Props and State hold all state held by a component

Props

Allow state to be passed down to child components

Immutable

Passed down by parent

State

Mutable

Strive to only hold state on view controllers (top-level components)

Dynamic child components

Lifecycle functions

Hooks

Behaviors

## Component API

getInitialState

Sets the initial state of a component

Should only be done in top level component (controller view)

getDefaultProps

Return set of properties to use by default if parent doesn’t declare a value

In react, you can only have a single top-level component

this

TODO

this.state

TODO

this.setState

Used to set state of a component.

State must be set using this method

## Lifecycle methods

Some methods run on both client and server, while others only run on client

componentWillMount

Runs immediately before initial rendering

On both client and server

Good place to set initial state of component

componentDidMount

Immediately after rendering

DOM has been established

Run to establish integration with 3rd party libraries, Access DOM, set timers, make AJAX calls

componentWillReceiveProps

When component is receiving new props (props are changing)

Immediately before new props are received

Use to set state immediately before new props are received

shouldComponentUpdate

Immediately before render (but not on initial render)

Useful to help performance by avoiding updates where rendering doesn’t need to occur for this component, even when props / state changes

componentWillUpdate

Immmediately before render (but not on initial render), when new props / state are being received

Prepare for an update

Can’t call set state from here

componentDidUpdate

After component updates are flushed to DOM

Allows you to process DOM after it’s been updated

componentWillUnmount

Just before component is removed from DOM

Good place to cleanup resources / DOM required by the component

## Create child components dynamically

Each dynamically added child requires a key attribute.

React uses this key to maintain DOM

<tr key={author.id}>

Each key must be unique across children

Could be a database id, or other

## Misc

Lodash - javascript utility library

[].map

Create an array by passing every element of array into given function.

JSX

Spaces are maintained (rendered)

## (A)synchronous API calls

AJAX calls are asynchronous.

Use promises, callbacks, etc to handle the asynchronous nature.