WHAT IS REACTJS

and why there’s such a buzz around it

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Tricoder

Triathlon + Programming

... and hidden reference to Star Trek.

Triathlon

Swim. Bike. Run.
Eat. Sleep.

Web development

Backend. Frontend.
UX. Design. DevOps.

Diversity

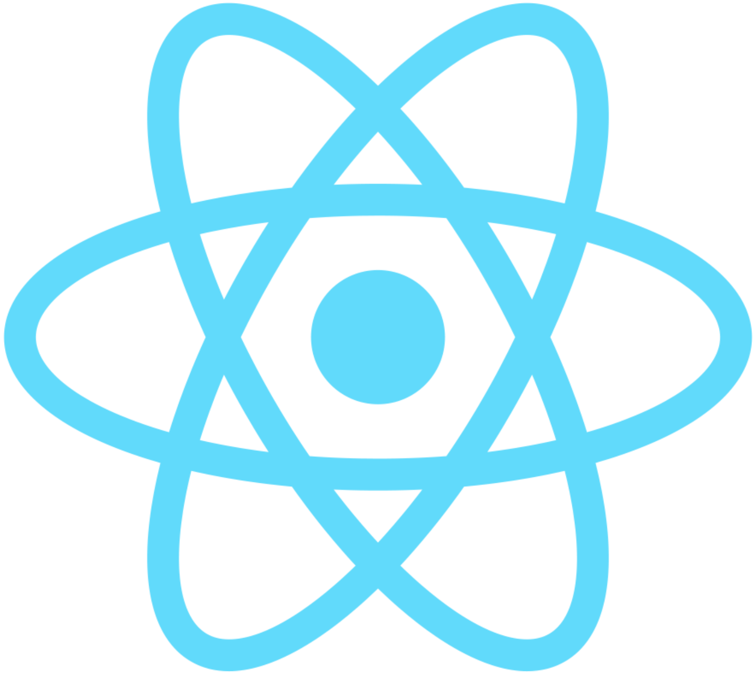
Shared knowledge

Outline

Brief intro to ReactJS

React in Django

Django in React



Javascript library

for building user interfaces

User interfaces

View in MVC

Presentation logic

Template engine

Transform data into UI

Component

```
function HelloWorld(props) {
  var name = props.name || "World";
  return <div>Hello {name}</div>;
}

ReactDOM.render(<HelloWorld name="Budapest" />, mountNode);
```

Component (ES6)

```
const HelloWorld = (props = {name: "World"}) =>
  <div>Hello {props.name}</div>;

ReactDOM.render(<HelloWorld name="Budapest" />, mountNode);
```

Events

```
const Link = (props) =>
  <a onClick={() => pushState(props.to)}>
    {props.children}
  </a>;


ReactDOM.render(<Link to="/home">Home</Link>, mountNode);
```

That's all!

Thank you

ReactJS

Renders data, handles events

> **Do one thing and do it well**

- Unix philosophy

Server-side rendering

Take data, render HTML

Single render, without event handlers

Client-side rendering

Take data, render DOM

Re-render on change, attach/detach event handlers

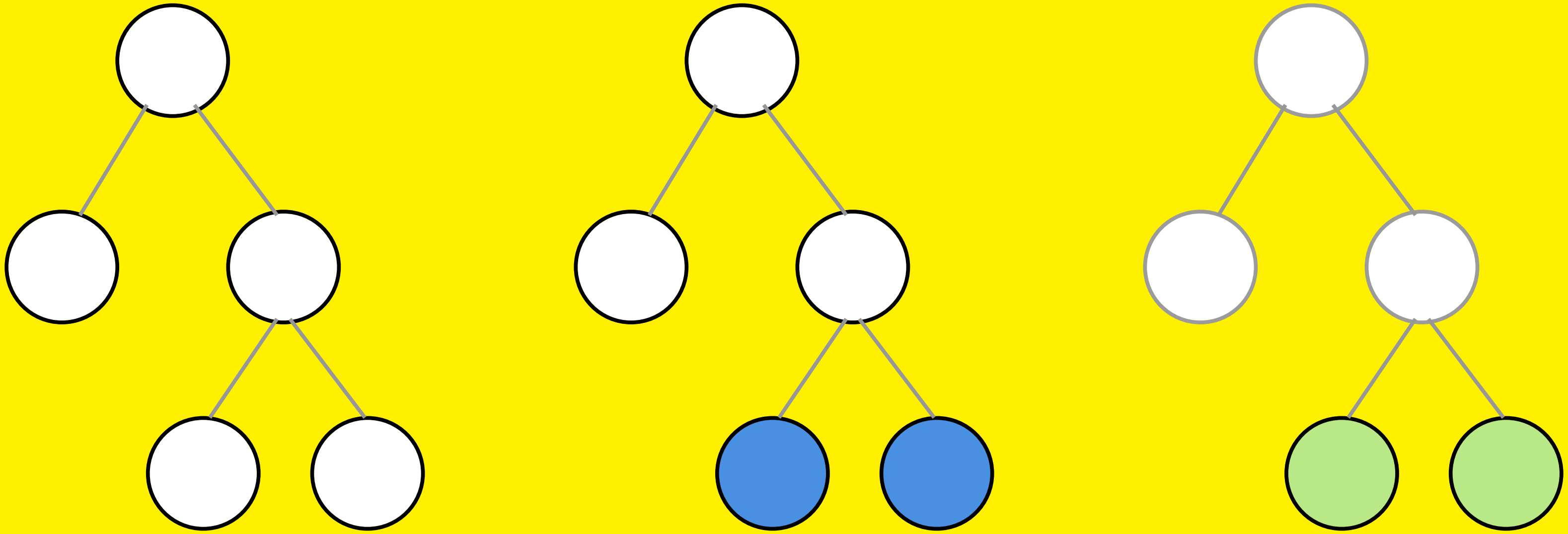
Handling data change is hard

Re-render all data

... but that's so slow!

DOM operations are expensive

Virtual DOM



Initial

Diff

Render

Diff is fast

DOM speed is always a bottleneck

What the JSX?

JSX

```
const HelloWorld = (props = {name: "World"}) =>
  <div>Hello {props.name}</div>;

ReactDOM.render(<HelloWorld name="Budapest" />, mountNode);
```

Compiled JSX

```
"use strict";

var HelloWorld = function HelloWorld() {
  var props = arguments.length <= 0 || arguments[0] === undefined ? { name: "World" } : arguments[0];
  return React.createElement(
    "div",
    null,
    "Hello ",
    props.name
  );
};

ReactDOM.render(React.createElement(HelloWorld, { name: "Budapest" }), mountNode);
```

JSX is evolution
not revolution

Django Templates

Inheritance and custom tags

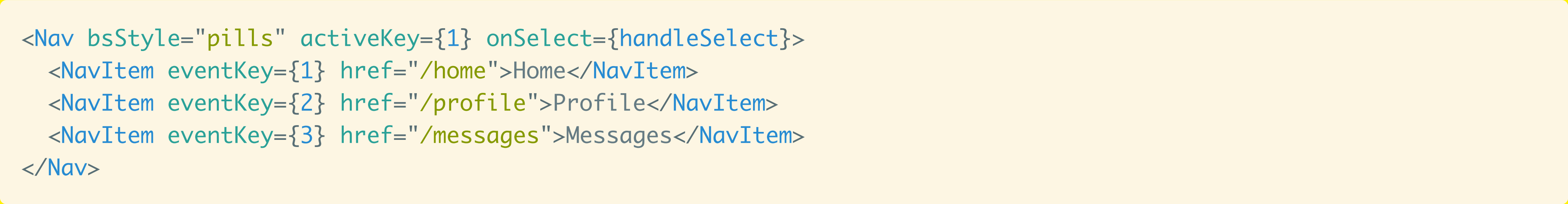
React Components

Separation of concerns

Bootstrap in HTML

```html
<ul class="nav nav-pills">
  <li role="presentation" class="active"><a href="/home">Home</a></li>
  <li role="presentation"><a href="/profile">Profile</a></li>
  <li role="presentation"><a href="/messages">Messages</a></li>
</ul>
```

Bootstrap in JSX



```
<Nav bsStyle="pills" activeKey={1} onSelect={handleSelect}>
  <NavItem eventKey={1} href="/home">Home</NavItem>
  <NavItem eventKey={2} href="/profile">Profile</NavItem>
  <NavItem eventKey={3} href="/messages">Messages</NavItem>
</Nav>
```

Advantages

Composable
Testable

Summary

It's a view library

Render state, not changes

Components, not templates

React in Django apps

Data manipulation

Example: Insert item into list