

Final Project

For the final project for this course you will design a new **interactive** visualization (that solves a problem or sheds light on a dataset). The aim is to apply visualization techniques you have learned to an interesting problem. The design must follow good information visualization practices, as we've discussed all semester in class. Your projects should consider the proper use of visualization components such as color, size, position, animation, and so on. When designing your visualization, identify the target user population and their tasks.

Applications of visualization to analysis or presentation problems should help the user achieve insight on the underlying data or problem that was not possible without the visualization. Achieving insight implies making the non-visible visible, or showing trends or patterns or outliers or missing information, or by presenting the underlying information in a more understandable way. Also note that, it might be that the underlying results are not entirely successful. That is ok, but be sure to follow good design principles and thoroughly discuss what did and did not work in your design.

Components of your project:

1. Choose, Gather and prepare your data from appropriate data sources;
2. Determine the story or message for your data visualization;
3. Build an **interactive** data visualization to tell your story;
4. Create a short presentation describing the data sources, data and visualization challenges, key findings and demonstrate your interactive visualization.
5. Submit a 2-page write-up and related code/workbook

Below are some details related to the components listed above:

Choosing your data:

Here are some data sources. You may also use any other data sources. You have to get your data approved by the instructor before you begin your visualization design.

Bonus: For will receive a 5 points extra credit if you pick a dataset related to health

<https://data.cdc.gov/>

Data Sources & examples of visualization projects

https://www.inetsoft.com/evaluate/bi_visualization_gallery/

ASA Data Expo: Every few years the American Statistical Association hosts a data visualization contest. Each of the past datasets comes with some questions to explore. It's OK to draw inspiration from the contest winners, but of course the work you submit must be your own.

<http://stat-computing.org/dataexpo/>

FiveThirtyEight: This data journalism site offers many of their datasets on Github.

<https://github.com/fivethirtyeight/data>

Gapminder: Hans Rosling's site hosts data (and visualization tools) on global development. How have health care, education, economy, etc. changed in the world's countries and regions over time?

<http://www.gapminder.org/data/>

Sports statistics: Many sports websites provide years or decades of data about athletes, teams, contests, etc. What attributes are associated with success in your favorite sport? The Major League Data Challenge is a contest for visualizing baseball data

<http://www.majorleaguedatachallenge.com/winners/>

<http://courses.ischool.berkeley.edu/i247/s18/>

<https://courses.cs.washington.edu/courses/cse512/14wi/show.html>

<https://datavizproject.com/>

https://flowingdata.com/2017/12/28/10-best-data-visualization-projects-of-2017/?utm_campaign=News&utm_medium=Community&utm_source=DataCamp.com

<https://mashable.com/2013/03/05/data-visualization-projects/#3UkIJK5eigqm>

www.yelp.com/dataset_challenge

<https://movement.uber.com>

<https://www.kaggle.com>

<https://www.data.gov>

Story or message for your data visualization
What is the POINT of your visualization? Do you have a punchline?

Identify the question you are trying to answer with the visualization. You should list AT LEAST THREE analytic questions or queries. Describe what is the problem that you want to solve in your project. In this description you may want to include information about who has this problem, why it is important, why and how visualization can solve it or provide insight into the data.

Build an interactive data visualization to tell your story

Include a brief description of your proposed solution describing the visual design and the envisioned interaction. Make sure to describe why you believe your solution is appropriate for the problem you are trying to solve. Include a scenario of use describing how you expect your user to use your tool. If your design was inspired by other work, please reference the work and list any or all specific techniques that you are adopting from other solutions.

Demonstrate your interactive visualization.

Please include the following in your presentation. Presentation should be approximately 8-10 minutes.

- Topic and data source
- Challenges you encountered (data and/or viz)
- Conclusion (if applicable)
- Demonstration of your interactive visualization

Submit a 2-page write-up and related code/workbook

Provide a brief written description of items 1-4 outline above. Please make sure to **save as and submit a TWBX** file if using Tableau. Submit any R code as a script.