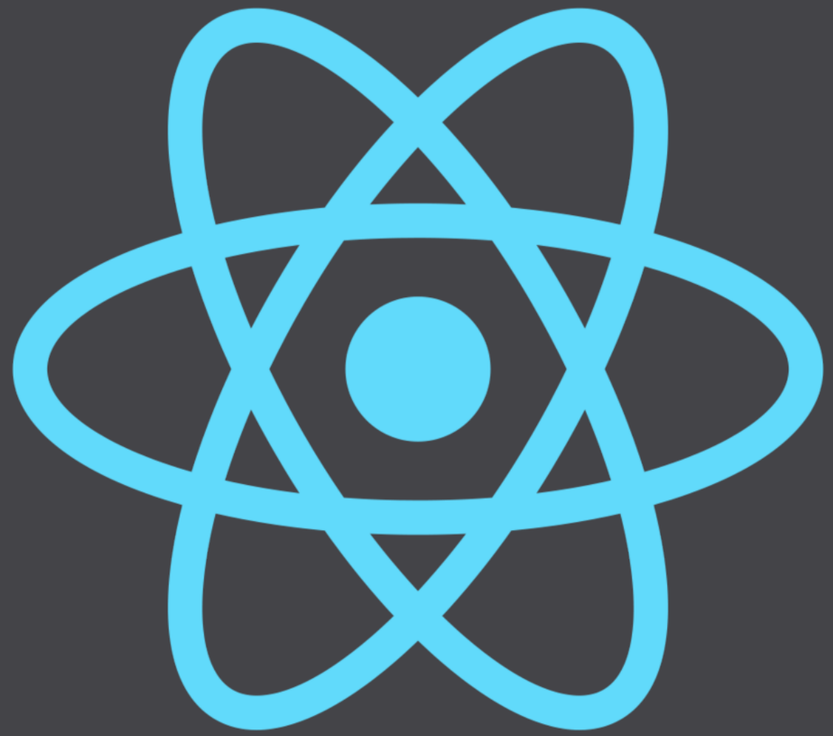
Intro to React



Objectives

- Describe what React is
- Understand what Webpack And Babel are doing
- Describe Web Components and how they are rendered via the Virtual DOM
- Understand what state is

React Concepts

- Web Components
- 1 way data binding
- Virtual DOM
- JSX (which requires a "build" step)
- State management (Flux or Redux)

Getting Started

- Package Manager (NPM, Yarn, Bower)
- Module Bundler (Webpack, Browserify)
- Transpiler(Babel)
- Task Runner (Gulp, Grunt)

Components

```
class ShoppingList extends React.Component {
  render() {
    return (
      <div className="shopping-list">
        <h1>Shopping List for {this.props.name}</h1>
        <ul>
          <li>Instagram</li>
          <li>WhatsApp</li>
          <li>Oculus</li>
        </ul>
      </div>
    );
  }
}

// Example usage: <ShoppingList name="Mark" />
```

```
function Square(props) {
  return (
    <button className="square" onClick={props.onClick}>
      {props.value}
    </button>
  );
}
```

What are Props?

```
<Image source={pic} style={{width: 193, height: 110}}/>
```

- Customize components with parameters = props
- Can use destructuring to get prop name off props

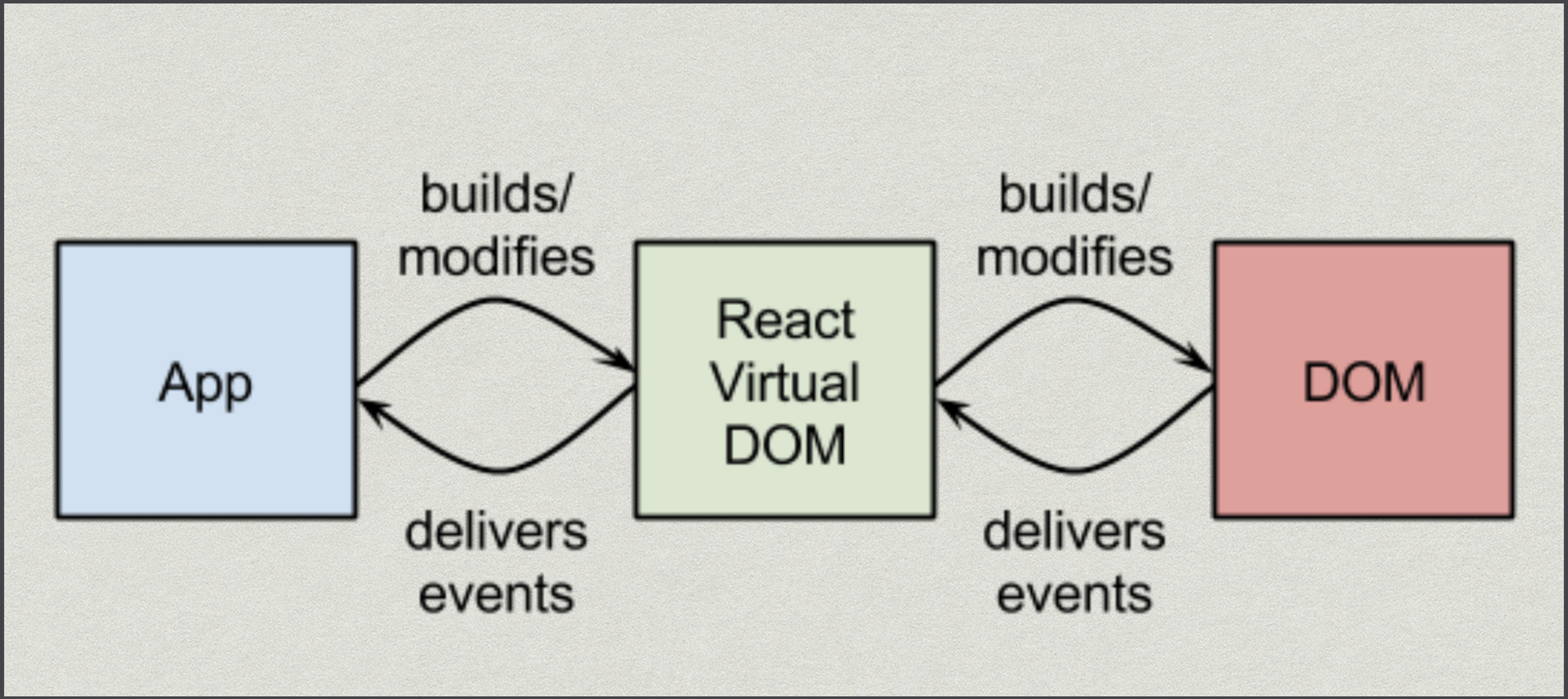
```
class Greeting extends Component {
  render() {
    return (
      <Text>Hello {this.props.name}!</Text>
    );
  }
}

export default class LotsOfGreetings extends Component {
  render() {
    return (
      <View style={{alignItems: 'center'}}>
        <Greeting name='Rexxar' />
        <Greeting name='Jaina' />
        <Greeting name='Valeera' />
      </View>
    );
  }
}
```

JSX

```
<div className="row">
  <div className="col s12">
    <p>
      The message is:
    </p>
    <blockquote>
      {text}
    </blockquote>
  </div>
</div>
```

Virtual DOM


App
builds/
modifies
delivers
events
React
Virtual
DOM
builds/
modifies
delivers
events
DOM

Understanding State

- constructor
- state
- setState()
- render

```
class Board extends React.Component {
  constructor(props) {
    super(props);
    this.state = {
      squares: Array(9).fill(null),
    };
  }

  render() {
    const status = 'Next player: X';
    return (
      <div>
        <div className="status">{status}</div>
        <div className="board-row">
          {this.renderSquare(0)}
          {this.renderSquare(1)}
          {this.renderSquare(2)}
        </div>
      </div>
    );
  }
}
```

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