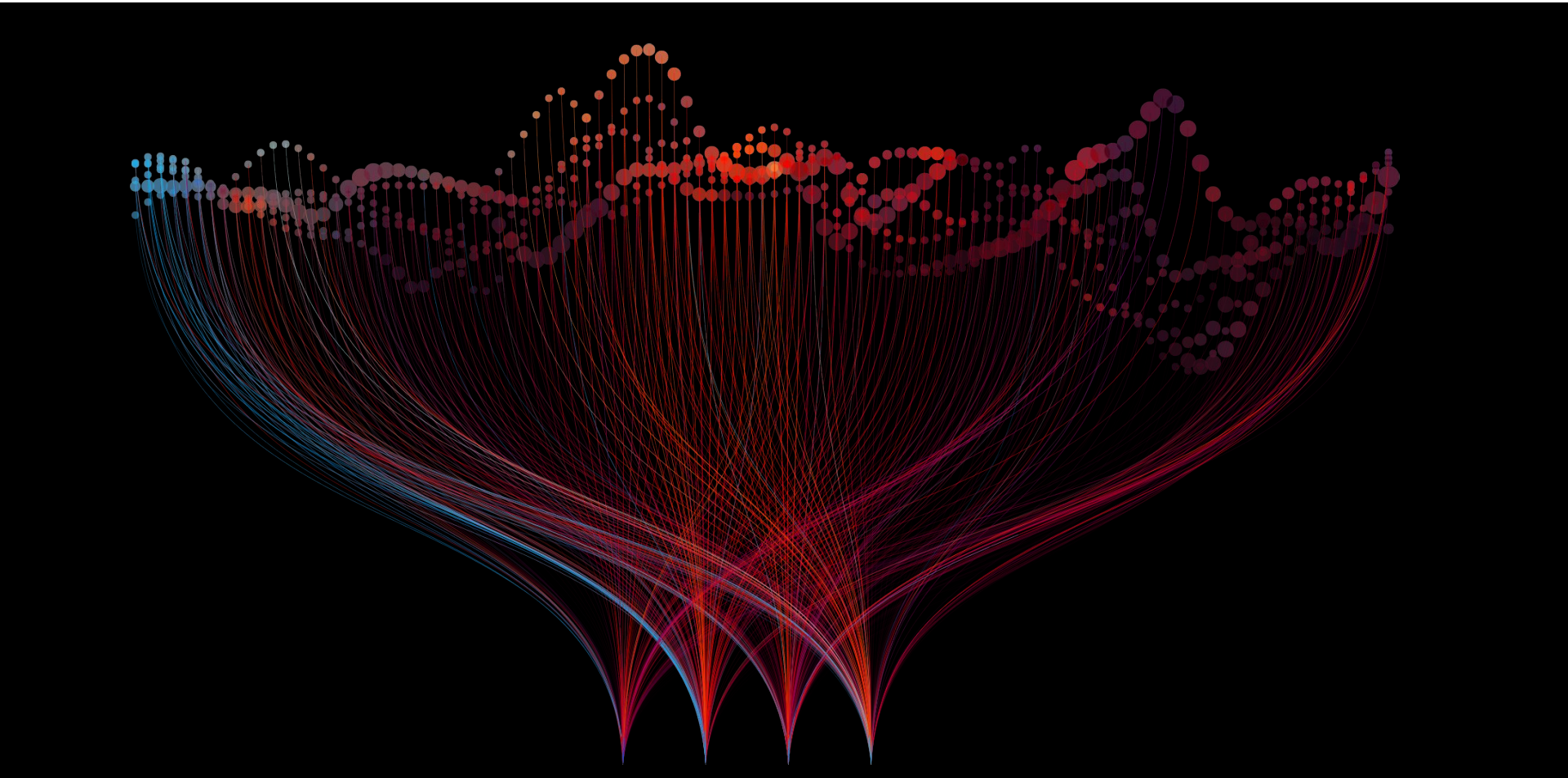
Project 3: Visualizing Data

Data Boot Camp

Lesson 18.1

Your Task

Tell a Story with Data



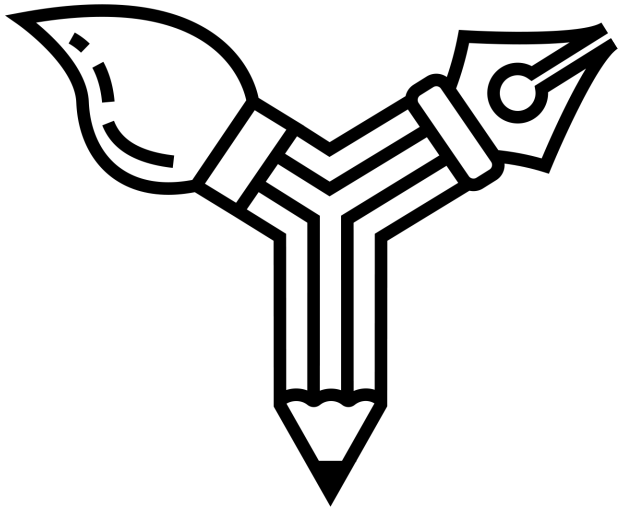

What?

Project Week Overview

Project Week! (This Week)

Day 1:

- Form groups (3–5 people each)
- Outline project ideas
- Initial data exploration
- “Sketch” ideal visuals
- Create project proposal



Day 2:

- Hardcore development

Day 3:

- Hardcore development

Project Week! (Next Week)

Day 4:

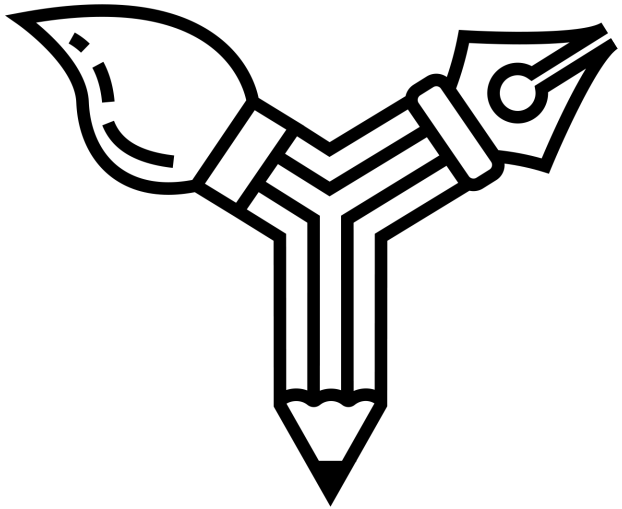
- Hardcore development
- Build visualization showcase

Day 5:

- Final touches
- Prepare presentation

Day 6:

- Present project slides



Project Requirements

Project Description

01 Your task is to **tell a story** using 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 visualization must include a Python Flask–powered API, HTML/CSS, JavaScript, and at least one database (SQL, MongoDB, SQLite, etc.).
2. Your project should fall into one of the below three tracks:
    - A combination of web scraping and Leaflet or Plotly
    - A dashboard page with multiple charts that update from the same data
    - A server that performs multiple manipulations on data in a database prior to visualization (**must be approved**)
3. Your project should include at least one JS library that we did not cover.
4. Your project must be powered by a dataset with at least 100 records.
5. Your project must include some level of user-driven interaction (e.g., menus, dropdowns, textboxes).
6. Your final visualization should ideally include at least three views.

Rubric

Rubric at a Glance

Categories for grading

Data and data delivery (20 points)

Back end: ETL (20 points)

Visualizations (20 points)

Group presentation (20 points)

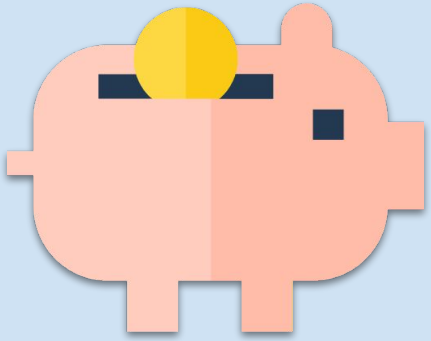
Slide deck (20 points)

Choosing a Project Track

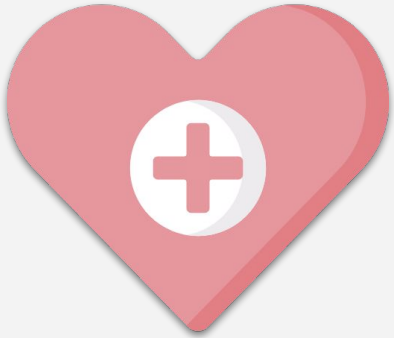
Choosing a Project Track

This project gives you the ability to focus your efforts within a specific industry.

Here are the specializations:



Finance



Healthcare

Custom

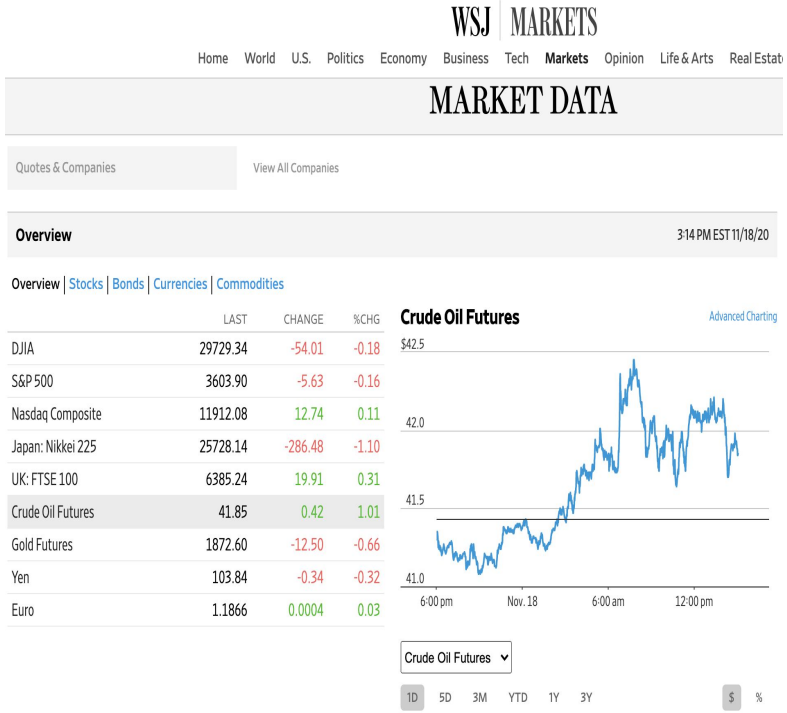
Dashboard Example: Finance

Tracking market data is crucial for equity traders. Not all traders code and are able to create custom-tailored visualizations. What's the best way for them to get what they need for success?

One option is offered by the ***Wall Street Journal***. Their website offers a dashboarding tool providing a high-level view of market performance.

This highly interactive tool allows users to easily explore stocks, bonds, currencies, and commodities.

- Users of all skill levels can utilize these data.
- Visualizations help make the data easier to understand.
- Multiple views are available for customized content.



https://www.wsj.com/market-data

Dashboard Example: Healthcare

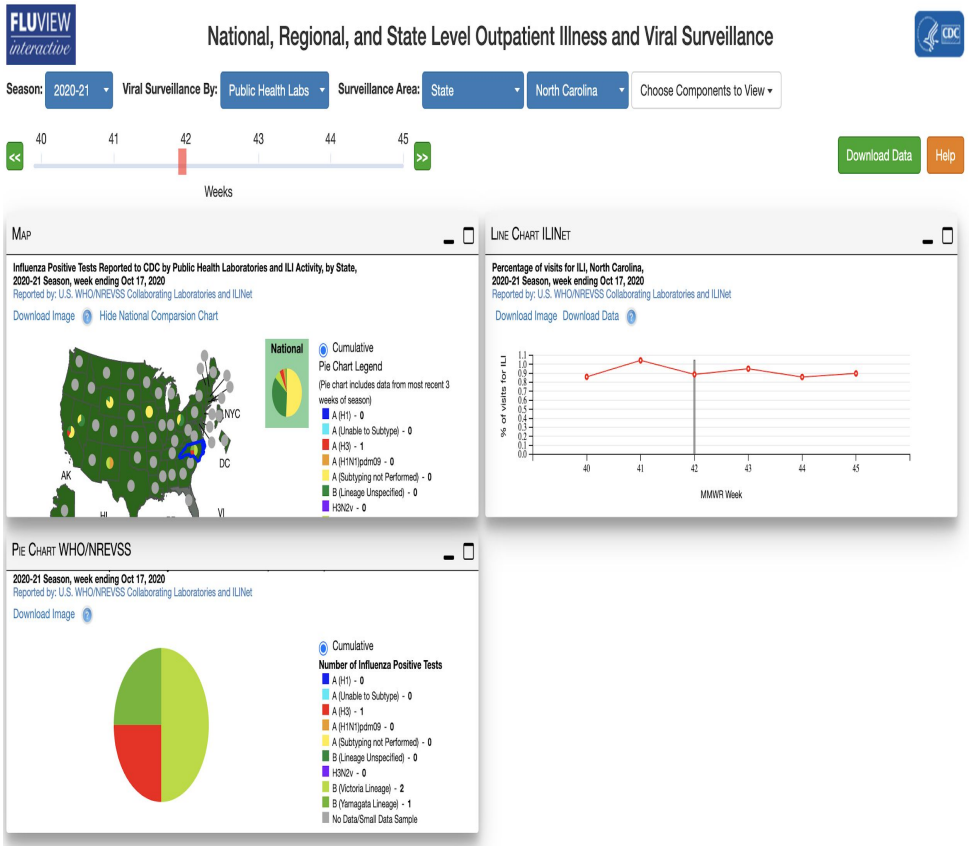
Imagine: Vacation time is coming up—and so is flu season. Trying to plan a road trip across the United States while keeping everyone's health in mind can be tricky.

Using the FluView dashboard provided by the CDC, users can easily confirm which areas to avoid.

Different interactive features include:

- An overall view of the United States, or customizable view (state by state)
- Historic and current cases
- A chart showing the count of cases, broken down by strain

With this, data are delivered quickly and navigated through with ease.



https://gis.cdc.gov/grasp/fluview/fluportaldashboard.html

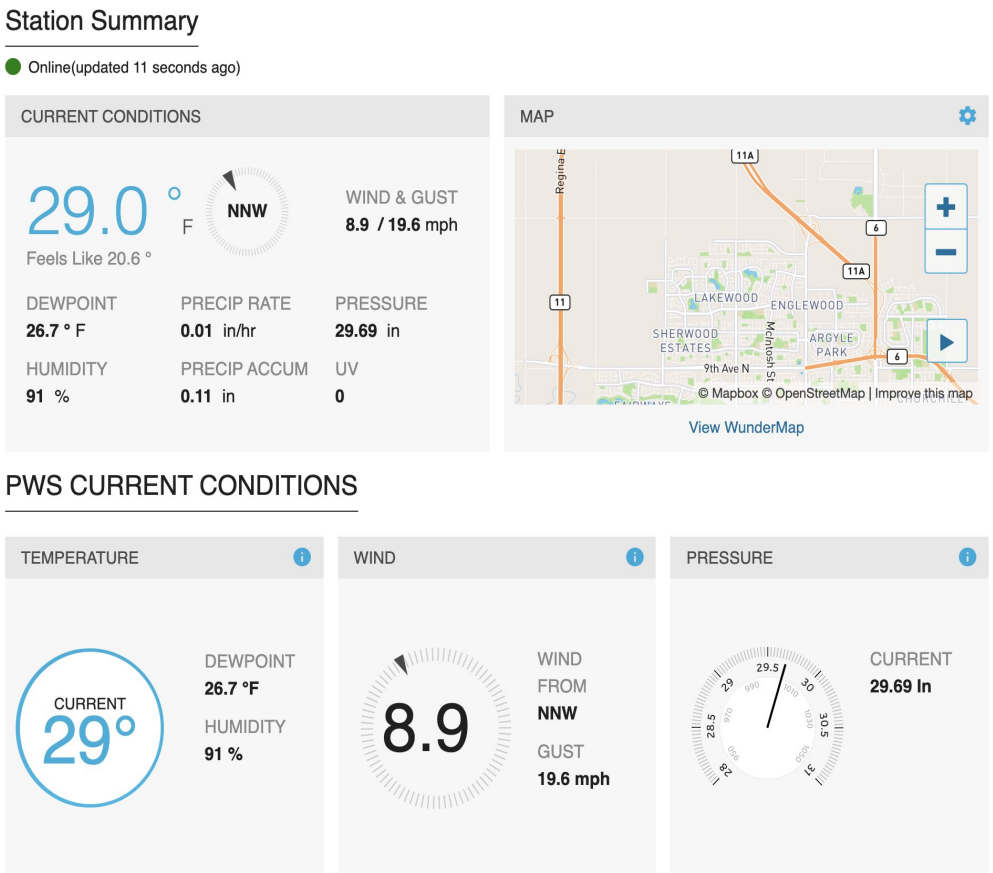
Dashboard Example: Weather Tracking

While on the way to work one morning, you notice dark clouds on the horizon. You don't remember hearing about a storm front coming in, but this looks ominous.

A quick visit to Weather Underground's Dashboard helps illuminate the situation.

Updated with live data, you can view a live map as well as specific conditions such as temperature, pressure, and even feed from a live webcam.

The data delivery is up-to-date and seamless, making it easy to understand current conditions without digging too deeply.



https://www.wunderground.com/dashboard/pws/ISASKATC4

Final Thoughts

01

Project week is a great time to tie up loose ends, both with your group and on your own.

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 for small groups during these weeks.

03

Good luck and have fun!

Time to divide into teams!

Questions?