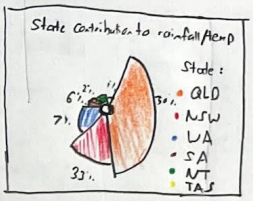
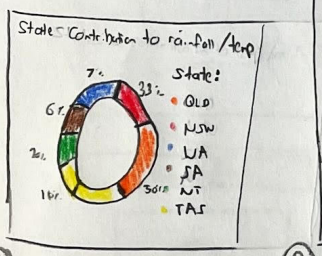
1. Ideas

a) Proportional symbol map:

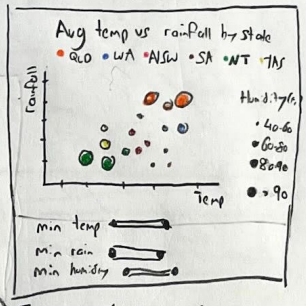
b) Radial chart: «



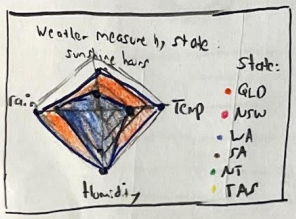
c) Donut chart:



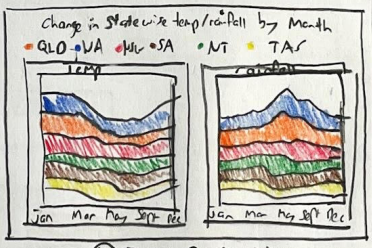
d) Interactive bubbleplot:



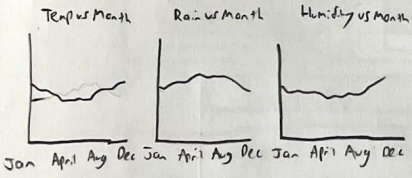
e) Spider/radar chart: «



f) Facetted Stream graph

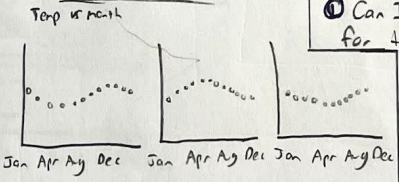


g) Facetted Line graph:



→ By State aswell!

h) Facted Scatterplot:



4. Combine and refine: Combine facetted Line graph + Scatterplot into one. (g.) + (h.)

Author: Daniel Liu

Date: 20/09/24

Sheet: 1

Task: Generate Ideas for data vis Assignment 2.

2. Filter: Visualisations to Exclude:

b.) Radial Chart → Encodes the same information as the donut chart. Donut chart is perhaps more easy to read and visually appealing.

c.) radar chart → Would be difficult to Interpret/extract meaning as there are so many States/territories in Australia, it would cause alot of overlapping.

Note: I will Include the other visualisations.

3. Categorise:

Breakdown of temperature	A
Breakdown of rainfall	B
Breakdown of humidity	C

Group by:		order by:	
State	D	Month	E

5. Question:

1. Can I show the % annotations for the Donut chart (c) with a slider aswell?
2. Do I want to break it down into even more detail than just state?
3. Is the implementation feasible given my data?
4. Are the visualisations basically encoding the same information?

Layout:

Author: Daniel Liu

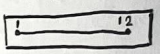
Date: 20/09/24

Sheet: 2

Task: Design a scrollable partitioned poster design.

Operations:

Filter by Month (Jan - Dec) using a slider. Applies to all visualisations that have a month component (i.e. Donut Chart, Scatterplot, facetted streamgraph, facetted lineplot).



Filter by state using a dropdown menu which allows users to select states

Filter points on scatterplot by minimum temperature, rainfall and humidity to help users identify extremely hot/cold states and months in Australia.

Tooltips and Annotations:

-> Rainfall (mm)
-> Temperature (°C)
-> Humidity (%)
-> State.
-> Month.
-> Proportion of rainfall/temperature by state (donut chart).

Discussion:

Advantages:

-> There is good balance in the dashboard.
-> Map (important) is placed first (visual hierarchy)
-> Limited white space

Disadvantages:

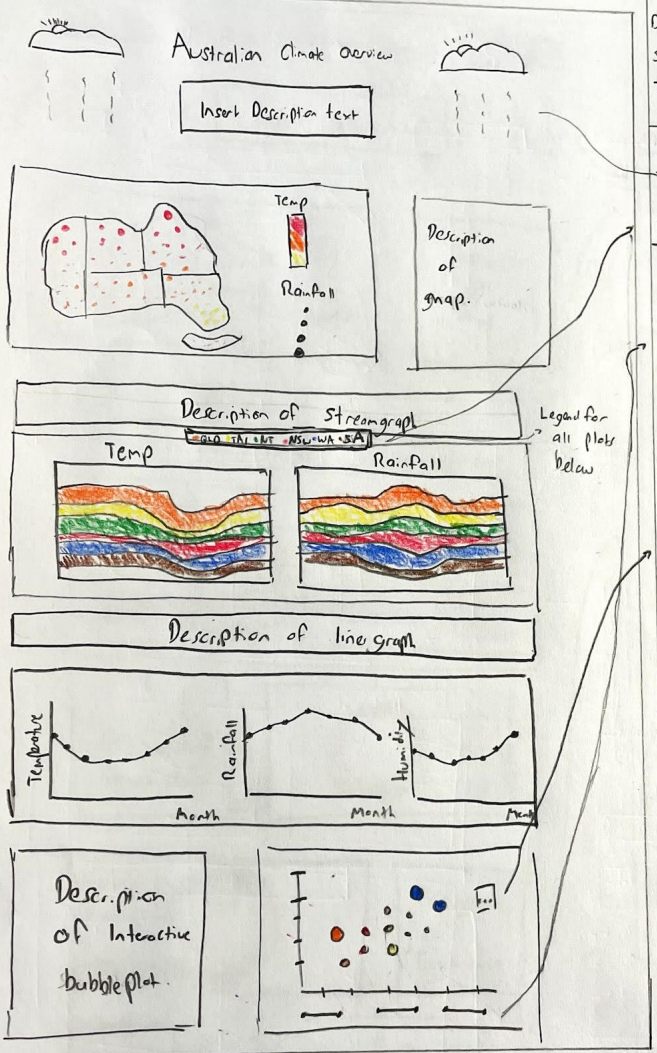
-> Filtering can only be applied to all charts. No ability to filter specific charts
-> One legend at the top may require users to scroll up alot to find the colours associated with specific states.
-> Legend is seperated by map title.

Focus: -> Creates balance through symmetry and use of whitespace.

-> Four clear sections can be identified, with the map being the main visualisation.

-> Use of annotations to guide users to specific areas of Australia.

Layout:



Author: Daniel Liu
Date: 20/09/24
Sheet: 3
Task: Design a scrollable magazine style poster.

Operations:

→ Animation for weather (gif).

Filter by state using the legend where a user clicks on the relevant dot (state) to filter for it.

Filter points on a scatterplot by minimum temperature, rainfall and humidity to help users identify extremes hot/cold states of Australia.

Tooltips and Annotations:

→ Annotations for Highest temperature and Rainfall points.
→ Rainfall (mm)
→ Temperature (°C)
→ Humidity (%)
→ State
→ Month

Discussion:

Advantages:

→ Filters are more intuitive and placed in easily identifiable positions.
→ Magazine style enables more story telling to guide users through my story.
→ Less visualisations makes it easier to digest the main patterns.

Disadvantages:

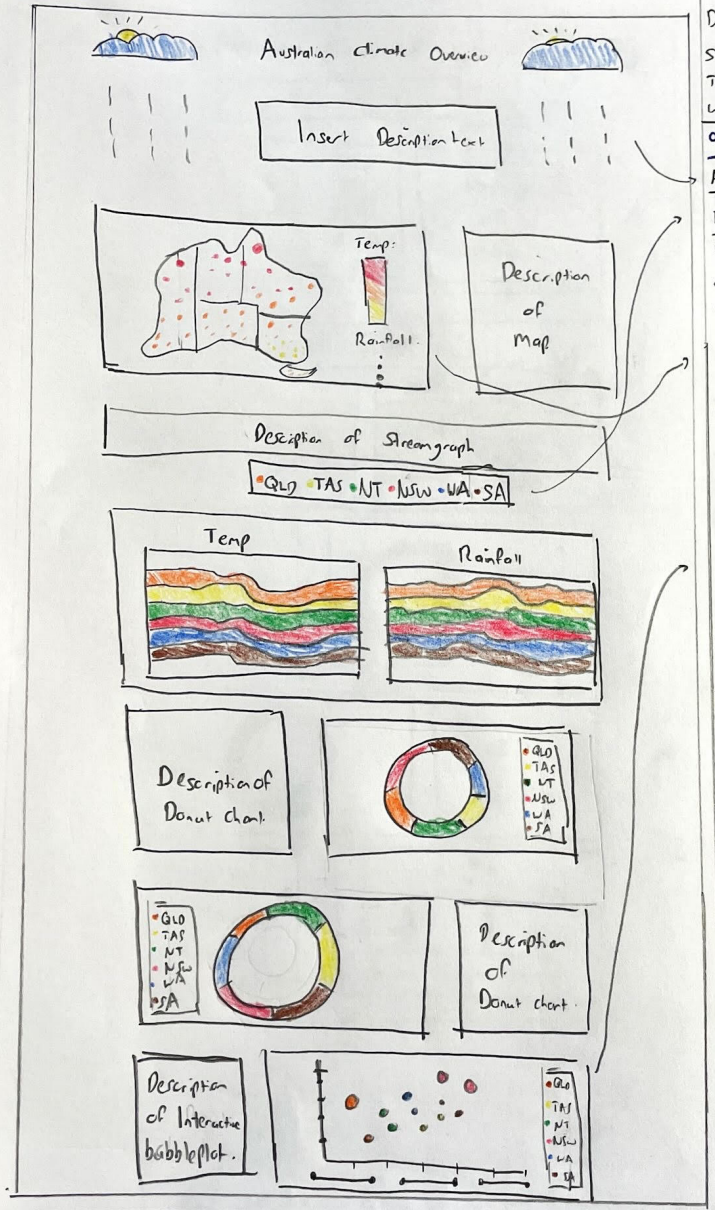
→ Not as much variety in visualisations mean less insights that can be drawn.
→ Users may not realise the legend is a filter.
→ Main focus may be taken away from map.

Focus: → 4 categories/sections with clear visual hierarchy.

→ Point of visualisation is to focus on engaging the user through a story supported by text that references the visualisations.

→ Focus is still on map as it's in sight lines and comes first. However, it's now less prominent.

Layout:



Author: Daniel Liu

Date: 20/09/24

Sheet: 4

Task: Design a scrollable magazine with a more intuitive layout.

operations:

Animation for weather (gif).

Filter by state using the legend where a user clicks on the relevant dot (state) to filter for it.

Filter for state using dropdown menu for the proportional symbol map as there is no colour by state.

select state

Filter for points on the scatterplot by minimum temperature, rainfall and humidity to help users to identify extremely hot/cold states.

Tooltips and Annotations.

-> Annotations for highest temperature and rainfall points.

-> Rainfall (mm).

-> Temperature (°C)

-> Humidity (%).

-> State.

-> Month.

Discussion:

Advantages:

-> More Legends makes it easier to remember a States Colour.

-> More textual content means more flexibility to guide the user through a story.

Disadvantages:

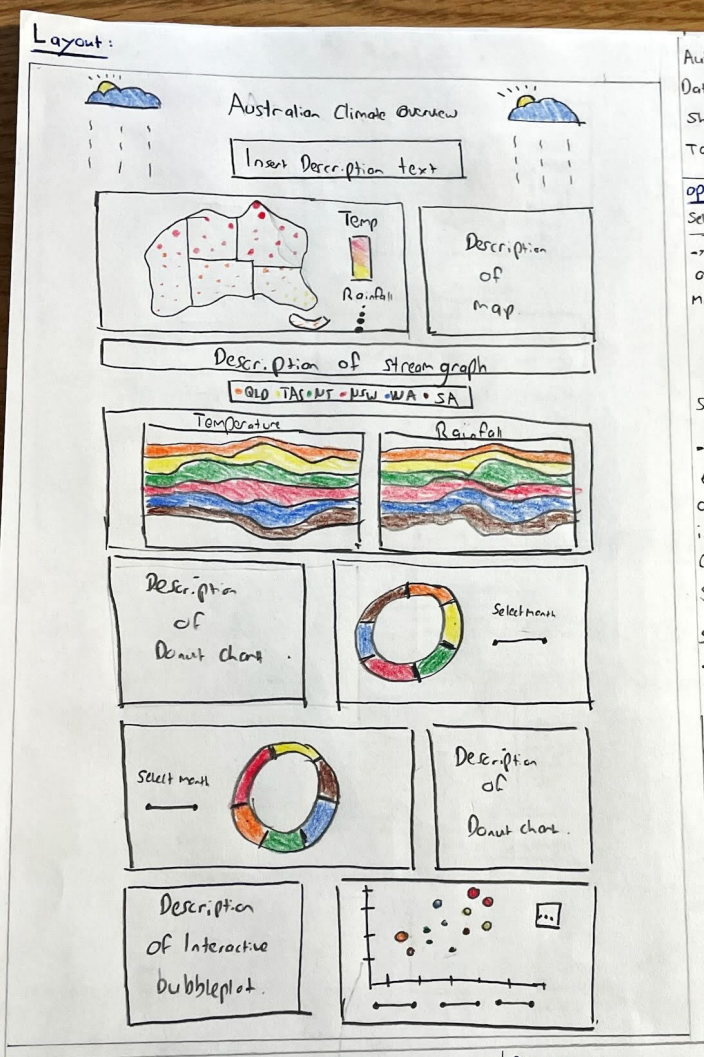
-> Main focus is taken away from the map, despite its visual hierarchy (placed at top).

-> More white space if I don't utilise the text well.

Focus: -> Create focus placed on the Climate of individual states as introduction of Donut Charts means another visualisation by states.

-> More textual content supporting the visualisations, meaning less dominance by any single visualisation.

Layout:



Author: Daniel Liu
Date: 21/09/24
Sheet: 5
Task: Design the final layout

Operation:

Select/Filter by State: (1)

-> As there are 7 options, best option is to have a dropdown menu for the categorical data.

-> Applied to all charts except Streamgraph.

Select/Filter by month (2)

-> There are 12 months, with either a slider or dropdown available. As there is an intuitive order with months (e.g Jan before Feb), use a slider.

Select/Filter by minimum temp / rainfall / humidity: (3)

-> As the minimum temp/rain/humidity is quantitative data, make a slider to drag the minimum amount.

-> Too many possible values for a dropdown menu.

Tooltips and Annotations: (4)

-> use tooltips for all graphs.

-> Annotate Streamgraph (static) and bubble plot (dynamic).

Focus:

-> Focus is on Australian States and their Climate, achieved through breakdowns by State.

-> 5 Clear sections: Each with its own graph and descriptive text (magazine storytelling genre).

-> use of annotations to guide users to extreme Climate States (e.g extremely hot or cold.

Details:

-> specific requirement to produce long visualisations without horizontal Scrolling.

-> Dependencies: Vega-Lite, Vega to create visualisations, Html, CSS, Javascript to create webpage, Python for data cleaning.

-> Estimated time and effort: 7 days. 1 day for cleaning, 3 days to build Idioms, 3 days for design.