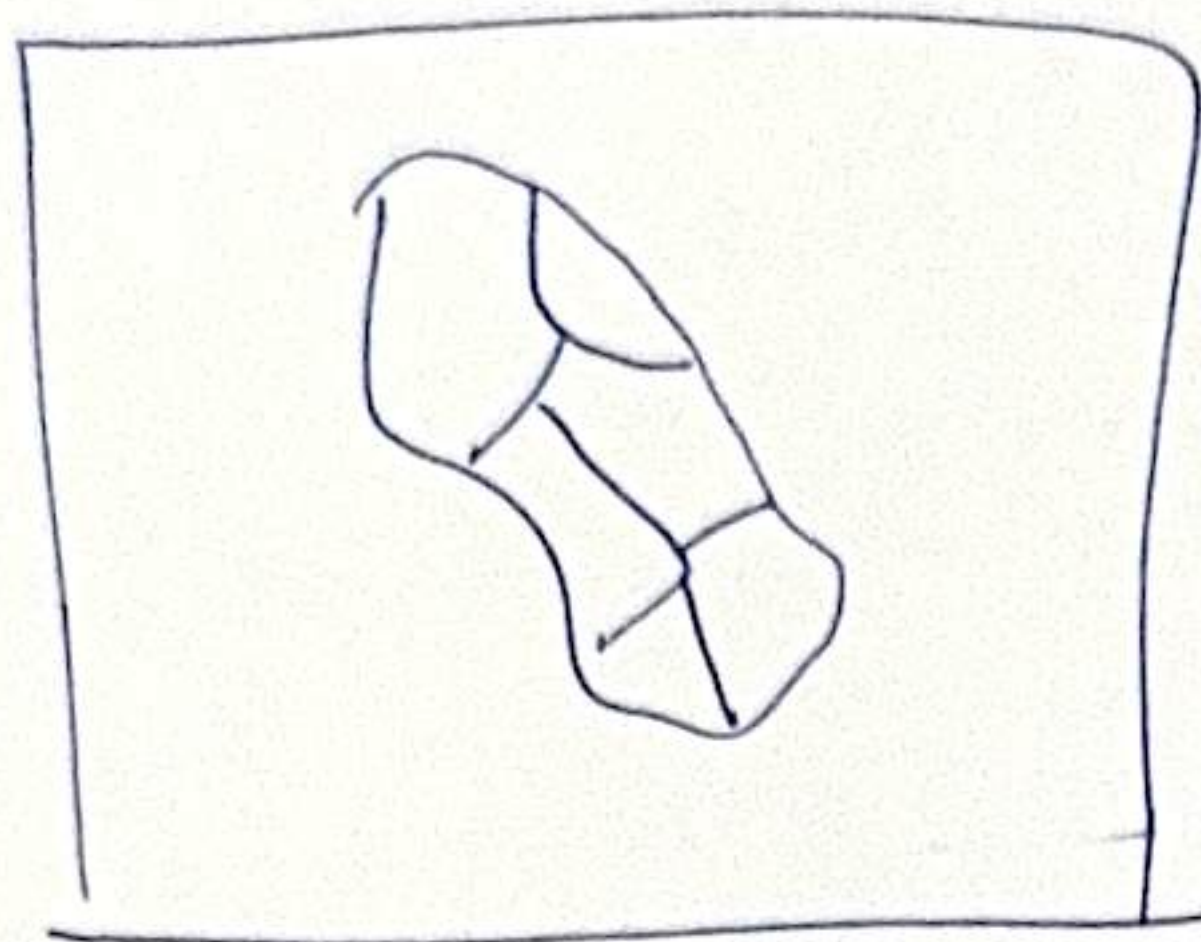


Ideas



map of west Malaysia with states



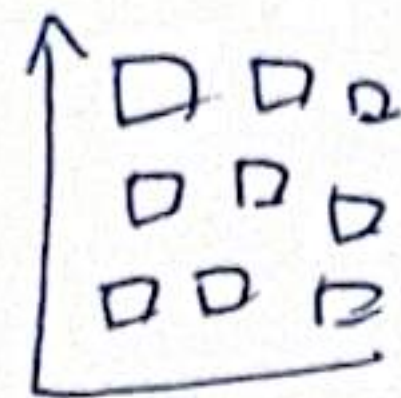
bar chart to compare pollution between states



- pie chart to show which state has highest pollution



time series



calendar plots to highlight where the pollution level is highest



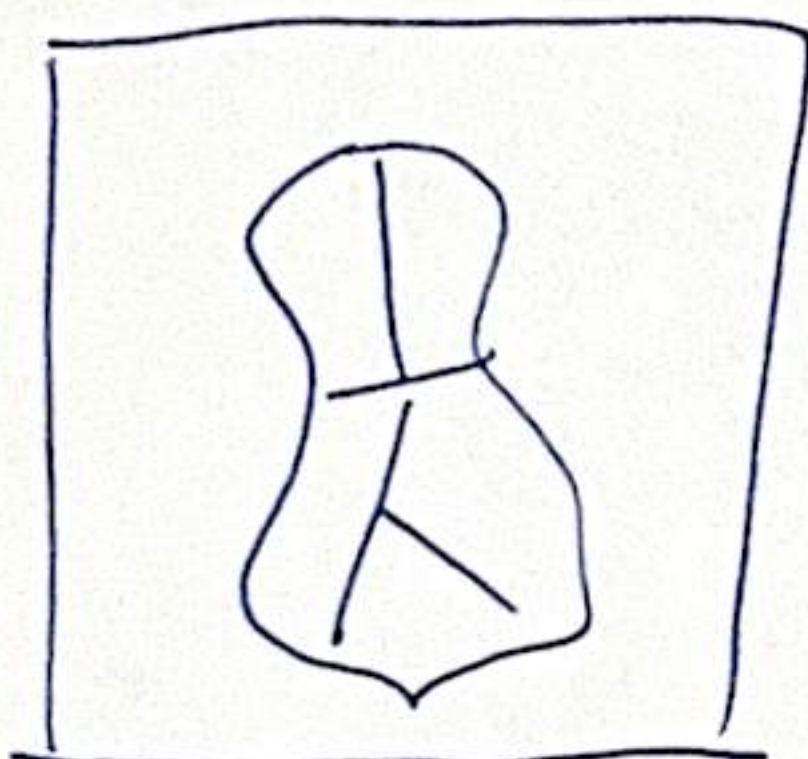
scatter plots to show trend

slider to change month to display on map



heatmaps to display how pollution change throughout month.

Refined



- map with month slider to display data for each month



colour indicator legend to inform users what the colours mean



bar chart for each state to show which one has highest pollution

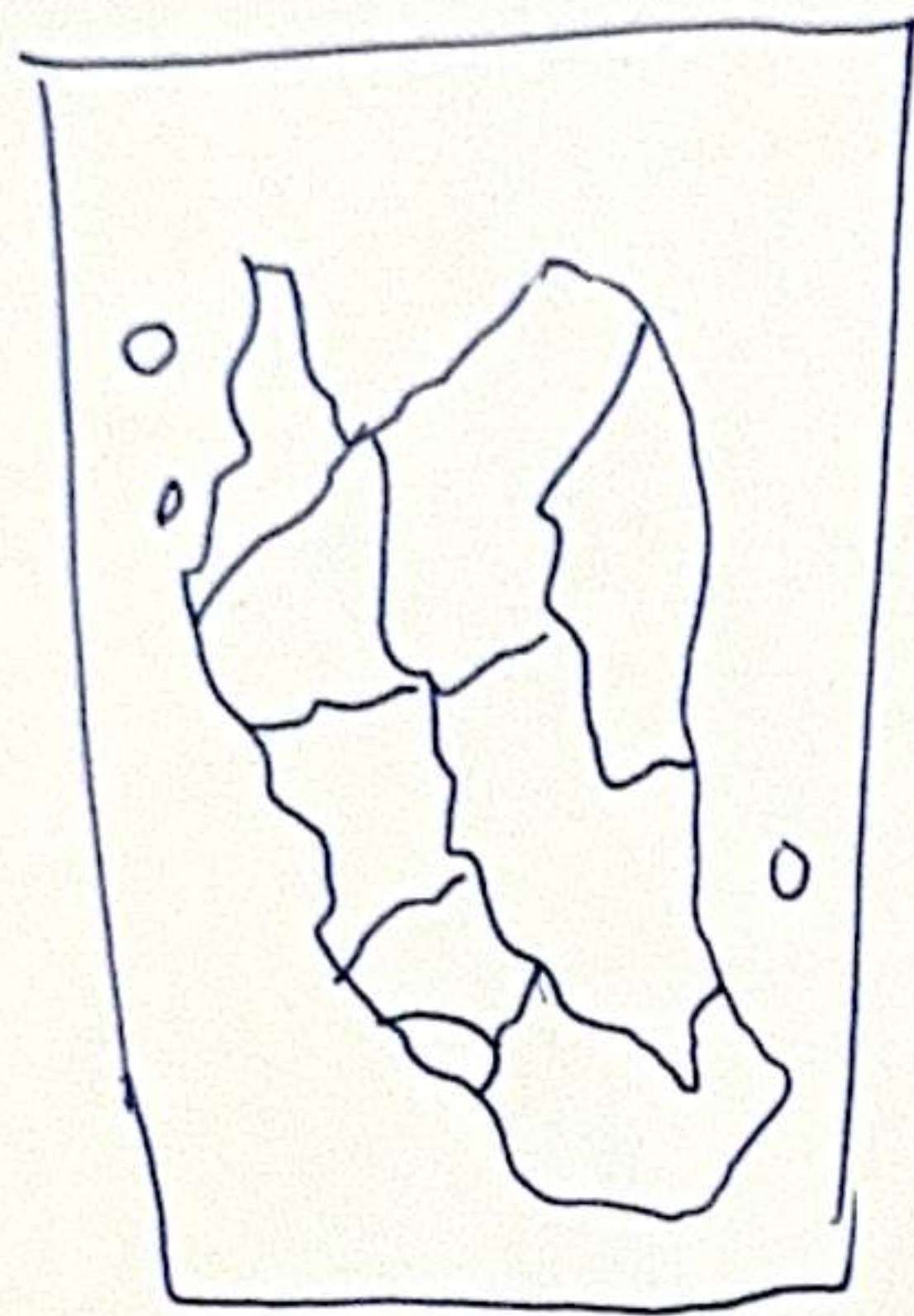


stacked time series of each state to see which months are highest & lowest pollution



4 ideas are good to ensure good information for users about air quality trends & hot spots across different time frame/regions.

Choropleth map of West Malaysia



legend

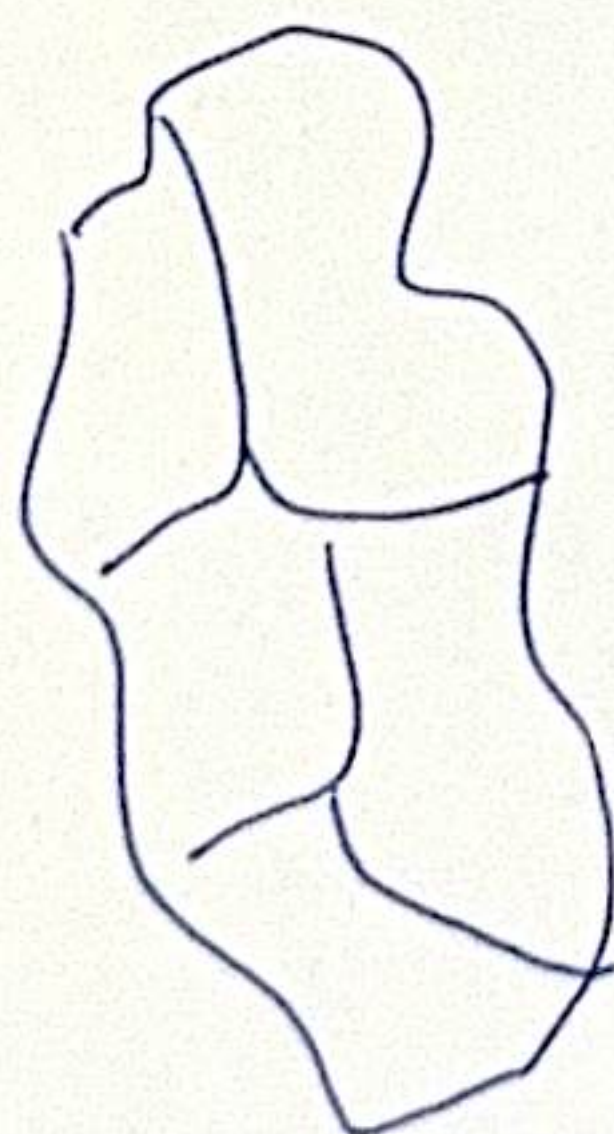
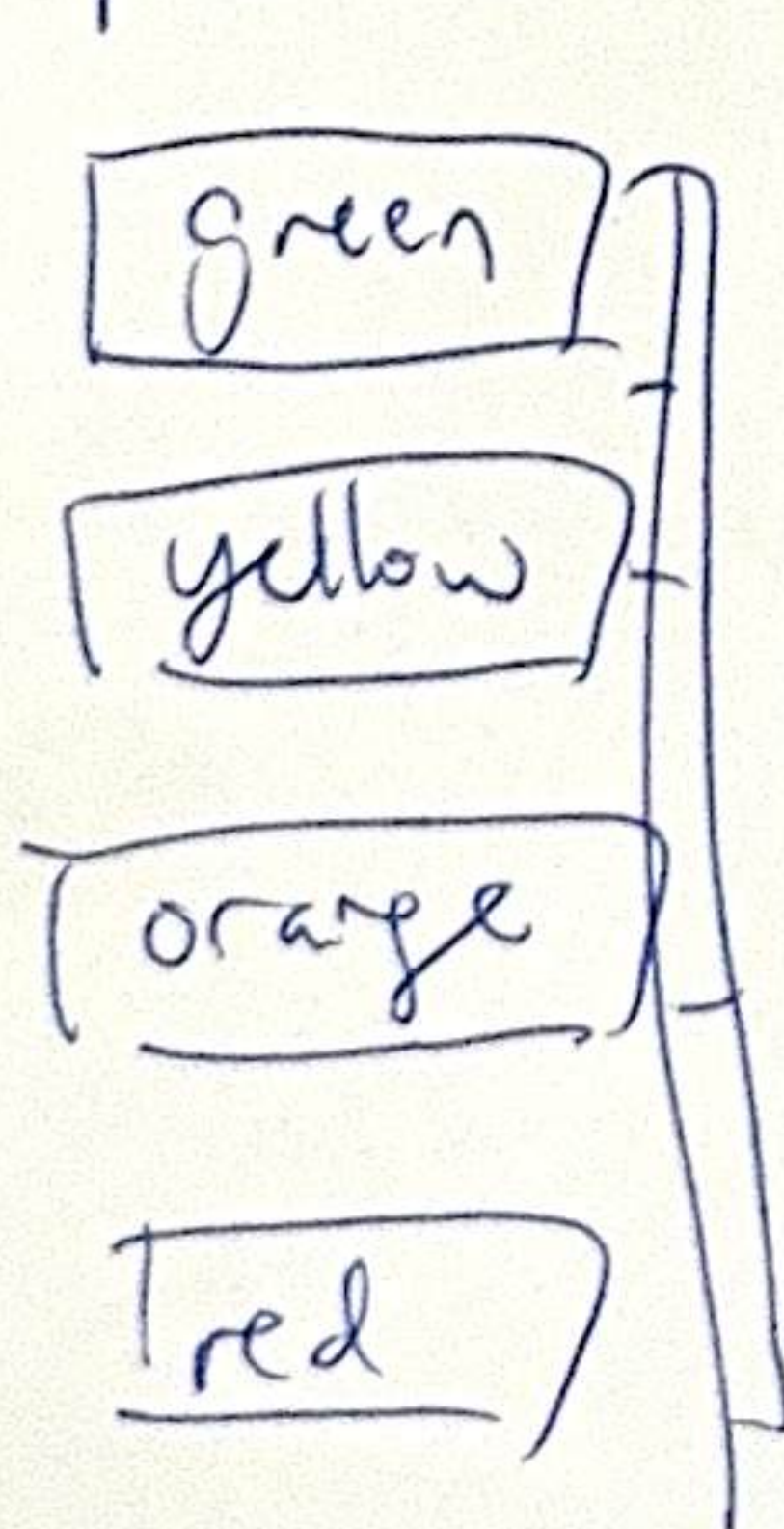


↑
colour indicator
for users
to know
how to
differentiate
the different
levels
of
pollution

↑
slider to
change the
months to
display
on the
map

map will show
the average
pollution for each
state for
every month.

The **Focus** primary visual technique
is the colour gradient for
pollution values



- map
shows
regional
difference
in air
quality.

Assignment 2

Visualization idea

SHEET 2

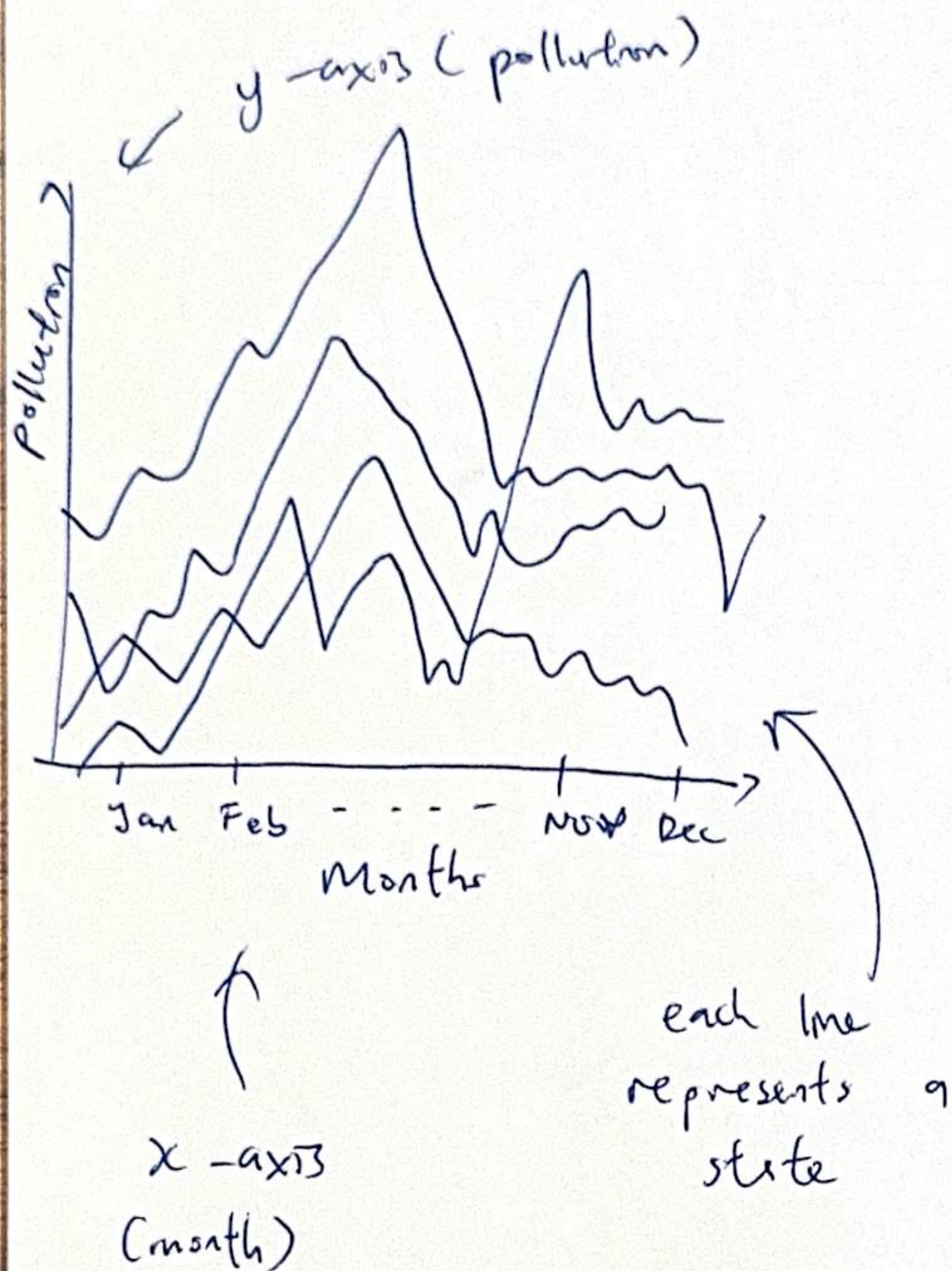
UI / Interaction

- user can hover over states to view detailed info about specific data for that state.
- user can slide the slider to change the month to display on the map.

Advantage: Provide intuitive geographical understanding of how pollution affects different states.
- quick to spot hotspots

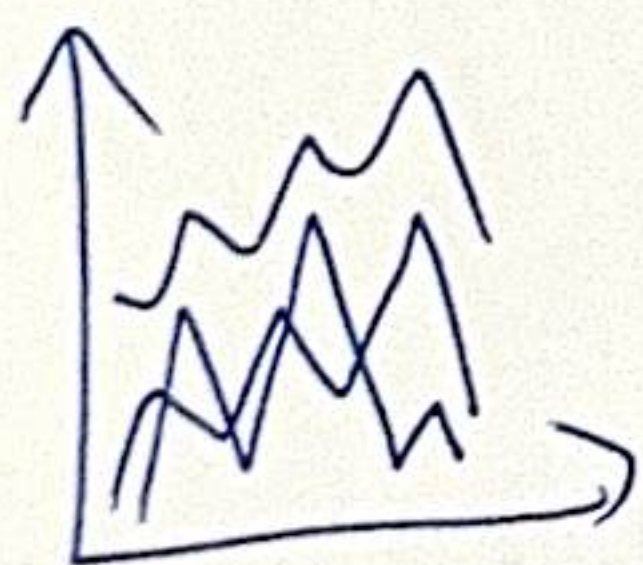
Disadvantage: - ~~map~~ static map does not show trends over time, needs another technique

Time series line chart
for the states across 2021



Focus

use distinct coloured lines for each state to show temporal changes.



Help visualize pollution trend over time,

Highlights seasonal patterns (eg. haze)

Assignment 2

Visualization idea

SHEET 3

UI / Interaction

- Users can filter the chart to display each states by clicking on that state's line
- Hover on the lines to show which ~~line~~ state that line belongs to.

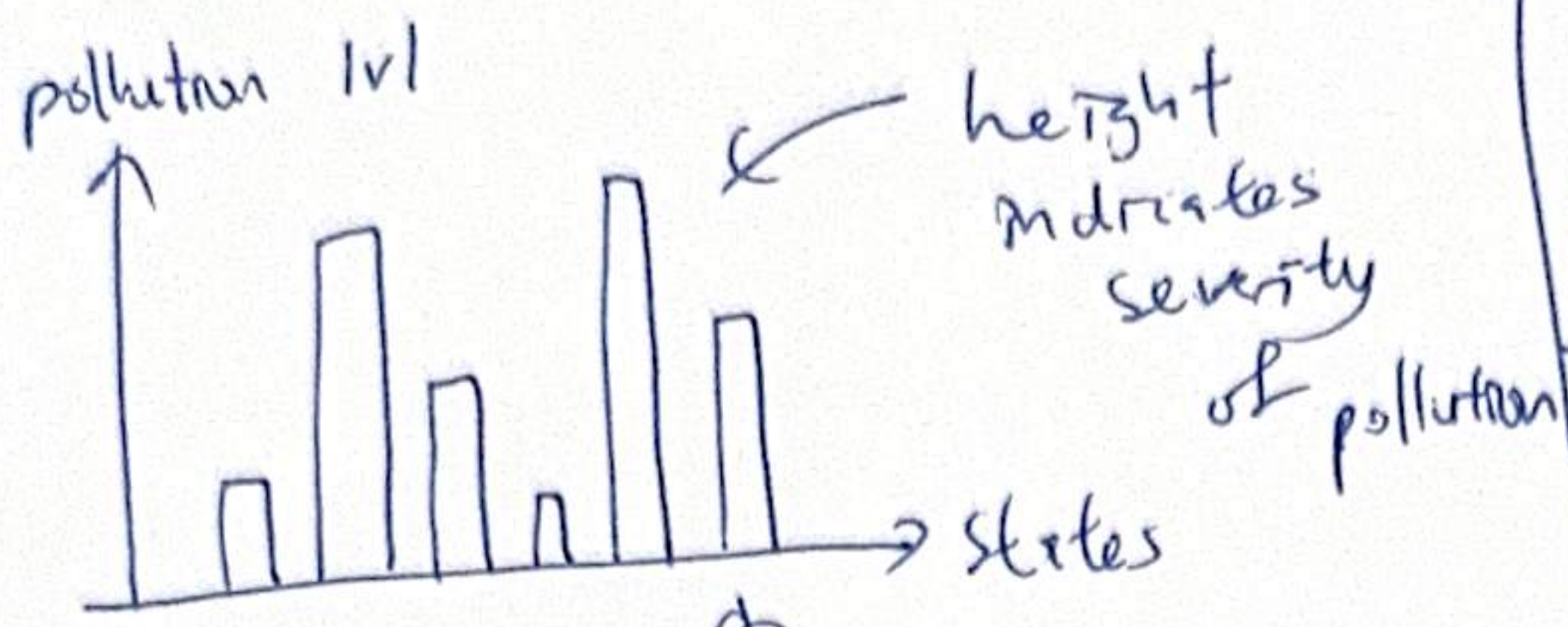
Advantages

- Clearly demos how air pollution fluctuates over time
- Useful to identify trends

Disadvantages

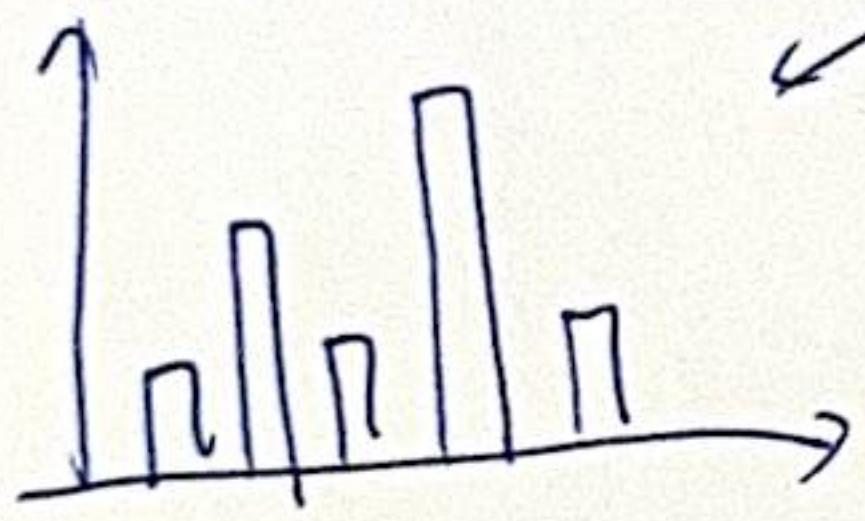
Lack of spatial context.

Bar chart - shows average
pollution for each
state in 2021



Bars will
show the
average of
all months
in 2021
for each
state

Focus



allows for
clear comparison
between different
regions

Primary tech is
the height of the bars
for pollution severity

Assignment 2

Visualization idea

SHEET 4

UI / Interaction

- Users can hover each bar to display state / pollution value
- User can click on each of the bars to highlight the bar only on the diagram and focus on the specific bar.

Advantages

- Simple & effective for comparing air quality for each states
- Easy to understand for users.

Disadvantages

- Only shows aggregate data, no trends over time.

TITLE

legend - show colour meaning for pollution



slider to change month



time series for each states

- (x-axis) : states

- (y-axis) : pollution index

maps showing average pollution for each state

show top 5 cleanest states

x-axis (pollution)

y-axis (states)

Assignment 7

Visualization idea

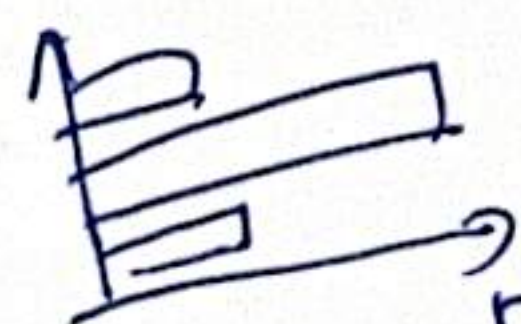
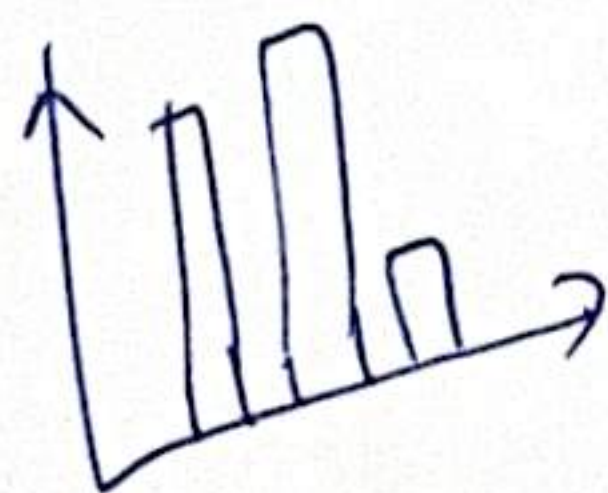
SHEETS

UI / Interaction

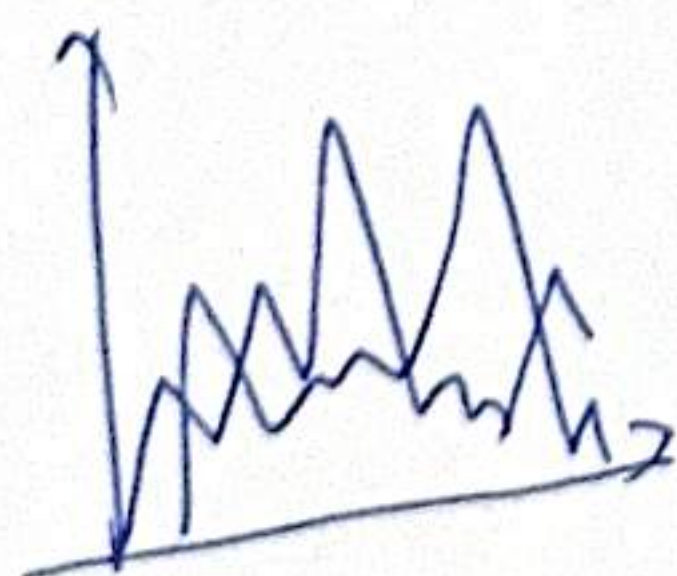
- user can hover over states to view details
- user can slide to change the month to display on the map.
- user can filter chart to display each line of state by clicking on the line and hover to show which state it is
- can hover bar and click on it to display info / focus on the bar.

Focus

slider to change the months to display on the choopleth map



height of bars dictate severity of pollution



Shows pollution trend overtime for each states

Relevant Descriptions

Techniques : Use Vega-Lite for creating the diagrams & maps

Time / Cost Estimate :

Diagrams : 8 hours

Testing & refinements : 4 hours

Software requirements : PC for development, browser for testing, hosting on GitHub