Mike Bostock

D3.js

How D3.js

Why D3.js?

Where D3.js

Who is Mike Bostock

-Computer scientist and Data-visualization specialist.
-PhD at Stanford University
-Lead interactive visualizing data in New York Times,
-Famous data visualization
        <Mapping the Spread of Drought Across the U.S.> <Is it Better to Rent or Buy?>
-Known for founder of D3.js

```
<script src="https://d3js.org/d3.v5.min.js"></script>
```
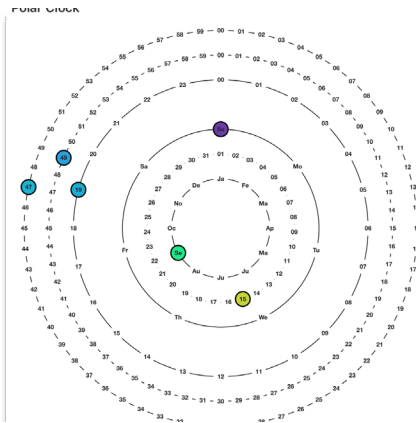
What is D3.js?

Data
Driven
Documents

-An open source JavaScript library using HTML, SVG and CSS.
which make easy to visualize data on webpages. (allow to see in chrome, safari, firefox)

-D3.js helps people to visualize without one's appropriate framework, and visualization components.
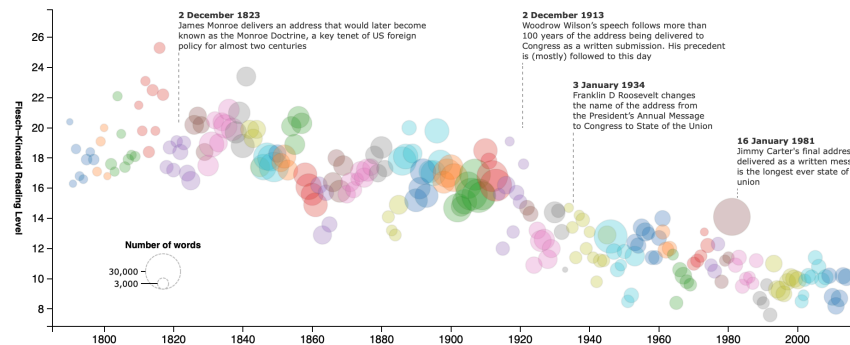
Why people use D3.js?

Polar Clock

The state of our union is ... dumber:
How the linguistic standard of the presidential address has declined

Using the Flesch-Kincaid readability test the Guardian has tracked the reading level of every State of the Union

https://d3js.org

-help people to build framework in the form they want. tt(framework is a basically tool for developing software applications).
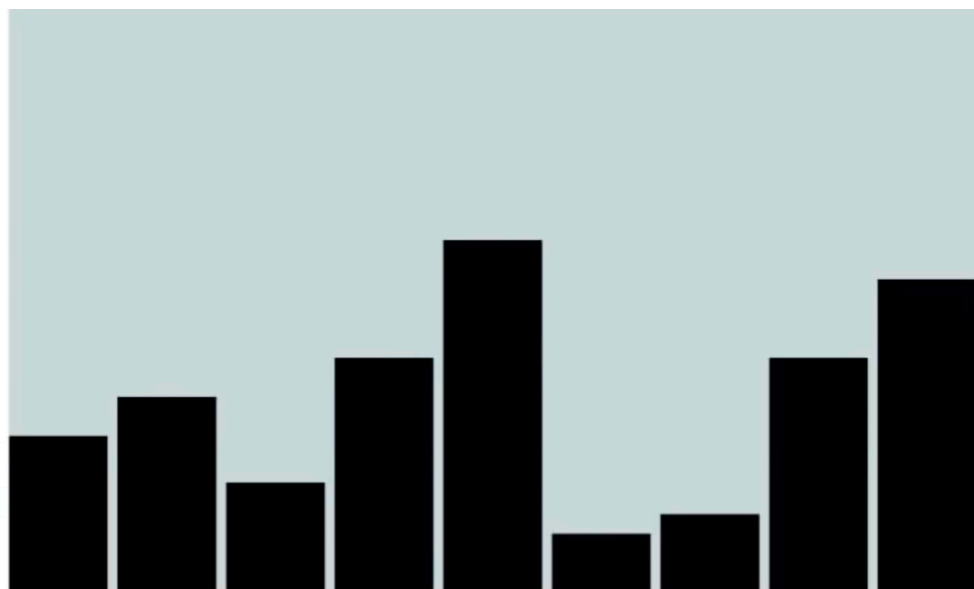
-D3 was the only framework to make visualizations.

-D3.js is written in JavaScript. What people need to do is chose style, number, make interactive data. It is totally up to person who use. (variety, easy to learn)

https://observablehq.com/@d3/hexbin , http://www.nytimes.com/newsgraphics/2013/09/13/fashion-week-editors-picks/index.html
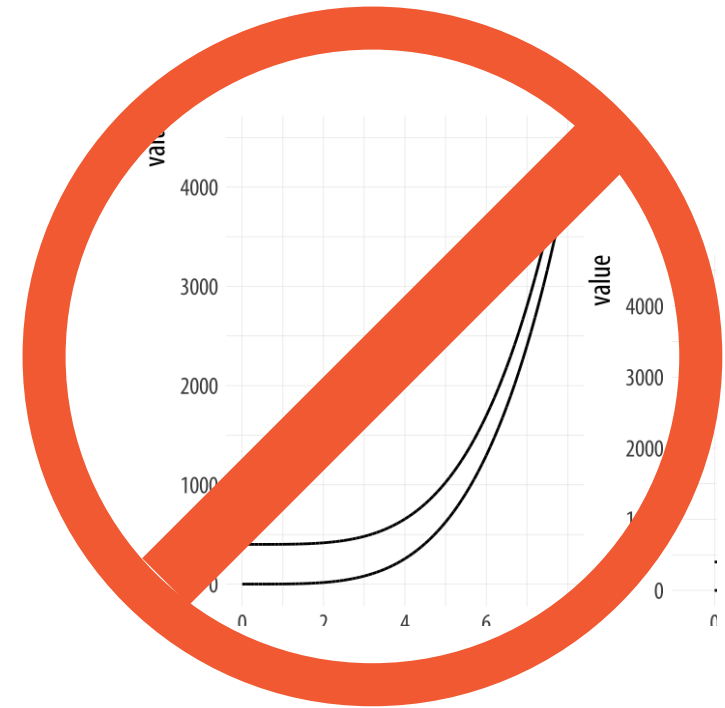
How D3.js work?

```javascript
1   // javascript
2   var dataset = [80, 100, 56, 120, 180, 30, 40, 120, 160];
3
4   var svgWidth = 500, svgHeight = 300, barPadding = 5;
5   var barWidth = (svgWidth / dataset.length);
6
7
8   var svg = d3.select('svg')
9       .attr("width", svgWidth)
10      .attr("height", svgHeight);
11
12  var barChart = svg.selectAll("rect")
13      .data(dataset)
14      .enter()
15      .append("rect")
16      .attr("y", function(d) {
17          return svgHeight - d
18      })
19      .attr("height", function(d) {
20          return d;
21      })
22      .attr("width", barWidth - barPadding)
23      .attr("transform", function (d, i) {
24          var translate = [barWidth * i, 0];
25          return "translate("+ translate +")";
26      });
27
```

Where is D3.js Used?

Interactive data-visualizations are able to show better perception.

-https://archive.nytimes.com/www.nytimes.com/interactive/2012/02/13/us/politics/2013-budget-proposal-graphic.html?hp

-http://bl.ocks.org/DStruths/9c042e3a6b66048b5bd4