Data-Driven Documents

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- Introduction to D3
- Examples
- Useful Links

What D3 Is?

- D3 stands for **Data-Driven Documents**.
- D3.js is a **JavaScript library** for producing dynamic, interactive data visualizations in web browsers.
- Is a relatively low-level Library.
- It's was released in August 2011 (version 2.0.0).

How D3 Was Developed

- D3 is the successor to the earlier Protovis framework.
- In 2011, the development of Protovis has been stopped to focus on a new project, D3.js.
- Informed by experiences with Protovis, Bostock along with Heer and Ogievetsky developed D3.js to provide a more expressive framework that at the same time focuses on web standards and provides improved performance.

What D3 Does

- The D3.js library uses pre-built functions to select elements, create **SVG** objects, style them, or add transitions, dynamic effects or tooltips to them.
- These objects can also be styled using **CSS**.
- Large datasets can be bound to SVG objects using D3.js functions to **generate graphic charts and diagrams**.
- The data can be in various formats such as JSON, comma-separated values (CSV) or geoJSON, but, if required, **JavaScript** functions can be written to read other data formats.

What You Have To Know

- JavaScript
- HTML
- CSS (Cascading Style Sheets)
- SVG (Scalable Vector Graphics)

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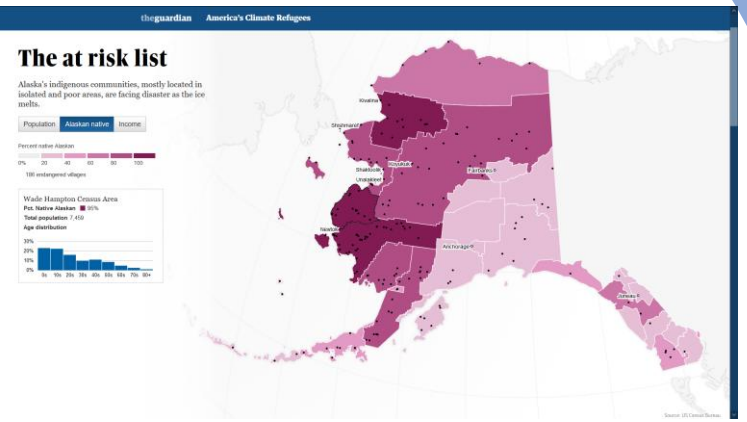

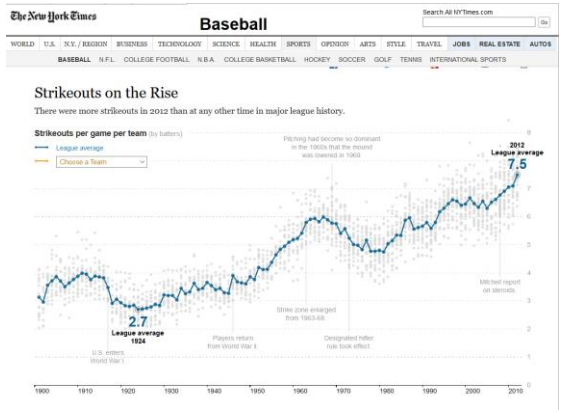

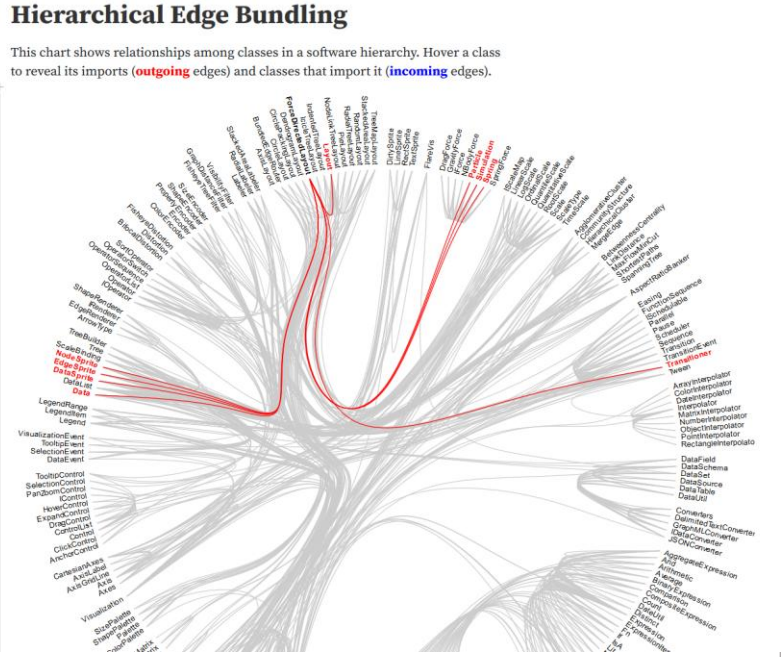

Some Examples

https://d3js.org/

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Useful Links

Download D3

- https://d3js.org/
- https://cdnjs.com/libraries/d3
- https://unpkg.com/browse/d3@5.16.0/dist/

Online Editors

- https://jsbin.com/
- https://vizhub.com

Apaches

- XAMP: https://www.apachefriends.org/download.html
- Apache Tomcat: https://tomcat.apache.org/download-80.cgi

Tutorials & Courses

- Information Visualization course: https://www.cs.ubc.ca/~tmm/courses/436V-20/
- Tutorials teacher: https://www.tutorialsteacher.com/d3js/what-is-d3js

YouTube Tutorials

- https://www.youtube.com/channel/UCCD2tAKN32ya7V639gkbWhg
- https://www.youtube.com/watch?v=_8V5o2UHG0E&list=PL28g60-Ix4brkjEcwzw5apz0nugenb7ov
- https://www.youtube.com/watch?v=_sqqxcRf9hw&list=PL28g60-Ix4brkjEcwzw5apz0nugenb7ov
- https://www.youtube.com/watch?v=C4t6qfHZ6Tw
- https://www.youtube.com/watch?v=n5NcCoa9dDU&list=PL6il2r9i3BqH9PmbOf5wA5E1wOG3FT22p

Examples

- JavaScript (Arrow Function): https://www.w3schools.com/js/js_arrow_function.asp
- CSS Tutorial: https://www.w3schools.com/css/
- SVG Tutorial: https://www.w3schools.com/graphics/svg_intro.asp
- HTML Tutorial: https://www.w3schools.com/html/

VizHub Examples

- https://vizhub.com/68416/be771477cb974c938cd8603dd8b59d32
- https://vizhub.com/curran/a44b38541b6e47a4afdd2dfe67a302c5
- https://vizhub.com/curran/012b5b20ce894b0fa7dc98ef3a0b43a5
- https://vizhub.com/curran/4fb5e4e665474a169325bd18cdc3d0c0

Thank you!

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