HANS ROSLING
(1948-2017)

CHANNELLING HANS!

A TRIBUTE TO THE DATA VISUALIZATION LEGEND

[https://information-visualization.herokuapp.com/chanelling-hans.html]

Submission Date:
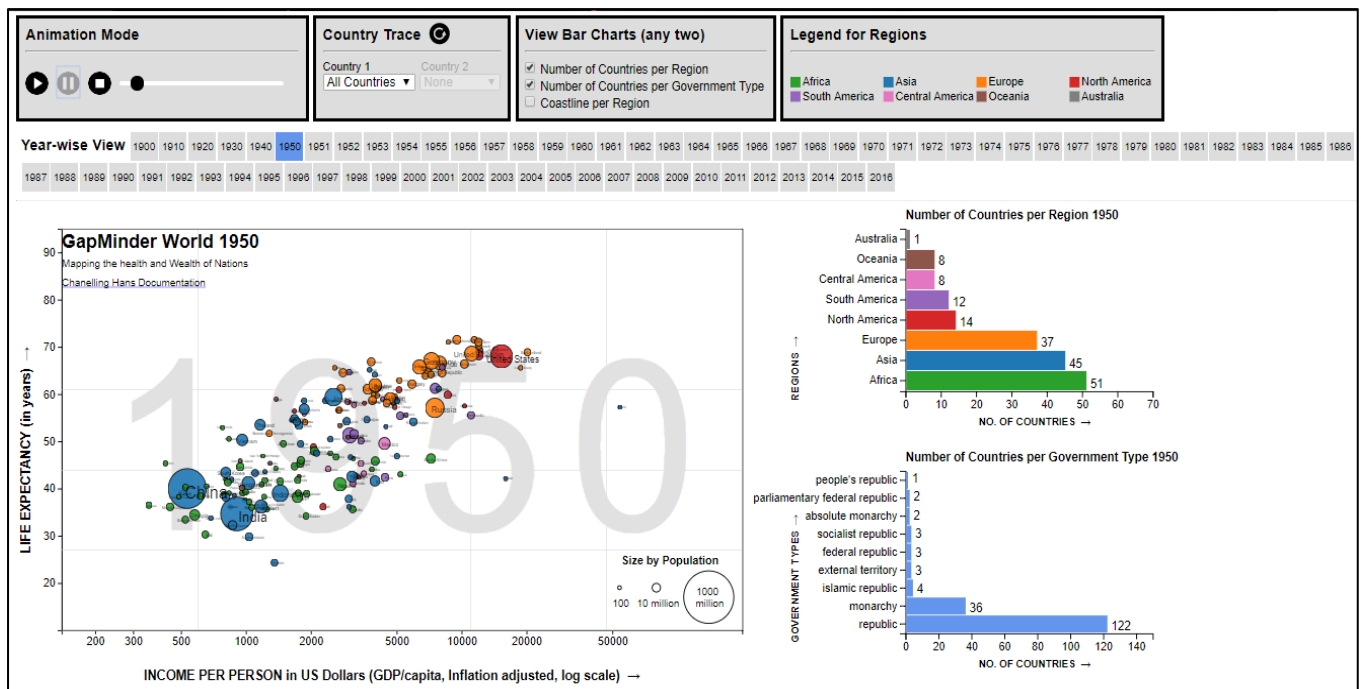
25 Nov 2017

Submitted By:

Akshat Rastogi (17200430)

Shyam Mohan K. (17200802)

1 Copying Hans

In this task, we have tried to recreate the GapMinder World visualisation using d3.js. It includes the following:

- ❖ A bubble plot representing the different countries of the world with countries of the world described by GDP mapped to the x-axis, and the Life Expectancy mapped to the y-axis.
- ❖ The population of each country mapped to bubble area (the radius of each bubble varies according to the population size).
- ❖ Ability to view relevant data for a specific year.
- ❖ Ability to animate the changes in country statistics from year to year (1900 – 2016)

To create the above-shown visualization, we used the data from the CSV file **"Gapminder_All_Time.csv"**. This file contained the following data:
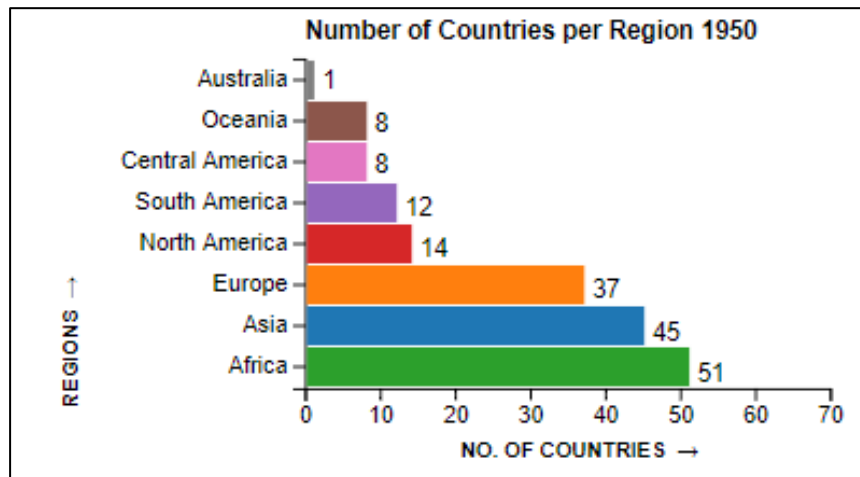
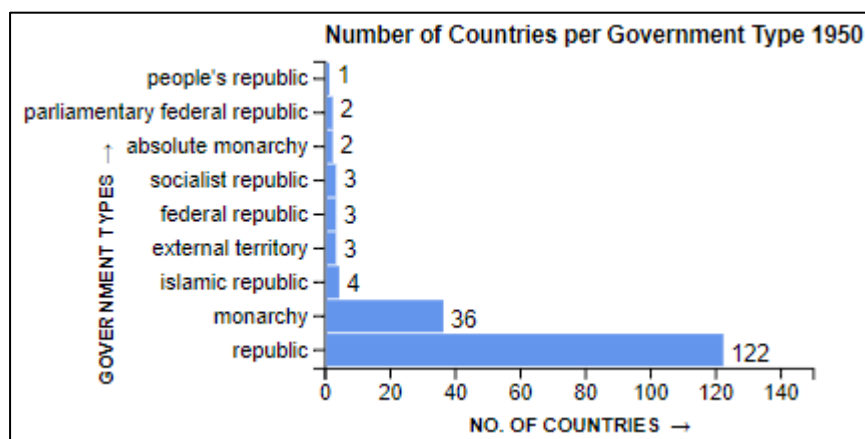|	
Country	Name of the Country
Year	Year corresponding to this data observation
Population	Population of the country, in this specific year
LifeExp	Average Life Expectancy (in years)
GDP	Average GDP (in inflation adjusted dollars)
Code	Country Code
Region	Region to which the country belongs (similar to continent)
Area	Area of the country (in square kilometres)
Coastline	The Coastline (in number of kilometres) belonging to a Country
Government	Type of ruling Government in the Country

2 Extending Hans

In this task, we have tried to extend the previously created GapMinder World visualisation by adding new features to it.

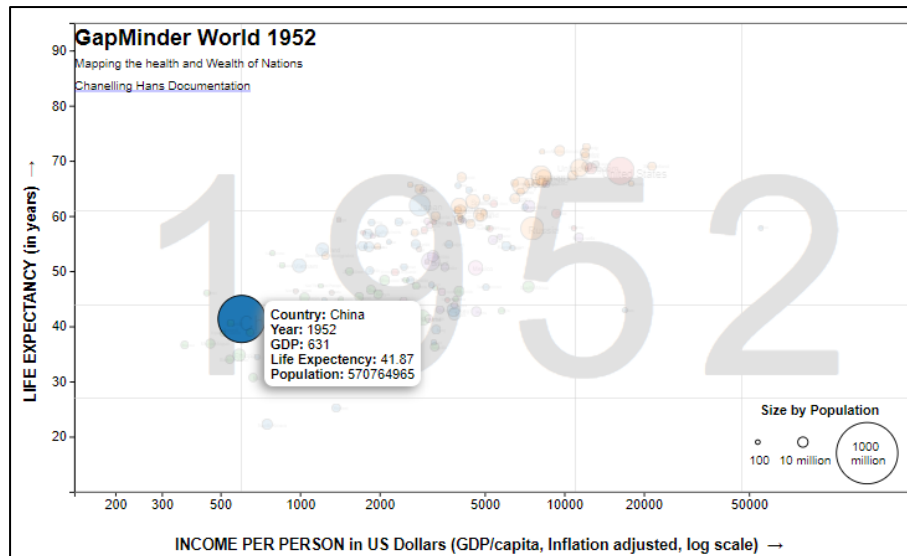The following new features were added to the visualization:

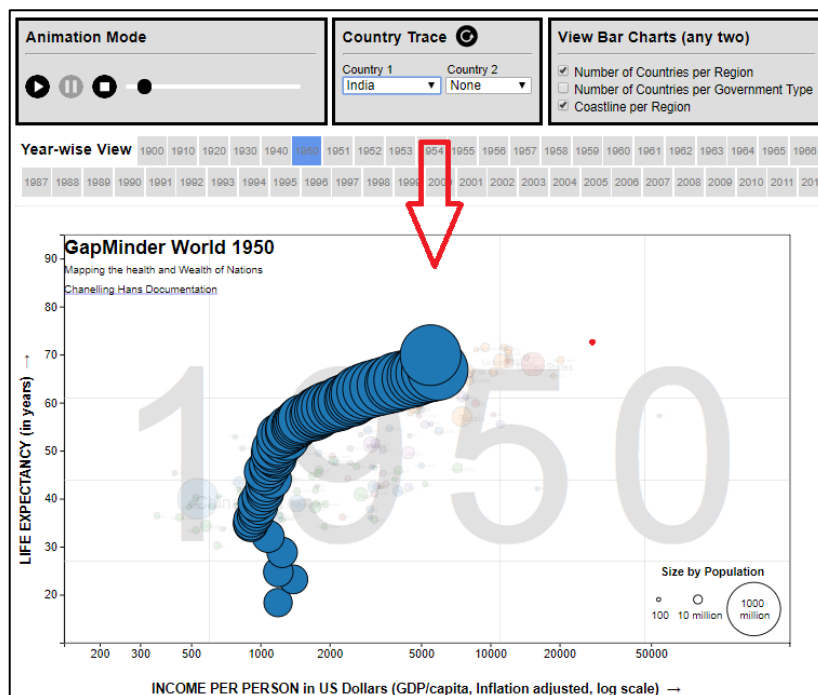❖ A bar chart to the right of the visualisation, representing the number of countries per region.

❖ A second bar chart to the right of the visualization, representing the number of countries with each government type.

❖ Upon the event of a mouse hover over a particular bubble, the following changes can be seen in the visualization:
  • Only the desired bubble would be highlighted, and the rest of the bubbles get hidden (opacity reduces).
  • The animation would be paused. The user would have to explicitly press the play button to continue the animation.
  • A tooltip window depicting the Country, Year, GDP, Life Expectancy and Population data, appears.
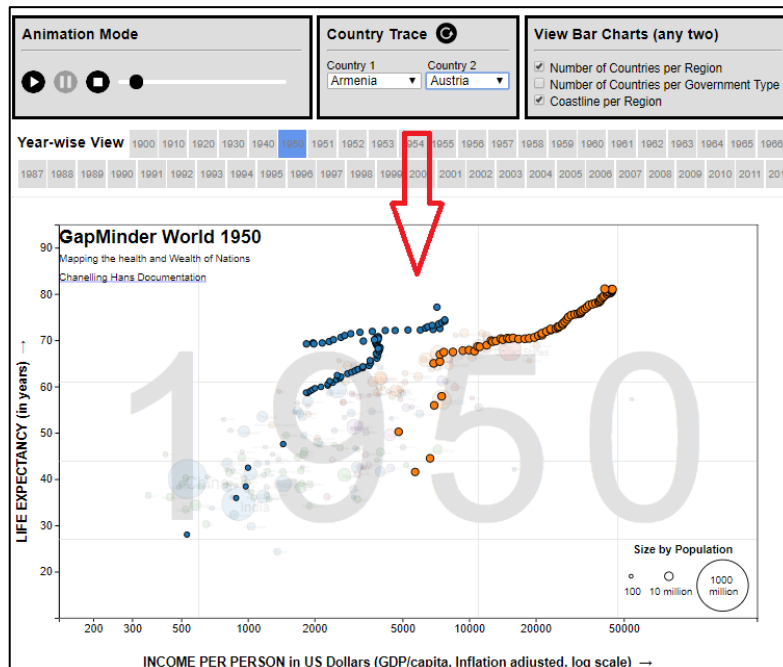
- ❖ A drop-down box having all the countries present in the data. The selection of a specific country from this list provides a static visualization depicting the journey of a country as a trace.
  - When a viewer uses this control, the remaining controls to jump to the visualization of a specific year and the Play/Pause/Stop buttons would be disabled.
  - The viewer must select the default value "All Countries" explicitly to re-enable all the disabled controls.
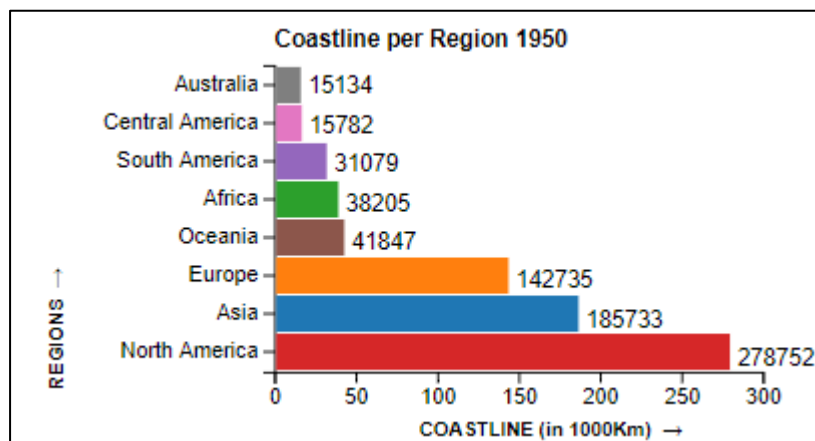

- ❖ In addition to the feature mentioned above, there is a provision for the users to compare the traces of two different countries.
  - Once the user selects a country in the first drop-down box to view the trace of a specific country, the static trace for that country would be displayed in the visualization. At the same time, a second drop-down box would be enabled.
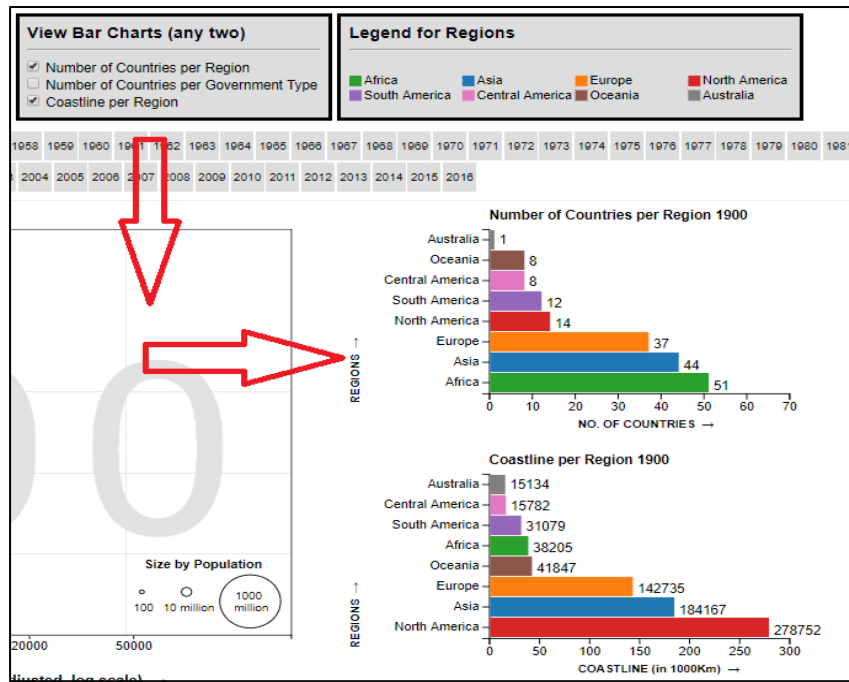
- The user can select a different country from this list, which would display the trace of the selected country as well in the visualization.
- This simultaneous display of traces can be used for certain comparisons between them.
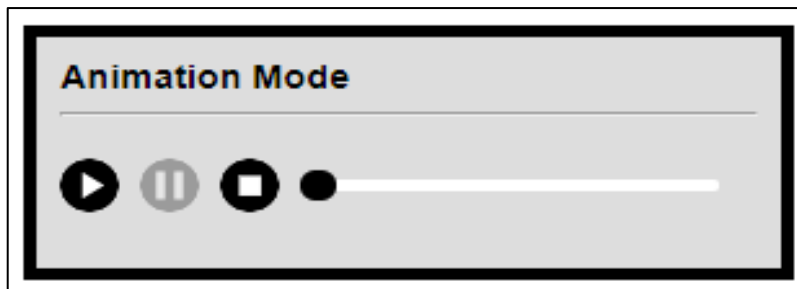- The user has to explicitly click the "Reset" button to get all the other controls enabled.

❖ A third bar chart depicting the number of kilometres of Coastline, per region. This bar chart viewed with the first bar chart would give the best insights.

❖ A control using checkboxes to select the two bar graphs that the user wishes to display to the right of the GapMinder World visualization.
- At a time, only two bar charts can be selected and displayed to the right of the visualization.
- By default, the checkboxes corresponding to the first bar chart representing the number of countries per region and the second bar chart depicting the number of countries with each government type, would be checked and those graphs would be displayed.

❖ A panel having the Play, Pause and Stop buttons to control the animations in the visualization.
- The Play button facilitates the animation to be played continuously.
- The Pause button is to pause the animation explicitly, in case the user wishes to view data in a static form or choose a different bar graph.
- The Stop button is to stop the animation and the next time the Play button is pressed, the animation starts from the beginning (from the earliest year in the data).

NOTES:

❖ If data is unavailable for a specific year in the input file, then the corresponding year would not be included in the visualization.

❖ A link to download the documentation for this project is also provided along with the visualization.

❖ The full code listing is provided below the visualizations which is well intended and commented.