Assignment Vis 2

Due Date: March 8 at noon

Purpose
This is a more involved project in which you will use more of the features of HTML/CSS/JavaScript/etc., as well as reading data from a file. It will also be the first chance to work on a project as a team using the Scrum methodology. Your team will design another web page(s) that will be uploaded to the CS server and linked to the home pages of all team members. Perhaps most importantly, the team will implement a method of visualizing multiple variables that is currently very popular.

Problem
We will be looking at many different methods for visualizing multivariate data. A good, basic way of comparing a set of data-value pairs is through the use of a line graph. How about multiple values for each variable? That's more difficult.

Your team's job is to implement your own version of parallel coordinates that allows a user to view multivariable statistics/measurements, in this case, Professor Ekstrom's data. In such a system, each variable is depicted by a vertical bar, or "axis". Lines representing each toad/variable span from one "axis" to another, connecting all the variables. Colors or other methods are used to indicate the individual toads/variables. See the course web page for more information on parallel coordinates, or do your own Google search. The visualization should be part of a web page that clearly defines what the visualization does and gives instructions on how to use any interactive portions.

Input
Your visualization will read the data from a file. This file should be created from one or more of the spreadsheets given in the Google drive. The app should be able to read any size file; do not hard-code values or sizes based on the current data set. A common format for such a file is **csv** - comma separated values. However, you are free to transform the data into any format that is advantageous. For example, there is a lot of code available for reading and manipulating **xml** files. In any case, part of your web site should contain an explicit explanation of your input file format, as well as instructions as to how to create such a file from the source data. The input mechanism should also include a way to type in or otherwise specify the data file to read.

Output
The output should be a version of a parallel coordinates display, where each vertical bar represents a different statistic/measurement. The visualization should have some modes of interaction built in, such as the option to move an axis from one position to another to allow for different direct comparisons. Many other options are possible. All output/buttons/etc.should be adequately labeled or otherwise explained on the web page.

Specifics
- Incorporate good visualization practices in your application.
- Assume that the page(s) will be viewed on a large (laptop or desktop) monitor. Do not program for viewing on a phone or other small device.
- Use HTML and CSS for your web page(s).
- The use of JavaScript and Canvas/D3 is recommended for your visualization. See me if you would like to use some other language(s)/technology.
- Use libraries and freely available code liberally. However, you should *understand* any code that you use.

- Although I probably won't be looking at your code, comment all of your JavaScript (and CSS, for that matter) for your own sanity.
- Use external sheets for CSS and JavaScript.
- Your grade will be based on the correctness of your visualization, the flexibility of the application (in terms of user interaction), and good design/color choices.
- All of the members' home pages should have a link to this project.

Notes

This is much more involved than the first project. The graphics are much more involved and you will have to learn how to read files. However, this is a good first step in solving the larger, semester-long project. It is also good for practicing the Scrum methodology on a smaller scale.

You should check different browsers to make sure your app is robust. Be sure to upload all relevant files in the proper folders before **noon** on due date. Don't forget to include the date/time script on your page(s).

Above all else show the data.
– Edward Tufte