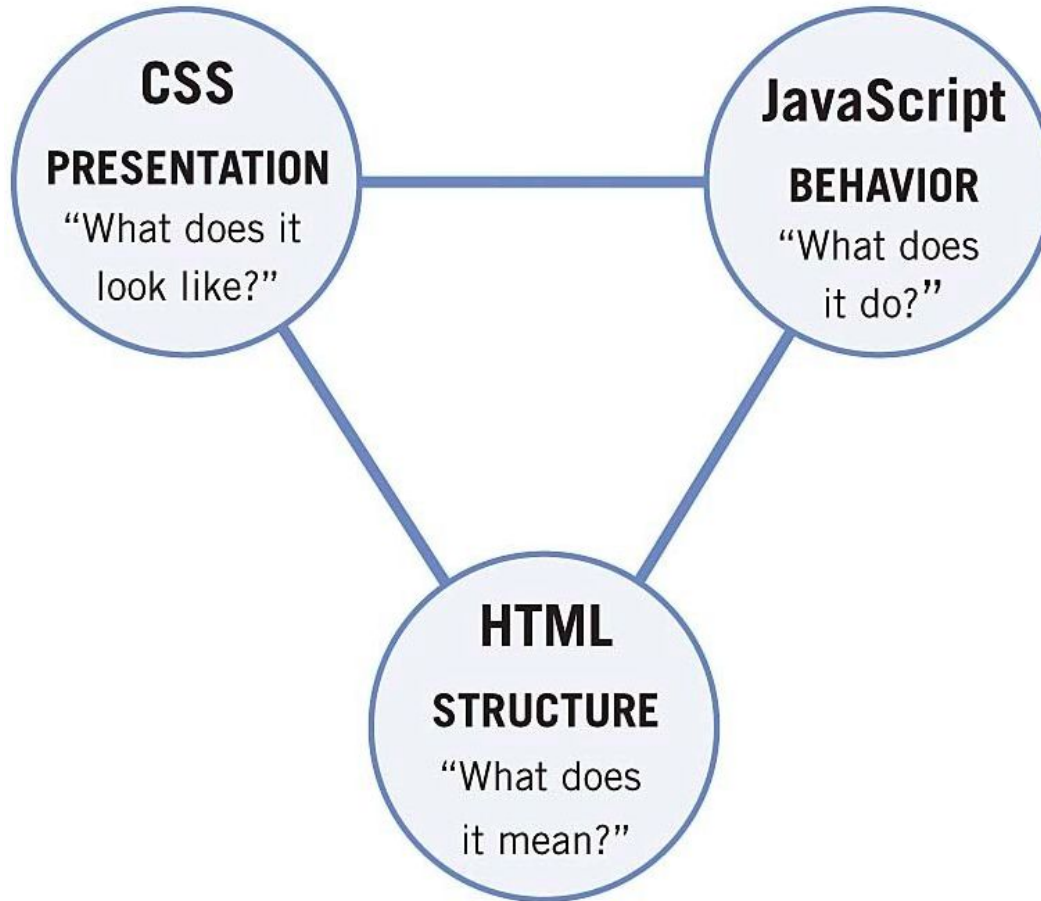
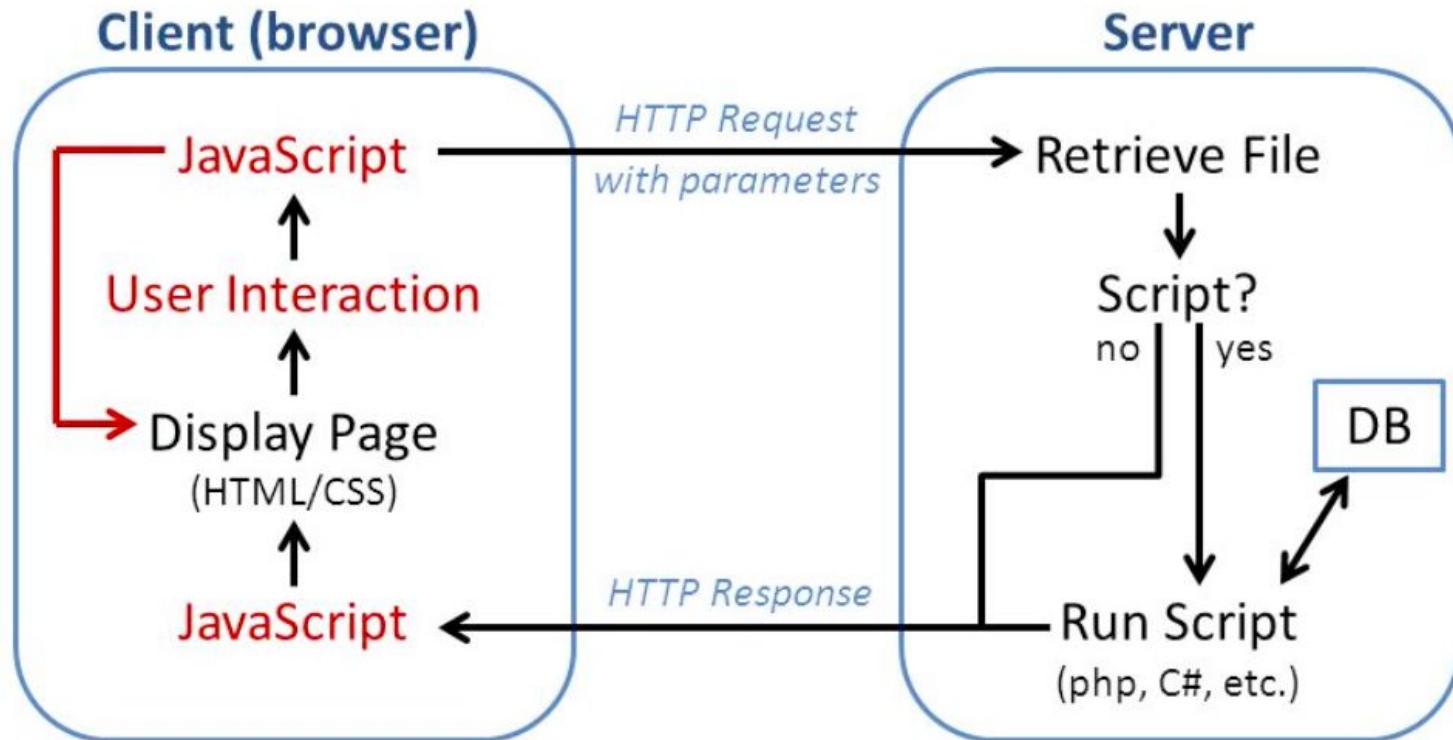


data visualisation with JavaScript

CSCI P-14300 - seminar 4 - Veronica - 7/3/18

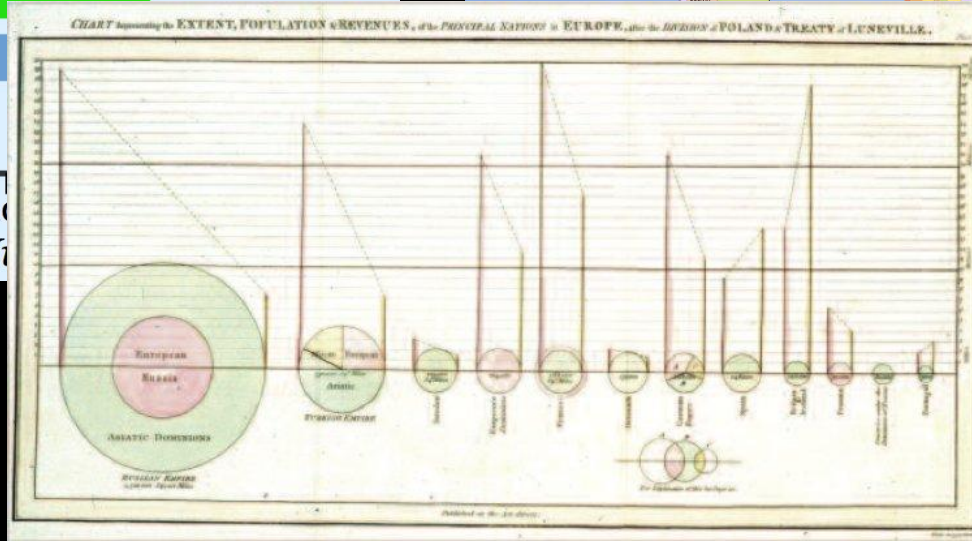
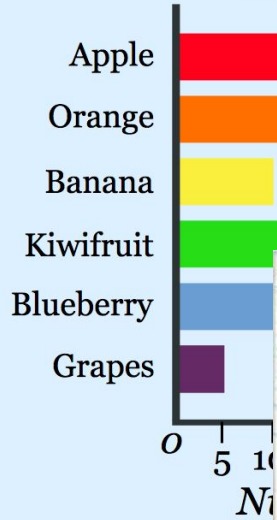
review of JavaScript





what is data visualization?

Nicest Fruit



"nicest fruit," world map, Playfair pie chart

applying a visual “layer of abstraction” to data

Scott Berinato in Harvard Business Review,
[“Visualizations That Really Work”](#)

what makes data visualization particularly relevant now?

- data matters
- we have so much of it!
- how useful this data is often depends on how it's presented

“The only way we’re going to truly gather and juice all the information big data is worth is to apply a level of relatively unprecedented data visualization.”

David Hoffer in Wired magazine, [“What does big data look like? Visualization is key for humans”](#)



D3.js

- JavaScript library
- <https://github.com/d3>
- Data-Driven Documents
- visualize data
- create unique interfaces

modules

- fetch and parse data → `d3.csv`, `d3.csvParse`
- select elements and join to data → `d3.selection`
- array manipulation, summarizing, ordering → `d3.variance`
- map abstract data to visual representation using scales and axes → `d3.scaleLinear`
- handle events → `d3.mouse`
- color, zooming, animation, time, and more!

let's take a look at some
examples!

examples of D3.js in action!

- GitHub Gallery highlights
 - [GitHub Visualizer](#)
 - [Visualizing MBTA Data](#)
 - [Lifespan](#)
 - [Passes in Soccer Match](#)
 - [Language Network](#)
- NY Times
 - ["Income Mobility Charts for Girls, Asian-Americans and Other Groups. Or Make Your Own."](#)
 - ["Is it Better to Rent or Buy"](#)
 - ["Front Row to Fashion Week"](#)
 - ["342,000 Swings Later, Derek Jeter Calls It a Career"](#)

let's try this out!

effective data visualization

- reliable data
- clarity
- context
- user interaction and manipulation

main takeaways

- D3 is one of many JS data visualization libraries
- allows us to create unique, interactive interfaces for displaying data on websites

more resources

- CS50's [JavaScript Short](#)
- D3's GitHub [repository](#)
- D3's [website](#)
- CS50's Seminar "[Data Visualization with D3](#)" by Michael Menz
- D3Vienno's YouTube [D3 tutorials](#)
- Mike Bostock's [D3 Workshop](#) slides
- D3 GitHub [Gallery](#)
 - [Basic Charts](#)
 - [Techniques, Interaction & Animation](#)
- [Brief History of Data Visualization](#)
- Hans Rosling's TED-Ed Talk "[The best stats you've ever seen](#)"
- "[The Future of Data Visualisation](#)" by Jeffrey Heer (conference talk)
- Ben Wellington's TEDx Talk "[Making data mean more through storytelling](#)"