

## Homework #1 (100 pts total; due Wed 2/24 @ 11:59pm)

### CSCI 3353 - Hibbs

**Instructions:** For this assignment, you may work on your own, or with another student. In either case, you must complete the "Main Assignment" portion below, which is worth a maximum grade of a passing D (60%). In order to receive full credit for this assignment, you must also complete additional extensions. Students working individually should complete 2 extensions for full credit; students working in pairs should complete 4 extensions to receive full credit. Assignments will be graded based on:

- Accurate completion of the assignment; including 1 page write-up (30%)
- Following good visualization principles (20%)
- Completion of 2 extensions (4 for pairs) (40%)
- My own subjective aesthetics (10%)

Again, we will use google classroom to turn in homework by uploading a Processing archive with your results. To create an archive, from within Processing select "Tools/Archive Sketch," then specify the filename/location for the archive. This assignment should follow the convention hw1\_username.zip where "username" is replaced with your username. If you are working in a pair, include both usernames (separated by an "\_"). For example, if I was working with Dr. Myers on this assignment, our archive would be hw1\_mhibbs\_pmyers.zip. Once you have created this archive, on the classroom assignment page select "Add or Create" and upload your archive before turning in your assignment.

### **Main Assignment**

Write a Processing sketch to visualize a large data set (at least 1000 data points) in 2 **distinct** ways. By *distinct*, I mean radically different ways of looking at the same data, such as a bar graph, scatterplot, geographic map, pie chart (ugh!), heat map, parallel coordinates, etc. There should be a method to switch between your 2 visualizations, and you should include labels/keys/instructions to explain how to interpret/use your visualizations. Possible sources of data include [www.data.gov](http://www.data.gov), [data.un.org](http://data.un.org), and [www.kaggle.com](http://www.kaggle.com).

**ALSO**, include a brief write-up (less than 1 page) describing the data you are visualizing, why you chose the approaches you utilize, and your own evaluation of the utility and aesthetics of your visualizations. Place this file in the folder containing your sketch before creating your archive, and it will be included.

### **Possible Extensions**

1. Include an additional, *distinct* visualization approach for the same data.
2. Smoothly animate the transitions between visualizations.
3. Use animation to convey additional information in a visualization (such as time or some other additional dimension). (*May be repeated if used on different visualizations, but the technique used should be different.*)
4. Include user interaction to enhance a visualization (such as zooming, filtering, or details on demand). (*May be repeated if used on different visualizations, but the technique used should be different.*)
5. Other ideas that are approved by me BEFORE the due date.