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Data Visualization
Indivisual Project

Project Design Statement

## 1. Dataset Description

The dataset chosen for this project is "World Happiness Score from 2015 to 2020", can be found in kaggle. It contains 10 columns(Country, Happiness Score, GDP per Capita, Family, Health, Freedom, Generosity, Government Trusty, Dystopia Residual, Continent). Detialed description of information contained in each column is shown below:

| | |
|---|---|
| Country | Name of the country. |
| Happiness Score | Average of responses to the primary life evaluation question from the Gallup World Poll (GWP). |
| GDP per Capita | The extent to which GDP contributes to the calculation of the Happiness Score. |
| Family | The extent to which Family contributes to the calculation of the Happiness Score. |
| Health | The extent to which Life expectancy contributed to the calculation of the Happiness Score. |
| Freedom | The extent to which Freedom contributed to the calculation of the Happiness Score. |
| Generosity | A numerical value calculated based on poll participants' perceptions of generosity in their country. |
| Government Trust | The extent to which Perception of Corruption contributes to Happiness Score. |
| Dystopia Residua | A score based on a hypothetical comparison to the world's saddest country. |
| Continent | Region of the country. |

## 2. Filter and Parameter Design

### 2.1 Filter

I use "Year" measure as the filter, because this dataset covers data from 2015 to 2020. By selecting one year, we can compare each country's measure values on the same year scale.

### 2.2 Parameter

I choose "Happiness Score", "Gdp Per Capita", "Health", "Freedom", "Government Trust", and "Cpi Score" as the list content of the parameter, and apply parameter in [Map], [Scatter Plot], and [Lollipop Chart].

## 3. Chart Design Statement

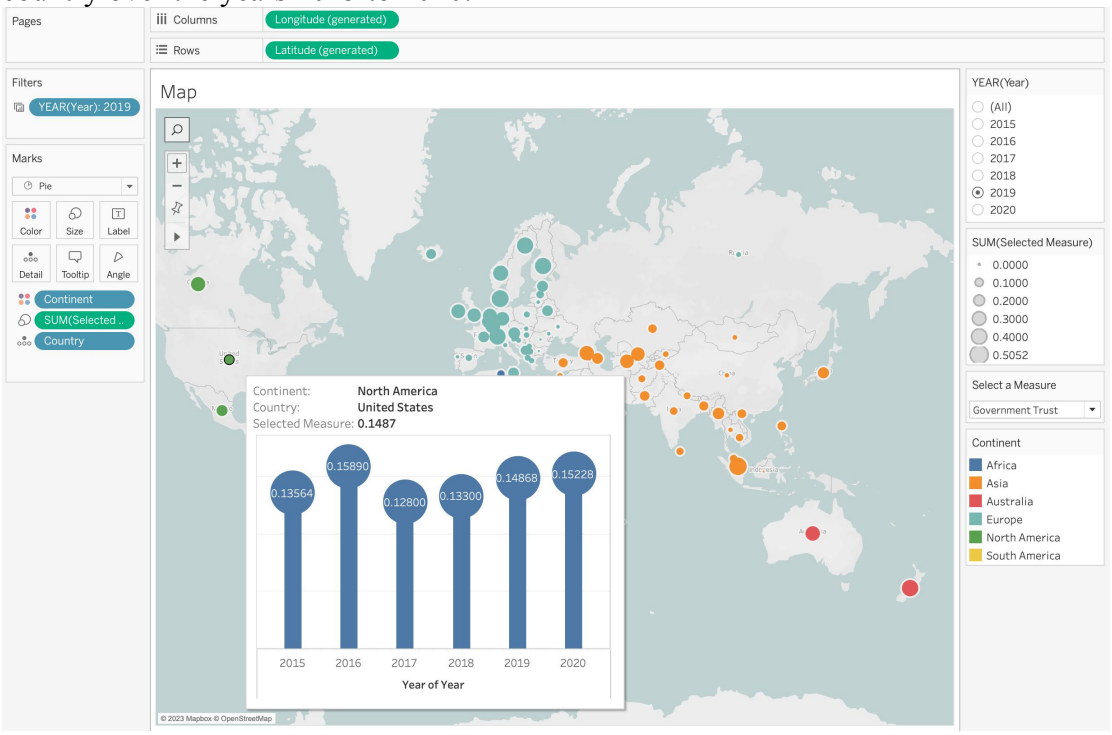
### 3.1 Table

In the table, I set "Country" as row, "Family", "Freedom", "Gdp Per Capita", "Generosity", "Government Trust", "Health", and "Happiness Score" as columns. I

set “Year” as filter, and add “Measure Values” to color option to visualize the level of each score type.

### 3.2 Map with Lollipop Chart as Hover

The chart has a parameter control that allows users to switch between various variables, including “Happiness Score”, “Gdp Per Capita”, “Health”, “Freedom”, “Government Trust”, and “Cpi Score”.
The selected measure is also reflected in the size of the markers for each country. In addition, the chart uses colors to distinguish between different continents. The year is also added as a filter, which allows users to view the data for a specific year.
This map also features a lollipop chart that appears when you hover over a country on the map. This lollipop chart displays the trend of the selected measure for the selected country over the years 2015 to 2020.




### 3.3 Scatter Plot

I set a scatter plot that visualizes the relationship between the selected measures and the happiness score for various countries. The chart has a parameter control that allows users to switch between different variables, and the happiness score is used as the dependent variable on the y-axis, while the selected measure is displayed on the x-axis. It includes a trend line that shows the general direction of the relationship between the two variables. The slope of the trend line indicates the strength and direction of the relationship between the selected measure and the happiness score. The points in the scatter plot are represented by the map marks for each corresponding country. The chart also includes a filter for the year, allowing users to view the data at the selected year.


## 4. Dashboard Settings

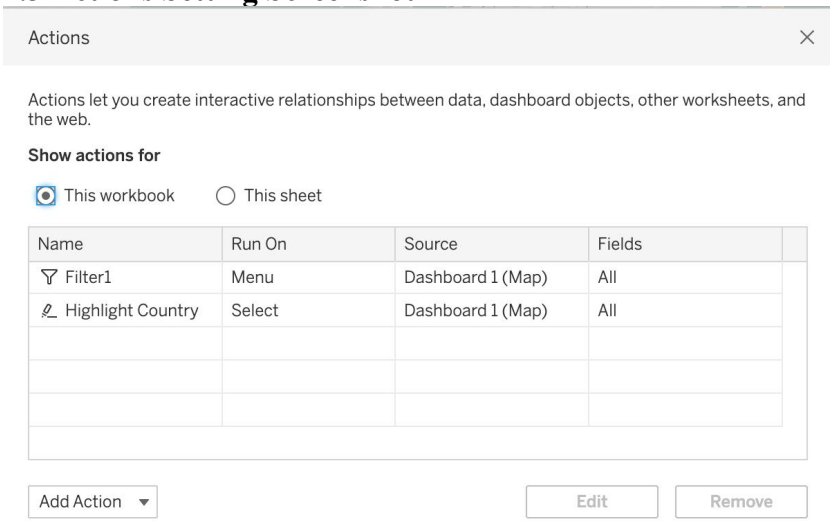
### 4.1 Filter Action

The first dashboard action in this Tableau dashboard is a filter action that links the map sheet and the table sheet. When a user selects a country on the map sheet, the table sheet will display only the data for that selected country for the variables "Family", "Freedom", "Gdp Per Capita", "Generosity", "Government Trust", "Health", and "Happiness Score".

### 4.2 Highlight Action

The second dashboard action in this Tableau dashboard is a highlight action that links the map sheet with both the table and scatter plot sheets. When a user selects a country on the map sheet, the corresponding data point in the scatter plot and table sheet will be highlighted.

### 4.3 Actions Setting Screenshot



# 4.4 Dashboard Screenshot