

The modern, type safe way to write javascript

TypeScript

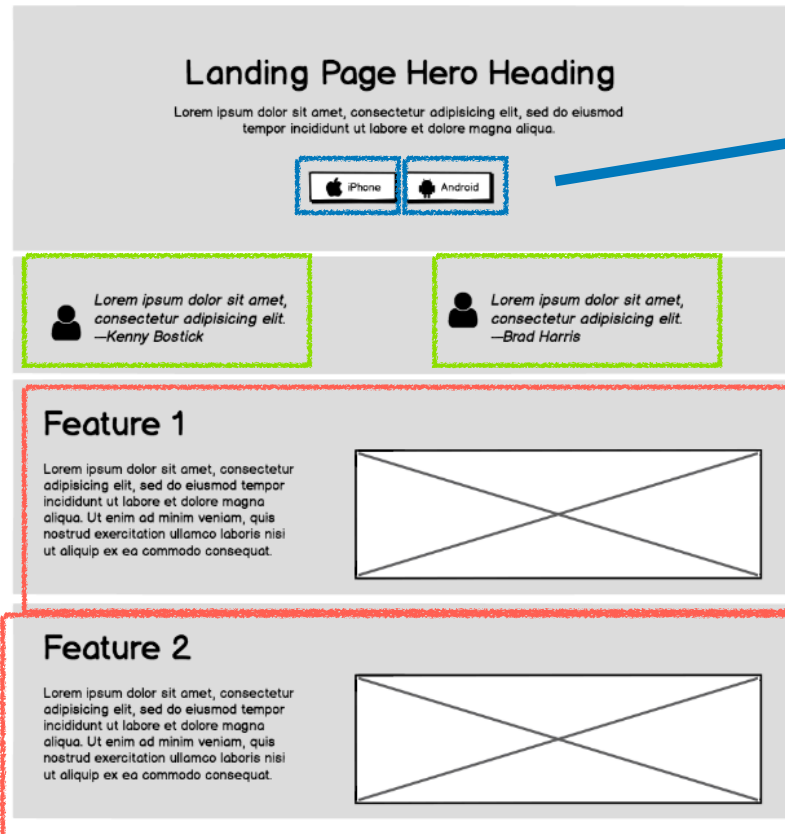
Why does TypeScript exist?

Shortcomings of Javascript

- JS doesn't have static typing
- Why doesn't it have static typing?
- Why didn't they just include static typing in JS?

Why am I learning TypeScript?

Typical static react app



```
export const IconButton = (props) => {  
  }  
}
```

```
export const IconButton = ({osType, buttonText}) => {  
  }  
}
```

```
IconButton.propTypes = {  
  osType: PropTypes.string,  
  buttonText: PropTypes.string  
};
```

Coding exercise

- Create-react-app for js vs ts
- What are the differences?
- tsconfig
 - Looks at stuff
 - Target
 - Lib

What does TS do?

- TS is a “transpiler” - which converts source to source
- JS is a “compiler” - converts source to byte code

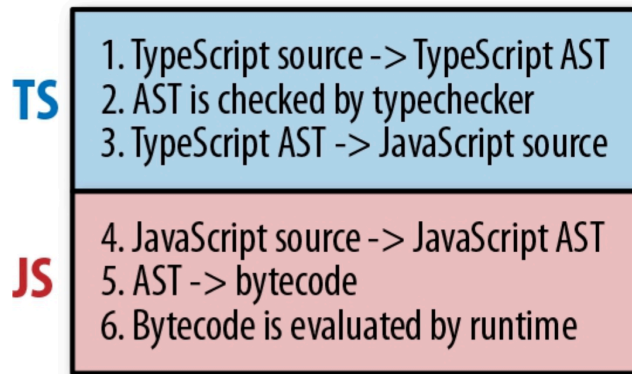


Figure 2-1. Compiling and running TypeScript

LogoImage component (js)

- LogoImage
 - 3 props
 - Src
 - Alt
 - className
-

Basic types

- String
 - Number
 - Boolean
 - String unions
-

Implicit and Explicit types

- Create an addTwoNumbers function that returns a number
 - Create a getFullName function that accepts a first and last name and returns a string
 - Add an optional middle name to the above
 - Create an isMultipleOf function that takes two numbers and returns a boolean explicitly
-

Logolmage component (ts)

- Logolmage
 - 3 props
 - Src (string)
 - Alt (string)
 - className (optional string)
-

String union type

- `Const size = 'large' | 'medium' | 'small'`
 - `Const trafficLightSignal = 'green' | 'amber' | 'red'`
-

A new component

- Alert component
 - message
 - alertType

Success! Your message has been sent successfully.



Error! A problem has been occurred while submitting your data.



Warning! There was a problem with your network connection.



Info! Please read the comments carefully.



Type Intersections

```
type Animal = {  
  name: string;  
}
```

```
type Bear = Animal & {  
  honey: boolean;  
}
```

Is my Alert good enough?

How I want to be using the Alert:

```
<Alert>  
  <h2>This is the alert!</h2>  
  <div>This is more detail on alerts</div>  
</Alert>
```

How I have to use my alert:

```
<Alert message="This is my alert message" />
```
