

facebook

React

reactjs.org

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Components

Components

`<div>`, ``

Components

`<div>`, ``

`<ActionButton>`, `<Counter>`

Anatomy of a Component

```
<ActionButton text="Book flight" onAction={someFunc} />
```

```
var ActionButton = React.createClass({  
  render: function() {  
  
  }  
});
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var ActionButton = React.createClass({
  render: function() {
    return (
      <button class="ActionButton">
        <span>button text</span>
      </button>
    );
  }
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var ActionButton = React.createClass({
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```
var ActionButton = React.createClass({
  render: function() {
    return (
      <button class="ActionButton" onClick={this.props.onAction}>
        <span>{this.props.text.toUpperCase()}</span>
      </button>
    );
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```
<Counter initialCount={4} />
```



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var Counter = React.createClass({
  getInitialState: function() {
    return {count: this.props.initialCount};
  },
  addToCount: function(delta) {
    this.setState({count: this.state.count + delta})
  },
  render: function() {
    return (
      <div>
        <h3>Count: {this.state.count}</h3>
        <ActionButton text="+1" onAction={this.addToCount.bind(this, 1)} />
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What makes React different?

1. Components, not templates
2. Re-render on update
3. Virtual DOM (and events)



Ben Alman

@cowboy



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Joe Critchley

@joecritchley



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Just converted some imperative jQuery proto-code into a declarative [#reactjs](#) component. WIN WIN WIN.

1. Components, not templates

Separation of concerns:

Reduce **coupling**, increase **cohesion**.

Coupling is:

“The degree to which each program module relies on each of the other modules.”

[http://en.wikipedia.org/wiki/Coupling_\(computer_science\)](http://en.wikipedia.org/wiki/Coupling_(computer_science))

Cohesion is:

“The degree to which elements of a module belong together.”

[http://en.wikipedia.org/wiki/Cohesion_\(computer_science\)](http://en.wikipedia.org/wiki/Cohesion_(computer_science))

“View model” tightly
couples template to
display logic.

```
[{"price": "7.99", "product": "Back  
scratcher", "tableRowColor": "rgba(0, 0, 0,  
0.5)"}]
```

Templates separate
technologies, not
concerns

React components are loosely
coupled and highly cohesive


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2. Re-render on every change

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Best analogy: Website from 1994

Data changing over time is the
root of all evil.

Re-rendering on every change makes things

Every place data is displayed is
guaranteed to be up-to-date.

Re-rendering on
every change
makes things

No magical data binding.

Re-rendering on
every change
makes things

No model dirty checking.

Re-rendering on
every change
makes things

No more explicit DOM operations –
everything is declarative.

3. Virtual DOM

Won't rerendering be as slow as
molasses?!

React has a **virtual DOM** (and events system).

Optimized for performance and memory footprint

On every update...

- React builds a new virtual DOM subtree
- ...diffs it with the old one
- ...computes the minimal set of DOM mutations and puts them in a queue
- ...and batch executes all updates

It's fast!

Because the DOM is slow!

It's fast!

Computes minimal DOM operations

It's fast!

Batched reads and writes for optimal DOM
performance

It's fast!

Usually faster than manual DOM
operations

It's fast!

Automatic top-level event delegation (with
cross-browser HTML5 events)

It's fast!

Can do all this at 60fps, even in a (non-JIT) UIWebView on the iPhone.

Why Should **YOU** Use React?

Why Should YOU Use React?

- Can be used for parts of your application

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- Can be used for parts of your application
- Plays well with other libraries and technologies (meteor, rails, node)

Why Should YOU Use React?

- Can be used for parts of your application
- Plays well with other libraries and technologies (meteor, rails, node)
- Components allow you to split work easily

Learn more and get involved

- <http://reactjs.org>
- #reactjs on Freenode IRC
- reactjs on Google Groups
- www.facebook.com/careers

More Links

- react-meteor: <https://github.com/benjamn/react-meteor>
- <ActionButton> demo: <http://jsfiddle.net/zpao/EFhy4/>
- <Clicker> demo: <http://jsfiddle.net/zpao/fk5Pc/>

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