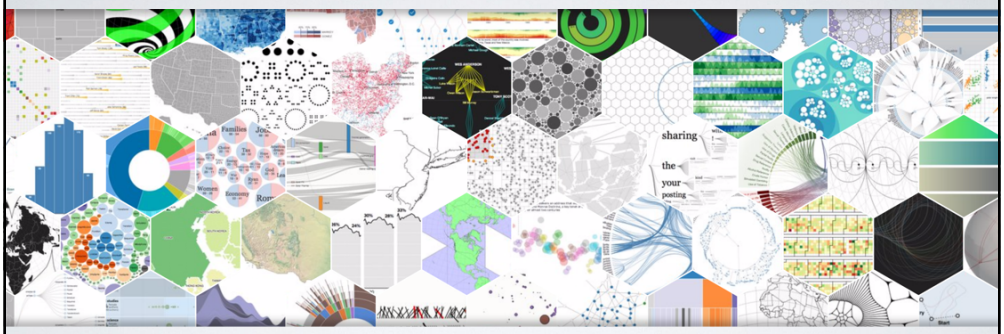
DATA DRIVEN DOCUMENTS

It's just a toolkit…

a really powerful toolkit, but you still have to do all of the programming and design.

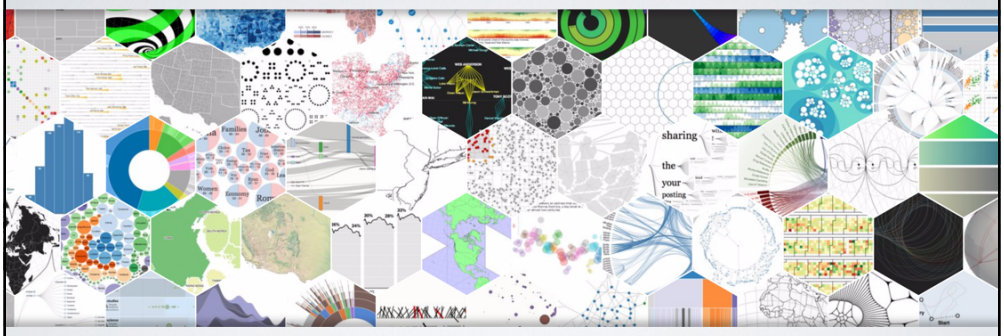
Georgia Tech Visualization Lab

It's just a toolkit…



Georgia Tech Visualization Lab

It's just a toolkit…



a really powerful toolkit, but you still have to do all of the programming and design.

Georgia Tech Visualization Lab

WHAT IS D3?

- A Javascript framework for generating, styling and animating web content based on data.
- *What does D3 do?*
  - *Load* data into the browser's memory
  - *Create, Update, and Remove* web page elements based on data (referred to as "binding data to elements on the web page")
  - *Transform and Style* those page elements based on data
  - *Transition* elements between states in response to user input
- We will spend most of our time learning how to properly "bind data" and the different ways in which you can *transform and style* marks

D3 MAPPINGS

Georgia Tech Visualization Lab

- D3 provides a large offering of data-to-visual mappings for you to use in *transforming and styling* your data visualization

Axes	Geographies	Scales
Brushes	Hierarchies	Shapes
Chords	Interpolators	Time Formats
Colors	Number Formats	Time Intervals
Dragging	Paths	Transitions
Easings	Polygons	Voronoi Diagrams
Forces	Quadtrees	Zooming

- While D3 provides a framework to apply these mappings, it is up to you to design how to use these rules in your visualization.

WHAT D3 IS NOT

Georgia Tech Visualization Lab

- D3 does not create visualizations for you
- Use Tableau, Spotfire, DataWrapper, Google Charts, etc. if you want create templated or "pre-canned" visualizations
- D3 assists you in creating visualizations but does not specify the visual mappings for your data

LEVERAGING THE WEB

Georgia Tech Visualization Lab

- D3 leverages web technologies for the display of data instead of restricting people to a single platform. This provides 2 important things:

  1. Web technologies are constantly being improved. Better graphics, new libraries and toolkits to use in your data visualization, and no proprietary licenses to use them.

  2. Sharing your visualization. The purpose of a visualization is to be seen, what better place than the Web to share it.

BEFORE D3

Georgia Tech Visualization Lab

HTML

CSS

DOM

Javascript

SVG

LAB 0

Georgia Tech Visualization Lab

HTML

CSS

DOM

Javascript

SVG

LAB PROCEDURE

Georgia Tech Visualization Lab

Before Class

- Read first half of Chapter 3 - *Interactive Data Visualization for the Web by* Scott Murray
- Download & Install Prerequisites (found on lab instruction page & t-square announcements)
- Git clone or download *example code*
  - (https://github.gatech.edu/CS-4460/Labs.git)

In-Class

- Open Lab 0 instruction page (https://github.gatech.edu/CS-4460/Labs/wiki)
- Work through activities

After Class

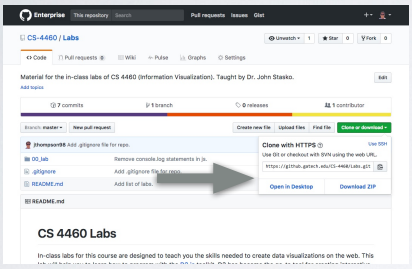
- If you run out of time, finish all lab activities

Options to Git clone

Georgia Tech Visualization Lab

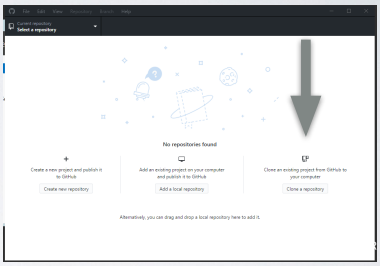
https://github.gatech.edu/CS-4460/Labs.git

A



If "Open in Desktop" does not open the GitHub Desktop app then try option B.

B



(For Windows) Select the "Clone a repository" button and enter the above url.

C

Open a new Terminal (Mac) or Command Prompt (Windows)
Navigate to directory you want to clone to, for example: `cd ~\Documents\CS-4460\`
`git clone https://github.gatech.edu/CS-4460/Labs.git`