INFO4310: HW4 – Critique and Revise

DUE BEFORE: Monday, March 25, 2022 at 11:59PM eastern time

PLEASE NOTE THE DUE DATE

In this assignment, you will work in **groups of 1-4 students** to **critique an existing data visualization** and then **construct an improved, interactive visualization that accomplishes similar goals and exceeds the source visualization.** The goal for the assignment is not replication. Rather, we intend for you to use your own design sensibilities and preferences to create your own interpretation of the data and topic area of the source visualization. For this reason, **do not look at any source code for your original visualization**. This will help to minimize the risk of any academic integrity violations. Likewise, we also recommend working from static visualization images as they provide both good sources for critique and lots of places where interaction could extend their scope.

Begin by identifying a **source visualization and dataset**. We recommend three ready **repositories** for visualizations paired with their original data:

- The 538 data repository
- Twitter responses to Tidy Tuesday challenges posted on its repository
  (FYI, you can use a Nitter instance to explore posts if you don't have an account)
- The dataisbeautiful sub-reddit (though not all posts have posted data, check the comments)

While we encourage you to make use of these 3 resources, you are also welcomed to find a different source for your critique. If that is the case, please **post your potential source on Ed Discussion privately for pre-approval**. We will not approve visualizations which are automatically generated by platforms or libraries (e.g. open data dashboards, Tableau). They must be thoughtfully *designed* by an individual or organization.

Next, work on your **critique of the existing visualization**. Create a document that begins with a **screenshot of the source visualization** and a **URL to both the visualization itself and its source data**. In **about two pages**, provide a **written critique** of the visualization (both positives and negatives). Here are some prompts to inspire your critique (just guidelines, not required questions):

- What is the purpose of this visualization? How has the designer tailored this visualization to meet particular user information needs or goals?
- Does this visualization require training/study to work, or is it immediately effective?
- How are the data encoded into visual form? Does the author use specific visual channels (in)effectively to represent certain dimensions?
- What design trade-offs are present in the visualization? Are they emphasizing some part of the data at the expense of something else?

- How is interaction employed in this visualization? Are there any trade-offs that come from introducing interactions? Are the interactions helpful?
- Do you feel that this visualization is successful? What elements help make it effective, and what hurt its effectiveness?
- What's missing from the visualization that would improve it? Is any element of the visualization misleading or at risk of misinterpretation?

Your critique does not to be *exhaustive*, per se. Prioritize critiquing the best elements and the most serious flaws. With regards to flaws, make sure to identify the elements which you will seek to improve in your version and the places where you hope to expand functionality or bring in new insights for users.

Now, **begin developing your improved visualization**. Your visualization **must include at least 2 kinds of interactions / interactive elements**. You must use HTML, Javascript, and D3 to complete this assignment. While you may use any programming language you like to pre-process the data, your visualization must not make use of any other external libraries without instructor permission.

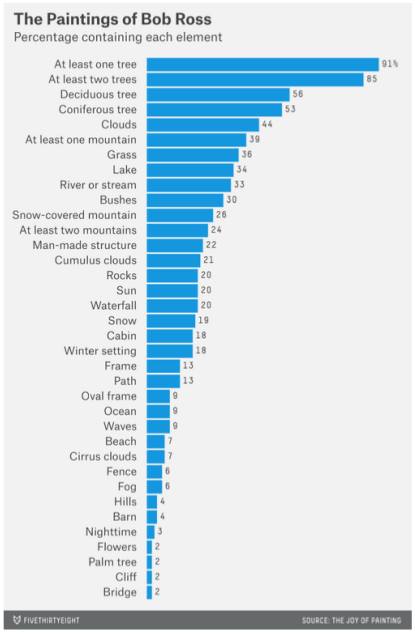
Finally, **turn back to your document**. In the last page, include a **screenshot of your finished visualization** and a **link to its publicly available version**. Write **2-3 paragraphs about your design rationale**, specifically identifying how your visualization **improves upon and exceeds the capabilities of your source inspiration**. You are welcome to use bullet points in lieu of paragraphs.

This assignment is around 2 weeks in duration. Please be sure to create a submission that reflects at least 2 weeks of group work on the prototype and design rationale document. Try to scope your project down so that you can deliver something that is *thoughtfully designed* in the time. We will be critiquing these designs in class, as usual.

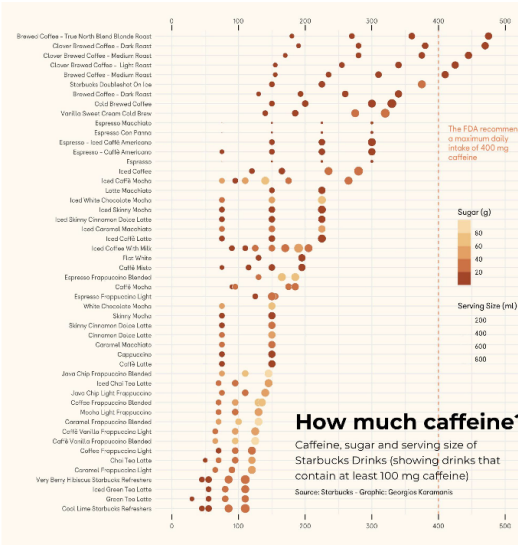
Examples of interesting past HW4 submissions

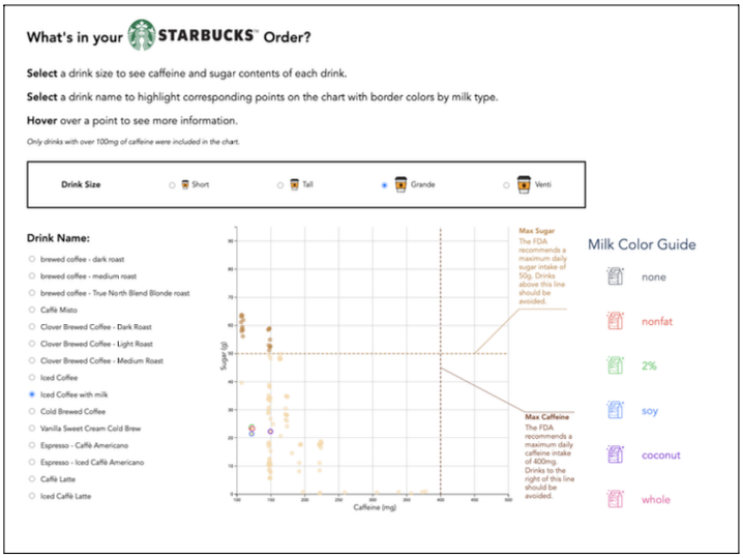
(please note that the listed examples are generally strong, but not necessarily 100/100)

In this project, students took a basic graph of Bob Ross paintings and decided that it did not provide a very tangible sense of how the paintings work. They revised the project to show proportions in a different way and provide a sketchpad to compare your own art to Bob's.

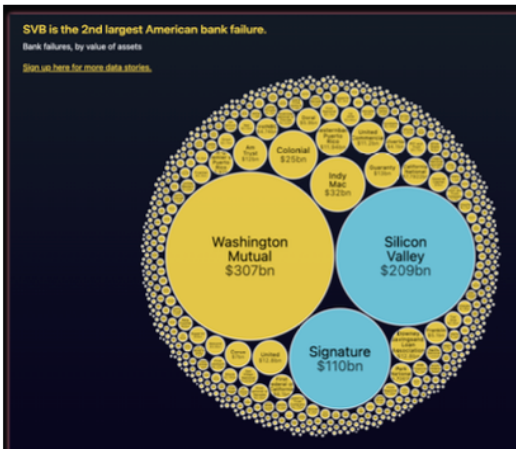


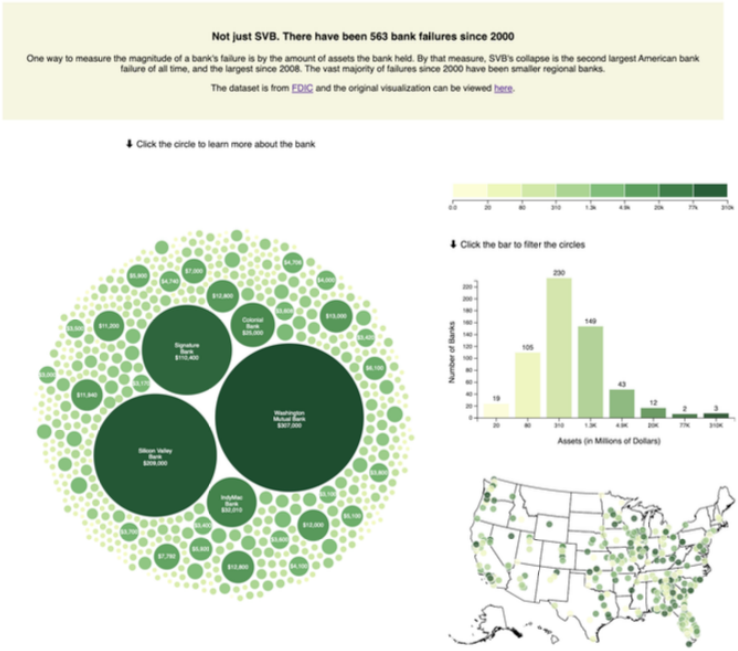
In this project, students found a chart of caffeine in Starbucks drinks did not do a good job highlighting the other variables in which the authors seemed interested. To revise it, they added interactivity and annotations to help break the data apart in a more usable, less overloaded way.



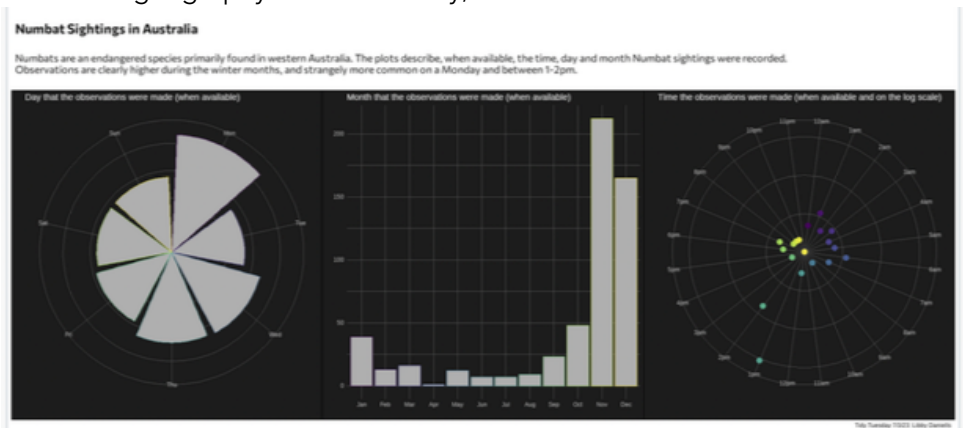


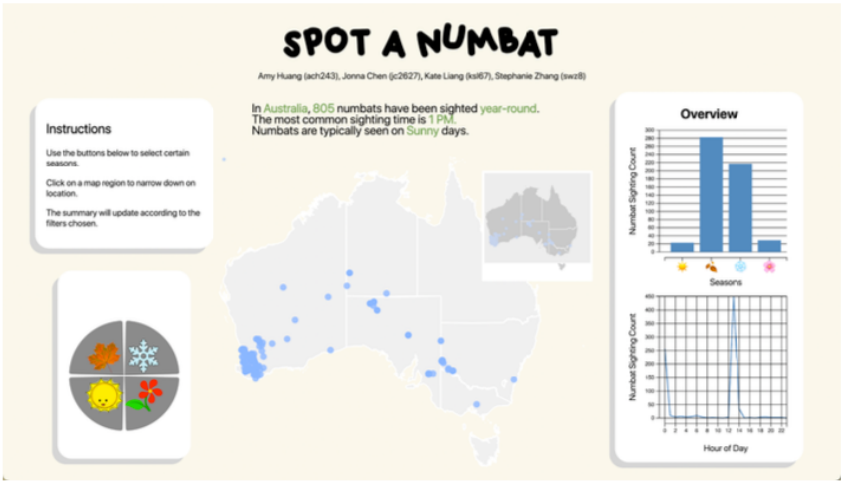
In this project, students thought this breakdown of the SVB failure lacked context, especially with regards to other aspects of banks and comparisons. They created a dashboard of three visualizations to help to unpack different forms of data on this general theme.





Several groups were drawn to an interesting dataset on Numbats. This group re-oriented the visualization around geography and seasonality, which seemed more salient for them.





Deliverable

Before the deadline, please submit to CMS a ZIP file containing:

- The working source code for your visualization
- Your write-up in PDF form

Late assignments will not be accepted. Upload early and then re-download to verify.

Preparing for In-class Critique

In addition to posting on CMS, you must also make your project publicly available so that others can access it during in-class critique. I suggest that you make use of a simple Heroku Flask server, as outlined in class.

Once you have made your project accessible to the public, please submit a link to your project using this Google Form: https://forms.gle/FDVXyv3RcTdibtj39

You must submit a link before the homework deadline to receive credit.

Grading

This assignment will be graded both on the soundness of your design and the quality of your write-up. We will begin by examining your critique and observing how your design improves on some of the issues you observed. Be very aware of trade-offs in the original design and your re-design. Some examples for point deductions include misleading, unmotivated, or unnecessary graphic elements; poorly thought out or non-responsive interactions; incomplete write-ups; poor choices for encoding data dimensions; choices that don't align with your intended message; and not adding your submission to the form for critique.