Intro to React

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Overview

- What is React?
- Why React?
- All about React
- Write some React

What is React?

- Facebook
  - "A JavaScript library for building user interfaces."
- View layer
  - Not a huge framework
- Components
  - Encapsulate and compose
- Data
  - State, props, ~~context~~
- Events
  - Cross browser wrappers

Why React?

- Simple
    - Only a handful of functions to learn
- Declarative
    - No need to worry about DOM operations
- Fast
    - Virtual DOM does the heavy lifting
- Powerful
    - No template language, all JavaScript
- Battle Tested
    - Used by Facebook, Airbnb, Walmart

Views/JSX

- JavaScript superset
- Familiar syntax
    - Looks like HTML/XML
- Compiles to simple functions
- Optional but recommended

```
// JSX
<div>
  <h1>React Links</h1>
  <a href="https://facebook.github.io/react/">Hello React!</a>
</div>
```

```
// JavaScript
React.createElement(
  "div",
  null,
  React.createElement(
    "h1",
    null,
    "React Links"
  ),
  React.createElement(
    "a",
    { href: "https://facebook.github.io/react/" },
    "Hello React!"
  )
);
```

Components

- Render method
    - Virtual DOM utilized for performant DOM updates
    - Determines least destructive updates
- Lifecycle methods
    - Called during specific points
- Stateful or stateless
    - Interactive or presentational?
- Smart or dumb
    - Interact with servers and/or data stores?

Data

- Props
    - Immutable
    - Passed down from above
    - PropTypes
        - Type system for components
- State
    - Mutable
    - Contained within a component
- Context
    - Global state
    - Advanced, specific use cases, last resort

Events

- Cross browser event wrappers
    - No worry about browser differences
- Very similar to plain HTML/JS
    - Some subtle differences
- Overall pleasant to work with
    - Abstracts away a lot of nastiness

We'll do it live

- https://github.com/jmcriffey/react-bootcamp