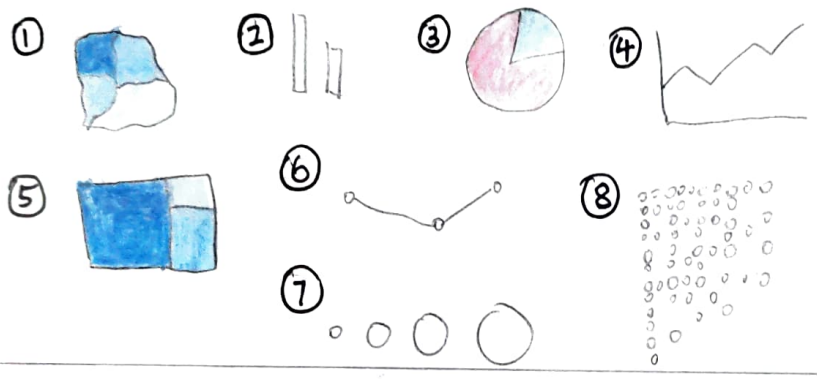
IDEAS

Recorded deaths for each state over the years

↳ recent years → 2001-2020

Available datasets:

① Recorded deaths by state, sex and age-group
② Recorded population by ethnicity and religion
③ Recorded population by state, sex and age-group
④ Emergency service facilities in each state/city



FILTER

Datasets:

1, 3, 4

↳ relation between location, sex, age-group, emergency service ~~availabiliti~~ availability to mortality rate

Visualisation ideas:

①, ②, ④, ⑤, ⑥, ⑦

CATEGORIZE

① + ④

recorded mortality rate by region/location

change of emergency service infrastructure over time

① + ⑥ + ④

mortality rate by state

relative mortality rate between states over time

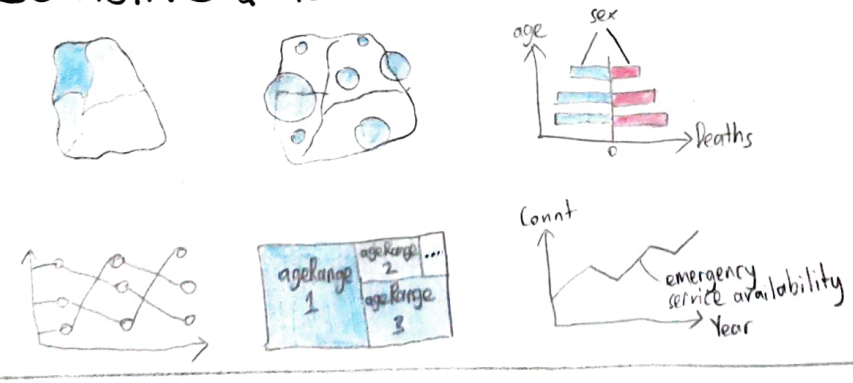
① + ② + ⑤ + ⑦

mortality rate by state

mortality rate by sex

mortality rate by age-group

COMBINE & REFINE



QUESTION

"Does this solution satisfy the 'Why'?"

Yes, the proposed visualisations can help the reader identify potential areas that require more attention, and trends that can facilitate more informed decisions to improve quality of life of the people within examined areas.

Title: Relation between age and mortality rates by location

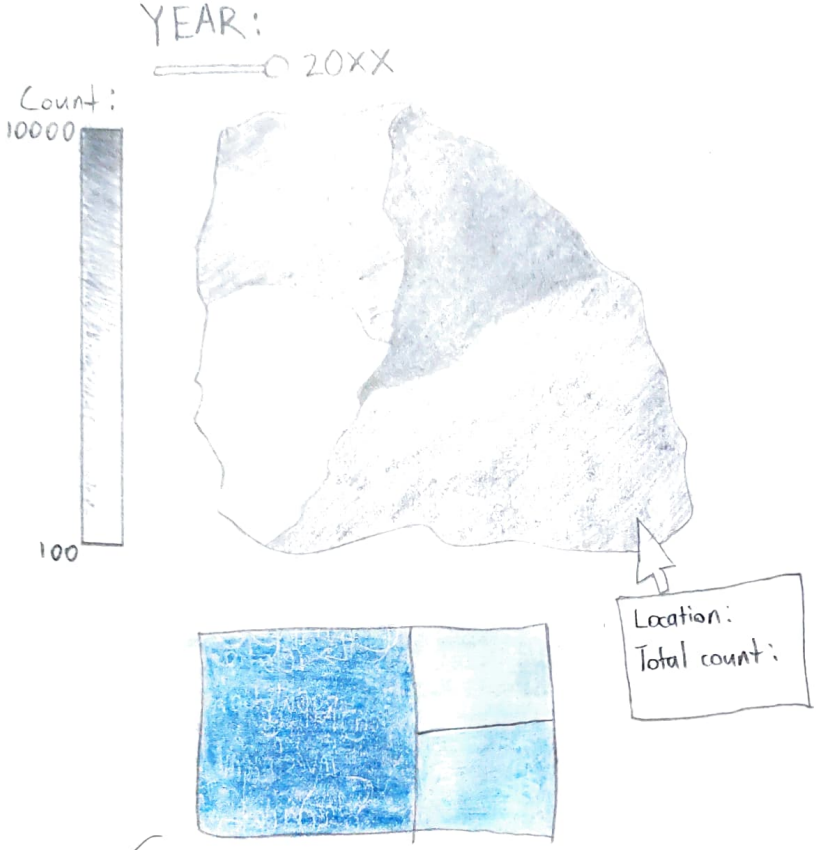
Author: Lenard Ong (32951280)

Date : 29 Sep 2024

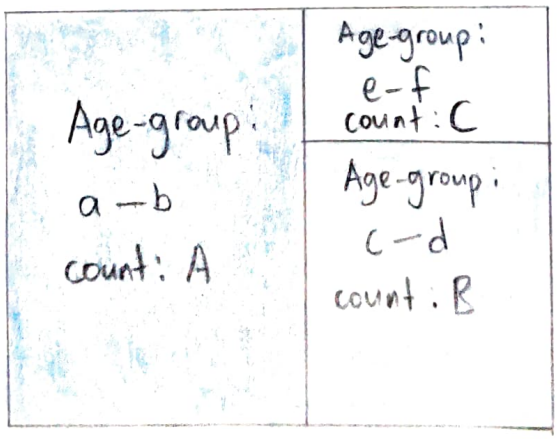
Sheet : 1-FDS2

Task : Choropleth map and tree-map representation of recorded mortality rate and age-range of each area.

LAYOUT



FOCUS



- Limited interactive elements
- External labels may be required for relatively small values.

OPERATIONS

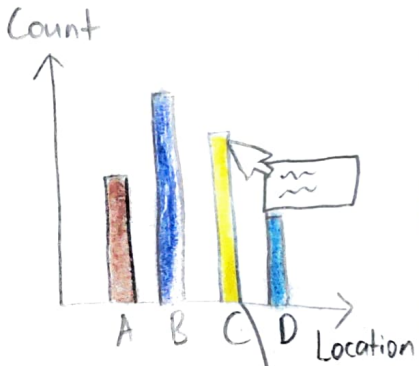
- Data would be shown on the choropleth map based on the selected year.
- When selecting an area, the tree-map will be updated to show the age-range-distribution of the area.
- Each area in the tree-map will be labelled.
- Tooltips will be shown when hovering over the map.

DISCUSSION

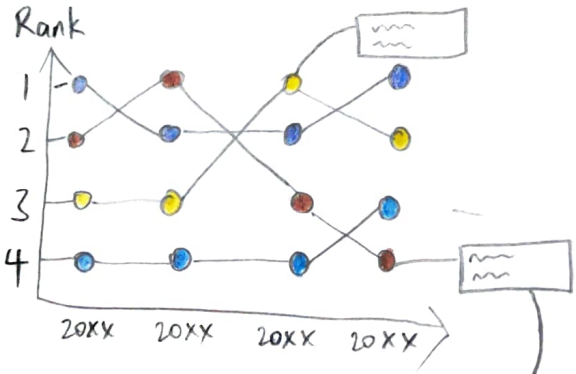
- Closely tied values could become difficult to differentiate in both maps.
- Additional steps will be required to normalise data represented using the choropleth map.
- A default year must be set so the user does not see an empty map at the beginning.

LAYOUT

• = 1000 records



YEAR: 20XX



Location: ~
Year: 20XX
Deaths recorded: ~

Title: Comparison of mortality rate among different locations

Author: Lenard Ong (32951280)

Date: 29 Sep 2024

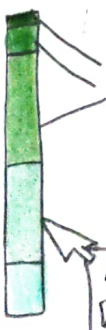
Sheet: 2-FDS3

Task: Dot map representing recorded deaths and bar-chart and bump chart comparing values between different areas.

OPERATIONS

- Dot map shows location of recorded deaths by 1000s based on selected year.
- Bump chart remains static, and selecting a location only changes the bar chart
- Tooltips would show the recorded death-counts of each location since it is not shown in the bump chart.

FOCUS



Age-group → encoded using colour saturation

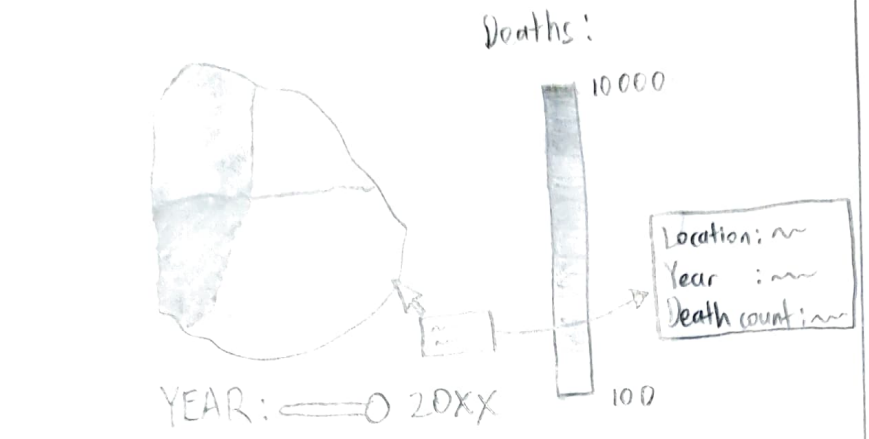
Age-group: ~
Deaths recorded: ~

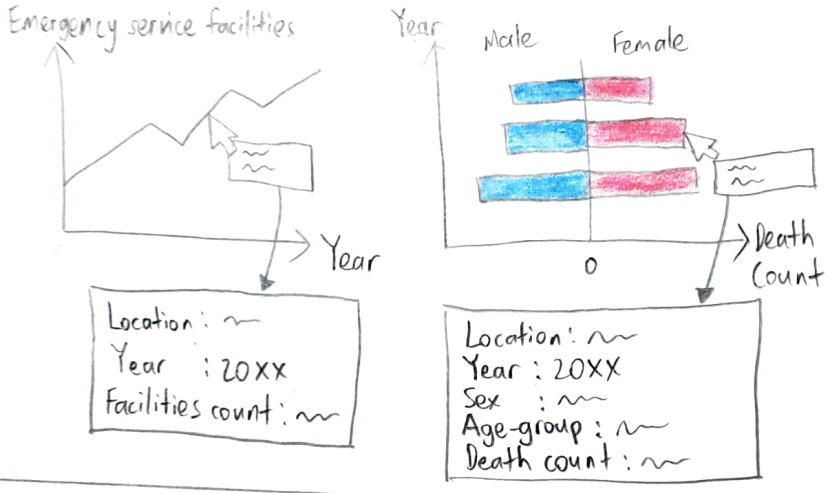
Shows deaths recorded for the age-group

DISCUSSION

- Only density information can be obtained from dot map.
- Distributions that happen to be too sparse or too dense may hinder the viewers ability to extract meaningful insights.

LAYOUT





Title: Exploration of potential relationship between emergency service availability and mortality rate

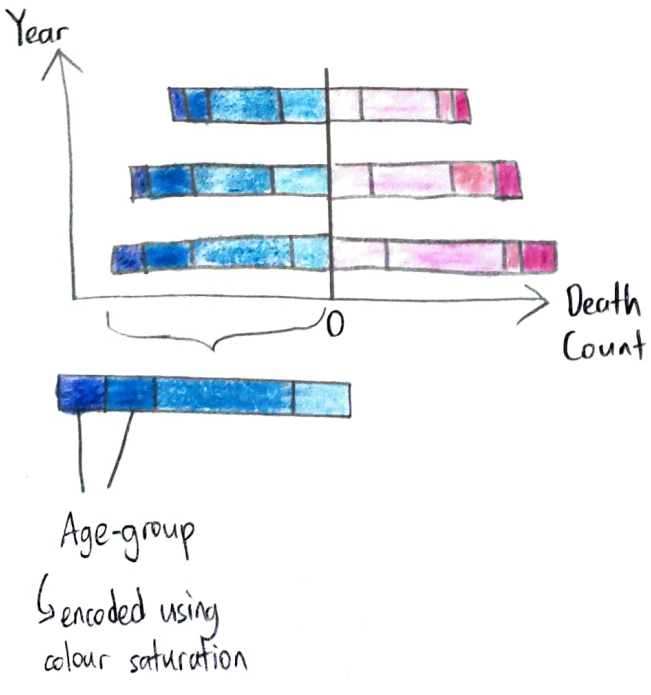
Author: Lenard Ong (3295 1280)

Date : 29 Sep 2024

Sheet : 3-FDS4

Task: Choropleth map for deaths per location, with difference between sex via butterfly chart and line chart showing change of emergency service availability over time.

FOCUS



↳ encoded using colour saturation

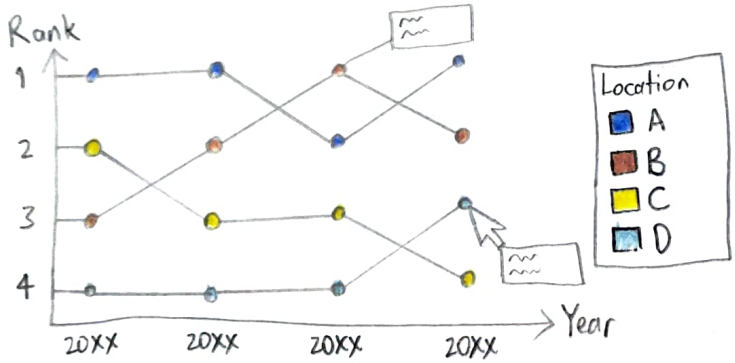
OPERATIONS

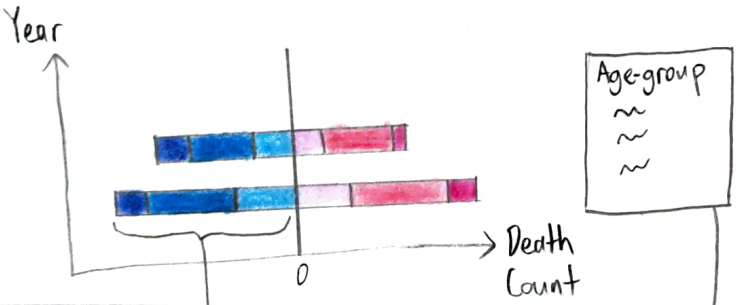
- Line chart and butterfly chart shows overall data until a location is selected.
- Year selection affects the choropleth map, which in turn affects the line and butterfly charts.
- Tooltips are shown when hovering cursor over any mark.

DISCUSSION

- Line chart cannot show comparison between different locations
- Difficult to determine if left or right side of butterfly chart is greater if values are similar.
- Additional steps will be required to normalise data represented via the choropleth map.

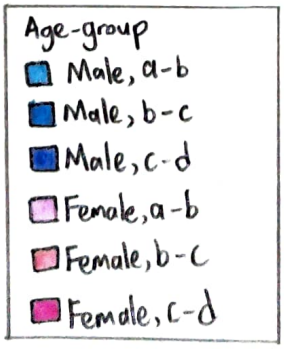
LAYOUT





FOCUS

Age group, higher saturation is higher age-group



Title: Comparison of mortality rates among different locations and correlation between sex and age-group

Author: Lenard Ong (32951280)

Date: 29 Sep 2024

Sheet: FDS5

Task: Choropleth map for deaths by location and bump chart visualising ranking with butterfly chart using stacked bars to compare sex and age-group

OPERATIONS

- Default year set to latest year available, slider allows selection that affects choropleth map.
- Bump chart is static.
- Butterfly chart with stacked bars changes to show data for location selected by clicking an area on the choropleth map.

DETAIL

- Data-sets acquired from department of statistics Malaysia
- Visualisation created using Vega-Lite
- Time to build: 2 weeks
- Data to-be-cleaned using Python with the pandas package.