C3.js

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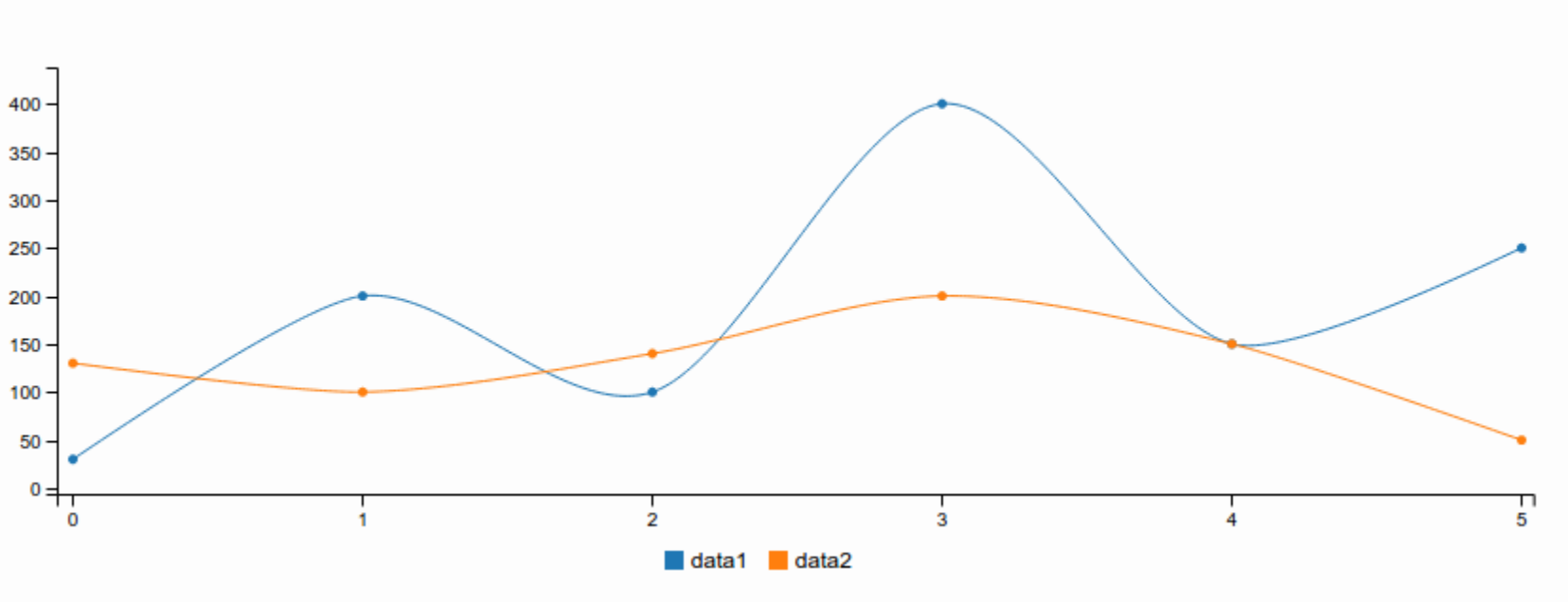
What's C3.js

- D3-based reusable chart library.
- Creating a chart with C3 is as simple as passing an object literal to the generate function.

So, what's C3.js




```
var chart = c3.generate({
    data: {
        columns: [
            ['data1', 30, 200, 100, 400, 150, 250],
            ['data2', 130, 100, 140, 200, 150, 50]
        ],
        type: 'spline'
    }
});
```

http://c3js.org/samples/chart_spline.html

Why C3.js

Comfortable

C3 makes it **easy** to generate D3-based charts by wrapping the code required to construct the entire chart.

Customizable

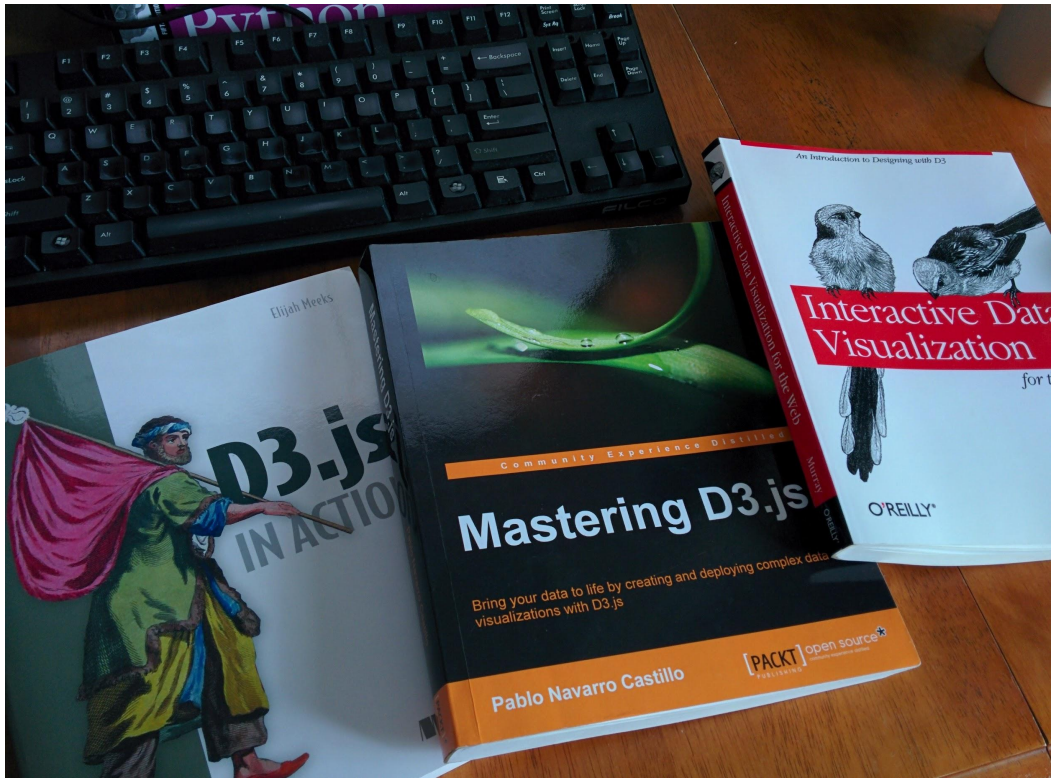
C3 gives some classes to each element when generating, so you can define a custom style by the class and it's possible to extend the structure directly by D3.

Controllable

C3 provides a variety of APIs and callbacks to access the state of the chart. By using them, you can update the chart even after it's rendered.

So, why C3.js

Creating a simple line chart with D3 can leave a developer “**spending days** to a couple weeks with custom styling, tooltips, legends, etc.,” **from http://www.infoq.com/news/2014/09/c3js-d3-charting**



An example: csv data

date	# repo creted
20110101	11
20110102	9
20110103	17
20110104	17
20110105	28
20110106	23
20110107	23
20110108	10
20110109	22
20110110	25
20110111	19
20110112	26
20110113	21
20110114	38

https://github.com/sangheestyle/bigdiff-code/blob/master/html/per_day.csv

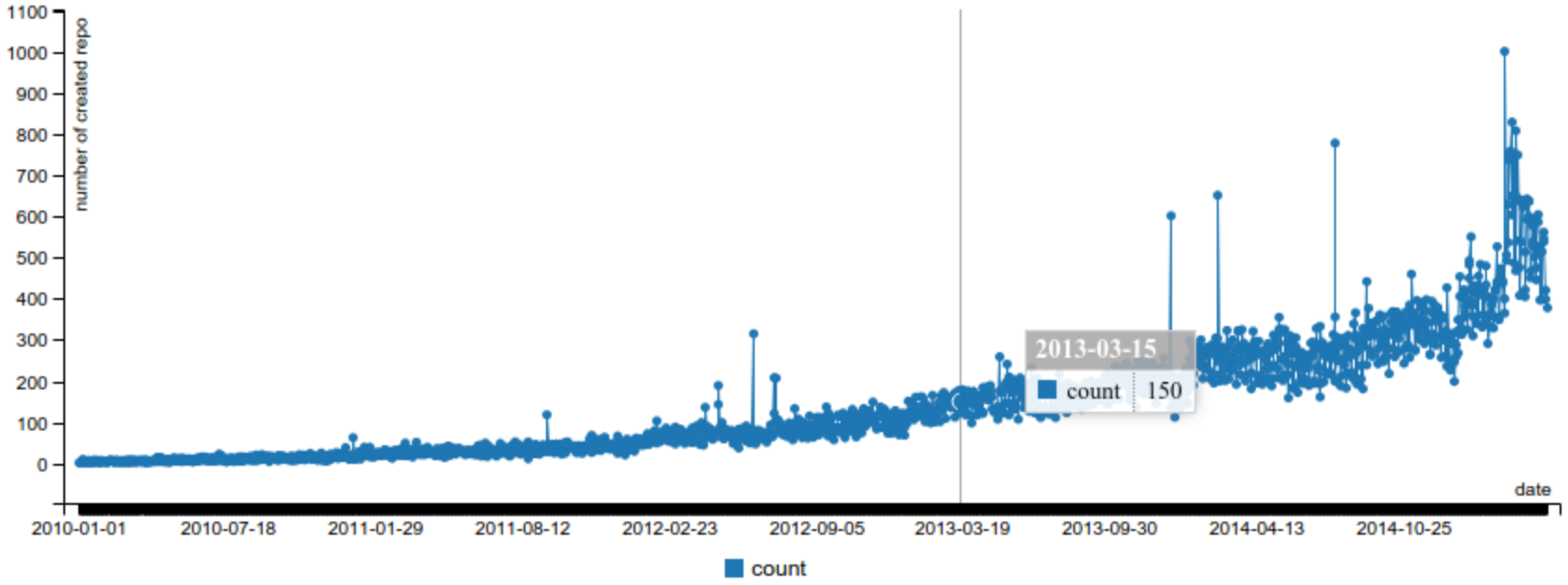
An example: c3 code inside html

```
<html>
  <head>
    <link rel="stylesheet" type="text/css" href="/c3/c3.css">
  </head>
  <body>
    <div id="chart"></div>

    <script src="http://d3js.org/d3.v3.min.js" charset="utf-8"></script>
    <script src="/c3/c3.js"></script>
    <script>
      var chart = c3.generate({
        bindto: '#chart',
        data: {
          x : 'date',
          xFormat : '%Y%m%d',
          url: 'per_day.csv'
        },
        axis : {
          x : {
            type : 'timeseries',
            tick : {
              format : "%e %b %y"
            },
            label: 'number of repo created'
            },
            y: {
                label: 'date'
            }
        },
        zoom: {
                enabled: true
        }
      });
    </script>
  </body>
</html>
```

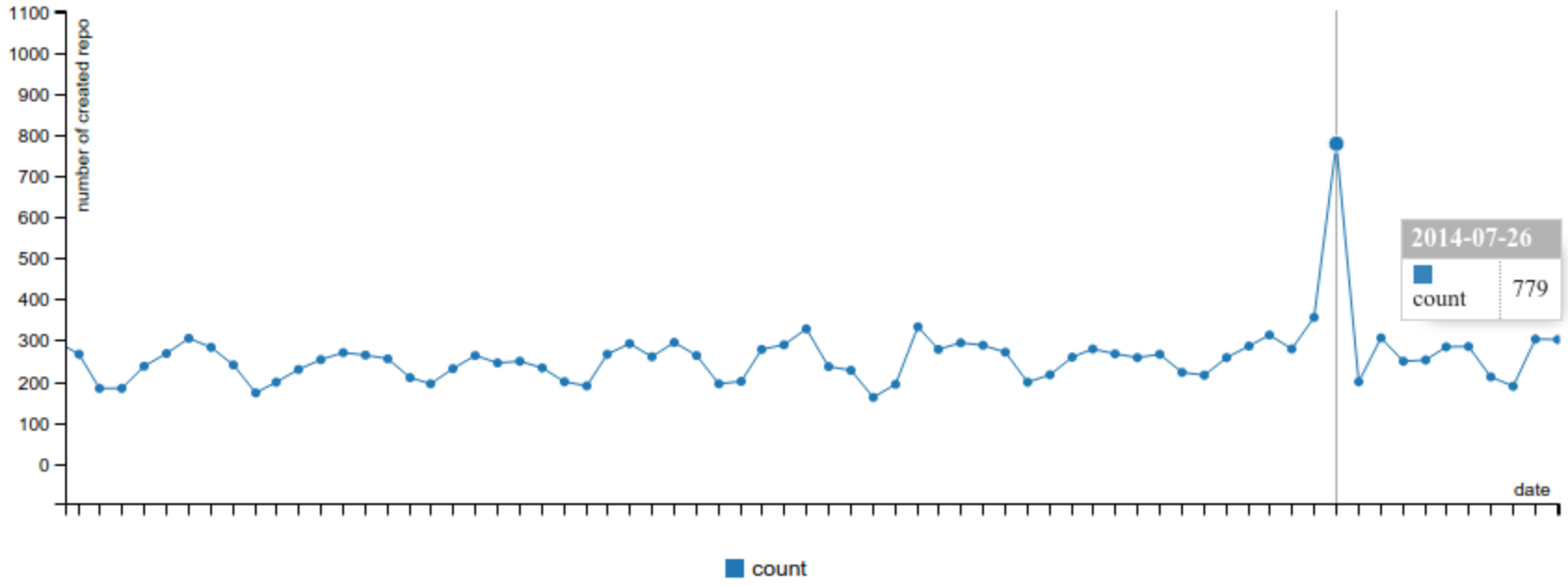
https://github.com/sangheestyle/bigdiff-code/blob/74edd02e1896368da2b45c01046bae7a6e3f4805/html/dashboard.html

An example: Boom!



http://sangheestyle.com:8080/dashboard

An example: Zoom!




```
        zoom: {
            enabled: true
        }
    });
</script>
</body>
</html>
```

http://sangheestyle.com:8080/dashboard

An example: with JSON-encoded data from the server using a GET HTTP request

```
<script src="http://d3js.org/d3.v3.min.js" charset="utf-8"></script>
<script src="/c3/c3.js"></script>
<script type="text/javascript"
        src="https://ajax.googleapis.com/ajax/libs/jquery/1.7.2/jquery.min.js">
</script>
<script>
  (function() {
    var museAPI = "http://sangheestyle.com:8080/muse/count";
    $.getJSON(museAPI)
    .done(function(data) {
      var chart = c3.generate({
        bindto: '#chart',
        data: {
          json: data.result,
          keys: {value: ['date', 'count']},
          x: 'date'
        },
        axis : {
          x : {
            type : 'timeseries',
            tick : {
              format : "%Y-%m-%d"
            },
            label: 'date'
            },
            y: {
                label: 'number of created repo'
            }
        },
        zoom: {
                enabled: true
        }
      });
    });
  })();
</script>
```

https://github.com/sangheestyle/bigdiff-code/blob/da977a82a479a86d777e1cbdcbb61654b6efe86e/html/dashboard.html

How can I do?

- Go to **http://c3js.org/examples.html**
- Click a chart example.
- Modify it’s simple source code in it’s online editor.
- Bring it into your workspace.
- That’s it.

BTW, who made it and why he did it?

"When I was developing a web application, I wanted to **control the state of the chart** after it is drawn and **fire events** on the chart **interactively**. However, the libraries I found were not designed like that (basically they're designed to just draw a chart)."

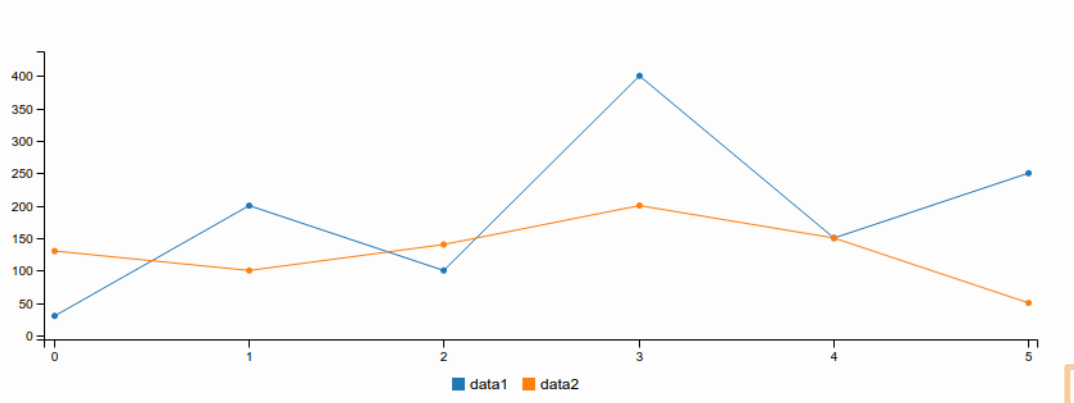
from interview **Masayuki Tanaka**, the creator of C3.

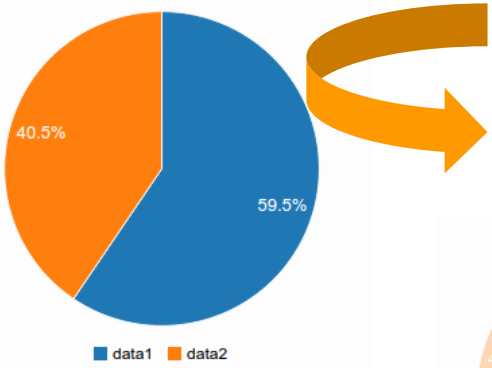
http://www.infoq.com/news/2014/09/c3js-d3-charting

Can I see an example of what he mentioned?

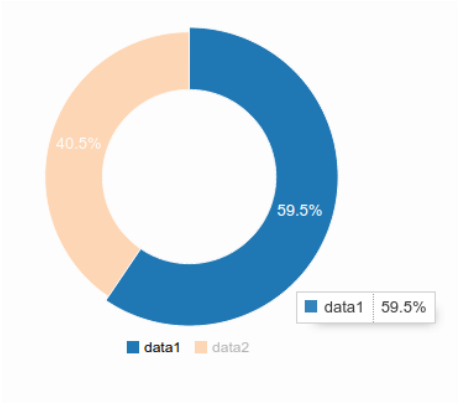
- Go to **http://c3js.org/examples.html#transform**
- Click anything you want.

Can I see an example of what he mentioned?





Control the state of chart by event




```
var chart = c3.generate({
    data: {
        columns: [
            ['data1', 30, 200, 100, 400, 150, 250],
            ['data2', 130, 100, 140, 200, 150, 50]
        ]
    }
});

setTimeout(function () {
    chart.transform('donut');
}, 1000);

setTimeout(function () {
    chart.transform('line');
}, 2000);

setTimeout(function () {
    chart.transform('pie');
}, 3000);

setTimeout(function () {
    chart.transform('donut');
}, 4000);
```

Reference

- http://c3js.org
- http://www.infoq.com/news/2014/09/c3js-d3-charting
- https://groups.google.com/forum/#!forum/c3js
- https://github.com/masayuki0812/c3
- http://sangheestyle.com:8080/dashboard