Assignment #4: Data Viz for Advocacy

CS-GY 6313 B: Information Visualization

Creating effective data visualizations that advocate for social change requires both technical skill and careful consideration of narrative elements. In this assignment, you will develop a series of linked visualizations that tell a compelling story about a social issue of your choice.

Assignment (15 points)

The goal of this assignment is to practice creating visualizations that present a narrative story and advocate in favor of a standpoint. Data visualization is useful not only for mere representation of facts—it has become a powerful medium for storytelling and advocacy. Thoughtfully-designed visualizations can present a narrative that illuminates complex social issues, evoke emotional responses, and inspires action for meaningful change. By combining data-driven evidence with deliberate narrative structures, one can guide viewers through a journey of understanding that not only informs but also persuades. The key to creating impactful advocacy visualizations is in finding a balance between the presentation of complex, nuanced data and the usage of compelling storytelling techniques, which ensures that the visualization both generates insights and resonates emotionally with your audience.

In this assignment, you will pick a dataset on a social issue that you are passionate about and create narrative visualizations that aim to argue in favor of a standpoint or change on that social issue. To aid in your storytelling you should make use of the techniques we have discussed in class (e.g., guided animations and interactions to step viewers through the data in a particular sequence).

The written report should explain the question(s) you wanted to answer about your dataset, explain the design decisions and rationale in your visualization, and provide details on all of the interaction methods you implemented. Details on interaction methods should include how to use the interaction and a description of what the interaction does (i.e., how it modifies the data and/or visualization). Your report should discuss both the strengths and weaknesses of your visualization design. **There is a 4 page limit (including figures).**

Data sources

You will pick your own dataset for this assignment. You are allowed to use a dataset that you have already used for a previous assignment, **but you must create different kinds of visualization if you do.** You should make sure that your dataset is able to

support the standpoint that you want to advocate for. You can find data sources in Assignment #2 and in this resources document, but you are also allowed to use a dataset from another source.

Extra Credit (2 points)

Conduct a rhetorical analysis (maximum 1 page) of an existing data visualization that advocates for social change. Choose a visualization from a reputable organization that uses narrative techniques to argue for a particular position on a social issue. Points you may want to discuss can include:

- The visualization's narrative structure and persuasive techniques
- How visual elements support the intended message
- The effectiveness of the call to action
- Any potential ethical concerns about how data is presented to support advocacy

Grading

The assignment is scored out of 15 points (excluding extra credit). We will determine scores by judging the soundness of your visualization designs, the effectiveness of your use of visualizations to advocate for a position, and the quality of the write-up. Here are examples of aspects that may lead to point deductions:

- Errors or broken features.
- Confusing interface design or unhelpful interactions.
- Lack of interaction techniques that facilitate exploration of the data.
- Ineffective visual encodings for your stated goal.
- Missing indication of the main analysis question(s).
- Missing or incomplete design rationale in write-up.

Submission Instructions

All assignments are to be completed individually (see syllabus for further details). The assignment is due on **Sunday 11/17, by 11:59pm**.

You are required to deploy your visualization to the web. The popular visualization libraries that support interactions also allow you to embed your visualization in an HTML file (e.g., bokeh, plotly, vega-altair, D3 is natively web-based).

You should submit .zip file containing the following components to Brightspace:

- A pdf of your written report (written using the provided LaTeX template).
    - We suggest using overleaf.com to write your reports.
- All of the code necessary to recreate your visualization.

- The webpage files that host your interactive visualization (HTML file and any additional CSS and Javascript files that are needed to locally view your visualization), or a link to the webpage where your visualization is hosted.
- The dataset file(s) or instructions on how we can download the dataset.
- A video of you demonstrating the interactions in your visualization.
    - You can use OBS to record your screen.