
2068 ERF
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Project 2

Data Visualization with D3

This project gives you the opportunity to think creatively about how to collect and represent a dataset of your choice (given some restrictions). For Part 1 of the project, you will investigate and choose a dataset to work with. For Part 2, you will write a draft proposal for your visualization. For Part 3, you will sketch out visualization and interaction ideas to design your interactive visualization. For Part 4, you will create an interactive visualization. For Part 5, you will document your project and make it publicly available.

You will work in teams, and each member of your team must participate in all parts of the project.

Part 1

Find a dataset to work with - Write a draft - Present dataset & tasks in class (week 14)

-Choose your team members (you know your classmates by now).

-You can have either 4 or 3 people in a team.

-Define your Team/Project name and use this name in all project presentations.

-Find an interesting dataset with temporal information. A list of data repositories that you can select from is on the class website, or you can come up with your own dataset. You can also utilize multiple datasets.

-Brainstorm a list of 3 "analysis tasks" – questions you would be interested in finding out from looking at this data.

Some inspirations:

- Use the Facebook Graph API or netvizz to analyze your online social network
- Investigate the Pathway Commons API to investigate biological pathway networks
- Look at the Human Brain Connectome project to explore the dynamics of brain networks
- Download data from the UCSC Genomics Institute

Some temporal network datasets can be found at these websites:

-<https://snap.stanford.edu/data/>

-<http://www-personal.umich.edu/~mejn/netdata/>

-<http://networkrepository.com/>

-<https://networkdata.ics.uci.edu/resources.php>

-<http://projects.csail.mit.edu/dnd/>

Part 2

Write a short write-up that includes the following information. You can include a sketch as well if that helps you to explain your ideas.

- The data that you plan to use;

- Your main concept that describes the goals for your data visualization project;

- What it will look like;

- How it will use interaction and animation;

- How you will divide your efforts to design and code up the project

Part 3

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Part 3

Sketch Design Ideas – Present sketches in class (week 14)

Create three different sketches describing approaches to creating your dynamic network and possible representations for fulfilling the most interesting analysis tasks you've identified.

Part 4

Translate your visual representation to code – Present final project in class on 12/04

Choose one of your sketches and port it to an interactive web application using JavaScript and the D3.js library.

Part 5

Document the project – Final project files and documentation is due on 12/11

-Emulating the style of a submission to IEEE VIS, write up a paper (2 pages) describing the problem and your contribution. The format should be similar to your Project1 reports, except instead of turning in a video you will turn in the code for your project.

- Detailed description of the project, including sources of inspiration, and a reference + links to where you got your datasets from (or an explanation about you generated your own data);

- Hi-resolution images of your project (5-7);

- A link to the website (if you have it hosted online) or a link to a GitHub or BitBucket repository with your code.

-A .zip of the source code and instructions for how to install it (include a README with clear instructions for how to run your project).

-Create a GitHub or BitBucket repository (or another public facing git repo) and upload your code, the write-up, and include a README with clear instructions for how to run your project.

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Datasets

<https://www.reddit.com/r/datasets/> Great collection of free datasets around the web for you to get started. Nice resource.

<https://data.cityofchicago.org/browse?limitTo=datasets> Everything you could ever hope for and more from the Windy city.

<https://archive.ics.uci.edu/ml/datasets.html> University of Irvine Machine Learning Datasets. Some of these may require a little out of the box thinking, but there is a LOT data here to work with

<http://wordnet.princeton.edu/> If you are into the written word this is a neat resource, may have to get a little clever about it though

<http://norvig.com/mayzner.html> Peter Norvig of Google provides a fascinating exploration of English Letter Frequencies found in over a million Google Books. Best part, he released the dataset!

Inspiration for Project 2

<http://www.visualcomplexity.com/vc/>

<http://flowingdata.com>

<http://datastori.es>

<http://felinlovewithdata.com>

<http://www.dataisnature.com>

<http://manovich.net>

<http://infosthetics.com/>

<http://blog.visual.ly/>

<http://www.visualizing.org/galleries>

<http://www.reddit.com/r/dataisbeautiful>

<http://vintagevisualizations.com/>

<http://benfry.com/projects>

<http://fathom.info>

<http://offenhuber.net/comment-flow/>