***Portfolio 2***

***Military Spending Analysis: Shiny Web Application***

***URL:*** [***https://michaelkornely.shinyapps.io/portfolio2/***](https://michaelkornely.shinyapps.io/portfolio2/)

***Data:*** ***https://www.kaggle.com/prasertk/military-expenditure-by-country-from-19702020***

**Background:**

Given the recent events in Ukraine, I thought it was important to explore how military spending varies across the globe. While I couldn’t find anything NATO specific, I was able to find data that was relatively tidy on countries across the globe over multiple years. While there were missing entries for many countries, these visualizations help show how much each country spends on defense. This visualization uses three forms of dynamic queries, 2 UI, and tracking click events to display a data table.

**What are some interesting facts that you learned through the visualization? Provide at least one unexpected finding.**

I was surprised by the fairly large spread of the graphs I produced. I found that many of the graphs as they increased their spending, didn’t necessarily equal a higher percentage of their GDP. That is why I sectioned off the graphs by income to take a closer look into this spending relationship. I was also surprised that the lower-middle-income countries were spending more of their government spending on defense rather than the larger countries. Looking into this, these countries live in hostile areas around the globe that are plagued by regime change wars and terrorist extremism

**How did you create the interface? Were there any data preparation steps? What guided the style customizations and interface layout that you used.**

The data was almost tidy, with me just having to drop columns with no data in them. I created three ways the user could interact with my visualization. One is through clicks, and the other two drop downs that the user could use to subset the data. I thought that these two areas were the best to subset the data on, as they were the best indicators on how much a country would spend on their military buildup. I tried to use as much of the data I could in my visualization to give a clear picture of the magnitude of money spent in each country. I think this allows the user to see differences among countries as well as differences over time.

**What is the reactive graph structure of your application?**

Two reactive expressions were used. One to track the clicks made on the datapoints, while the other was to filter the dataset by a specified parameter as to allow users to visualize the data in different subsets to find patterns.

Scatterplot

Table

Income

Select Data

Filter Data

Clicks

Year