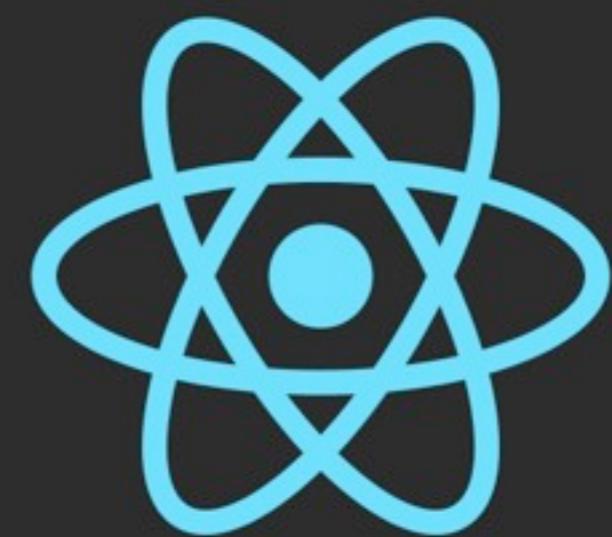




BACKBONE.JS







Joel Burget

 Follow

@dino_joel

(@dinojoel was taken)

4:50 PM - 22 Oct 2013



**Joel***De-Facto Computer Science Kingpin*[Twitter](#)[Profile](#)

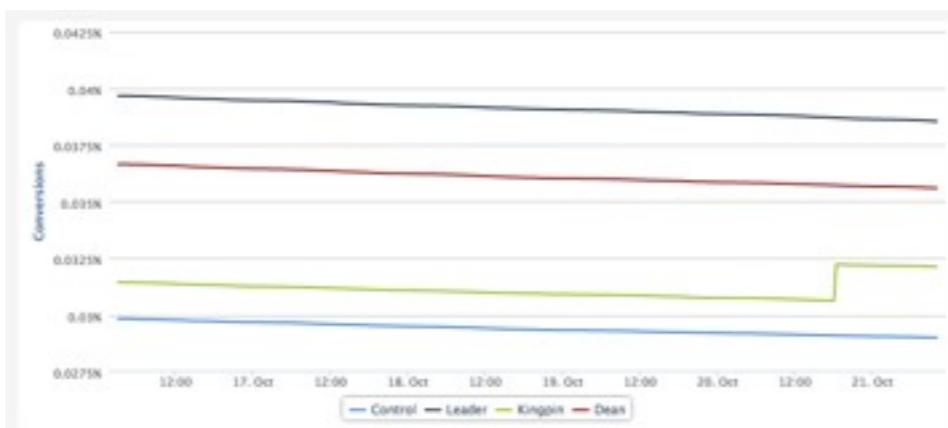
Joel graduated from Ohio State where he studied math and computer science. He was a member of the infamous Khan Academy intern class of summer '11 before returning full-time.

Joel runs one of the world's largest criminal computer science cartels from our lavish office, which is surrounded by armed guards.

**Joel***Dean of Dinosaur Studies*[Twitter](#)[Profile](#)

Joel graduated from Ohio State where he studied math and computer science. He was a member of the infamous Khan Academy intern class of summer '11 before returning full-time.

Joel studies dinosaurs when he should be doing real work. He'll make Jurassic Park a reality one of these days.

**Joel***Computer Science Beloved Leader*[Twitter](#)[Profile](#)

Joel graduated from Ohio State where he studied math and computer science. He was a member of the infamous Khan Academy intern class of summer '11 before returning full-time.

Known alternately as "Dear Father" and "Eternal Leader", Joel provides computer science tools to his thankful subjects, who are the happiest people in the world and love him dearly.

**Joel***Software Engineer*[Twitter](#)[Profile](#)

Joel graduated from Ohio State where he studied math and computer science. He was a member of the infamous Khan Academy intern class of summer '11 before returning full-time.

Joel is focused on making sure users of the site have the best experience possible.



React + Backbone

Questions Tips & Thanks Clarifications

Suggest a clarification...

~~make the numbers bigger(more legible)~~

1 Vote   • Comment • Accept clarification • Convert to Question • Edit • Undelete

20 days ago by  Michael Hutchins

At 0. 2:33 Sal says $a=3$ but he means to say $a=-3$

1 Vote   • Comment • Accept clarification • Convert to Question • Edit • Delete 13 days ago by  Zoe

sal says "negative four or minus four" a lot it would be less confusing if he did not say that as much.

1 Vote   • Comment • Accept clarification • Convert to Question • Edit • Delete

3 days ago by  Etherial

(more) React + Backbone

$$\lim_{n \rightarrow \infty} 2^n \underbrace{\sqrt{2 - \sqrt{2 + \sqrt{2 + \dots + \sqrt{2}}}}} \quad (n \text{ square roots})$$

$$\lim_{n \rightarrow \infty} 2^n \underbrace{\sqrt{2 - \sqrt{2 + \sqrt{2 + \cdots + \sqrt{2}}}}}_{n \text{ square roots}}$$

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$$\lim_{n \rightarrow \infty} 2^n \underbrace{\sqrt{2 + \sqrt{2 + \sqrt{2 + \dots + \sqrt{2}}}}}_{n \text{ square roots}}.$$

(more) React + Backbone

Exercise 1

x1

A7

3d

New Item +

Edit Preview

Save Tags: badass Author:

Question:
Matt is making a crazy math construction. He wants to create 360 small pyramids out of paper he folds, then glue together identical sides until he makes a large pyramid. One small pyramid contains a square base with side lengths a and 4 equilateral triangles with base a and height h . The height h is 3 cm. The length a is 3.5 cm.

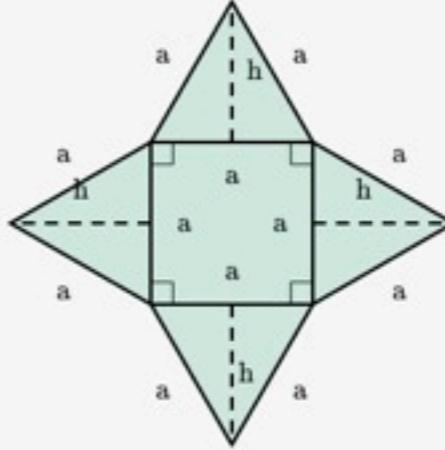
In square centimeters what is the minimum amount of paper Matt needs to create 360 small pyramids? (Assume there is no wasted paper.)

[!\[\]\(https://ka-perseus-graphie.s3.amazonaws.com/6c9db7e28a2e7a3f87fb691e8eff1b044fbacbfd.png\)](https://ka-perseus-graphie.s3.amazonaws.com/6c9db7e28a2e7a3f87fb691e8eff1b044fbacbfd.png)

Add a widget... Insert template...

Matt is making a crazy math construction. He wants to create 360 small pyramids out of paper he folds, then glue together identical sides until he makes a large pyramid. One small pyramid contains a square base with side lengths a and 4 equilateral triangles with base a and height h . The height h is 3 cm. The length a is 3.5 cm.

In square centimeters what is the minimum amount of paper Matt needs to create 360 small pyramids? (Assume there is no wasted paper.)



js

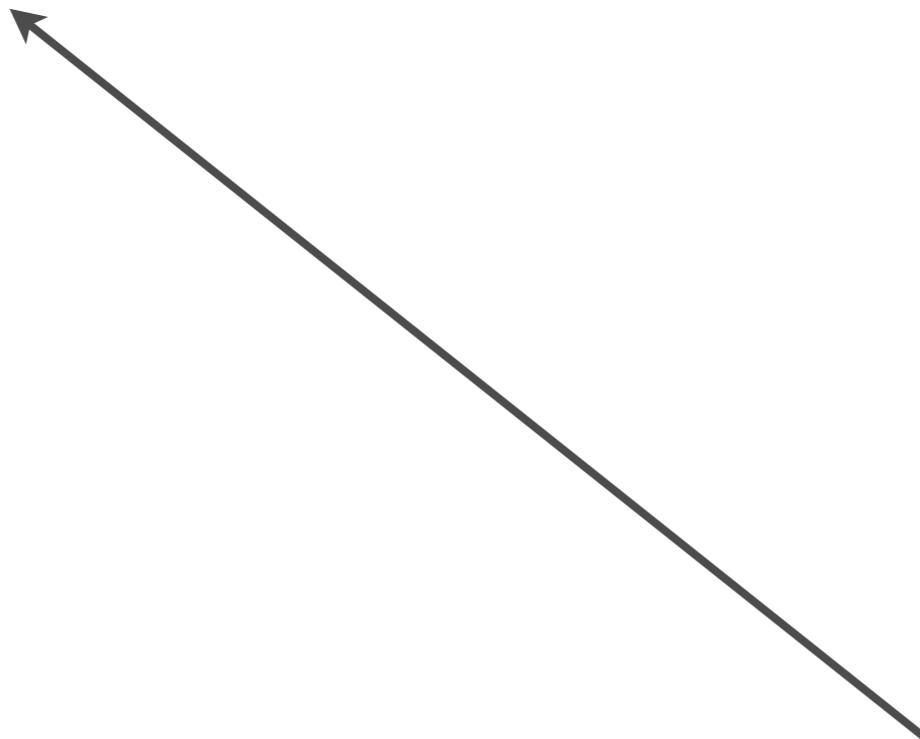


```
/* @jsx React.DOM */
var HelloWorld = React.createClass({
  render: function() {
    return <div>
      Hello World
    </div>;
  }
});
```



```
/* @jsx React.DOM */  
var HelloWorld = React.createClass({  
  render: function() {  
    return <div>  
      Hello World  
    </div>;  
  }  
});
```

WHAT. IS THAT?



Noise

jsx

<div>transform me</div>



React.DOM.div({}, 'transform me')

jsx

```
<div>
  <span>fst</span>
  <span>snd</span>
</div>
```



```
React.DOM.div({}, [
  React.DOM.span({}, 'fst'),
  React.DOM.span({}, 'snd')
})
```

jsx

```
<div id="transform">  
  transform me  
</div>
```



```
React.DOM.div(  
  {id: "transform"},  
  'transform me'  
)
```

jsx

```
var name = "HackReactor";
return <div>
  {name}
</div>;
```



```
var name = "HackReactor";
return React.DOM.div(
  {},
  name
);
```



jssx

```
<span id="emptyspan" />;
```

```
<i id="emptyspan"></i>;
```

(html)

React

React

```
var CatImg = React.createClass({  
  render: function() {  
    var imgsrc =  
      "catimg.com/" + this.props.name;  
    return <img src={imgsrc} />;  
  }  
});
```

```
React.renderComponent(  
  <CatImg name="pewpewpew" />,  
  mountNode);
```

React



React

```
var ClickMe = React.createClass({
  render: function() {
    return <span
      onClick={this.handleClick}>
      {this.state.clicked ?
        "clicked!" : "click me!"}
    </span>;
  },
  getInitialState: function() {
    return { clicked: false };
  },
  handleClick: function() {
    this.setState({ clicked: true });
  }
});
```

React

click me!

React

clicked!

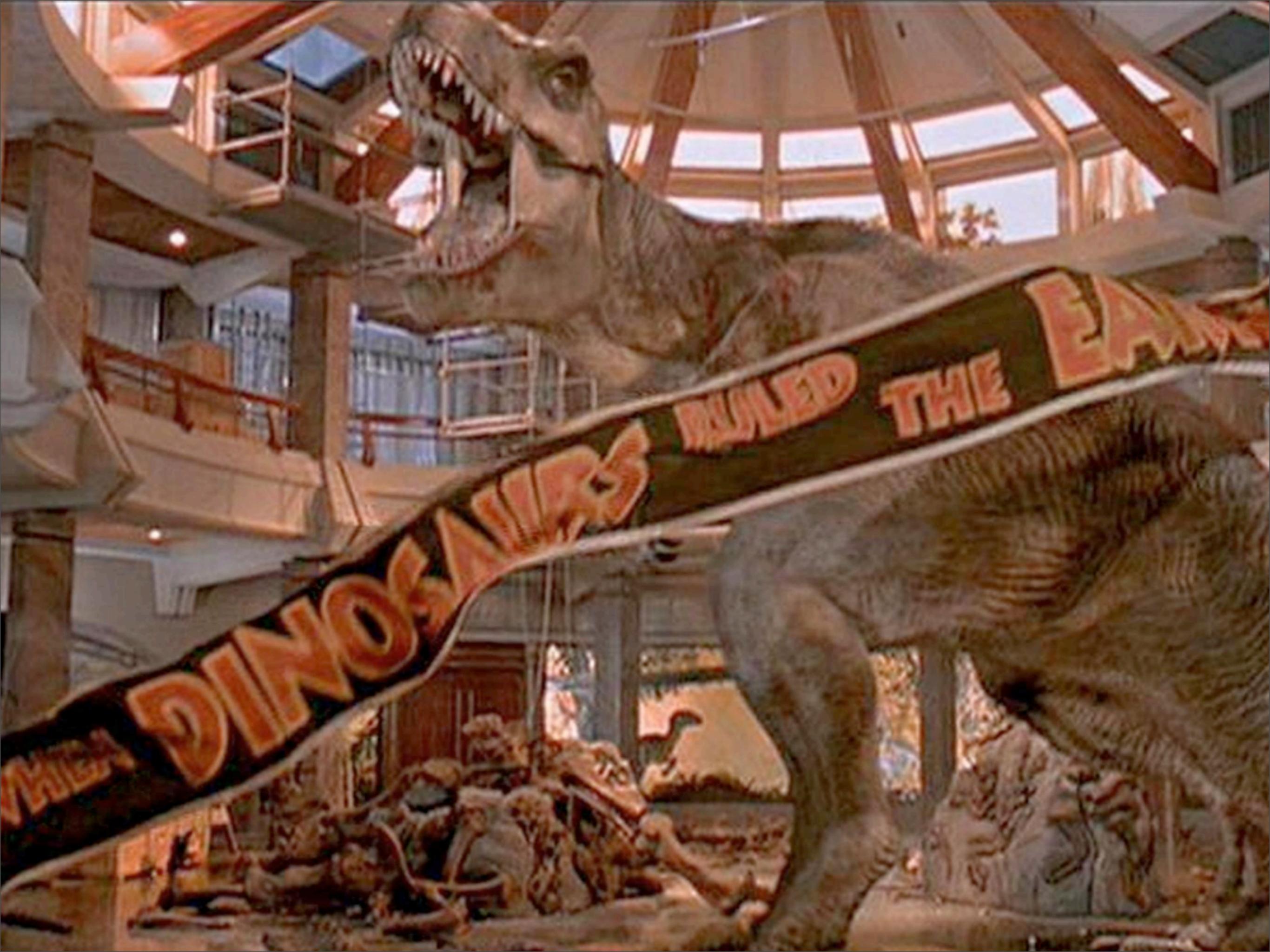
React + Backbone

React + Backbone

```
var Clicker = Backbone.Model.extend({  
  defaults: { active: false }  
});
```

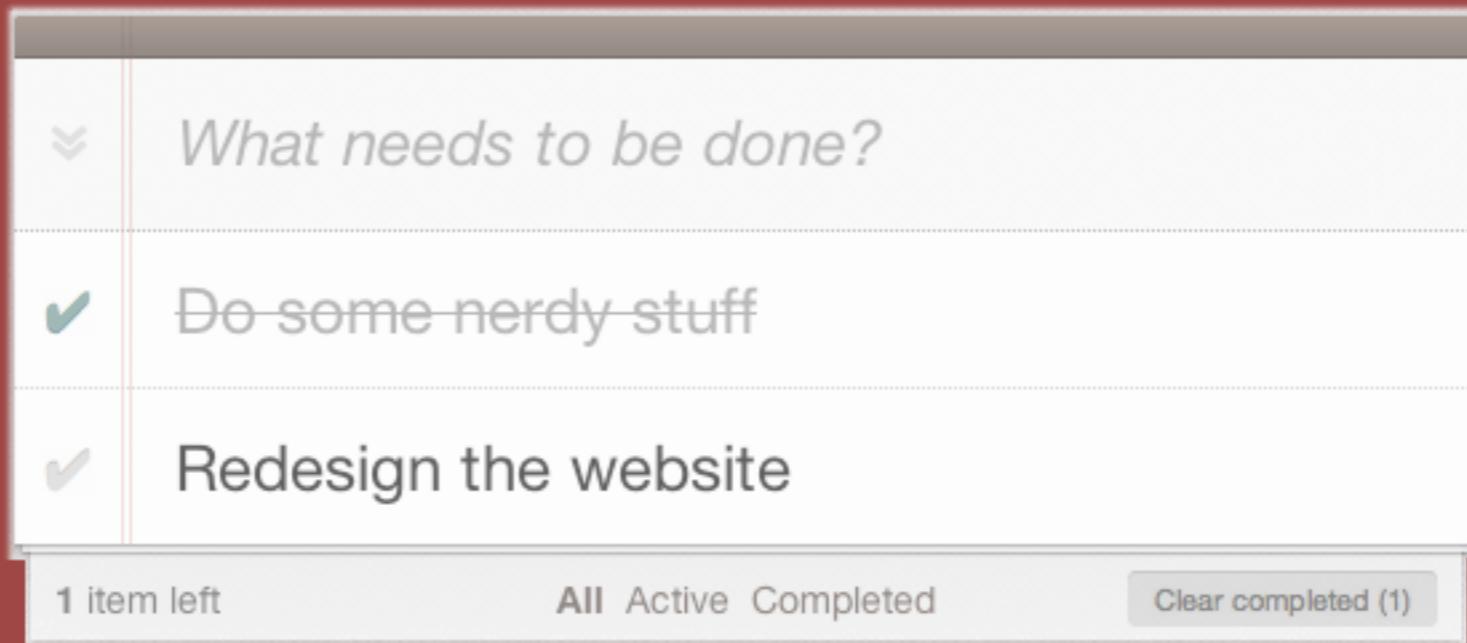
React + Backbone

```
var ClickMe2 = React.createClass({
  mixins: [BackboneMixin],
  render: function() {
    var clicker = this.props.clicker;
    var message = clicker.get("active") ?
      "clicked!" : "click me!";
    return <span onClick={this.handleClick}>
      {message}
    </span>;
  },
  handleClick: function() {
    this.props.clicker.toggle("active");
  },
  getBackboneModels: function() {
    return [this.props.clicker];
  }
});
```



DINOSAURS

WALKED THE EARTH



Todomvc

React + Backbone

~300 lines

 zpao a month ago Stop transforming class -> className

3 contributors

file | 304 lines (269 sloc) | 8.078 kb Open Edit Raw Blame History Delete

```
1  /** @jsx React.DOM */
2
3  var Todo = Backbone.Model.extend({
4      // Default attributes for the todo
5      // and ensure that each todo created has `title` and `completed` keys.
6      defaults: {
7          title: '',
8          completed: false
9      },
10
11     // Toggle the `completed` state of this todo item.
12     toggle: function() {
13         this.save({
14             completed: !this.get('completed')
15         });
16     }
17 });
18
19 var TodoList = Backbone.Collection.extend({
20
21     // Reference to this collection's model.
22     model: Todo,
23
24     // Save all of the todo items under the `''todos''` namespace.
25     localStorage: new Store('todos-react-backbone'),
26
27     // Filter down the list of all todo items that are finished.
28     completed: function() {
29         return this.filter(function( todo ) {
30             return todo.get('completed');
31         });
32     },
33
34     remaining: function() {
35         return this.without.apply(this, this.completed());
36     },
37
38     // We keep the Todos in sequential order, despite being saved by unordered
39     // GUID in the database. This generates the next order number for new items.
40     nextOrder: function () {
41         if (!this.length) {
42             return 1;
43         }
44         return this.last().get('order') + 1;
45     },
46
47     // Todos are sorted by their original insertion order.
48     comparator: function (todo) {
49         return todo.get('order');
50     }
51 });
52
53 var Utils = {
54     pluralize: function( count, word ) {
55         return count === 1 ? word : word + 's';
56     },
57
58     stringifyObjKeys: function(obj) {
59         var s = '';
60         for (var key in obj) {
61             if (!obj.hasOwnProperty(key)) {
62                 continue;
63             }
64             if (obj[key]) {
65                 s += key + ',';
66             }
67         }
68         return s;
69     }
70 }
```

React + Backbone

```
var Todo = Backbone.Model.extend({ ... });

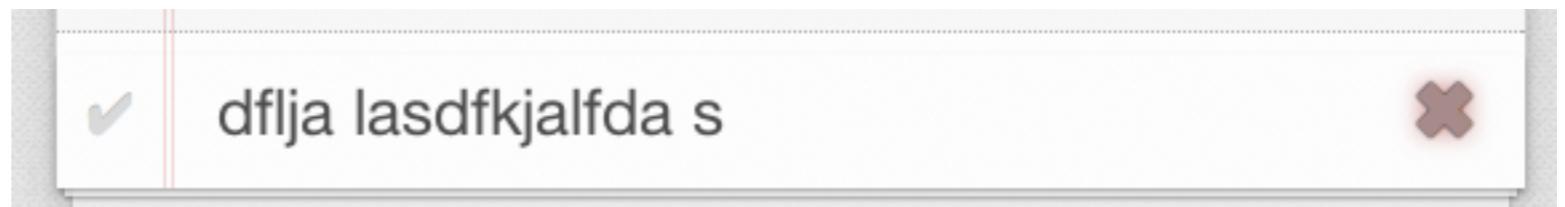
var TodoList = Backbone.Collection.extend({
  model: Todo
  ...
});
```

React + Backbone

```
var TodoApp = React.createClass({  
  mixins: [BackboneMixin],  
  render: function() {  
    return <div>  
      <section id="todoapp">  
        <header id="header">  
          <h1>todos</h1>  
          ...  
          {todos}  
          {footer}  
          ...  
      </div>;  
  }  
});
```

React + Backbone

```
var TodoItem = React.createClass({
  handleSubmit: function(event) { ... },
  onEdit: function(event) { ... },
  render: function() {
    return <li>
      check
      title
      x
    </li>;
  }
});
```





React + Backbone

```
events: {  
  'keypress #new-todo': 'createOnEnter',  
  'click #clear-completed': 'clearCompleted',  
  'click #toggle-all': 'toggleAllComplete'  
},  
...
```

```
this.listenTo(app.todos, 'add', this.addOne);  
this.listenTo(app.todos, 'reset', this.addAll);  
this.listenTo(app.todos, 'change:completed',  
  this.filterOne);  
this.listenTo(app.todos, 'filter',  
  this.filterAll);  
this.listenTo(app.todos, 'all', this.render);
```



onSubmit
onClick



React + Backbone

```
$('#todo-list')
  .append(view.render().el);

this.$('#todo-list').html('');

this.$input.val('');

this.$el.html(
  this.template(
    this.model.toJSON()));

this.$el.addClass('editing');

this.$el.removeClass('editing');

etc
```





Unable to connect to the Internet

Humans



Humans

24 devs & designers

Humans

jQuery

Backbone {models, views}

Handlebars (Ugh)

```
delete data.upVoted;
delete data.downVoted;
delete data.isQuestion;
delete data.isAnswer;
delete data.isComment;
delete data.isReply;
delete data.isScratchpad;
delete data.isClarification;
```

Humans

23500 LOC

200 Components

Humans

23500 LOC

200 Components

Since June 3

facebook.github.io/react/

joelburget.com/backbone-to-react/

Thanks!

Joel Burget - @dino_joel - Khan Academy