

IDEAS

① Comparative Analysis

(a) Bump Chart



(b)

States

Butterfly Chart



(c) Choropleth Map



FILTER

① (a) Butterfly Chart

→ Butterfly Chart is too simple to analyse the Malaysia Economics

→ This Chart has been used before

② (b) Chord Diagram

→ Migration Data for Malaysia Migration Rate is available

→ Difficult to visualize quantitative value

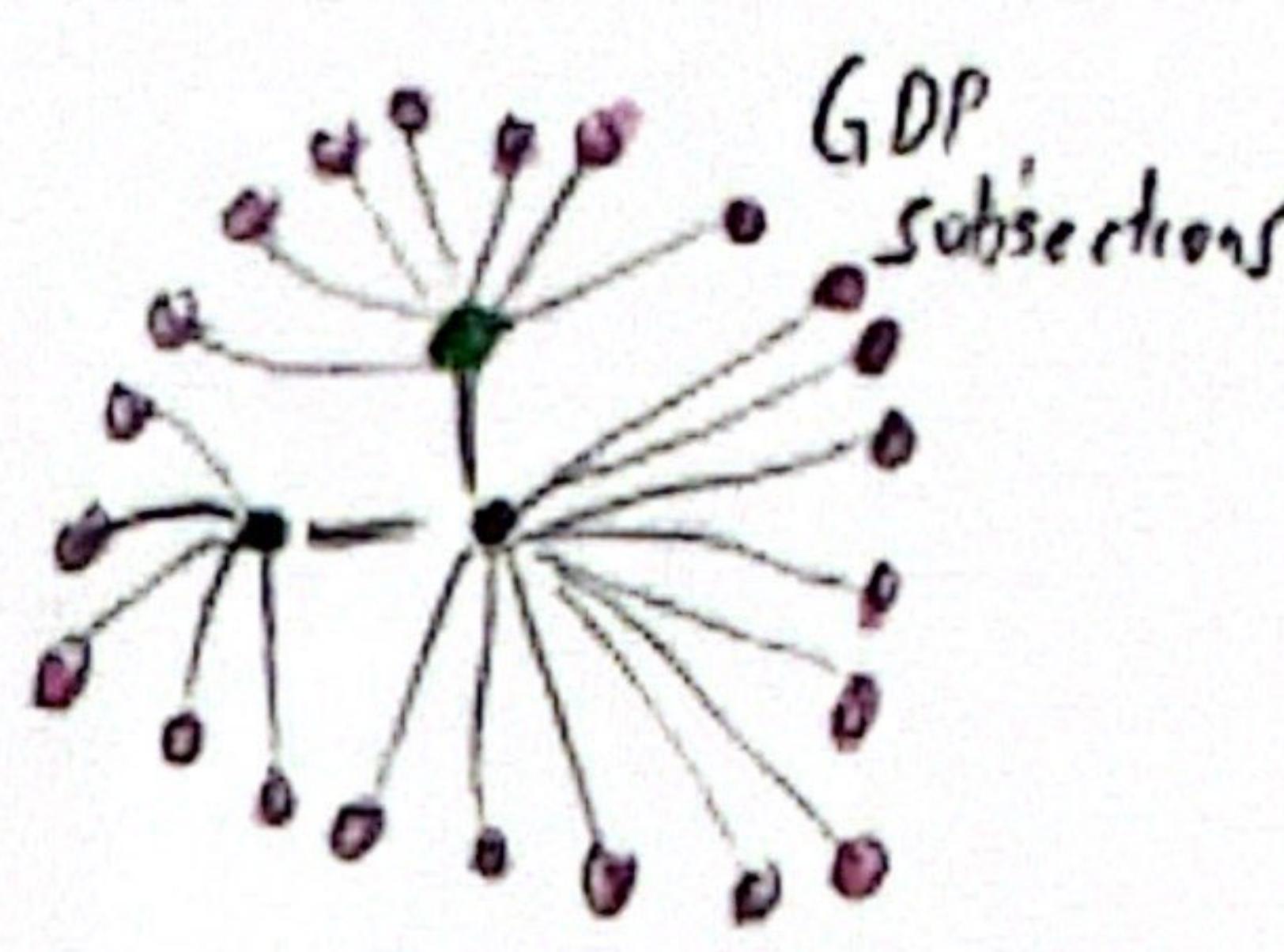
③ (c) Multiple Line Chart

→ This Chart is conflict with other two charts

→ This chart is no enough complexity to

② Multivariate Representation

(a) Radial Tree



(b) Chord Diagram

Migration Values



(c) Zoomable Sunburst Chart

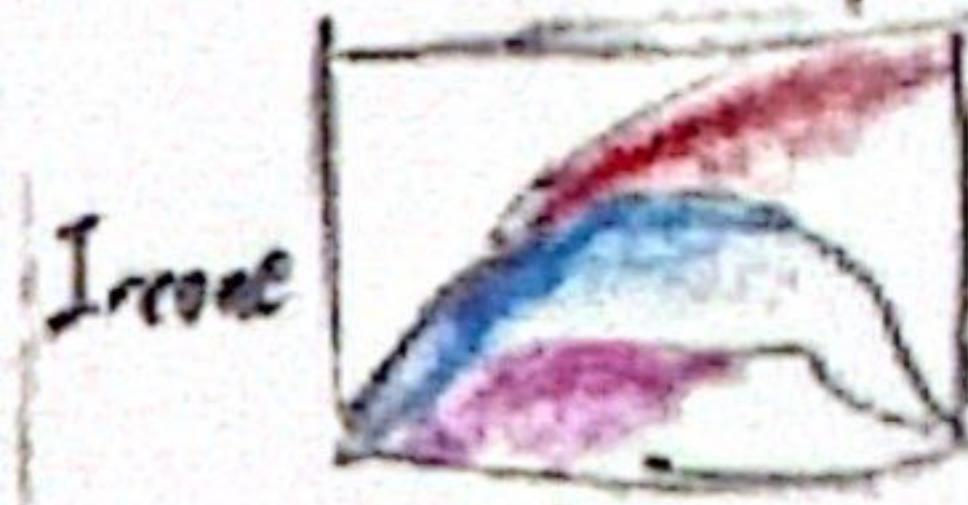
represent
GDP sectors



COMBINE & REFINING

Stacked Area Chart

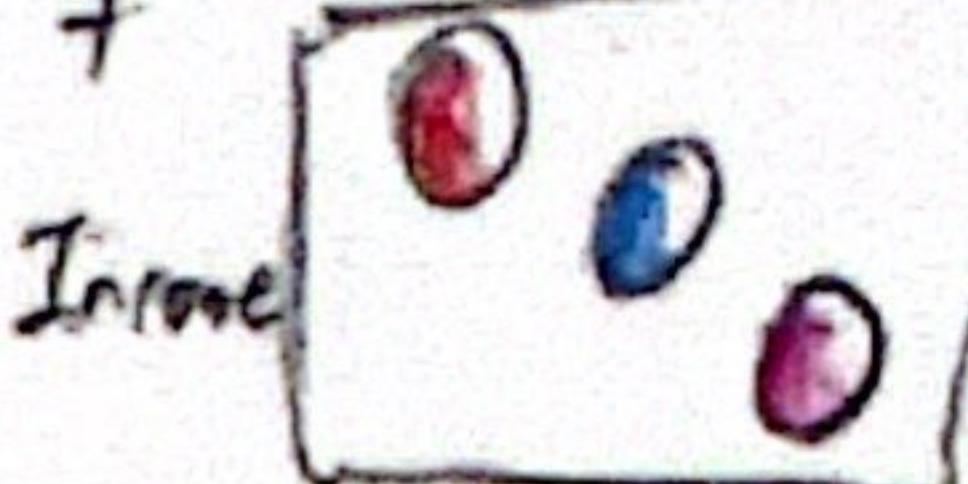
selected year



states

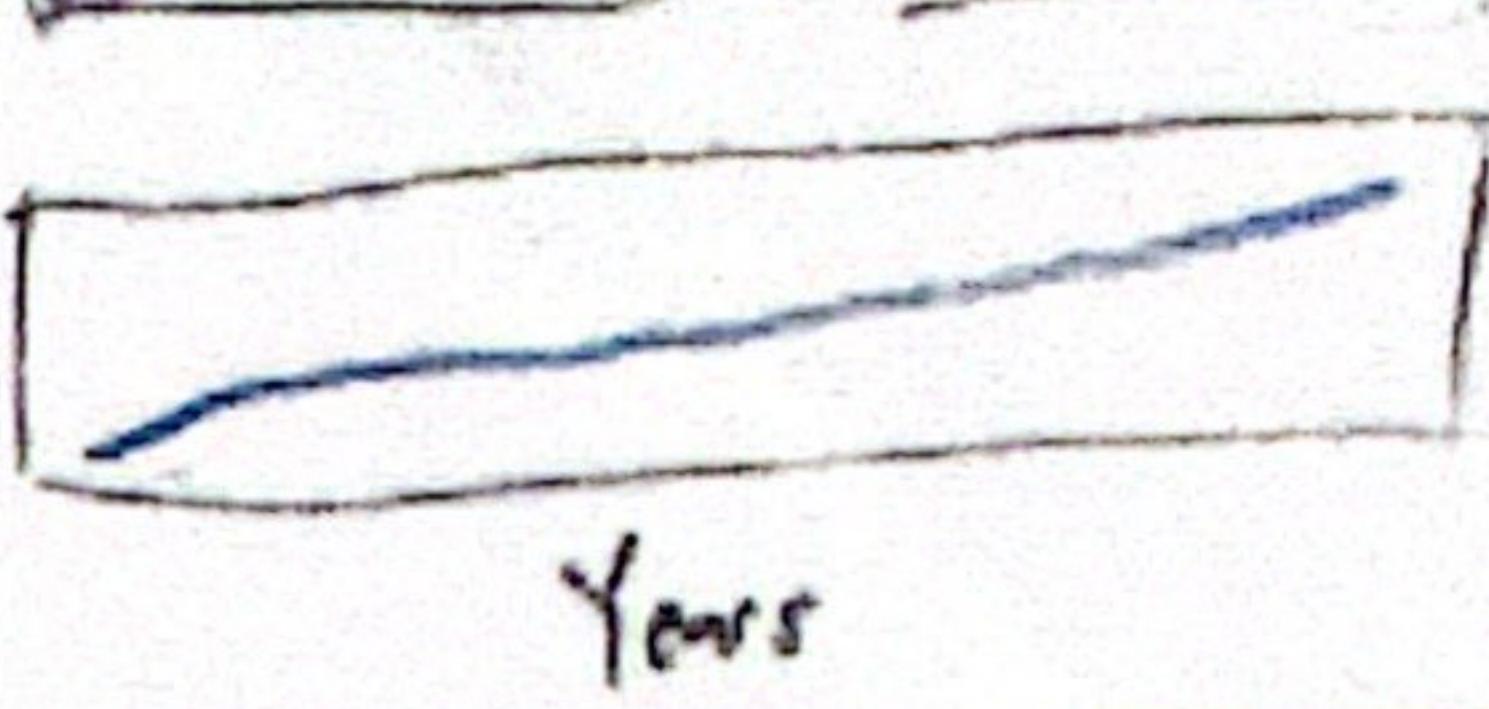
Bubble Chart

selected year



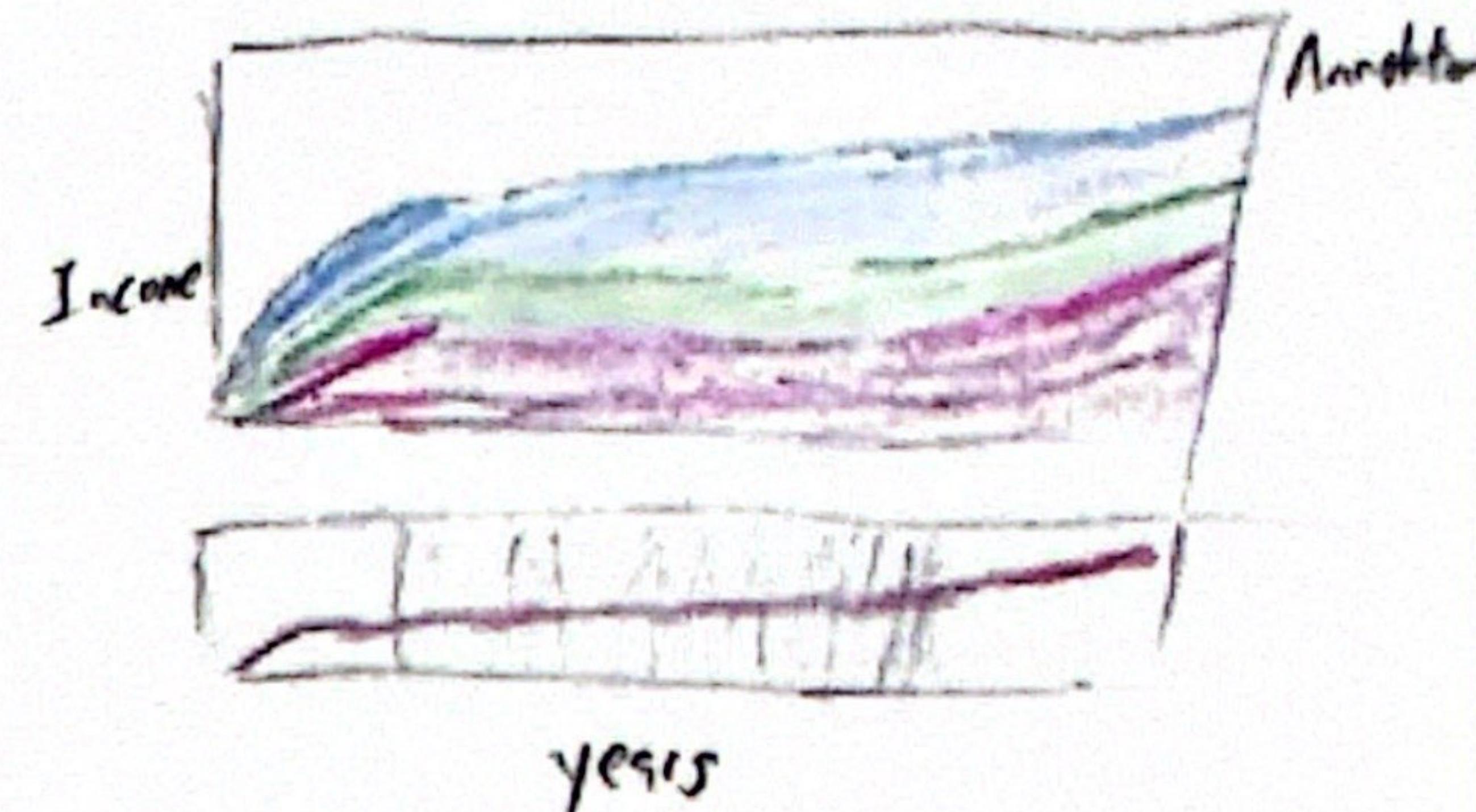
selected year

Dynamically show two diagrams



③ Time Series and Dynamic Data

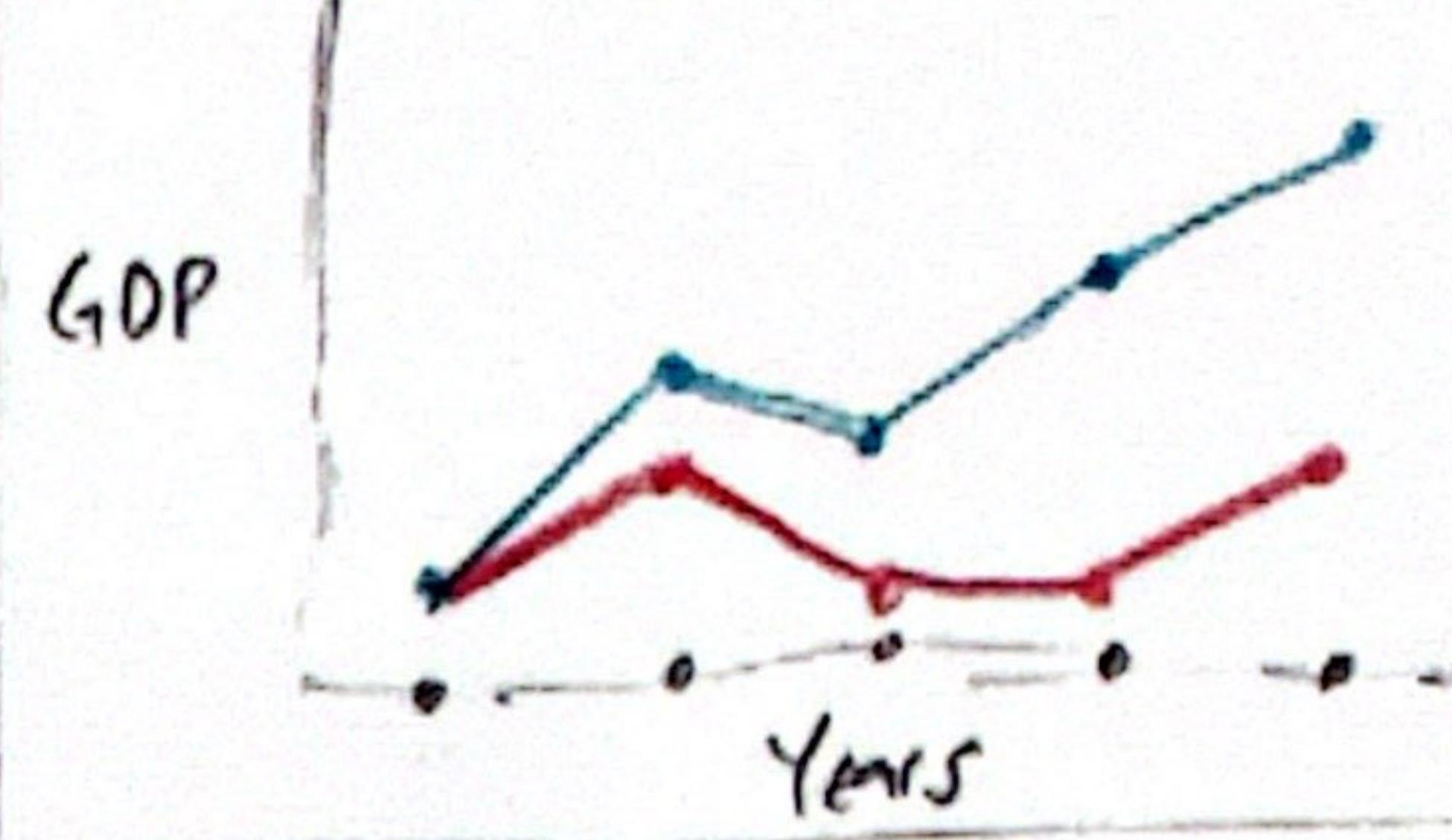
(a) Line Chart with Stacked Area Chart



(b) Connected Scatterplot



(c) Multiple Line Charts



CATEGORISE

Malaysia Economics

Multivariate Representation

Time Series and Dynamic Data

- Bump Chart
- Butterfly Chart
- Choropleth Map

Radial Tree

Line Chart with Stacked Area Chart

Chord Diagram

Connected Scatterplot

Zoomable Sunburst Chart

Multiple Line Chart

QUESTIONS

→ Is there any other libraries that are better than Vega and VegaMobile libraries?

→ Can I use Vega to plot Sanburst and Connected Scatterplot?

→ Is the other better alternative charts better than selected charts.

Author : Tan Jun Koon

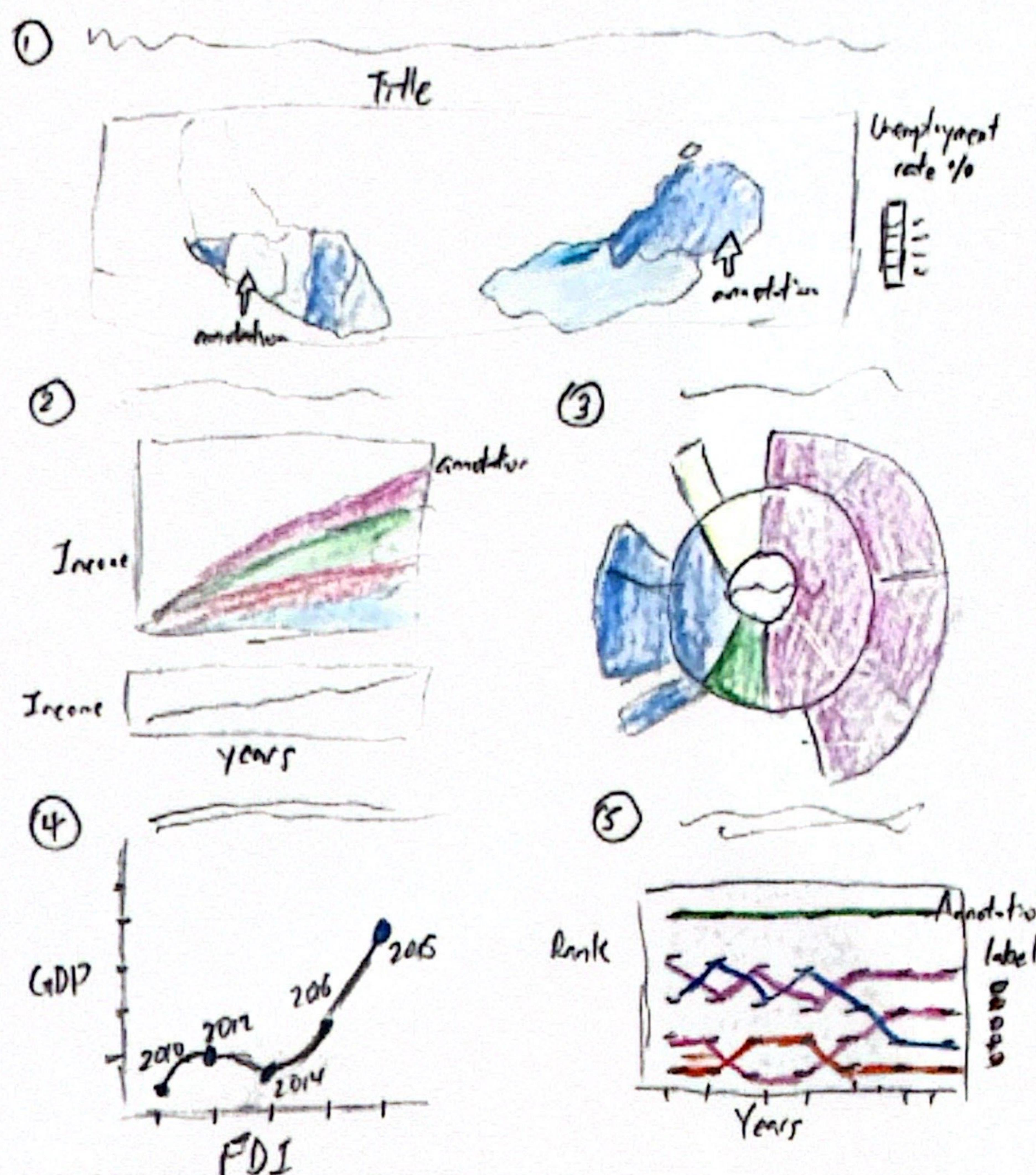
Date : 6/11/2024

Sheet : 1

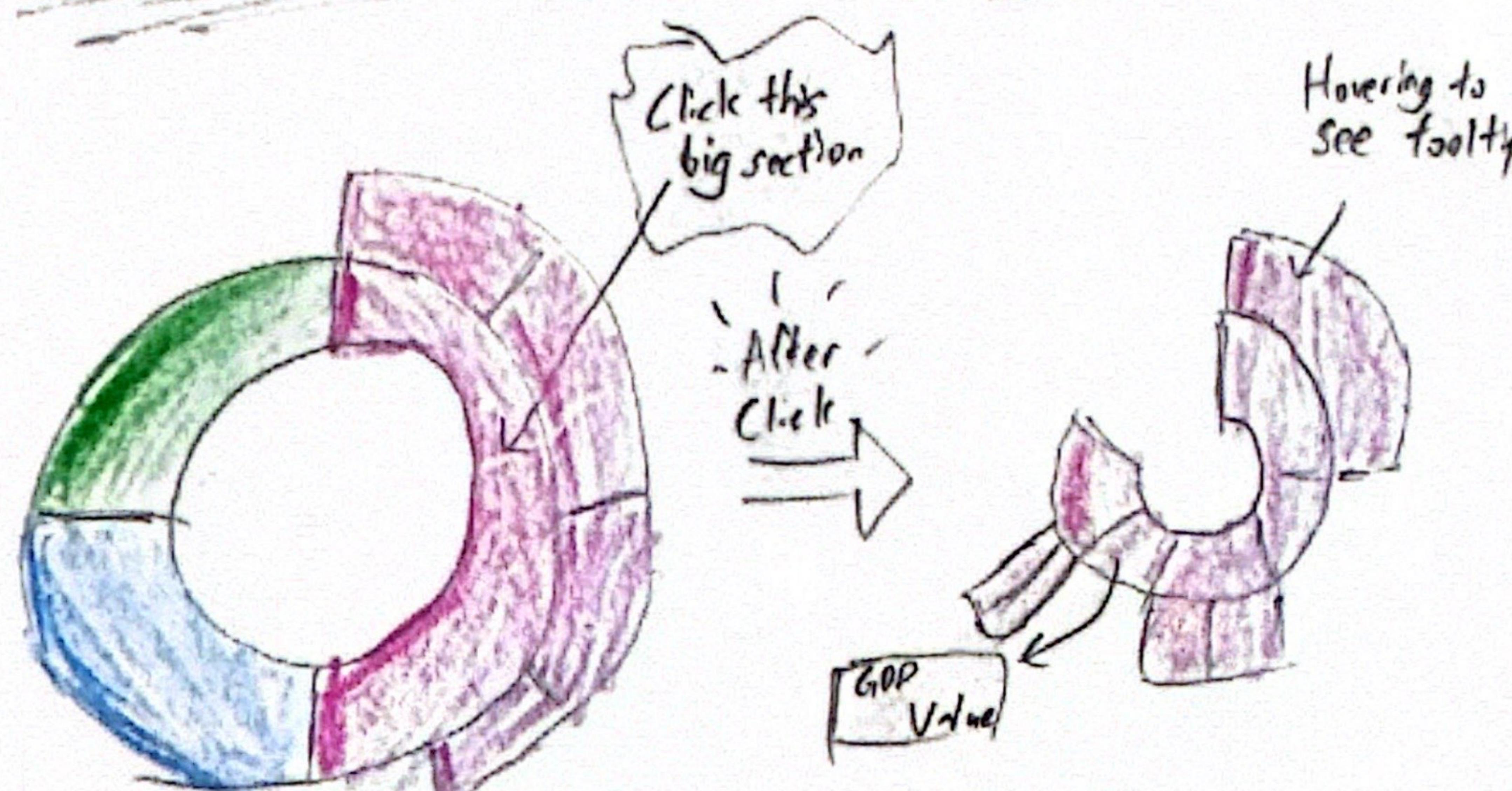
Task : Brain Storming Visualizat

AYOUT

MALAYSEA ECONOMICS



FOCUS



- Big Sunburst chart show the overview of GDP distribution
- Clicking the big section will zoom in the detailed information.

Title : Story Telling #1

Author: Tan Jun Koen

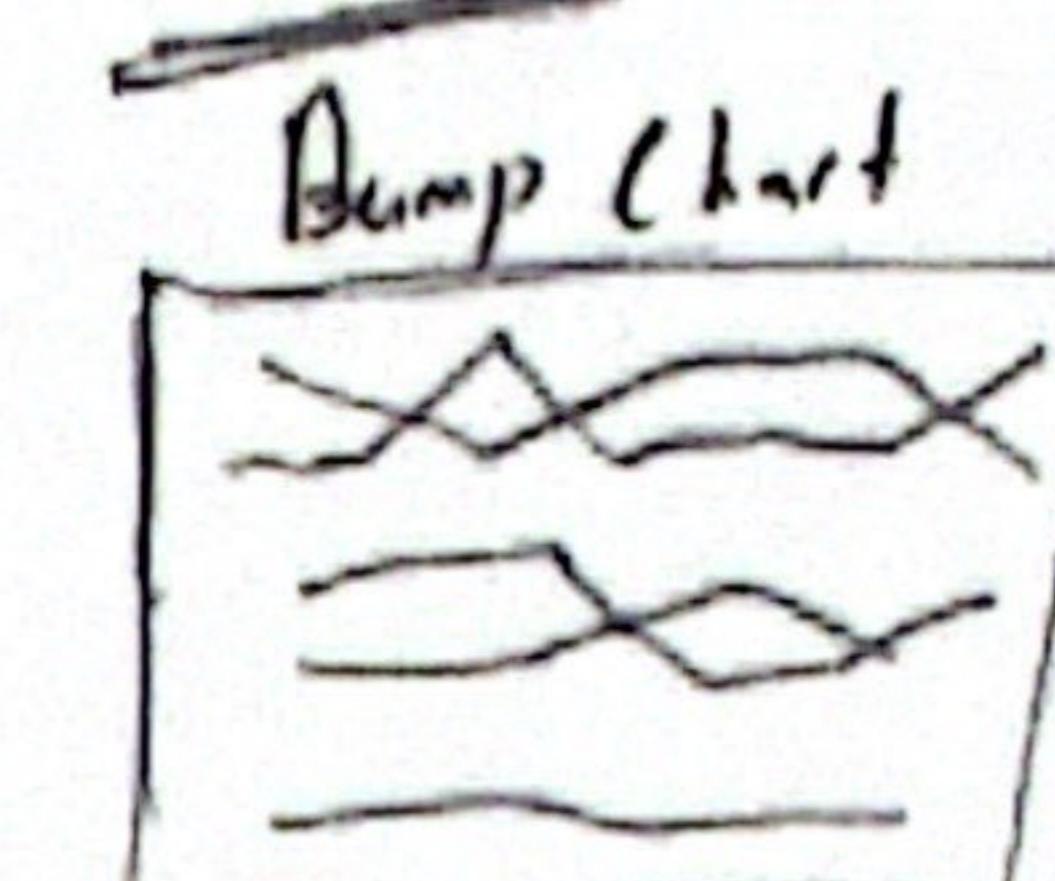
Date: 9/11/2024

Sheet : 2

Task : Design a scrollable dashboard telling a narration

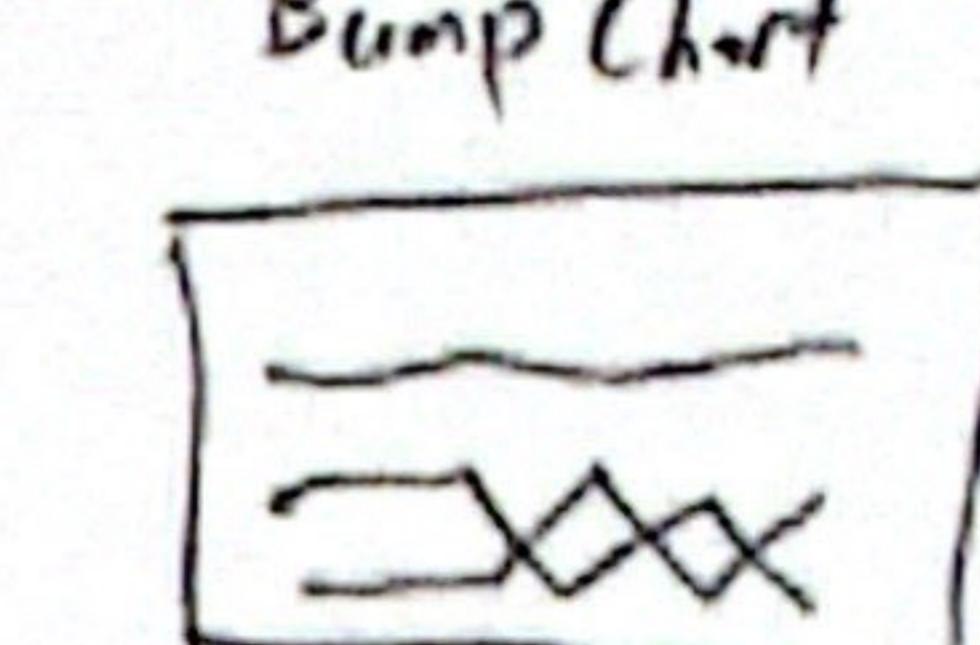
OPERATION

Slider



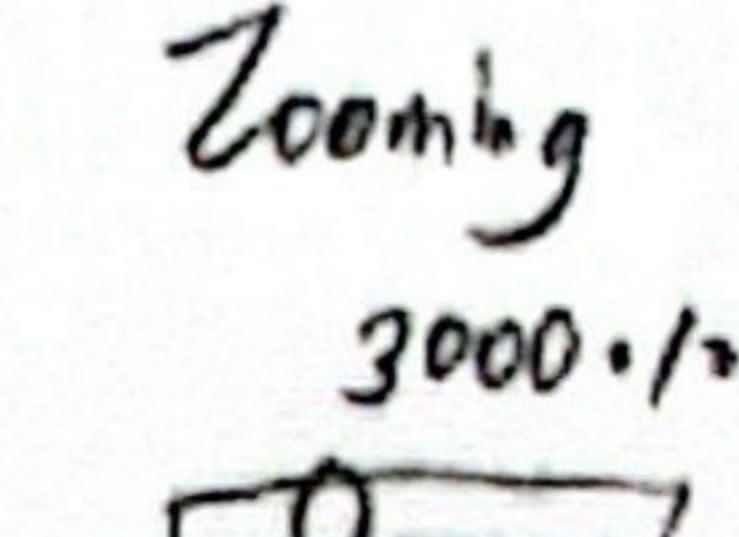
Top States Displayed
5

Date



Top States Displayed
3

Zooming



Selection
2012
2022

DISCUSSION

* Advantages :

- suitable for interactivity since covering more white space for scrollable dashboard
- These charts can be visualized in more detailed way.

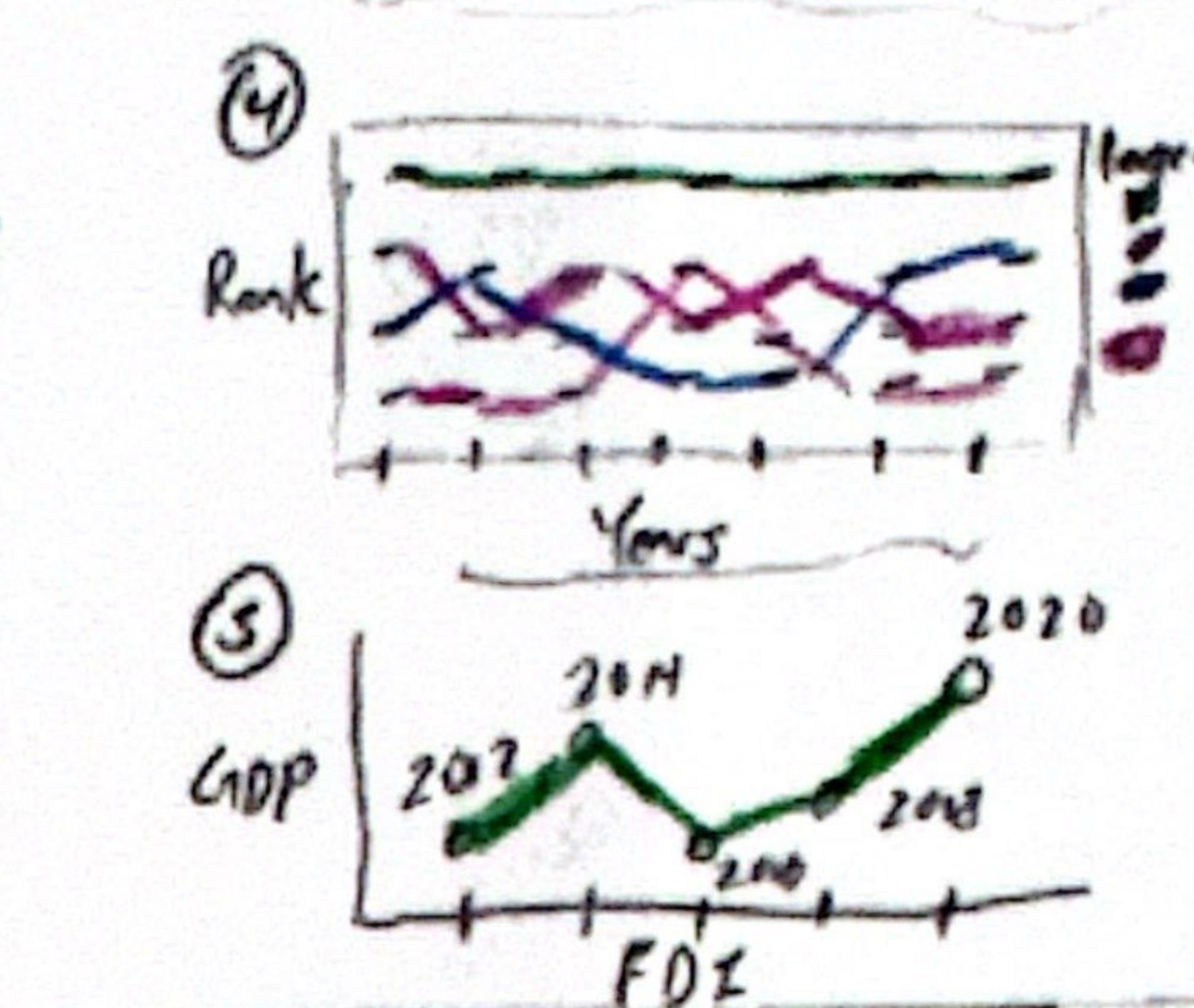
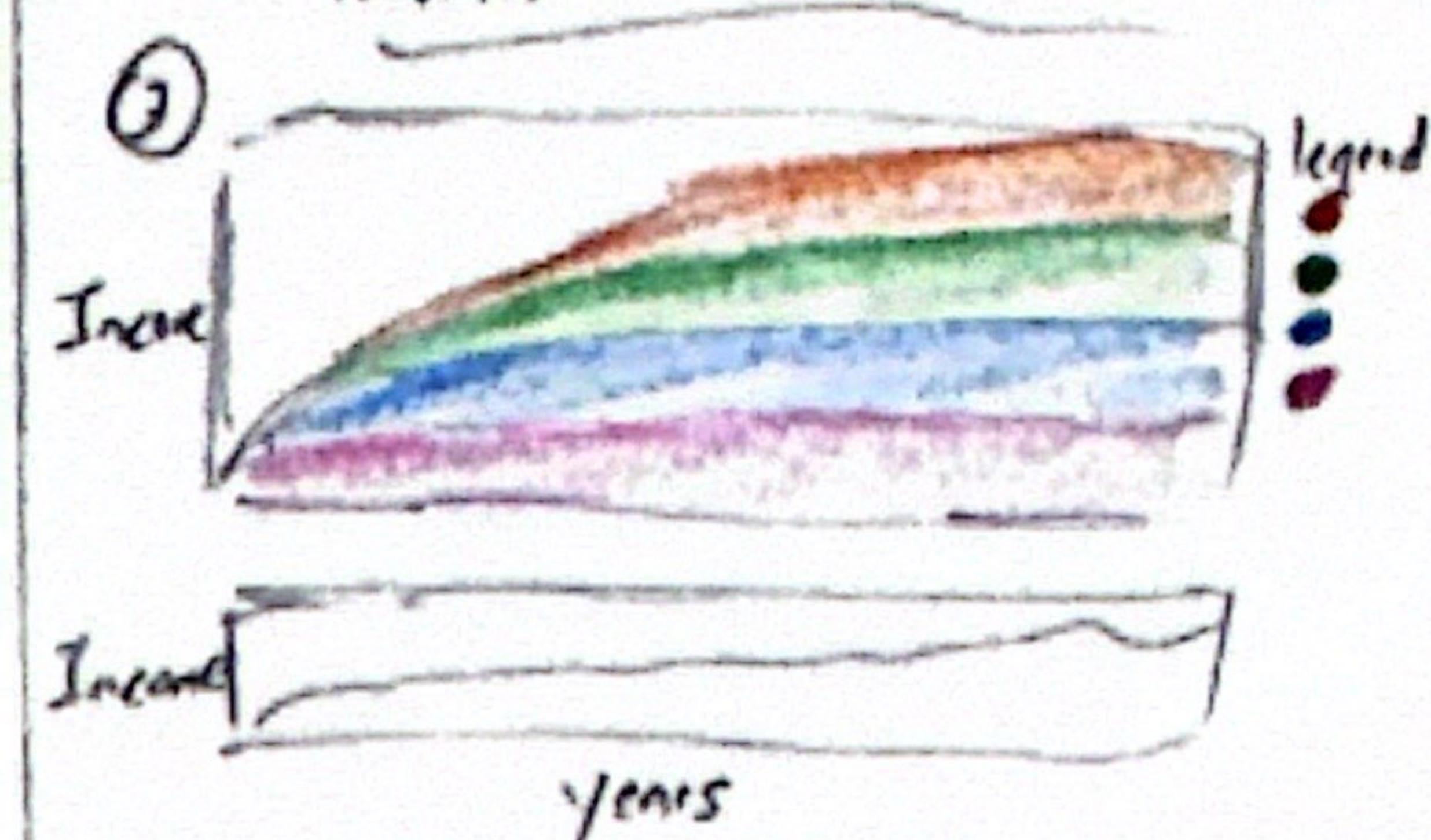
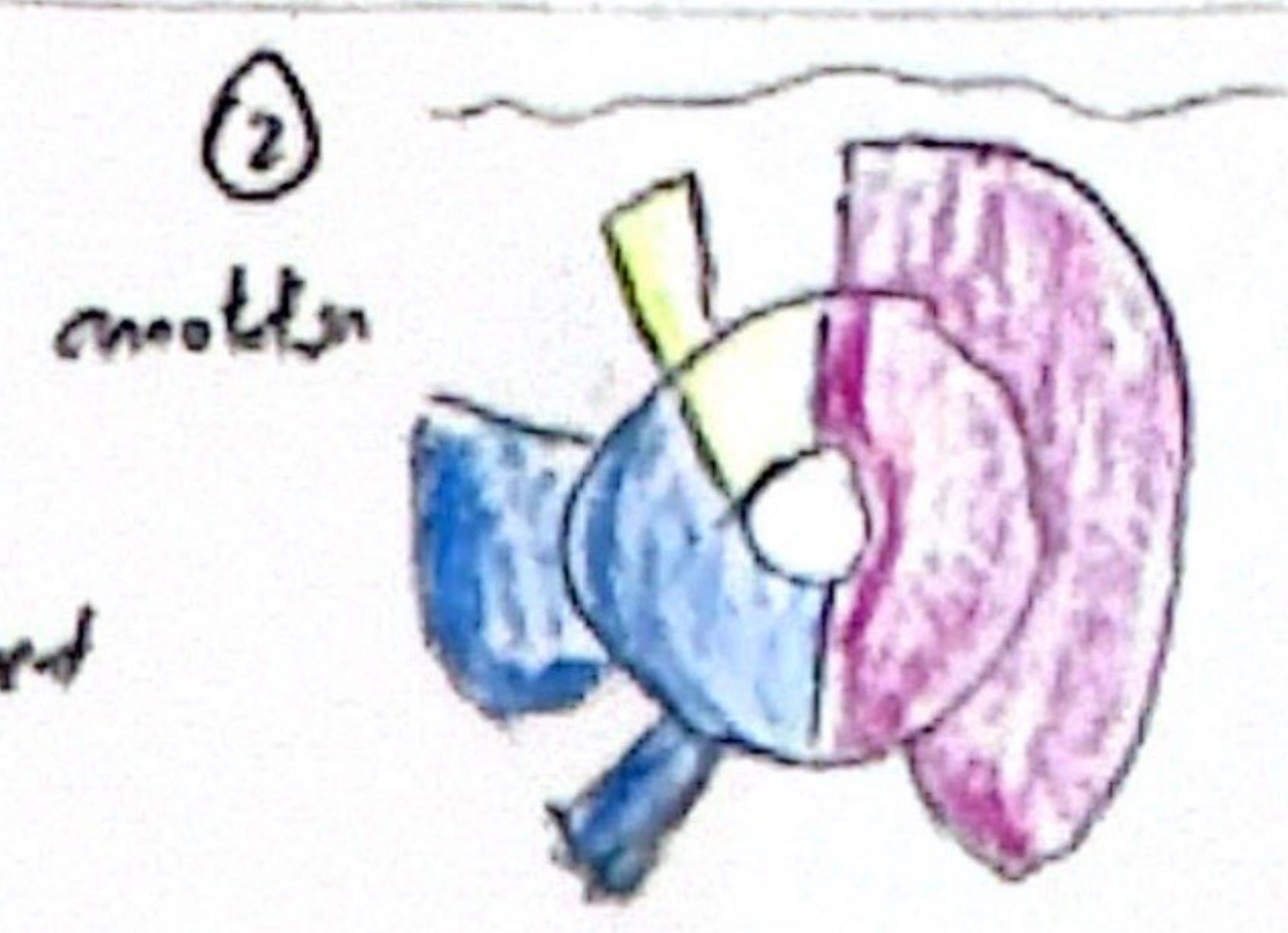
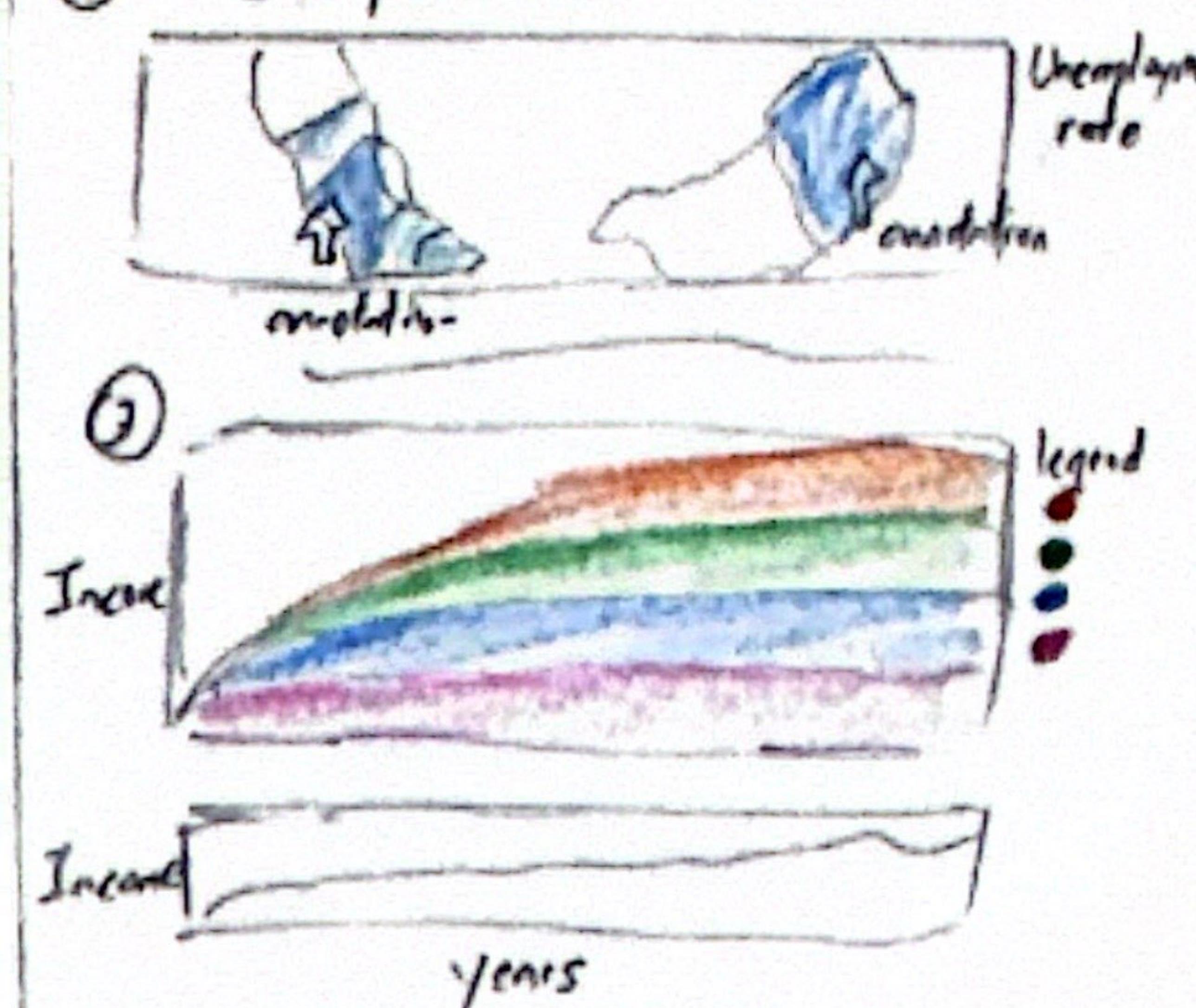
* Disadvantages :

- User cannot visualize the entire dashboard in one glance.
- User need to scroll the dashboard so that cannot compare with other charts.

AYOUT

MALAYSIA ECONOMICS

① Choropleth Map



① Choropleth Map

- Selector to show the stages
- Showing Anadolu
- encode unemployment rate for each state in Malaysia

② Zoomable Sunburst

- colour represent different GDP sectors
- Each big sector has subsector, the size depend on GDP value.

③ Line Chart with Stacked Area Chart

→ Stacked Area Chart will change its value dynamically with the line chart

→ Line Chart is used for year selection

④ Bump Chart

→ Showing the ranking throughout the years for different states

⑤ Connected Scatterplot

→ Showing the correlation between two quantitative values.

FOCUS

In this dashboard, everything is focused

Showing unemployment rates for different states.

Title

Choropleth Map

Stacked Area with Line Chart

Serves as interactive selector purpose, we can choose the desired visualized years.

Showing multivariate data between categories for GDP sectors

Bump Chart

Connected Scatterplot

Showing Ranking for different states

Showing Correlation between Foreign Direct Investment and GDP

Title :

Author: Tan Jun Koon

Date : 10/11/2024

Sheet : 3

Task : Design an infographic paste.

OPERATION

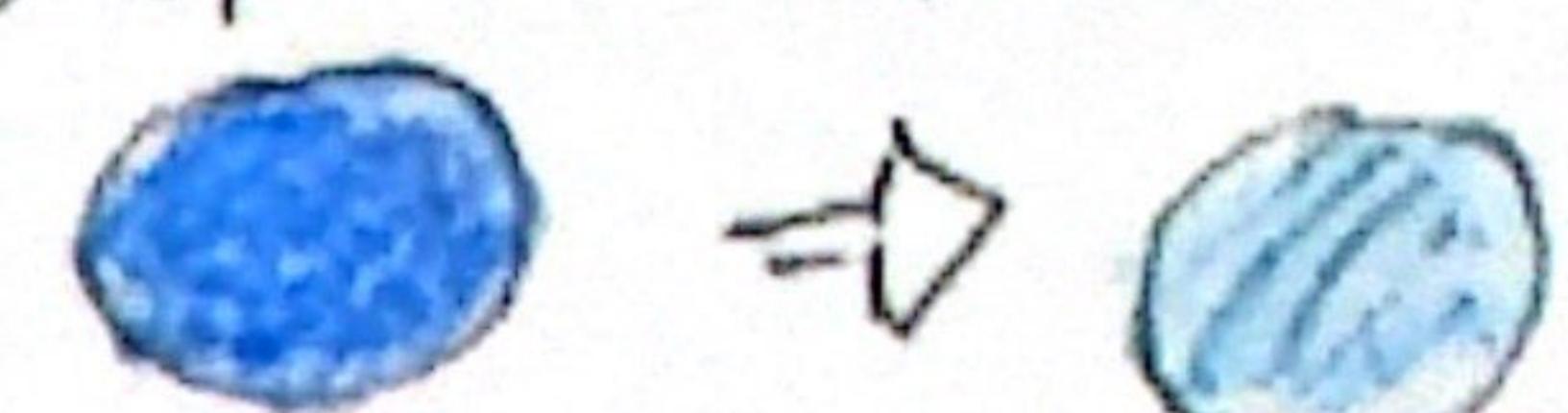
① Showing Tooltips



state : name
value : GDPvalue

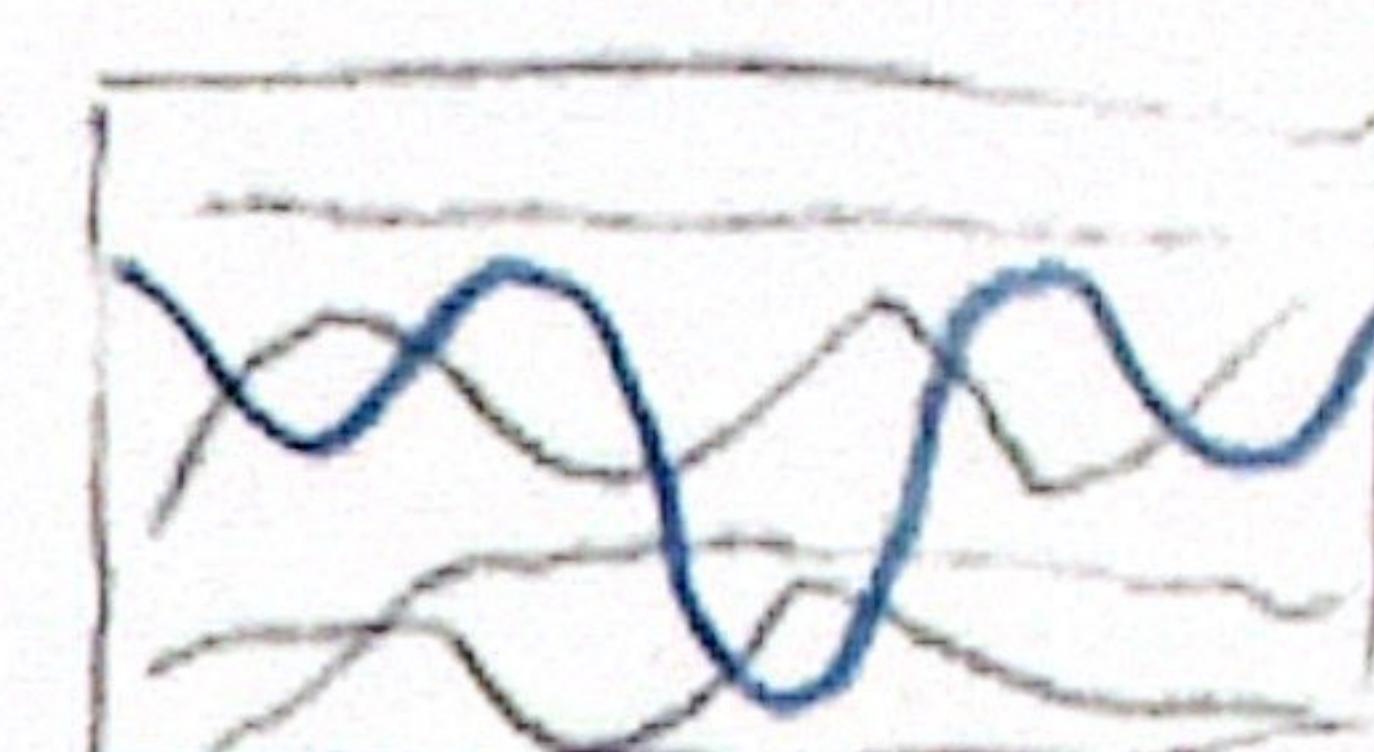
② faded effect when mouse hovering

→ capture user attention



③ Click the legend

For example, click "Kedah State"



→ this line will be emphasized.

DISCUSSION

* Advantages

→ not necessary to use the mouse to scroll up or down, see entire graphs in one glance.

→ reader can easily compare with different charts for different purpose

→ interactivity is concise and simple to use.

* Disadvantages

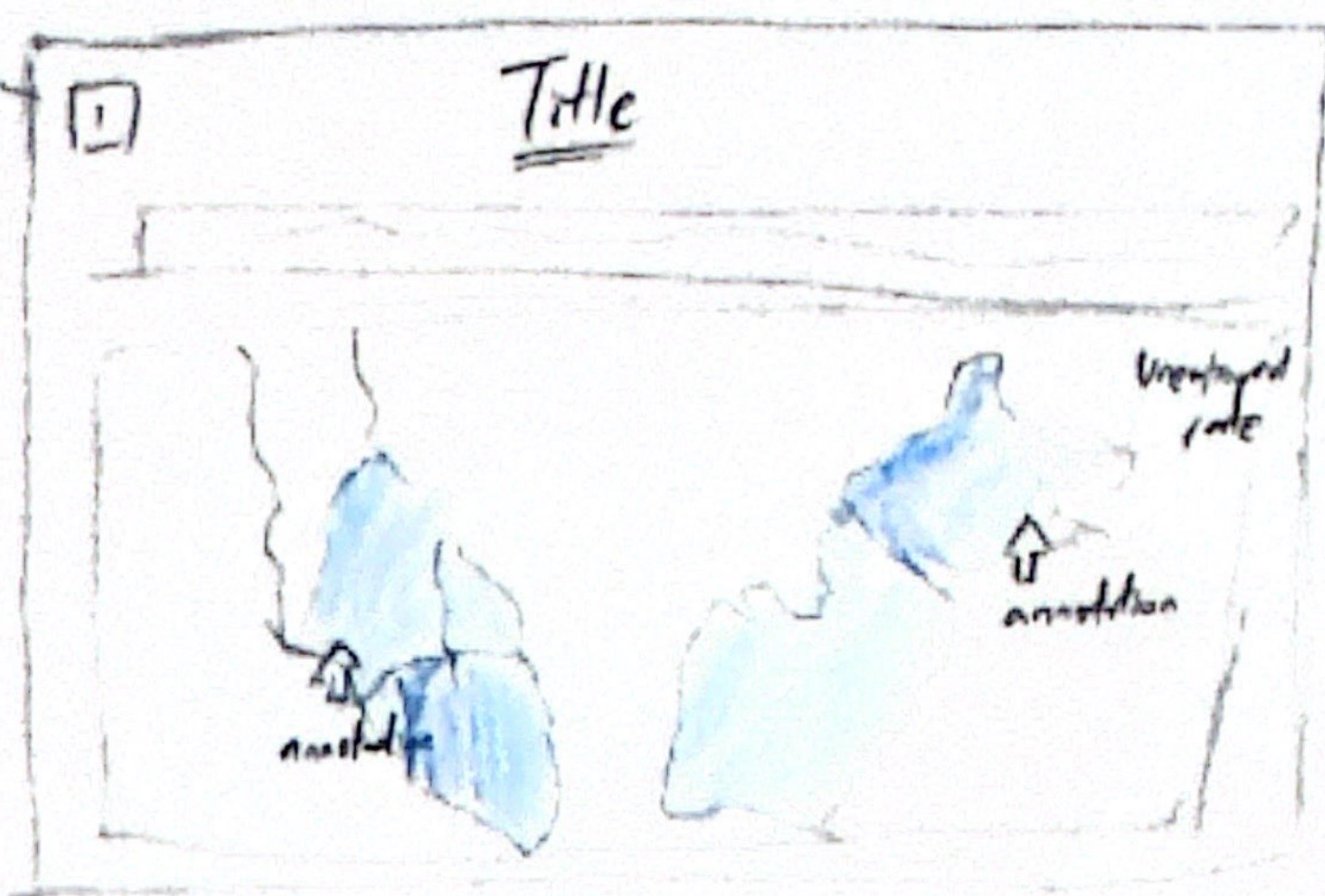
→ user require long term memory due to the suffering of heavy cognitive load

→ There is no emphasis on any chart

→ The reader will easily get overwhelmed

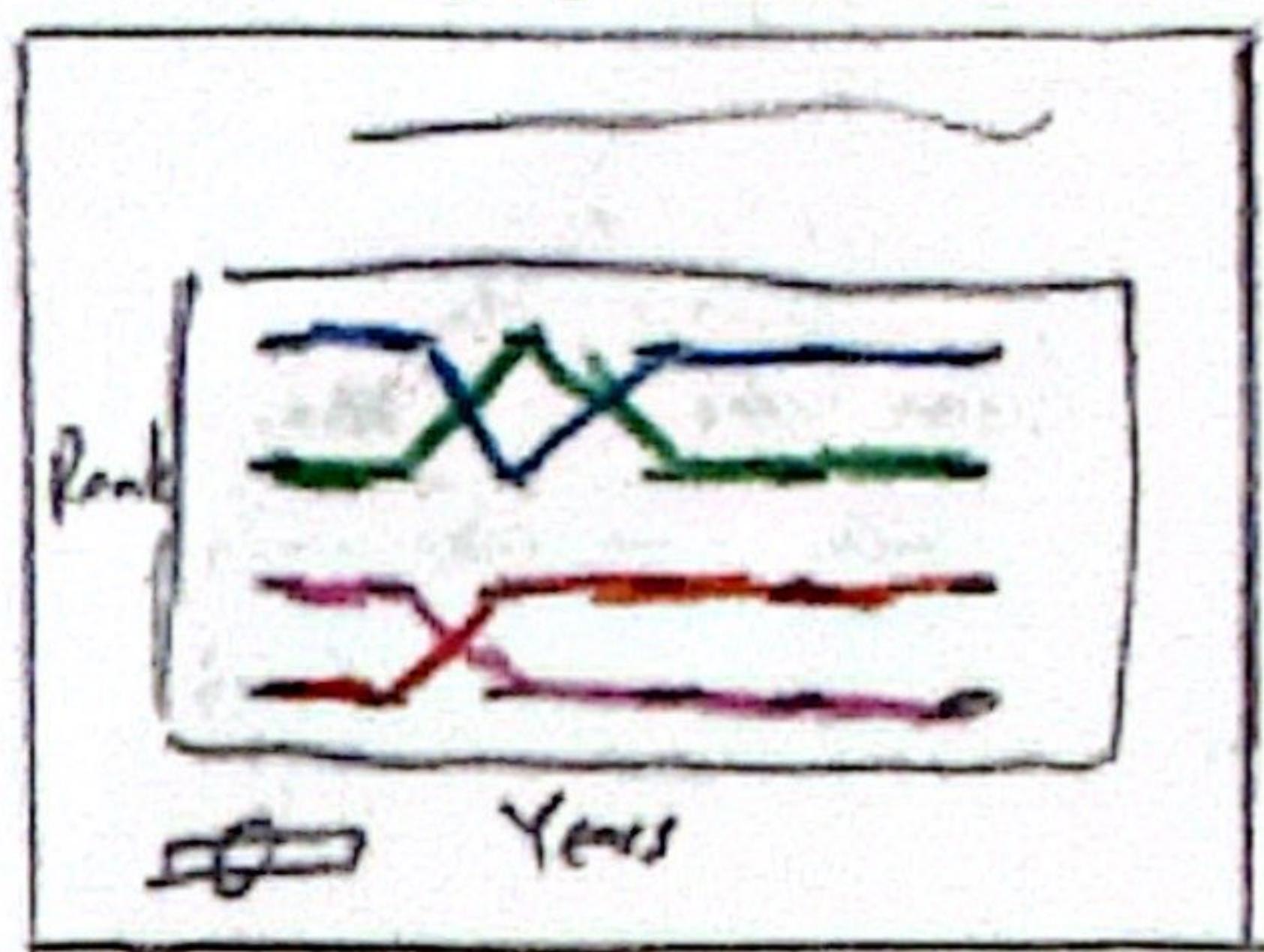
AYOUT

first view

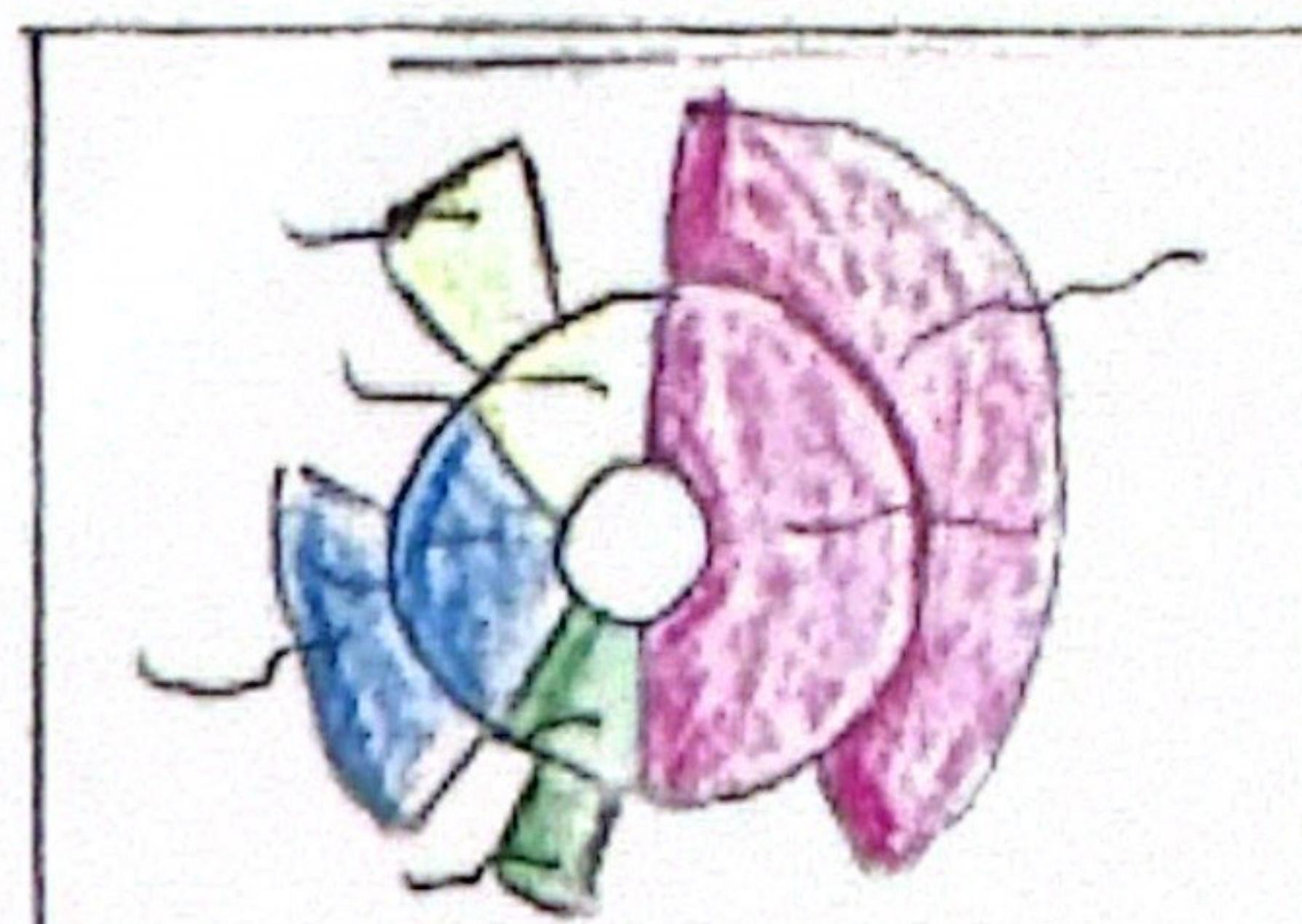


Title

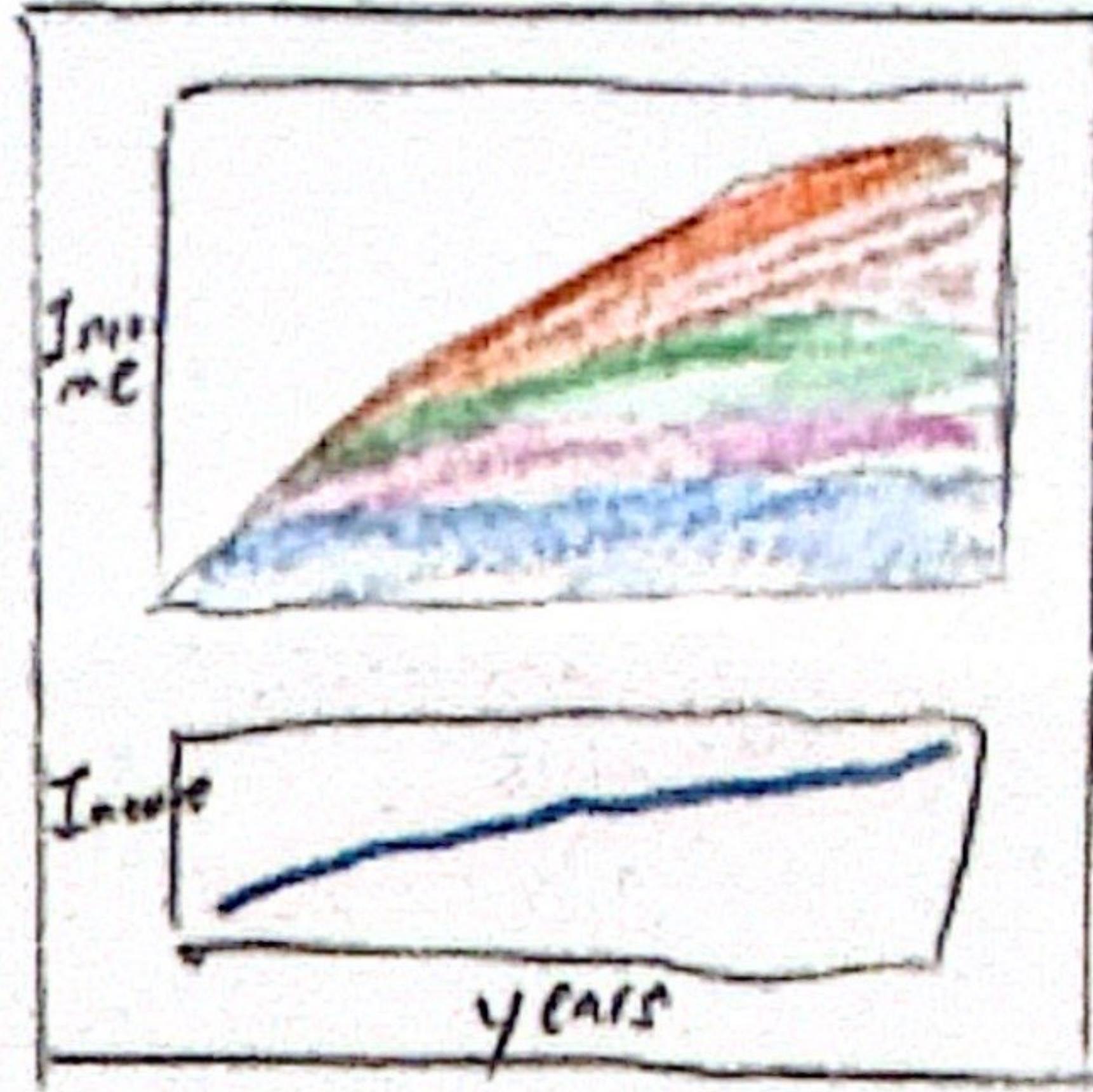
Second View



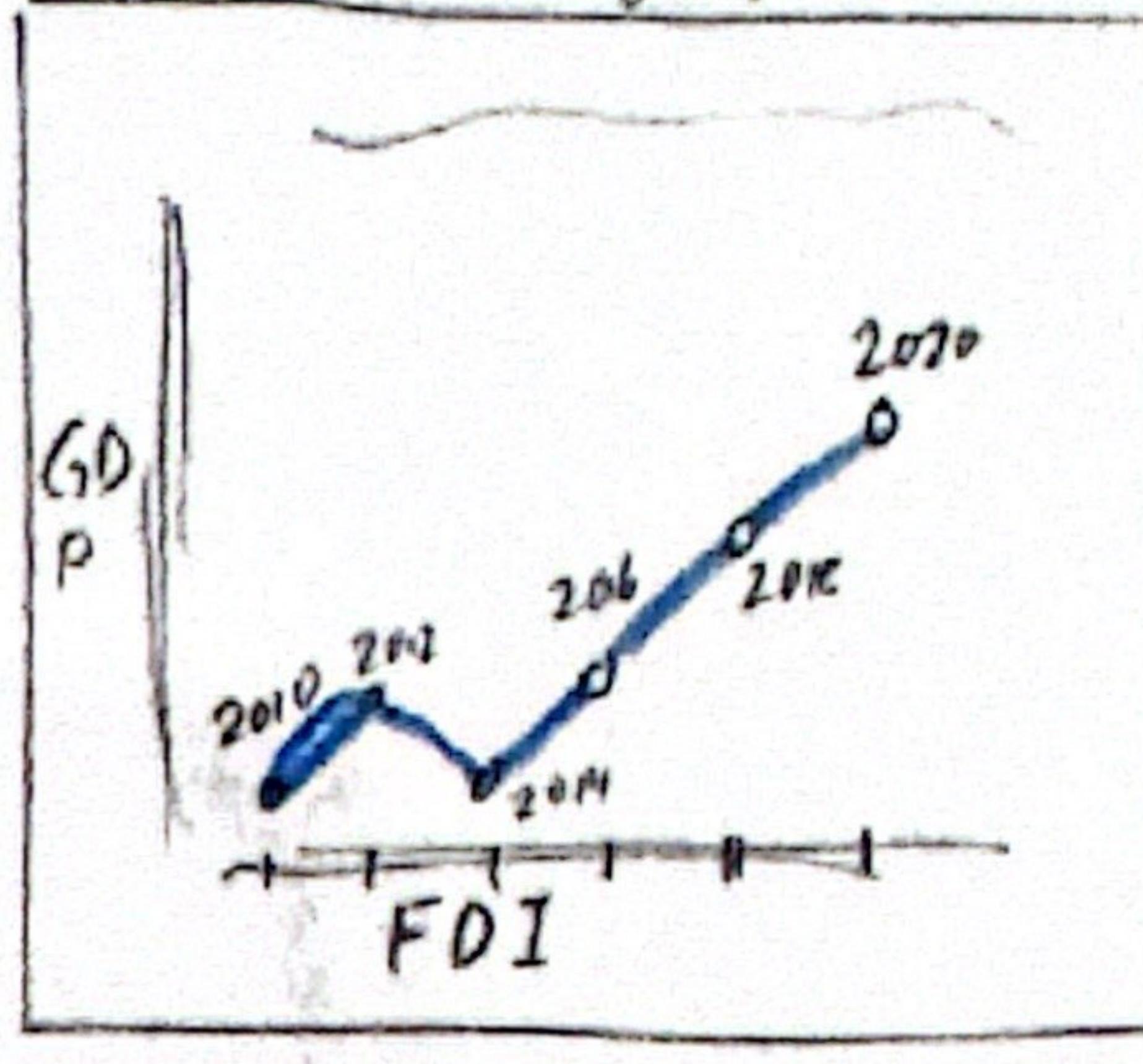
Third View



Fourth View



Fifth View



Title : Story Telling # 2

Author : Tan Jun Koon

Date : 11/11/2024

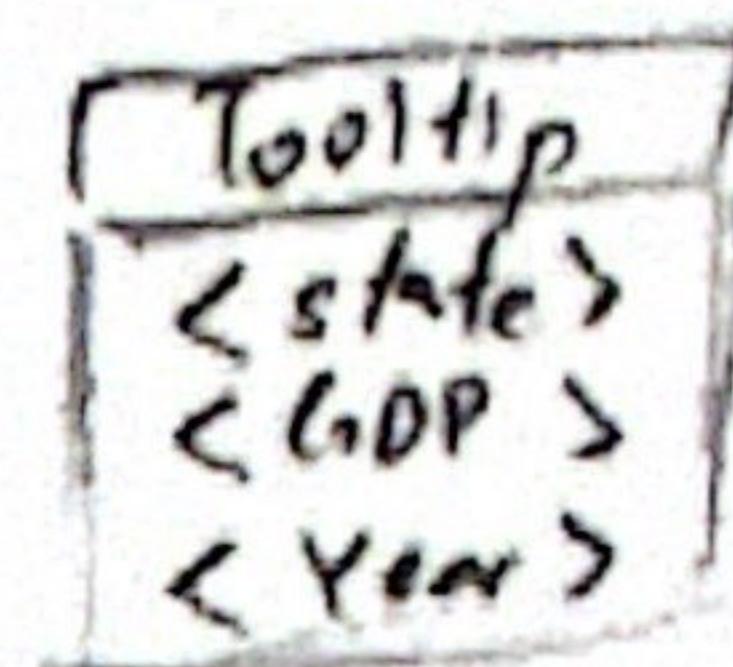
Sheet : 4

Task : Design a aesthetic dashboard telling a narration

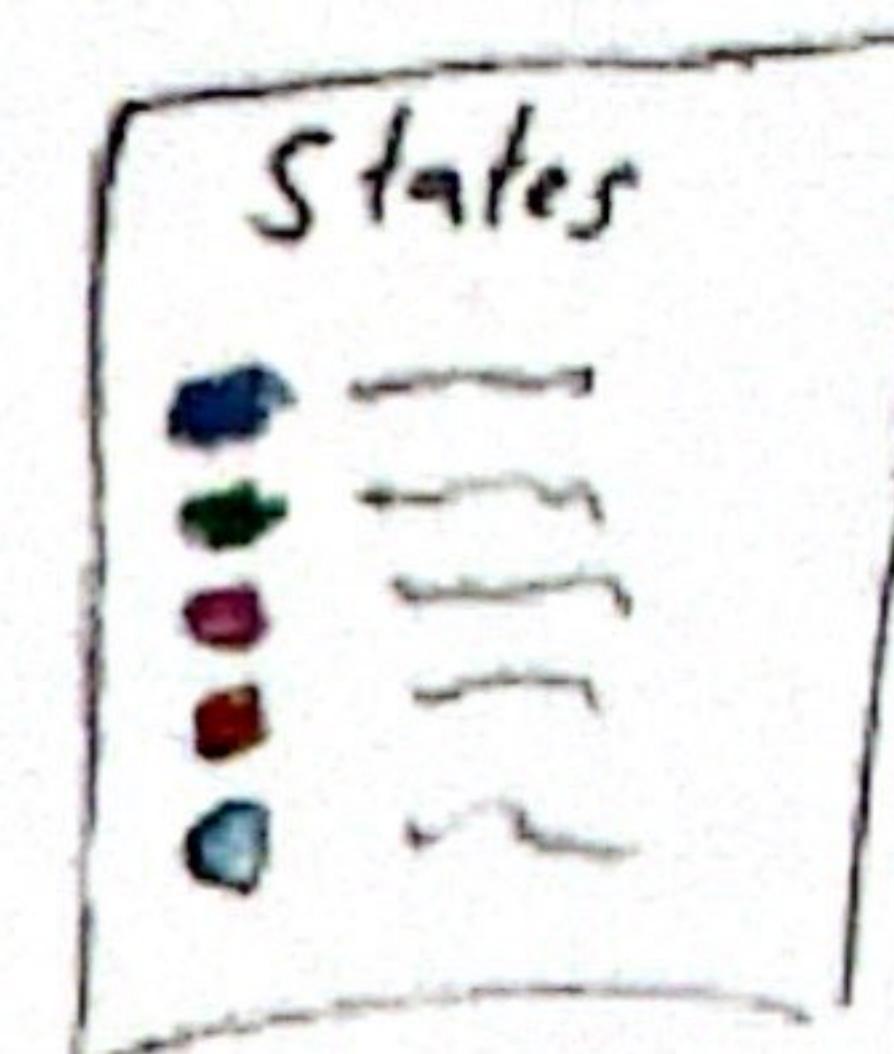
OPERATION

This dashboard focus on one chart on the viewer view.

1. hovering cursor



2

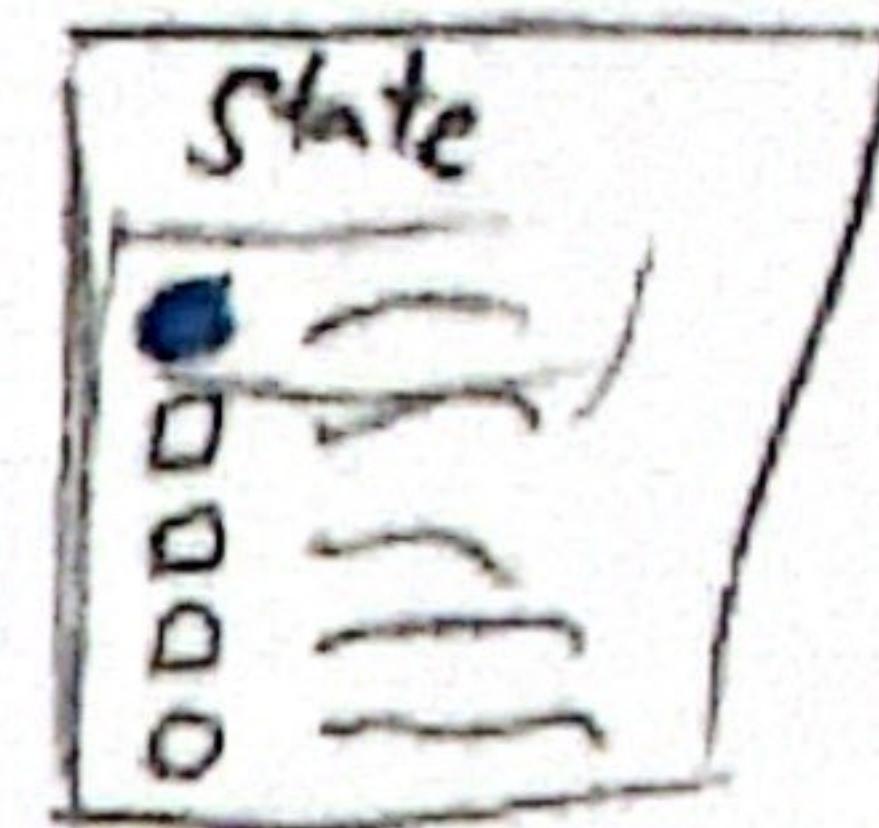


3

Replay Animation

→ able to reanimate the line graph.

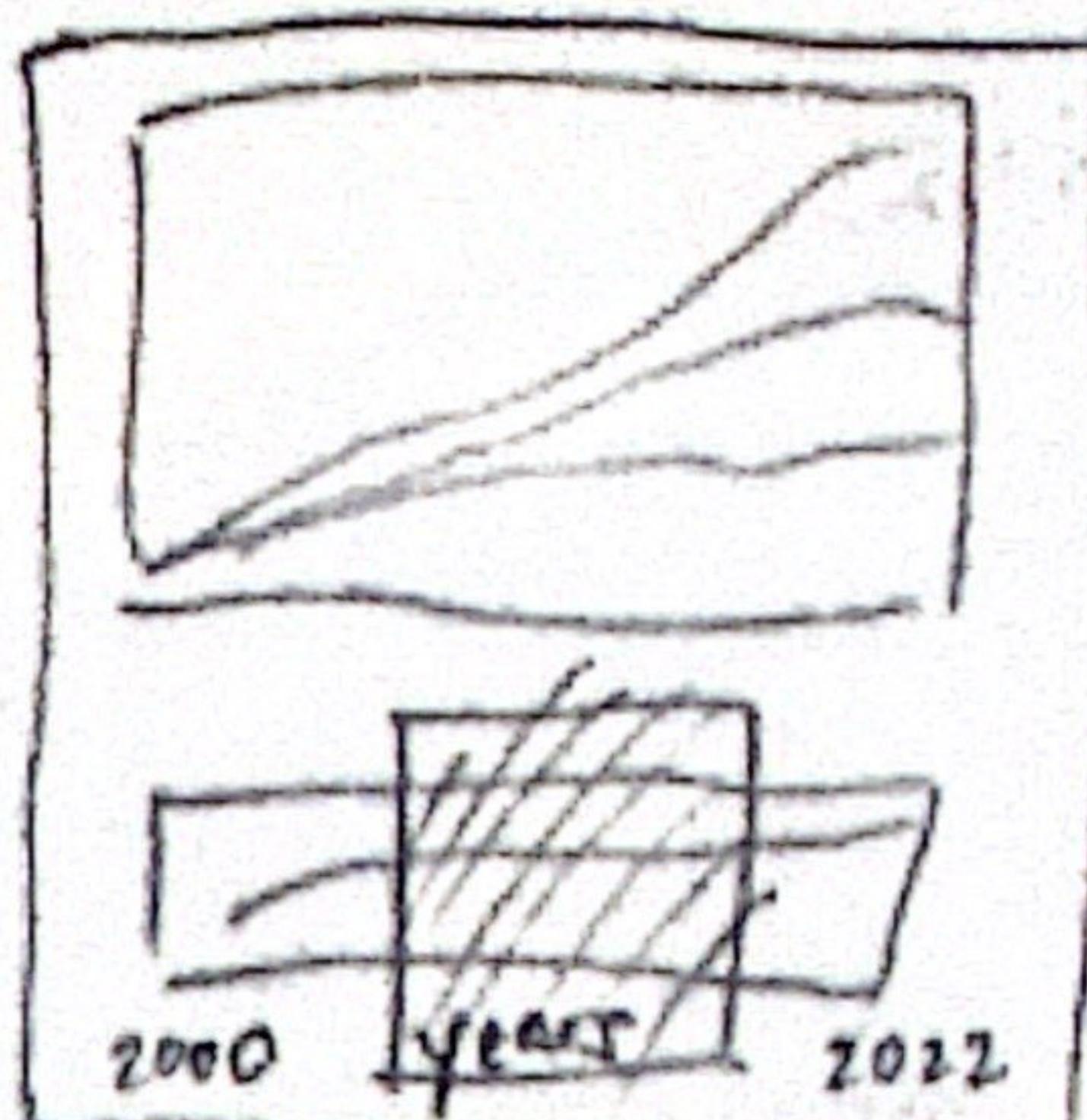
After Click
only focus
on selected
state



FOCUS

From fourth view

Step 1: Overview first

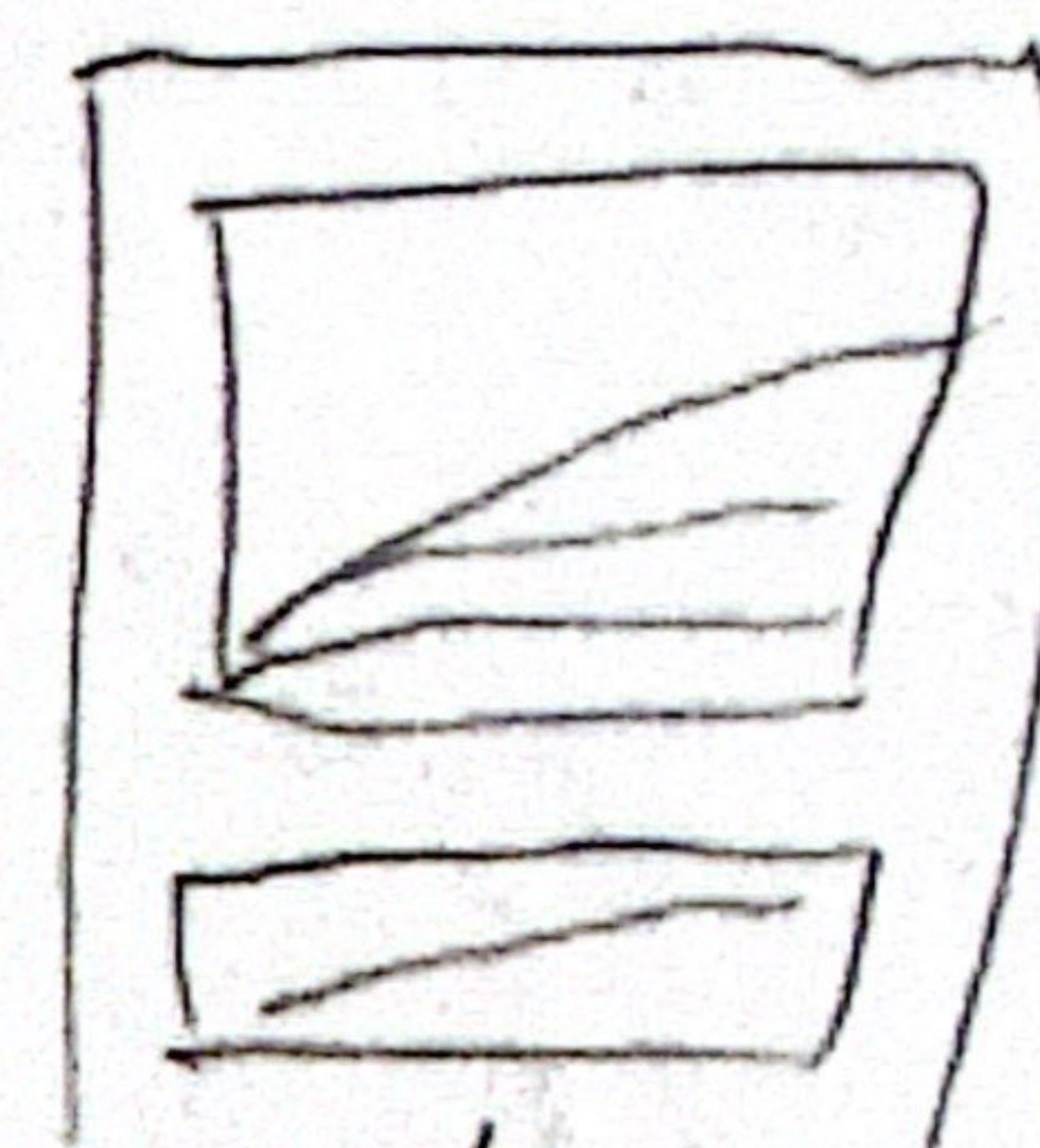


(Key Concept)

→ Shneiderman's mantra

Step 2: Zoom and filter

⇒
↓
after selected
filtered years



* View more detailed information

2010 → 2016

DISCUSSION

* Advantages:

→ Change Bladness is good, since viewer will be viewing on one chart only.

→ Allow more interactivity, labels, annotation, tooltip even highlight for wanted chart.

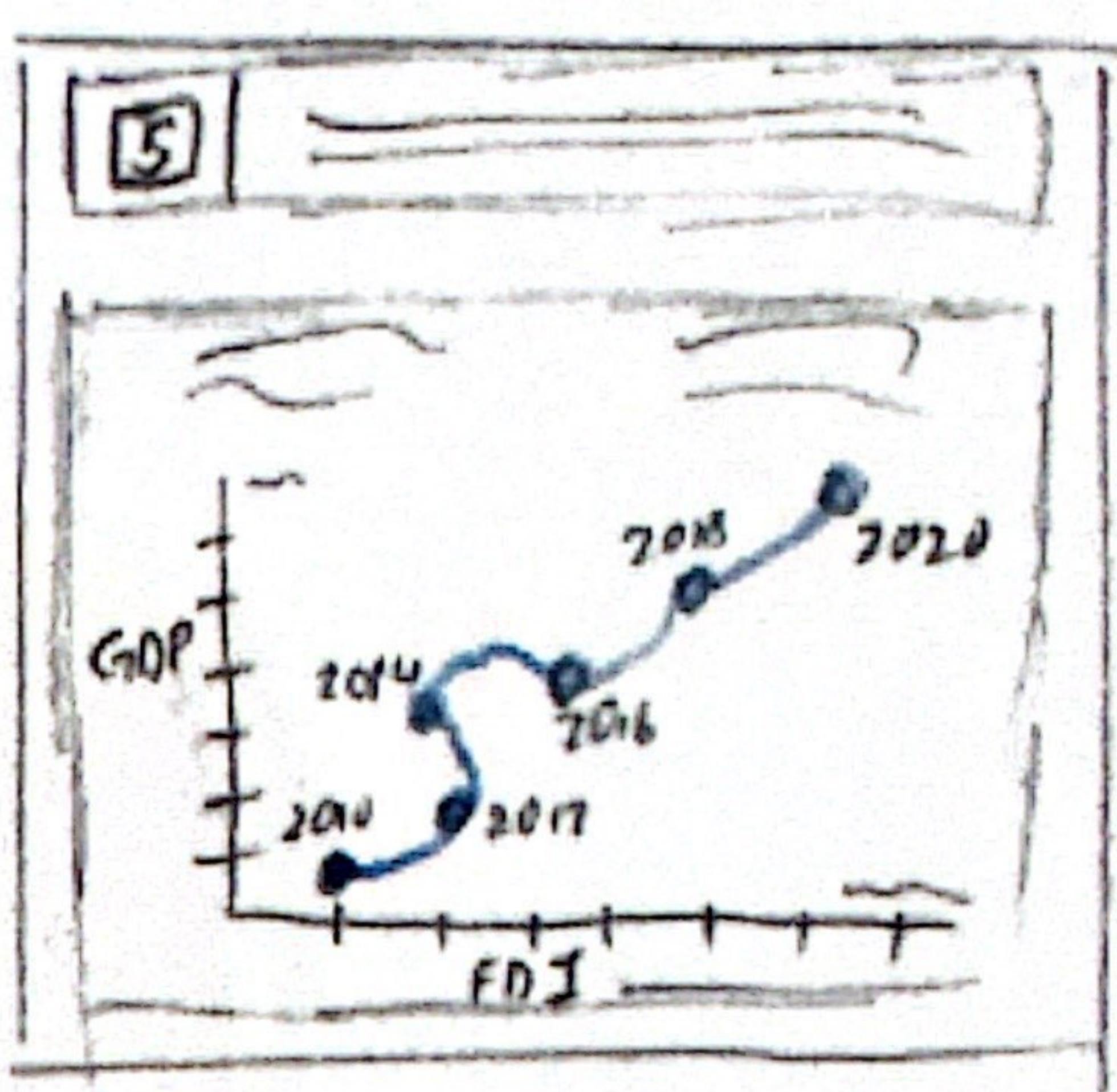
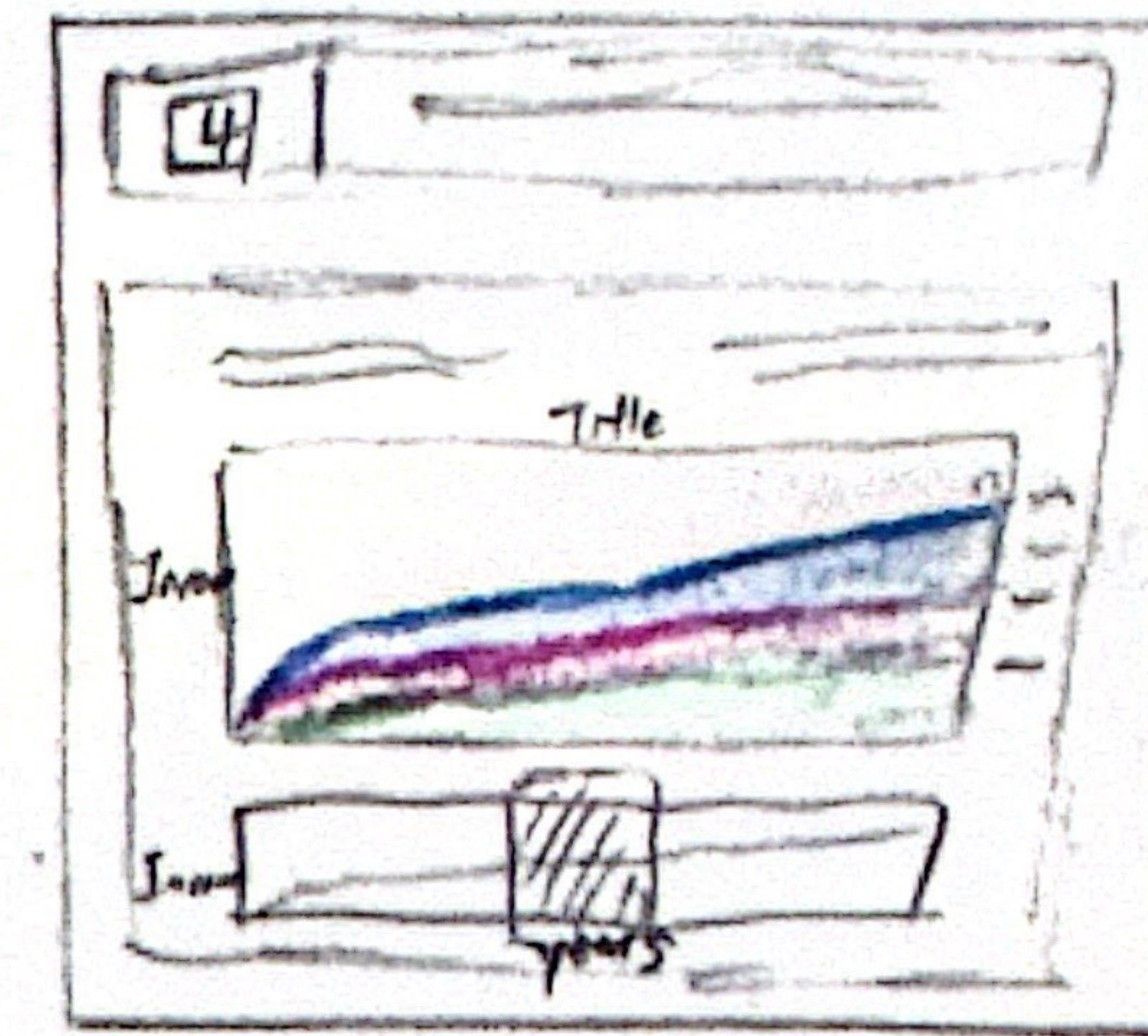
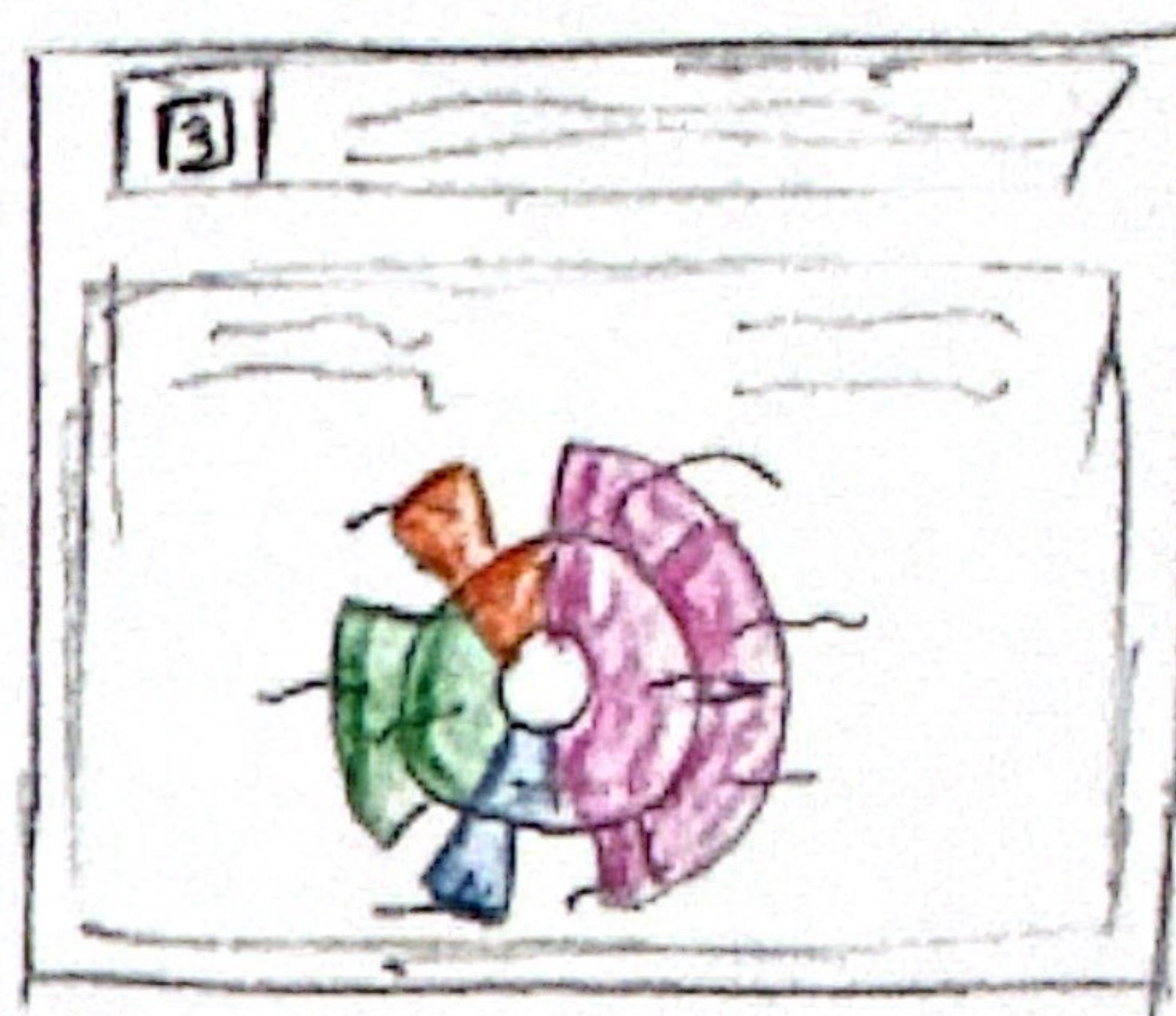
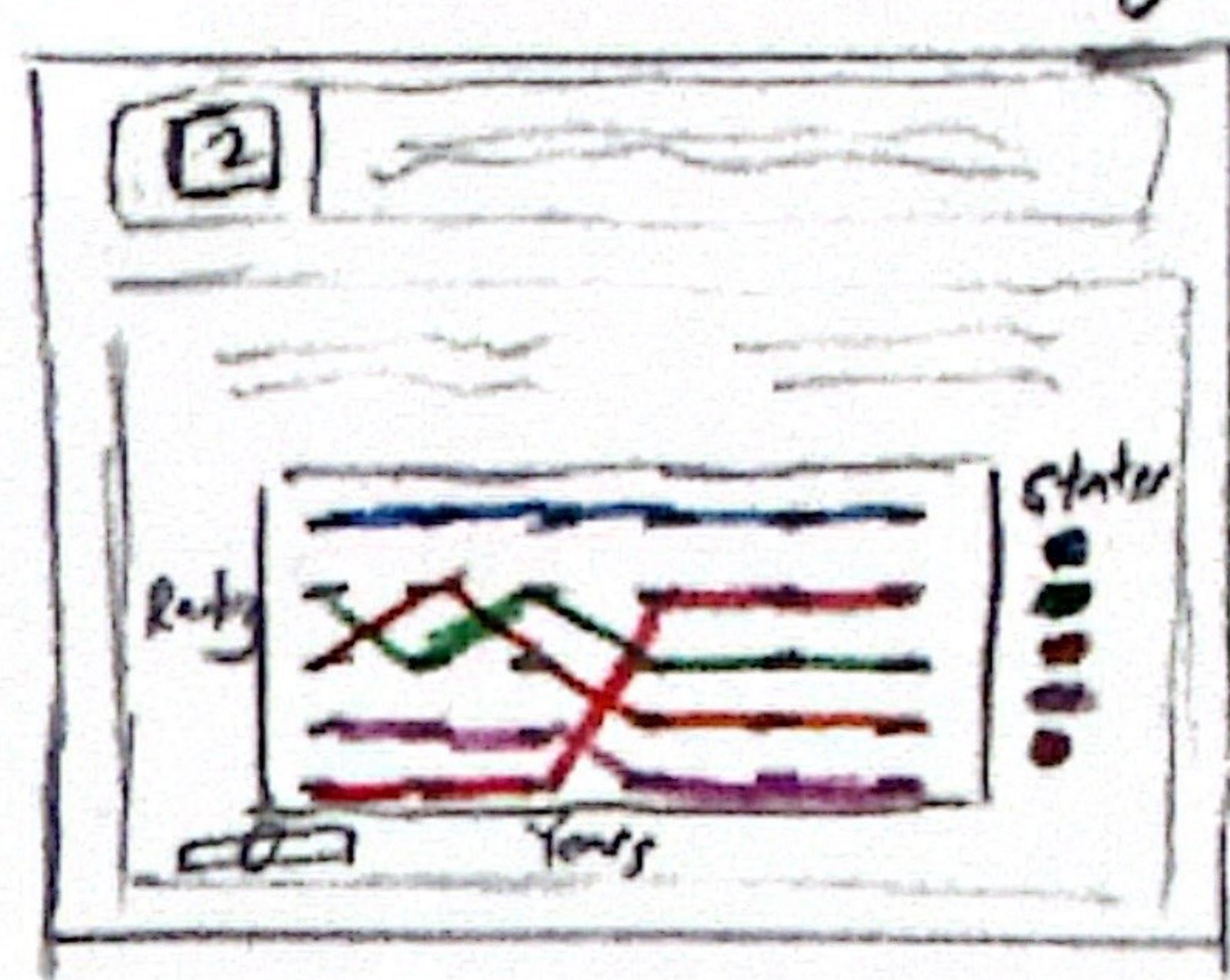
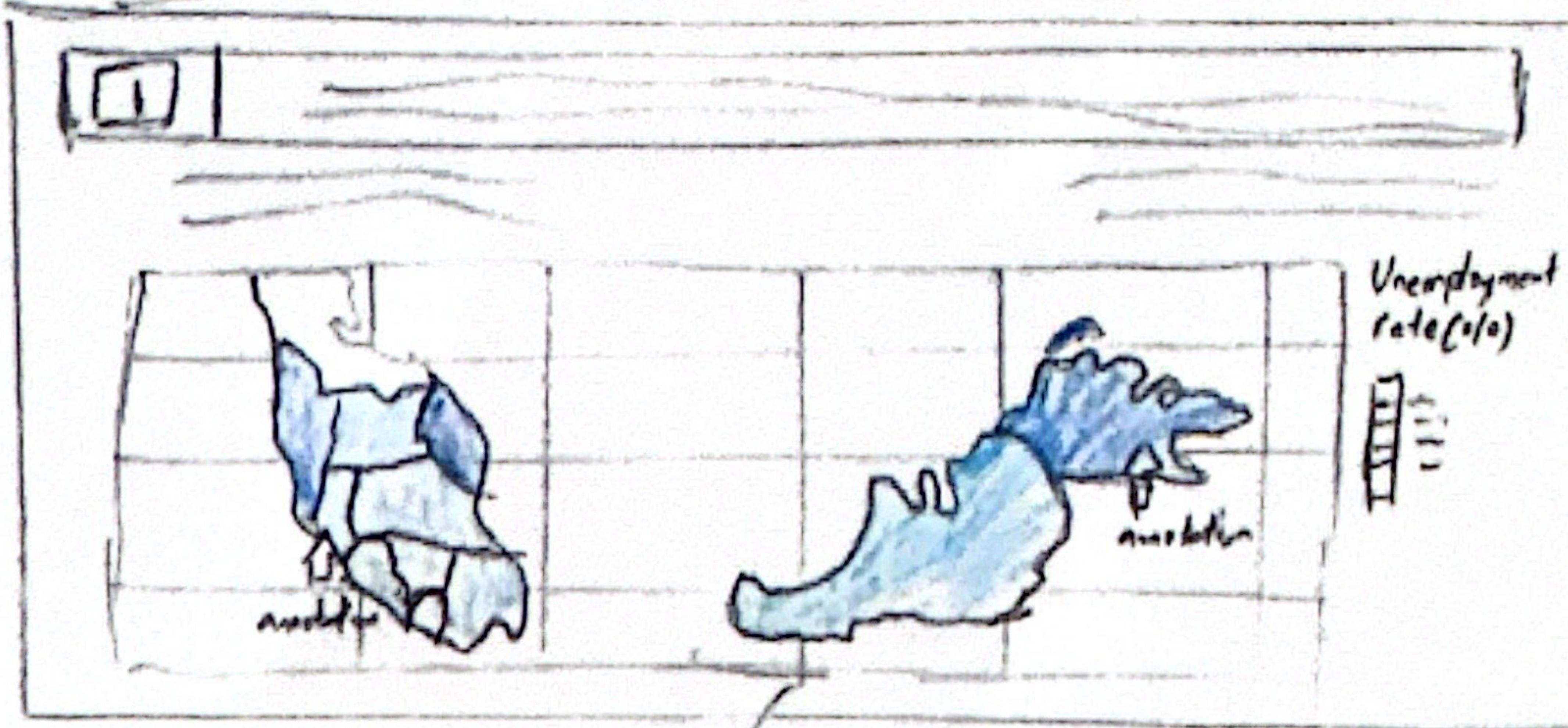
→ Cognitive load is not overwhelmed.

* Disadvantages:

→ User cannot view other graphs at the same time.

→ Sometimes the graph and charts will be truncated.

AYOUT



Title : Final Design Sheet

Author : Tan Jia Koen

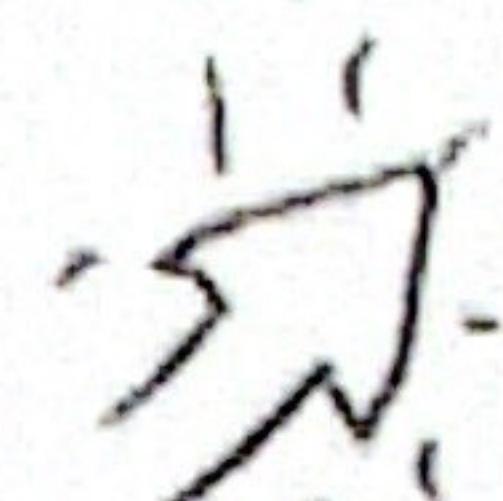
Date : 13/11/2024

Sheet : 5

Task : Design the final layout

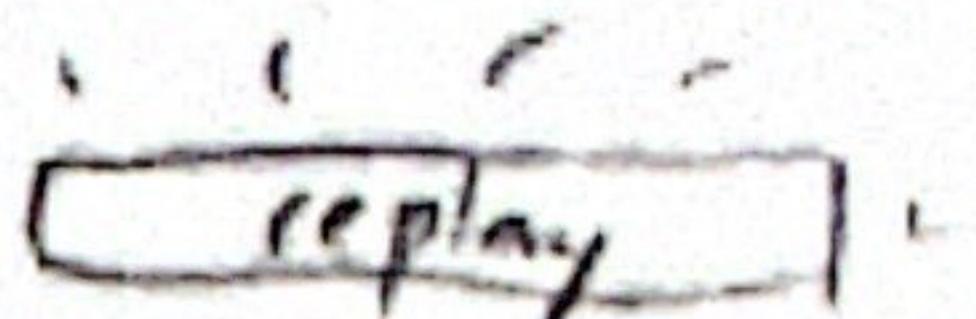
OPERATION

① Tooltips



Tooltip
<state>
<Year>
<GDP>

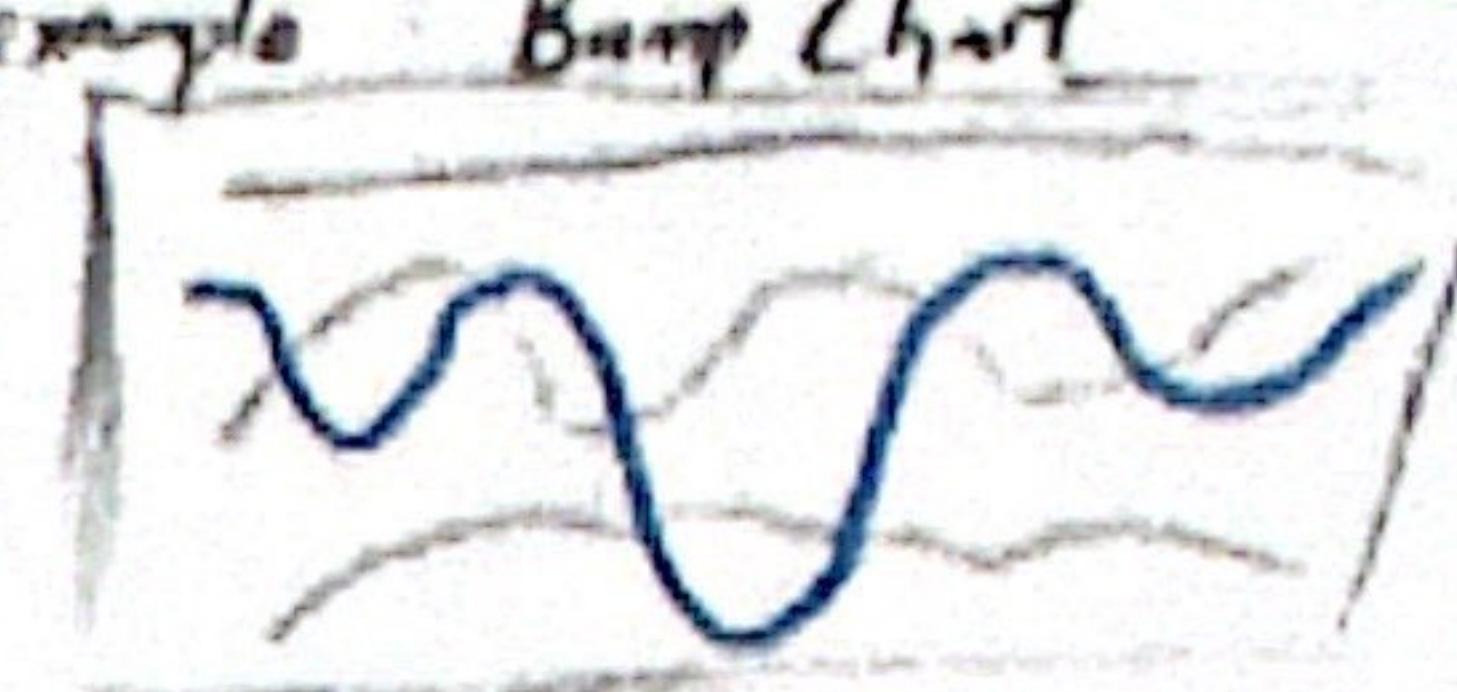
② Animation Replay



③ Legend Selection



For example : Bump Chart



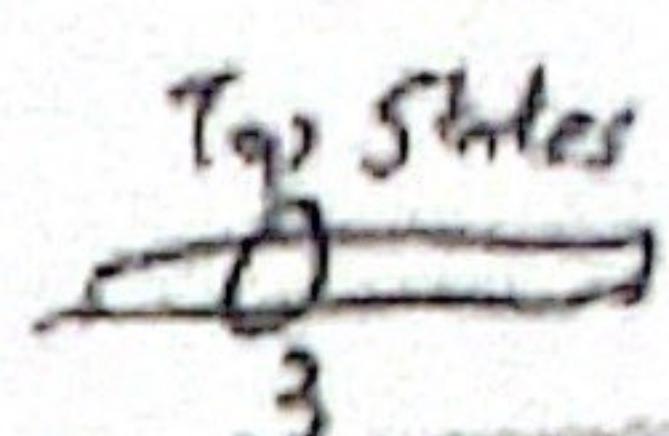
emphasize
on selected
state

④ Selected Component Desaturation



Colour
Desaturation

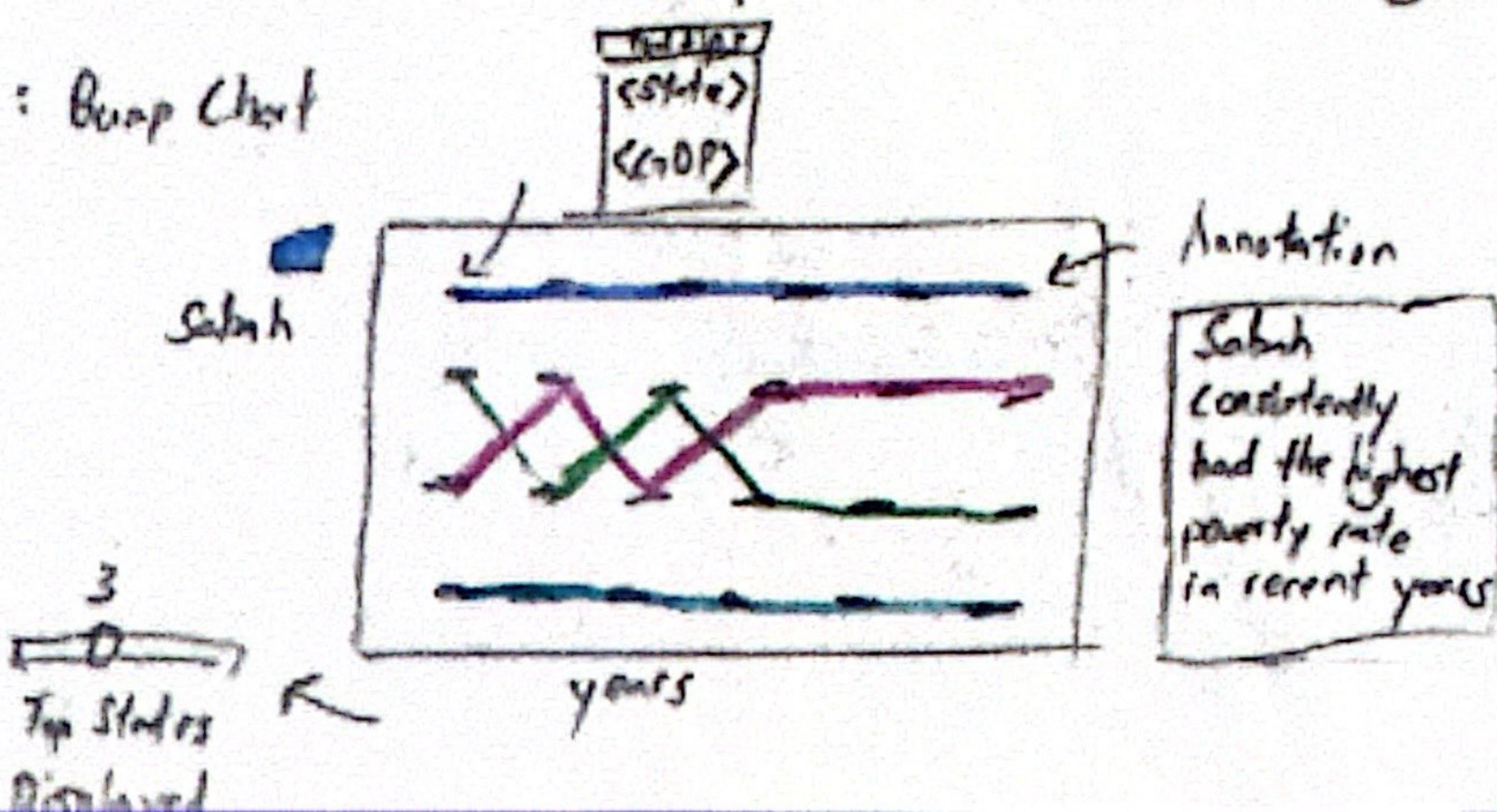
⑤ Selection Slider



Top States Displayed
3

FOCUS

- All the charts are equivalently playing a main role on the story telling.
- Take more efforts on graphs explanation and data insight
- For Example: Bump Chart



The will
show only
Top 3 states
throughout the
years

DETAILS

- Dependencies : Supported Browser versions and R studios for data cleaning and merging.
- Estimated Time & Effort : at least one whole week of considering 1 whole day to find desired dataset, 5 days to design wanted editions, 1 whole day for five final design sheet
 - ↳ Sunburst and Connected Scatterplot use other libraries to plot.
- Specific Requirements : Larger screen size can prevent from truncated dashboard view. Stable WI-FI connection