

Conquering Inexpressive Web UIs

with D3.js



Travis Smith • Developer Evangelist • Atlassian • @TravisTheTechie

challenges

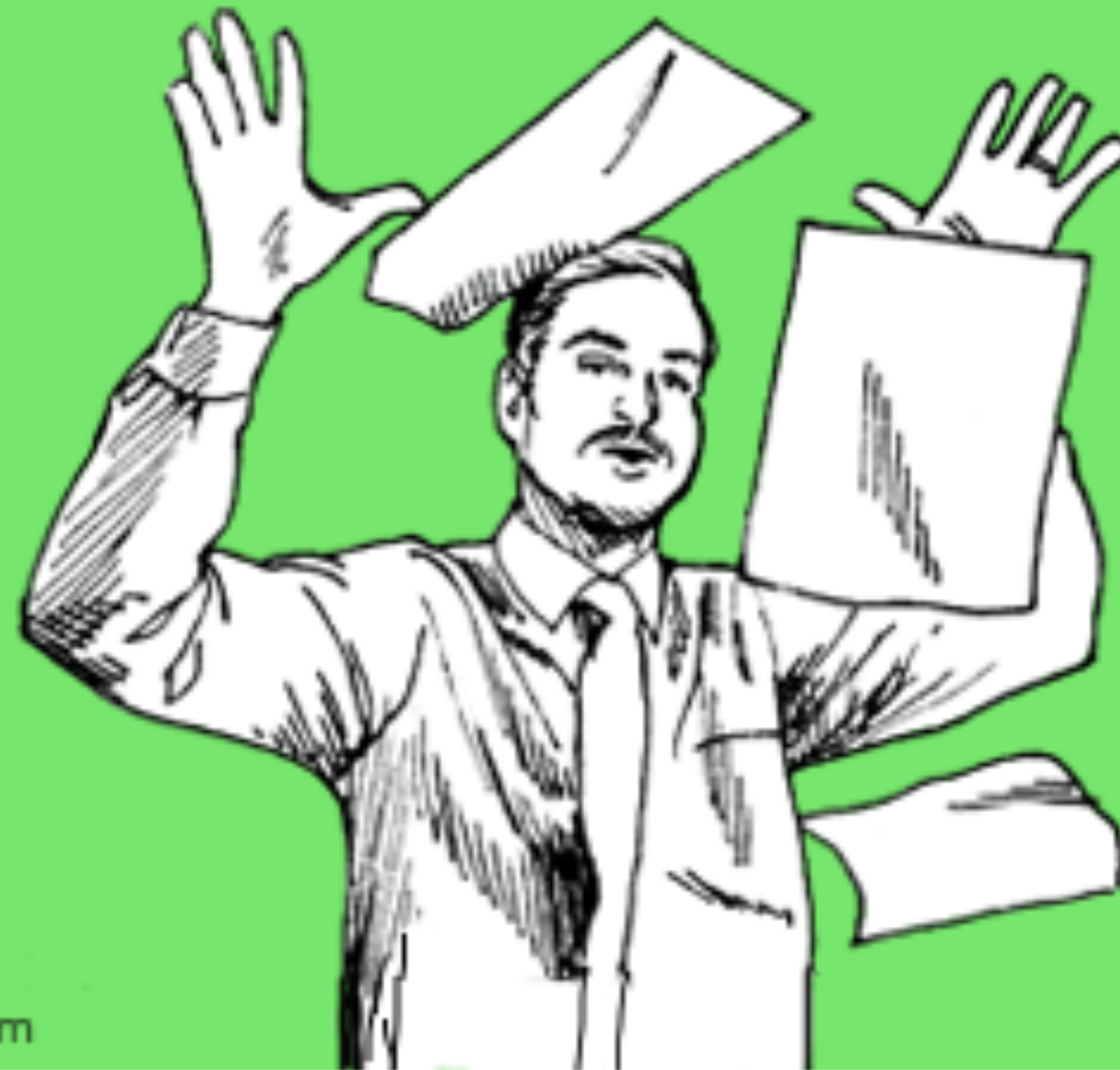
templates

underscore

```
<% if (post.get('author')) { %>
  Post by
  <% if (post.get('alink')) { %>
    <a href="<%= post.get('alink') ">
      <% if (post.get('author')) { %>
        <%= post.get('author') %>
      <% } %>
    <% if (post.get('alink')) { %>
      </a>
    <% } %>
  <% } %>
```

Throwing Paper..

LIKE A BOSS!



your  cards
someecards.com

HEY



YOU GOT THIS

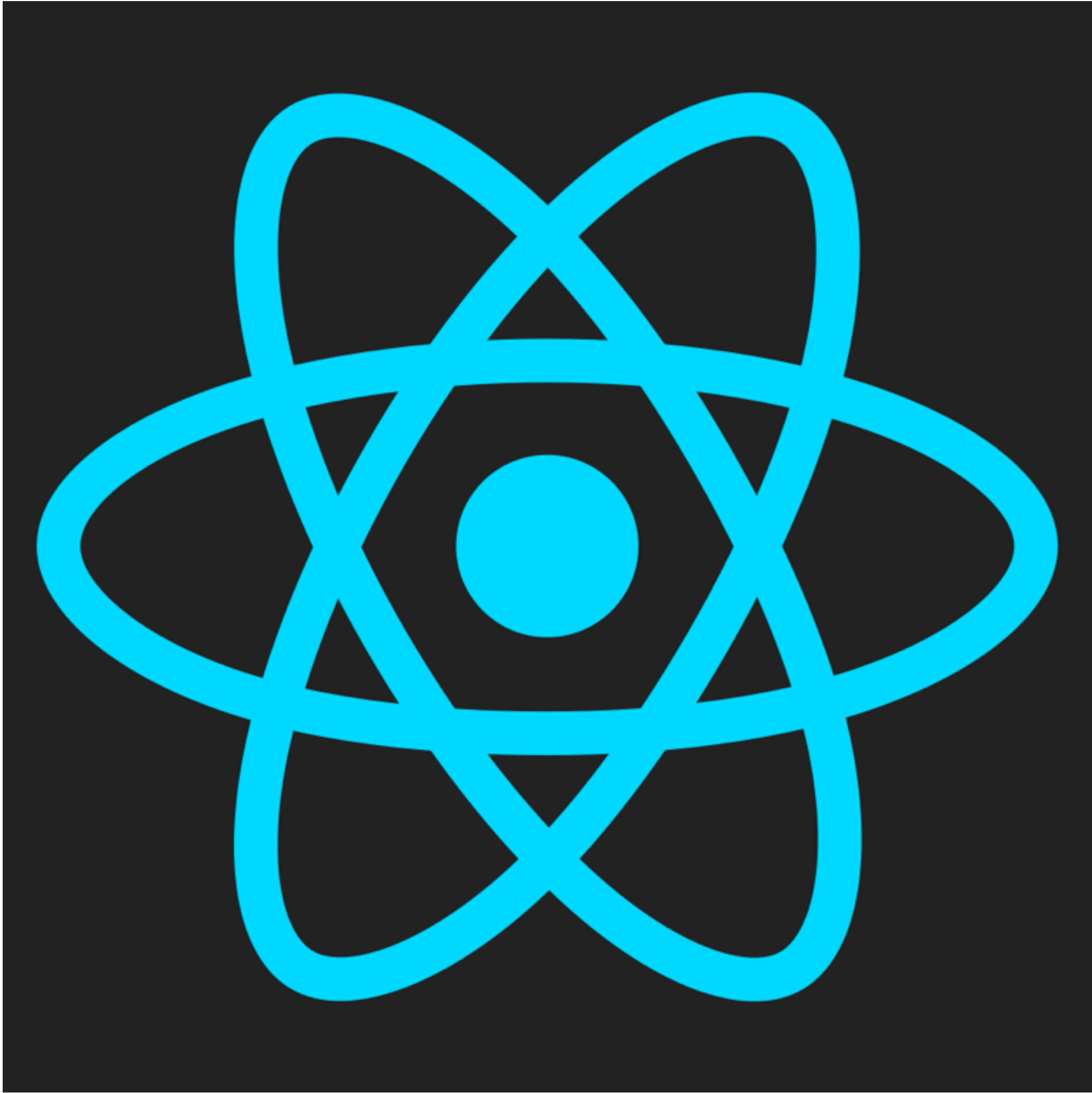
ROFLBOT

I want “A Whole New World”

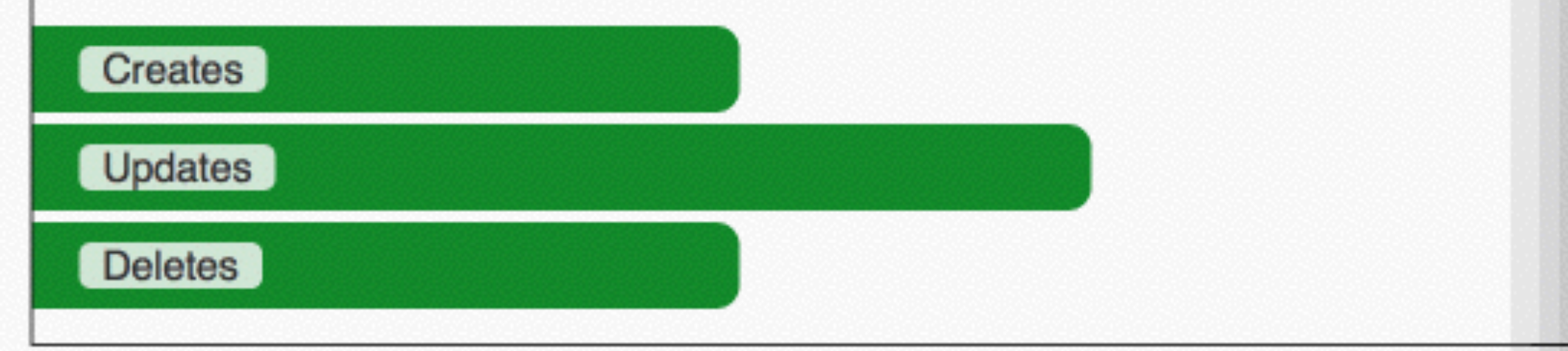
- Reusable
- Testable
- Explicit intentions







Instance stats



Key	Name
BBB	Business Business Businesses

Atlassian JIRA Project Management Software (v6.4-OD-16-006#64014-...)
This JIRA site is for non-product...



FILTERS <<

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[Recently Viewed](#)

[All Issues](#)

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Project... ▾ Type: All ▾ Status:... ▾ Assign... ▾ [More](#)

No issues have been created (yet)

Be the first to [create an issue](#)

Instance stats

Creates

Updates

Deletes

Key

Name

BBB

Business Business Businesses


```
var d = d3.select(".projects");

var projTable = d.append('table')
  .classed({'project': true, 'aui': true});

var projHeadRow = projTable.append("thead").append("tr");
projHeadRow.append("th");
projHeadRow.append("th").text("Key");
projHeadRow.append("th").text("Name");

var projBody = projTable.append("tbody");

var row = projBody.selectAll("tr")
  .data(response)
  .enter()
  .append("tr");
```

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var d = d3.select(".projects");  
  
var projTable = d.append('table')  
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  .data(response)
  .enter()
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```

```
row.append("td").append('span')
    .classed({'aui-avatar': true, 'aui-avatar-xsmall': true})
    .append('span')
    .classed({'aui-avatar-inner': true})
    .append('img')
    .attr('src', function(item) { return item.avatarUrls["16x16"] });

row.append("td").append('span')
    .classed({'project-key': true, 'aui-label': true})
    .text(function(item) { return item.key; });

row.append("td").append('span')
    .classed({'project-name': true})
    .append("a")
    .attr('href', function(item) { return baseUrl + item.key; })
    .attr('target', "_top")
    .text(function(item) { return item.name; });
```



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```



```
var chart = d3.select(".charts")  
  .selectAll("div")  
  .data(data, function(d) { return d.action; });
```

```
chart  
  .enter()  
  .append("div")  
  .classed({ "bar-item": true })  
  .append("span");
```

```
chart  
  .exit()  
  .remove();
```

```
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  .selectAll("span")  
  .text(function(d) { return d.action; });
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```
rescaleBarChart(chart, data);
```

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  .text(function(d) { return d.action; });
```

```
rescaleBarChart(chart, data);
```

```
var rescaleBarChart = function(chart, data) {  
  var x = d3.scale.linear()  
    .domain([0, d3.sum(data, function(d) { return d.value; })])  
    .range([0, 100]);  
  
  chart.data(data, function(d) { return d.action; });  
  
  chart  
    .style("width", function(d) { return x(d.value) + "%"; });  
};
```



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var rescaleBarChart = function(chart, data) {  
  var x = d3.scale.linear()  
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  chart  
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};
```



```
var websocket = new WebSocket("ws://localhost:3030/");  
websocket.onmessage = function(evt) {  
    updateAction(mapAction(evt.data));  
};
```

reusable



```
var projectTable = d.appendTable(["", "Key", "Name"], [
  function(td) {
    td.appendSelector('span.aui-avatar.aui-avatar-xsmall')
      .appendSelector('span.aui-avatar-inner')
      .append('img')
      .attr('src', function(item) { return item.avatarUrls["16x16"]; });
  },
  function(td) {
    td.appendSelector('span.project-key.aui-label')
      .text(function(item) { return item.key; });
  },
  function(td) {
    td.appendSelector('span.project-name')
      .append("a")
      .attr('href', function(item) { return baseUrl + item.key; })
      .attr('target', "_top")
      .text(function(item) { return item.name; });
  }
]);
```


explicit

```
var projectTable = d.appendTable(["", "Key", "Name"], [
  function(td) {
    td.appendSmallAvatar(function(item) { return item; });
  },
  function(td) {
    td.appendSelector('span.project-key.aui-label')
      .text(function(item) { return item.key; });
  },
  function(td) {
    td.appendSelector('span.project-name')
      .appendProjectLink(function(item) { return item; });
  }
]);
```

```
var projectTable = d.appendTable(["", "Key", "Name"], [
  (td) => td.appendSmallAvatar(function(item) { return item; }),
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  (td) => td.appendSelector('span.project-name')
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]);
```



```
var appendSelector = function(selector) {
  var self = this;
  var selectorParts = selector.split(/([\.\#])/);
  if (selectorParts.length == 0) return self;
  self = self.append(selectorParts.shift());

  while (selectorParts.length > 1) {
    var selectorModifier = selectorParts.shift();
    var selectorItem = selectorParts.shift();
    if (selectorModifier === ".") {
      self = self.classed(selectorItem, true);
    } else if (selectorModifier === "#") {
      self = self.attr('id', selectorItem);
    }
  }
  return self;
};

d3.selection.enter.prototype.appendSelector = appendSelector;
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testable

D3 all the things!

own your markup

Questions & take aways

- d3js.org
- bit.ly/d3-fc2015
- @TravisTheTechie

Thanks for coming!

Images:

<http://www.publicdomainpictures.net/pictures/30000/nahled/the-lost-toy.jpg>

<http://wondersofdisney2.yolasite.com/aladdingroup.php>

<http://calmingmanatee.com/img/xmanatee30.jpg.pagespeed.ic.IT4CntXbWN.jpg>

