React

What's the big deal?

No seriously, what's the big deal

Quinn Stephens

table

https://github.com/QuinnStephens/code-platoon-intro-to-react

What is React?

- A Javascript library for creating views

- That's it

What makes React special*

- Components

- JSX

- The diffing algorithm

- The ecosystem

Components

Break up your UI into small pieces

Let them focus on one thing

JSX

A Frankenstein's monster of HTML and JavaScript

(but a good monster)

JSX is optional

But it's much nicer than the alternative

```
<div className="profile">
  <img src={ user.avatarUrl }/>
  <h1>{ user.name }</h1>
  <h2>{ user.city }</h2>
</div>
```

```
React.createElement(
  "div",
  { className: "profile" },
  React.createElement(
    "img",
    { src: user.avatarUrl }),
  React.createElement(
    "h1",
    null,
    user.name),
  React.createElement(
    "h2",
    null,
    user.city))
```

The diffing algorithm

Data changes. UI updates.

No thinking required

The rest is up to you

- React is not a framework but a set of tools

- React is just the view layer

- Structure for the app comes from other tools...
  -- React frameworks (Redux)
  -- Backend frameworks (Rails, Node, et al)

- ...but this is changing
  -- Context
  -- Hooks

Let's see an example!

- Open the source of project you created with `create-react-app`

- Run `npm start` in the terminal from your project's root -- (You can also use `yarn start`)

Edit the text

Watch the diff engine at work.

Don't bother reloading

Edit the style

- Normal CSS, except...

- Use `className` instead of class

Replace text with a variable

Move the header into its own component

Pass the variable into the component as a prop

Props are **external** values that are passed into the component

Pass in a callback function as a prop

- Add a button

- Add a prop to show a simple alert in the parent component

Move the `text` variable to state

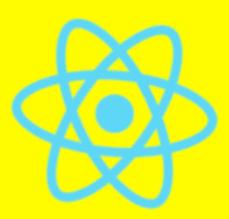State is a set of **internal** values managed within the component

Update the state on button press

- Don't change the state directly!

- `setState` is async

Questions?

Your turn: Create a click counter

- Keep the counter value in the App state

- Update the counter value through a button press

My counter app

24

Add to count

Let's make a simple form

- Single text field

- Update state on change

Add a submit button

- Show an alert with the value

Conditionally show components

- Only show a component once the user has submitted

Your turn—do some more conditional logic

- Only show a component if the user has entered more than a certain number of characters

Component lifecycle methods

- `constructor`

- `componentWillMount` / `componentDidMount`

- `componentWillUnmount`

- `UNSAFE_componentWillRecieveProps`

- `componentDidUpdate`

- `shouldComponentUpdate`

Let's make an API call

- Fetch within `componentDidMount` and update state on response

- URL: https://jsonplaceholder.typicode.com/photos/1

Your turn: Show a loading state before the call finishes

Thank you for coming!

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