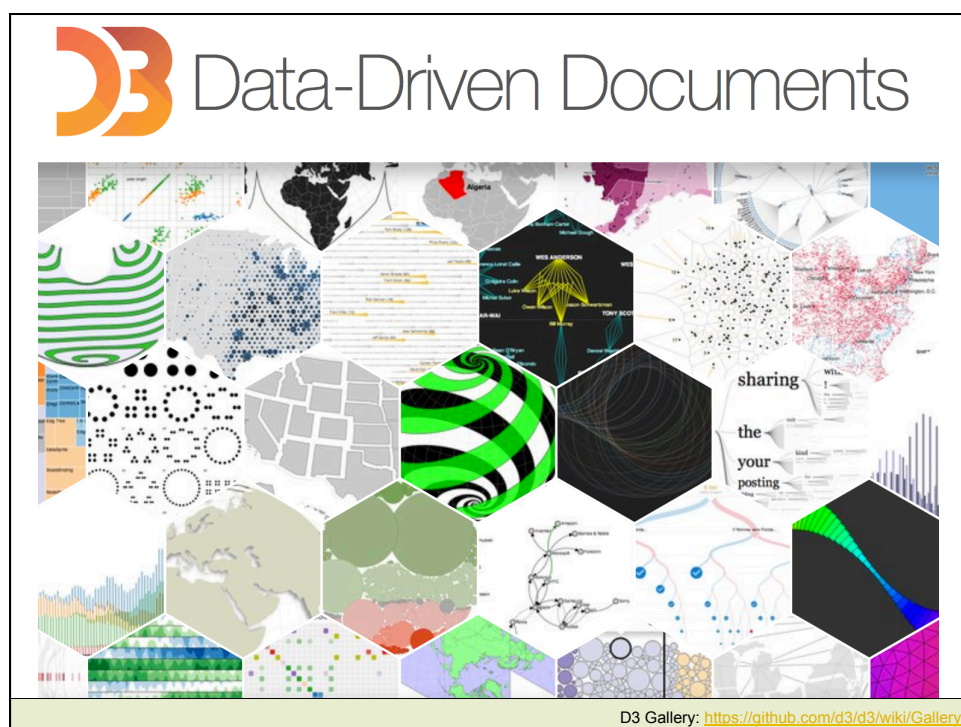


WHAT IS D3?



What Is D3?

From www.d3js.org:

- D3.js is a JavaScript library for manipulating documents based on data
- D3 helps you bring data to life using HTML, SVG, and CSS.
- D3's emphasis on web standards gives you the full capabilities of modern browsers without tying yourself to a proprietary framework, combining powerful visualization components and a data-driven approach to DOM manipulation.

What Is D3?

D3 is:

- Not a chart library
 - though you can make charts with it
- Not a map library
 - though you can make maps with it
- Not a compatibility layer
 - it doesn't work with bad browsers
- Not about SVG or HTML
 - though you can use it with them)

D3 is about mapping data to DOM elements at a low level

Nice talk on what D3 is (not): <http://www.macwright.org/presentations/dcjq/> <https://gist.github.com/tmcw/5561921>

WHY USE D3?

Why Use D3?

Python Matplotlib Bar Plot

```
plt.bar(x, y, width, color="blue")
```

R Bar Plot

```
barplot(counts, main="Cars", xlab="Gears")
```

Google Charts Bar Plot

```
barsVisualization  
  = new google.visualization.ColumnChart();  
barsVisualization.draw(data);
```

Why Use D3?

D3 Bar Plot

```
//Width and height
var svg_width = 300;
var svg_height = 120;
var barPadding = 3;
var value_scalar = 1;
var axis_gap_bar = 15
var axis_gap_text = 3
//Create SVG element
var svg = d3.select("body").append("svg").attr("width", svg_width).attr("height", svg_height);
// Define a function to draw a simple bar chart
function generateVis(){

    // Add rectangles
    svg.selectAll("rect")
      .data(dataset)
      .enter()
        .append("rect")
        .attr("x", function(d, i) {
            return i * (svg_width / dataset.length);
        })
        .attr("y", function(d) {
            return svg_height - (+d.Share * value_scalar) - axis_gap_bar;
        })
        .attr("width", svg_width / dataset.length - barPadding)
        .attr("height", function(d) {
            return +d.Share * value_scalar;
        })
        .attr("fill", "Blue");
}
```

Why Use D3?

D3 is great if you want to:

- Build high quality web based data visualisations
- Build interactive visualisations
- Build animated visualisations
- Build interesting novel visualisation types
- Build flexible, reusable visual components
- Build network diagrams or maps

