CCT470: Information Visualization. Workshop Assignment #3: D3.js

Due: Wednesday, November 25 (8pm)

Method of submission: Please submit report and link (to site containing your D3.js visualization) via Quercus

Assignment Size: 250-500 words (see details below)

General Notes: This assignment has multiple parts and is worth 15% of your final mark (Part 1 is worth 3% and Part 2 is worth 12%)

Assignment Requirements: This assignment will focus on the use of D3.js to create information visualizations. To complete the assignment, please follow these steps:

Step 1: Complete the D3.js Workshop (approx. length: 1 ½ hours)

1. Video 1: Overview of Workshop (2 min)
   https://play.library.utoronto.ca/279a18db4d447d619d201f40563f0d8cLinks to an external site.
2. Video 2: D3.js Overview (4 min)
   https://play.library.utoronto.ca/00a777ab86033d2c8f231bd9621a46f4Links to an external site.
3. Video 3: CSV Overview (2 min)
   https://play.library.utoronto.ca/89c96ba4c7fe24d44690802b73d0cefdLinks to an external site.
4. Video 4: GitHub Overview (5 min)
   https://play.library.utoronto.ca/4ad443509a0493b7f156cc7501c74ffdLinks to an external site.
5. Video 5: Creating Static Graphs (16 min)
   https://play.library.utoronto.ca/54156cc584b9b43306a59c0e73a917eeLinks to an external site.
6. Video 6: Adding Interaction (20 min)
   https://play.library.utoronto.ca/346ec26658940e97e1d3f34934c67f33Links to an external site.
7. Video 7: Creating Chloropleth Map (4.5 min)
   https://play.library.utoronto.ca/2ee65033a26f1f8c0e7f6a147eac4145Links to an external site.
8. Video 8: Creating D3.js Visualization from Scratch (33 min)
   https://play.library.utoronto.ca/fcfefd293ae89a26eabc4844c931908bLinks to an external site.

Step 2: Assignment, Part 1 (3%): Complete the following task:

Using D3.js, follow the process outlined in the eight videos in order to create identical visualizations. This part of the assignment will be graded on how closely your version of the dashboard matches that of the eight visualizations shown in the workshop.

1. Static Bar
2. Static Line
3. Static Map
4. Interactive Bar with variables
5. Interactive Stacked Bar with Tool Tips
6. Interactive Stacked Bar with Highlighting
7. Interactive Line Plot with Brush Line Zooming
8. Static Choropleth

Step 3, Assignment, Part 2 (12%): Using D3.js, create a visualization based on one of the three data sets in the (new) Data Tables file. You can use all or partial data from any of the three tables. Where you have elected not to use all the data, please clarify your choices and rationale.

Note: you may NOT use the following four visualization techniques: Bar Chart, Line Graph, Stacked Bar Chart or Choropleth Map, since these were addressed in Part 1.

Write a brief report, in which you will include:

- the Table used (Table 1, Table 2 or Table 3)
- a link to the website containing the D3.js visualization you created
- a screen shot of the D3.js visualization you created
- the source of the code used
- the question that the visualization attempts to answer
- the strengths and weaknesses of the particular visualization you've selected to illustrate the data
- a brief reflection on the process of using Tableau.

The written portion of this assignment should be between 300 and 500 words.

Note that while I'll be evaluating your interactive visualization in D3.js, I'll make comments in Quercus on the static screen shot you must upload as part of the assignment. Please do not use compression software (such as .zip) to upload the assignment. If you have multiple pages or parts, please upload each individually.

Appendix: Evaluation

Part 1: You will be evaluated on how closely your visualizations compare to the visualizations shown in the workshop.

Part 2: Your assignment will be evaluated on how well the visualization adheres to best practices, which includes:

- the appropriateness of the chosen visualization technique
- reliability of the visualization (i.e. is it truthful in its communication of the data?)
- use of colour
- use of fonts and font treatment
- interactivity
- clarity

In addition, you will be evaluated on the complexity of your visualization (see explanation below).

The report will also be evaluated on the clarity of your writing (where you describe the question your visualization attempts to answer and the process of choosing a particular visualization, the accuracy of describing the strengths and weaknesses of the visualization technique, the quality of your reflection, and the supporting evidence you cite.)

Evaluation of complexity. As you'll see in Part 1, since you are encouraged to copy and paste existing code for the assignment, it is not that difficult to take data from the assignment Data Tables and generate a "basic" visualization. Ideally you will attempt to incorporate additional features (such as labeling, mouse interactions and/or legends).

For example, if you use code found on the D3 gallery site (https://www.d3-graph-gallery.com/) to generate a "Most Basic" Bubble Chart, your assignment will be scored from a lower baseline than if your Bubble Chart includes coloured bubbles, tool tips and a legend (as outlined in the D3 gallery site). You can create a simple visualization and pass this assignment, but to do well I encourage you to work with more complex coding.