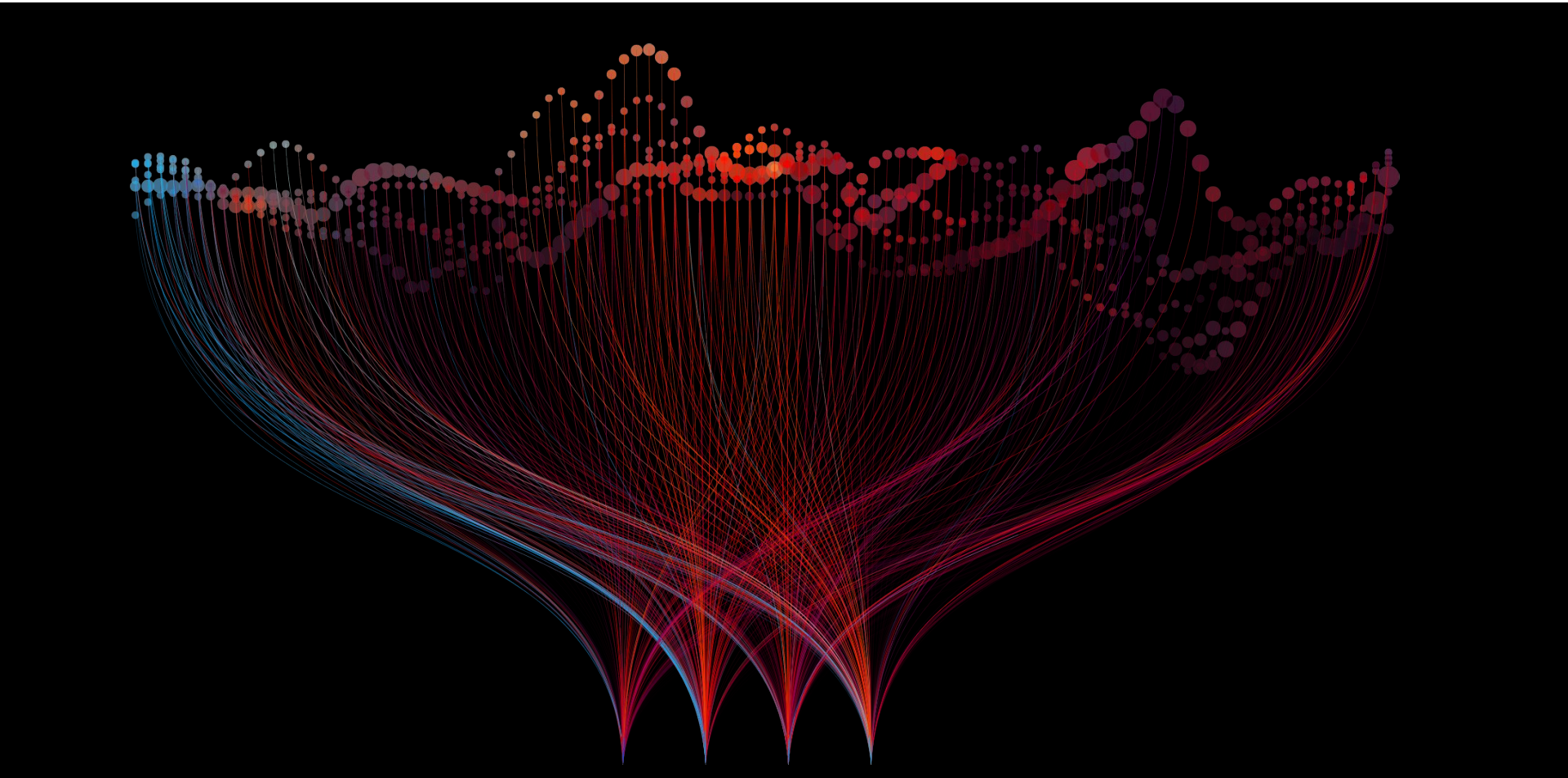
Project #2: Visualize Me, Captain!

Data Boot Camp

Lesson 18.1

Your Task

Tell a Story with Data




What?

Project Requirements

Project Description

01 Your task is to **tell a story** data visualizations.

02 Focus on providing users an **interactive means** to explore data themselves.

03 Prepare a **10-minute presentation** that lays out your theme, coding approach, data munging techniques, and final visualization.

04 You may choose a project of any theme, but we encourage you to **think broadly**.

05 You will have **ample time in class** to work with your group, but expect to put in **hours outside of class** as well.

Specific Requirements

1. Your website must include:
   - A Python Flask–powered API,
   - HTML/CSS,
   - JavaScript, and
   - At least one database (SQL, MongoDB, SQLite, etc.).
2. You website can feature either:
   - One complex, dynamic and interactive custom d3.js visualization, or
   - Multiple leaflet, plotly, or other d3-wrapper-type visualizations that update from the same data source
3. Your website's dataset can come from:
   - a single source or multiple sources as long as it has at least 100 records in its final form.
   - web scraping, API calls, or csvs that have been ETL'd into your database, and live API calls.

Specific Requirements

1. Your website must include at least one javascript library we did not cover in class:
   - D3.js shows up in this list with some excellent company.
   - Plotly, leaflet and d3-tip show up in this list with more d3-specific libraries.
2. You website must have interactivity:
   - The user must be able to dynamically change some aspect of the page.
   - You can accomplish this with inputs, buttons, or menus.
3. Your website should allow for three distinct views of your data:
   - If you've built one dynamic d3.js visualization you might have aspects of the visualization change based on user input, allowing for at least three different views.
   - If you've built a dashboard of multiple visualizations, have at least three different visualizations that can be plots, charts, graphs, or maps. You still have to work in some interactivity, though.

Schedule

Weekly Schedule

Day 1 (Today) - Brainstorm topics with your group and research potential data sets. Your focus should center around:

- Selecting a topic
- Finding a data set
- Finding inspiration
- “Sketching” your ideal visuals
- Creating a 1-page proposal

Day 2 - You will need to turn in a 1-page proposal that includes:

- A brief articulation of your chosen topic and rationale
- A link to your data set(s) and a screenshot of the metadata if it exists.
- 3 or 4 screenshots of relevant, “inspiring” visualizations that frame your creative fodder
- A sketch of the final design
- A link to the primary GitHub repository you’ll be housing your work in

Days 3-5 - Project Work (Some days will also include class activities about R)

Day 6 - Presentations

Final Deliverables

For Project Completion

1. The original project proposal must be included in the repository readme.md file.
2. A requirements.txt file must be included at the root level of the repository. This means that you must create a fresh virtual environment for development and only install the python modules necessary for your project to work.
3. Full instructions for someone to recreate your website locally must be included in the repository. This means you may need to include an ERD, a schema file, and any source files necessary for recreating your database locally.
4. You must include instructions for usage of your API. This can be as simple as an API “homepage” with links to your endpoints, however if you’ve built out a RESTful API that gives access to your data include instructions for structuring an endpoint URL.
5. Your repository must be well organized. Your code must be well documented. Your network graph must show full group participation and collaboration.
6. Optionally, you can deploy your website. We recommend Heroku, as it has a free tier that is sufficient for hosting your projects, and it is fairly well documented. Though, since it’s optional, it’s entirely up to you. We are also happy to assist.
7. All group members must contribute to the presentation for credit. It is advised that you use your website as your presentation visual, as opposed to producing a slideshow or powerpoint. As always, be prepared to show your code. Presentations will be interrupted at 10 minutes.

Final Thoughts

01

Project week is a great time to tie up loose ends, both with your group and on your own. Revisit old homeworks you'd like to improve, or get feedback from your group-mates on previous topics.

02

If there are topics you'd like to review, shoot me and the TAs a message. We're happy to do (recorded) extra review sessions outside of class for small groups during these weeks.

03

Good luck and have fun!

Questions?