TDS 3401

Data Visualization

Assignment 3

Creating Interaction Visualization Report

Prepared by:

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Final Interaction Visualization

In this dashboard, we will be showing 3 charts. Which are bar chart, map visualization, and a sunburst chart.

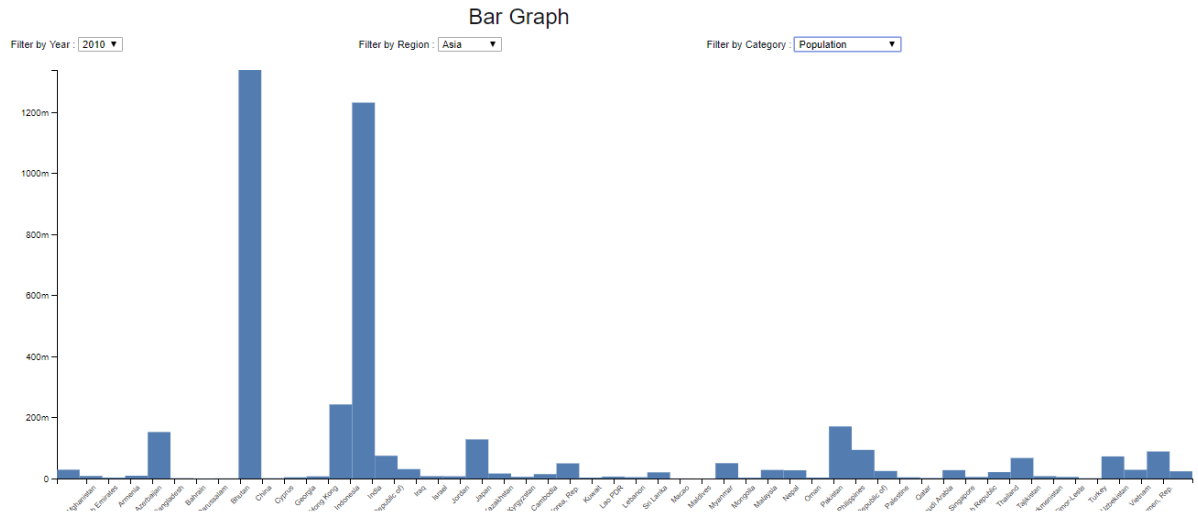

Figure 1 Bar Chart

Figure 1 show a bar chart that cover all different variables in the dataset. In this bar chart, we will be filtering by 3 items, year, regions and category. Year can be filtered between 2010 to 2015. Region can be filtered by 5 different regions. And Category can be filtered by 8 categories, which are, Population, Employment rate, Unemployment rate, Death Rate, Birth Rate, Agriculture, Industry and , Services.

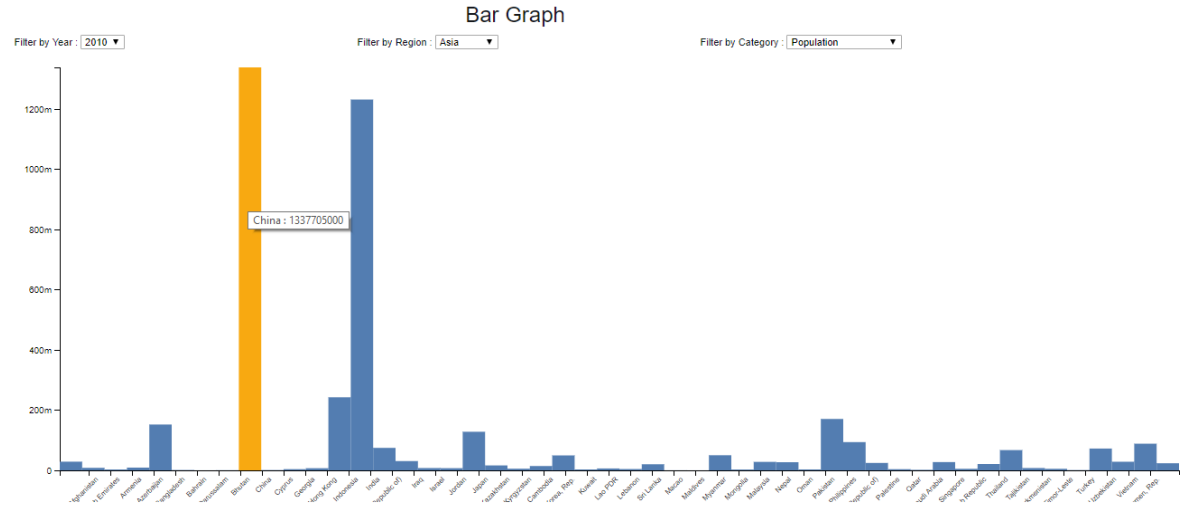

Figure 2 Bar Chart with hover function

When user hover over the bar , they can view the detail on the bar showing the country name and the value . In this example china with the population value of 1337705000.

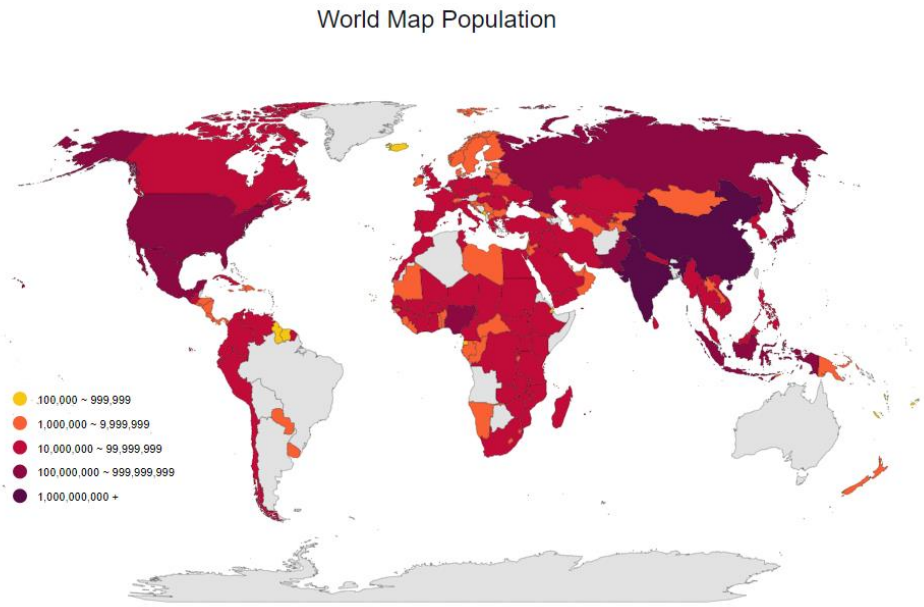

Figure 3 World Map Visualization

Figure 3 is a map visualization. In this map visualization, we will be filtering by year only. It can be filter between 2010 to 2015. In the visualization, there will be country that is colored by ‘grey’. This is because the dataset do not contain all the country data require.

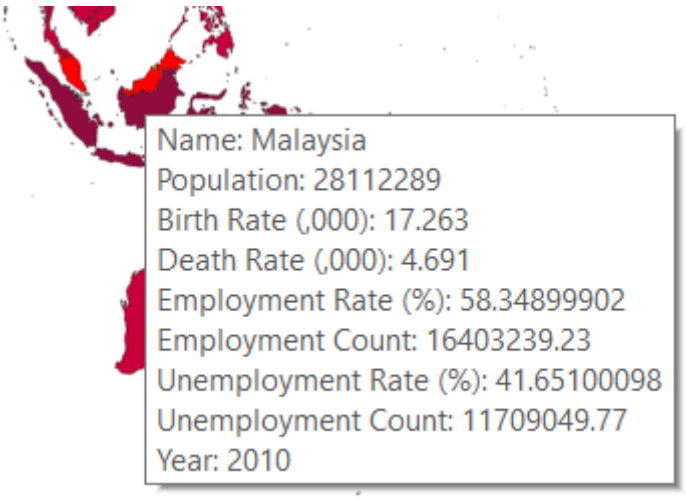

Figure 4 World Map Visualiaztion with Hover

When the user hover the mouse to the country, the country will change to ‘red’ color and display the country’s name, population, birth rate, death rate, employment rate, employment count, unemployment rate, unemployment count, and the year of that data.

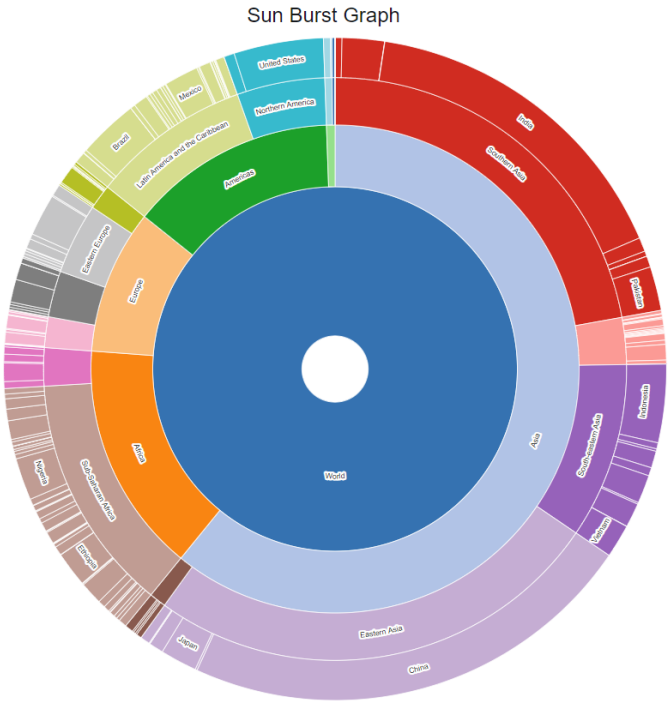

Figure 5 Sun Burst Graph

Figure 5 show the Sun-burst graph, In this visualization , it show the employment count for different region and the second level is the Sub Region and the third level is the country name.

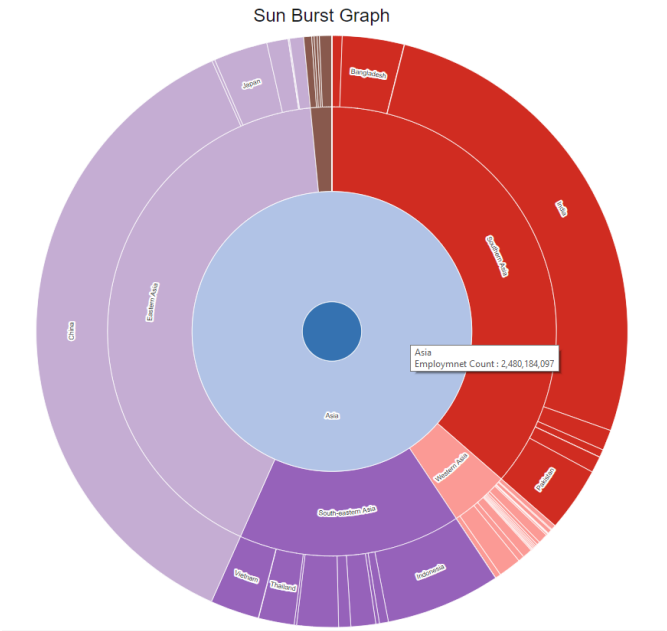

Figure 6 Sun Burst Graph with hover and zoom in function

When user hover they can see the employment count for the specific region they can also zoom in into each individual level to view more clear. You can also click on the region to zoom in .

Changes Made

For the final implementation , the first changes we make is to change the pie chart into a bar graph with interactive select bar so we can change all the data according to what we need to see. The next changes make is to the pack circle, the pack circle do not show many information based on region so we change the pack circle to sunburst diagram to show more detail of the region data on employment. The layout will change to the figure shown below.

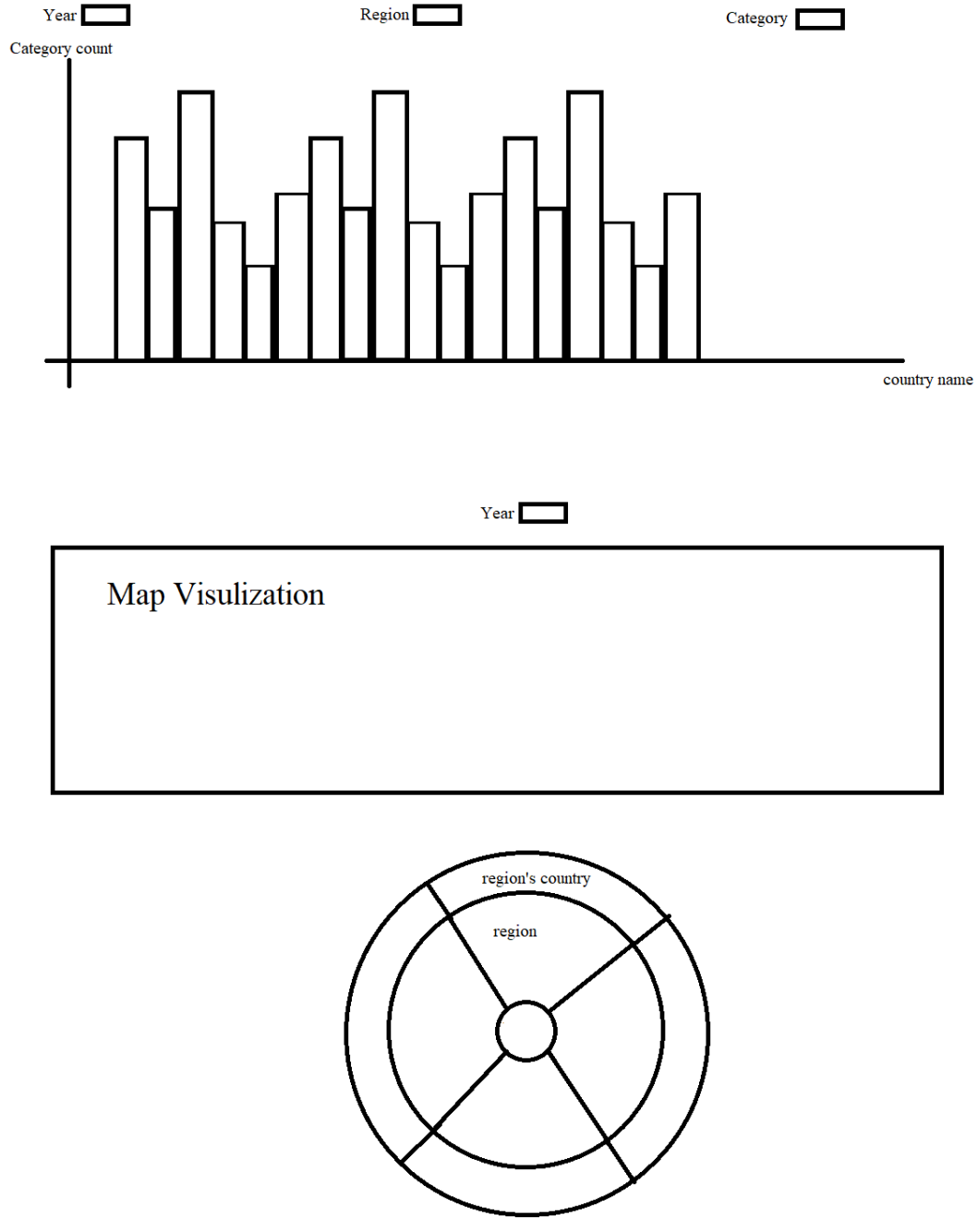

Figure 7 Final Storyboard Design

StoryBoard Design

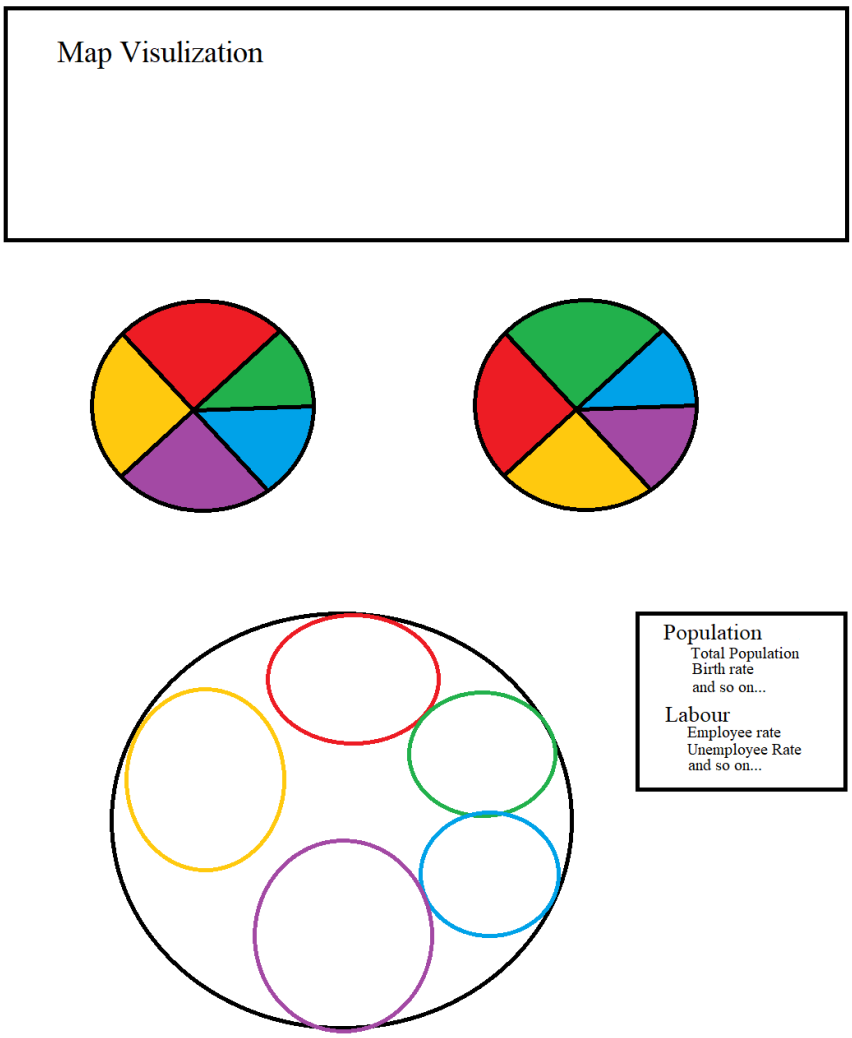

Figure 8 Proposal Storyboard Design

Development Process

Nicholas Ho is in charge of handling bar chart and sunburst chart. In the development process of the bar chart the is some issue adjusting the y label because it over 1m so the value run out of the svg layout. Other than that, the sunburst are very confusing, it require a good knowledge of managing the hierarchy of the data. It took a long time to figure out the appropriate hierarchy to fit the sunburst chart. Overall the bar chart took around 2 to 3 days to fully understand how it works and another 2 to 3 days for the sunburst chat.

Kevin Toh is in charge of handling the map visualization. In the process of making the map visualization. He met a lot of difficulty doing it. It is because some of the references online are coded in ‘Object Oriented’ which is hard to know what they are doing. Other than that, making Choropleth Map is another hard task. The reason is, it cannot fit into ‘d3-scale-chromatic’ array. Next, is the Country Code. In order to link the world map, 50m.json, with our dataset, we have to make a new column named Country_code. Which are all numeric. For example, Malaysia code is 458 and Australia code is 036. This kind of code took us few hours to find the data online. This visualization took around 4 days to complete.

There is one chart that we both failed to present is Line graph, this chart have a very complex structure which the path with the d attribute. The line function are hard to understand what are the required data format it needed for it to work.