

PBO Workshop

Getting Excited About Data Visualization With d3

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The Philosophy of d3

- d3 isn't "just" a charting library
- It is a tool for building dynamic and interactive visualizations
- But, it does come with (a quickly growing number of) examples and layouts

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- d3 is small and doesn't pollute the global namespace
- d3 honors modern web standards instead of reinventing them
- This empowers developers with reusable knowledge
- d3 enables fine-grain control
- d3 does "one" thing and does it well, reminiscent of the UNIX spirit

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d3 Solves the Cruxes of Visualization

- Enables the binding of data to styled presentation elements
 - Provides the ability to update, append and remove these bonds
 - Provides the ability to obtain and update data by url (formats include text, json, xml, html, csv)
 - Provides transitions between different presentation styles in response to user interaction

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- Provides scales to define the mapping between data and pixels
 - Quantitative scales for continuous domains (linear, power, log, etc.)
 - Ordinal scales for categorical domains
- Targets the browser, making it ideal for quickly reaching a wide audience
 - And there is a story for getting to print

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Background

- d3.js is loosely associated with the Stanford Visualization Group
- Supersedes the ProtoVis project, so resources found there can be relevant
- Mike Bostock is the primary author
- Open sourced on GitHub.com
- Only a year or two old

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Background, cont.

It largely targets the SVG element, which is being increasingly supported across all major browsers:

- Internet Explorer, 9+
- Chrome
- Firefox
- Safari
- iOS
- Android, 3.0+
- Opera, 9.5+

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¹ JavaScript performance has increased dramatically in the last few years

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Examples

Moving onto examples