INFO 5100
Project 3
Due 11:59pm Friday May 12

Create a data visualization. Form teams of 2-4 members in CMS by Monday 4/24, after that we will randomly assign anyone else. You may not work alone.

Examples and sources: You are encouraged to get data and inspiration from other sites. Make sure you acknowledge these in comments and in your written description. Any code that you did not write yourself (such as d3) should go in a separate .js file. Unacknowledged code or concept reuse will be handled with standard academic integrity procedures.

**Submit a written status report**, one per group, by 11:59 on the following dates. On-time completion of these reports will be worth 5 points. We will not differentiate grades between team members without documentation of assigned and completed tasks. This is the easiest part of the project, so no excuses.

- Wednesday April 26: For each member, list assigned tasks for the following week. Include a filled out and signed work-practices contract.
- Monday May 1: Describe tasks accomplished by each team member. For each member, list assigned tasks for the next two weeks. Include scans or pictures of three to five *hand-drawn* designs or storyboards showing different project designs. Take time with these. For dynamic projects each storyboard should include multiple panels to show stages of interactions.
- Monday May 8: Describe tasks accomplished by each team member. For each member, list assigned tasks for the final submission.

About grading: As with previous projects, this is an open-ended assignment. With homework we have a specific idea of what we want and we "take off" points when your work deviates from that. The reason project experience is the single most valuable asset you can bring to a new job is that we do *not* have specific ideas about what projects should look like: it's up to you and your teammates. As a result, think of the point values below as an indication of what we value and as opportunities to "earn" points, not as opportunities to "lose" points. Our principle with projects is that better work should get better grades. That does not mean that we curve: there's no reason we wouldn't in theory give everyone 100s, but in practice "perfect" grades are extremely rare.

Good practices:

- Start now.
- Talk to each other. Seriously. Listen and value different perspectives.
- If a group member will be unavailable for any period during the project, figure out in advance how you will work around that absence.
- Your ZIP file should contain a directory called `project3`. The main page should be in this directory and should be called `index.html`.

- Use relative paths for data, images, and other resources: do not start URLs with "/". Your project will be one directory among many, not the document root.
- Start now.
- Set up a code repository, like Github or Bitbucket. This is always a good idea, but can also provide insurance if something goes wrong with your CMS submission.
- Did I mention that you should start now?

A visualization rubric (Hearst et al, 2016):

- This visualization makes important information visually salient.
- This visualization uses visual components appropriately.
- This visualization successfully presents multiple relevant facts into a single visual pattern.

Your final submission has two parts, a d3-based **interactive** data visualization (85 pts) and a written description of your visualization (10 pts). Turn in a .zip archive containing:

1. An HTML page called index.html containing your visualization. Include any additional script files (such as d3 or jQuery) and any additional data files, preferably in JSON or CSV format. We will grade the following elements. You can show your TA a prototype at any time. This section will be graded on the following elements, which are *equally important*:

A. Management of data. Find one or more datasets that are manageable, but avoid trivial data. There should be more than two variables, for example. An advanced project might contextualize the information in one dataset using another dataset to provide a unique, novel perspective. Editing is important! Beginning projects often have too little data or too much. Don't overwhelm us with information.
B. Technical correctness. The code must actually do what you intend it to do. We also prefer good style in coding: use informative variable names, consistent indenting and whitespace, and informative comments.
C. Animation and Interactivity. Advanced projects will provide clear, intuitive tools for exploring a complex data set. Each view should have an appropriate amount of information -- not too much, not too little. Projects that use motion or change to highlight contrasts and similarities are encouraged. Beginning projects might only add tooltips or similar descriptive elements to a fundamentally static interface.
D. Creativity. Advanced projects will make us think "how did they do that?" or use something familiar in an unfamiliar way. Beginning projects often look like online examples or things we've seen before. Don't bore the judges!
E. Mapping from data to visual elements. Use scales such as position, shape, color, and text appropriately for variables.
F. Usability. Someone viewing your work should be able to understand the data values represented in the visualization easily and accurately. Advanced projects make choices that are clear and intuitive, and may walk us through specific examples. Beginning projects often leave us wondering what we're looking at, and what we're

supposed to do.

G. Aesthetic quality. We don't want to judge a book by its cover, but aesthetics matter. Your clients will make snap judgments about the quality of your work based on its appearance, so put some time into polishing the look. Choose appropriate fonts, colors, and visual details.

2. A PDF file containing a written description of your project (10 pts). There are no specific page or word limits. This is your chance to tell us about the "behind the scenes" work that may not appear in the final project. This document should contain:

A. A description of the work done by each team member. (Consider this your final status update.)
B. A description of the data. Report where you got the data. Describe the variables. If you had to reformat the data or filter it in any way, provide enough details that someone could repeat your results. If you combined multiple datasets, specify how you integrated them. Mention any additional data that you used, such as shape files for maps. **Editing is important! You are not required to use every part of the dataset. Selectively choosing a subset can improve usability. Describe any criteria you used for data selection.**
C. A description of the mapping from data to visual elements. Describe the scales you used, such as position, color, or shape. Mention any transformations you performed, such as log scales.
D. The story. What does your visualization tell us? What was surprising about it?