REACT LIFECYCLE

IT'S THE CI-IRCLE…

TRAJECTORY

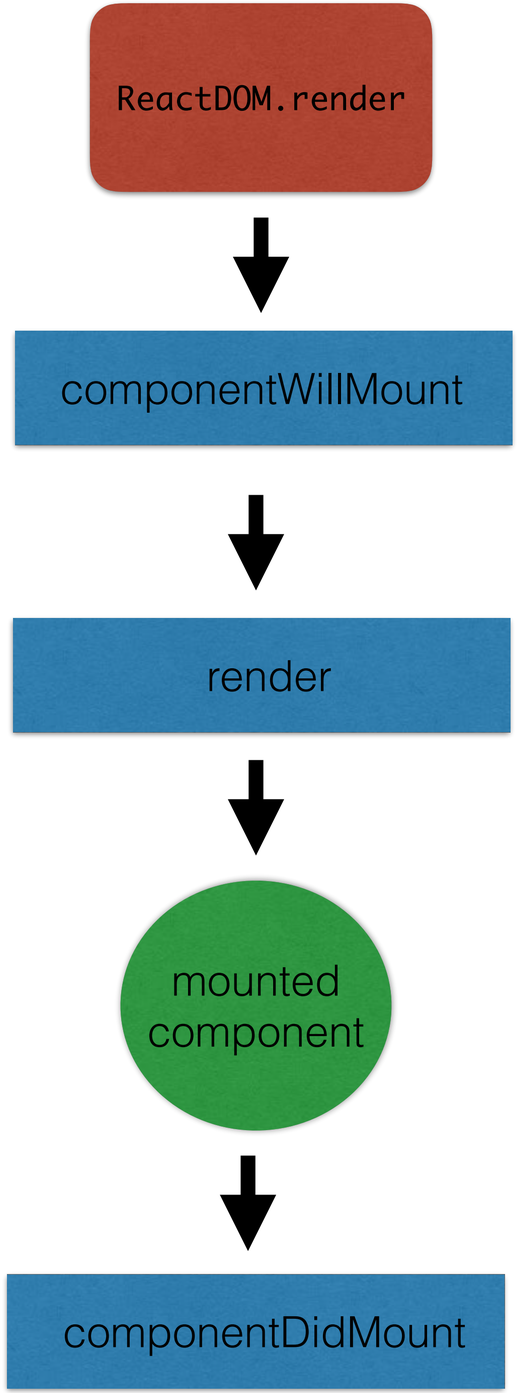
- Basic React lifecycle methods
- Incorporating AJAX and other side-effects into React applications

WHAT IS "LIFECYCLE"

- **When we render a component, React components go through several different stages in addition to the "render" stage**

- **React exposes the ability to "hook" into these stages so that we can perform certain actions ourselves**
  - Kind of like adding an event listener

THE INITIAL RENDER


ReactDOM.render
componentWillMount
render
mounted component
componentDidMount

COMPONENT WILL MOUNT

- Happens before rendering
- Mostly used when using React to render strings on the server - don’t use it when using client-side React

RENDER

- **This is when the component's render method is invoked**
  - Or when the functional component itself is invoked

- **React compares the JSX output of the render method with it's internal "virtual DOM", and makes a decision about how to update the actual DOM in a performant way**

VIRTUAL DOM

- **Just a big JS object representing the DOM tree**
  - internal, used by React when you render

- **Theory: manipulating the actual DOM is more expensive computationally than doing a little bit of JS**

- **So, React does a little bit of JS first so that it can do as little manipulation of the actual DOM as possible**

“MOUNTING”

- When the JSX your component represents gets turned into real, live DOM nodes by React, your component is said to be “mounted”

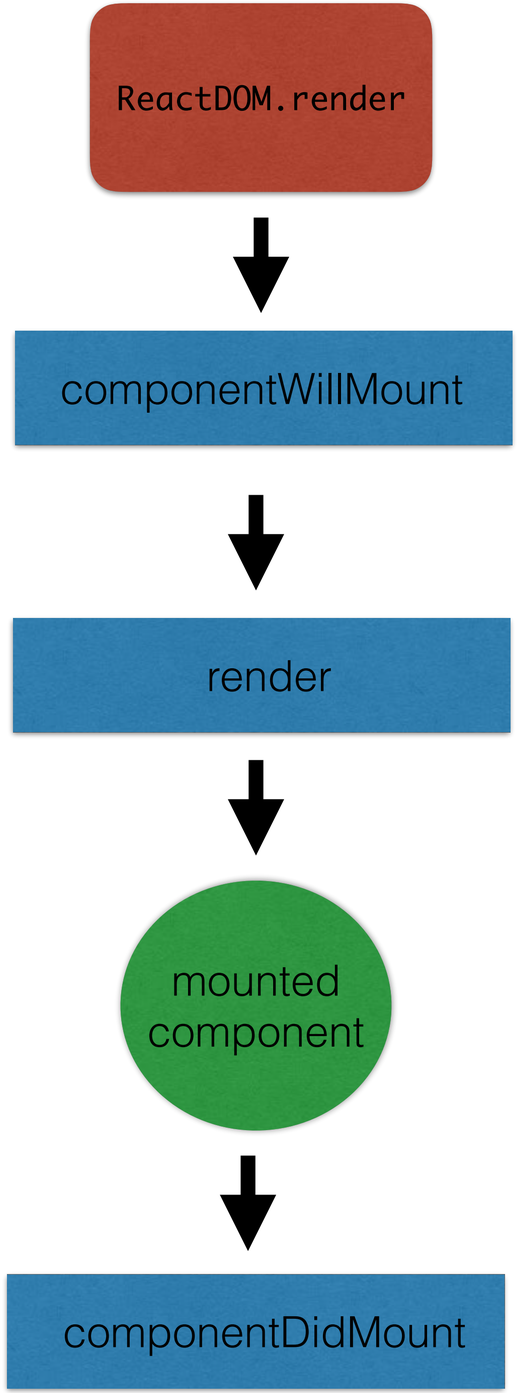
COMPONENT DID MOUNT

- **Fires after the *initial* rendering**
  - Does *not* fire on subsequent renderings caused by setState
- **A great place to perform AJAX requests to fetch data from your server**
- **A great place to attach event listeners to to non-React elements (ex. `window.addEventListener('scroll')`)**

```
class Blog extends React.Component {
  constructor () {
    super()
    this.state = {
      posts: []
    }
  }

  async componentDidMount () {
    const res = await axios.get('/api/posts')
    const posts = res.data
    this.setState({posts: posts})
  }

  render () {
    // omitted for brevity
  }
}
```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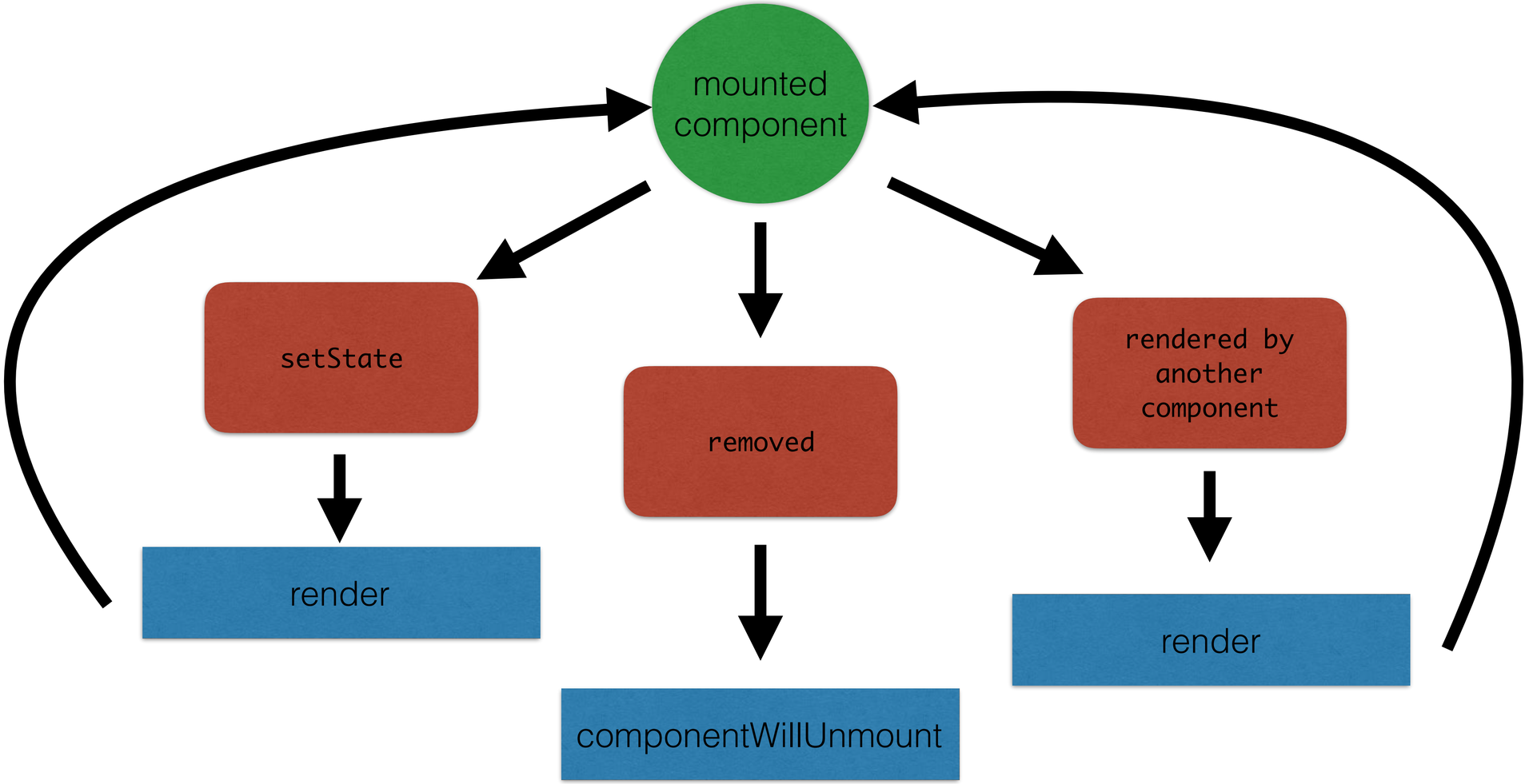
SUBSEQUENT RENDERS


mounted component
setState
removed
rendered by another component
render
componentWillUnmount
render

COMPONENT WILL UNMOUNT

- Our chance to say goodbye!

- Great place to “clean up” things
  - clear timers or intervals
  - remove event listeners

REACT LISTS

Map it out

MAP OVER LISTS

- Use Array.prototype.map to turn lists of data into JSX
- Great way to deal with lists and table rows
- Only stipulation: each set of JSX in the list needs to be given a special “key” prop

```
const DogList = (props) => {


  return (
    <ul>



    </ul>
  )
}
```

```
const DogList = (props) => {

  const puppies = props.puppies

  return (
    <ul>



    </ul>
  )
}
```

```
const DogList = (props) => {
  // [{id: 1, name: 'Cody'}, {id: 2, name: 'Lexie'}]
  const puppies = props.puppies

  return (
    <ul>



    </ul>
  )
}
```

```
const DogList = (props) => {
  // [{id: 1, name: 'Cody'}, {id: 2, name: 'Lexie'}]
  const puppies = props.puppies

  return (
    <ul>
    {
      puppies.map(puppy => <li                    >{puppy.name}</li>)
    }
    </ul>
  )
}
```

```
const DogList = (props) => {
  // [{id: 1, name: 'Cody'}, {id: 2, name: 'Lexie'}]
  const puppies = props.puppies

  return (
    <ul>
    {
      puppies.map(puppy => <li key={puppy.id}>{puppy.name}</li>)
    }
    </ul>
  )
}
```