Scalable and Modular Architecture for CSS

The Workshop

Introduction to Scalable and Modular Architecture for CSS

Observing that the maximum number of people who can productively, simultaneously work on CSS is one.
— Paul Battley

```
.block { display:block !important; }
.inline { display:inline !important; }
.hide { display:none !important; }
.s-none { margin:0 !important; }
.s { margin:10px !important; }
.ss { margin:20px !important; }
.sr { margin-right:10px !important; }
.p-none { padding:0 !important; }
.p { padding:10px !important; }
.pp { padding:20px !important; }
.pt { padding-top:10px !important; }
.w-auto { width:auto !important; }
```

```
.Bfc {
    overflow: hidden;
    zoom: 1;
}
.M-10 {
    margin: 10px;
}
.Fl-start {
    float: left;
}
.Mend-10 {
    margin-right: 10px;
}
.Fz-s {
    font-size: smaller;
}
```

```
.layout_1_2 #blogList .pageitem .statusBar {}
.layout_1_2 #blogList .pageitem .statusBar .status,
            #blogList .pageitem .statusBar .status .status1 { }
.layout_1_2 #blogList .pageitem .statusBar .status { }
.layout_1_2 #blogList .pageitem .statusBar .status .status1 { }
.layout_1_2 #blogList .pageitem .statusBar .status .status1 a { }
.layout_1_2 #blogList .pageitem .statusBar .status .status1 .sep {}
```

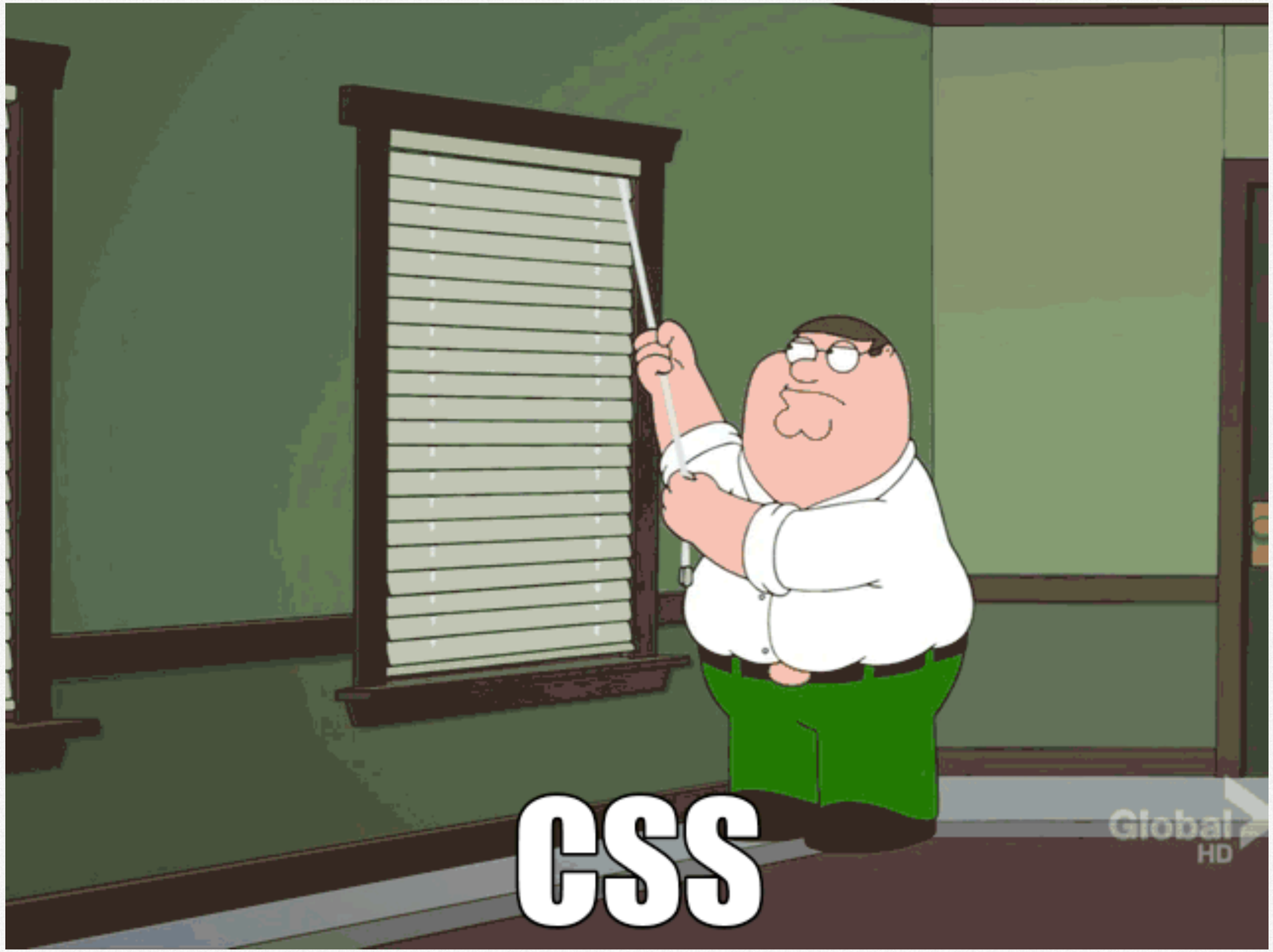
```
.layout_1_2 #blogList .pageitem .statusBar {}
.layout_1_2 #blogList .pageitem .statusBar .status,
            #blogList .pageitem .statusBar .status .status1 { }
.layout_1_2 #blogList .pageitem .statusBar .status { }
.layout_1_2 #blogList .pageitem .statusBar .status .status1 { }
.layout_1_2 #blogList .pageitem .statusBar .status .status1 a { }
.layout_1_2 #blogList .pageitem .statusBar .status .status1 .sep {}
```

```
#nav-header ul li {
float: left;
...
}

#nav-content ul li {
float: left;
...
}
```

```
#comments .comment .meta .authorname {}
#comments .comment .meta .commentnumber a {}
```

```
#comments .comment .meta .authorname {}
#comments .comment .meta .commentnumber a {}
```


CSS
Global
HD

```
// Modules
// ----------------------------------------
@import "btn";
@import "img";
@import "layout";
@import "nav";
@import "tables";
@import "forms";
@import "section";
@import "fluid_container";
@import "table_filter";
@import "modal";
@import "dropdown";
@import "flags";
@import "progress";
@import "arrows";
@import "box";
```

Inspiration

- Nicole Sullivan's Object-Oriented CSS
- Jeremy Keith's Pattern Primer
- Natalie Downe's Practical, maintainable CSS presentation
- Jina's CSS Workflow presentation

1

SMACSS is

Categorization

2

SMACSS is

Naming Convention

SMACSS is

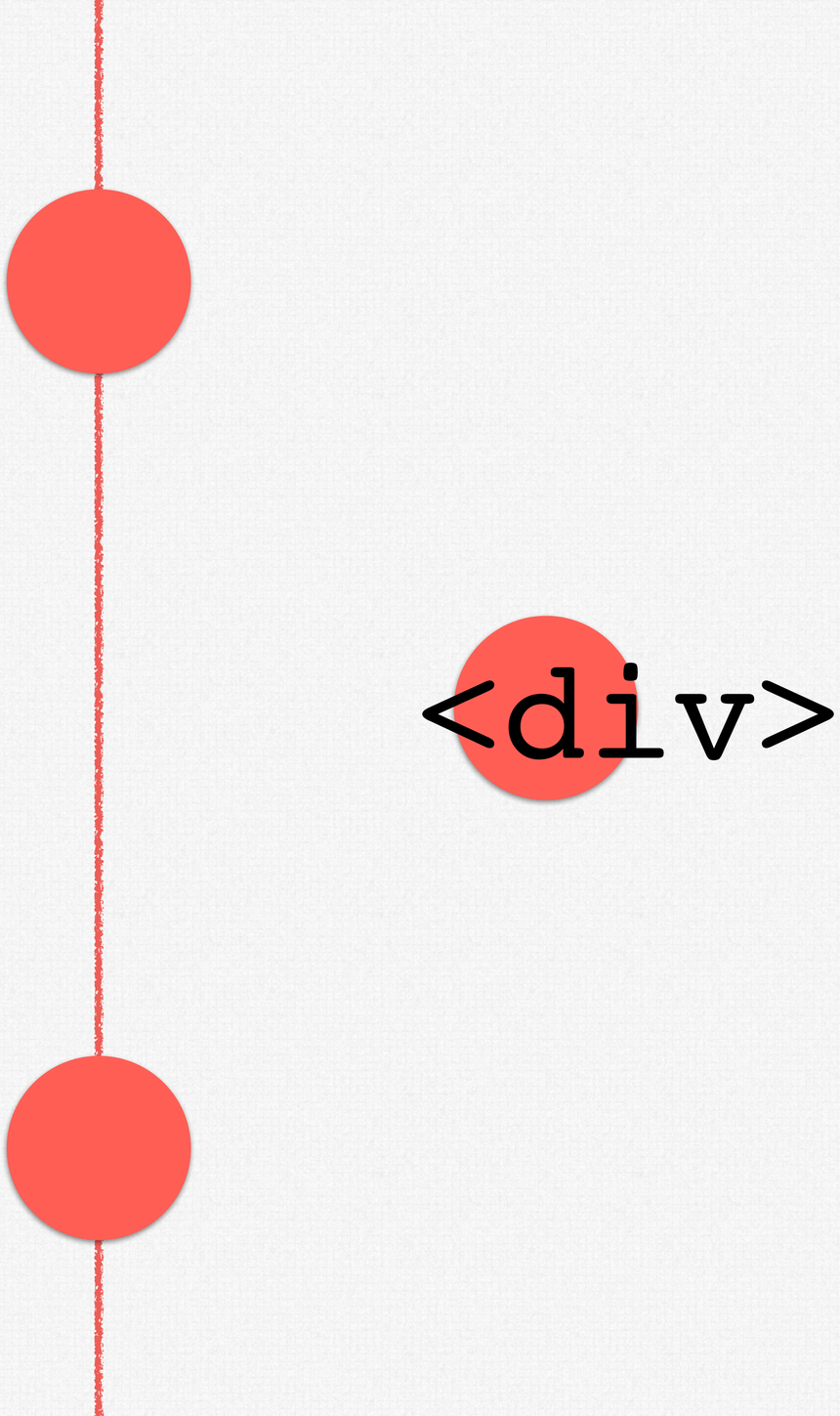
Decoupling CSS from HTML

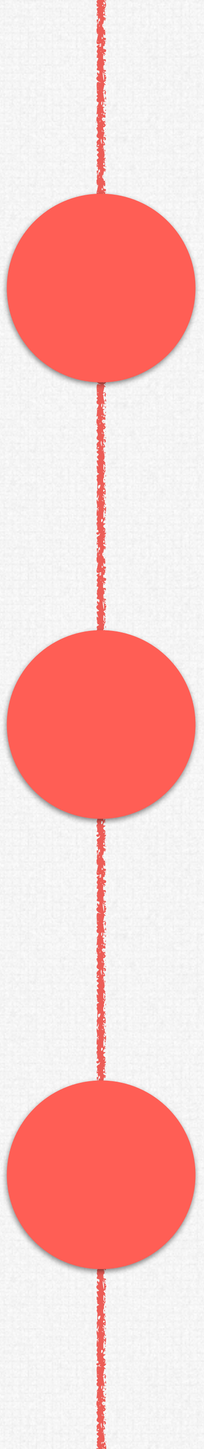
4

SMACSS is

State-based Design

Categorization





```
? { }
```

Base

```
html {
  background-color: #FFF;
  font-family: Arial, Helvetica, sans-serif;
  font-size: 14px;
}
body {
  margin: 0;
  padding: 0;
}
h1, h2, h3 {
  margin: 1em 0;
}
```

Base

- Element selectors
- CSS Resets
- Normalize

Layout

Base

(3787 unread) - snookca - Y

ca-mg999.mail.yahoo.com/neo/launch

Hi, Jonathan | Sign Out | Options | Help

Make Y! My Homepage

Mail | My Y! | Yahoo!

YAHOO! MAIL

Search | Search Mail | Search Web

WHAT'S NEW | INBOX (6995) | CONTACTS

Compose Message | Delete | Reply | Forward | Spam

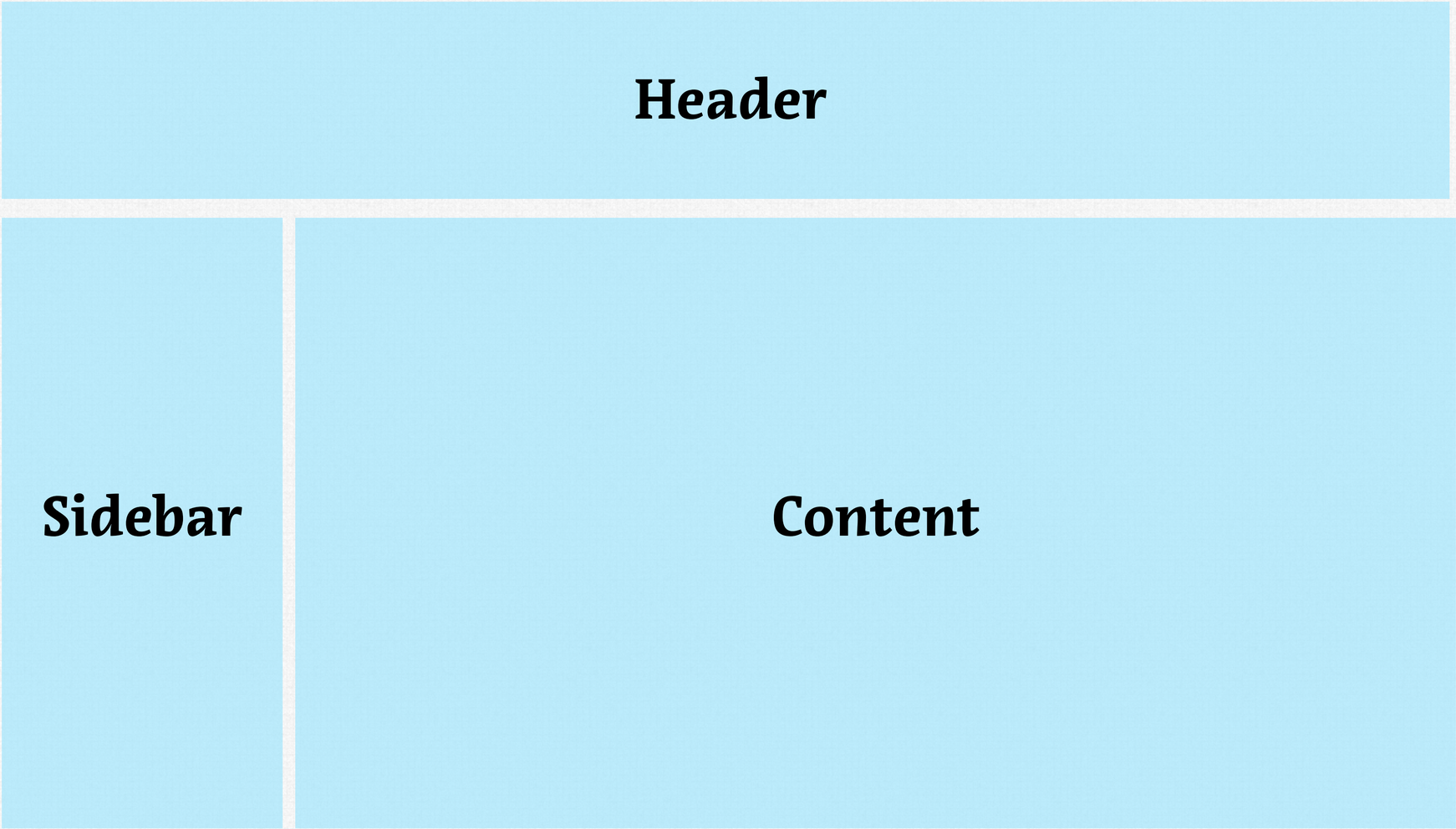
Netflix
Try us for Free

- Inbox 3787
- Conversations
- Drafts 5
- Sent
- Spam
- Trash
- Folders
  - Address Book
  - asdasf
  - Bugzilla 1882
  - devel-frontend 6
  - devel-help 1017
  - Mail
  - Neo 19
  - Personal
- Online Contacts
- Facebook Friends

FROM	SUBJECT	DATE
Ismat Awamleh	Merry Christmas and Happy New Year!	Dec 23, 2011
Blake Irving	You can't always get what you want	Dec 23, 2011
Shaik Mohammed Jan Ali	RE: Multi tab mail search	Dec 23, 2011
Gnanavel Shanmugam	Re: Multi tab mail search	Dec 23, 2011
Dee Adams	Re: So long and...	Dec 22, 2011
Dee Adams	Re: So long and...	Dec 22, 2011

Choose your favorite way to communicate.

Email | SMS | Instant Message


Header
Sidebar
Content

The Specificity Graph - CSS

csswizardry.com/2014/10/the-specificity-graph/

CSS

About and Contact Case Studies Speaking Hire Me

29 October, 2014

The Specificity Graph

As we all (should) probably know by now, **specificity** is is one of CSS' most troublesome features, and is an area that soon becomes hard to manage on projects of any reasonable size. Specificity is a trait best avoided, which is why we **don't use IDs in CSS**, and we **don't nest selectors** unless absolutely necessary.

However, we can't avoid specificity completely: there are types of selector that we have to use on projects that are inherently more or less specific than others. For all we can avoid the worst bits, we need a way to manage the necessary parts. Enter *The Specificity Graph*.

The Specificity Graph is something I have only been speaking about recently, and is a cornerstone of my currently unpublished ***ITCSS* architecture**. It is a very simple model for diagrammatically assessing the overall health of your codebase in terms of specificity—a way of looking at an entire project's CSS and highlighting any potentially troublesome areas of higher-than-ideal specificity. We can then use this snapshot to

csswizardry.com/.../when-using-ids-can-be-a-pain-in-the-class

er shape, or to ensure we're writing new

Hi there, I'm Harry. I am an **award-winning** **Consultant Front-end Architect**, **designer**, **developer**, **writer** and **speaker** from the UK. I **write**, **tweet**, **speak** and **share code** about authoring and scaling CSS for big websites. You can **hire me**.

Follow @csswizardry 35.3K followers

I am currently **accepting new projects** for Q4, 2014

Referral scheme

Projects

Header

Content

Sidebar

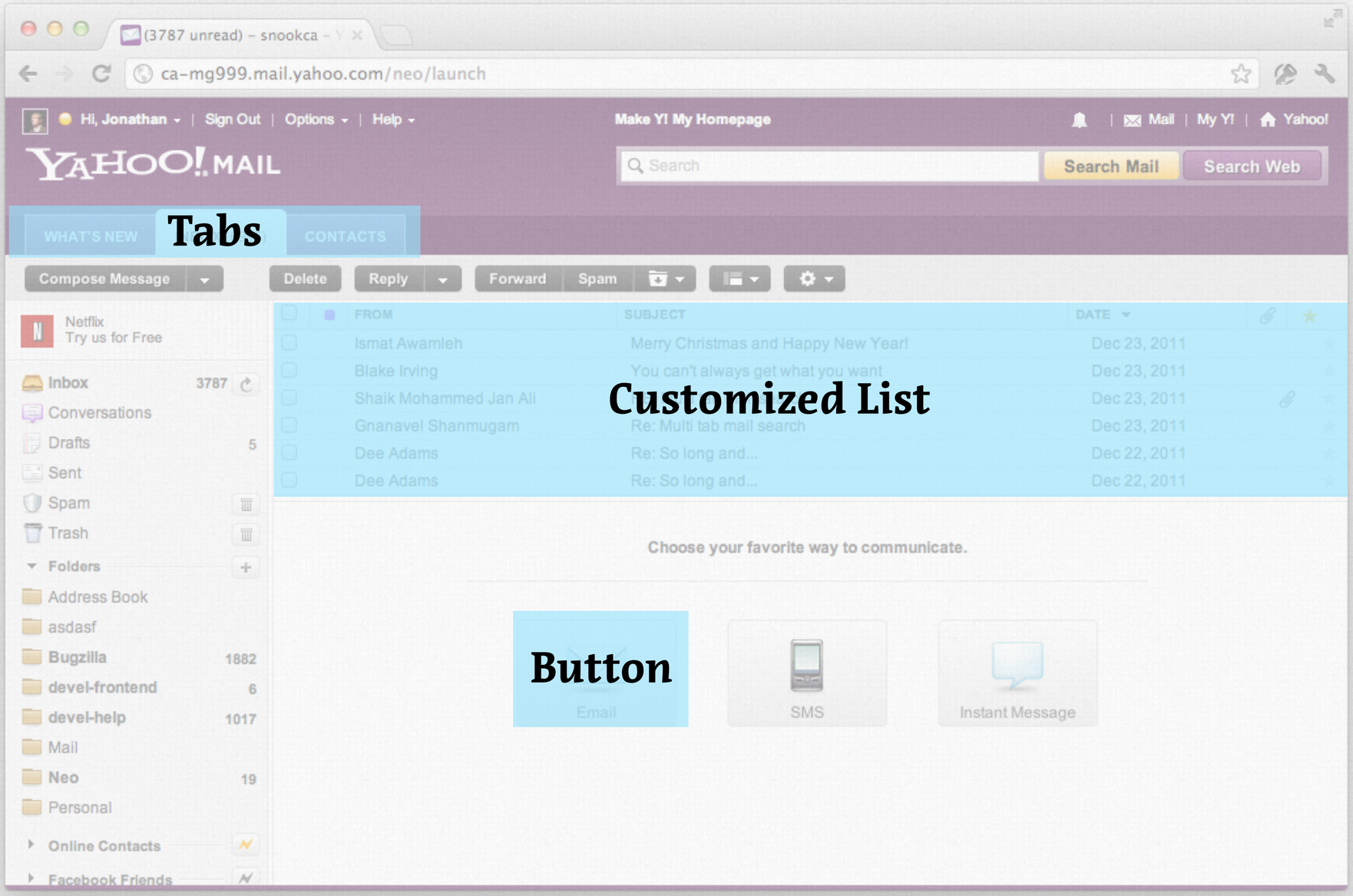
Layout

- Major containing elements
- Grid systems
- How do you group your content?

Module

Layout

Base


(3787 unread) - snookca -
ca-mg999.mail.yahoo.com/neo/launch
Hi, Jonathan | Sign Out | Options | Help
Make Y! My Homepage
Mail | My Y! | Yahoo!
YAHOO! MAIL
Search
Search Mail
Search Web
WHAT'S NEW
Tabs
CONTACTS
Compose Message
Delete
Reply
Forward
Spam
Netflix
Try us for Free
Inbox 3787
Conversations
Drafts 5
Sent
Spam
Trash
Folders
Address Book
asdasf
Bugzilla 1882
devel-frontend 6
devel-help 1017
Mail
Neo 19
Personal
Online Contacts
Facebook Friends
FROM
SUBJECT
DATE
Ismat Awamleh
Merry Christmas and Happy New Year!
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You can't always get what you want
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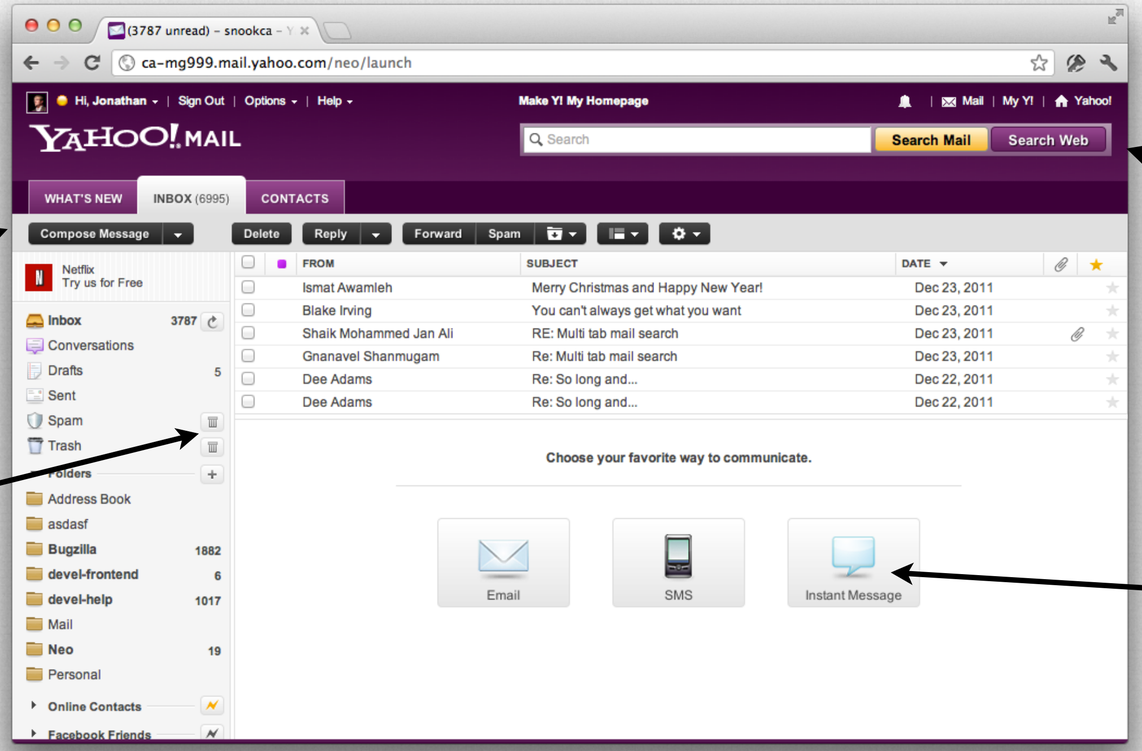
Dec 23, 2011
Dee Adams
Re: So long and...
Dec 22, 2011
Dee Adams
Re: So long and...
Dec 22, 2011
Customized List
Choose your favorite way to communicate.
Button
Email
SMS
Instant Message

Modules

- Contain content
- Are the majority of your site
- Each module is an interface that your users have to learn
- Each module is code that has to be written, delivered, and maintained

Module Variations

I call them sub-modules



Dark

Small

Search

Large

shopify BETA ADMIN STORE Jonathan Snook

STORE MANAGEMENT

- Dashboard
- Orders 12
- Customers
- Discounts

STORE CONTENT

- Products
- Collections
- Blog posts
- Pages
- Links

STORE CONFIGURATION

- Themes
- Apps

Products

Actions | Add product

- Export products
- Import products

Add filter | Start typing a product's name...

	PRODUCT	INVENTORY	TYPE	VENDOR
	Scalable and Modular Architecture for CSS	-59 in stock for 3 variants	Book	Snook.ca Web Development, Inc.

shopify BETA

ADMIN STORE

e-book

Jonathan Snook

Scalable and Modular Architecture for CSS

View all search results

STORE MANAGEMENT

- Dashboard
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Products

ons

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Start typing a product's name...

	PRODUCT	INVENTORY	TYPE	VENDOR
	Scalable and Modular Architecture for CSS	-59 in stock for 3 variants	Book	Snook.ca Web Development, Inc.

shopify | View your website | Product | Need help? | Jonathan Snook

YOUR STORE
- Dashboard
- Orders 1
- Customers
- Discounts
- Products
- Collections
- Reports

YOUR WEBSITE
- Blog posts
- Pages
- Navigation
- Themes

CONFIGURATION
- Apps

Products / This is a Product

Duplicate | Save

PRODUCTS
- This is a Product
- This is my product

BLOG POSTS
- First Post

View all search results

Product details

Write a name and description, and provide a type and vendor to categorize this product.

View in your store

Title

This is a Product

Description

A Formatting | B | I | <>

This is a description

Type e.g. Bicycles, T-Shirts

Unknown

Vendor e.g. Apple, American Apparel

snook2

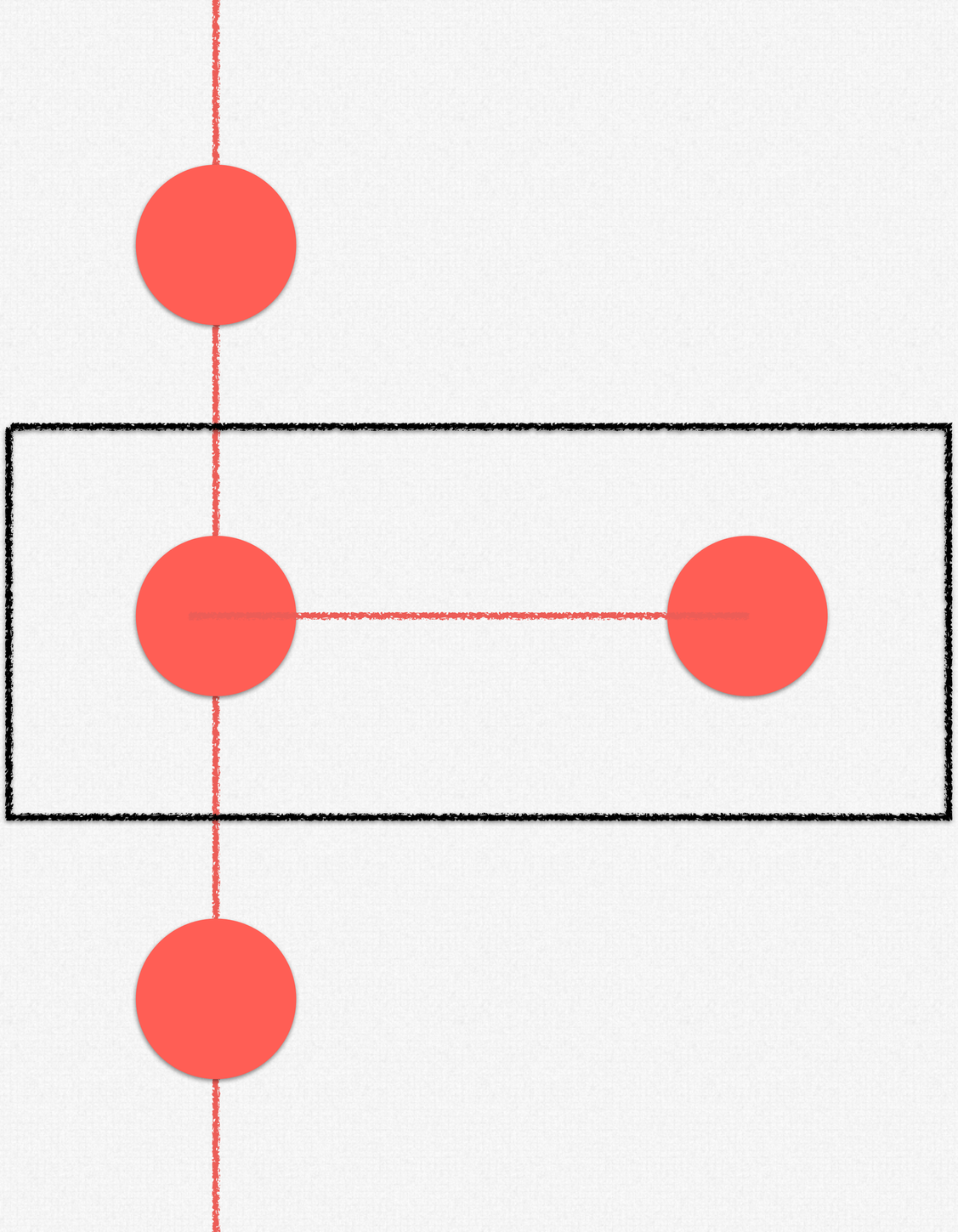
Inventory & variants

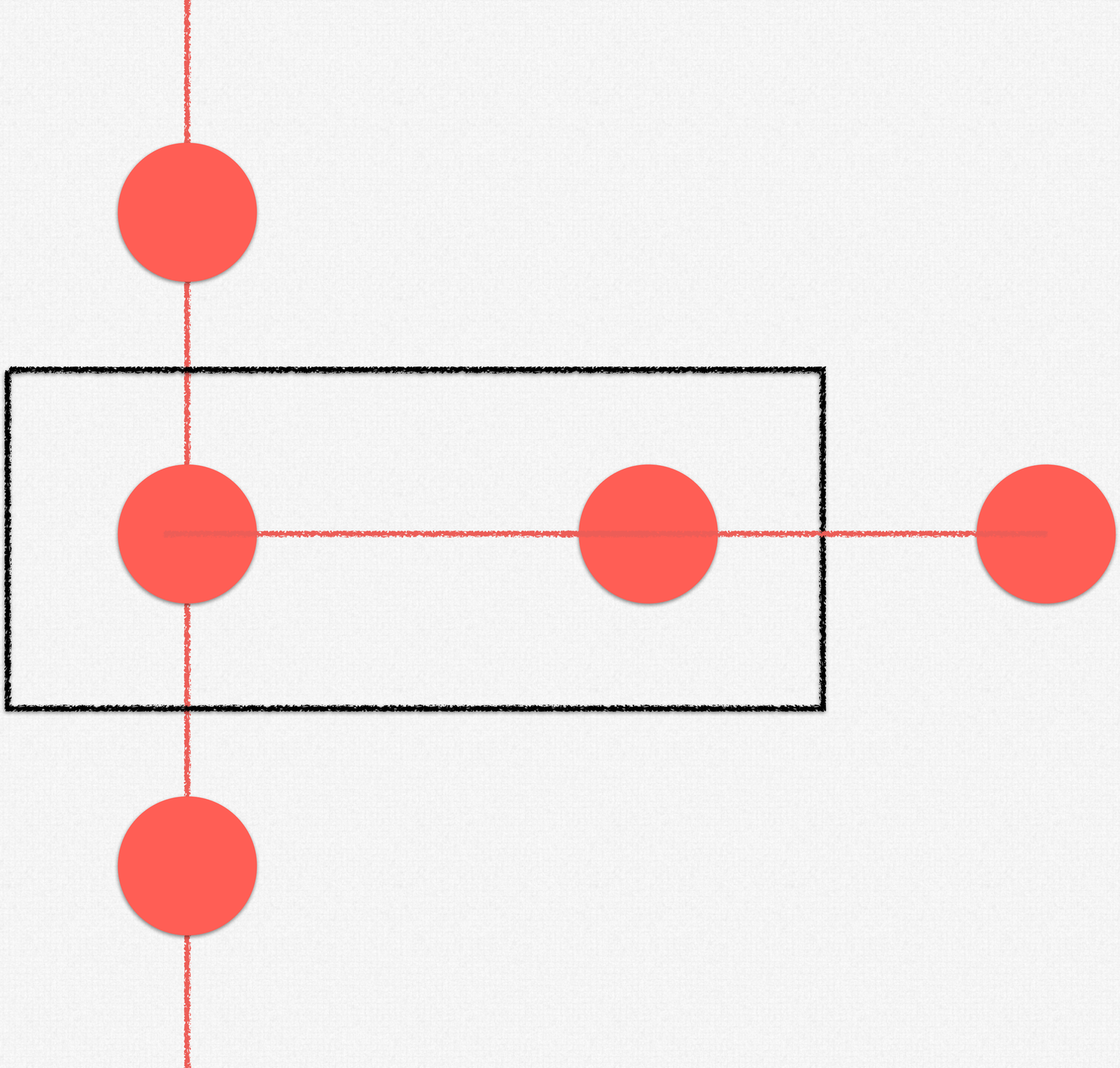
Configure the options for selling

Title	SKU	Price	Quantity

Module child elements

I call them sub-components





ucts / SMACSS

site de

Add a variant

Title

Price

25.00

Compare at price

SKU (Stock Keeping Unit)

Weight (kg)

0.3

- [x] **Charge taxes on this product**
- [x] **Require a shipping address** (not required for services or digital goods)

Inventory policy

Don't track stock level

Cancel | Add variant

Apple,

Web D

ory & v

e the opt

luct. You

and edit options.

Print + e-book smacss3 $

[No Name] + - VIM1

```
1
2  <div class="modal modal-large">
3    <form>
4    <div class="modal-header">
5      <h2>Heading</h2>
6      <button class="btn btn-clean">Close</button>
7    </div>
8    <div class="modal-body">
9        ...
10   </div>
11   <div class="modal-footer">
12     <button class="btn">Cancel</button>
13     <button class="btn btn-go">Save</button>
14   </div>
15   </form>
16 </div>
~
~
~
~
~
~
[No Name]                                  [+] B:1 56%      9,9
:set syntax=html
```

Modules

- Isolate Modules from each other
- Prevent styles from coming in or out

Theme

Module

Layout

Base

(3787 unread) - snookca -

ca-mg999.mail.yahoo.com/neo/launch

Hi, Jonathan | Sign Out | Options | Help

Make Y! My Homepage

Mail | My Y! | Yahoo!

YAHOO! MAIL

Search | Search Mail | Search Web

WHAT'S NEW | INBOX (6995) | CONTACTS

Compose Message | Delete | Reply | Forward | Spam

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- Inbox 3787
- Conversations
- Drafts 5
- Sent
- Spam
- Trash
- Folders
- Address Book
- asdasf
- Bugzilla 1882
- devel-frontend 6
- devel-help 1017
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Choose your favorite way to communicate.

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(3787 unread) - snookca -

ca-mg999.mail.yahoo.com/neo/launch

Hi, Jonathan | Sign Out | Options | Help

Make Y! My Homepage

Mail | My Y! | Yahoo!

YAHOO! MAIL

Search | Search Mail | Search Web

WHAT'S NEW | INBOX (6995) | CONTACTS

Compose Message | Delete | Reply | Forward | Spam

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Dee Adams	Re: So long and...	Dec 22, 2011

Choose your favorite way to communicate.

Email | SMS | Instant Message

(3787 封未讀取) - snookca -

ca-mg999.mail.yahoo.com/neo/launch?.intl=tw

您好, Jonathan | 登出 | 選項 | 服務說明

信箱 | 拍賣 | Yahoo!奇摩

YAHOO! 奇摩 電子信箱

搜尋 搜尋信件 網頁搜尋

最新訊息 收件匣 (6995) 通訊錄

寫信 刪除 回覆 轉寄 這是垃圾信

挑戰多益700分！

收件匣 3787

交談

草稿匣 5

寄件備份匣

垃圾信件匣

垃圾筒

信件匣

Address Book

asdasf

Bugzilla 1882

devel-frontend 6

devel-help 1017

Mail

Neo 19

Personal

寄件者	主旨	日期
Ismat Awamleh	Merry Christmas and Happy New Year!	2011/12/23
Blake Irving	You can't always get what you want	2011/12/23
Shaik Mohammed Jan Ali	RE: Multi tab mail search	2011/12/23
Gnanavel Shanmugam	Re: Multi tab mail search	2011/12/23
Dee Adams	Re: So long and...	2011/12/22
Dee Adams	Re: So long and...	2011/12/22

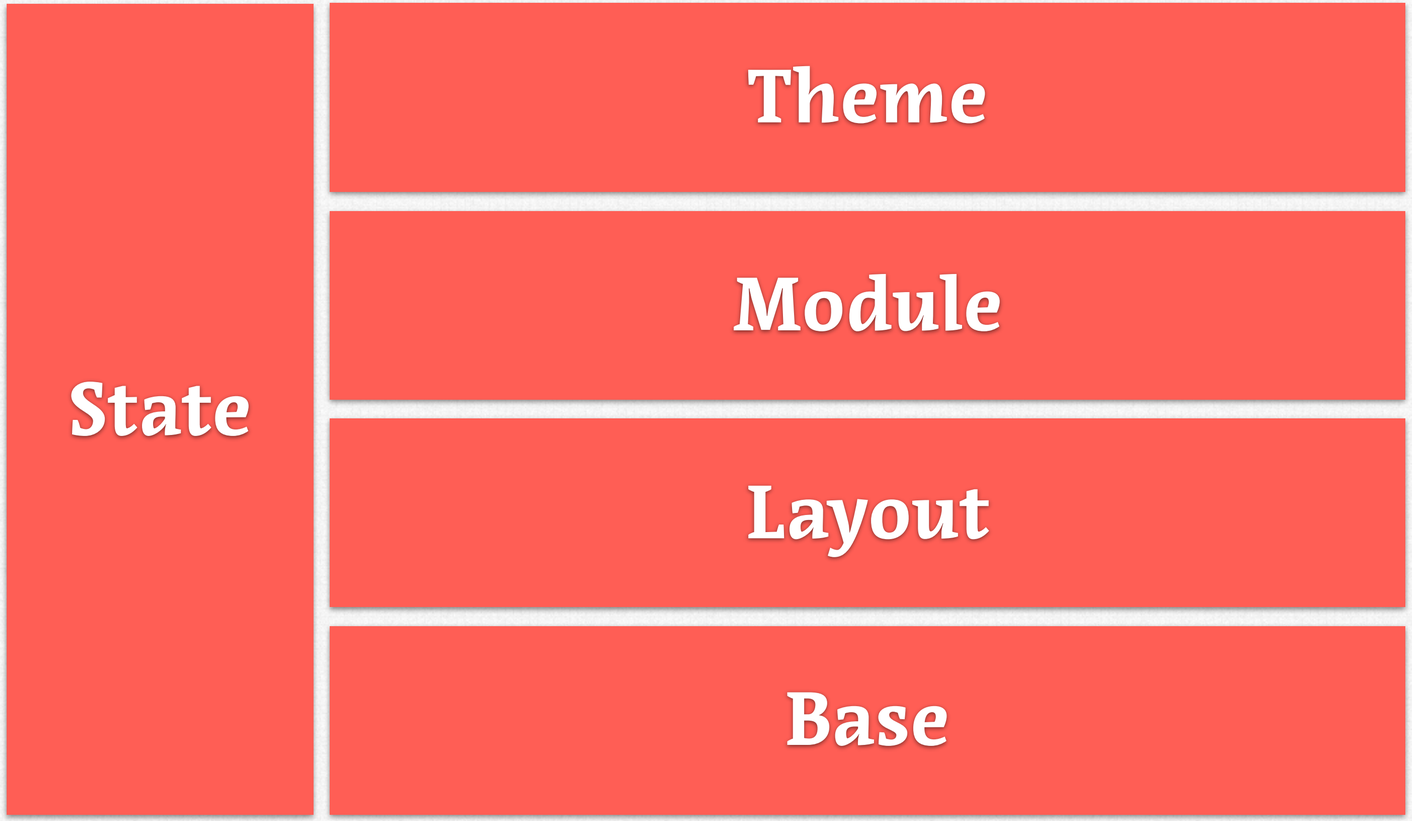
點選下列圖示寫信給朋友或進行即時交談

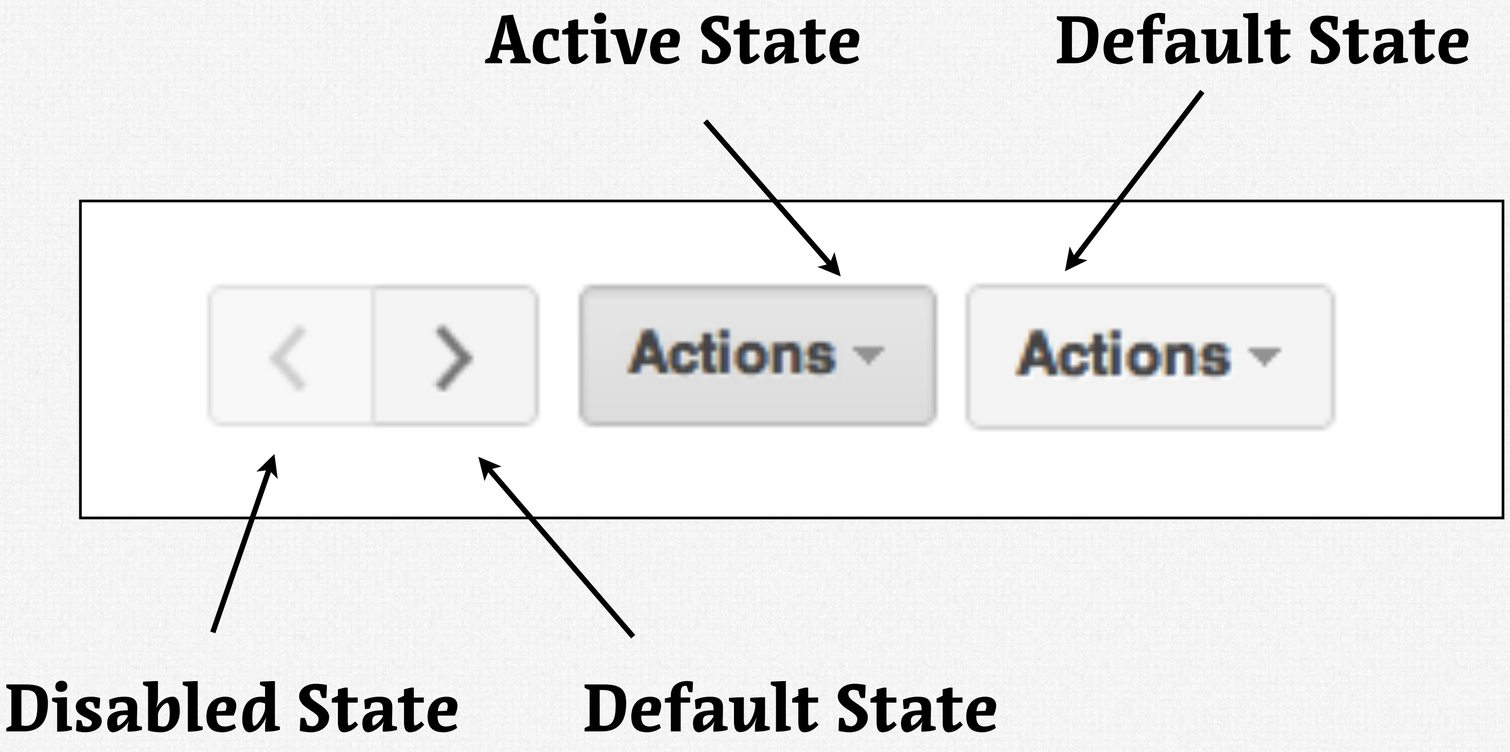
電子郵件

即時交談

Themes

- Only for on-the-fly style changes
- Usually aren't needed
  - Preprocessors can help
  - CSS Custom Properties can help


State
Theme
Module
Layout
Base


Active State
Default State
Actions
Actions
Disabled State
Default State

States

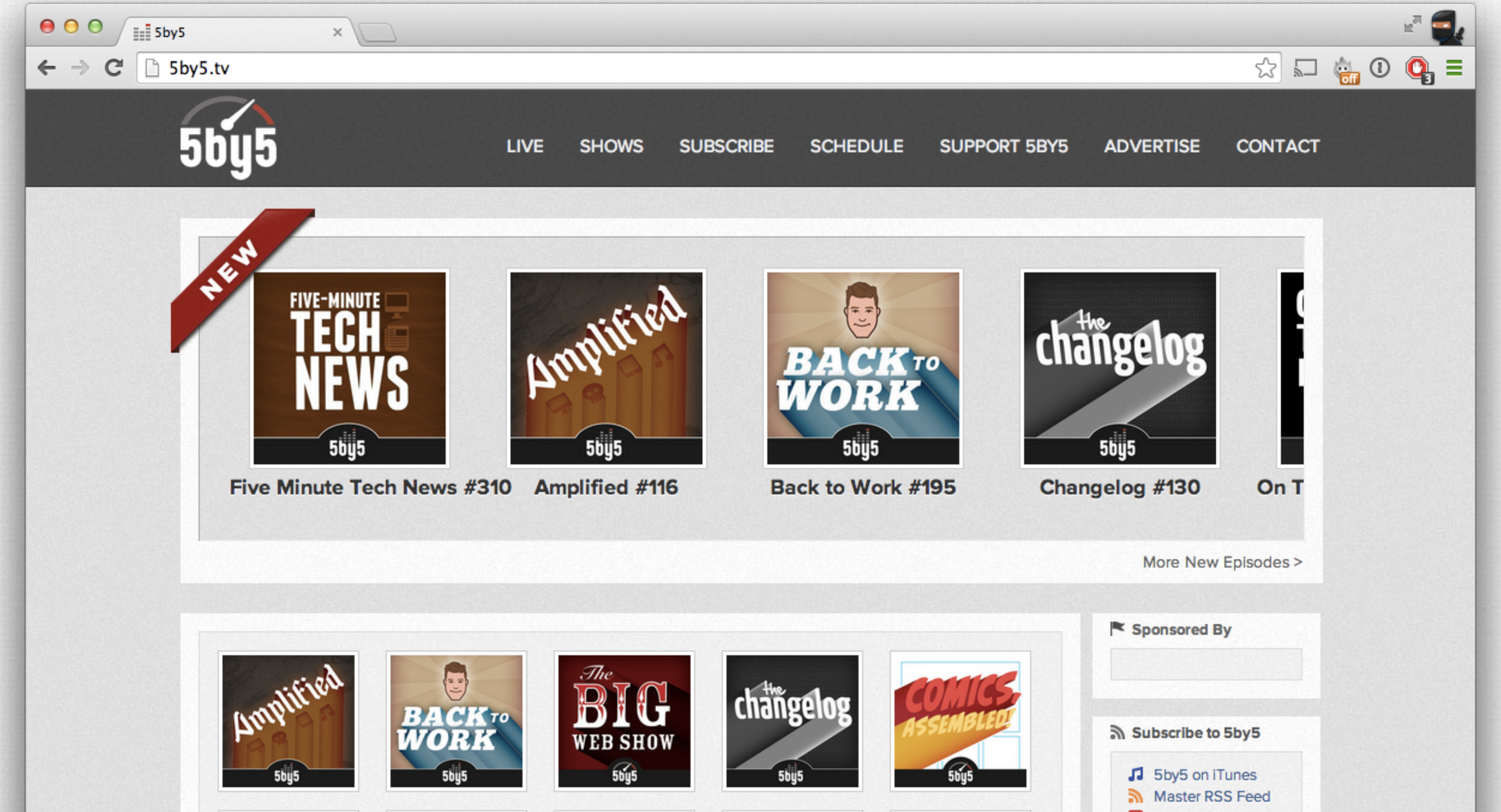
- Like a module variation (sub-module) but indicate a JavaScript dependency

Categorization

- Every style we write serves one of these purposes whether we're aware of it or not
- Isolating code allows for easier reuse, testing, and debugging
- Categorizing reveals patterns; easier to identify when things break the pattern

Exercise #1

What layout styles would we have for 5by5.tv?



Naming Convention

Base

```
html {
  background-color: #FFF;
  font-family: Arial, Helvetica, sans-serif;
  font-size: 14px;
}
body {
  margin: 0;
  padding: 0;
}
h1, h2, h3 {
  margin: 1em 0;
}
```

```
a {}
a:hover {}
a:focus {}
```

Layout

```
.header {
  width: 100%;
}

.sidebar {
  float: left;
  width: 20%;
}

.content {
  float: right;
  width: 80%;
}
```

```
.layout-header {
  width: 100%;
}

.layout-sidebar {
  float: left;
  width: 20%;
}

.layout-content {
  float: right;
  width: 80%;
}
```

Use Class over ID

Specificity is dangerous

Specificity

Inline	ID	Class (pseudo-classes and attribute selectors)	Element (pseudo-elements)
style="..."	#article	.article :hover [attr=val]	a :first-child

```
a        { color: #039; }
.subdued { color: #666; }
#cancel  { color: #900; }

<a href="...">Link</a>
<a href="..." class="subdued">Link</a>
<a href="..." id="cancel">Link</a>
<a href="..." id="cancel"
   class="subdued">Link</a>
```

Tricky CSS inheritance issue on Monday	
Tricky CSS inheritance issue on Friday	

```
a         { color: #039; }
.subdued { color: #666 !important; }
#cancel  { color: #900; }

<a href="...">Link</a>
<a href="..." class="subdued">Link</a>
<a href="..." id="cancel">Link</a>
<a href="..." id="cancel"
   class="subdued">Link</a>
```

Specificity Buster!

!important

Specificity Buster!
!important

```
a          { color: #039; }
.subdued,
#cancel.subdued { color: #666; }
#cancel  { color: #900; }

<a href="...">Link</a>
<a href="..." class="subdued">Link</a>
<a href="..." id="cancel">Link</a>
<a href="..." id="cancel"
   class="subdued">Link</a>
```

```
a         { color: #039; }
.subdued { color: #666; }
.cancel  { color: #900; }

<a href="...">Link</a>
<a href="..." class="subdued">Link</a>
<a href="..." id="cancel"
   class="cancel">Link</a>
<a href="..." id="cancel"
   class="subdued">Link</a>
```

```
a          { color: #039; }
.link-subdued { color: #666; }
.link-danger  { color: #900; }

<a href="...">Link</a>
<a href="..." class="link-subdued">...
<a href="..." id="cancel"
   class="link-danger">Link</a>
<a href="..." id="cancel"
   class="link-subdued">Link</a>
```

Grid Systems

Like 960.gs

```
.container_12,
.container_16 {
  margin-left: auto;
  margin-right: auto;
  width: 960px;
}
```

```
.container_12 .grid_4 {
  width: 300px;
}

.container_12 .grid_5 {
  width: 380px;
}

.container_12 .grid_7 {
  width: 540px;
}
```

```
.grid {}
.grid-4 {
  width: 300px;
}

.grid-5 {
  width: 380px;
}

.grid-7 {
  width: 540px;
}
```

Module

```
.tab {}

.listview {}

.btn {}
```

Module Variations

I call them sub-modules

```
.btn {}
.btn-large {}
.btn-small {}
.btn-default {}
.btn-search {}
```

```
.btn.large?
```

```
.btn.large
.field.large
.modal.large
```

```
class="btn large"
class="large btn"
class="btn default large"
```

LEAST GREPPABLE CLASS NAMES EVER

grep "alert" * -R

80

grep "label" * -R

329

grep "success" * -R

364

grep "info" * -R

1153

ttp://snk.ms/20

```
.btn {
  padding:5px 10px;
  font-size: 1em;

  &.large {
    padding: 10px 20px;
    font-size: 2em;
  }
}
```

```
...
  padding:5px 10px;
  font-size: 1em;

  .large {
    padding: 10px 20px;
    font-size: 2em;
  }
...
```

```
.btn-large
```

```
.btn {
  padding:5px 10px;
  font-size: 1em;
}

.btn-large {
  padding: 10px 20px;
  font-size: 2em;
}
```

Naming Convention

Naming convention clarifies intent

Prefix

- Prefix sub-modules with name of module

Module child elements

I call them sub-components

ucts / SMACSS

site de

Add a variant

Title

Price

25.00

Compare at price

SKU (Stock Keeping Unit)

Weight (kg)

0.3

- [x] **Charge taxes on this product**
- [x] **Require a shipping address** (not required for services or digital goods)

Inventory policy

Don't track stock level

Cancel | Add variant

Apple,

Web D

ory & v

e the opt

luct. You

and edit options.

Print + e-book smacss3 $

```html
<div class="modal modal-large">
  <form>
  <div class="modal-header">
    <h2>Heading</h2>
    <button class="btn btn-clean">Close</button>
  </div>
  <div class="modal-body">
   …
  </div>
  <div class="modal-footer">
    <button class="btn">Cancel</button>
    <button class="btn btn-go">Save</button>
  </div>
  </form>
</div>
```

State

```
.btn {}
.is-btn-active {}
.is-btn-disabled {}
```

I'm Ron Burgundy?

```
.btn {}
.btn-is-active {}
.btn-is-disabled {}
```

Prefix

- Prefix states with “is-”
  - “is-” prefix indicates likelihood of JavaScript dependency
  - “is-” indicates a toggleable state.
- States that are specific to a module should include module name

Theme

```
.theme-header {}
.theme-border {}
.theme-background {}
```

```
.text-xl { font-size: 140%; }
.text-l { font-size: 120%; }
.text {}
.text-s { font-size: 90%; }
.text-xs { font-size: 80%; }
```

CSS Custom Properties

```
:root {
  --color-primary:#00FF44;
}

.module {
  background-color: var(--color-primary);
}
```

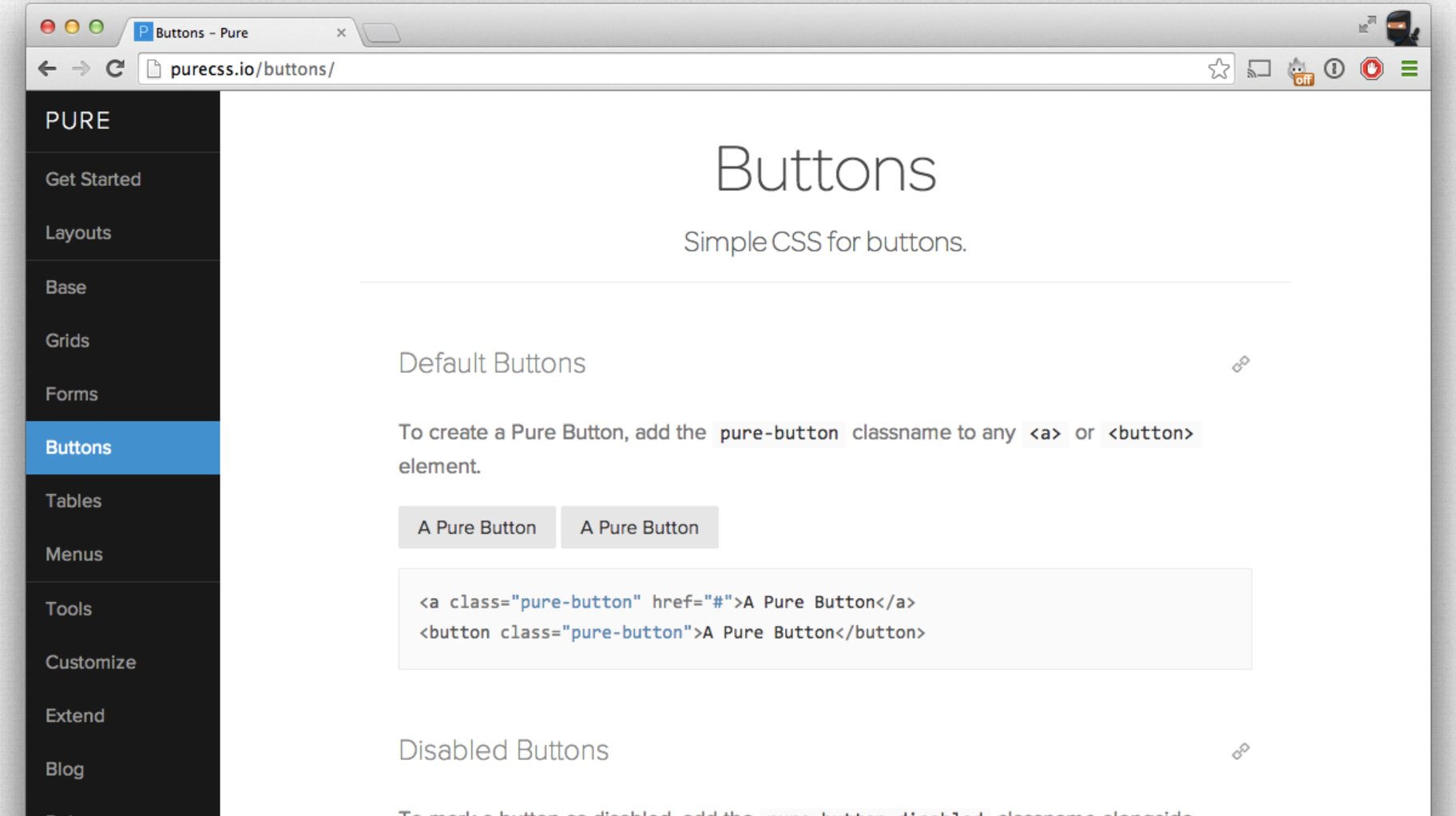
```
body.style.setProperty('--color-primary', '#FF0000');
```

Prefix for versioning or packaging

```
.next-btn {}

.next-btn-is-active {}
.next-btn-is-disabled {}
```

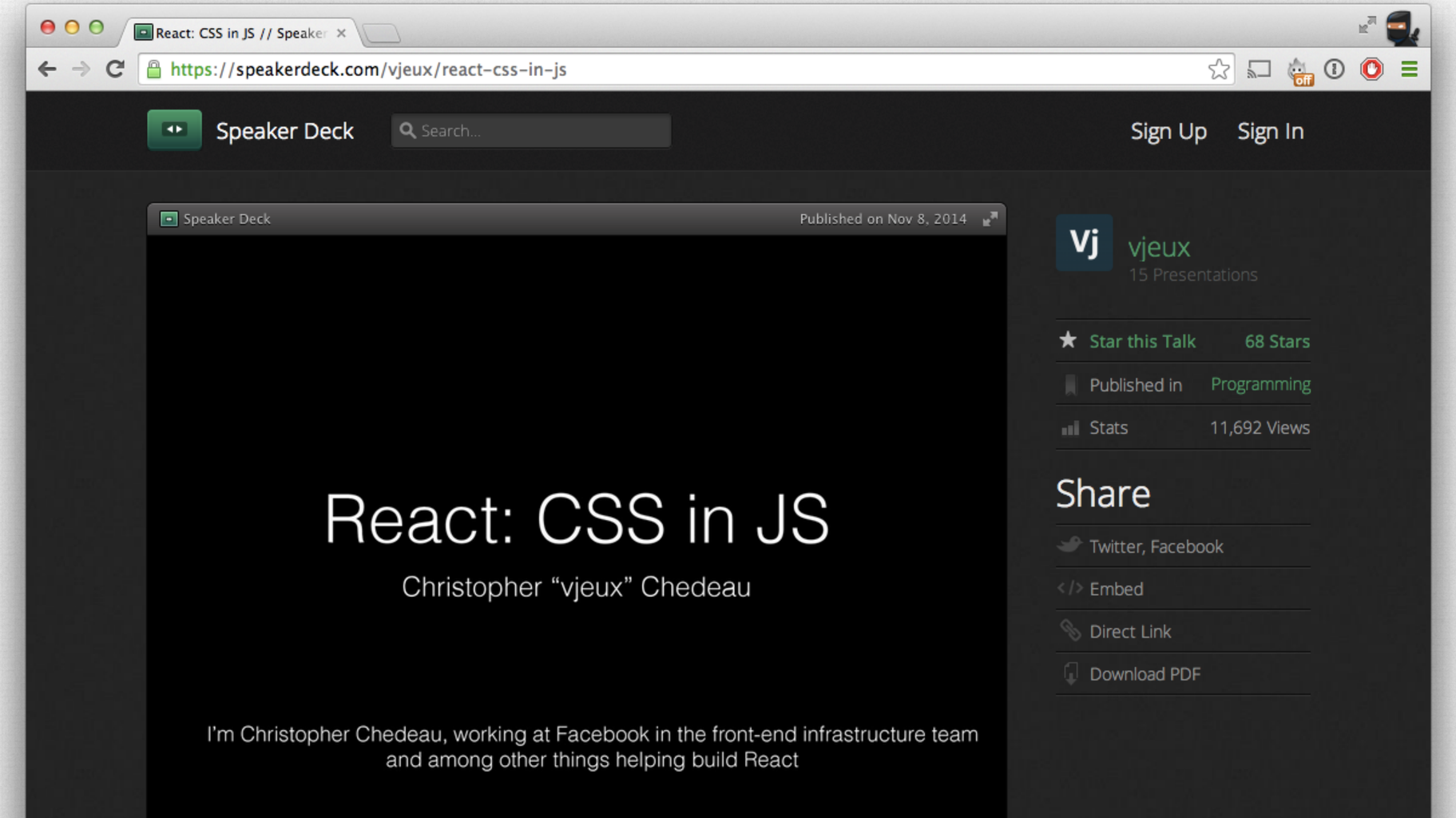
```
.next-btn {}

.next-btn-is-active {}
.next-btn-is-disabled {}
```

Pure CSS


Buttons - Pure
purecss.io/buttons/
PURE
Get Started
Layouts
Base
Grids
Forms
Buttons
Tables
Menus
Tools
Customize
Extend
Blog
Buttons
Simple CSS for buttons.
Default Buttons
To create a Pure Button, add the pure-button classname to any <a> or <button> element.
A Pure Button
A Pure Button
<a class="pure-button" href="#">A Pure Button</a>
<button class="pure-button">A Pure Button</button>
Disabled Buttons

CSS at Facebook

snk.ms/25



CSS at Facebook

snk.ms/25

Speaker Deck Published on Nov 8, 2014

4 - Minification

```
/* button.css */
._f8z {
```

```
/* button.js */
<div className={'_f8z'}>
```

One side benefit is that we can minify all the class names and send both the JS and CSS a bit faster to users.

This also ensures that all the developers are using cx since they cannot guess that name :)

```
.modulename
```

No hyphens
Always a root node

```
.modulename-submodule
```

No hyphens

```
.modulename-subcomponent
```

No difference from submodule

Alternatives

```
.module-name
```

allows for hyphens
Always a root node

```
.module-name--submodule
```

hyphens

```
.module-name__subcomponent
```

underscores

Alternatives

```
.moduleName
```

camelCase

```
.moduleName-subModule
```

single hyphen

```
.moduleName--subComponent
```

double hyphen

Naming Convention

- Pick a system that works for you and your team
- Be consistent
- Consider:
  - Root node
  - Sub-modules
  - Sub-components

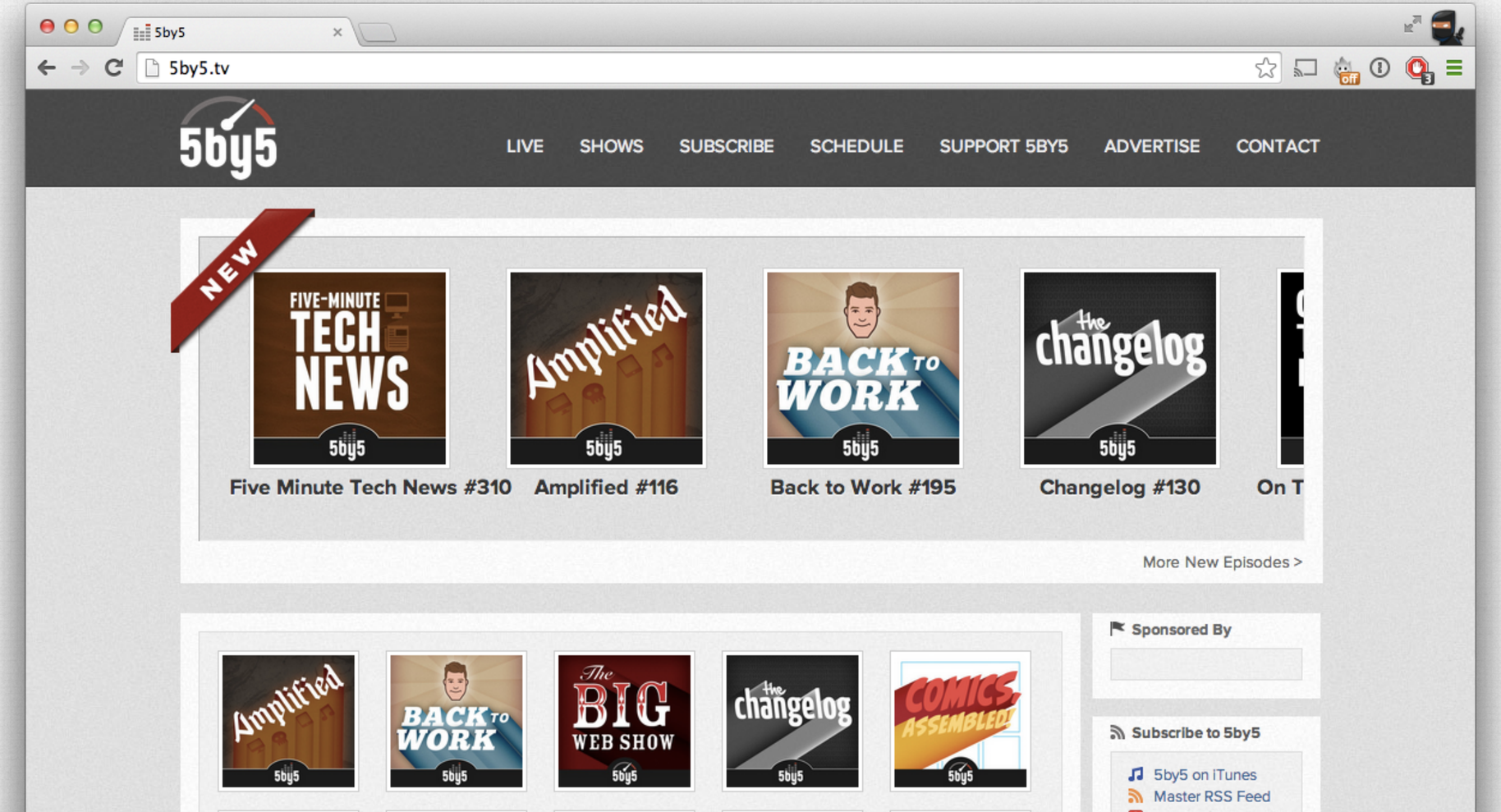
Automating Naming Convention

Automating

- https://github.com/css-modules/css-modules
- For JavaScript-based templating (e.g. React)
- Auto-generates class names based
  - Widget1_button_1FUOu

Exercise #2

Identify FIVE possible modules.
What class names would you give them?



When is it Base?

<button>
<table>
<input>

```
button {
 display: inline-block;
 padding: 3px 30px;
 border-radius: 25px;
 background-color: #4A6F81;
 background-image: linear-gradient(..);
 box-shadow: 0 0 0 1px #4A6F81;
 text-decoration: none;
 color: white;
 font-weight: bold;
 font-size: 150%;
}
```

```
.btn {
 display: inline-block;
 padding: 3px 30px;
 border-radius: 25px;
 background-color: #4A6F81;
 background-image: linear-gradient(..);
 box-shadow: 0 0 0 1px #4A6F81;
 text-decoration: none;
 color: white;
 font-weight: bold;
 font-size: 150%;
}
```

```
table {
  width: 100%;
  border: solid black;
  border-width: 1px 0;
}

td {
  border: solid black;
  border-width: 1px 0;
}
```

```
table {
  width: 100%;
}

.comparison {
  border: solid black;
  border-width: 1px 0;
}

.comparison td {
  border: solid black;
  border-width: 1px 0;
}
```

Depth of Applicability

```
#comments .comment .meta .authorname {}
#comments .comment .meta .commentnumber
a {}
```

```
#content a { color: #039; }
#sidebar a { color: #333; }
```

Reduce the Depth

- Use fewer selectors, preferably one
- Use child selectors to limit depth

```
#comments .comment .meta .authorname {}
#comments .comment .meta .commentnumber
a {}
```

```
.comment-author {}
.comment-number > a {}
```

```
#content a { color: #039; }
#sidebar a { color: #333; }
```

```
a { color: #039; }
.nav > a { color: #333; }
.callout > a { color: #900; }
```

Component Design

- https://snook.ca/archives/html_and_css/component-design

Decoupling CSS from HTML

```
.nav {
   margin: 0;
   padding: 0;
   list-style: none;
}

.nav li {
   float: left;
}

.nav li a {
   display: block;
   padding: 5px 10px;
   background-color: blue;
}
```

```
<ul class="nav">
   <li><a href="/">Home</a></li>
   <li><a href="/products">Products</a></li>
   <li><a href="/contact">Contact Us</a></li>
</ul>
```

```
<ul class="nav">
   <li><a href="/">Home</a></li>
   <li><a href="/products">Products</a>
      <ul>
         <li><a href="/products/shoes">Shoes</a></li>
         <li><a href="/products/jackets">Jackets</a></li>
      </ul>
   </li>
   <li><a href="/contact">Contact Us</a></li>
</ul>
```

```
.nav ul {
   margin: 0;
   padding:0;
   list-style:none;
}

.nav li li {
   float: none;
}

.nav li li a {
   padding: 2px;
   background-color: red;
}
```

```
.nav {
   margin: 0;
   padding: 0;
   list-style: none;
}

.nav > li {
   float: left;
}

.nav > li > a {
   display: block;
   padding: 5px 10px;
   background-color: blue;
}
```

```
.menu {
   margin: 0;
   padding: 0;
   list-style: none
}

.menu > li > a {
   display: block;
   padding: 2px;
   background-color: red;
}
```

```
<div class="box">
   <h2>Sites I Like</h2>
   <ul>
      <li><a href="http://example.com/">Example</a></li>
      <li><a href="http://smacss.com/">SMACSS</a></li>
   </ul>
</div>
```

```
.box {
   border: 1px solid #333;
}

.box h2 {
   margin: 0;
   padding: 5px 10px;
   border-bottom: 1px solid #333;
   background-color: #CCC;
}

.box ul {
   margin: 10px;
}
```

```
<div class="box">
   <h2>Sites I Like</h2>
   <ul>
      <li><a href="http://example.com/">Example</a></li>
      <li><a href="http://smacss.com/">SMACSS</a></li>
   </ul>
</div>

<div class="box">
   <h2>About Us</h2>
   <p>The Fancy Pants Company is all about fancy pants.</p>
</div>

<div class="box">
   <h2>Sponsored By</h2>
   <div><img src="http://example.com/img.png" alt="..."></div>
</div>
```

```
.box {
   border: 1px solid #333;
}

.box h2 {
   margin: 0;
   padding: 5px 10px;
   border-bottom: 1px solid #333;
   background-color: #CCC;
}

.box ul, .box p, .box div {
   margin: 10px;
}
```

```
.box {
   border: 1px solid #333;
}

.box h2 {
   margin: 0;
   padding: 5px 10px;
   border-bottom: 1px solid #333;
   background-color: #CCC;
}

.box-body {
   margin: 10px;
}
```

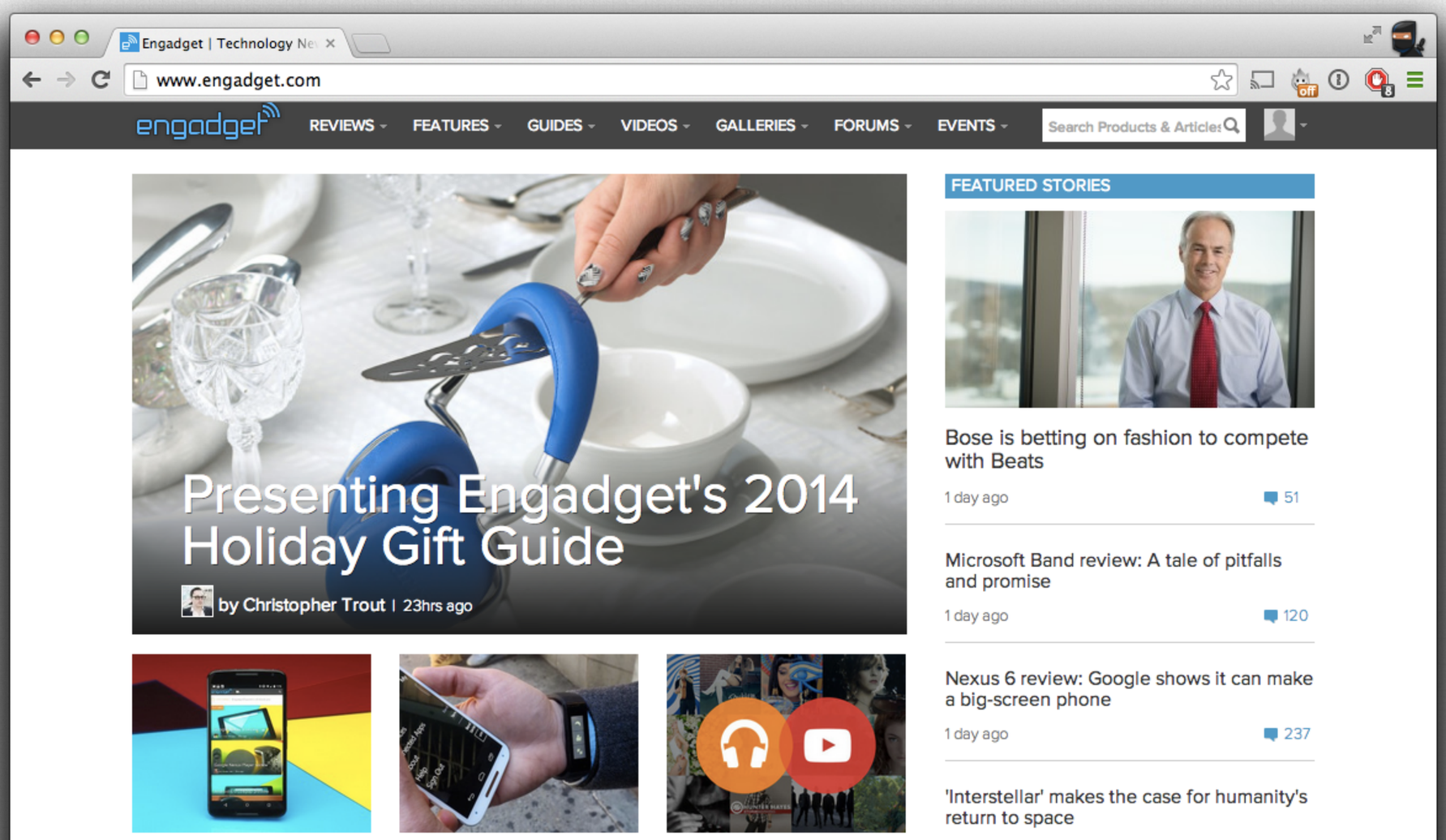
```
<div class="box">
   <h2>Sites I Like</h2>
   <ul class="box-body">
      <li><a href="http://example.com/">Example</a></li>
      <li><a href="http://smacss.com/">SMACSS</a></li>
   </ul>
</div>

<div class="box">
   <h2>About Us</h2>
   <p class="box-body">The Fancy Pants Company is all about fancy pants.</
p>
</div>

<div class="box">
   <h2>Sponsored By</h2>
   <div class="box-body"><img src="..." alt="..."></div>
</div>
```

Single Responsibility Theory

"A chunk of code should do one thing and one thing only."

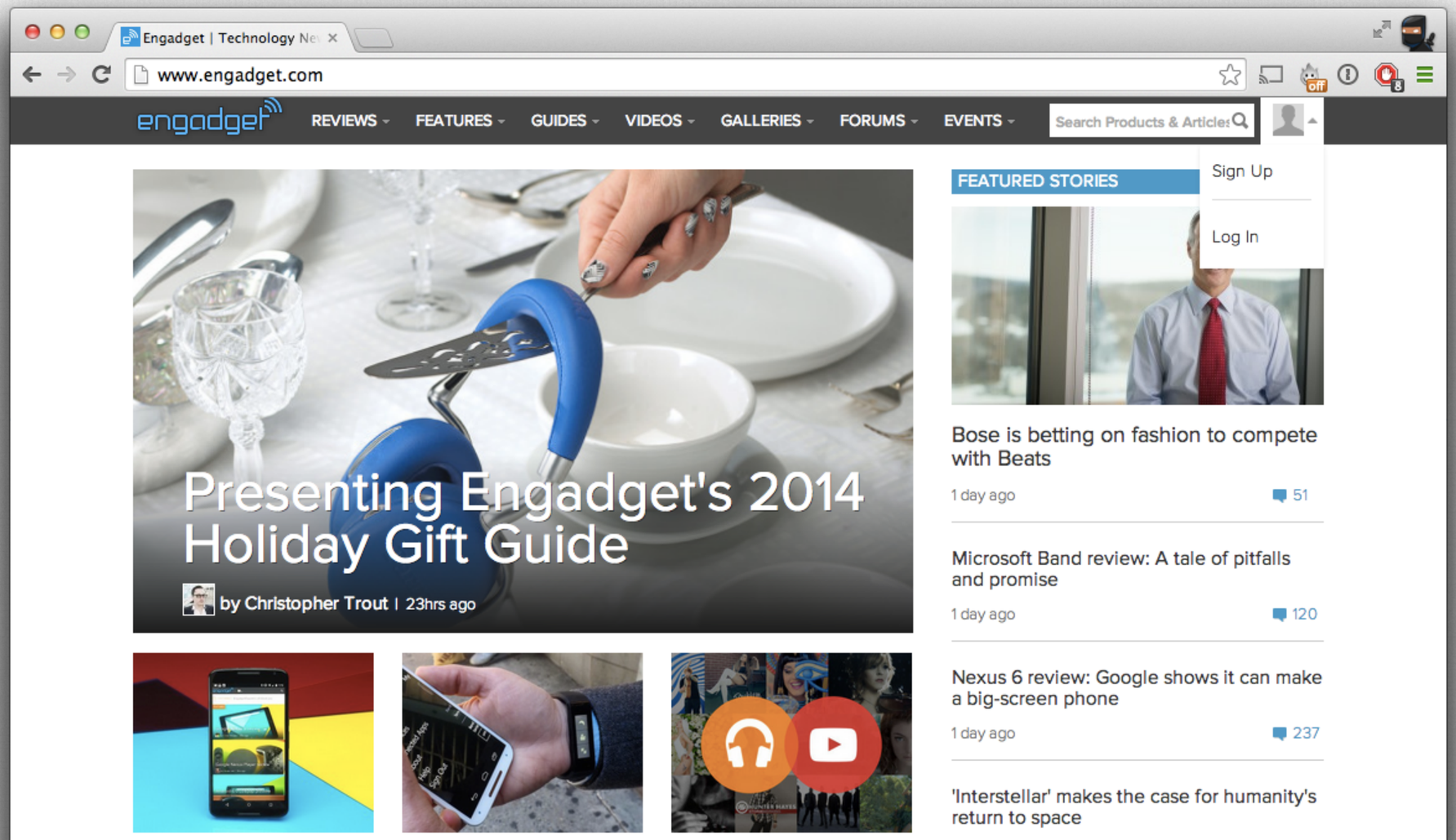
Exercise #3

Creating a SMACSS-based navigation



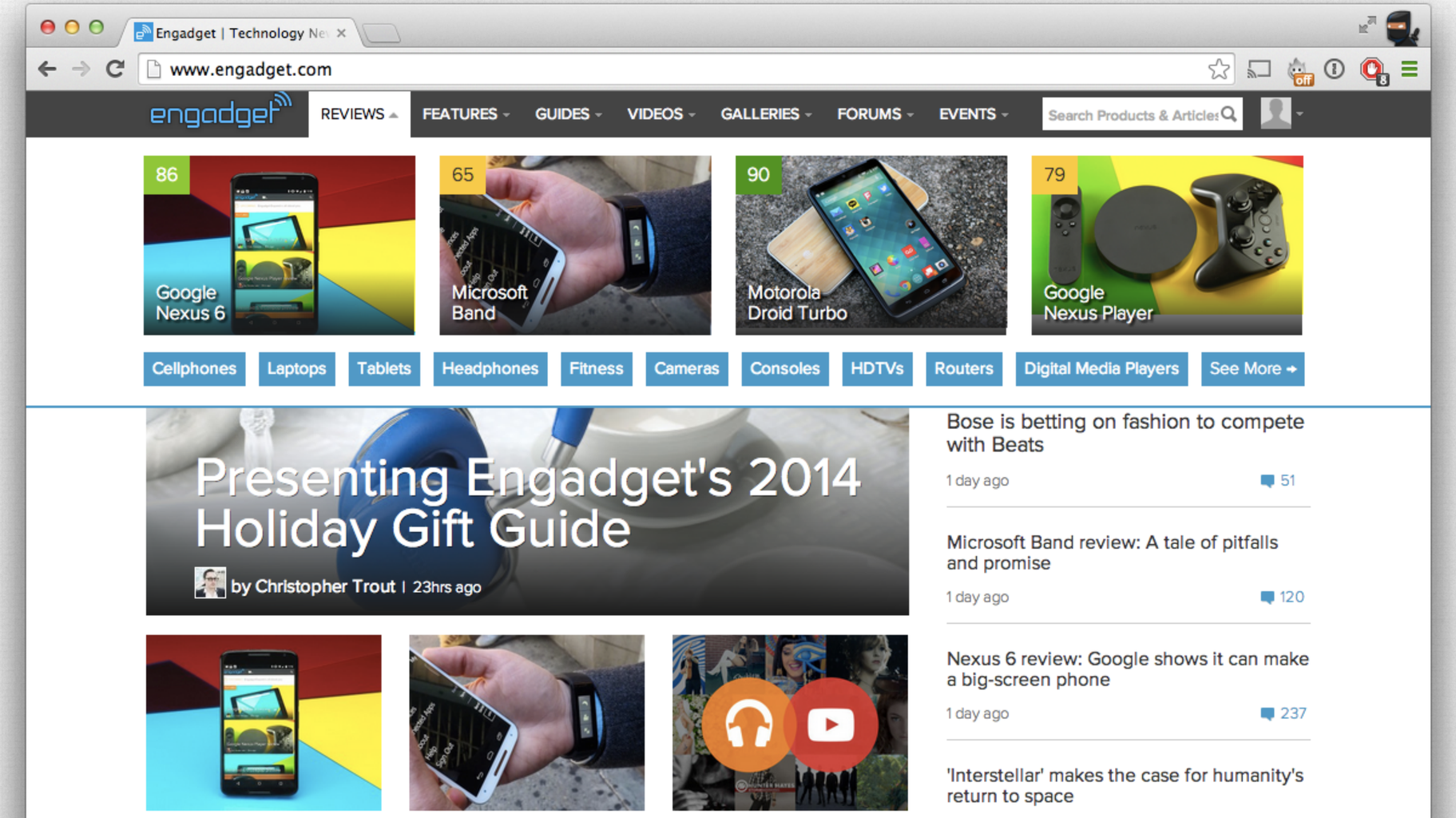
Exercise #3

Creating a SMACSS-based navigation



Exercise #3

Creating a SMACSS-based navigation



State-based Design

State Representation

- Classes
- Pseudo-classes
- Attribute Selectors
- Media Queries

Class-based State

```
/* class-based state */
.is-hidden {

}
```

```
/* class-based state that only applies
   to a specific module */
.is-module-active {

}
```

Avoid

- Avoid a state affecting more than one module at a time.

```
/* avoid this! */
.btn-is-active + .menu {
  display: block;
}
```

Pseudo-class State

```
/* Pseudo-class state */
.callout:hover {

}
```

```
.input-option {
  display: none;
}

/* Pseudo-class state */
input:checked ~ .input-option {
  display: block;
}
```

```
  <input type="checkbox" id="opt">
  <label for="opt">Other?</label>

  <div class="input-option">
    <input type="text" id="other">
    <label for="other">Please specify:</
label>
  </div>
```

Attribute Selector State

```
.btn[data-state=default] { color: #333; }
.btn[data-state=pressed] { color: #000; }
.btn[data-state=disabled] { opacity: .5;
pointer-events: none; }

<!-- HTML -->
<button class="btn" data-
state="disabled">Disabled</button>
```

```
// bind a click handler to each button
$(".btn").bind("click", function(){
    // change the state to pressed
    $(this).attr('data-state', 'pressed');
});
```

Media Query State

```
@media screen and (max-width: 400px) {
    .layout-content { float: none; }
}
```

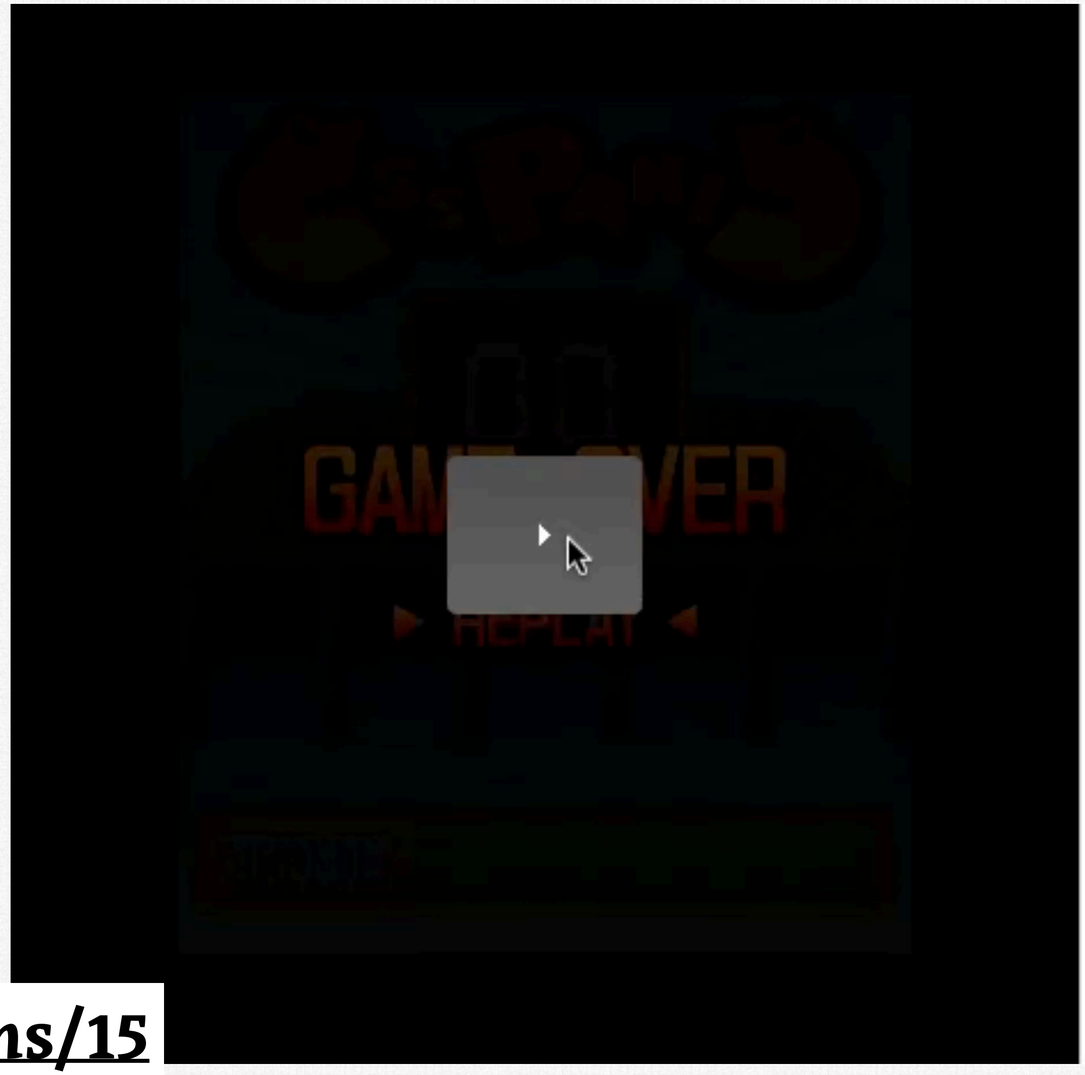
Modular Media Queries

- Include media queries with the modules they affect

```
/* default state for nav items */
.nav > li {
   float: none;
}

/* alternate state for nav items on larger
screens */
@media screen and (min-width: 400px) {
    .nav > li { float: left; }
}
```

```
/* default layout */
.l-content { float: left; width: 75%; }
.l-sidebar { float: right; width: 25%; }

/* alternate state for layout on small
screens */
@media screen and (max-width: 400px) {
    .l-content, .l-sidebar {
        float: none;
        width: auto;
    }
}
```

CSS Panic



http://snk.ms/15

```
.enemys {
    z-index:3;
    position:absolute;
    top:0px;
    left:0;
    width:49px;
    height:93px;
    display:block;
    -webkit-appearance: button;
    -moz-appearance: button;
    background-position:0px 0px;
    background-repeat:no-repeat;
    -webkit-animation-iteration-count:infinite;
    cursor:pointer;
    opacity:0.9;
    border:none;
    outline:none;
}
```

```
    position:absolute;
    top:0px;
    left:0;
    width:49px;
    height:93px;
    display:block;
    -webkit-appearance: button;
    -moz-appearance: button;
    background-position:0px 0px;
    background-repeat:no-repeat;
    -webkit-animation-iteration-
count:infinite;
    cursor:pointer;
    opacity:0.9;
    border:none;
    outline:none;
}
```

```
.enemys:checked{
    overflow:hidden;
    -webkit-animation-name: none;
    -webkit-pointer-events: none;
    pointer-events: none;
    opacity:0;
}
```

```
.enemys:checked{
    overflow:hidden;
    -webkit-animation-name: none;
    -webkit-pointer-events: none;
    pointer-events: none;
    opacity:0;
}
```

Preprocessors

Preprocessors

- Variables
- Nesting
- Functions (and Mixins)
- Handles compilation of files into final product

```sass
/* Variables */
$color: #369;

body {
  color: $color;
}

.callout {
  border-color: $color;
}
```

```
body {
    color: #369;
}

.callout {
    border-color: #369;
}
```

```
/* Nesting */
.nav {
  margin: 0;
  padding: 0;
  > li {
    float: left;
  }
}
```

```
/* Nesting */
.nav {
  margin: 0;
  padding: 0;
}
  .nav > li {
    float: left;
  }
```

```
// beware of deep nesting

#content {
  .nav {
    width: 500px;
    li {
      float:left; width: 100px;
      a {
        display:block;
      }
    }
  }
}
```

```
// beware of deep nesting

#content { }
  #content .nav {
    width: 500px;
  }
  #content .nav li {
   float:left; width:100px;
  }
  #content .nav li a {
    display:block;
  }
```

```
/* Nested Media Queries */
.nav > li {
 width: 100%;

 @media screen and (min-width: 320px) {
   width: 100px;
   float: left;
 }

 @media screen and (min-width: 1200px) {
   width: 250px;
 }
}
```

```
.nav > li {
   width: 100%; }

@media screen and (min-width: 320px) {
  .nav > li {
    width: 100px;
    float: left; } }

@media screen and (min-width: 1200px) {
  .nav > li {
    width: 250px; } }
```

```sass
@mixin font-size($sizeValue: 1.6) {
  font-size: ($sizeValue * 10) + px;
  font-size: $sizeValue + rem;
}

p {
  @include font-size(1.3);
}
```

```
/* Mixins */
p {
  font-size: 13px;
  font-size: 1.3rem;
}
```

```sass
/* Functions */
$btnColor: #036;
.btn {
    background-color: $btnColor;
}
.btn:hover {
    background-color: lighten($btnColor, 20%);
}
```

```
.btn {
    background-color: #003366;
}
.btn:hover {
    background-color: #0066cc;
}
```

```
/* Extending Classes */
.btn {
    display: block;
    padding: 5px 10px;
    background-color: #003366;
}
.btn-default {
    @extend .btn;
    background-color: #0066cc;
}
```

```
/* Extending Classes */
.btn, .btn-default {
  display: block;
  padding: 5px 10px;
  background-color: #003366; }

.btn-default {
  background-color: #0066cc; }
```

```
/* Extending Classes */

.modal {
  width: 50%;
  &:hover { … }
  .modal__header { … }
  .modal__footer { … }
}

.modal--large {
  @extend .modal;
  width: 90%;
}
```

```
/* Extending Classes */

.modal { width: 50%; }

.modal:hover,
.modal--large:hover { … }

.modal .modal__header,
.modal--large .modal__header { … }

.modal .modal__footer,
.modal--large .modal__footer { … }

.modal__header { width: 90%; }
```

```
/* Extending Classes */

.modal { width: 50%; }
.modal:hover { … }
.modal__header { … }
.modal__footer { … }

.modal--large { width: 90%; }
```

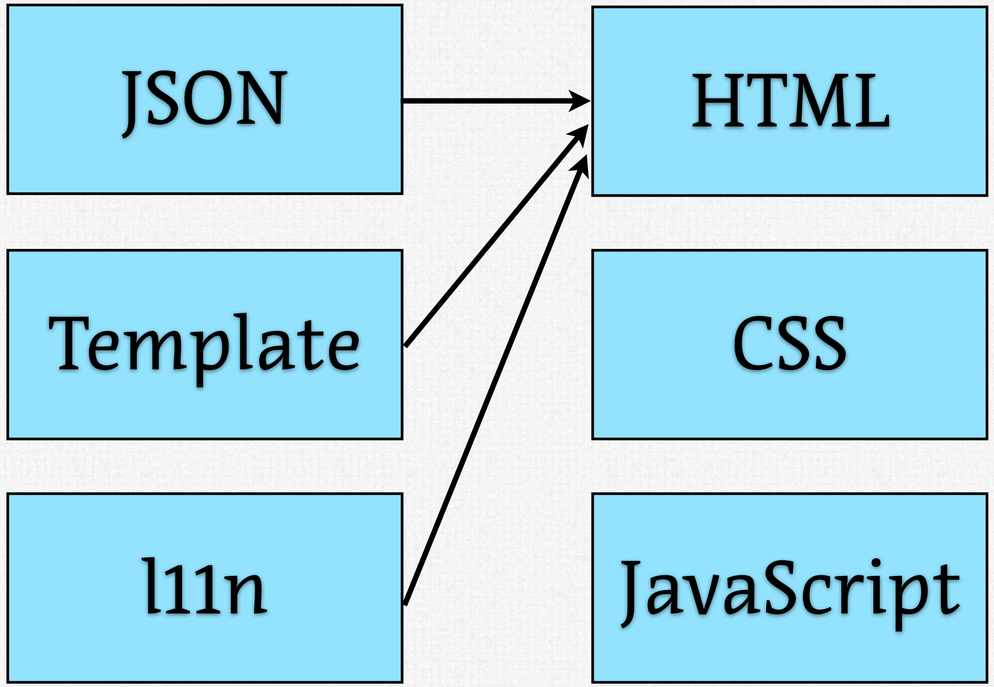
```
<div class="modal modal--large">
  <div class="modal__header"></div>
  <div class="modal__footer"></div>
</div>
```

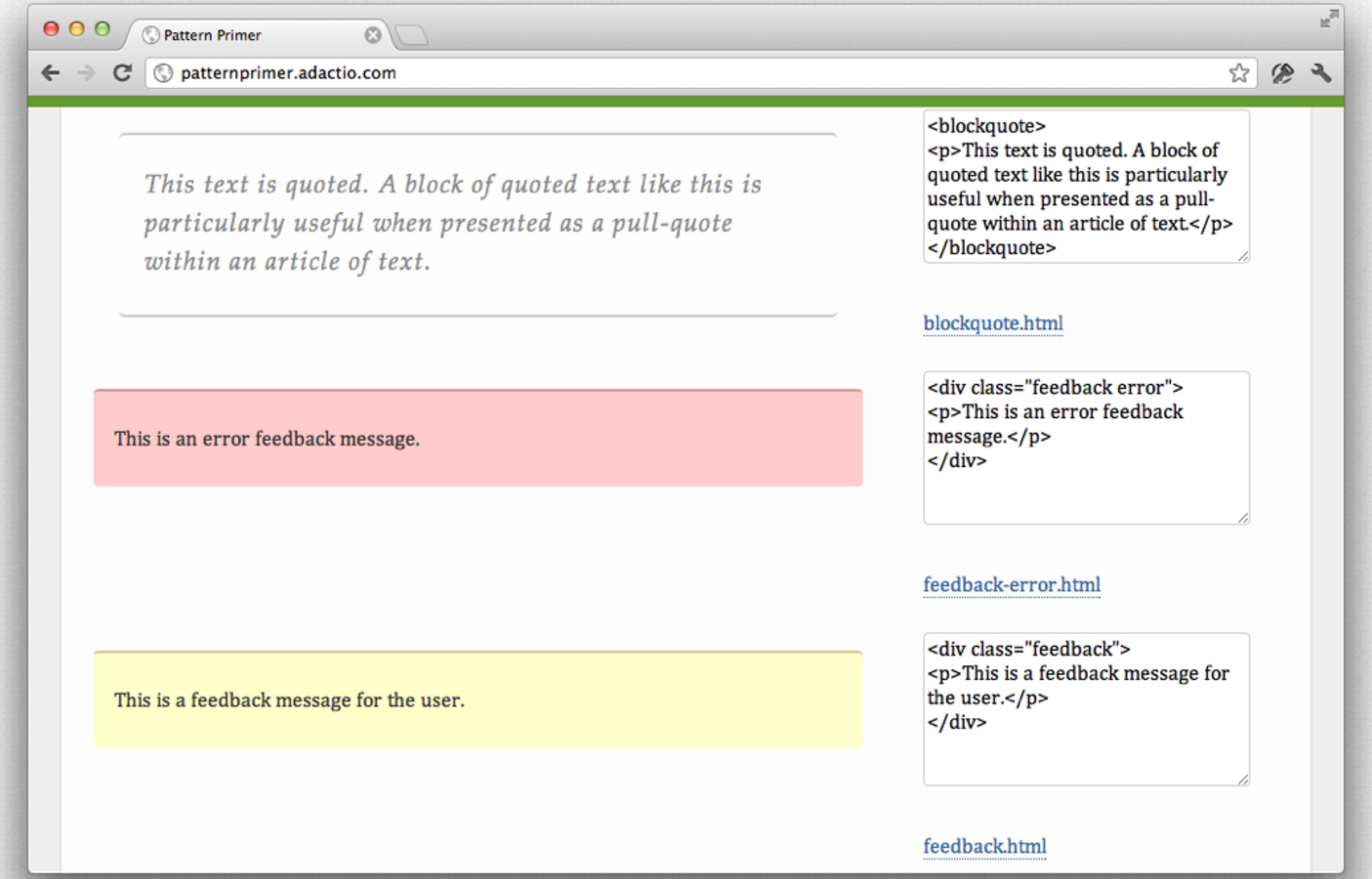
Prototyping and Style Guides

Prototyping

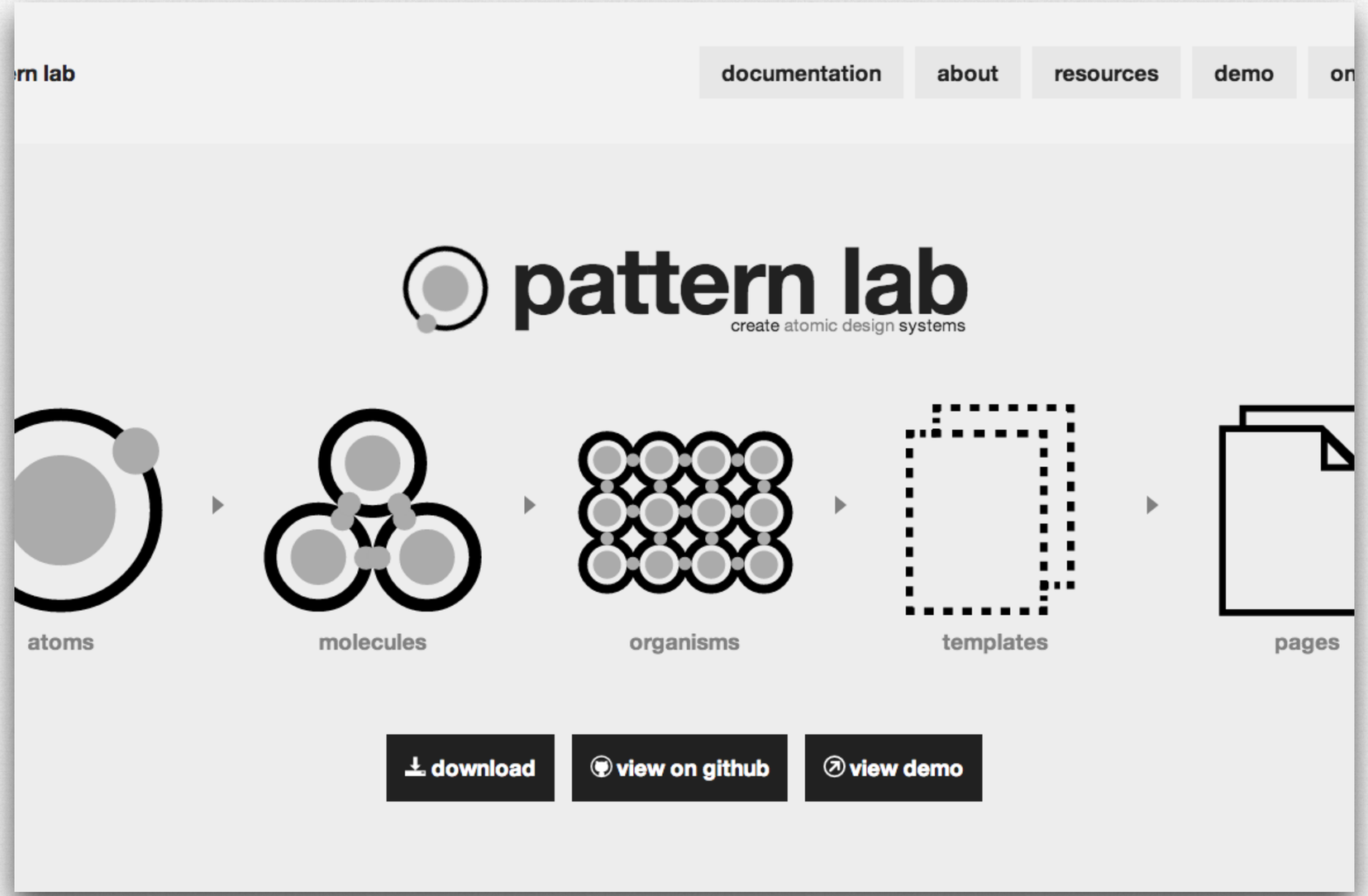
- Build and test individual components
- Allows for front-end development independent of engineering
- Create centralized repository for multiple projects
- Proto Engine can use different technology than engineering

Proto Engine





https://adactio.com/journal/5028



http://patternlab.io

https://github.com/frctl/fractal

lonely planet STYLE GUIDE DOCUMENTATION PERFORMANCE MONITORING ABOUT RIZZO

UI Components

DESIGN ELEMENTS | UI COMPONENTS | JS COMPONENTS | WIDGETS | CSS UTILITIES

COMPONENTS

- Cards
- Ad Units
- Alerts
- Badges
- Breadcrumbs
- Buttons
- Hero Banner
- Preloader
- Page Title
- Pagination
- Picture

Buttons

PLEASE NOTE:

Buttons do not call this component directly as the abstraction would be overkill. Buttons should always look like these through a combination of the modifier classes detailed below and in buttons.sass

Colour variations

DEFAULT BUTTON Submit

```
<a class='btn' href='#'>Submit</a>
```

GREEN BUTTON Register

Size and Style variations

SMALL Submit

```
<a class='btn btn--small' href='#'>Submit</a
```

SLIM Submit

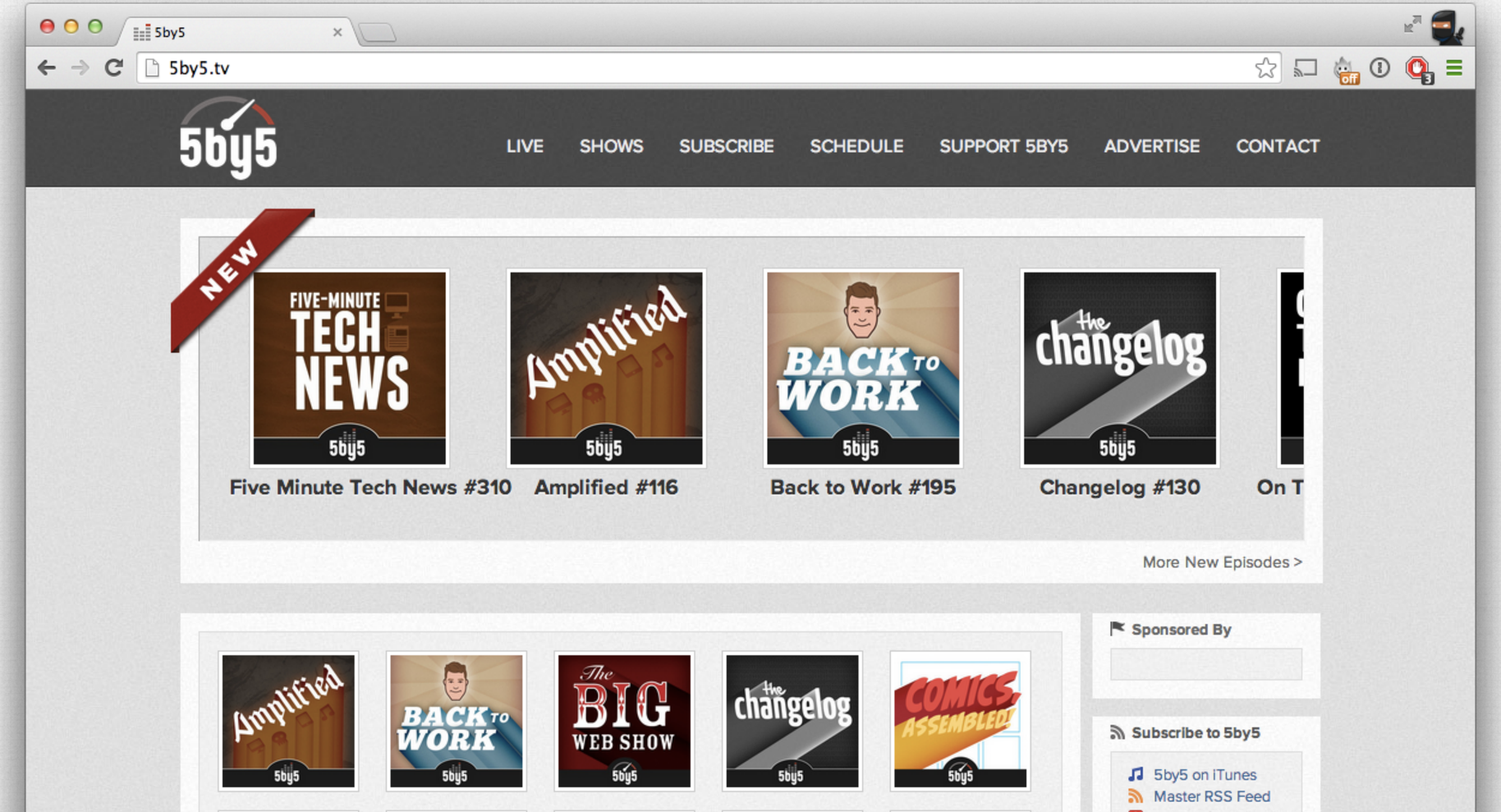
Doc Generators

- Dexy http://dexy.it/
- KSS http://warpspire.com/kss/
- Hologram https://github.com/trulia/hologram

- http://snk.ms/23 Anna Debenham's collection of style guides

Exercise #4

Templating 5by5.tv



Project Structure

Files

- base.css
- layout.css
- grid.css
- button.css
- carousel.css
- modal.css

Folders

- dependencies
- base
- layouts
- modules
- areas

Integrating JavaScript

- Scripts are written for individual modules
- States are modified, not inline styles
- Avoid jQuery methods that add inline styles like .show() and .hide()

```
$('.btn').click(function(){
   $(this).addClass('is-pressed');
});
```

Converting a project

Measure

- measure performance
- identify areas to refactor

Measure

- https://github.com/katiefenn/parker
- https://github.com/macbre/analyze-css
- http://zmoazeni.github.io/csscss/

Code Reviews

- Give CSS the same respect as other code in your project

Conclusion

Don’t code CSS for the page.

Code it for the system.

Performance

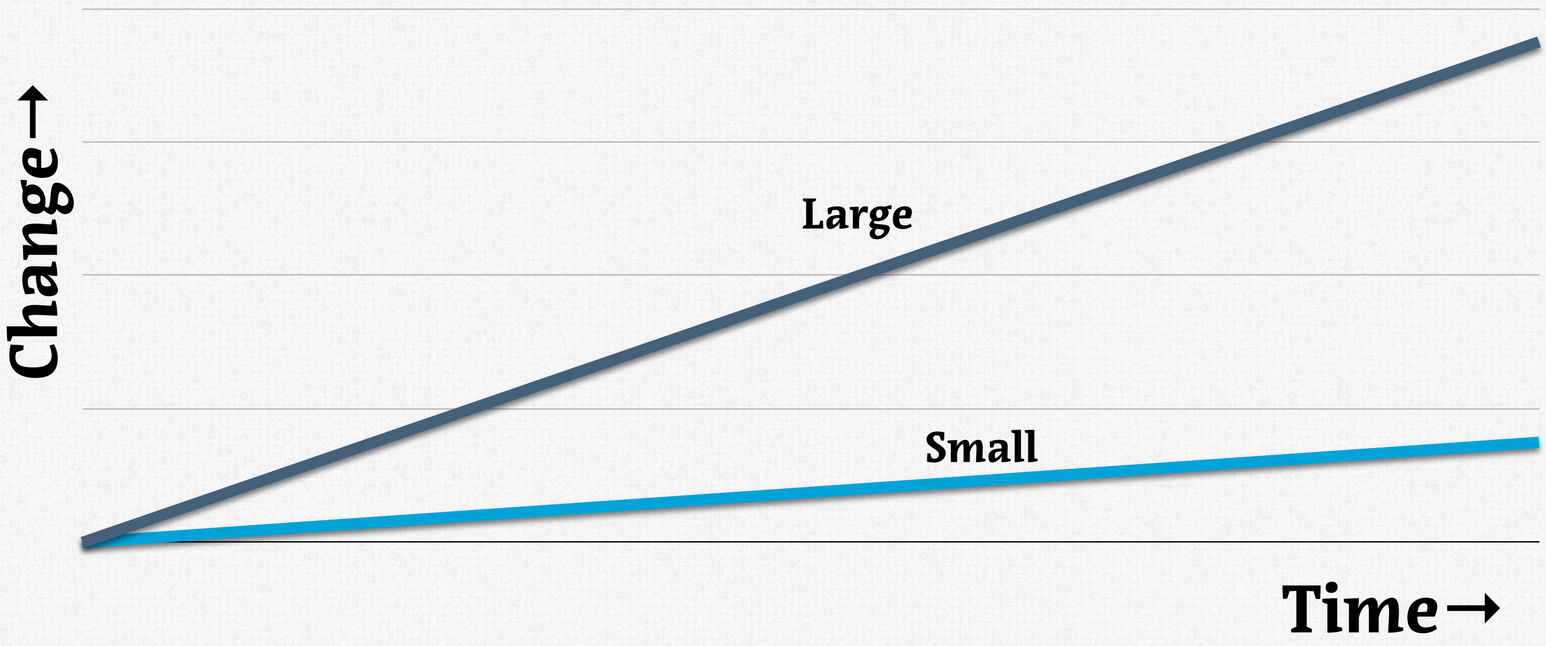
- Pull in style sheets when you need them
- Smaller rule sets make it easier on browsers
  - Google Page Speed recommends a single ID or class selector

Larger Teams

- Separation of files allows multiple members of the team to work on separate files
- Modular approach works well with OOP on server side (hence OOCSS)

When is SMACSS not appropriate?

- Hard to apply on user-generated content (UGC) common to many content management systems
- Benefits not felt on throwaway projects or one-offs


Change→
Large
Small
Time→

Fin

- Resources to be posted at: http://snk.ms/sres
- Feedback can be sent to jonathan@smacss.com
- Thank you!