

Data Visualization II

FIT3179

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URL :

https://voshana8.github.io/Assignment2_DV/

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Design Domain

“World Happiness”

This visualization focuses on analyzing the world happiness index and what factors affect a country's happiness score.

Why

This visualization aims to shed some light on a factor overlooked by many which is the world happiness index. Through a series of charts and maps I aim to visualize world happiness index of different countries as well as all show the relationship between a countries ladder score and GDP, Life expectancy and analyze the suicide rates over the years.

Who

This visualization can provide useful information to anyone who is interested in this topic. Any age group with any level of knowledge would find this visualization useful.

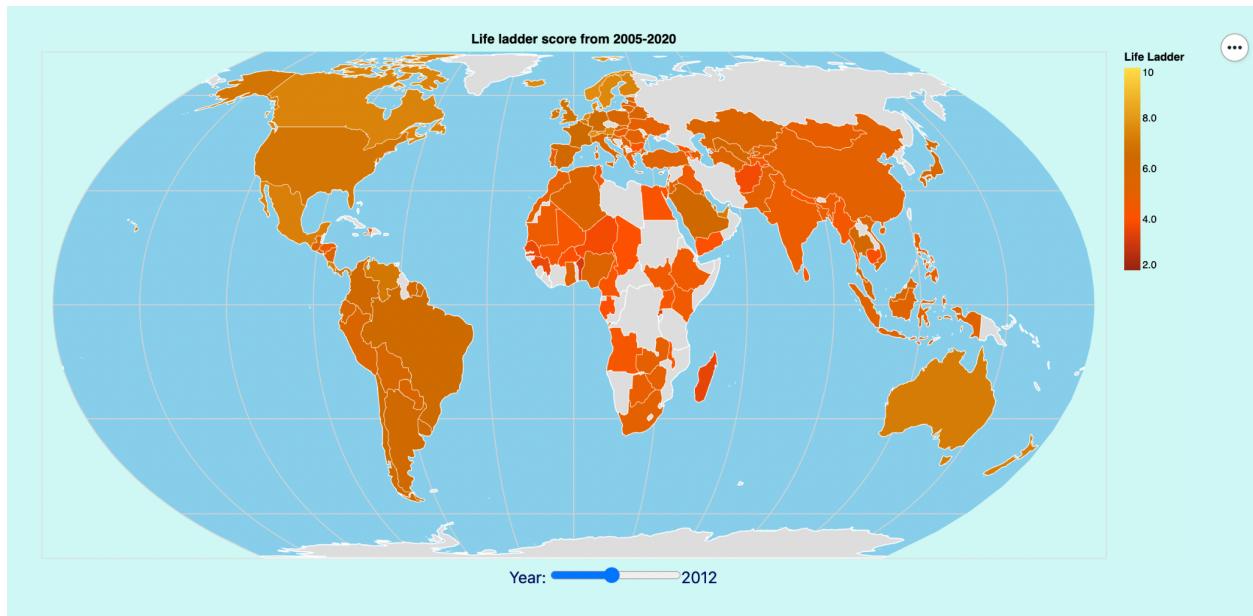
What

The datasets which have been used for this visualization have been taken from Kaggle as well as other websites such as ourworldindata.com. All of the datasets were downloaded in the form of CSV files and using python the data was filtered down to the required needs.

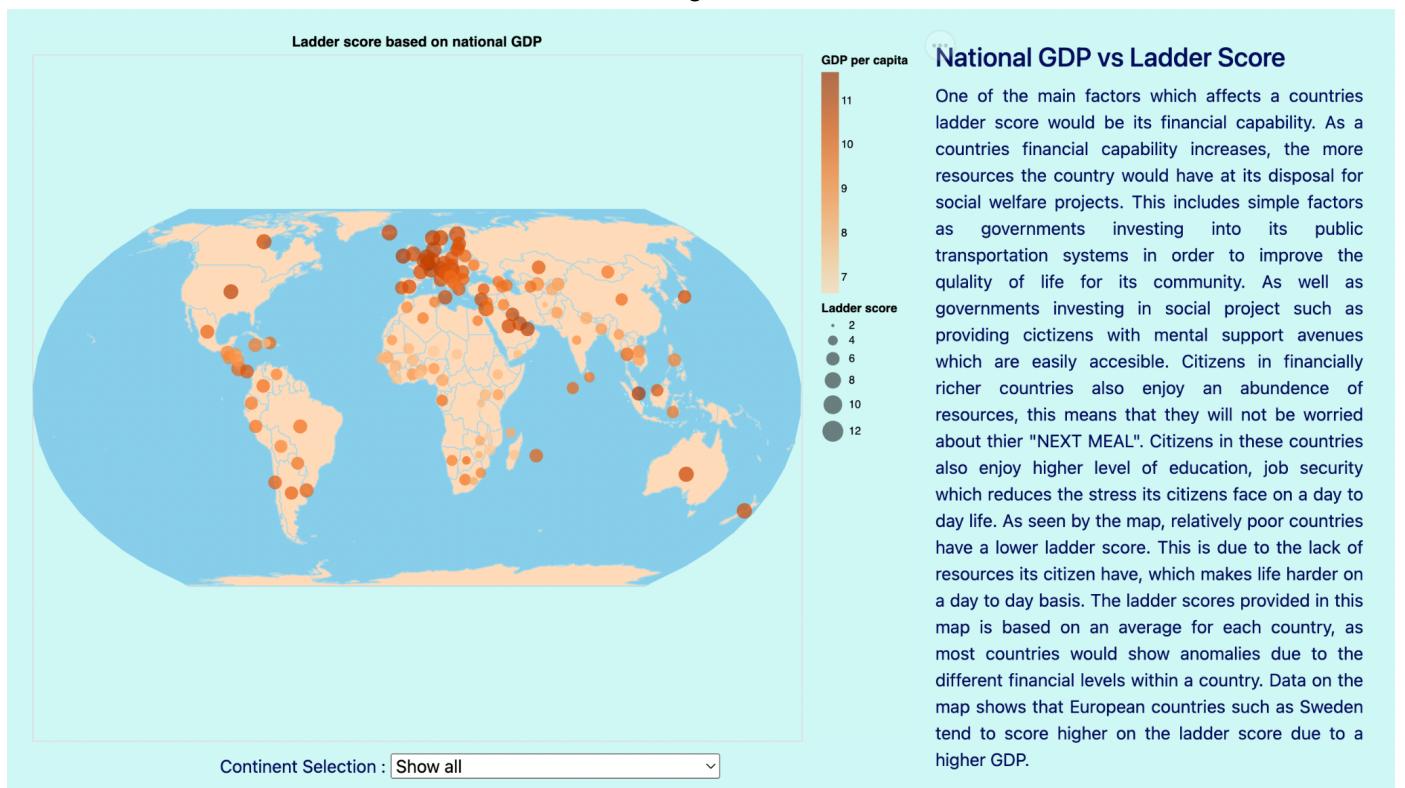
How

In order to make this visualization appealing, I have used idioms such as choropleth maps, proportional symbol maps, bubble charts and line charts. Interactivity in the form of drop down menus and sliders have been used where necessary.

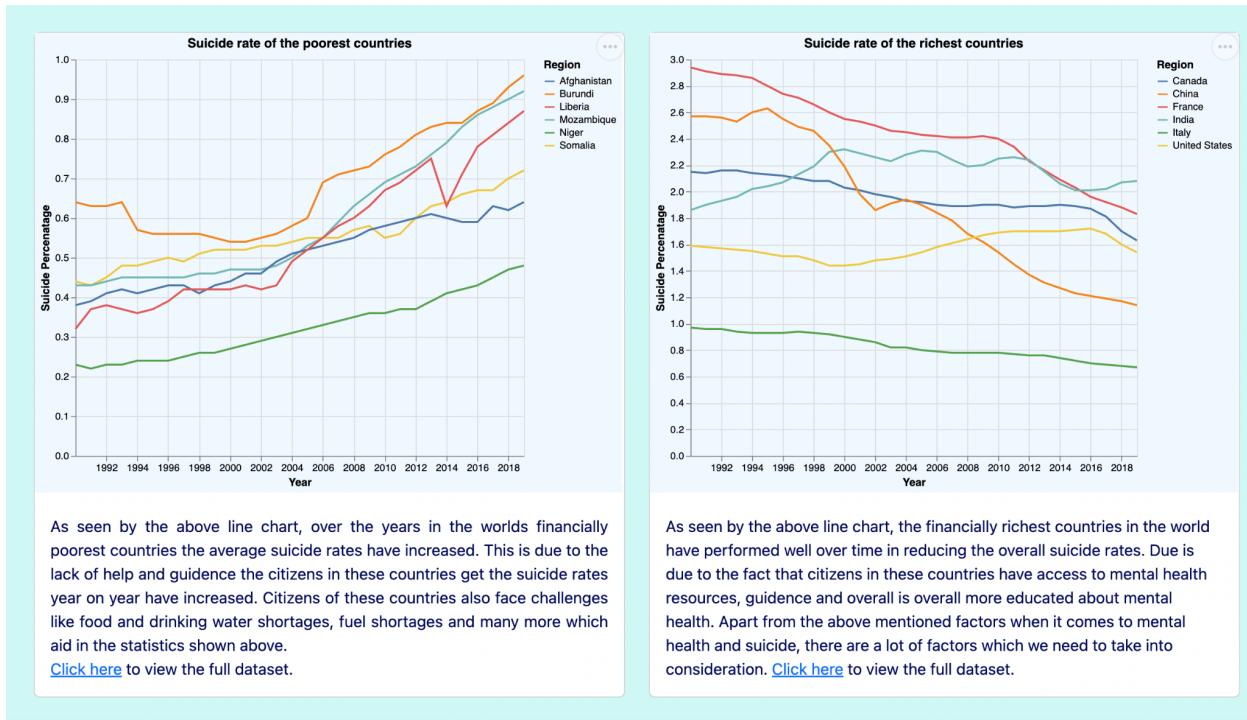
The first idiom which has been used (Visual center) is a choropleth map which shows the ladder score for different countries over the years. A slider has been added to see the changes to the ladder score over the years.



The second idiom which has been used is a proportional symbol map, which focuses on showing the relationship between a country's GDP and its ladder score. A dropdown menu has been added in order to filter the data based on the region.



The third idiom is two line charts which show the suicide rates in rich countries as well as poor countries. The two charts have been placed side by side in order to see the correlation between the two.



The final idiom is a bubble chart which shows the relationship between ladder score and life expectancy, this chart can also be filtered based on the region.

Design

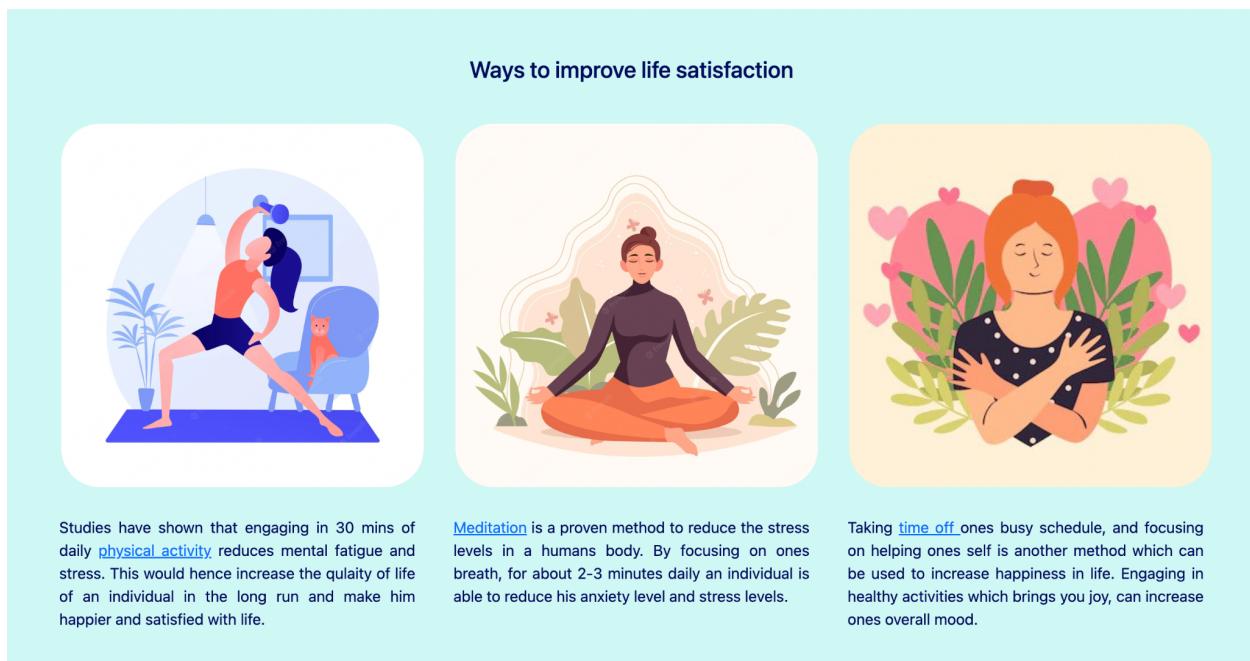
Layout

I have used a symmetric layout with clear sight lines. Card-like structures have been used to display the line charts with text descriptions right below it. The texts and charts have been placed in compartments to achieve a neat minimalist layout

Figure-ground

Images have been used in order to deliver the continents of the visualization easier. Figures were carefully selected based on the story it needs to share on the visualization.

As seen below, just by looking at the images which have been used one can tell what information is provided for each section.



Typography

By using different font weights and different font tags visual hierarchy has been shown. The main title is displayed in a 'Noto Sans', sans-serif font. All of the headings for the different sections have been placed as `<h4>` tags. Fonts of the paragraphs have been given color to assist in making the overall visualization appealing.

Colors

The colors which have been used for this visualization, resembles happiness. Light colors have been used throughout the visualization. A background color has been set to the visualization, while the container has been given a different color. This shows a contrast and attracts the user to the visualization. The maps were given a yellow and orange color theme as yellow resembles happiness and dark orange to resemble dissatisfaction.

Story-telling

In order to aid the visualization colors and graphical elements have been used to share the content, the visualization tries to portray. Tooltips have been added to maps as this makes it easier for the user to retrieve information about a specific location.

The user is able to interact with the visualization by filtering out information using sliders and drop down menus.

Bibliography

Datasets

Life ladder and GDP. Retrieved from www.ourworldindata.com
<https://ourworldindata.org/grapher/gdp-vs-happiness>

Life ladder and life expectancy from www.ourworldindata.com
<https://ourworldindata.org/grapher/life-satisfaction-vs-life-expectancy>

World happiness report from www.kaggle.com
<https://www.kaggle.com/datasets/unssdsn/world-happiness>

World happiness report 2021 from www.kaggle.com
<https://www.kaggle.com/datasets/ajaypalsinghlo/world-happiness-report-2021>

Fitness vector image retrieved from www.freepik.com
<https://www.freepik.com/free-photos-vectors/workout>

Meditation vector image retrieved from www.freepik.com
<https://www.freepik.com/free-photos-vectors/workout>

Self love vector image retrieved from www.freepik.com
<https://www.freepik.com/free-photos-vectors/workout>

Appendix - 5 Design sheets

SC F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12

Ideas.

- ① Data sets used.
 - * Life expectancy vs ladder score.
 - * world happiness index.
 - * GDP vs life ladder.
 - * world suicide rates.
 - * world countries.
- World happiness index.
 - * Entity.
 - * Ladder score
 - * year.
- GDP vs life ladder.
 - * Country.
 - * National GDP.
 - * Ladder score.
 - * Lat
 - * Longitude.

page: 1.
Name: Vaishnavi Nisar
Date: 29/10/2022

world suicide rates.
* Country.
* year.
* Suicide rate.

Filters used.
world maps.
* prop symbol map.
* choropleth map.
bubble chart.
prop-map.
* Based on region.
Choropleth
* Based on year

Catergories.
world happiness index.
GDP vs life ladder
Suicide rates.

Combine & refine.

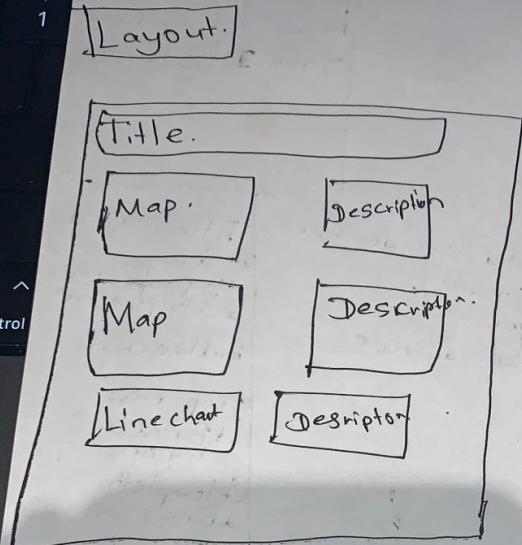
Suicide rates.

GDP vs Life ladder.

Life ladder over years.

dropdown.

year.



Name: vadhana.
page: 2.
Date: 19/10/2022

Operations.

- * will be able to select the regions.
- * will be able to select year.
- * will be able to select on different regions & all maps & charts would change.

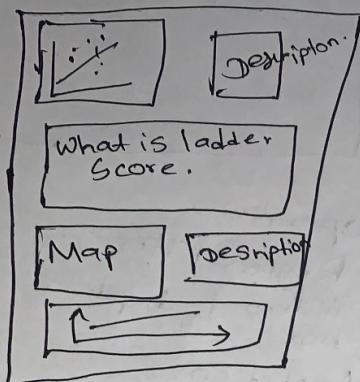
Focus.

- The scatterplot should be able to show different regions.
- To change regions on maps.

Discussions.

The chart discussions should be suitable for data.

Layout.



Name: roshana.
page : 3.
Date: 19/01/2022.

operations

Description should take half a div.

Graphs are interactive.

Focus.

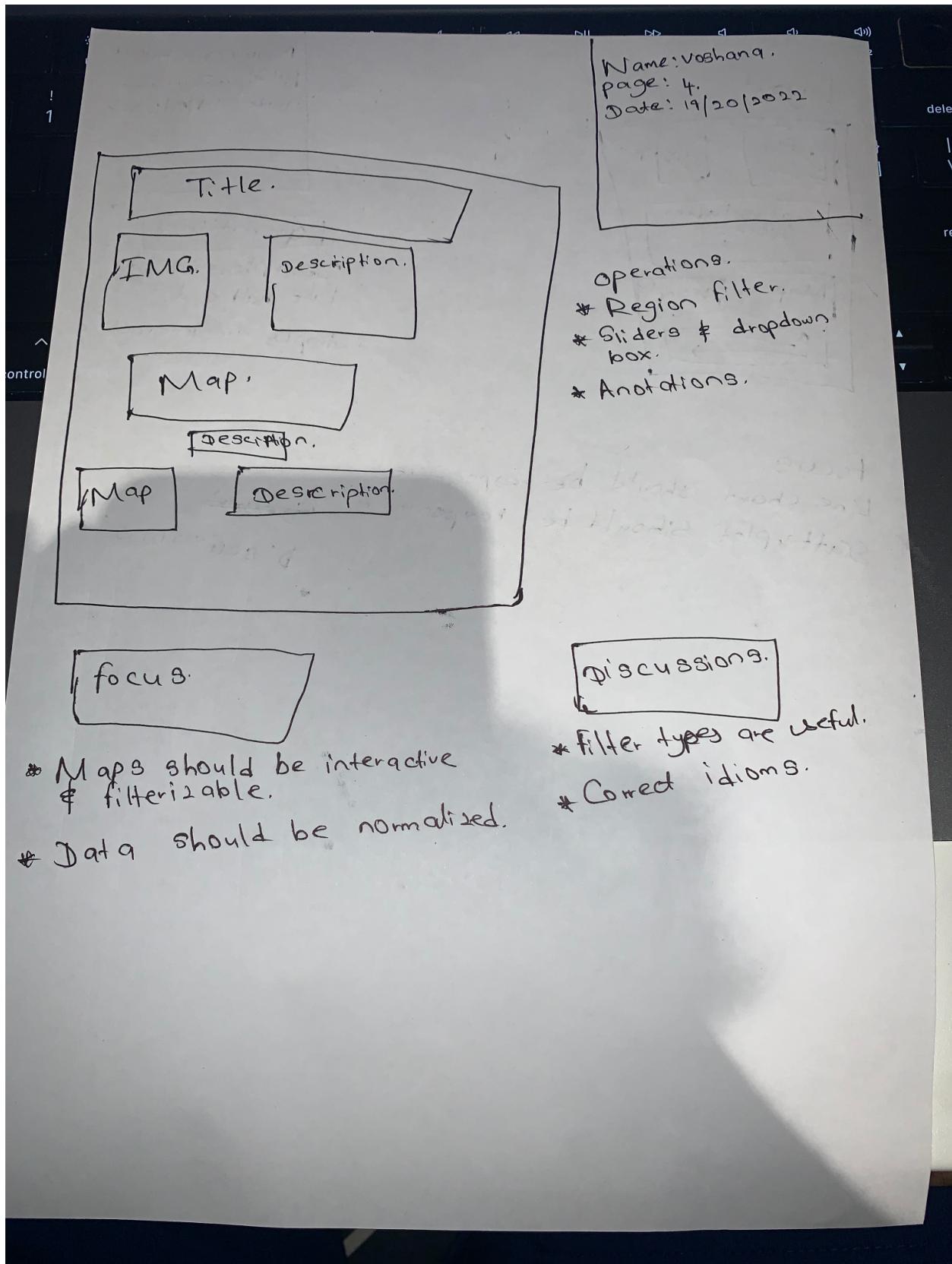
Line chart should be responsive.

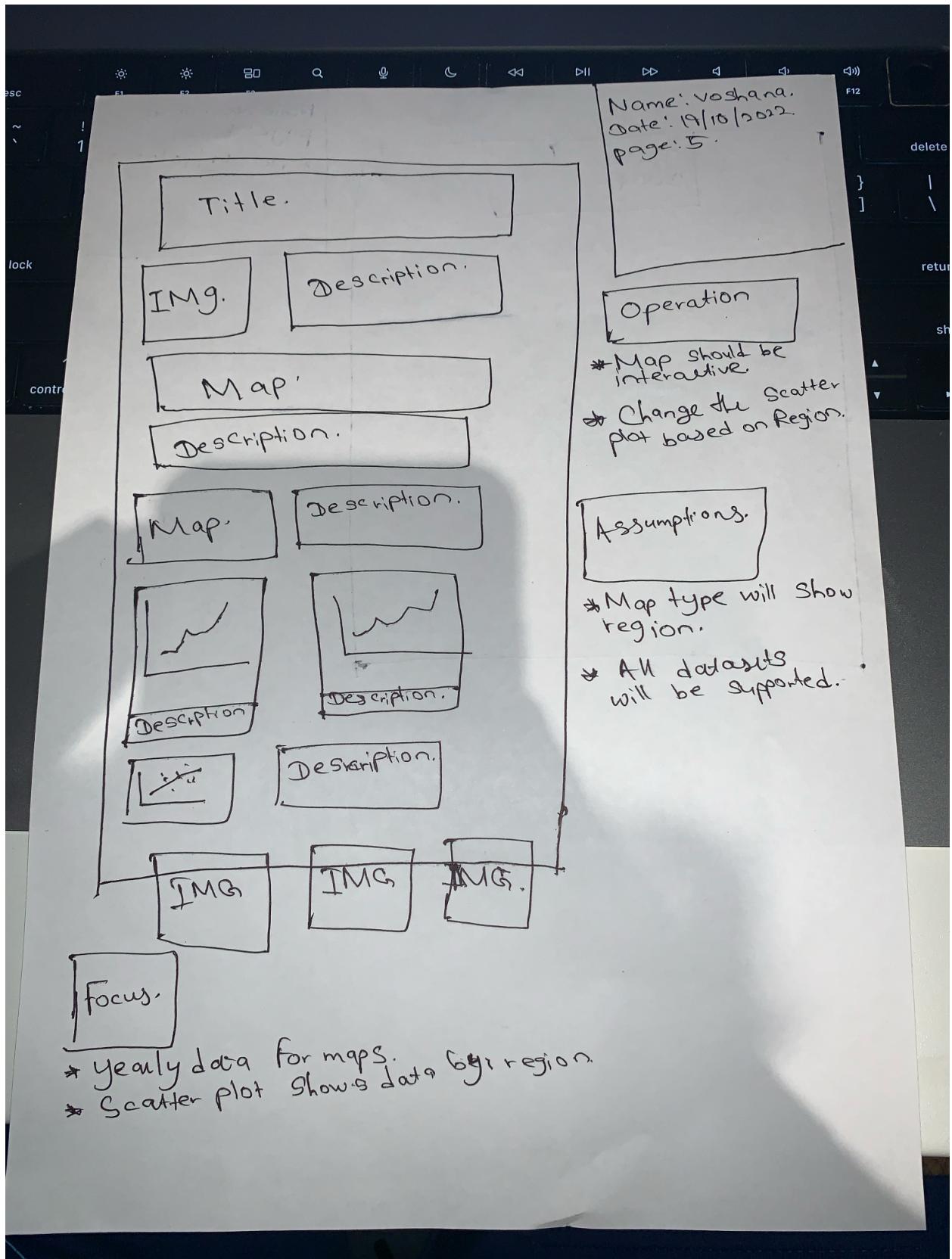
Scatterplot should be responsive.

~~descri~~

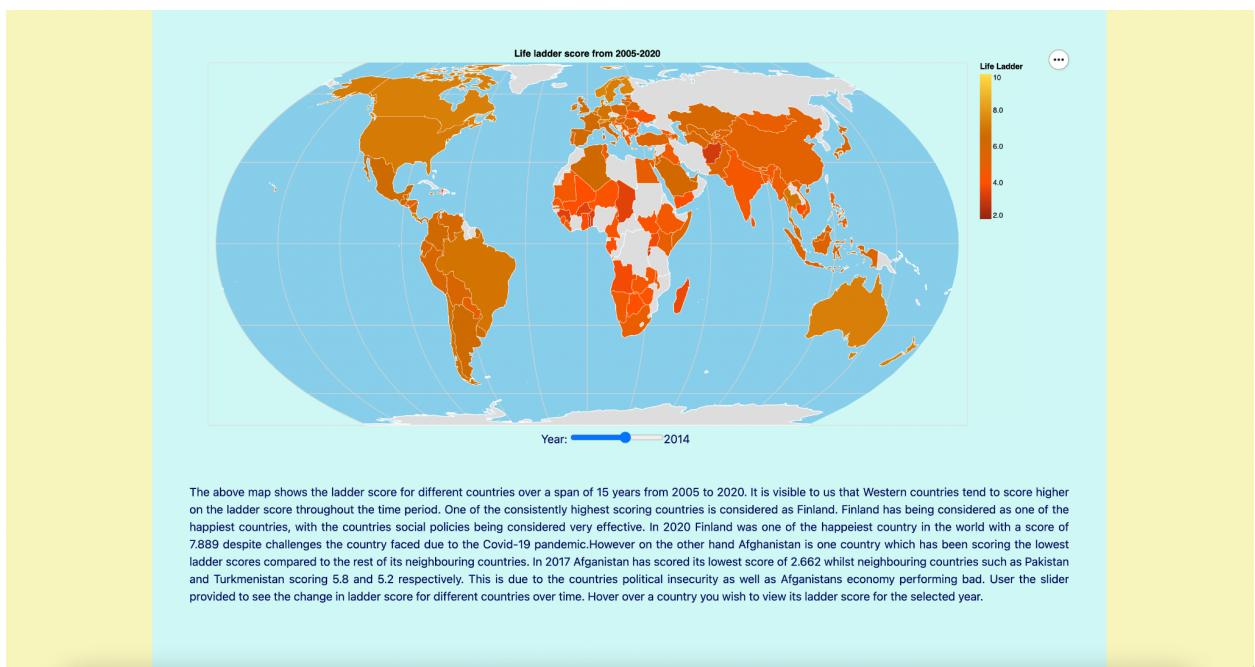
discussions.

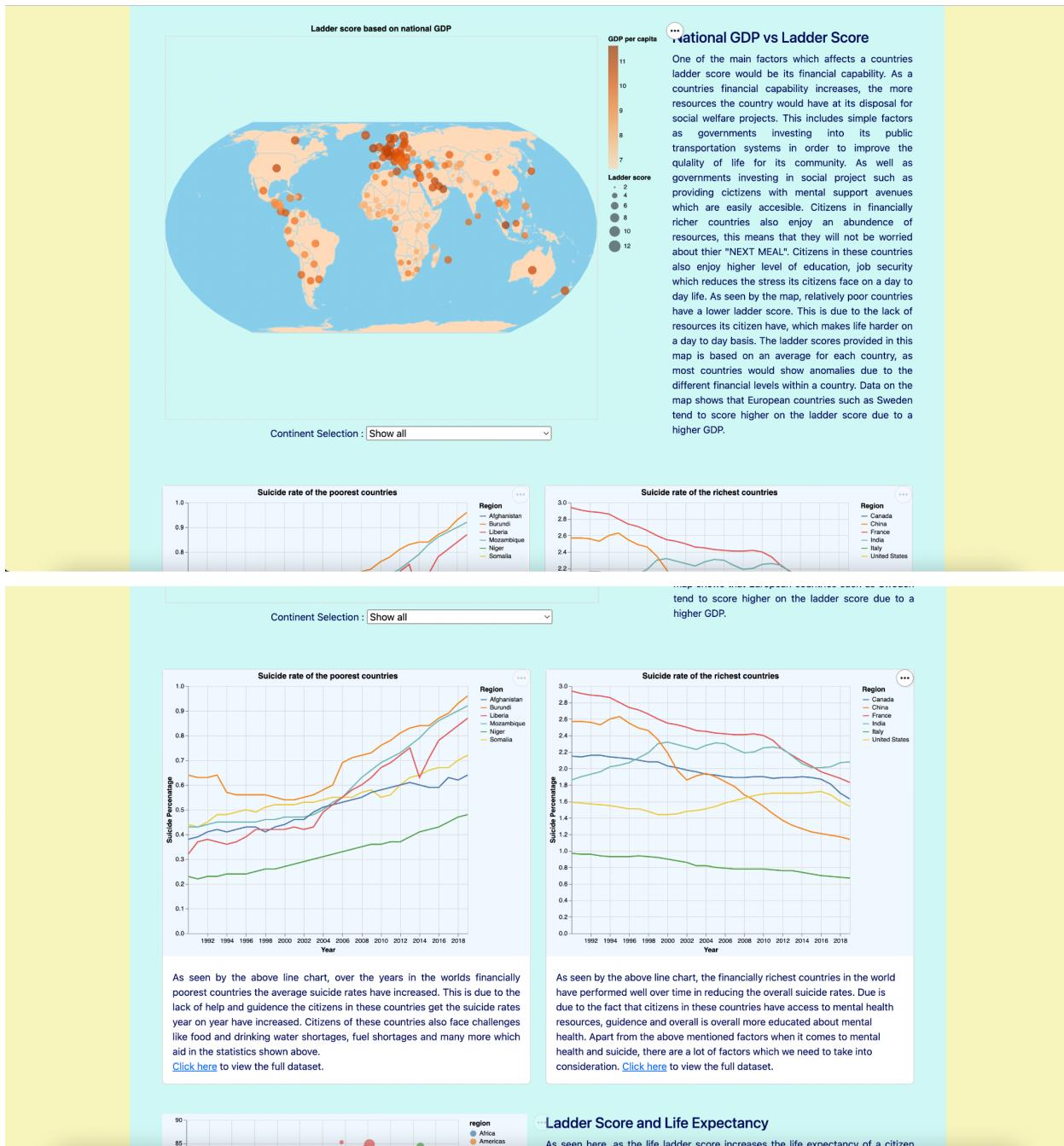
*



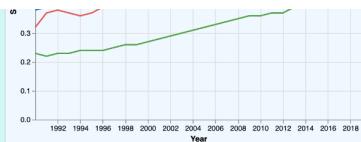


Screenshots of the webpage



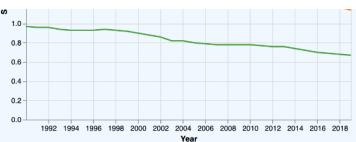


Show side panel



As seen by the above line chart, over the years in the worlds financially poorest countries the average suicide rates have increased. This is due to the lack of help and guidance the citizens in these countries get the suicide rates year on year have increased. Citizens of these countries also face challenges like food and drinking water shortages, fuel shortages and many more which aid in the statistics shown above.

[Click here](#) to view the full dataset.



As seen by the above line chart, the financially richest countries in the world have performed well over time in reducing the overall suicide rates. Due is due to the fact that citizens in these countries have access to mental health resources, guidance and overall is overall more educated about mental health. Apart from the above mentioned factors when it comes to mental health and suicide, there are a lot of factors which we need to take into consideration. [Click here](#) to view the full dataset.



Continent Selection : [Show all](#) ▾

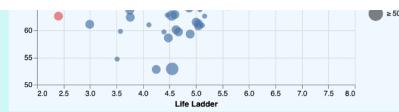
...Ladder Score and Life Expectancy

As seen here, as the life ladder score increases the life expectancy of a citizen living in that country tends to be higher. Australia which has one of the highest ladder scores, is shown to have a higher life expectancy. Afghanistan which has a low ladder score, has been shown to have a lower life expectancy. On average it is seen that European countries tend to have a higher life expectancy, with exceptions such as countries like Russia and Ukraine. In order for a country to increase its populations life expectancy, one area of focus should be providing reliable and affordable healthcare. This includes mental and physical healthcare.

Overall people who live a happier and more fulfilled life tend to live longer.

[Click here](#) to view the [full dataset](#)

Ways to improve life satisfaction



Continent Selection : [Show all](#) ▾

providing reliable and affordable healthcare. This includes mental and physical healthcare.
Overall people who live a happier and more fulfilled life tend to live longer.

[Click here](#) to view the [full dataset](#)

Ways to improve life satisfaction



Studies have shown that engaging in 30 mins of daily [physical activity](#) reduces mental fatigue and stress. This would hence increase the quality of life of an individual in the long run and make him happier and satisfied with life.



[Meditation](#) is a proven method to reduce the stress levels in a humans body. By focusing on ones breath, for about 2-3 minutes daily an individual is able to reduce his anxiety level and stress levels.



Taking [time off](#) ones busy schedule, and focusing on helping ones self is another method which can be used to increase happiness in life. Engaging in healthy activities which brings you joy, can increase ones overall mood.