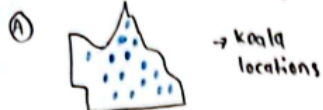
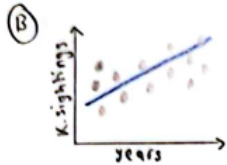


## 1. Quantitative attributes

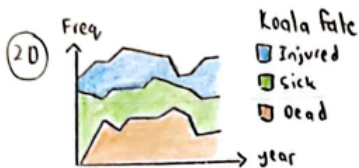


Density dot plot map



scatterplot

Filter



stacked area chart

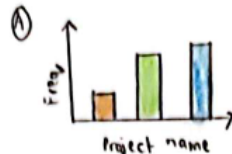
- line charts are much cleaner and easier to read
- inconsistencies in the dataset might cause the visualisation

## Categorise

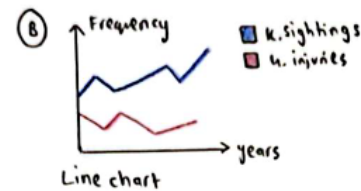
## 1. Categorical data

- Date (sighting/hospital)
- Project name (sighting)
- Organisation name (sighting)
- koala size (hospital)
- Koala fate (hospital)
- Hospital name (hospital)

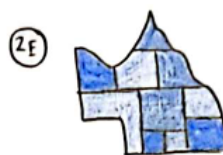
## 2. Qualitative / Categorical attributes



Bar chart

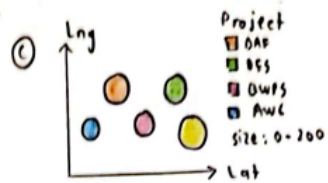


Line chart

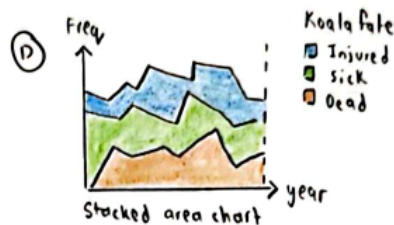


choropleth

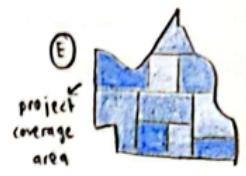
- heat map might be more suitable to display koala locations and project coverage area
- too many LGAs to visualise



Bubble chart

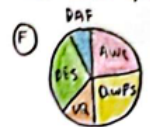


Stacked area chart

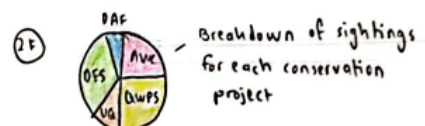


choropleth

Conservation Projects



pie chart



Pie chart

- should only be used as a last resort
- not very meaningful in terms of data presentation
- limited attributes

## 2. Quantitative data

- Latitude (sighting/hospital)
- Longitude (sighting/hospital)
- Location precision (sighting)

comprised of two datasets:

1. Koala sightings
2. Koala hospital

## Combine &amp; Refine

(2A) and (2B) can be combined to form a bar + line combination graph



(2E) can be turned into a heatmap for visualising the density of koala sightings around QLD

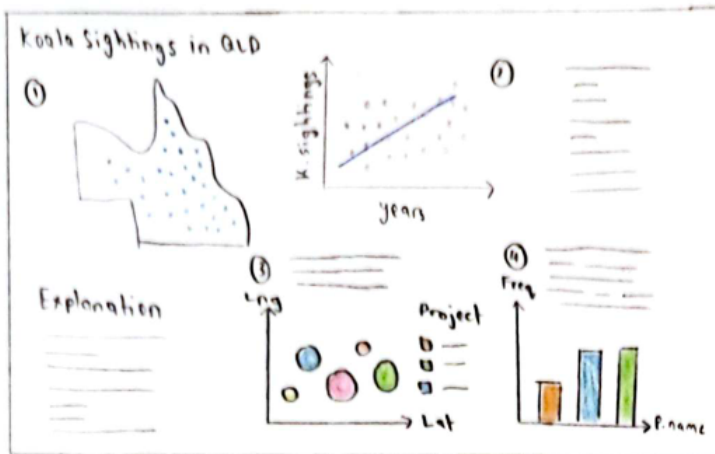


A multiple line chart can be used to replace the stacked area graph

(2D) to make it easier to read

## Summarise and question

1. Is a sankey diagram suitable for the attributes in this dataset
2. The addition of a sunburst diagram is possible but experimentation is required
3. Attributes need to be grouped together to reduce the amount of colours used (e.g. project and hospital names)



① Dot density map

- shows the locations of koala sightings (and possibly compare locations of injured koalas)

③ Bubble chart

- Allows utilisation of more than 2 attributes in the chart
- packs a lot of information

② scatterplot

- visualise the number of koala sightings across a period of time

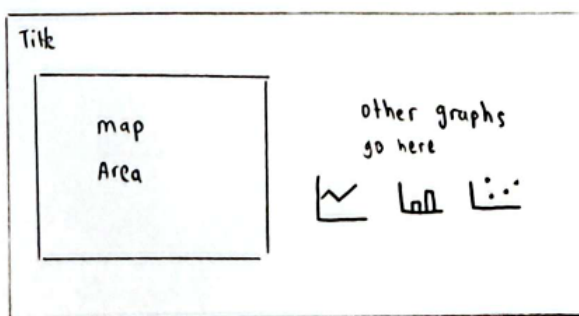
- individual points can show the density of sightings

④ Bar chart

- Simple idiom to visualise the scale of each conservation project

Part / Focus

- All graphs are visible at first glance and displayed within a small vicinity of each other
- Categorical data is more prevalent in the graphs compared to quantitative data
- As required, a map visualisation is implemented and becomes the main focus of the infographic, while the other charts provide more context and supporting information



Title Design Idea 1

Description

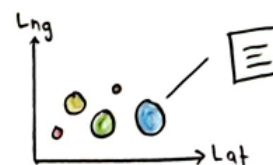
Designing an infographic in the style of a partitioned poster

Components / Operations

→ potentially create a filter using the bubble chart which filters the koala points on the map and information on the other chart

→ Implement tooltips for bubble charts to show details of multiple attributes

\* tooltips are activated on hover



Pro & Cons

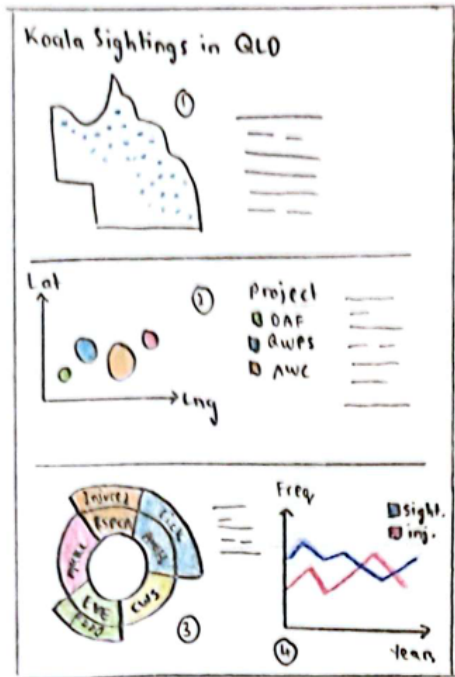
Advantages:

- Easy to present graph in a single large format web page
- Charts can easily be compared as they are located in close vicinity of each other
- Accessible for readers as no actions are needed for navigation

Disadvantages:

- charts may be too small as they are placed close to each other on the same page
- If multiple descriptions are included, it might get too cluttered because of a lack of white space
- Hard to annotate graphs as it may overlap with other charts
- No independent sections for deeper analysis





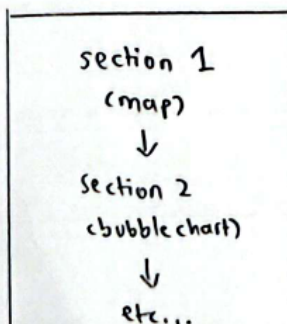
- ① Either pick between a dot density map or heat map to show koala locations
- ② Bubble chart visualises more than 2 attributes with the size representing koala sightings and colour for conservation projects

③ Could potentially use a sunburst diagram to visualise koala fates and the linked hospitals

④ multiple line charts can show trends in koala sightings and injury over time

#### Parti / Focus

- scrollable website allows each graph to have its own focus by putting them in different sections
- The map is placed in the first section as it is the main focus of the visualisation
- The sunburst chart helps to visualise the supporting dataset about koala injuries by linking koala fates to respective hospitals
- colours in the sunburst chart should be consistent with similar attributes in the visualisation



→ scrollability and hierarchy of graphs show importance of information

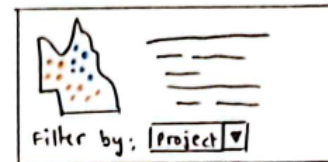
#### Title Design Idea 2

#### Description

Designing an infographic in the style of a scrollable story telling website

#### Components / Operations

- Adding a filter on the first section (on the map) can help users filter data across the page
- \* consequent sections will only show filtered data



- Splitting the sunburst chart and line charts into individual sections for a more indepth analysis
- Adding tooltips for the bubble chart to show readers information about multiple attributes

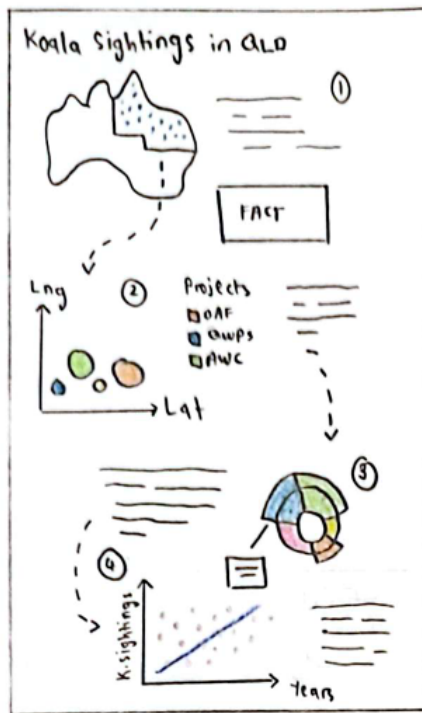
#### Pro & Cons

##### Advantages:

- sections are more defined with opportunities for deeper analysis of each idiom with more space
- Better use of white space
- more sections can be added if needed
- visually appealing with bigger charts in each section

##### Disadvantages:

- might have too much white space if only one chart is used per section
- Difficult to compare charts because they are spread further apart
- Harder to identify specific data if filters are not implemented



① A full map of Australia which focuses on the koala locations in Queensland

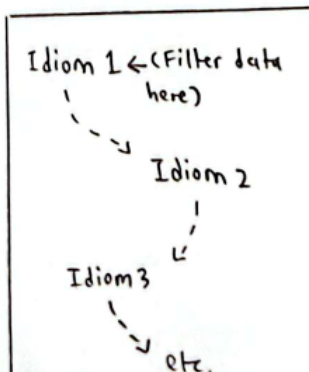
② Bubble chart is the next link which visualises more than 2 attributes  
 - size for freq. of koala sightings  
 - colour for conservation projects

③ Sunburst diagram similar to the previous design idea with elaboration on koala fatals and injury data

④ A scatterplot to visualise the relationship between koala sightings and fatalities

#### Parti / Focus

- Possibility to create the visualisation using multiple sections or on a single large webpage to showcase the flowchart
- Focus on the map idiom as the first visualisation and readers can navigate following the arrows to other supporting visualisations
- Focus on interactive elements to help guide readers through different sections (could maybe make the arrows interactive)



Flowcharts provide  
 → a clear flow of information that is being presented  
 \* helps readers understand the link between sections

#### Sheet 2,3,4

Name Thanishwar Janarthan

Date 15/9/24

#### Title Design Idea 3

#### Description

Designing a flowchart to present visualisations in a sequential order

#### Components / Operations

- Adding a feature to zoom in on the map so that readers can have better visibility on the koala locations



- create a filter using the bubble chart or add a dropdown filter on the map to view specific LGAs in Queensland
- Add tooltips on the sunburst chart and bubble chart to provide info about related attributes
- If the idioms have their own sections instead of a single page, arrows can be used readers navigate to different sections

#### Pro & Cons

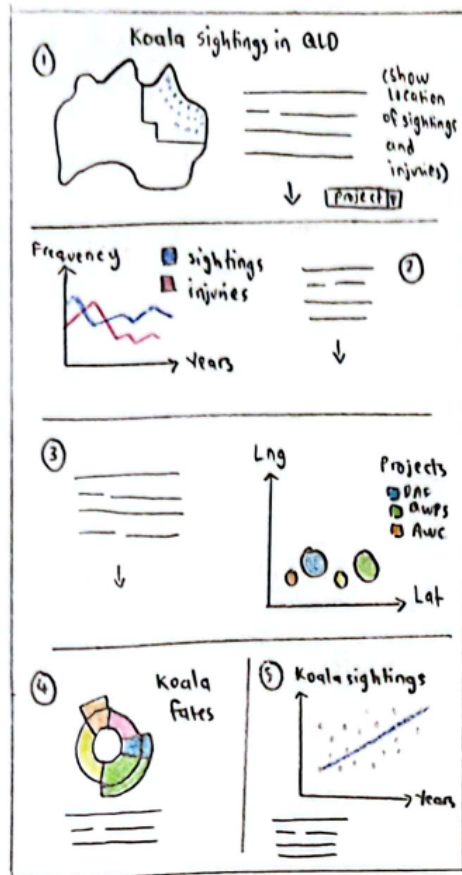
##### Advantages:

- Flowchart design provides clear sequence / hierarchy of idioms on the web page
- Easier for readers to navigate with the presence of arrows
- can be implemented on a single page website (static) or scrolling website

##### Disadvantages:

- Design might be harder to implement using HTML
- The layout/alignment of charts are slightly inconsistent (some on the right and others on the left)
- Accessibility challenges as users need a lot of visual cues to understand a flow map
- Unfamiliarity in the format of flowcharts





① Similar implementation of the map in design 3

② The multiple line chart can be used to show trends in koala sightings and injuries as shown on the map

③ The bubble chart visualises the effectiveness of conservation projects

④ The sunburst diagram visualises the fates of koalas and can be related to the bubble chart to measure effectiveness of project

⑤ The scatter plot can be used to find potential correlations in data

## Parti / Focus

- The main focus of this design is the map like all the previous designs
- The other charts are arranged in an order which presents information in a continuous flow:

Locations → Trends over years → Conservation projects → Koala fates

- Scatterplot is grouped with the sunburst chart to find any correlations / relationships between the koala sightings and injuries
- Potentially include interactive navigation buttons that bring readers to the idioms in sequential order - while also maintaining scrollability
- Emphasis on descriptive text for each section to provide a detailed analysis on each idiom

## Summary of design:

Combination of elements in design 2 and 3 (scrollable webpage with flowchart style of information presentation)

## Sheet 5

Name Thanishwar Janarthan

Date 25/9/24

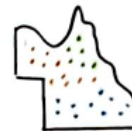
Title Final Design Sheet

Description

Finalise the design and layout of the website

## Components / Operations

- Map zoom feature to enlarge the map and focus on the Queensland area where all the data is located
- Include the filter for projects from design 2 to filter koala sightings and other data related to a specific project



- Tooltips/hover animations to elaborate on extra attributes and show values at a specific point on a chart
- Interactive legends to highlight specific information on a graph while being viewed

## Details

### Visualisation build schedule:

- 2-3 days to filter/clean through datasets
- 1-2 days to build the html web page
- 4-6 days to create charts and write descriptions for supporting and relevant info
  - 1 day for map
  - 1 day for line chart and scatterplot
  - 1 day for bubble chart
  - 2 days for sunburst chart
- 2 days for extra additions (e.g. animations, adjusting styles) and refinements

### Specific requirements:

- visible colour palette (accommodate people with vision impairments)
- must include a map visualisation
- GitHub hosting for completed web page