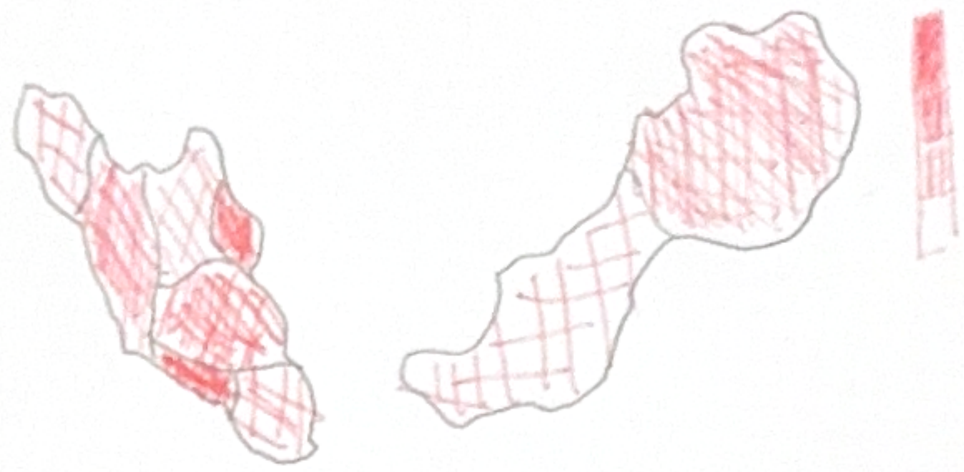
Ideas

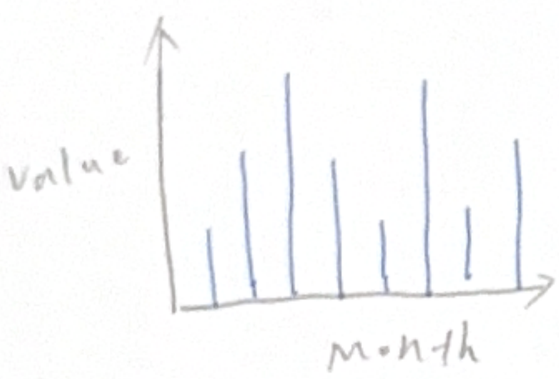
- Hourly Temperature maps
  (choropleth map)



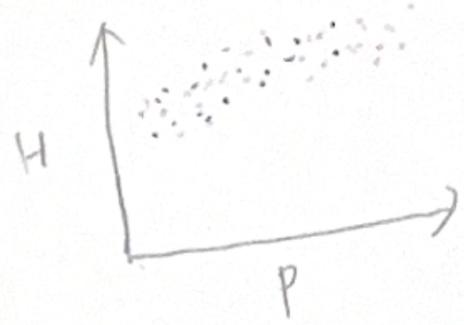
Time filter
Zomable
Map center
⋮

→ Weather station Locations
(proportional symbol map)

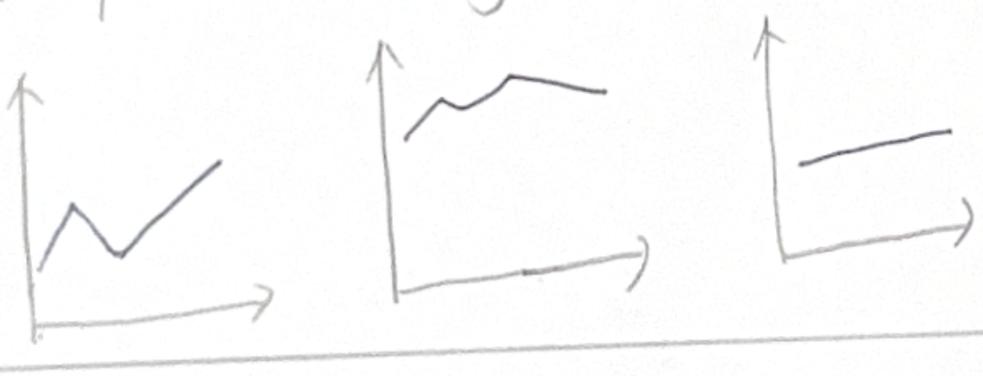
- Monthly Rainfall comparison
  (Bar chart)



- Precipitation vs Humidity
  (Scatter plot)



- Humidity trends / solar radiation patterns / Moonphase tracking



Drop down filters
Hover tooltips
Seasonal highlights
⋮

Filter

- Choroleth map
  → Visualize hourly temperature by state using color gradients
- Grouped Bar charts
  → Monthly average for cloudcover, visibility, solar radiation, moonphase
- Multi line chart
  → Tracks monthly trends of precipitation, humidity, wind speed, UV index

Categorize

- Climate Metrics
  → temperature, precipitation, humidity, wind speed
- Seasonal patterns
  → monthly averages, solar radiation, cloudcover

Combine and Refine

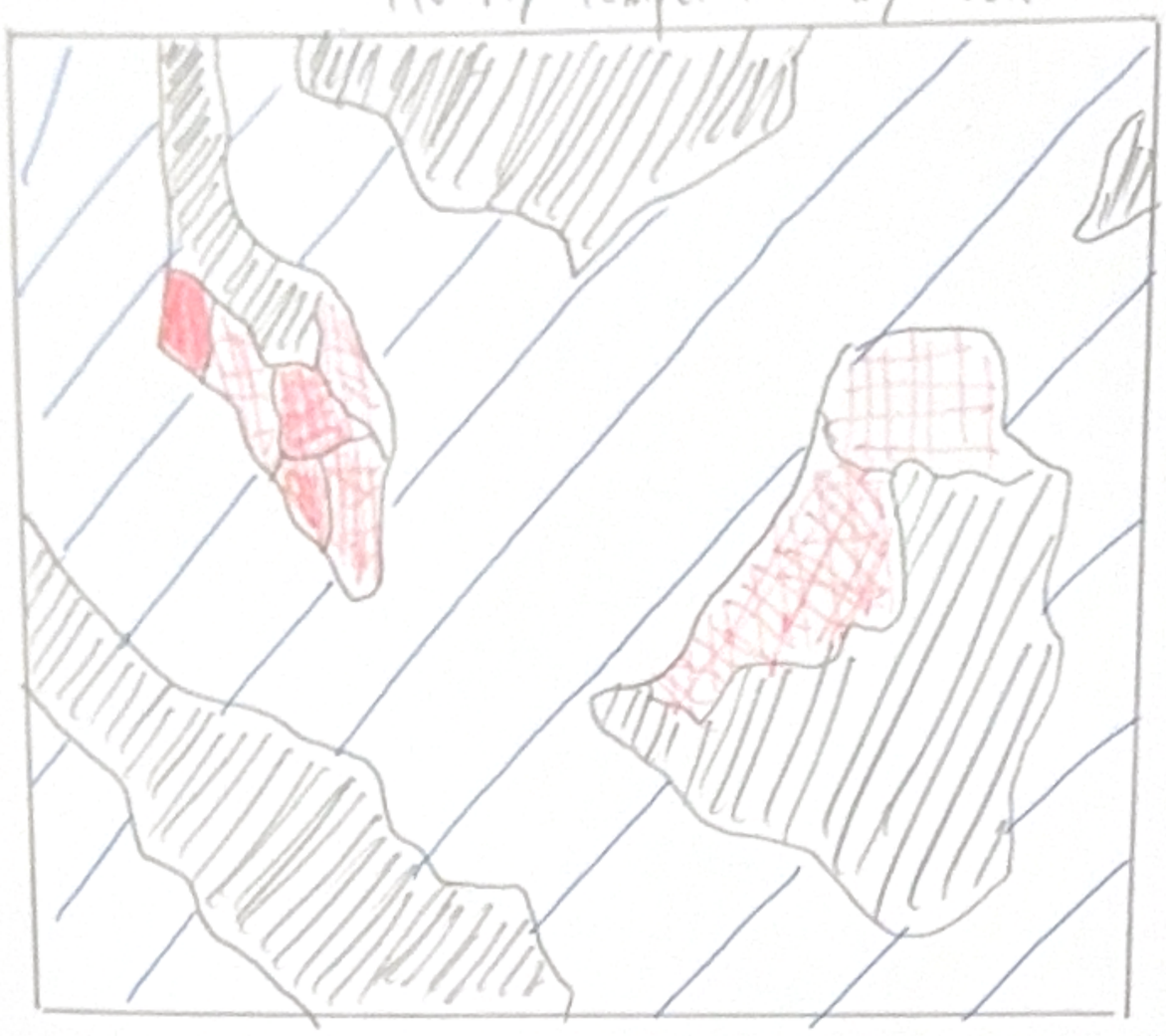
- Scatter plot + wind encoding
  → combined precipitation and humidity into a scatter plot and wind speed is encoded as point size
- Monthly Averages Bar Group
- Line Chart for Seasonal Trends

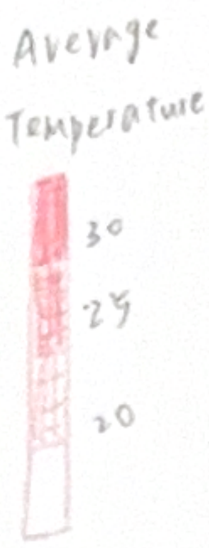
Question

- Can users easily identify seasonal shifts through visual cues?
- Do the filter help users explore specific timeframes meaningfully?

Layout

Hourly Temperature by State



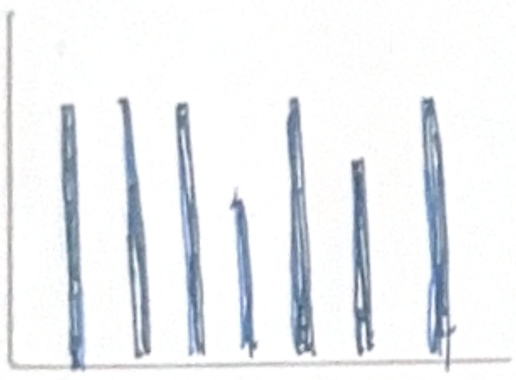


Filter [v]

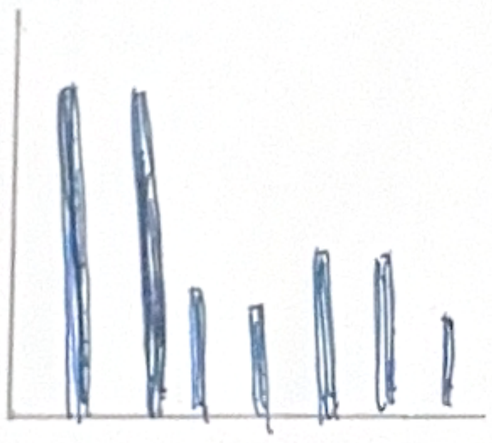
Zoomable

Map Center [v]

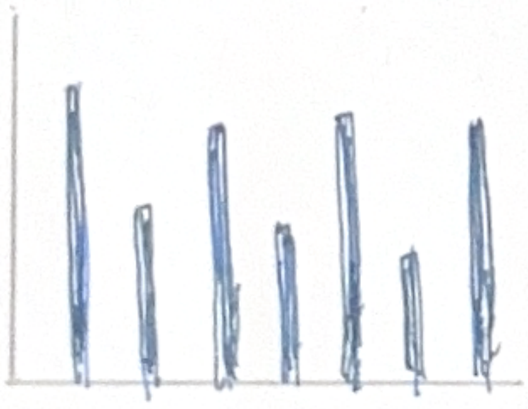
Average Cloudcover



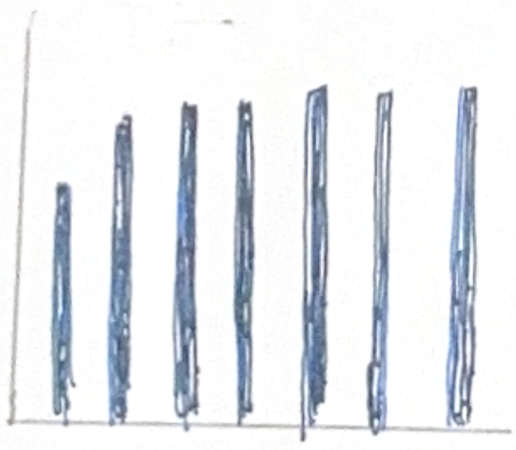
Average Visibility



Average Solarradation



Average Moonphase



Title: Malysia Weather Dashboard

Author: Chen Ching Ling

Date: 10/10/2025

Sheet: 2

Task: Data visualisaton 2

Operation

- Temperature Map
  - → Users select Year-month, day, and hour via dropdown filters
  - → Temperature is encoded with a red gradient, and tooltips show state-level data
- Bar Group
  - → Monthly average
  - → Each metric is displayed in a grouped bar format for easy comparison
  - → Color is used to distinguish months (e.g., April in coral, October in pale orange), matching annotation highlights

Focus

Map's interative tools:

Year-Month: [2024-10 v]

Day: [01 v]

Hour: [00 v]

Zoom: 1600

Map Center: [KL v]

Discussion

Challenges include balancing interactivity with clarity, especially in filter design.

Title: Malaysia Weather Dashboard

Author: Chen Ching Ling

Date: 10/10/2025

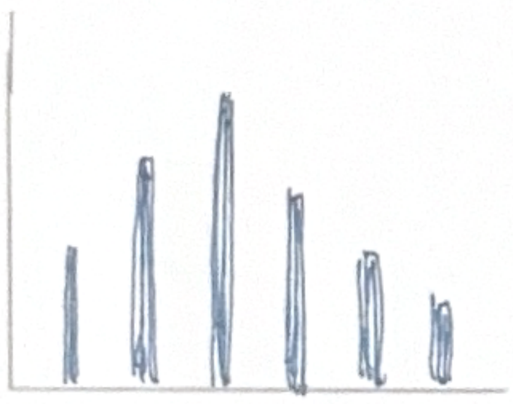
Sheet: 3

Task: Data Visualisation 2

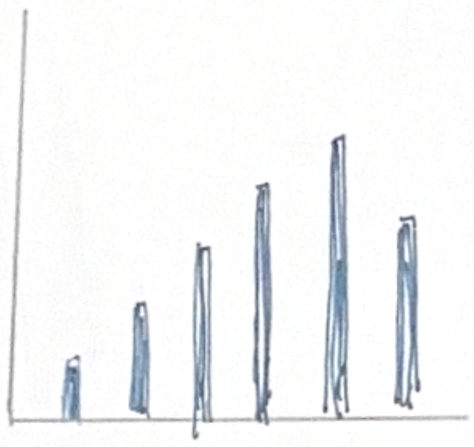
Layout

Precipitation vs Humidity

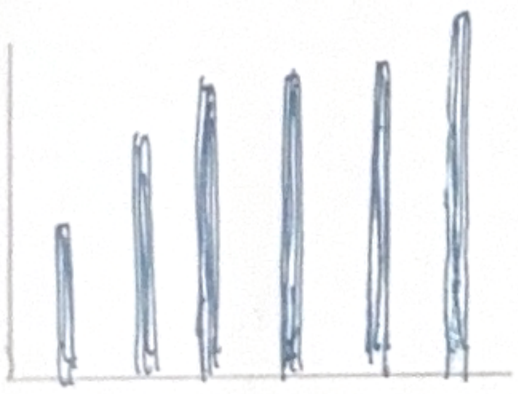
Average Cloudcover



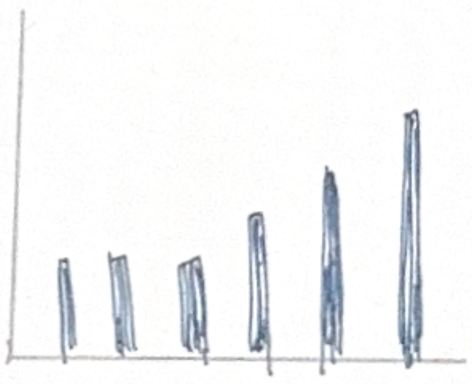
Average visibility



Average Solarradiation



Average Moonphase

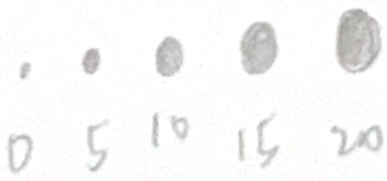


Operation

- Scatter plot
  - → Wind speed is encoded as point size, allowing multi-variable comparison
  - → Tooltips display all 3 values per observation for precise
- Grouped bar charts
  - → Color is used to highlight key months, matching annotation emphasis
  - → Tooltips show exact monthly values for each metrics, supporting seasonal comparison

Focus

The scatter plot reveals how precipitation and humidity interact, with wind speed encoded as point size → wind speed (mph)



Discussion

Challenges include balancing chart density with readability and aligning annotation colors with chart encodings. Refinements focus on layout spacing, tooltip clarity, and annotation brevity. Future improvements could include interative filtering by month or metric toggling.

Title: Malaysia Weather Dashboard

Author: Chen Ching Ling

Date: 10/10/2025

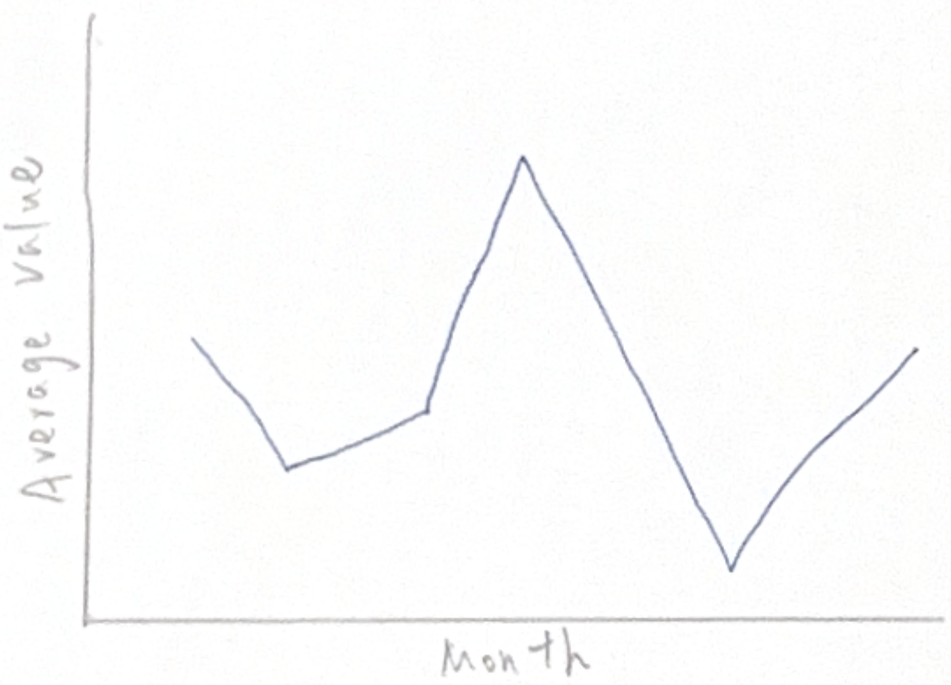
Sheet: 4

Task: Data Visualisation 2

Layout

Weather Station Locations in Malaysia

Monthly Weather Metrics



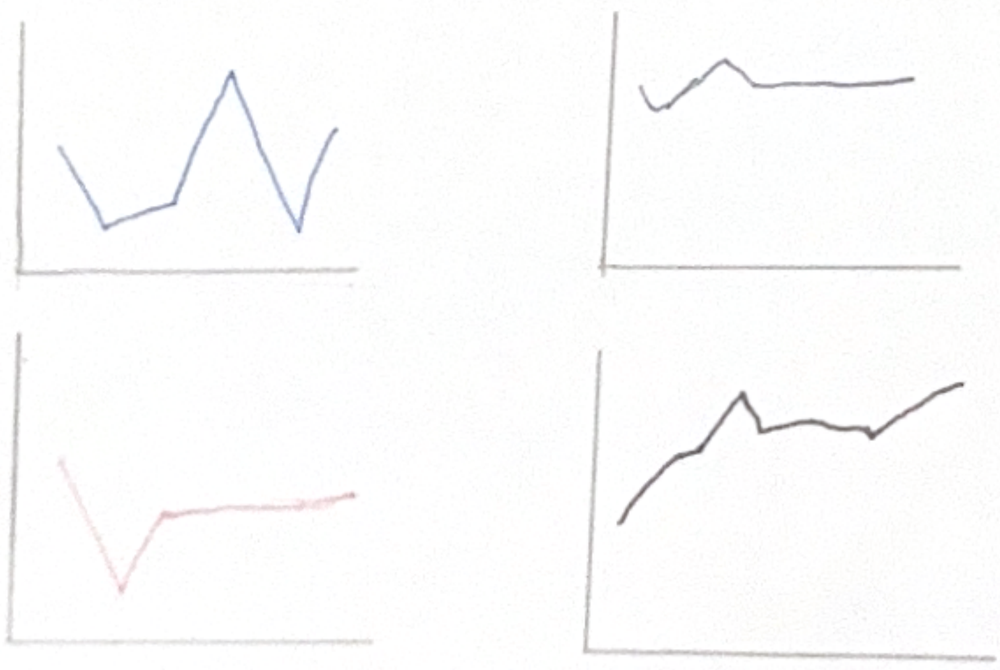
Metric: Precipitation (in) v

Operation

- Proportional Symbol Map
  - → Each station is plotted by latitude and longtitude
  - → Tooltips show station name, location, and record count
- Monthly Line chart
  - → Dropdown filter allows users to select a specific metric.
  - → Each line uses a distinct color
  - → Tooltips display exact monthly values per metric

Focus

Monthly weather metrics dropdown filters : Precipitation, Humidity, Wind speed, UV index

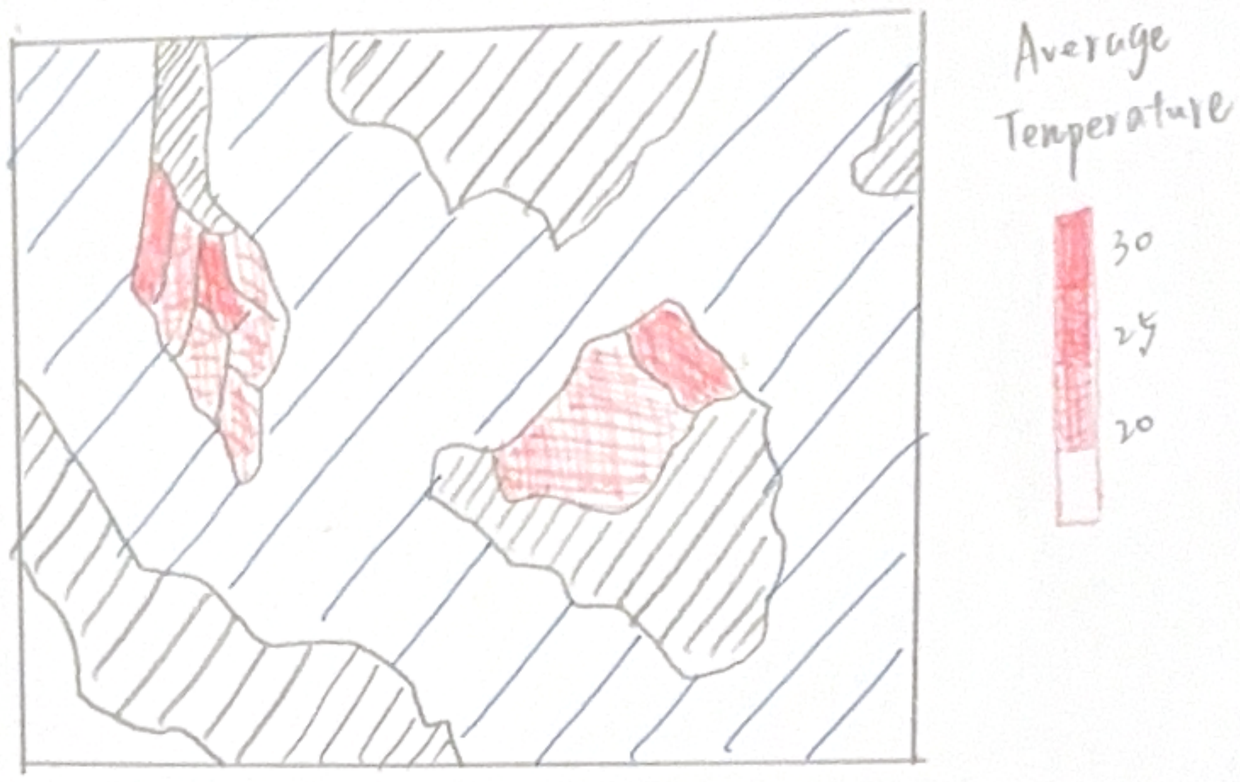


Discussion

Challenges included scalling symbol size for clarity and aligning dropdown filters with chart updates. Refinements focus on tooltip clarity, color consistency, and annotation placement.

Layout

Hourly Temperature by State



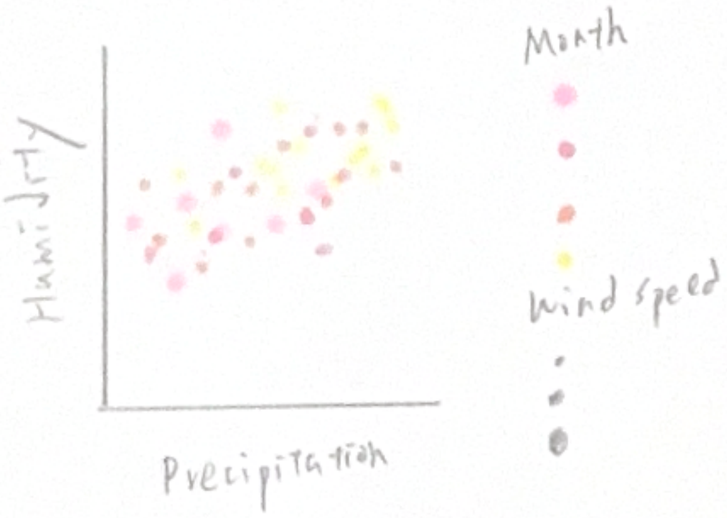
Filter

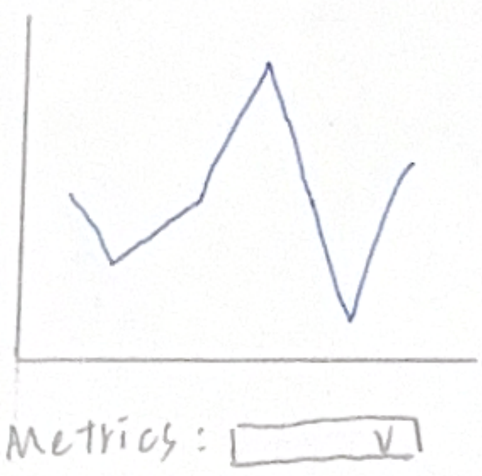
zoomable

Map center

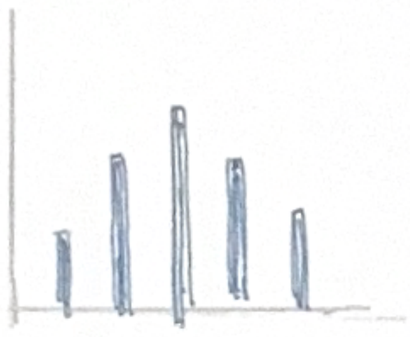
Monthly Weather Metrics

Precipitation vs Humidity

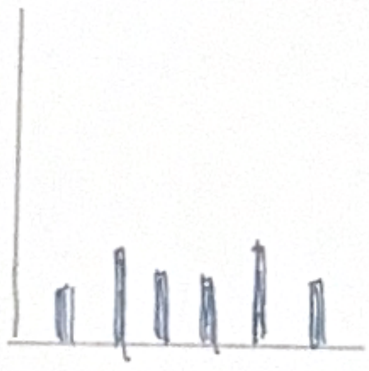




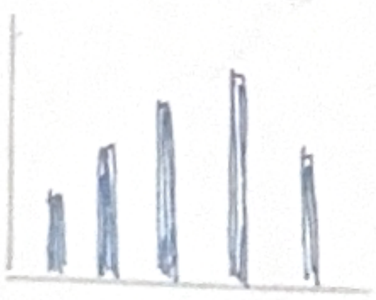
Average Cloudcover



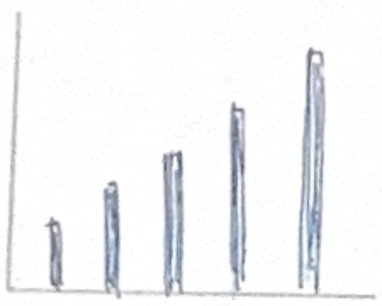
Average Visibility



Average Solaradiation



Average Moonphase



Focus

Each visualisation is paired with concise, color-matched annotations to guide interpretation.

Title: Malaysia Weather Dashboard

Author: Chen Ching Ling

Date: 12 / 10 / 2025

Sheet: 5

Task: Data Visualisation 2

Operation

- Temperature Map
  → Users select year-month, day, and hour via dropdown filters
- Scatter Plot
  → Wind speed is encodes as point size
- Grouped Bar Charts
  → Each metrics is displayed in a grouped bar format
- Monthly Line chart
  → Dropdown filters allows users to select a specific metric

Detail

- Paragraphs are shortened and bold for clarity. Key months are highlighted using inline color spans.
- Dropdown filters and tooltips enhance interactivity. Layout spacing and modular cards improve scannability.