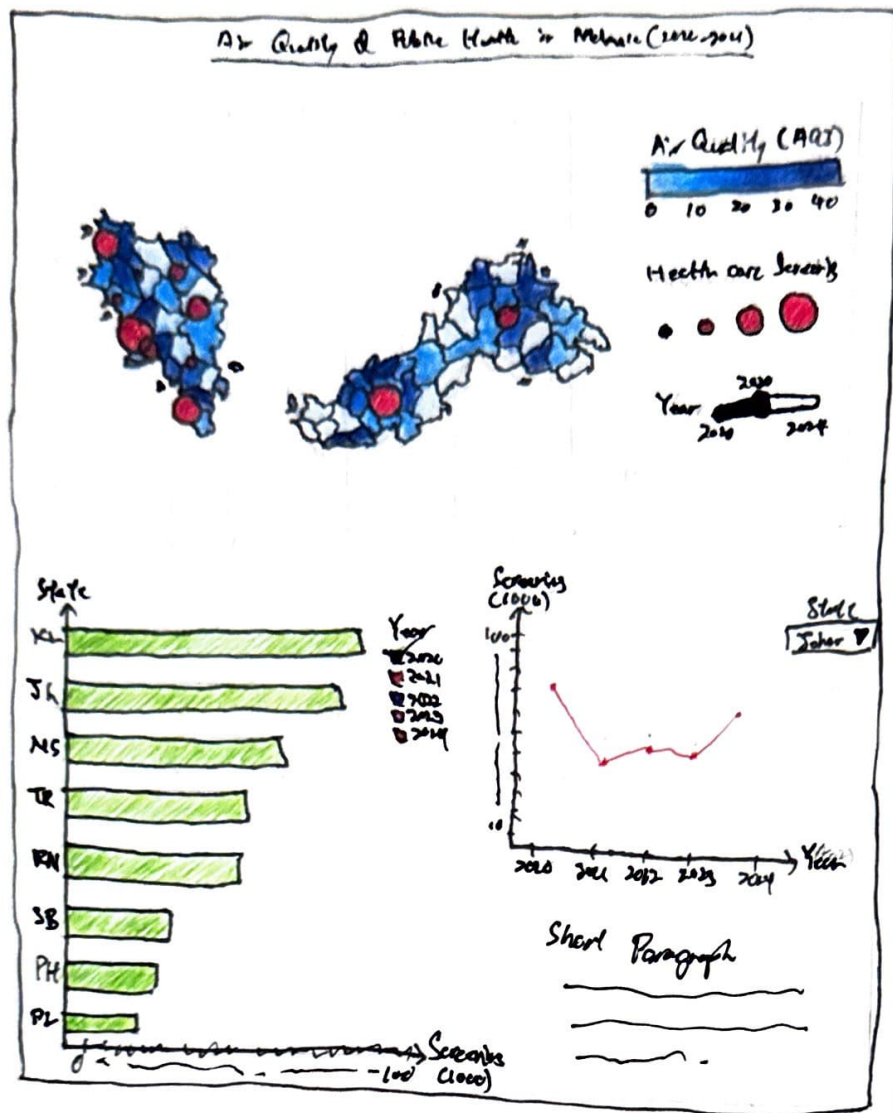
FOCUS



- ↳ Use line chart with interactive hover (tooltips shows exact screening number and Year).

- ↳ Highlight highest point/Year of each state with annotation.

LAYOUT



TITLE : Air Quality vs Public Health in Malaysia (Healthcare)

AUTHOR : WONG KIAN WEN

DATE : 8/10/2023

SHEET : 5

TASK : Find layout for narrative visualization

OPERATION

- ↳ User can use the year slider to change the choropleth map date.
- ↳ User can select the year to see the state ranking in the selected year.
- ↳ User can choose the state using the drop down filter to see the state's trend.
- ↳ User can hover over the district, circles, bars, plots for details tool-tips.

DETAIL

Data :

- ↳ Air Quality (AQI) (2020-2024)
- ↳ Public Health care screening (2020-2024)
- ↳ Geo map - Topojson format.
- ↳ Population by state (2020-2024)

Processing :

- ↳ Clean data to align the scale.
- ↳ Normalize data for choropleth map.

Tools :

- ↳ Vega-lite
- ↳ Cytoscape
- ↳ Excel

Build time :

- ↳ 2-3 weeks.

FOCUS

- ↳ This final layout focus on the trends and relationships between Air Quality (AQI) and Public Health care in Malaysia.
- ↳ This layout includes:
 - ↳ A choropleth map (Overview of Malaysia).
 - ↳ State ranking on Health care screening.
 - ↳ Trend comparison between state in Malaysia over the time 2020-2024.
 - ↳ Short paragraph of explanation/details.