React Example Code

```
import React, { Component }
    from "react";
import "./App.css";
import sendIcon from
    "./images/envelope.png";
import Button from
   "./components/Button";

class App extends Component {
  // Define starting state
  state = {
    message: "",
    chatLog: []
  };

  // Form elements need state
  // modifying methods
  onMsgChange (ev) {
    const {value} = ev.target;
    this.setState({
      message: value,
    });
  }

  // Lifecycle methods
  // First rendered to screen
  componentDidMount() {}
  // After props or state change
  componentDidUpdate() {}
  // Can prevent DOM update
  shouldComponentUpdate() {}

  render() {
    // Special method: Return JSX
    // that is to be rendered
    let {chatLog} = this.state;
    let count = chatLog.length;

    return (


  <div className="App">
    <h1>{count} messages</h1>
    {this.state.chatLog.map(
      text => (
        <p>{text}</p>
    ))}
    {/* Needs ".bind(this)"
        to keep context */}
    <input
      value={this.state.message}
      onChange={this.onMsgChange
                .bind(this)} />
    <Button onClick={
        this.sendMsg.bind(this)}>
      <img src={sendIcon} />
      Send message
    </Button>
  </div>
    );
  }
}
```

Defining components

```
// Class based component
class Button extends Component {
  render() {
    <button className="Button"
      onClick={this.props.onClick}>
      {this.props.children}
    </button>
  }
}

// Functional component
const Button = (props) => (
  <button className="Button"
    onClick={props.onClick}>
    {props.children}
  </button>
);
export default Button;
```

Useful React patterns

Conditional rendering:

```
render() {
  if (!this.props.text) {
    return "Empty...";
  }
  // full render here ...
}
```

Using `map` to loop through data:

```
<div>{
  data.map((item, i) => (
    <p onClick={this.pClicked
                .bind(this, i)}>
      {i}: {item}
    </p>
  ))
}</div>
```

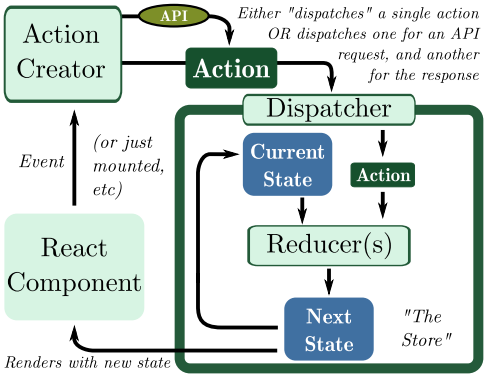
Using ternary operator:

```
<div>{
  this.props.image ? (
    <img src={this.props.image} />
  ) : <em>No image provided.</em>
}</div>
```

Using *ref* to incorporate legacy JS:

```
// Somewhere in JSX (e.g. render)
<div ref={el => { this.btn = el; }}>
  Click me!</div>
// Somewhere in JS (e.g. a method)
$(this.btn).modal();
```

React Redux



Action Creators (found in `actions/`)

```
const doIncrement = () =>
  ({type: INCREMENT});
const addTodo = (item) =>
  ({type: ADD_TODO, text: item});
```

Dispatching (found in `components/`)

```
let action =
  addTodo(this.state.text);
this.props.dispatch(action);
```

Reducers (found in `reducers/`)

```
const initialState = {
  count: 0,
  todoList: [],
};
const todo = (state, action) => {
switch (action.type) {
  case INCREMENT:
    return Object.assign({},state,{
      count: state.count + 1,
    });
  case ADD_TODO:
    return Object.assign({},state,{
      todoList: [...todoList,
                 action.text]),
    }); /* etc ... */
```

React Router

```
<nav>
  <Link to="/about/">About</Link>
  <Link to={"/post/"+postId+"/"}>
    Read More...</Link>
</nav>
<main>
  <Switch>
    <Route path="/about/"
      component={About} />
    <Route path="/post/:id/"
      component={BlogPost} />
  </Switch>
</main>
```