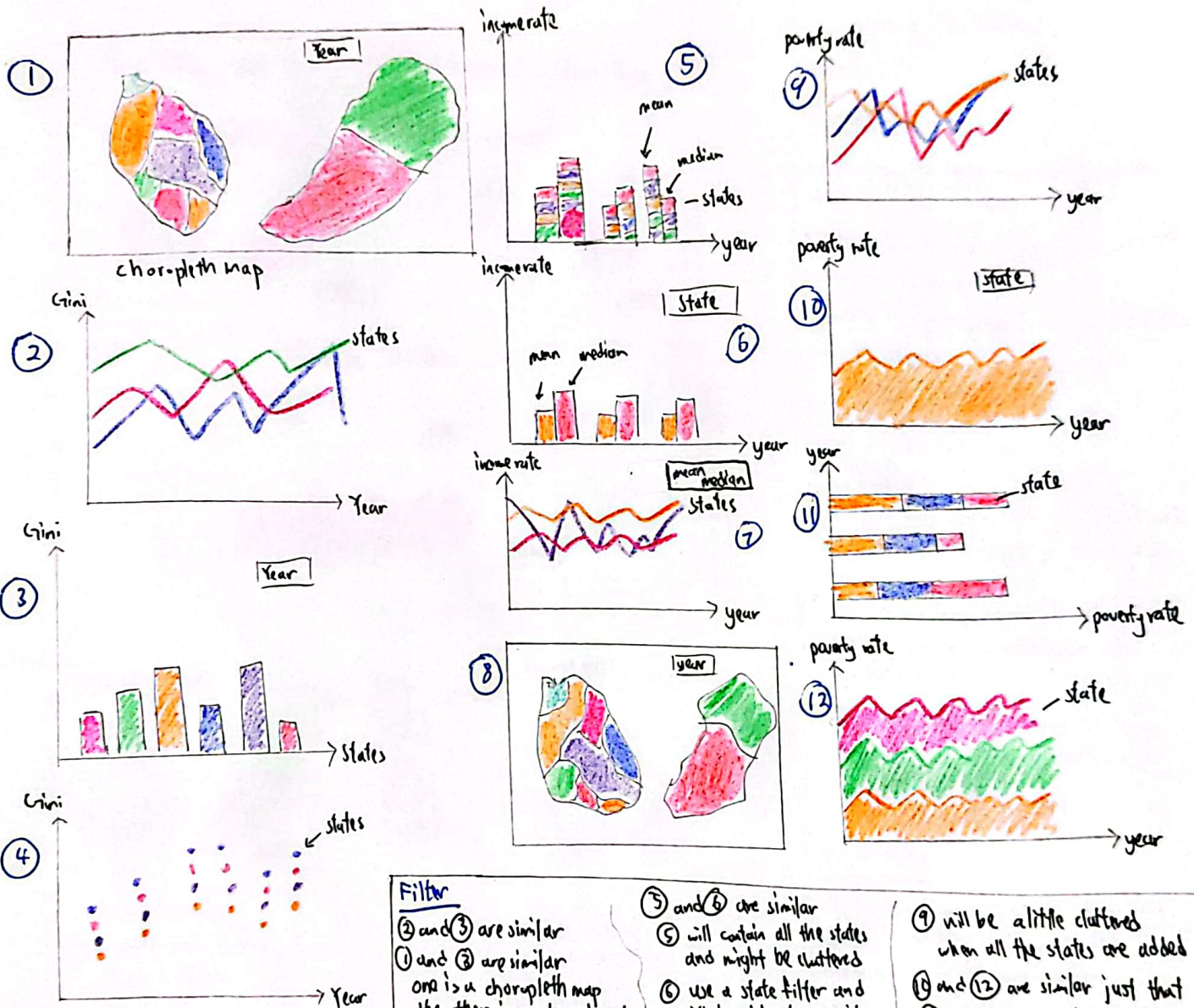


IDEAS

Identifying Gini coefficient of states | Identifying income rate of states | Identifying poverty of states



CATEGORISE

① & ③ ⑤ & ⑥ ⑧ ⑩ & ⑫
② & ④ ⑨ & ⑪

COMBINE and REFINE

① and ③ can be combined and form as a choropleth map

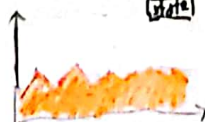
⑤ and ⑥ can be combined and form a bar graph with state filter



② and ④ can be combined and form line graph (less cluttered)



⑩ and ⑫ can be combined and form area line chart with states filter



Filter

③ and ③ are similar
① and ③ are similar
one is a choropleth map the other is a bar chart

① and ③ can be see clearly with each year and state

② and ④ might be a little cluttered when all the states are added

⑤ and ⑥ are similar

⑤ will contain all the states and might be cluttered

⑥ use a state filter and will be able to see it more detail

⑦ might be cluttered when all states are added but will have a mean and median filter

⑧ is a choropleth map and both mean and median can be see all together but need year filter

⑨ will be a little cluttered when all the states are added

⑩ and ⑫ are similar just that ⑩ will have a state filter to see each state

⑪ will not have a filter but can see all the states and might be cluttered

⑫ is a stacked bar will be cluttered when all the year and state are added

QUESTIONS

- Does the visualisation show different gini coefficient based on different state according to its year?
- Does the visualisation show mean and median of income rate based on different state according to its year?
- Does the visualisation show poverty rate based on different state according to its year?
- Can the visualisation be filtered according to year and states?

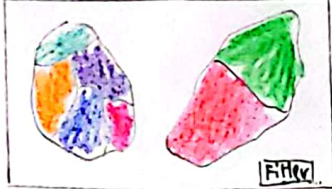
LAYOUT

Household income, inequality and poverty in Malaysia

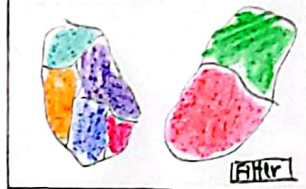
Information text box

Information text box

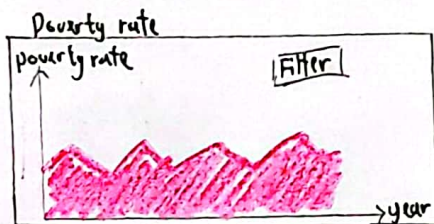
Gini coefficient



Income rate

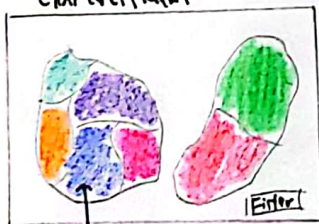


Information text box



FOCUS

Gini coefficient



state: Pahang
Gini coefficient: 0.508
Year: 2022

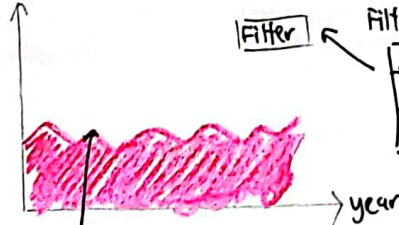
Filter (Year)
2002
2006
2008
2010
2015

Income rate



state: Pahang
income rate: 5000
Year: 2022

poverty rate



state: Pahang
poverty rate: 16.4
Year: 2002

Filter

Filter (State)
Selangor
Pahang
Johor

Title: Design 1

Author: Shann Lim Kah Kean

Date: 10 October 2024

Task: Household income, inequality and poverty in Malaysia

Sheet: 2

OPERATIONS

- Filter for the both map chart can be used to filter the year
- Filter for the area line chart can be used to filter state
- Tooltip toggle on specific mark details will be shown

DISCUSSION

Advantage

- The gini map shows the gini coefficient of different state based on their years
- The income map shows the mean and median income of each state based on their years
- The area line chart shows the trend of poverty of different states in a more detailed view

Disadvantage

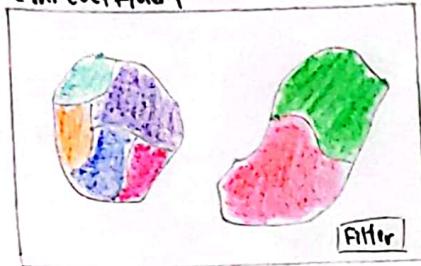
- There are two map charts which will make it harder to focus on the main points of the visualisation
- Two map may cause confusion as they look the same viewer might see and get confused
- The area line chart only shows a state at a time

LAYOUT

Household income, inequality and poverty in Malaysia

Information text box

Gini coefficient

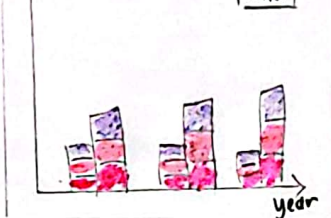


Information text box

Income rate

Income rate

Filter

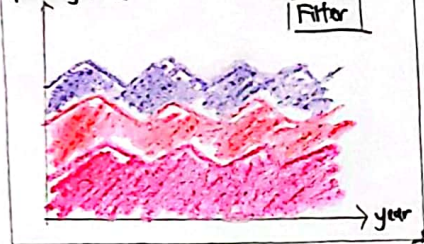


Information text box

poverty rate

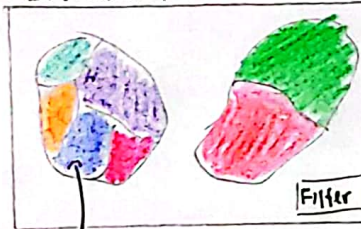
poverty rate

Filter



Focus

Gini coefficient

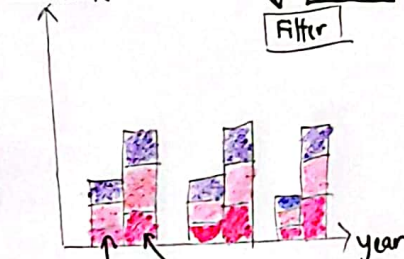


State: Pahang
Gini coefficient: 0.308
Year: 2022

Filter (Year)

2002
2006
2008
2010
2015

Income rate



State: Pahang
mean income: 1741
Year: 2002

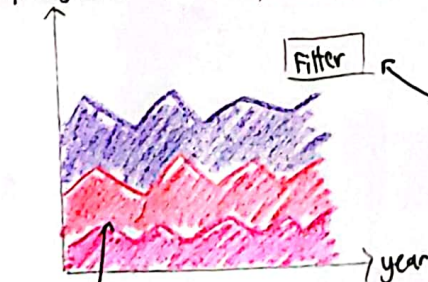
State: Pahang
median income: 1423
Year: 2002

Filter (State)

Selangor
Pahang
Johor

Filter

poverty rate



State: Pahang
poverty rate: 16.4
Year: 2002

Filter

Filter (State)

Selangor
Pahang
Johor

Title: Design 2

Author: Shaun Lim Kah Kean

Date: 10 October 2024

Task: Household income, inequality and poverty in Malaysia

Sheet: 3

OPERATIONS

- Filter for the map can be used to filter year
- Filter for the stacked bar chart can be used to filter the state
- Filter for the multi area line chart can be used to filter states
- To-Hip toggle on specific mark details will be shown

DISCUSSION

Advantage

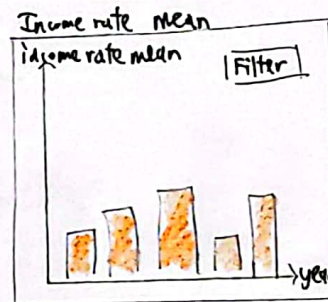
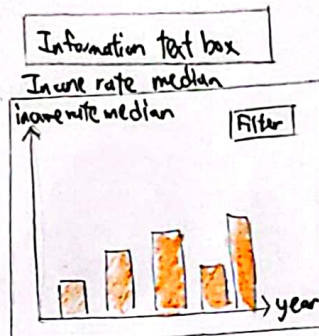
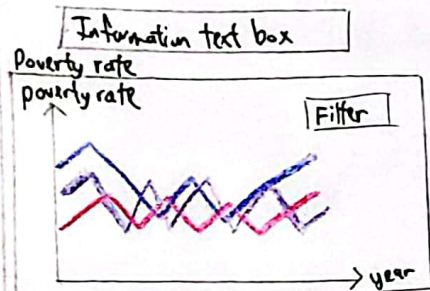
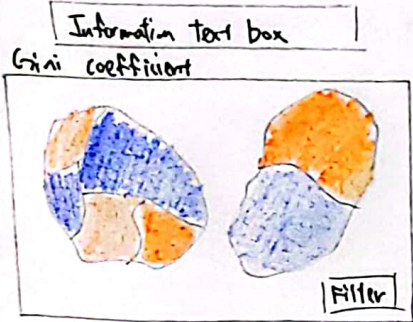
- The gini map shows the gini coefficient of different state based on their years.
- The income chart shows the mean and median side by side in a stacked bar chart form for each state of that year
- The multiarea line chart shows all the states and their poverty rate along the years.

Disadvantage

- The stacked bar chart will be cluttered when all the year and its data are shown which makes it hard for user to see
- The multiarea line chart will be cluttered when all the states are added which makes it harder for user to see and get the exact data they need.
- The map chart contain too many colour (maybe a colour change based on gini coefficient.)

LAYOUT

Household income, inequality and poverty in Malaysia



Title : Design 3

Author : Shaun Lim Kah Kean

Date : 10 October 2024

Task : Household income, inequality and poverty in Malaysia

Sheet : 4

OPERATIONS

- Filter for the map can be used to filter year
- Filter for both bar chart can be used to filter state
- Filter for the multiline chart can be used to filter state
- Tooltip toggle on specific mark details will be shown

DISCUSSION

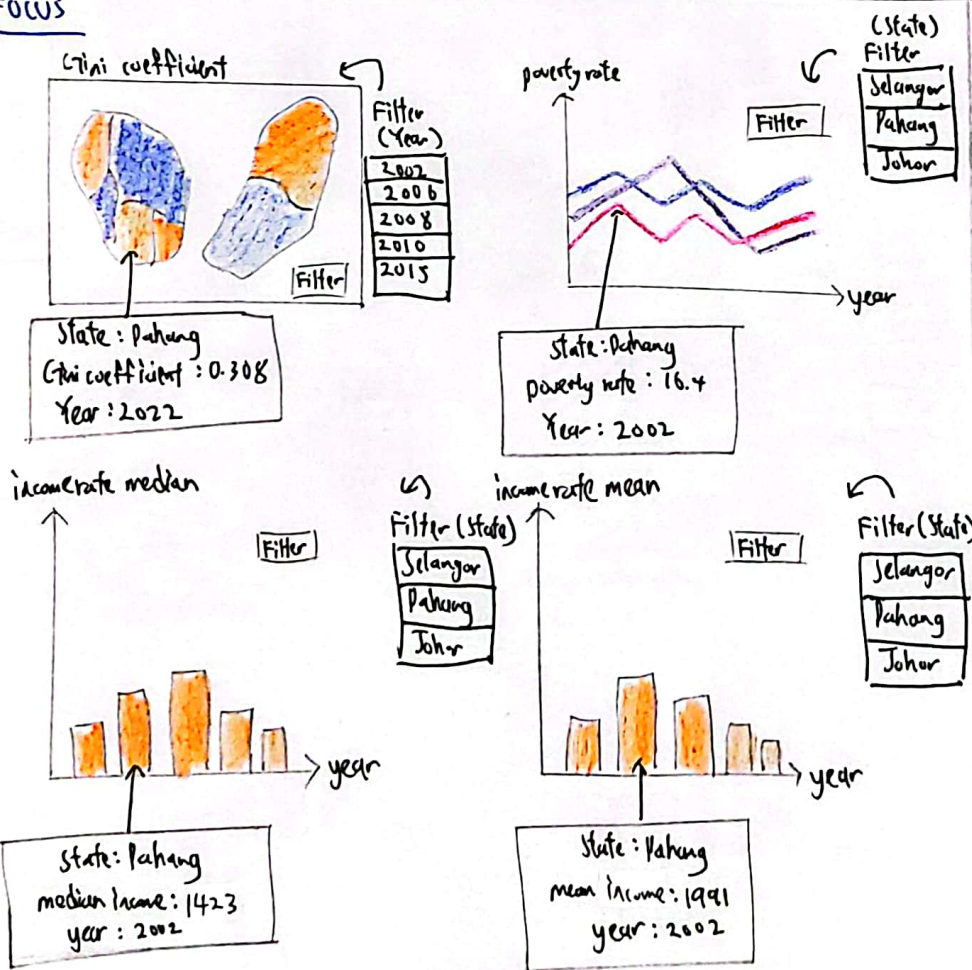
Advantage

- The gini map shows the gini coefficient of different state based on their years
- The mean and median income is separated into two bar chart so that it would not be cluttered and hard to see
- The multiline chart shows the poverty of all states which reduces clutter
- The charts are more focus on each state rather than all of them at once.

Disadvantage

- The multiline chart may be cluttered when all states are added making it harder to see
- Very hard to identify the points on multiline chart when using tooltip

FOCUS



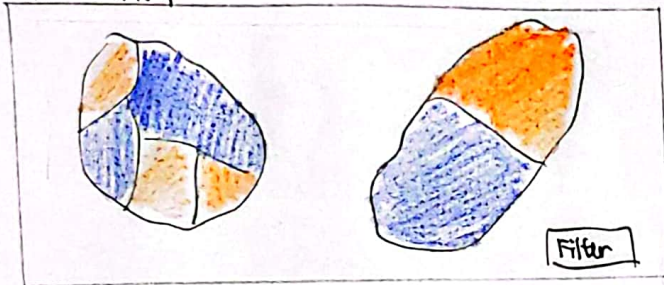
LAYOUT

TAKEN FROM SHEET 4

Household income, inequality and poverty in Malaysia

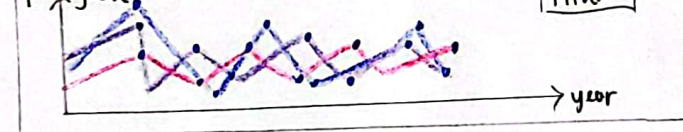
Information text box

Gini coefficient



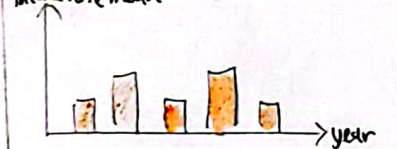
Information text box

Poverty rate



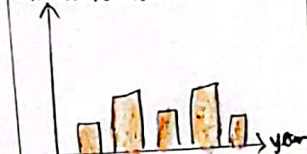
Information text box

Income rate mean



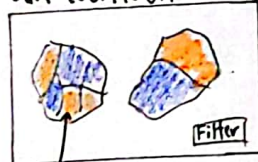
Information text box

Income rate median



FOCUS

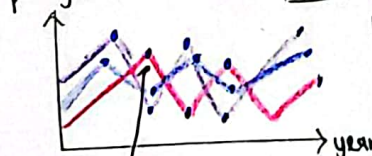
Gini coefficient



State: Pahang
Gini coefficient: 0.308
Year: 2012
Income rate mean

Filter (Year)
2002
2006
2008
2010
2015

poverty rate



Filter (State)
Selangor
Pahang
Johor

State: Pahang
poverty rate: 16.4
Year: 2002
Income rate median



State: Pahang
mean income: 1491
Year: 2002

Filter (State)
Selangor
Pahang
Johor



State: Pahang
median income: 1427
Year: 2002

Title: Dashboard Layout
Author: Shawn Lim Kah Kean
Date: 10 October 2024

Task: Household income, inequality and poverty in Malaysia

Sheet: 5

OPERATIONS

- Filter for the map can be used to filter year
- Filter for both bar chart can be used to filter state
- Filter for multiline chart can be used to filter state
- Tooltip toggle on specific mark details will be shown
- Information text block will explain the related chart and how to operate them.

DETAILS

(Map chart) Gini chart

- The map chart shows the gini coefficient of all states based on the selected year
- Easy comparative analysis of each state based on the chosen year
- Dark blue to dark orange (Low to high gini coefficient)
- Viewer can filter by year to see its changes.

(Multiline chart) Poverty chart

- The multiline chart shows poverty rate of each state
- dots are apply to each data point for easier tooltip hover
- viewer can filter by state to segregate and analyse better
- The states are separated by different colour hue which also takes in consideration of colour blind viewers.

(Bar chart) mean and median chart

- The bar chart is separated into two chart by mean and median income
- It provides easy comparison of the median and mean of each state
- A combined filter which filters the state and once it is in use the necessary changes will be made on the two charts
- Vega lite will be used to generate the visualisation
- Approximate of 2 weeks is needed to complete the visualisation and solution.