Monash University: Assessment Cover Sheet

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School/Campus	SOIT		**Student's I.D. number**	30695759
Unit name	FIT3179 Data visualisation - S2 2021			
Lecturer's name	Ting Chai Wen		**Tutor's name**	Ting Chai Wen
Assignment name	Data Visualisation II Report		**Group Assignment: No** **Note, each student must attach a coversheet**	
Lab/Tute Class: 03		**Lab/Tute Time:** 3pm - 5pm	**Word Count:** 754	
Due date: 18-10-2021		**Submit Date:** 18-10-2021	**Extension granted** ☐	

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Student Statement:

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- I have taken proper care to safeguard this work and made all reasonable efforts to ensure it could not be copied.

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Date: ...18-10-2021...... Signature:...*Tan Sook Mun*............... *

FIT3179 Assignment 2
Tan Sook Mun

URL

https://sookmun.github.io/FIT3179_Assignment2/

Domain

World Happiness Report

Why

To show the happiness score of each country and the analysing the factors contributing to a good outlook in life. To compare different countries happiness scores and how they fare overall.

Who

This visualisation is created for everyone and anyone interested in knowing the global happiness score.

What

The data is taken from different sources in Kaggle and merge into a single JSON file. This website (The World Happiness Report, 2021).contains the data of the world happiness report from the year 2015 to 2020. This website (World Happiness Report up to 2020, 2020) however contains the data for the year 2021

Visualisation

The layout of the visualisation is to make as few sightlines as possible. I used pure grid lines in HTML to ensure all my visualisation is aligned properly. The page is also very wide. This is

to ensure there are as minimal white spaces as possible. In the section explaining the factors, the text is justified and added padding to ensure the text is clean and does not overlap. To read the visualisation, it is clear the reader has to read from top to bottom and left to right. The typeface used is simple and easy to read. I only used two different typefaces one for headers and another for normal text. The main header (title) of the report has the largest font while the subheading has a smaller font. The normal text has the smallest font and a simple typeface. Doing this will show a clear visual hierarchy. The storytelling of the entire visualisation is first showing the happiness score of each country then exploring the factors contributing to it.

Map

The map(mark) is to show each geographical location happiness score. I used the colour gradient (channel) of red to green to indicate the happiness score of low to high. The reason for it is because it is intuitive that green means good and red means bad. I also colour locations that do not have data into the colour grey. This is to emphasize the figure-ground.
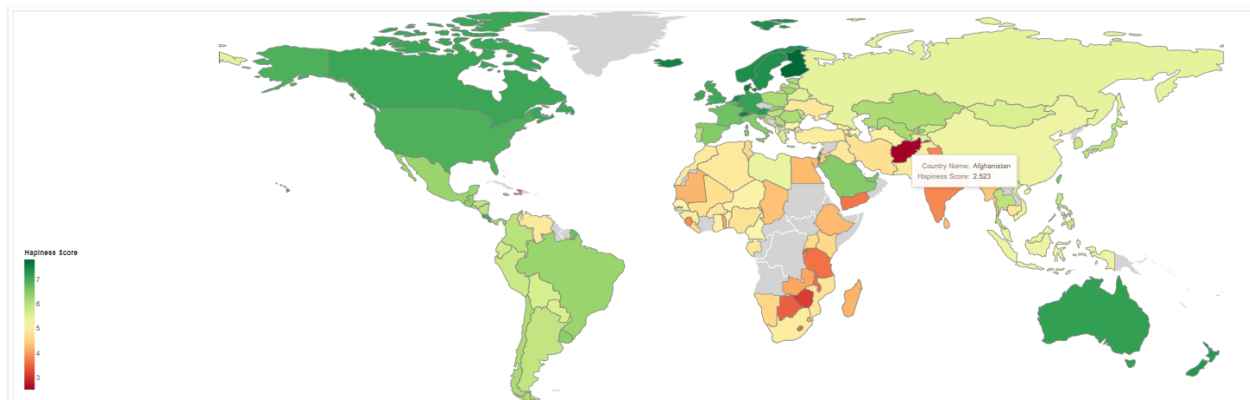

Figure 1: Tooltip of map visualisation

Line charts

There are 2 different line (mark)charts. This first is to compare the generosity of the year 2015 and 2021, This is to indicate how much the value had a change in years. It also shows the gap or length of the differences. The wrapped trellis line chart indicates the value of freedom throughout the years. The reason for choosing the countries is because I want to illustrate how countries with a contrasting happiness score fare on a specific value. It also shows the growth or regression of a country freedom score throughout the years. A Colour hue(channel) is used to indicated different countries. In the tooltips, all values are formatted to 3 decimal places for readability.
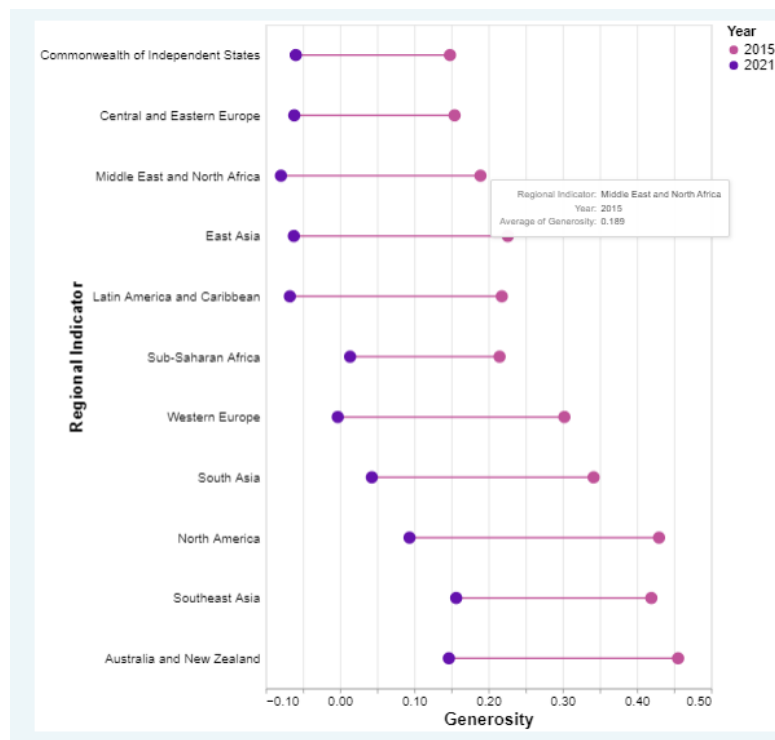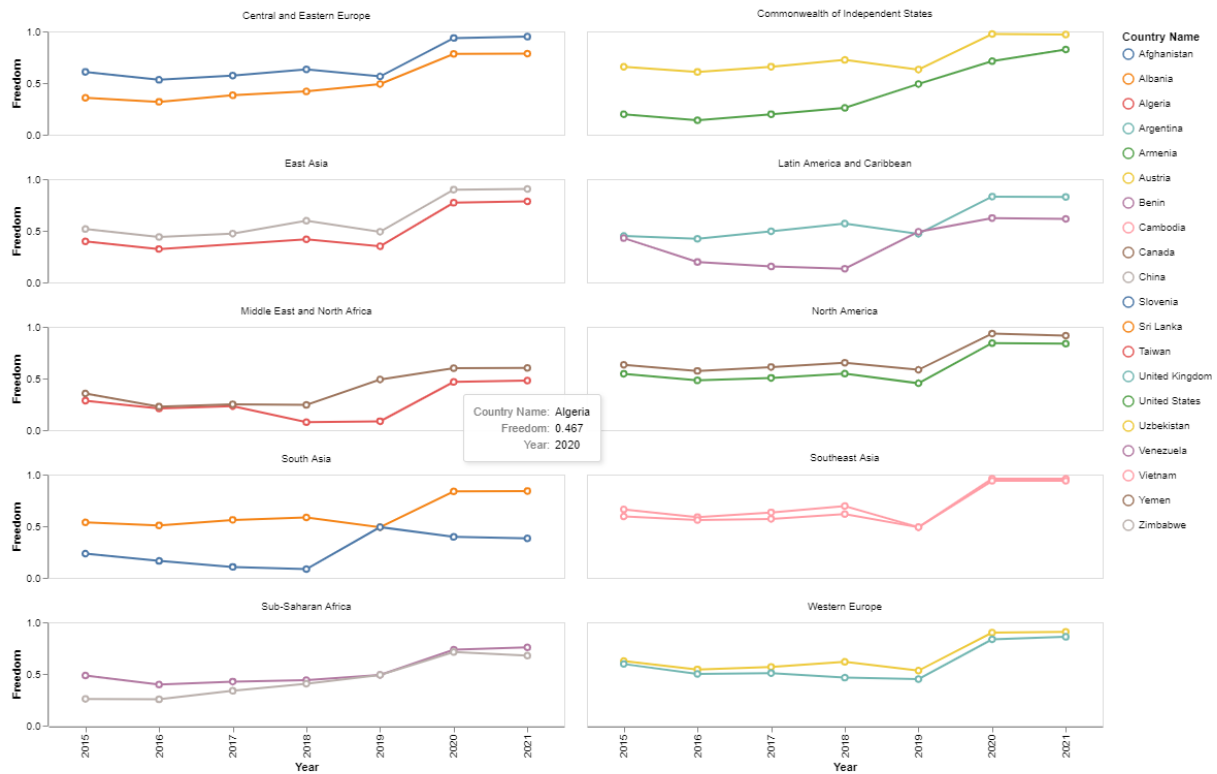

Figure 3: Line Chart Tooltip

Figure 4: Line Chart 2 Tooltip

Scatter Plot

There is 2 scatter plot. I had to plot different factors against the happiness score and healthy life expectancy and corruption shows the most obvious positive correlation. I chose this scatter plot because it also shows the GDP per capita of the country through the size(channel) of the point (mark), It is able to covey 3 different attributes to users. Users are able to click on the legend to highlight different regions. Ther is also a slider to filter out the minimum value of GDP. A selection bar is also able to select region user wants to see
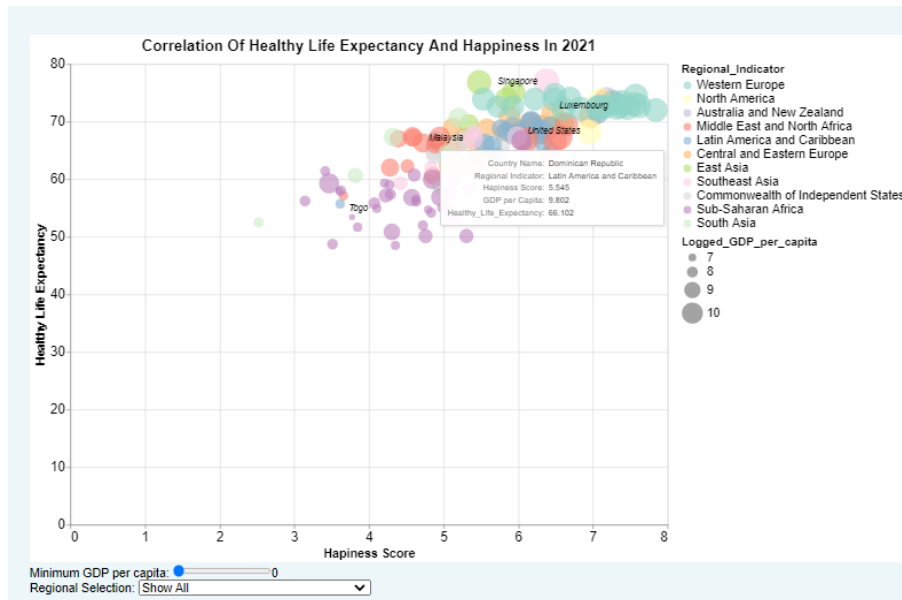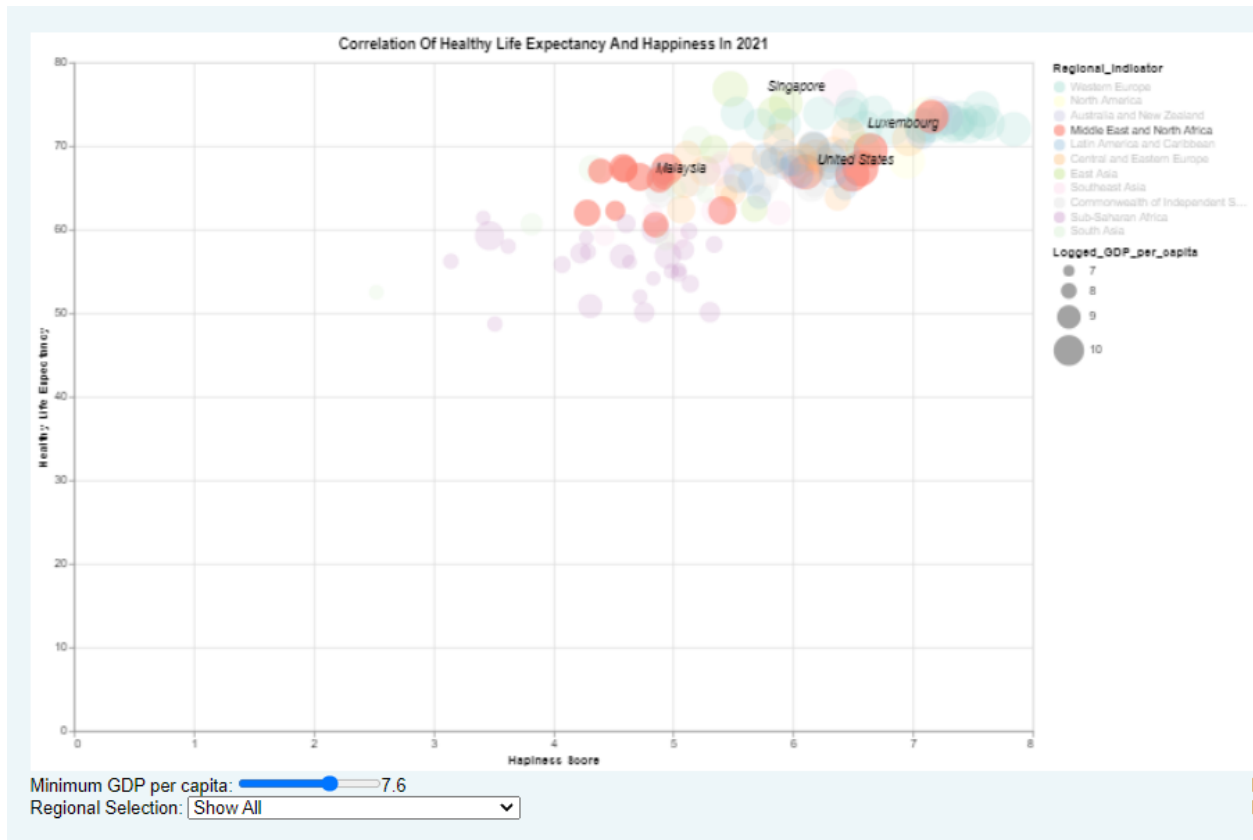
Figure 5: Scatterplot tooltip

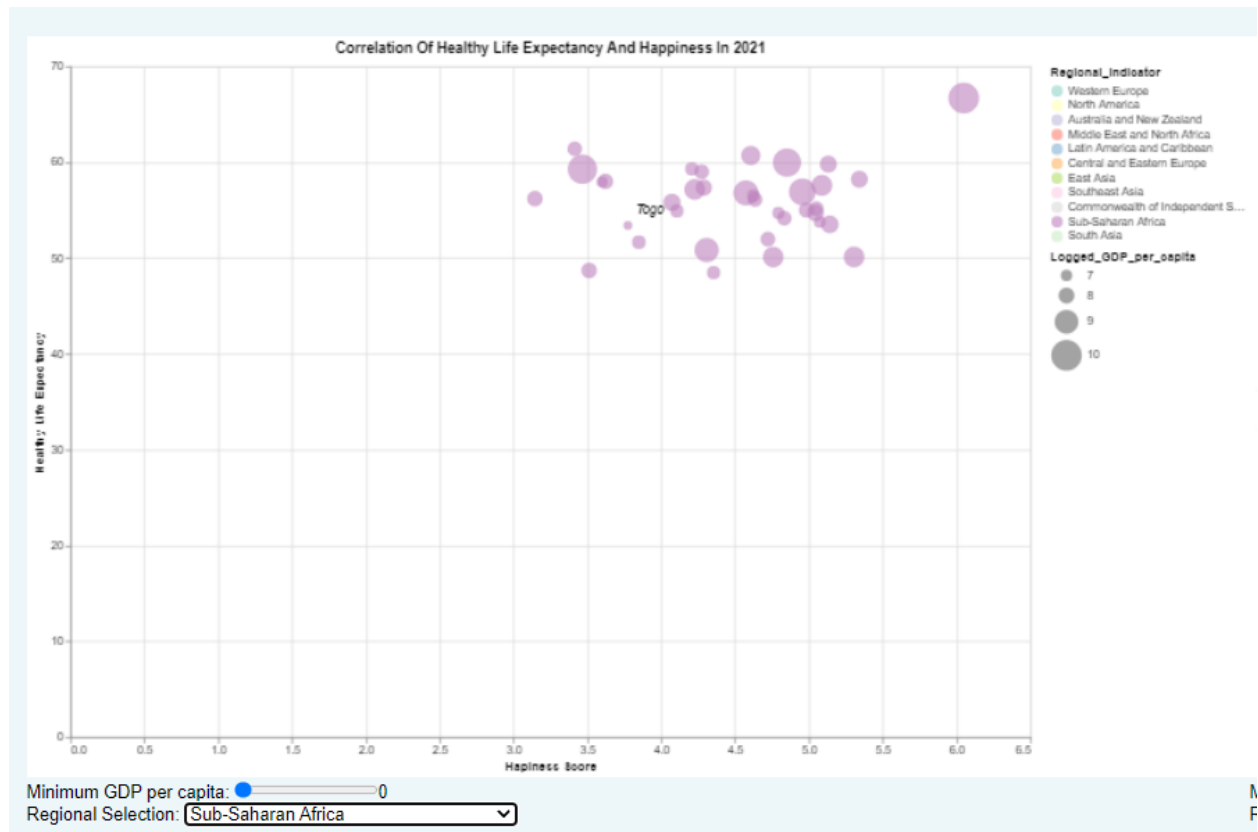Figure 6: Scatter plot filtering slider and legend highlighter

Figure 7: Filter chart with a selection box

Bar Chart

This bar chart shows each country social support score. There is a red dashed line indicating the global average social score. The countries that are highlighted are countries that have social support score that is below the global average. This also plays into the figure-ground of the visualisation. I had used the same colours (channels) to indicate different regions throughout the visualisation. For example, the colour representing Southeast Asia is always represented in pink. There is a slider for interactivity where users can filter out the year. As the user choose the year, the red line will also change according to the year global average of social support. The reader can see which countries manage to improve or regress in social support later years.
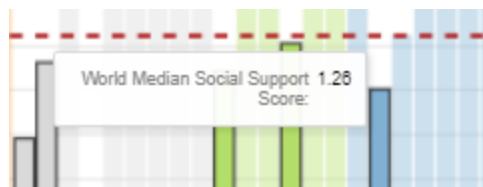
Figure 8: Barchart Tooltip
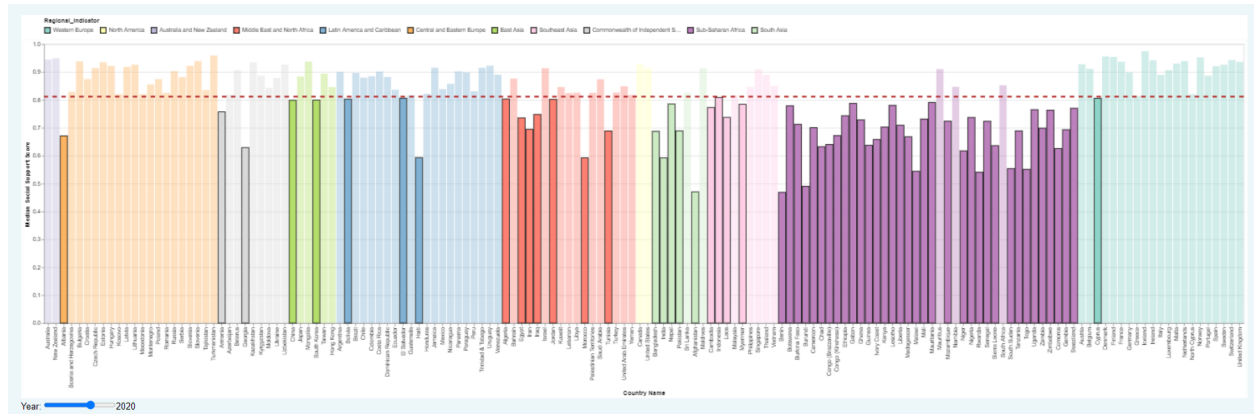

Figure 9: Average line tooltip

Figure 10: Filtering years with Slider

Entire Visualisation
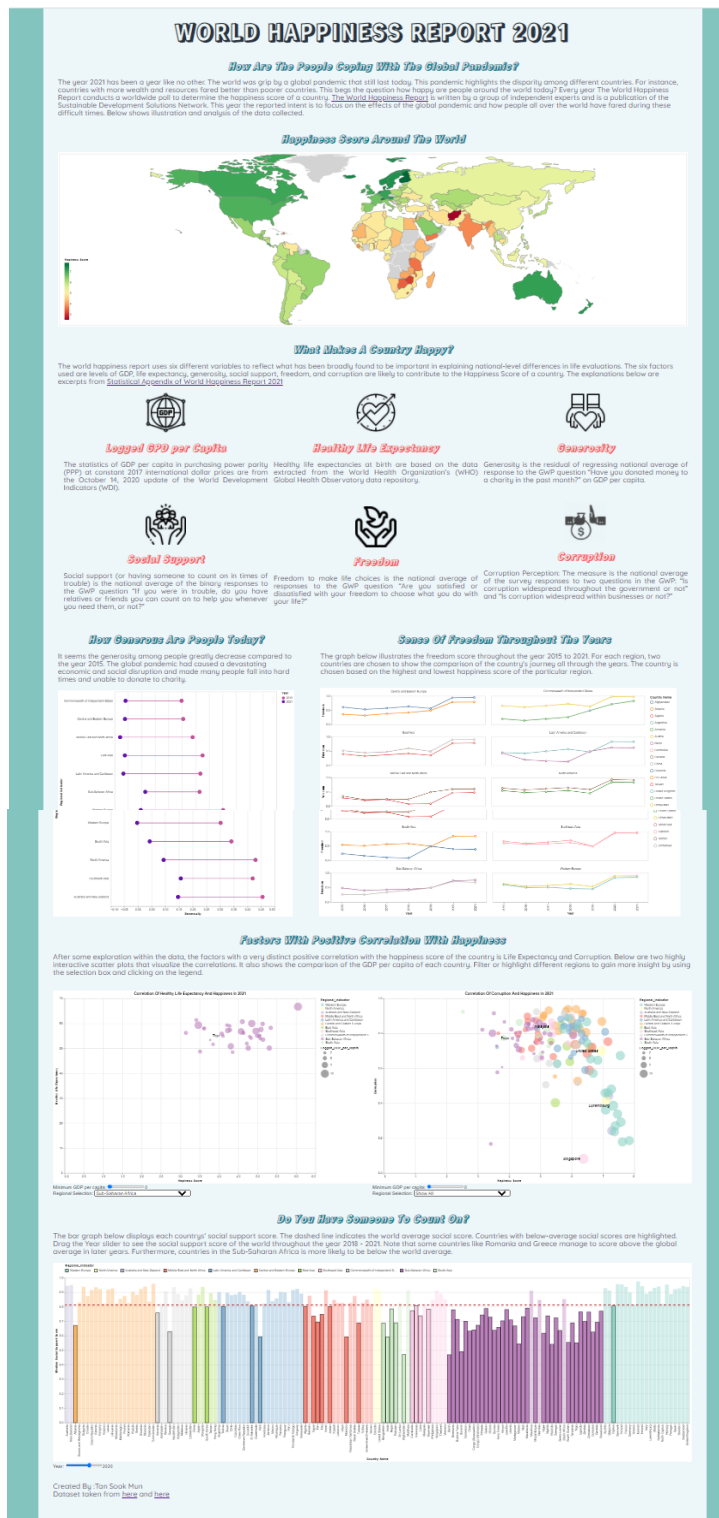
Figure 11: Picture of entire visualisation

Bibliography

The world Happiness Report. (2021). Kaggle.

https://www.kaggle.com/ajaypalsinghlo/world-happiness-report-2021

World Happiness Report up to 2020. (2020). Kaggle.

https://www.kaggle.com/mathurinache/world-happiness-report

World Happiness' Report. (2021).

World Happiness Report. https://worldhappiness.report/

J.F.H.H.H.S.W.M.N. (2021, March 18). *Statistical Appendix 1 for Chapter 2 of World Happiness Report 2021.*

Statistical Appendix 1 for Chapter 2 of World Happiness Report 2021.

https://happiness-report.s3.amazonaws.com/2021/Appendix1WHR2021C2.pdf

5DS

IDEAS

map visualisation
→ hapiness score → GDP Score → life expectancy
im interactivity can be year slider, min/max slider, region filter
region highlighter

Scatter plot
different size
gdp / corruption
gdp / hapiness
gdp / lif expectancy
freedom / hapiness
social support / life expectancy
generosity / hapiness
social support / generosity

Stack bar chart
← generosity dystopia freedom
← corruption social support generosity freedom

Filter
map visualisation ↗ GDP or hapiness score
scatter plot ↗ gdp/corruption or generosity/hapiness or gdp/hapiness
stack bar chart → corruption social support generosity freedom } showing the comparison between all factors

Combine + refine
combine scatter plot
gdp / hapiness + gdp / generosity
combine stack bar chart + scatter plot

CATEGORIZE
map visualisation
↓
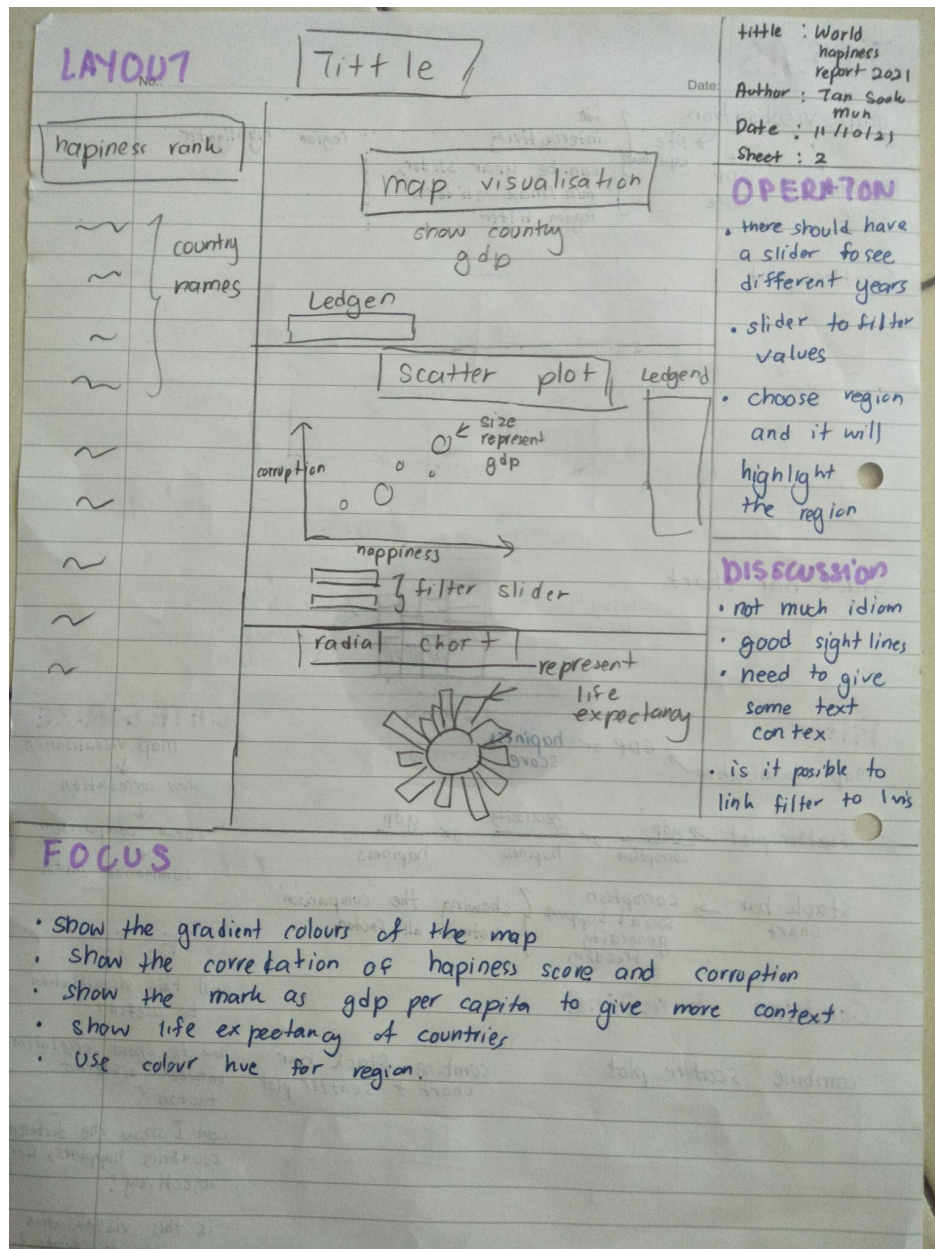show correlation
↓
show comparison
↓
summarize data

QUESTIONS
will this visualisation be usefull?
how to show correlation between different factors?
can I show the different countries happiness score objectively?
is this visualisation possible to create?

LAYOUT No.: ___ | Tittle | Date: ___

| hapiness rank |

~ ⎫
~ ⎬ country
~ ⎪ names
~ ⎭
~
~
~
~
~
~

| map. visualisation |

show county
gdp

Ledgen

| Scatter plot | Ledgend

size
represent
gᵈᵖ

corruption

happiness →

filter slider

| radial chort |
represent
life
expectancy

score

OPERATON

· there should have
a slider fo see
different years

· slider to filter
values

· choose region
and it will
highlight
the region

DISSCUSSION

· not much idiom
· good sight lines
· need to give
some text
contex

· is it possible to
link filter to lvis

FOCUS

· show the gradient colours of the map
· show the corretation of hapiness score and corruption
· show the mark as gdp per capita to give more context
· show life expectancy of countries
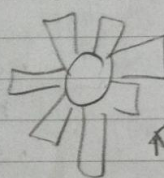· use colour hue for region.

LAYOUT

No.:

		Happiness Rank	

Tittle → give context of dataset to user

Subtittle

Tittle : World Happiness Report

Author : Tan Sook Mun

Date : 11/10/21

Sheet : 3

map visualisation

show country hapiness score

Happiness Rank	
1	~
2	~
3	~
4	~
.	~
.	~
.	~

Fun fact on country

Radial Chart

← life expectancy

Stack bar Chart

show generosity dystopian freedom social support

Simple scatter plot

corruption ↑

. .
. . .
. .

dystopian →

OPERATION

- Slider to filter out region
- selecting continent will highlight all the other region in other visualisation
- able to zoom in and out of the map
- multiple selection for region and country in stack bar chart

DISSCUSSION

- more visualisation compared to sheet 2
- combining simple scatter plot and stack bar chart may be too messy
- not sure if able to create bar chart

FOCUS

- show the comparison of other factors (ie: generosity, social support)
- Show correlation for Corruption and dystopian factor
- map show the hapiness
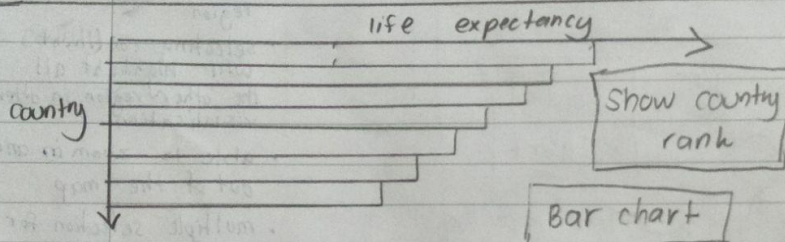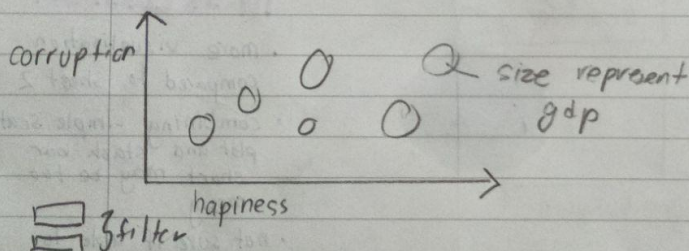- show the life expectancy of each country

LAYOUT

Tittle

Tittle : World Hapiness
report

Author : Tan Sook Mun

Date : 11/10/2021

Sheet : 4

Data set Explanation

map visualisation

Show county
hapiness

Ledgen

life expectancy

country

Show country rank

Bar chart

Complex scatter plot

Ledgend

corruption

size represent
gdp

hapiness

filter

Check box

☐ genrosty
☐ freedom
☐
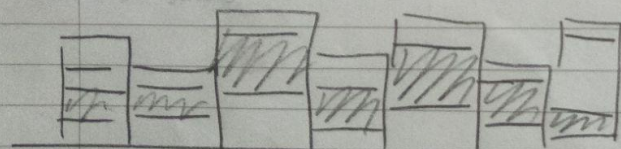
Stack Bar chart

Show other
factors

OPERATION

- Clicking on the ledgen highlite the region
- all visualisation have tooltip
- able to filter the region
- able to filter factors for stack bar chart

DISCUSSION

- is there enough annotations
- is the data vis usefull
- sightliness looks good
- is the filter posible to add in to the visualisation

FOCUS

- The focus is the same as previous sheets
- This sheet goes deaper into corellation of gdp and hapiness and corruption
- life expectancy is in a bar chart that is ordered

Tittle

Brief context

Hapiness Rank

Map Visualisation

show dystopia

Ledger

life expectancy →

country

slider for year

avg life expectancy

selection box

county gdp by year

complex scatter plot

avg hopiness

Ledgen

social support

hapiness

OPERATION
- able to filter out by year
- able to filter out region
- able to highlight region
- interesting tool tip for all visualisation

DISCUSSION
- added new idiom
- show more anotation in visualisation
- focus more on county gdp
- using more dataset by adding different year.

FOCUS
- added more anotations
- use and area chart
- data can be filter out by year
- show the dystopian rate of country