Checking React code with Flow

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djcordhose.github.io/react-intro-live-coding/2016_react_europe.html

Flow is a **static type checker**, designed to quickly find errors in JavaScript applications

Example #1: Simple Check with Type Inference

```
// ERROR: Must be a ReactElement
const element = 'just a string'; // type is interred as string
ReactDOM.render(element, mountNode);
```

Example #2: Type Declarations

```
type Props = {
    // ERROR: trying to assign this boolean to state
    // greeting: boolean
    greeting: string
};
```

```
type State =  {
    greeting: string;
};
```

```
class HelloMessage extends React.Component<any, Props, State> {
    constructor(props: Props) {
        super(props);
        this.state = {greeting: this.props.greeting};
    }
}
```

PropTypes on Steroids

Example #3: Redux Action types

```
// Action is a generic type
type GreetingAction =
    Action<'UPDATE_GREETING' | 'RESET_GREETING', ?string>;
```

```
// action creator
function updateGreeting(greeting: string): GreetingAction {
    return {
        // must be UPDATE_GREETING' or 'RESET_GREETING
        type: 'UPDATE_GREETING',
        // must be a string or null/undefined
        payload: greeting
    };
}
```

Changes the way you write code

Allows for reliable refactoring (at least in WebStorm)

Catches errors before you even start your app