

D3 Data Driven Documents

VISUALIZING DATA WITH D3.

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Statement

Apple today announced financial results for its fiscal 2014 first quarter ended December 28, 2013. The Company posted record quarterly revenue of \$57.6 billion and quarterly net profit of \$13.1 billion, or \$14.50 per diluted share. These results compare to revenue of \$54.5 billion and net profit of \$13.1 billion, or \$13.81 per diluted share, in the year-ago quarter. Gross margin was 37.9 percent compared to 38.6 percent in the year-ago quarter. International sales accounted for 63 percent of the quarter's revenue.

How is it now?
Oh yeah!! I got it.



A dense collage of various data visualization techniques, including maps, network graphs, heatmaps, and charts, illustrating the diversity of data science. The collage features a wide array of visual representations: geographical maps of continents and regions; network graphs with nodes and edges; heatmaps with color gradients; bar charts and histograms; line graphs; scatter plots; and abstract geometric patterns. The visual elements are tightly packed together, creating a complex and colorful mosaic that represents the multifaceted nature of data science.

What is D3

This is a java Script Library for manipulating documents based on data.

Along with HTML, CSS and SVG(Scalable vector Graphics).

No Framework required.

Data Driven approach to DOM Manipulations.

The Path to Learn

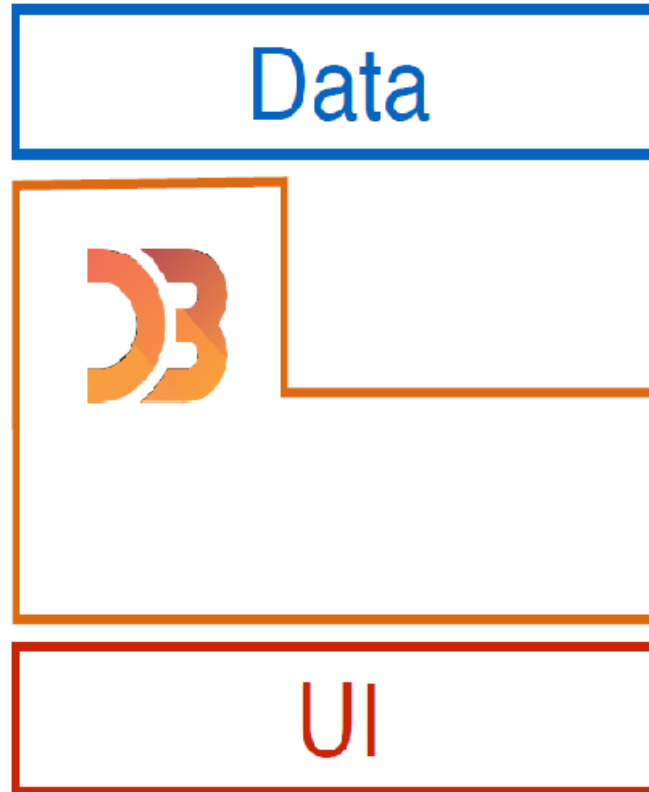
Examples

Practice

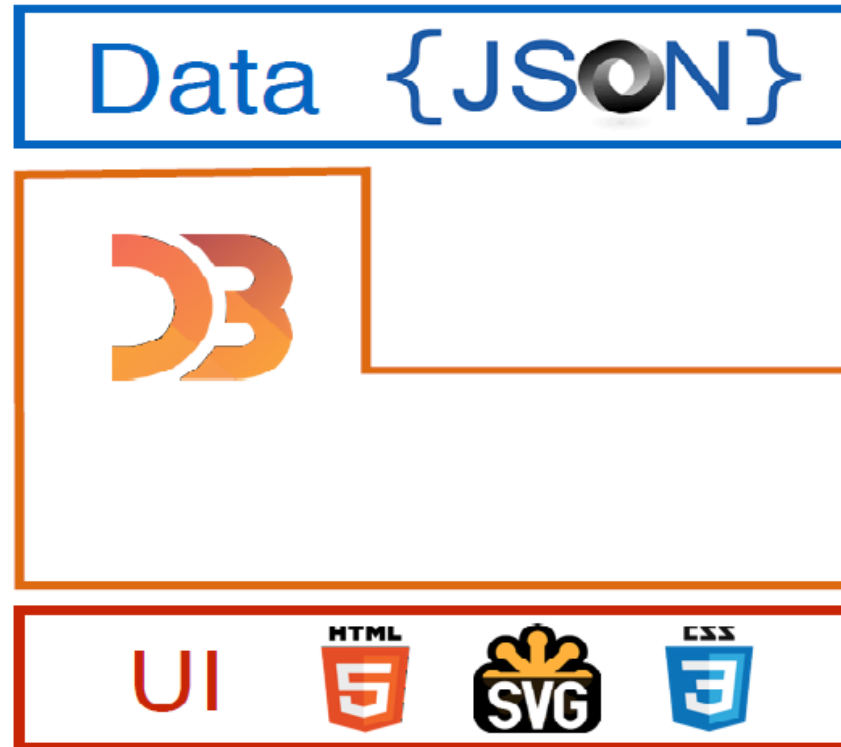
Reading

Repeat

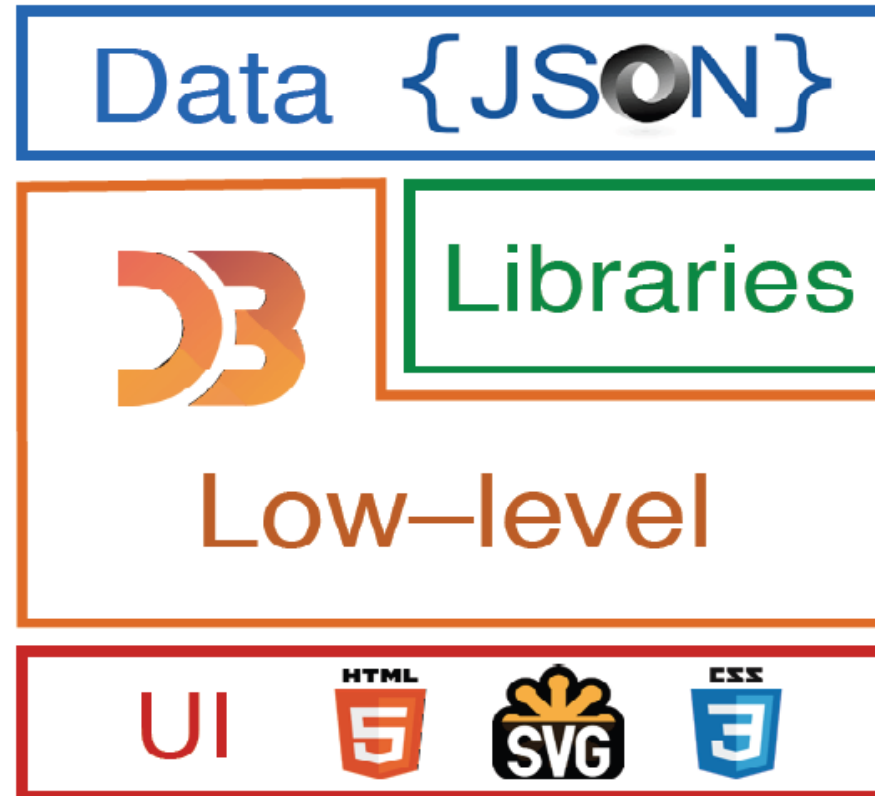
Architecture



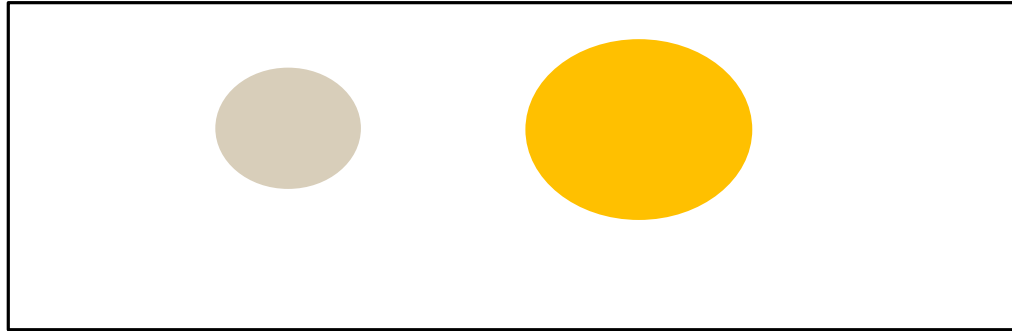
Architecture



Architecture



Example:



```
<html>
```

```
<body>
```

```
<svg width = "500" height = "200">
```

```
<circle cx="100" cy = "100" r = "10" fill = "cream"></circle>
```

```
<circle cx="100" cy = "100" r = "20" fill ="yellow"></circle>
```

```
<svg>
```

Include D3

```
<html>
```

```
  <body>
```

```
    <script src="d3.js"></script>
```

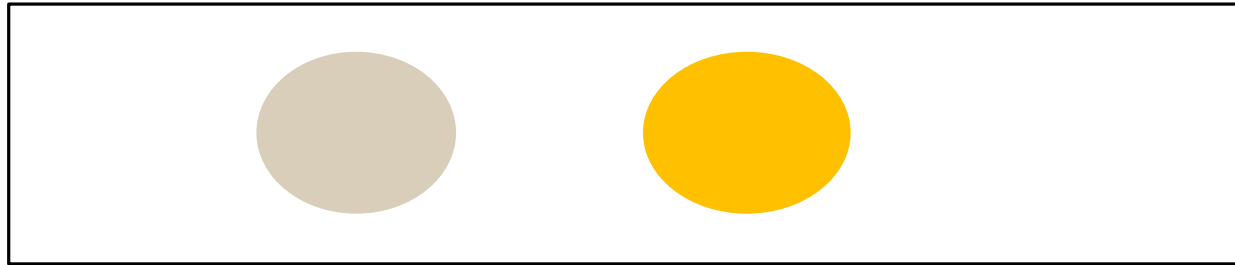
```
    .....
```

```
    .....
```

```
    .....
```

```
    .....
```

select



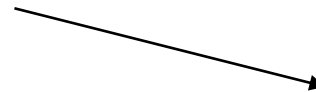
```
<svg> ..... </svg>
```

```
<script>
```

```
  Var circles = d3.selectAll("circle");
```

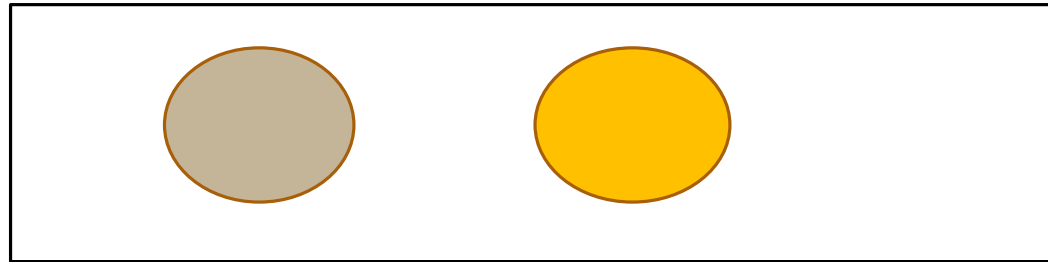
```
  circles.attr("r",30);
```

```
</script>
```



CSS3
Selector

More Select



```
<svg>...</svg>
```

```
<script>
```

```
  var circles = d3.selectAll("circle")
```

```
  circles.attr("r",30)
```

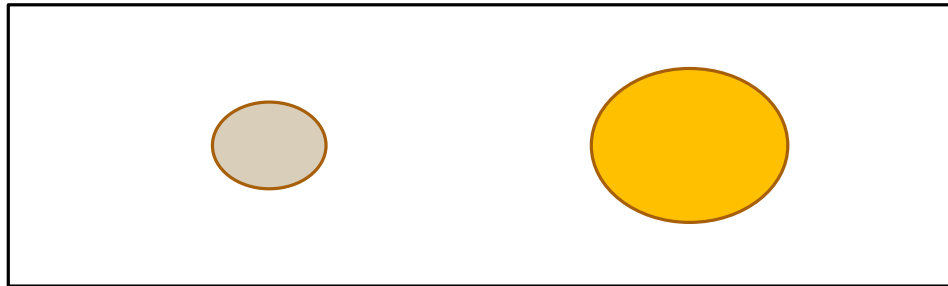
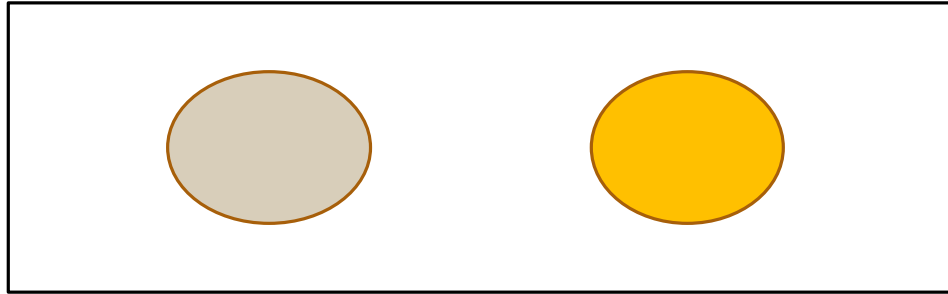
```
    .attr("stroke","brown")
```

```
    .attr("stroke-width", 1.5);
```

```
</script>
```

Bind

Var Sizes = [5,15];



Bind

```
<svg>....</svg>
```

```
<script>
```

```
    var circles = d3.selectAll("circle");
```

```
    var sizes = [5,15];
```

```
    circles.data(sizes)
```

```
        .attr("r",function(size){
```

```
            return size/2;} )
```

```
</script>
```

Libraries

C3.js : Re-usable chart library for d3.js

NVD3.js: Re-usable charts for d3.js. This is used to rebuild usable charts and chart components for d3.js including the d3 components

Example of Bar Graph

Draw a Bar Graph for this data using D3.

```
Var data = [4,8,15,16,23,42];
```

HTML Page

```
<!DOCTYPE html>
<meta charset="utf-8">
<style>
.chart div {
  font: 10px sans-serif;
  background-color: steelblue;
  text-align: right;
  padding: 3px;
  margin: 1px;
  color: white;
}
</style>
<div class="chart"></div>
<script src="http://d3js.org/d3.v3.min.js"></script>
<script>

var data = [4, 8, 15, 16, 23, 42];

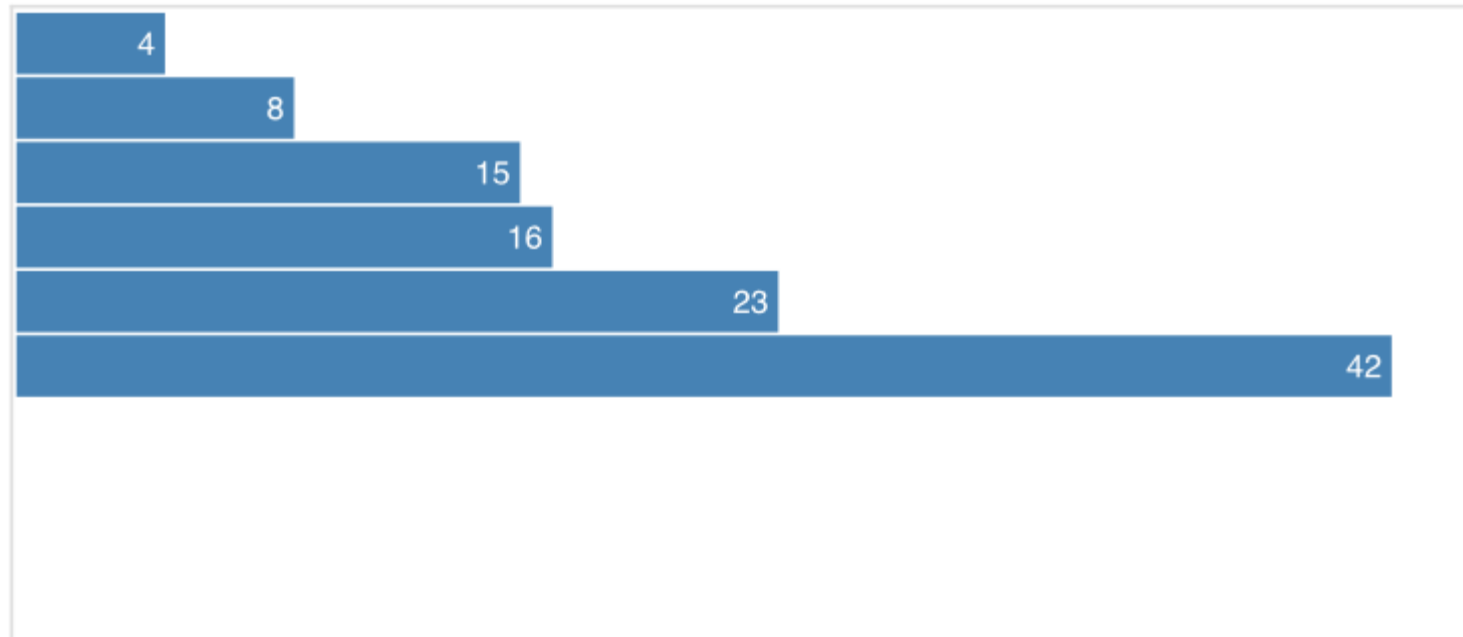
var x = d3.scale.linear()
  .domain([0, d3.max(data)])
  .range([0, 420]);
```

HTML Page

```
d3.select(".chart")
  .selectAll("div")
  .data(data)
  .enter().append("div")
    .style("width", function(d) { return x(d) + "px"; })
    .text(function(d) { return d; });

</script>
```

Bar Graph



References

- <http://bl.ocks.org/mbostock/7322386>
- D3js.org
- C3js.org
- Nvd3js.org

Thank you 😊