

TNG



**TECHNOLOGY
CONSULTING**

Clean Code

for the Front End

The Front End

- Runs on the client
 - Complete boot from scratch
 - Every time
- Download
 - At least once
- Startup time matters
- File size matters
 - Your source code!
- Many environments
- Best practices change

1. Setup

2. Architecture

3. Code

Setup

Past

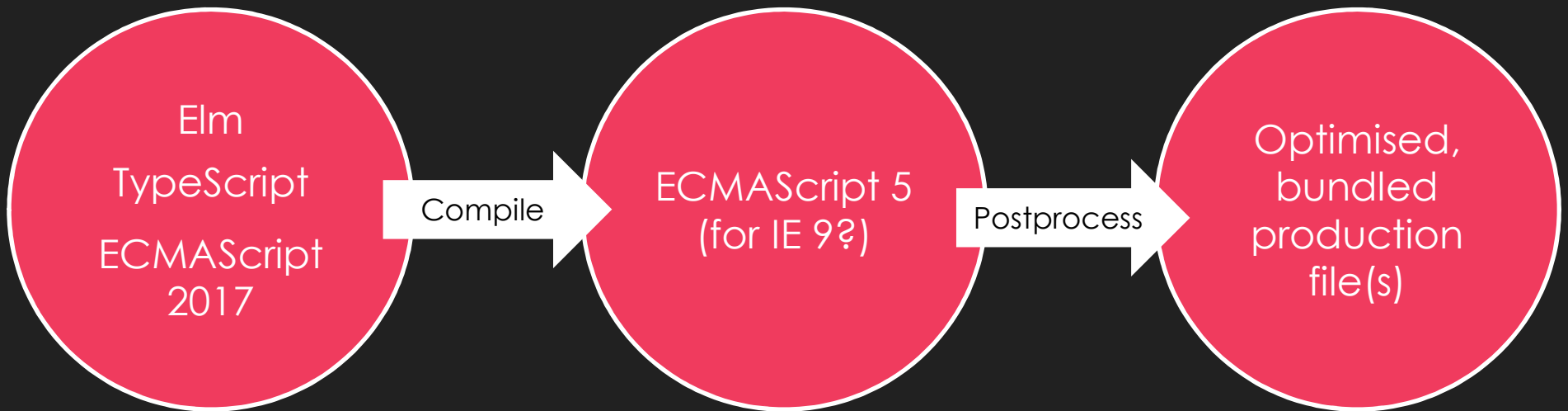
- Simple files delivered as-is
- Processing with shell scripts
 - Make, Ant, Maven, Gradle...

Present

npm, Grunt, gulp

Babel

webpack, Rollup, Prepack



Cheat code: `create-react-app`

Future

- ???

- More Typing?

 - Better static analysis -> better optimization

 - Good for large teams (more documentation in code)

Testing

- Unit/integration tests: **Jasmine** + Karma (+ Sinon)
 - or Jest
- Real integration tests: Selenium
- Real real integration tests: Browserstack
 - or SauceLabs, Litmus...

Code style checker (Linter)

- Use them.
- ESLint, TSLint
- **Prettier**

“Architecture”

Pluggable UI Components

Don't Repeat Yourself

Pluggable UI Component API

- Variable data

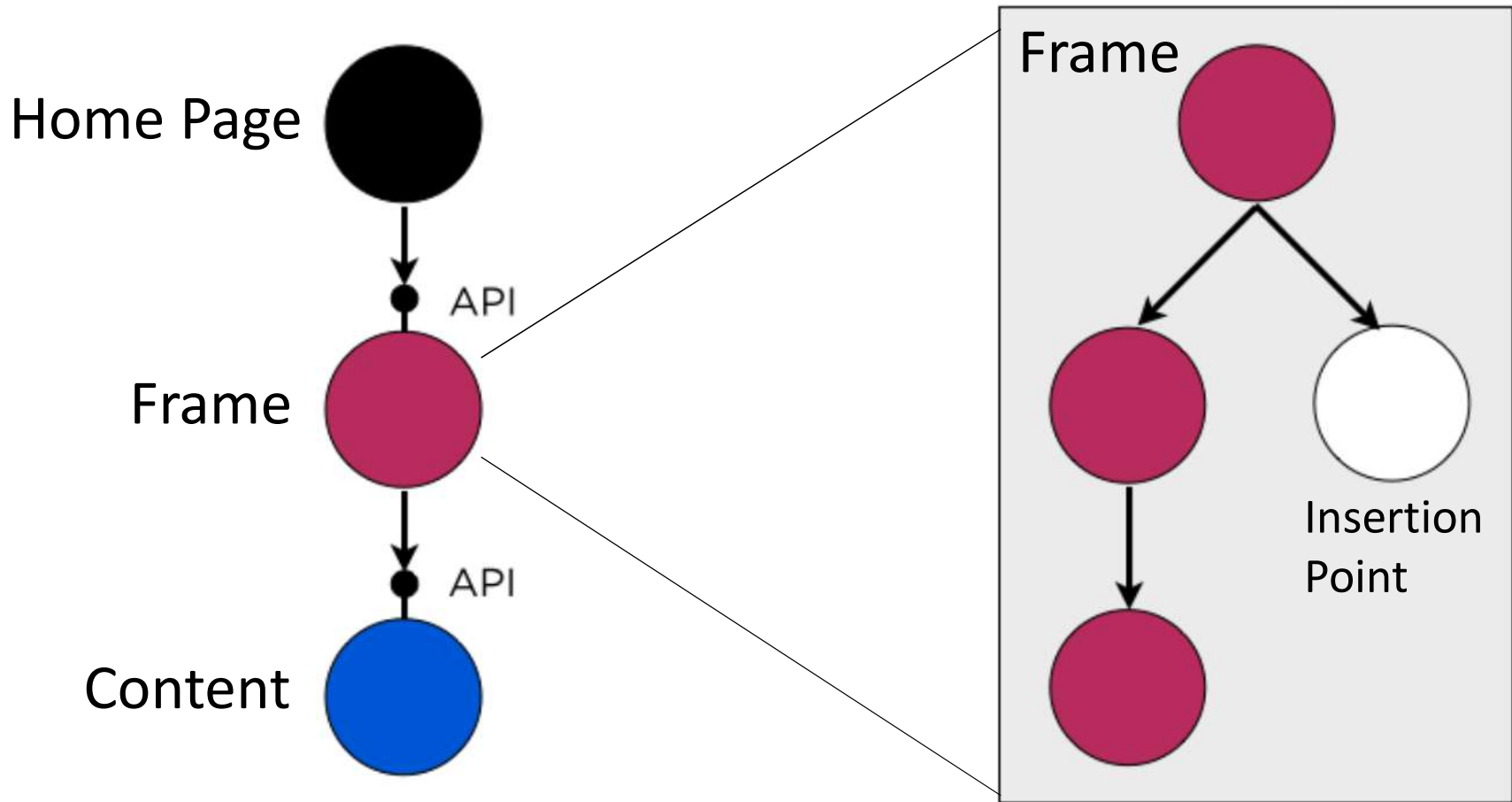
```
<Avatar  
  userId={getId()}>
```

- Display variants

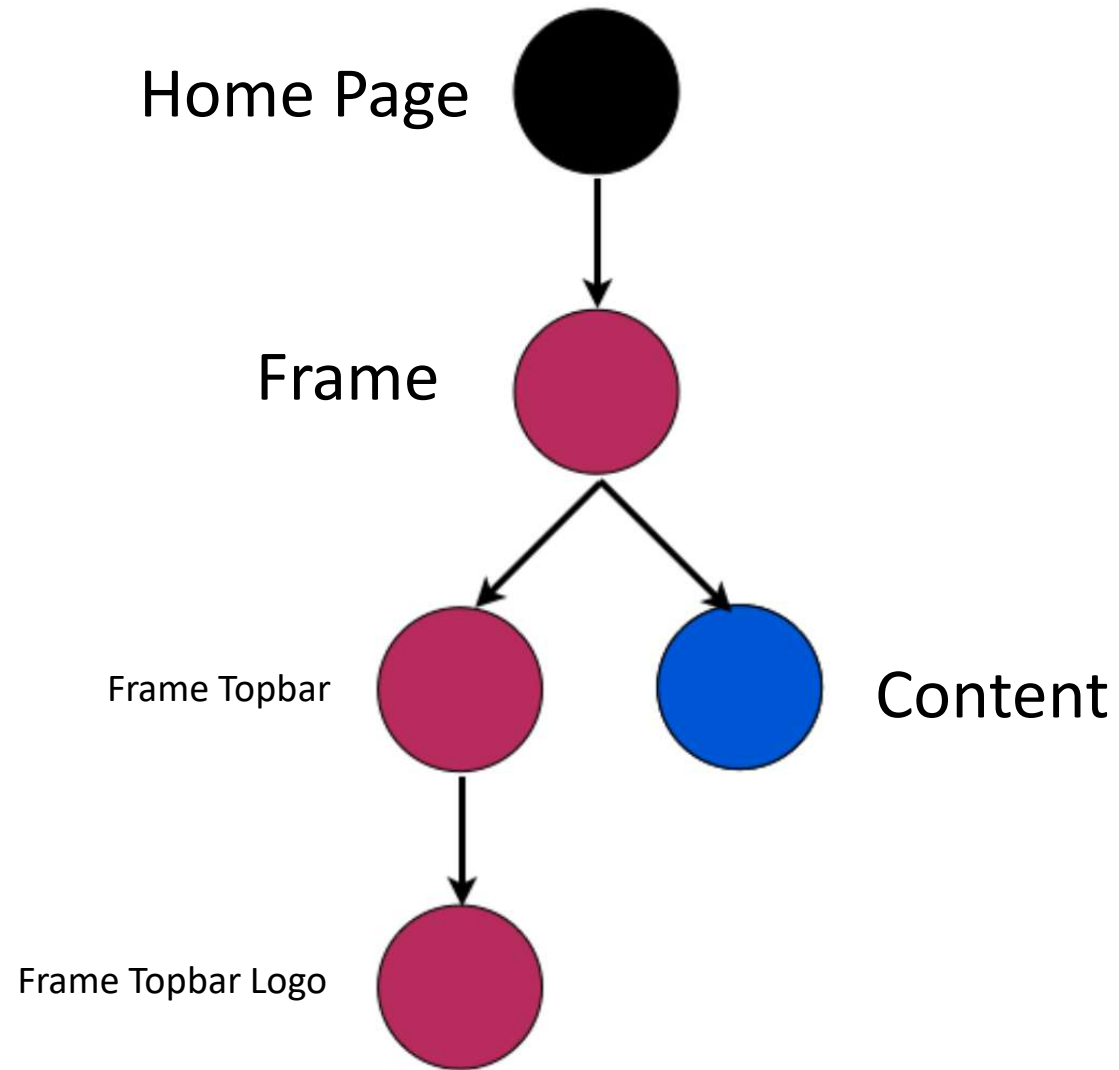
```
<Button  
  style={BIG_RED} />
```

- Wrapper components

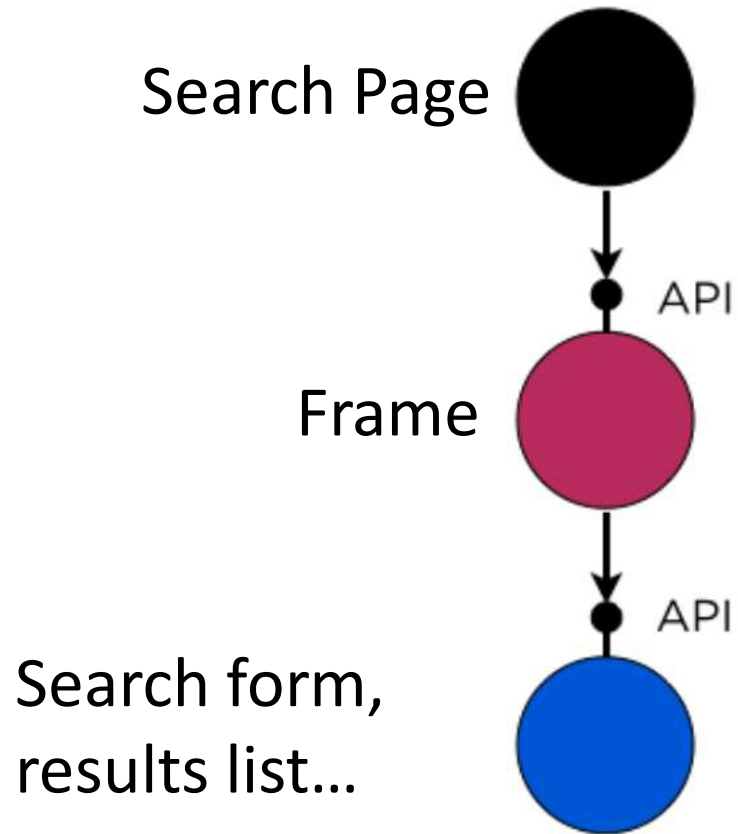
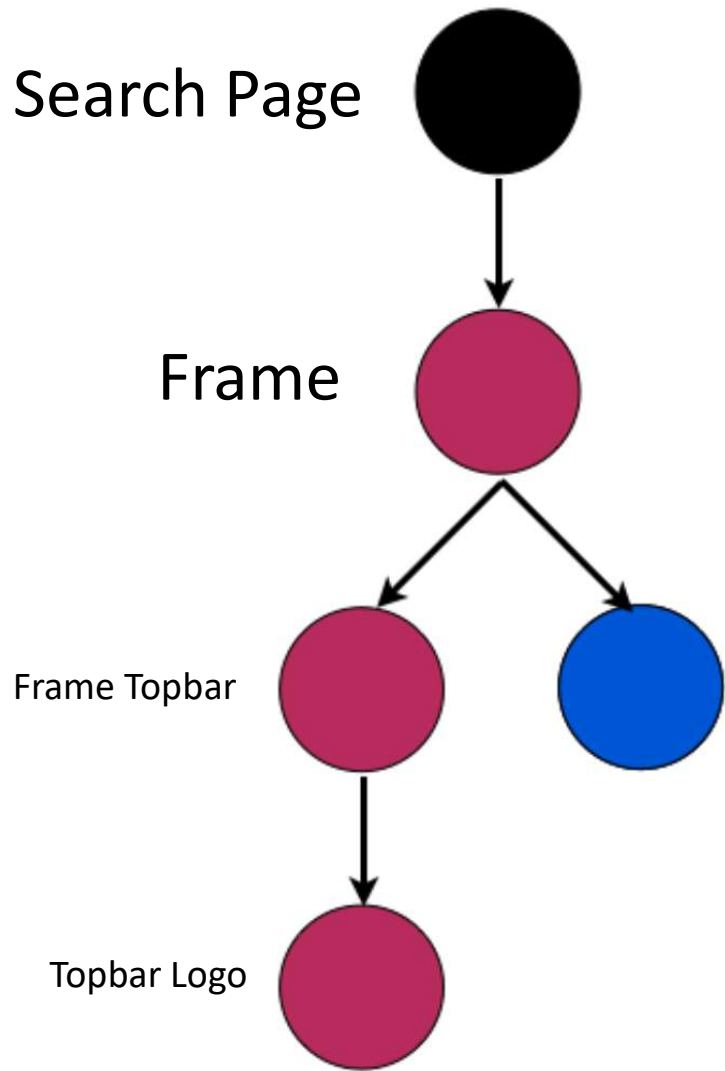
```
<Frame>  
  <div [...content...] />  
</Frame>
```



Adapted from <https://speakerdeck.com/necolas/thinking-beyond-scalable-css>



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BEM

Block_Element--Modifier

Problems with CSS

- Everything is global
- Styles can be overridden
 - Specificity wars
- Hard to know what is dead code

block_element

Home About

Search Twitter



Language: English

Welcome to Twitter.

Connect with your friends — and other fascinating people. Get in-the-moment updates on the things that interest you. And watch events unfold, in real time, from every angle.

AHA!

Tweet and photo by @Podolski10

10:11 PM - 13 July 2014

Element:
LoginBox

Element:
SignupBox

Phone, email or username

Password

Remember me [Forgot password?](#)

New to Twitter? Sign up

Full name

Email

Password

Block: HomePage

block__element

The image shows a screenshot of the Twitter homepage. At the top, there is a navigation bar with 'Home' and 'About' links, a search bar, and a language selector set to 'English'. The main content area features a large background image of two men, one kissing the other on the cheek. Overlaid on this image are two semi-transparent boxes with blue borders, each containing a CSS selector. The top box is labeled '.home-page__login-box' and highlights the login form, which includes fields for 'Phone, email or username' and 'Password', a 'Remember me' checkbox, and a 'Forgot password?' link. The bottom box is labeled '.home-page__signup-box' and highlights the sign-up form, which includes fields for 'Full name' and 'Password', and a 'Sign up for Twitter' button. Below the main text, there is a tweet from @Podolski10 with the text 'AHA!' and a timestamp of '10:11 PM - 13 July 2014'. At the bottom of the page, there is a footer with various links and the copyright notice '© 2017 Twitter'.

Home About Search Twitter Language: English

Welcome to Twitter.

Connect with your friends — and other fascinating people. Get in-the-moment updates on the things that interest you. And watch events unfold, in real time, from every angle.

AHA!

Tweet and photo by @Podolski10
10:11 PM - 13 July 2014

.home-page__login-box

.home-page__signup-box

.home-page

About Help Center Blog Status Jobs Terms Privacy policy Cookies Ads info Brand Advertise Businesses Developers Directory Settings © 2017 Twitter

block_element--modifier

New to Twitter? Sign up

Full name

Email

Password

Sign up for Twitter

Block: FormBox

Element: Input

`.form-box`

`.form-box__input`

Phone or email to use for login

Password

Log in

Remember me · [Forgot password?](#)

Block: FormBox

Element: Input

`.form-box`

`.form-box__input`
`.form-box__input--with-button`

block--modifier

New to Twitter? Sign up

Block: Button

```
<Button  
  style={PRIMARY} />
```

```
.button  
.button--primary
```


 Remember me · [Forgot password?](#)
Block: Button

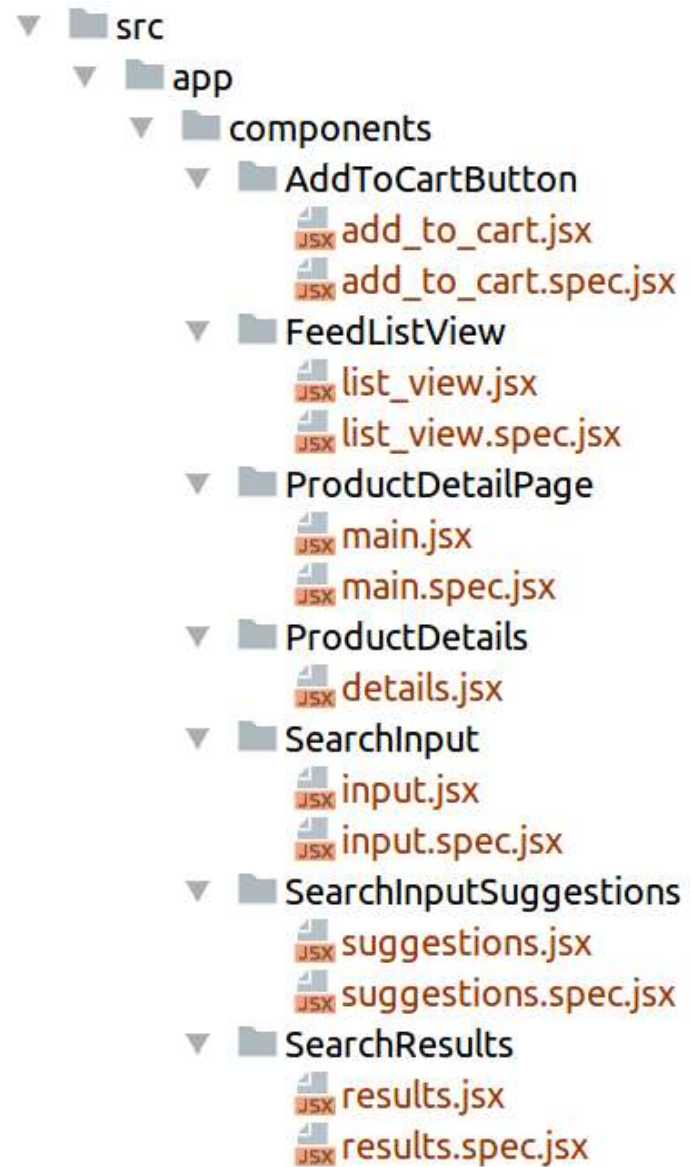
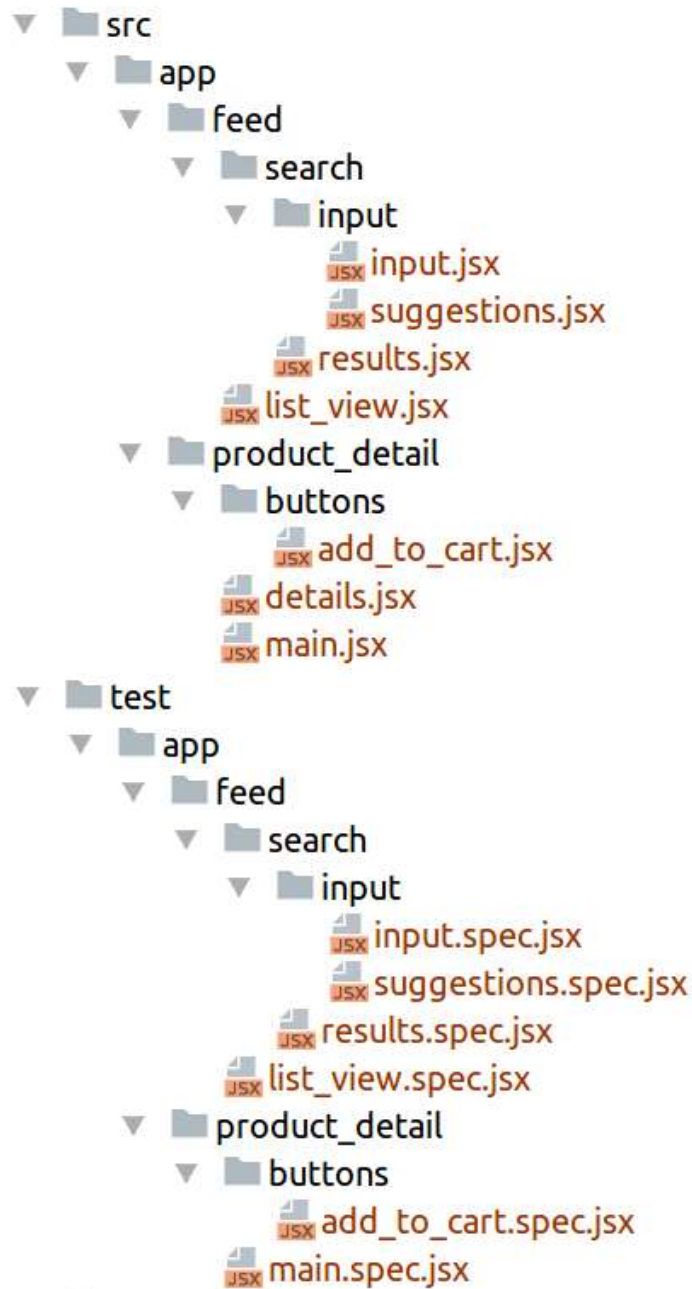
```
<Button  
  style={SECONDARY} />
```

```
.button  
.button--secondary
```

BEM

- Class names are unique
 - No overriding / inheritance of styles
- Class names are unambiguous
 - Dead code easy to delete
- Styles are Component-local

Flat hierarchy



Flat hierarchy

- Obvious reusability
- No name collisions
- Faster onboarding of new developers
- No fights over directory structure

```
▼ src
  ▼ app
    ▼ components
      ▼ AddToCartButton
        add_to_cart.jsx
        add_to_cart.spec.jsx
      ▼ FeedListView
        list_view.jsx
        list_view.spec.jsx
      ▼ ProductDetailPage
        main.jsx
        main.spec.jsx
      ▼ ProductDetails
        details.jsx
      ▼ SearchInput
        input.jsx
        input.spec.jsx
      ▼ SearchInputSuggestions
        suggestions.jsx
        suggestions.spec.jsx
      ▼ SearchResults
        results.jsx
        results.spec.jsx
```

What's in a component?

- Template
- (View) Logic
- Style
- Tests
- Back end API

Code

ECMAScript

- Avoid **this**
- Avoid inheritance
- Appreciate the difficulty of asynchronicity

CSS et al.

- Write as little as possible
- BEM
- Avoid macros
- Use global constants
- Use Flexbox

HTML

- Use correct tags
 - `<button>` instead of `<div>`
 - `<select>` instead of `<div>`
- Think about all attributes
 - ``
- Use labels
 - `<label>Search:
<input type="search" placeholder="try 'puppies'" required>
</label>`

Use Components

Read the Specs

Avoid Inheritance



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[@tatellos](#)