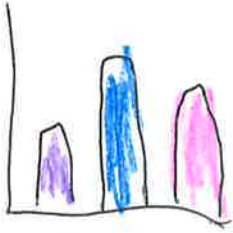


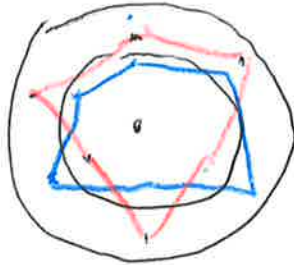
IDEAS

Countries

Quality of Life / Cost of Living Indexes



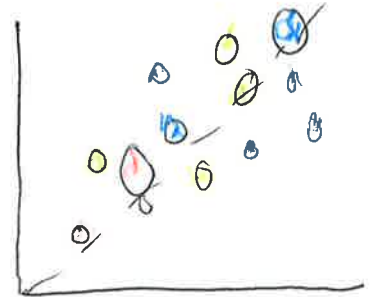
bar



radar



donut

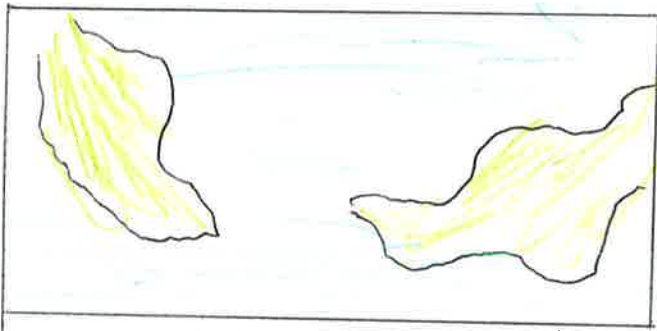


bubble

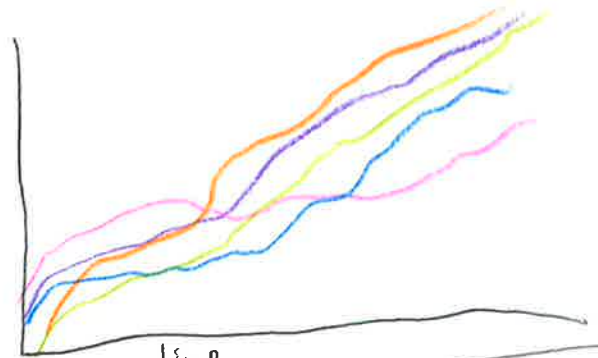
Malaysia States

Net Income / Population Density

Consumer Price Index



Choropleth Map of Malaysia



line

FILTER

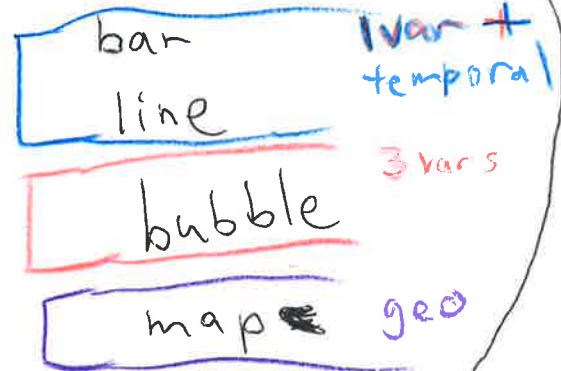
X radar, donut

→ not suitable/ideal

↳ can't be regular + not suitable

✓ bar, bubble, map, line

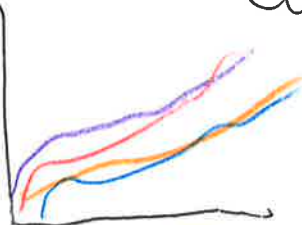
CATEGORIZE



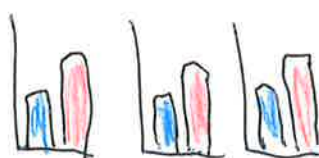
QUESTIONS

- What story does the visualisation tell?
- Do readers know what the different indexes mean?

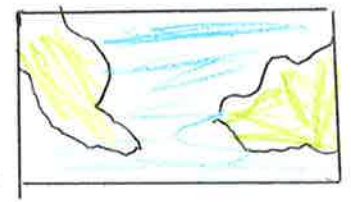
COMBINE & REFINER



Line + brushing & linking

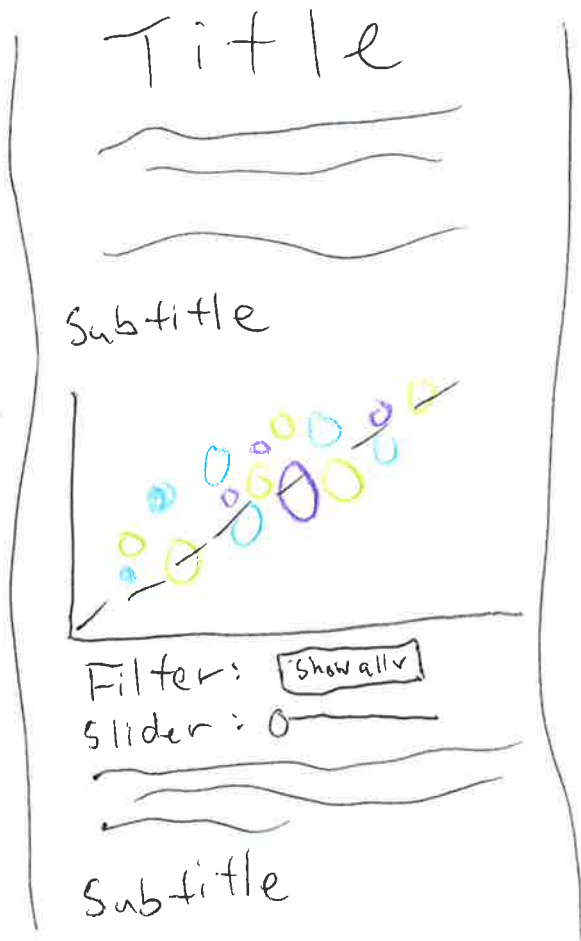


Bar + small multiple



Map + zoom controls

LAYOUT



Sheet 2,3,4

Name Liangdi Wang

Date 26/09/2024

Title Liveability in Malaysia

Description

Narrow layout

OPERATIONS

Tool tip

Both

Bubble & Bar charts

Filter

Bubble chart only

continent select dropdown
minimum population slider

Annotation

Bubble Chart

Line where indexes are equal

Top left of line = bad, bottom right = good

FOCUS

Cost of living
vs purchasing power

Circle size: population

Y axis: Cost of living index

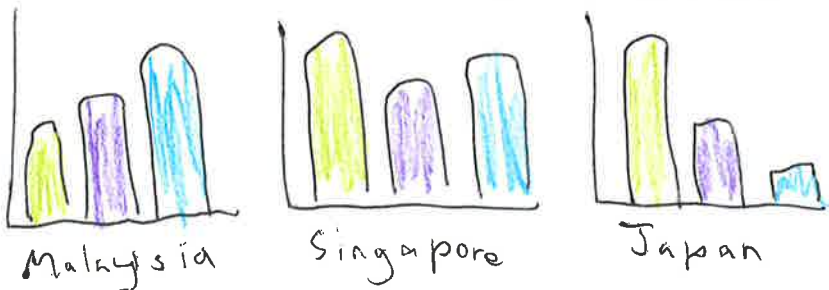
X axis: Purchasing power index

Filter 1: Continent select

Filter 2: Minimum population

Bubble
Chart

Bar Chart - Quality of Life
Indexes



Y-axis: Index value

X-axis: category / index type

Multiple: by country

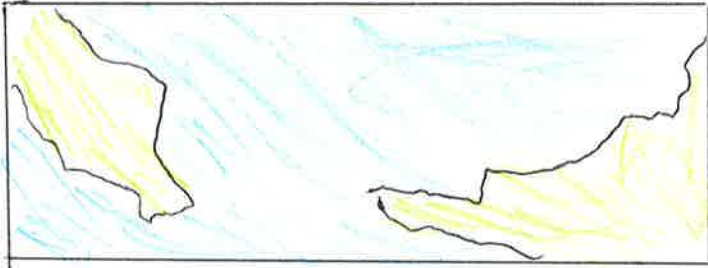
DISCUSSION

- Which quality of life indexes to show?
- Which countries to compare in bar chart multiples?
- How to explain index meanings?

LAYOUT

Title

Subtitle



Map Centre ☒ centre ☐
Zoom

Map Title

FOCUS

Net Income by State

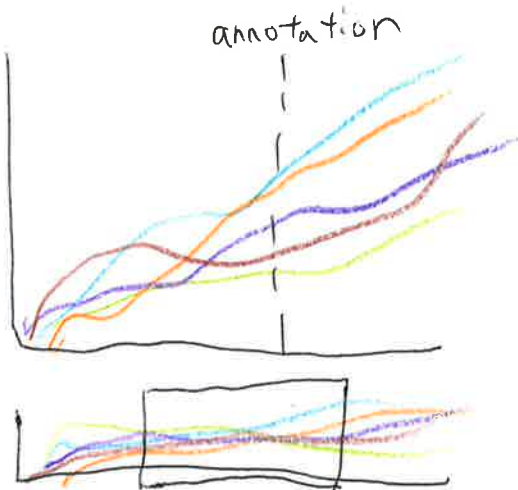
Average Income - Expenditure

No need to normalize

Layers:

- Surrounding countries
- States of Malaysia
- Ocean
- Graticules

filters:
map centre
zoom



Consumer Price Index by State over time

long data:
2010 - 2024
use brushing and linking to zoom in

Sheet 2,3,4

Name Liangdi Wang

Date 26/09/2024

Title Liveability in Malaysia

Description

Wide layout with sections

OPERATIONS

Tool tip

Both Map & line charts

Filter

Map: centre & zoom

Line: select time period

Annotation

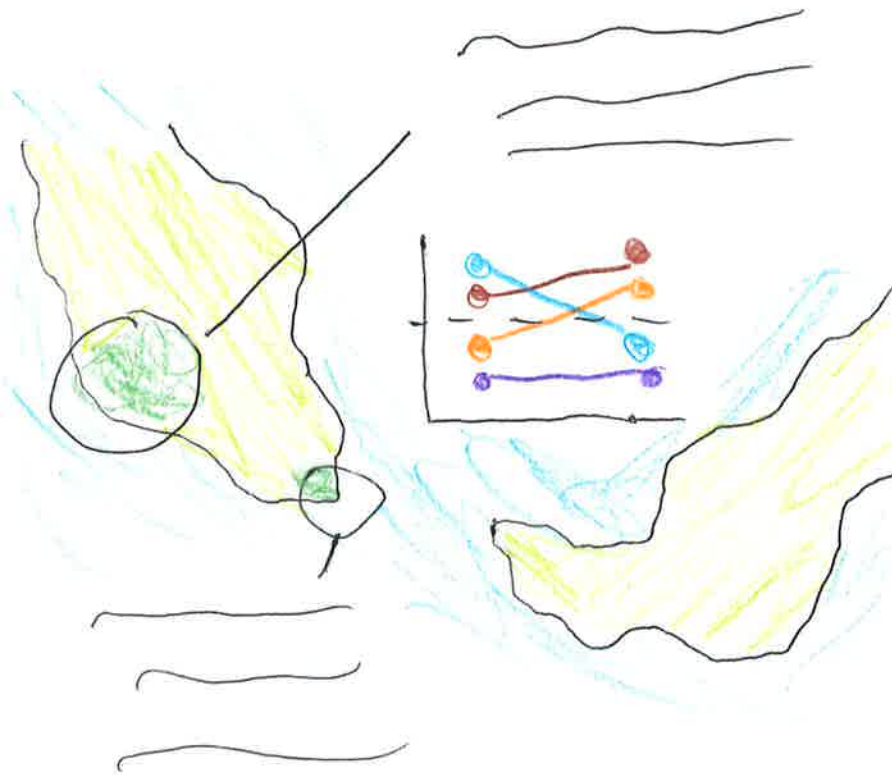
Both: explain points of interest in the data

DISCUSSION

- Which map projection?
- Which map centres to select from?
- Line chart: 16 states too cluttered, select a few key states to show? ~ 6-8

LAYOUT

Title



FOCUS

Map

- Year slider
- play button to animate through years & centre controls

Population Density
visualise change
over time

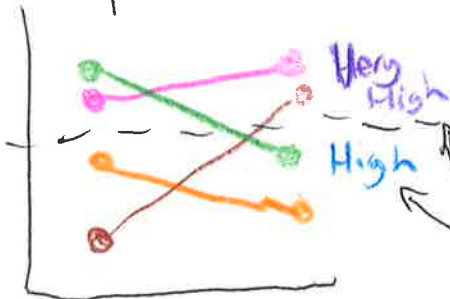
Data:

- state population
- state land area
- ↳ calculate also zoom

Slope Chart

Human Development
Index by State

Data: 2021-2022
show recent changes
classification



Sheet 2,3,4

Name Liangdi Wang

Date 26/09/2024

Title Liveability in Malaysia

Description

Map - integrated
Layout

OPERATIONS

Animation

Map over time
play/pause or manually drag
slider

Filter

Map centre & zoom

Annotations

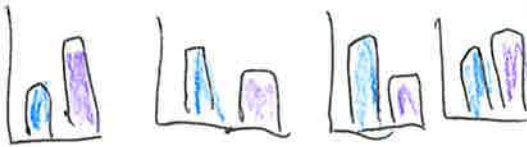
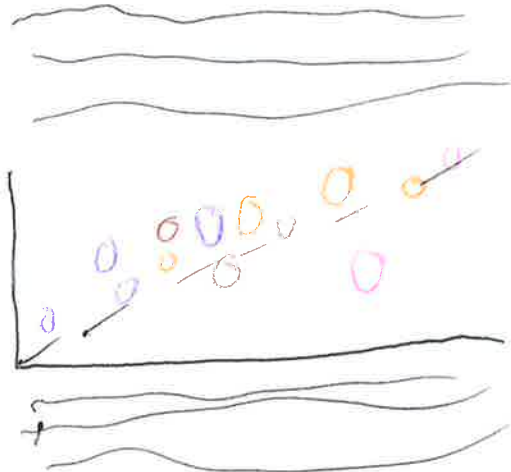
Map: key areas of interest
Line: distinguish classification of
High vs Very High HDI

DISCUSSION

- How to make ^{this layout} with HTML + CSS + Vega-lite?
- Animation: how many years per step?
- How to classify map to show changes over time?
- Slope chart: show key states?

LAYOUT

Where should I live in Malaysia?



FOCUS

Choropleth

Malaysia
Geographic data

Line Chart

Main focus:
Malaysia states

Slope Chart

Hook / leading: → Make the
World data case for living
in Malaysia.

Bubble Chart

Bar Chart Multiple

Leads to investigation
of states

Sheet 5

Name Liongdi Wang

Date 26/09/2024

Title Liveability in Malaysia

Description

Narrow Layout

OPERATIONS

Tooltip → all charts

Annotation → explain points of interest

Filters line: date range

bubble: continent, population

maps: zoom & centre

Animation button + slider

population density map
play/pause or manual control
visualize change over time

DETAILS

Algorithms:

R code, Javascript code,
joins, css selectors, vegalite

Dependencies:

Computer, R-studio, Visual
Studio Code & extensions, Datasets

Estimations:

Cost: Free (use publicly available)

Time: ~20 hours of developing