Jordan Crawford-O'Banner
Juan Carlos del Rio
Soft-Des Spring 2018

Interactive Data Visualization

Main Idea

In this project we hope to answer the question of if and how connectivity (access to the internet) has any impact on a country's economic landscape. Using GDP as a measure we will track the wealth of nations across the globe since the start of the internet era. Additionally, we will also track the GINI coefficient for countries during this time to determine if the economic impact of this new technology was equitable or not. We will present the user with a map of the world. They will be able to go through different years and see the GDP of a country and what percent of the population has access to the internet. Our stretch goal would have the user able to zoom in on specific countries and have a look at their individual spread of wealth and technology.

Personal Learning Goals

Jordan

Make code that is easily read and runs as fast as possible. Gain an understanding of how to make visuals and animations using Python.

JC

Be able to create clean and attractive visuals in python. Make code that is robust and smooth to create a pleasant user interaction. Commenting code and pair programing have always been weak points for me so I would like to get accustomed to these concepts. Lastly I would like to gain more experience in the use of classes as a way to embed more complex pieces of code with additional functionality.

Libraries

Bokeh

This library has the ability to create interactive, web-ready plots, which can be output as HTML documents or interactive web applications.

Numpy

Numpy has great plotting abilities as well as good animation libraries to plot changing data sets over time.

Geoplotlib

Geoplotlib is a toolbox for creating maps and plotting geographical data. You can use it to create a variety of map-types, like choropleths, heatmaps, and dot density maps.

Pygame

Will mainly be used for the interaction portion of this project. If Bokeh does not provide an integrated solution we can generate plots with Geoplotlib, animate them with numpy and add controls to the loop with pygame.

Mid-project Deliverables

At the mid-way point we hope to have selected appropriate datasets for our project and done proper research into the capabilities and documentation of all the libraries that we selected. Additionally we hope to have a pseudocode diagram that shows the main functions and structure of our final program. Ideally this structure would be modular enough to allow us to do incremental development from our start point, to our MVP, and beyond. If we are able to complete this work before the check in we will have likely started wonk on our main classes and functions.

Risks & Hurdles

Because the requirements for this project are vague, it will be important to properly scope the project so that we have enough time to finish a viable product. We will also have to be careful to not spend too much time gathering data. Making time to meet with one another because we could possibly have conflicting schedules.