**FIT3179 Data Visualization 2 Report**

Name: Ong Di Sheng

Student ID: 31109667

Title: Child Mortality

Tutor: Dr Grace Ting

Lab: Tutorial 06

URL:

Number of words:

**Domain, Why and Who**

Since child mortality is an issue that never really receive the attention it deserves by the media around the world, I have decided to come up with some interesting visualizations to raise the awareness among the community through this project. The first step towards realizing the global goal is to identify countries with the highest child mortality rate currently, so that we are able to drill down to find out the reasons for this issue. With this in mind, the global organizations such as United Nations can then propose some initiatives to keep the number of child deaths in those countries as low as possible.

**What**

The data is taken from reputable organization such as World Bank online database. This database contains information regarding child mortality rate, number of child deaths, GDP per capita as well as population across different countries from 1960 to 2020. Since there is no continent information for each country in the database used earlier, therefore the original dataset is then joined with the continent dataset obtained online so that analysis by continent level can be done for the visualizations. Besides, the dataset is cleaned by removing null values in some of the columns to ensure the results obtained are consistent throughout the visualizations used in this project.

**Why and How**

The reasons for choosing a specific idiom over another in this project are listed down below:

1. Map – to show the child mortality rate (quantitative) across different countries (qualitative) in 2016
2. Bubble plot – to find the correlation between GDP per capita of countries (quantitative) and child mortality rate (quantitative) with additional size channel used to encode the population
3. Interactive bar chart – to show the best and the worst performing countries (qualitative) with the child mortality rate (quantitative) being sorted in ascending and descending order respectively
4. Waterfall chart – to show the difference in the number of child deaths (quantitative) from 2000 to 2016 (ordinal) in Sierra Leone
5. Bump chart – to show the ranking of countries (ordinal) by ordering their respective child mortality rate from 2000 to 2016 (ordinal)
6. Multi view with radial and area chart
7. Area chart – to show the overall child mortality rate (quantitative) from 2000 to 2016 (ordinal)
8. Radial chart – to show the distribution of continents according to the number of child deaths by different life stages

The interactivity features used in the visualization project as shown in Figure 1 are described below:

1. Map – when the user hovers over a particular country, only the selected county will be highlighted and the remaining countries will fade away.
2. Bubble plot – the user can slide over the minimum population of countries and the year from 1990 to 2016 as well as select a particular continent of interest through legend.
3. Interactive bar chart – the user can choose the top N countries in the best and the worst performing category through the slider.
4. Bump chart – the user can choose the top N countries to be shown in the ranking through the slider.
5. Multi view with radial and area chart – the user can use brushing in the area chart to select a particular timeframe in which the radial charts will be updated accordingly.

**Design**

1. Layout –
2. Color – The color chosen does not place color-blind user in any disadvantaged way as a combination of red and green is not used in all of the visualizations. The continents which are the qualitative data attributes are represented by using color hue as shown in the bubble plot, interactive bar chart, bump chart as well as radial chart in which the same continent share the same color across these different charts. Besides, the color of the text annotations in the paragraphs matches the color of the continent to enable the user to have a better experience during their reading without the constant need to refer to the legend.
3. Figure-ground –
4. Typography –
5. Storytelling – This visualization project mainly uses scrollytelling in which the user is able to navigate vertically to view the embedded visualizations in the webpage ordered from top to bottom by using the scrollbar. The text annotations in the visualizations are also able to show the user some of the interesting facts so that they can understand better the reason for a sudden increment in the chart as an example.

**References**

<https://data.worldbank.org/indicator/SH.DYN.MORT>

https://statisticstimes.com/geography/countries-by-continents.php