Ionic Meetup – Stencil

The magical, reusable web component compiler

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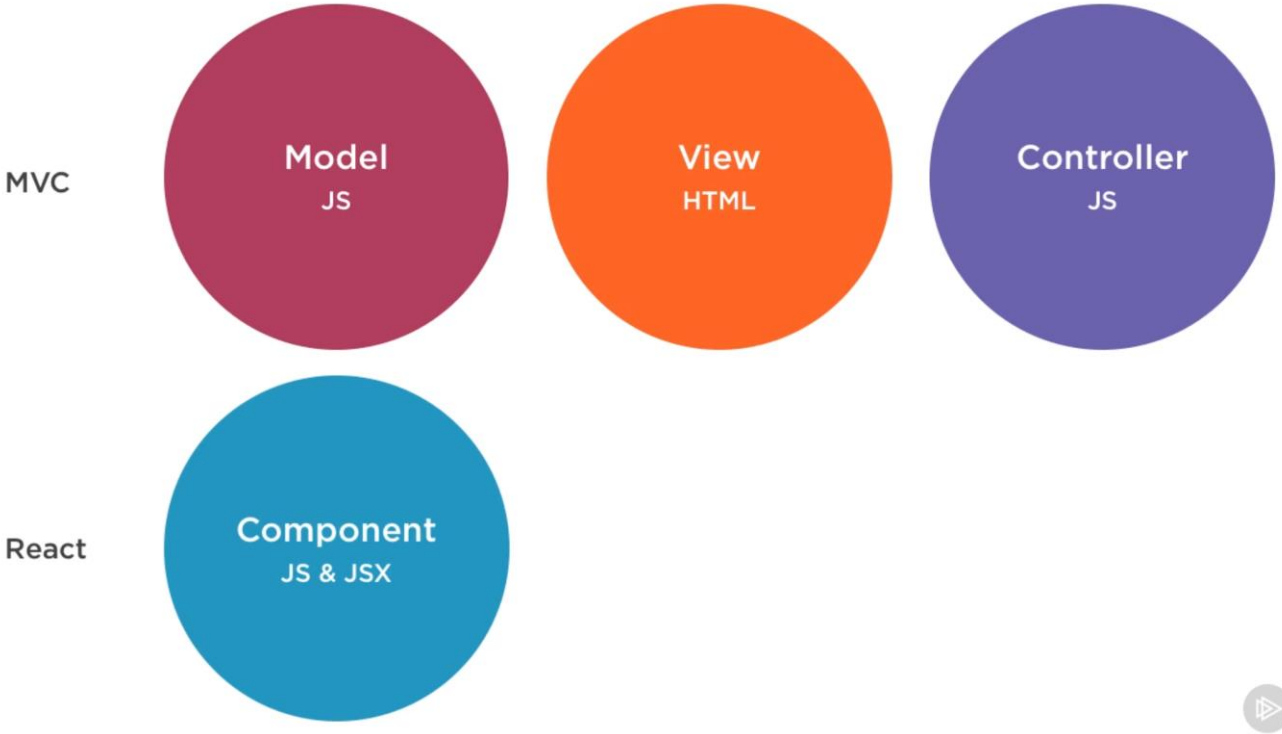
MAKING VISIONS WORK.

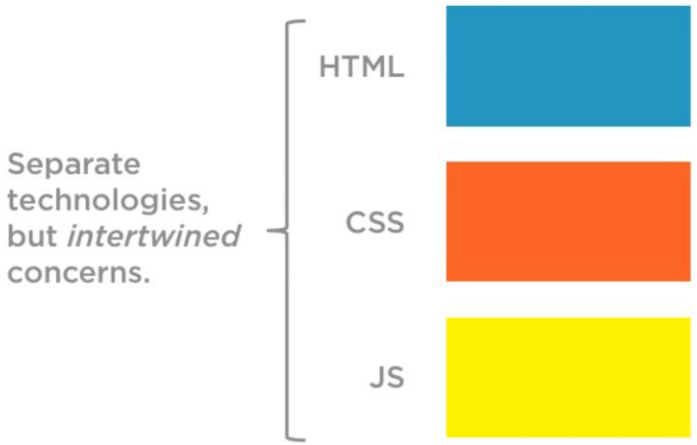
Problem I:
Separation of Concerns

MVC vs Components

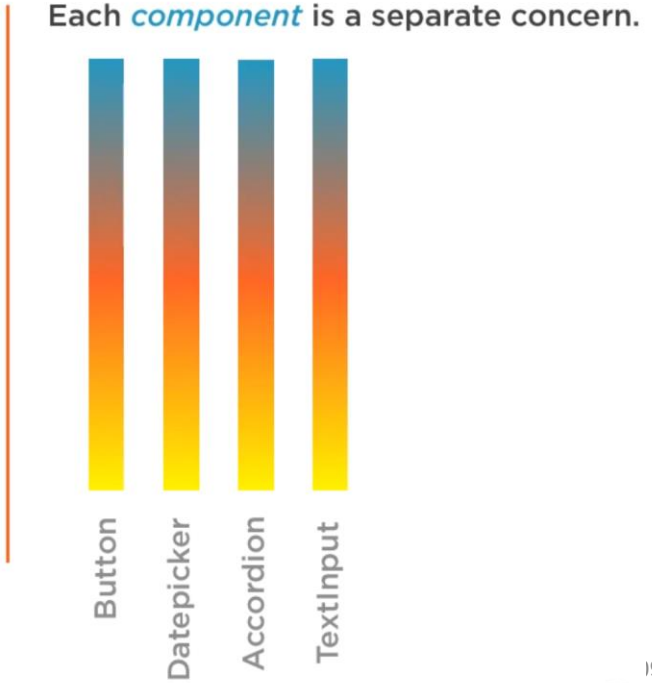


Separation of concerns

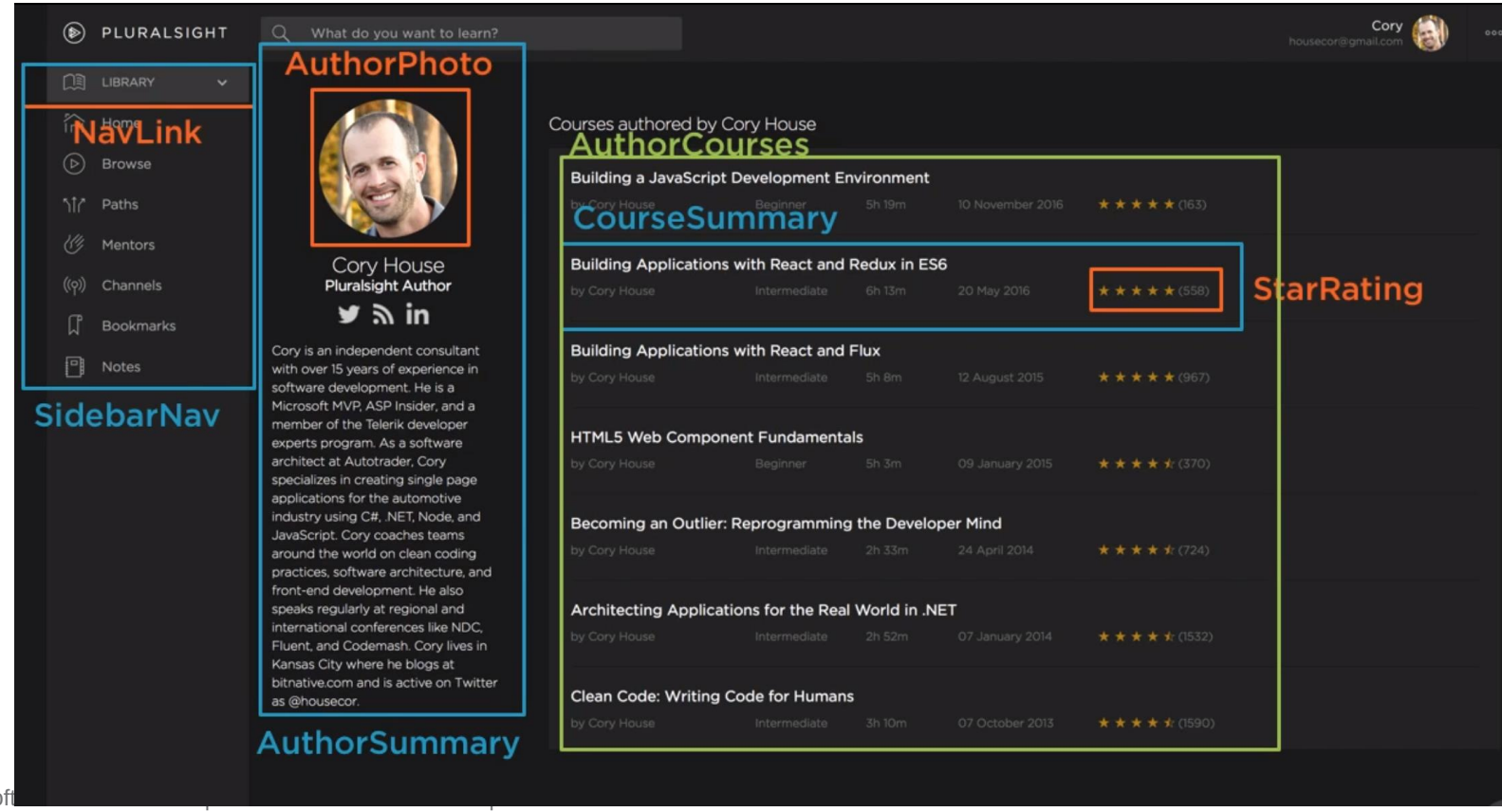
MVC [e.g. Ionic Page]



Component



Component-Based-Architecture



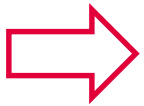
Best practices: components

1. Small, focused components
2. Use container components

Best practices: components

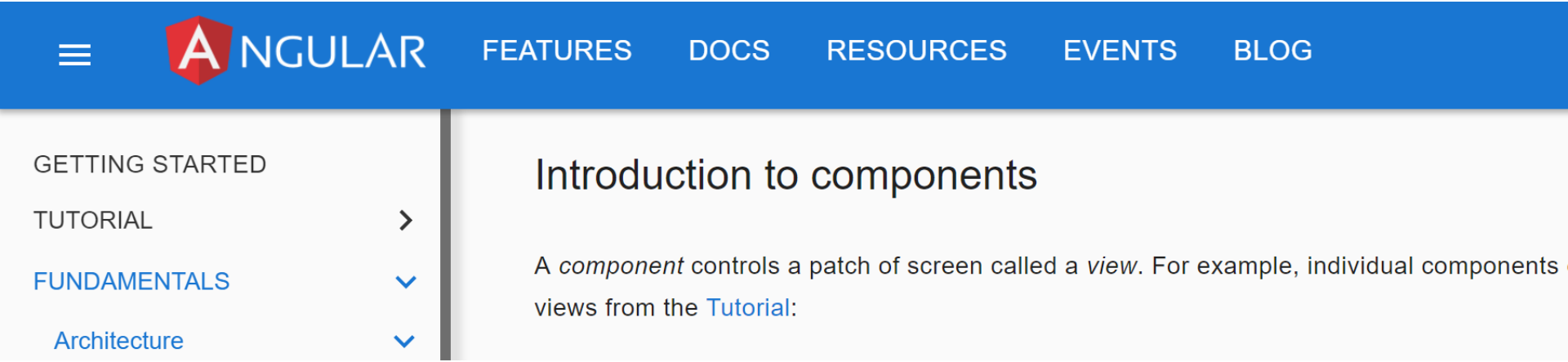
- small, focused components [style]
- use container components [data-binding]

```
class Sidebar extends React.Component {
  componentDidMount() {
    fetch('api.com/sidebar')
      .then(res => {
        this.setState({
          items: res.items
        })
      });
  }

  render() {
    return (
      <div className="sidebar">
        {this.state.items.map(item => (
          <div className="sidebar__item">{item}</div>
        ))}
      </div>
    )
  }
}
```



```
class SidebarContainer extends React.Component {
  componentDidMount() {
    fetch('api.com/sidebar')
      .then(res => {
        this.setState({
          items: res.items
        })
      });
  }

  render() {
    return (
      <Sidebar>
        {this.state.items.map(item => (
          <SidebarItem item={item} />
        ))}
      </Sidebar>
    )
  }
}
```

Just use… ….oh wait!



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Problem II:
Dependency/Framework Hell

angular-maps.com

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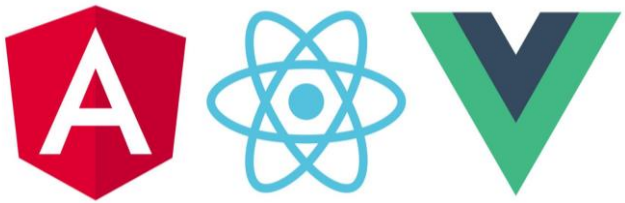
```
import { BrowserModule } from '@angular/platform-browser';
import { NgModule, Component } from '@angular/core';

import { AgmCoreModule } from '@agm/core';

@Component({
  selector: 'app-root',
  styles: [`
    agm-map {
      height: 300px;
    }
  `],
  template: `
  <agm-map [latitude]="lat" [longitude]="lng"></agm-map>
  `
})
export class AppComponent {
  lat: number = 51.678418;
  lng: number = 7.809007;
}

@NgModule({
  imports: [
    BrowserModule,
    AgmCoreModule.forRoot({
      apiKey: 'YOUR_GOOGLE_MAPS_API_KEY'
    })
  ],
  declarations: [ AppComponent ],
  bootstrap: [ AppComponent ]
})
export class AppModule {}
```

Frameworks vs WebComponents



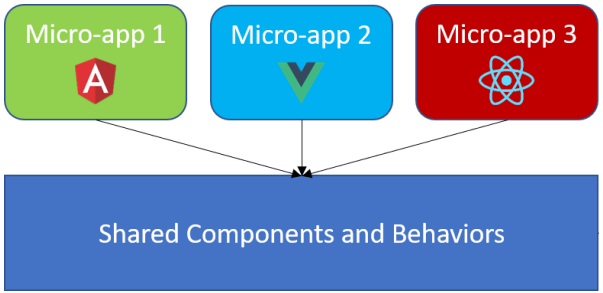
Which framework do we choose?

It doesn't matter.

Use **WebComponents**!

=set of web platform APIs:

https://www.webcomponents.org/



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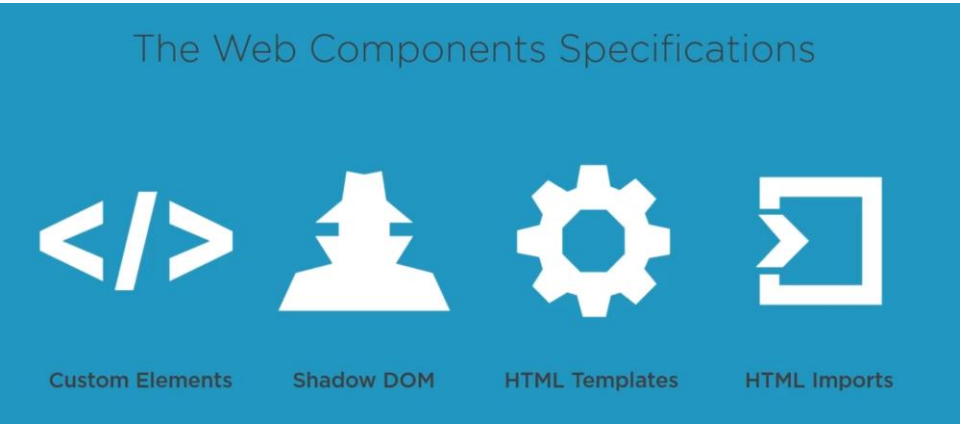
WebComponents with Stencil

WebComponents ⇔ Stencil

WebComponents



Stencil

Reactive Data-binding

Virtual DOM

Typescript Support

Async rendering ala React Fiber

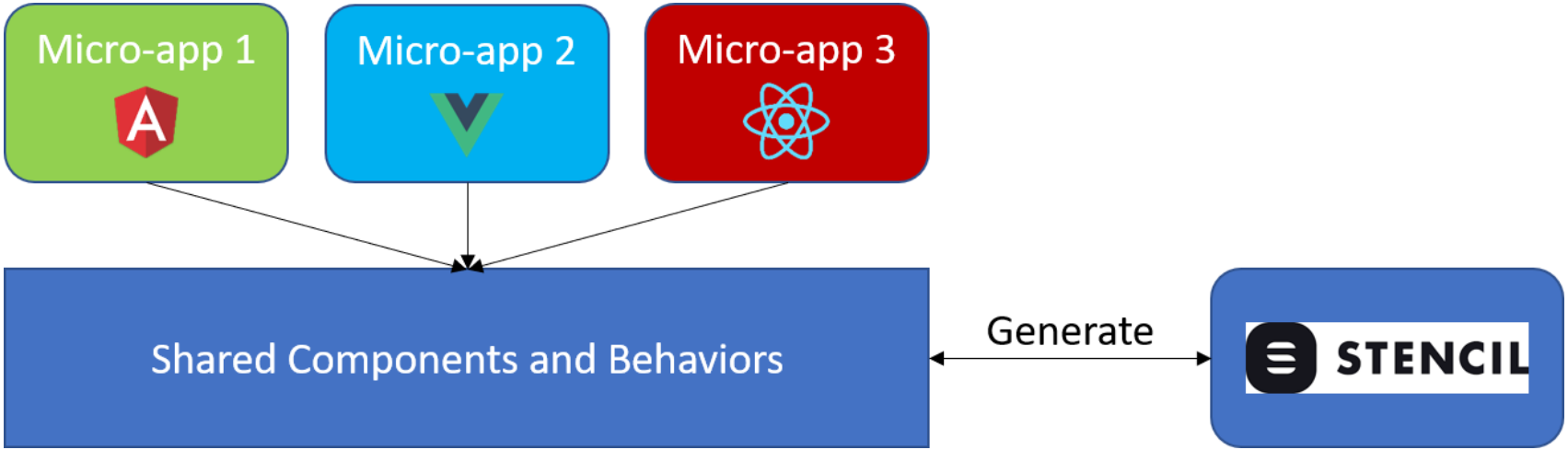
JSX (react syntax)

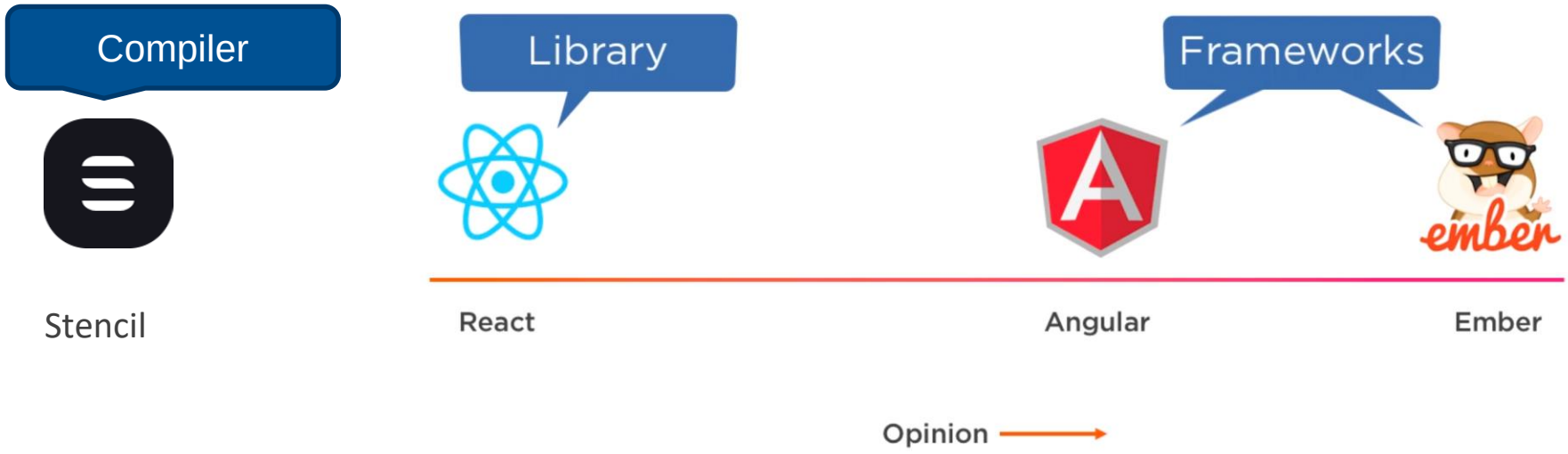
SSR, pre-compilation

⇒ Stencil is a compiler - not a framework

⇒ Outputs vanilla web components

Stencil

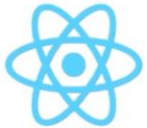

Micro-app 1
Micro-app 2
Micro-app 3
Shared Components and Behaviors
Generate
STENCIL


Compiler
Library
Frameworks
Stencil
React
Angular
Ember
Opinion

JSX

"JS" in HTML

```
<div *ngFor="let user of users">
<div v-for="user in users">
{{#each user in users}}
```



"HTML" in JS

```
{users.map(createUser)}
```

This function is built into JavaScript.

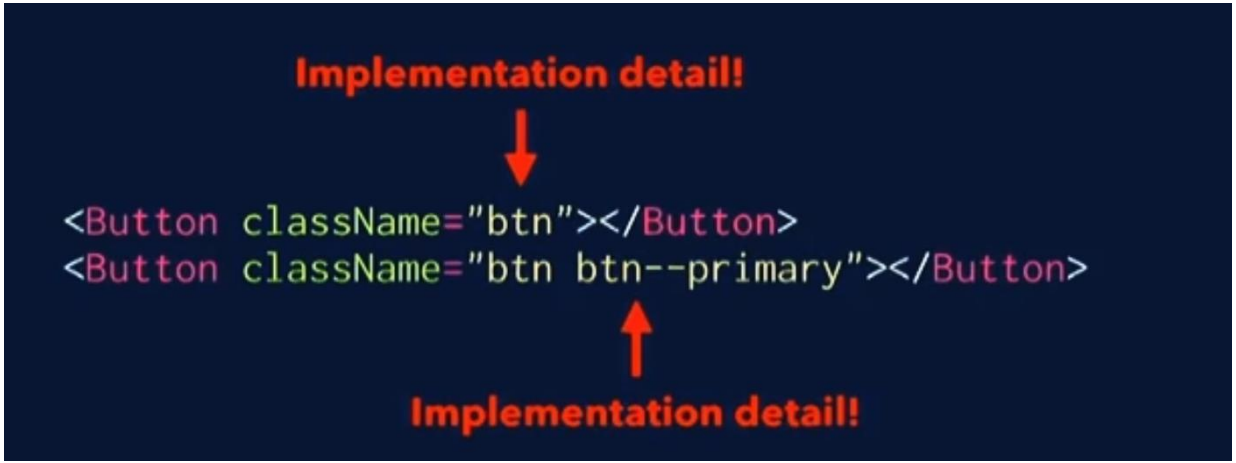
⇒ TSX/JSX compiles to JS

⇒ JavaScript vs. Framework specific syntax

Stencil: TSX (JSX) + Angular component syntax

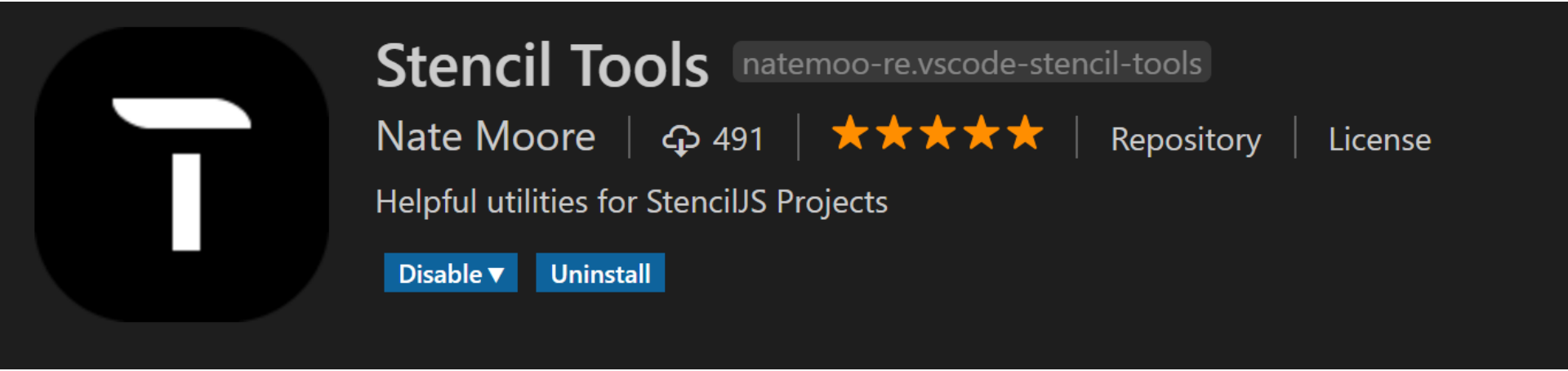
```
import { Component, Prop } from '@stencil/core';

@Component({
  tag: 'my-first-component',
  styleUrl: 'my-first-component.scss'
})
export class MyComponent {

  // Indicate that name should be a public property on the component
  @Prop() name: string;

  render() {
    return (
      <p>
        My name is {this.name}
      </p>
    );
  }
}
```

```
<my-first-component name="Max"></my-first-component>
```




```
<Button></Button>
<Button primary></Button>
```

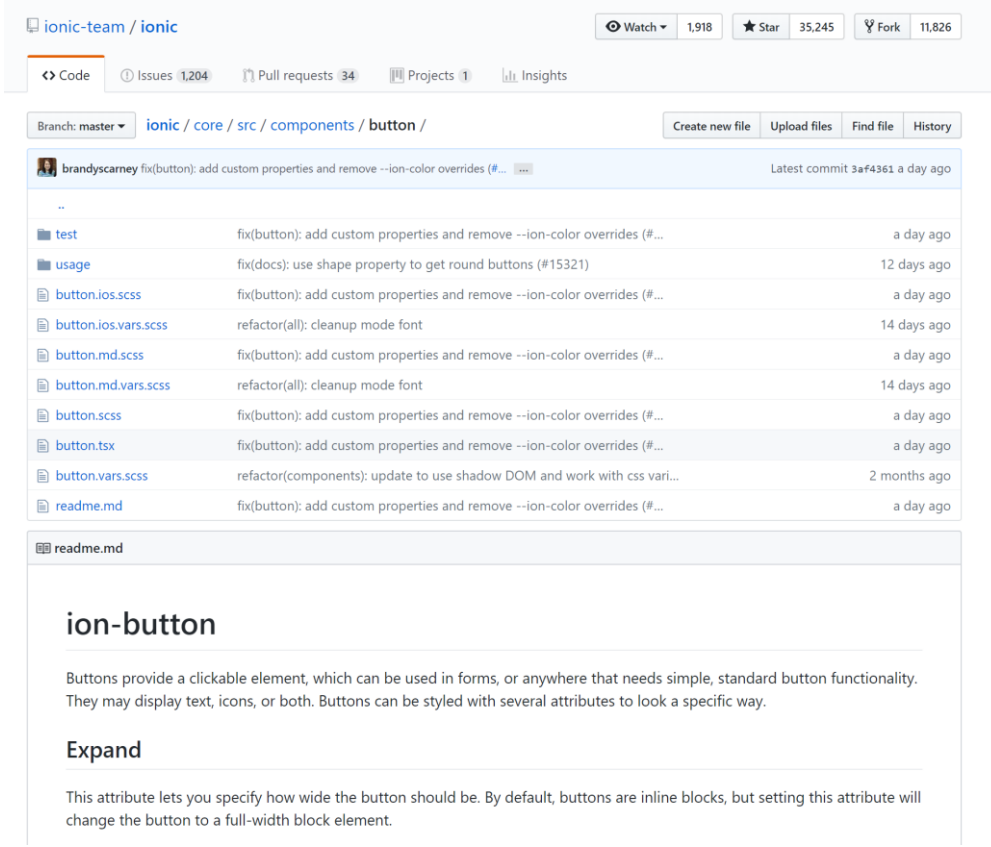
Stencil Tools



Ionic v4

Reference Docs:

https://github.com/ionic-team/ionic



Ionic PWA Toolkit Beta

https://ionicframework.com/pwa/toolkit
https://github.com/ionic-team/ionic-pwa-toolkit

DEMO: Stencil Poker
https://github.com/blumk/bbv-planning-poker

https://bbv-poker.netlify.com/

Discussion

- WebComponents Compilers:
  - StencilJS?
  - Angular Elements
    - Performance (Angular 7?), Angular syntax?
  - SkateJs
- Living Styleguide?
  - https://storybook.js.org/
  - https://frontify.com/de/

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