Choose A Programming Language

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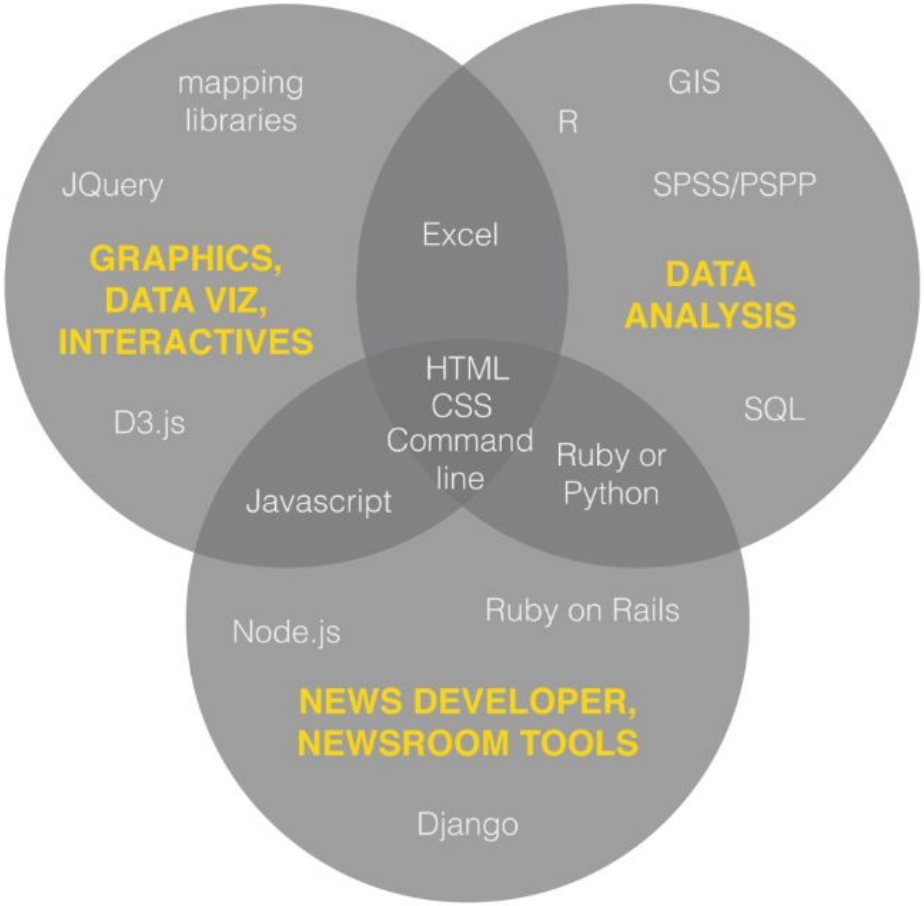

Data analysis

- R - statistics-driven language. Primarily used for data analysis and statistical computing
- SQL - programming language built specifically for working with relational databases. A great entry point into “programming” if you are coming from an excel background and want to work with larger data sets and perform higher-level analysis.
- Python - general purpose language. Great for beginners looking to learn basic concepts because its syntax is simple and easy to read. Useful as both a tool for data analysis and for the web. Useful when working with GIS data.

    - Ruby can also be used for data analysis, as its a server-side scripting language like Python

Front-end development (useful for data visualization, graphics, interactives and web programming in general)

- HTML & CSS are the standard foundations of the web. Essential for web design and development - impossible to make anything for the web without writing any HTML or CSS.
- Javascript - Considered the “programming language of the web.” Next step in learning web development after learning HTML & CSS. Vanilla javascript is an important foundation for web programming before moving on to more complicated visualization libraries like D3.js
    - JQuery falls under this as well, but understanding javascript without the help of JQuery is important
- D3.js - a javascript library used to manipulate and visualize data on the web. Uses data to power SVG. Very popular for creating graphics on the web.

General programming things

- Python & Django: Django is a web framework for Python. Has a lot of flexibility and useful for data analysis as well. Not as easy to set up or deploy as Rails, but since python is a very flexible language, Django is also pretty flexible
- Ruby & Ruby on Rails: Rails is a web framework for Ruby. Very easy to get set up and get started, so a common choice for people interested in learning web development quickly, but sometimes harder to understand next steps beyond basic setup.
- Node.js: A server-side language written in javascript, so a common choice for front-end developers fluent in javascript looking to work on the back-end without learning a new language.
- Ruby, Python and Node.js are all useful in building tools for automation and setting up servers