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**Data Visualization write-up**

I can officially say that this project has been the hardest assignment that I’ve had since I started school in August 2018. By far the hardest.

First, I changed the topics of my final project three times. I could not visualize topics that I was really interested in and decided to transition to something that was more down-to-earth, but still had some interesting value and insights. I went on to the census data. And the thing that was really interesting to me is to choose the state I want to live in. When I came from Russia I didn’t care much about the geography, but then I quickly realized that America is very different in different states. So my visual is showing some interesting information about these states. Death rate and unemployment rate are the strongest contributors to the overall well-being and happiness of the county (reversely of course). So I would not like to live in a county with high numbers in those categories. Also the migration rate (if blue) shows that more people are coming to a county which is a good sign. There has to be something that attracts people there. The visual shows the dynamics of these estimates from years 2011 to 2017.

Also if we look at North Dacota, we’ll see that there is a lot of people coming into some counties in low 2011 and 2012. And then in 2016 and 2017 the trend has changed and people started to move out. That may be related to some fracking activities in the state. If we look at Texas and migration charts, we can clearly see Dallas, Austin and Houston there. Seems that I have made a good choice of moving to Dallas.

Technically it was ridiculously hard. I still can’t believe I reached this point when I’ve got something that works fine and looks ok at the same time. My work is basically a constructor, a bunch of code chunks from the sources I’ve listed below, Eric’s help, TA’s help on previous assignments, couple advices of fellow students (no copying) and a lot of reading of the w3school. I went through a whole lot of trial and error to combine everything in one file.

After my first iteration, when I didn’t have any interactive pieces Eric suggested me that I come up with an aggregate value for the metrics. The only aggregate value that did make sense for the color map is the average. Unfortunately, I could not incorporate the average static representation to my dynamic visual. There are several reasons – the average button needs to cancel the animation if it's playing, it needs to make the slider handler not slidable and make some visual distinction that slider isn't used in this situation, and it needs to update the map. I could not solve any of these problems. So I did a separate static visual, which is based on my very first prototype (the one that did not have a play button, a slider and a zoom option). I have attached the static visual to the zip file as well.

I also included several prototypes of my work, so you could see my step-by-step progress.

**Sources**

I used a whole lot of different resources for this assignment. Below are all that I remembered and saved during my work. There were some that I forgot the links to.

The list of used sources :

General questions and learning:

1. <https://www.w3schools.com/csS/default.asp>
2. <https://www.w3schools.com/html/default.asp>

Adding Play button:

1. <https://fontawesome.com/icons/play?style=solid>
2. <https://stackoverflow.com/questions/18416749/adding-fontawesome-icons-to-a-d3-graph>
3. <https://bl.ocks.org/curran/3c9fe2992201a514e802>

Buttons styles CSS:

1. [https://www.w3schools.com/csS/css3\_buttons.asp](https://www.w3schools.com/csS/css3_buttons.asp%20)
2. <https://www.w3schools.com/howto/howto_css_icon_buttons.asp>
3. <https://bl.ocks.org/pbogden/7487564>
4. Class materials on collab, Powerplants and other.

Processing the data and the use of FIPS codes:

1. <http://learnjsdata.com/read_data.html>
2. <http://bl.ocks.org/bycoffe/5871252>
3. <https://github.com/d3/d3-array#range>
4. Class resources and also couple of short online videos I can’t find now. Lost the links.

Map and color scaling:

1. <https://bl.ocks.org/mbostock/4122298>
2. <https://observablehq.com/@d3/choropleth> - **my main source for the map and the colors**
3. <https://observablehq.com/@lisilinhart/choropleth-map>
4. <https://observablehq.com/@jake-low/how-well-does-population-density-predict-u-s-voting-outcome>
5. <https://github.com/d3/d3-scale>
6. <https://github.com/d3/d3-scale-chromatic>
7. <https://medium.com/@ccanipe/building-a-u-s-election-basemap-with-d3-js-and-topojson-fa4b5ab5175d>
8. <https://gist.github.com/mbostock/6320825>
9. <https://github.com/d3/d3-format>
10. <https://github.com/d3/d3-selection/blob/master/README.md#selection_clone>
11. <https://bl.ocks.org/iamkevinv/0a24e9126cd2fa6b283c6f2d774b69a2>
12. <https://developer.mozilla.org/en-US/docs/Web/API/Element/getBoundingClientRect>
13. <https://bl.ocks.org/mbostock/6452972> - year slider