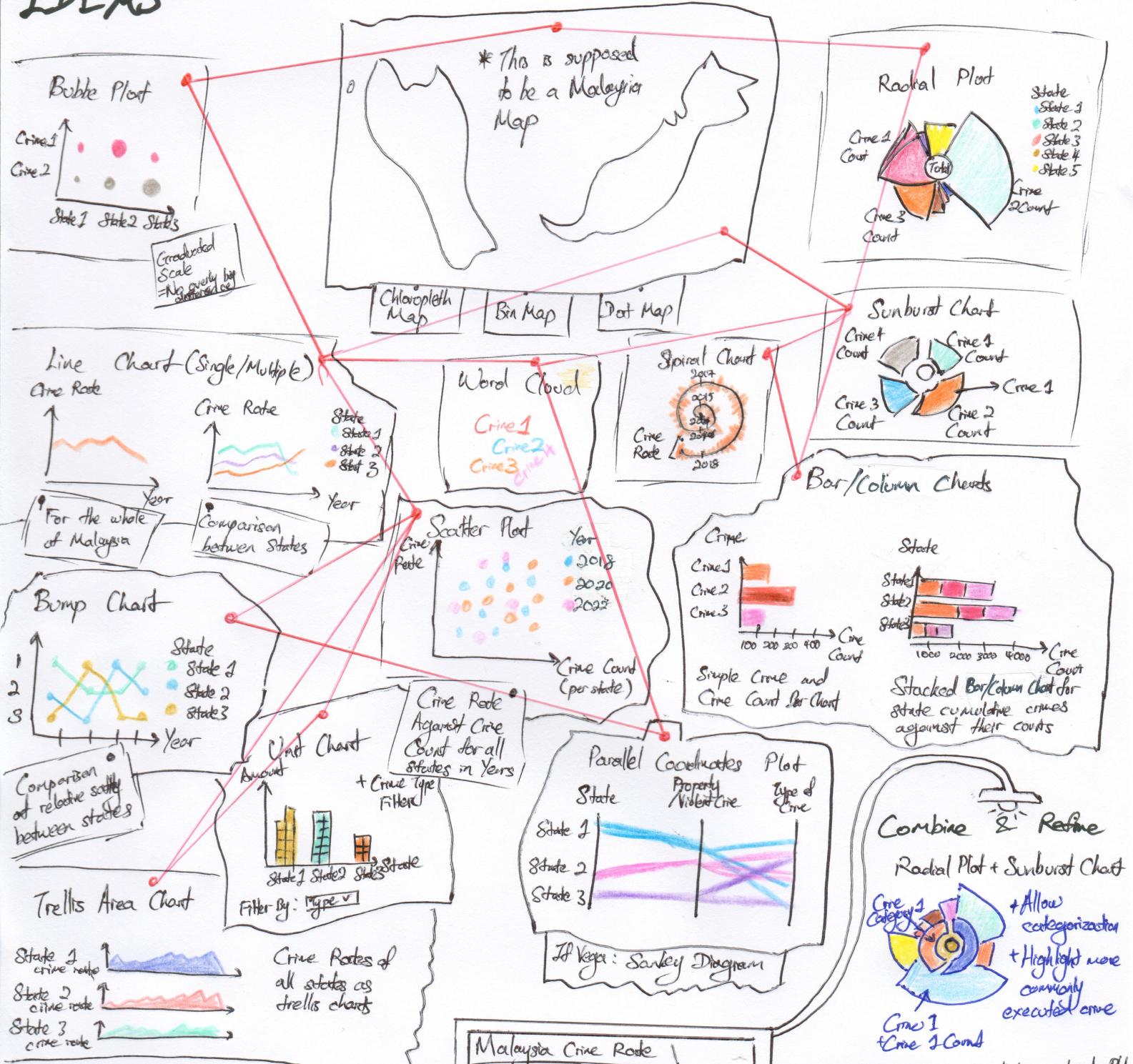


IDEAS



FILTER

Trellis Area Chart

- 14 states, hence 14 charts will clutter the webpage
- Not obvious changes as crime rate do not dramatically change

Spiral Chart

- Better as more states
- Only one value per year as of now
- Stacking all 14 states will be confusing

CATEGORIZE

Malaysia Crime Rate

Line Chart, Bar Chart

Total Crime Counts by Crime Type
Bubble Plot, Word Cloud
Radial Plot, Sunburst Chart,
Scatter Plot, Unit Chart

Crime Count/Crime Rate By State
Line Chart, Column Stacked Chart,
Bump Chart

Map Idioms

- Chloropleth Map
- Bin/Proportional Map
- Dot Map

Questions ?

1. Do viewers actively enjoy analyzing and comparing numbers of crime for each state or is the type of crime more prioritised?

2. Would using bright colours be insensitive for a topic on crime?

3. Map idioms? Would multiple be preferred?

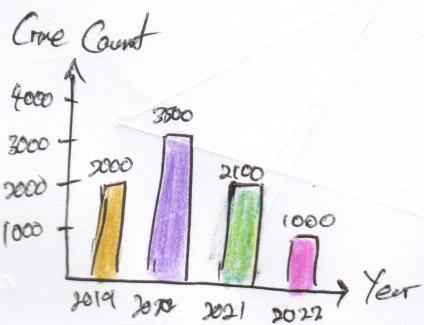
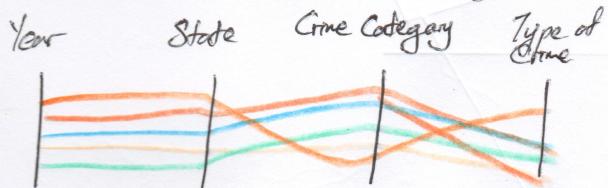
LAYOUT

*This is supposed to be a Malaysia Bin Map



Parallel Coordinates

Flow of Years to State to Crime



Crime occurrences in Malaysia Word Cloud

Murder House break-in
Assault Assault Robbery
Sexual violence Other Vehicle Theft Theft

Bar Chart of Total Crime Against Year

Title: FIT3179 Data Vis 2

Author: Chia Suet Yuen

Date: 22/9/2024

Sheet: 2

Task: First design

Operations

Bin Map

- Filter: Bin Map values can be filtered by years selected. Aggregation of years 2015-selected year.

Word Cloud

- Filter: Select relevant year and clicking shows text connection of values

Parallel Plot

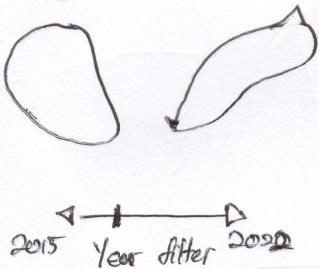
- Clicking on values highlight the line on the entire chart

For All

- Hovering shows tooltips of item that is hovered over

FOCUS

Malaysia Bin Map



Change bin size according to years selected



Click!

Selects the year and highlights the year on the whole plot

ToolTip with
Year : 2019
State : Johor
CrimeCategory : Violence
Type of Crime : Murder

- To ensure that users can identify what each value is without tracing it back to the first parallel line

Interactive Annotation for Word Cloud

Others over now click! → Robbery → Click!
Robbery Count : 1001
Highest Robbery Count State : Selangor

2015 → 2022

Year slider for selected years to filter counts of crime by.

Discussion

Pros :

- Easy to understand word cloud

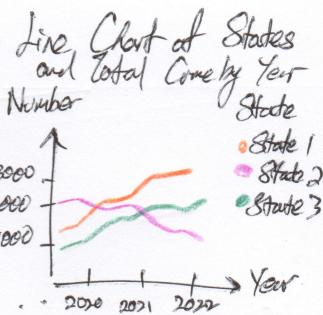
- Colourful charts attract attention and increase memorability.

Cons :

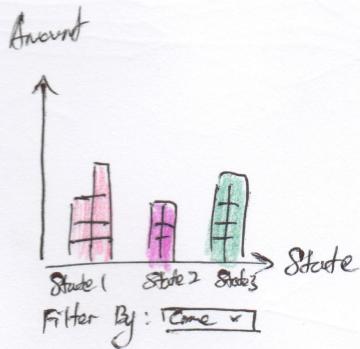
- Bin Map may cause confusion between state borders (Kuala Lumpur and Selangor)

- Flow may not be suitable for year → state and plot will get messy with more values

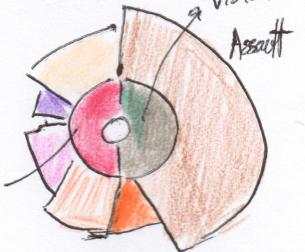
LAYOUT



Unit Chart of States



Crime Conduction In Malaysia



Radial Plot + Sunburst Chart

Operations

Dot Map

Filter: Clicking on a dot selects all dots in the same state

Unit Chart

Filter: Allows filter by crime type or fatal is no preference

Radial Sunburst Chart

Click: Clicking on an outer level selects all previous levels and make annotation accordingly

Line Chart

Filter: State can be selected and selected state is highlighted.

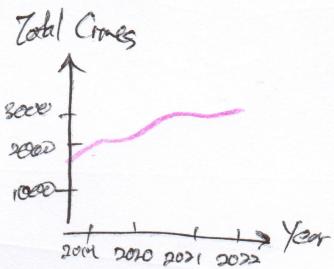
For all

Hoving: Shows tooltip

FOCUS



Also highlight state's line in the line chart

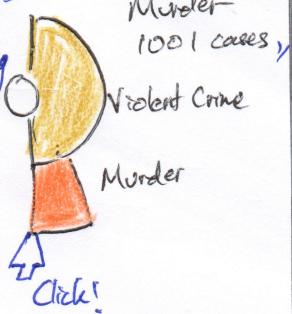


Filter By:

- Assault
- Murder
- Robbery
- Other thefts

Filters unit chart by type of crime selected

Annotation → Selected Violent Crime Murder 1001 cases



Discussion

- A lot of information can be encoded

Pros

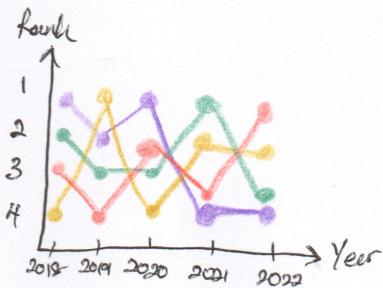
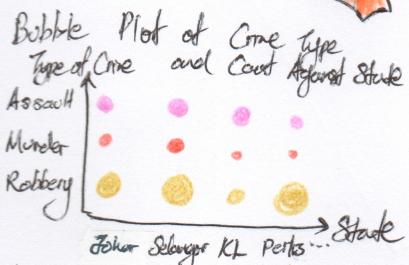
- Lots of filtering allow user to tailor graphs to their preferences.

Cons

- Dot map will just overlap as crime usually occurs multiple times in locations with more people (etc. cities)

LAYOUT

* This is supposed to be a Malaysian Chloropleth Map



Bump Chart of Crime Rate of States by Years

Title: F173179 Data Viz 2

Author: Chin Suet Yuen

Date: 26/9/2024

Sheet: 4

Task: Visual Design

Operations

Chloropleth Map

- Select State [orange]
- ↳ highlights state
- ↳ gives dim fact
- ↳ highlights corresponding state in bump chart

Bump Chart

- Select state

Crime Rate Line Chart

- Allowed to be used as Alter for linked bar chart, for year.

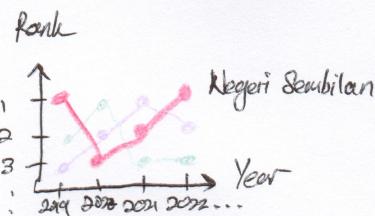
Total Count of Crime Bar Chart

- Aggregates the total crime for the selected year and give total of all years if nothing is selected.

FOCUS

Linked Charts 1

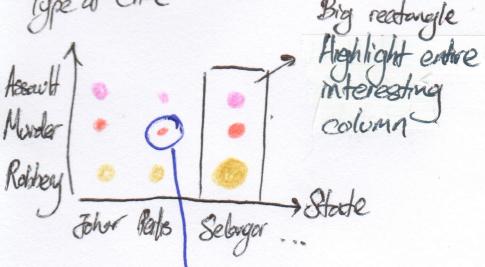
Crime Rate of Negeri Sembilan: 1.12



Clicking on map will highlight the state in the bump chart and vice versa

+ Annotation of crime rate at selected state

Type of Crime



Circle highlights single point

Linked Chart 2

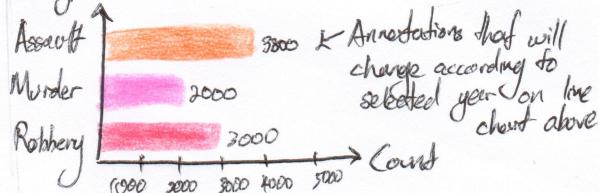
Crime Rate



Clicking on year will select it

Change values of bar chart

Type of Crime



Annotations that will change according to selected year on line chart above

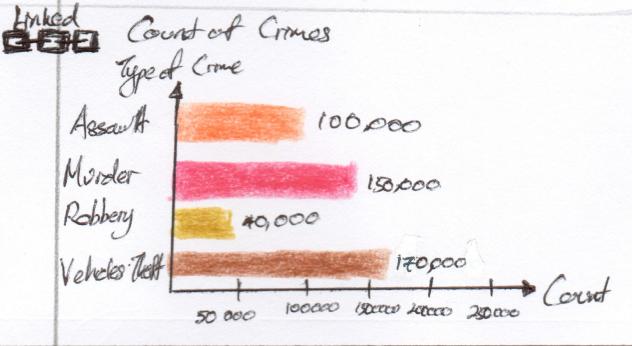
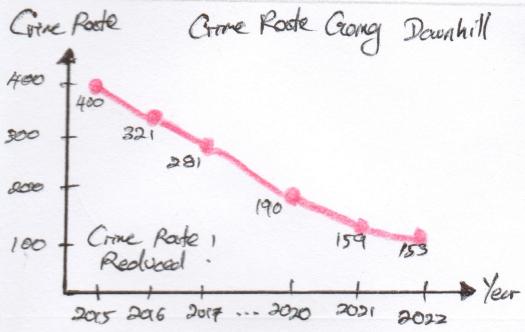
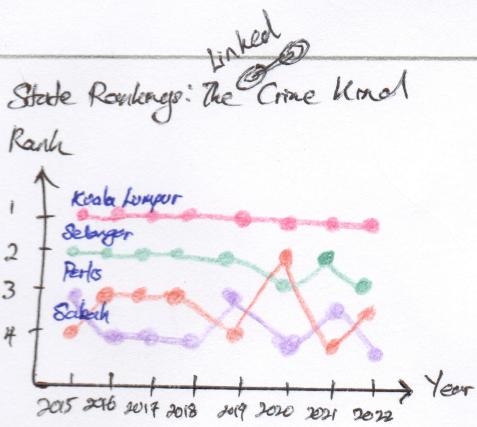
Discussion

Pros

- Easy to understand graphs
- Bump chart ease comparison, selecting & highlights the state of interest, further enhancing understandability and readability.
- Interactive linked chart to encourage user interaction

LAYOUT

Visual Hierarchy



FOCUS

Annotations when clicking the map state and points on the Malaysian Crime Rate Line Chart

Click!
(on Johor)

+ Highlight crime rate!
Crime Rate of Johor
111

+ Funfact!
Johor has huge improvement with the relatively great reduction of crime rate.

300 ↑
300 → Click!
2017 →

+ Funfact during that year
SASMA renewed the first fire since introduction in 2012

To Hips:

Chlorophelt Map

- State
- Total Crimes
- Crime Rate

Bubble Chart

- State
- Type of crime
- Total Crime

Line Chart

- Total Crime
- Year
- Crime Rate

Bump Chart

- State
- Year
- Crime Rate
- Rank

Bar Chart

- Year
- Type of crime
- Total Crime

Title: F173179 Data Viz 2

Author: Chin Suet Yuen

Date: 29/9/2024

Sheet: 5

Task: Final HTML webpage

Operations

Filter operations:

- Change linked charts accordingly

Annotations

- Will be affected by filter selections

Hovering

- Hovering display relevant information in a tooltip.

No special chart display interaction, only scrolling and clicking required.

Discussion

Implementation will take around 4 weeks

Dashboard will be created in a HTML webpage.

Visualizations may be added, modified and deleted if a more suitable mean to present the data is found.

Dataset will be collected from multiple government site excel and require aggregation and cleaning.

Requirement for viewing

- Browser
(Chrome or Firefox)
- PC recommended