

Responsive Web Design

Ben Callahan President, Sparkbox
Frontend Masters November 16, 2012

<http://bit.ly/LWLTEA>

September 9, 2007
6:30am

In the US...

52%

of laptop owners also own a
smartphone

<http://bit.ly/zE1zgp>

In the US...

31%

of smartphone owners also
own a tablet

<http://bit.ly/zE1zgp>

In the US...

23%

of laptop owners also own a
tablet

<http://bit.ly/zE1zgp>

In the US...

13%
own a laptop, smartphone,
and tablet

<http://bit.ly/zE1zgp>

The web is **not** fixed width

The Necessary Intro

My name is Ben

@bencallahan

<http://seesparkbox.com>

<http://buildresponsively.com>

The Necessary Intro

Let's talk over a beer



The Necessary Intro

Speak up

The Necessary Intro

Download the repo

<http://bit.ly/LWLTEA>

What We'll Cover

RWD 101

RWD Process

Applying RWD Styles

RWD Retrofitting

JS To The Rescue

Lessons Learned

What's Next in RWD

RWD 101

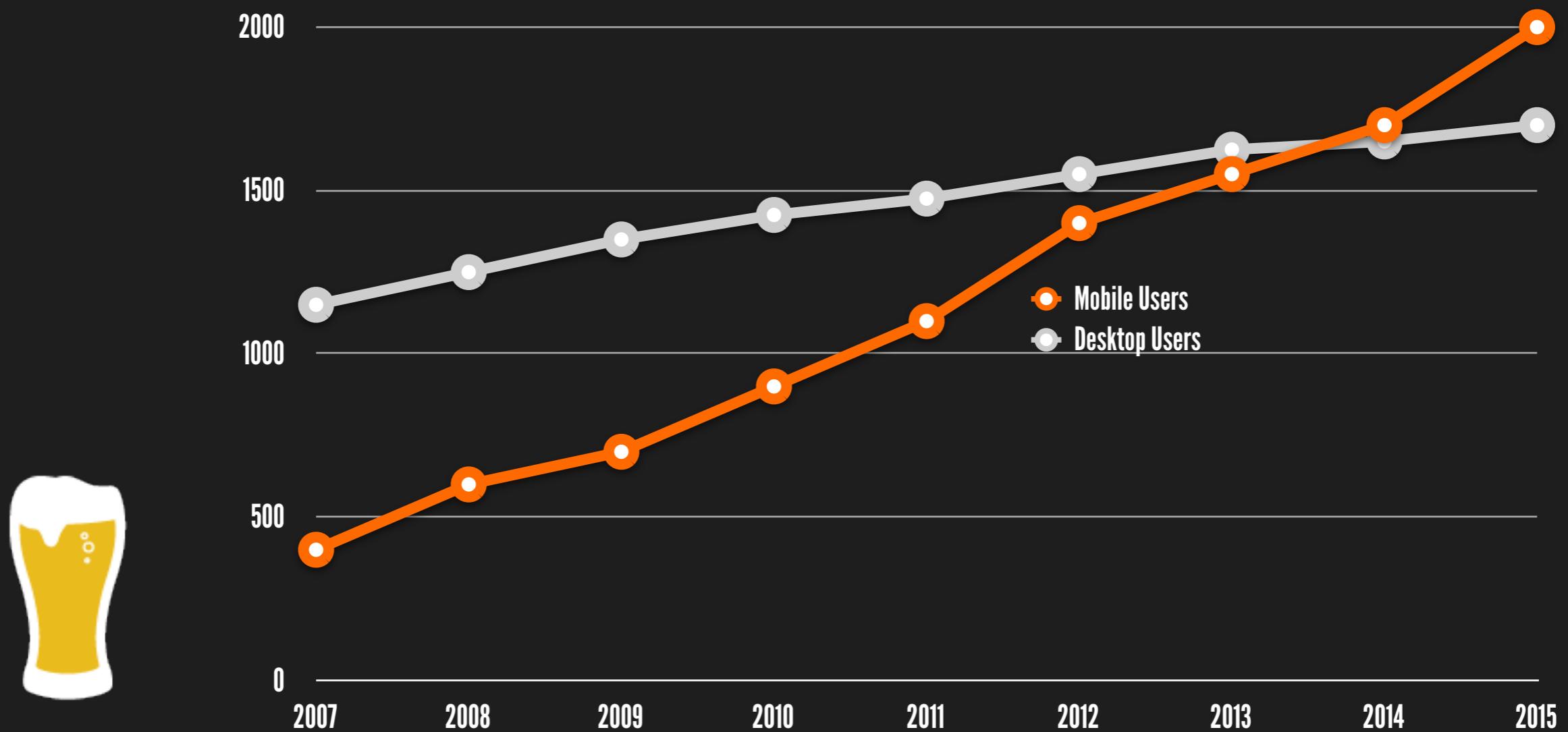
The web is **not** fixed width

In the US...

The penetration of desktop/laptop ownership is the same today as it was in 2007.

<http://bit.ly/zE1zgp>

RWD 101



RWD 101

Flexibility is the new norm

RWD 101

People are trying to browse
your sites on these devices.

Today.

RWD 101

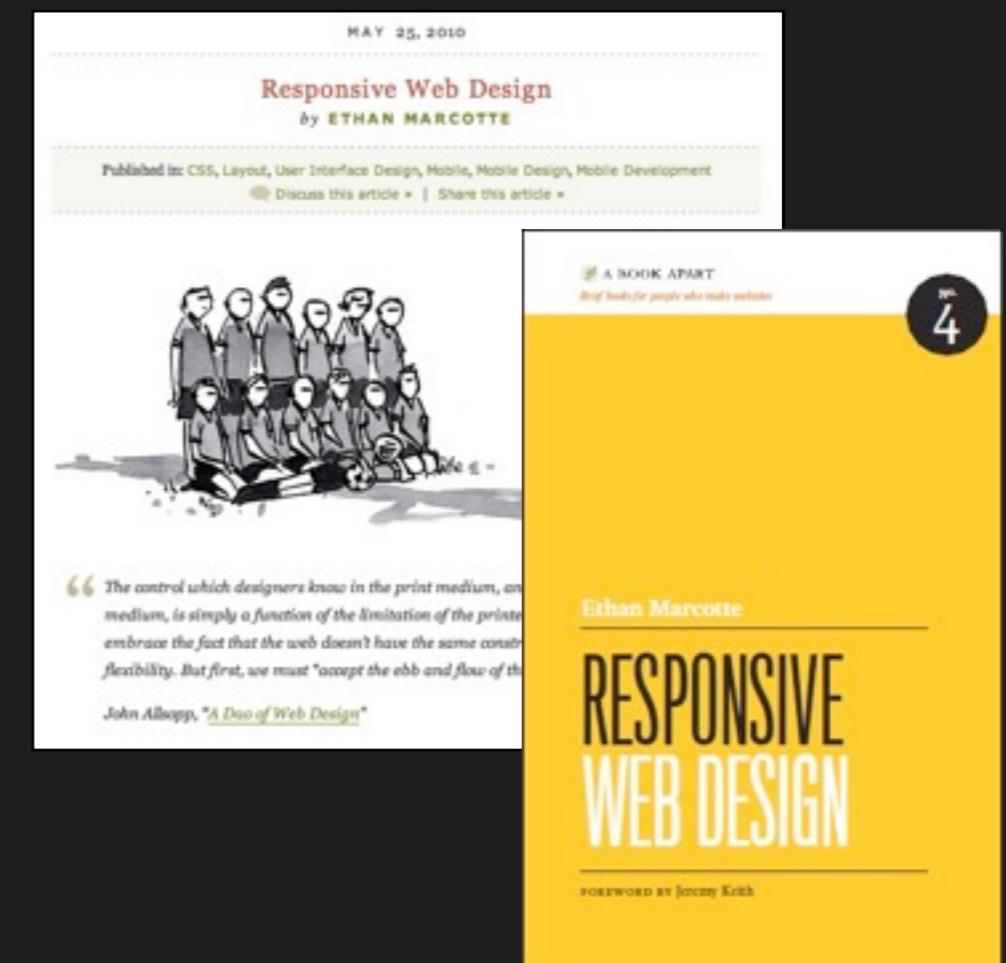
Responsive Web Design

RWD 101

Ethan Marcotte

Article on alistapart.com

Book via A Book Apart



RWD 101

A Fluid Foundation

Flexible Content

Media Queries

RWD 101: A Fluid Foundation

Honor the proportions of the design
by creating percentage-based grids
instead of fixed-width, pixel-based
grids.

RWD 101: A Fluid Foundation

```
<div class="span-1"> <!-- one column -->  
</div>
```

```
<div class="span-2"> <!-- two columns -->  
</div>
```

```
<div class="span-3"> <!-- three columns -->  
</div>
```

RWD 101: A Fluid Foundation

FIXED-WIDTH

```
.span-1 {  
    width: 90px;  
}
```

FLUID

```
.span-1 {  
    width: ??%;  
}
```

300px wide grid

RWD 101: A Fluid Foundation

FIXED-WIDTH

```
.span-1 {  
    width: 90px;  
}
```

FLUID

```
.span-1 {  
    width: ??%;  
}
```

target / context = %

RWD 101: A Fluid Foundation

FIXED-WIDTH

```
.span-1 {  
    width: 90px;  
}
```

FLUID

```
.span-1 {  
    width: 30%;  
}
```

$$90 / 300 = .3$$

$$\text{target} / \text{context} = \%$$

RWD 101: A Fluid Foundation

Example

Turn a 300px 3-column grid into a fluid grid.

/01-RWD101/br-1.html

<http://bit.ly/LWLTEA>

RWD 101: A Fluid Foundation

IE & Rounding

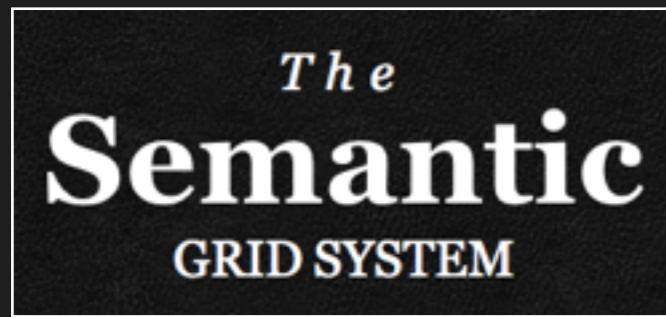


RWD 101: A Fluid Foundation

→ Semantic Grid Systems

- <http://semantic.gs>
- <http://susy.oddbird.net>

RWD 101: A Fluid Foundation



```
@column-width: 60;
@gutter-width: 20;
@columns: 12;
@total-width: 100%;

header { .column(12); }
article { .column(12); }
aside { .column(12); }

@media (min-width: 38em) {
  article { .column(8); }
  aside { .column(4); }
}
```

RWD 101: Flexible Content

Once we have a grid which is based on proportions, the content we put in that grid must also respond.

RWD 101: Flexible Content

```
img {  
  max-width: 100%;  
}
```

RWD 101: Flexible Content

Example

Make the image flexible.

/01-RWD101/br-3.html

<http://bit.ly/LWLTEA>

The awesome poem is by a guy named Douglas, check him out at:
<http://ligzpoems.blogspot.com/>

RWD 101: Flexible Content

Video embed/object works similarly.

If you use iframe embeds, you can use intrinsic ratios.

/11-Ratios and /12-Ratios-Review

<http://bit.ly/LWLTEA>

RWD 101: Media Queries

When our content and our design are no longer working in harmony, we need to make a larger shift in layout.

RWD 101: Media Queries

```
<link media="(min-width: 30em)" ...
```

```
<link media="screen and (min-width: 30em)" ...
```

```
@media (min-width: 30em) { ... }
```

```
@media screen and (min-width: 30em) { ... }
```

RWD 101: Media Types

```
<link media="(min-width: 30em)" ...
```

```
<link media="screen and (min-width: 30em)" ...
```

```
@media (min-width: 30em) { ... }
```

```
@media print { ... }
```

RWD 101: Media Types

all

braille, embossed, speech

handheld, projection, **screen**, tv

print

tty

<http://www.w3.org/TR/CSS21/media.html#media-types>

RWD 101: Media Features

```
<link media="(min-width: 30em)" ...
```

```
<link media="screen and (max-width: 30em)" ...
```

```
@media (orientation: portrait) { ... }
```

```
@media screen and (color) { ... }
```

RWD 101: Media Features

width, height, device-width, device-height

orientation

aspect-ratio, device-aspect-ratio

color, color-index, monochrome

resolution, scan, grid

<http://www.w3.org/TR/css3-mediaqueries>

RWD 101: Media Queries

```
@media (min-width: 600px) {  
  /* styles for 600px and up here */  
}
```

```
@media (max-width: 38em) {  
  /* styles for 38em and down here */  
}
```

RWD 101: Media Queries

```
/* Large Resolution First CSS File Structure */  
  
/* large resolution layouts here */  
  
@media (max-width: 62em) {  
    /* styles for 62em and down here */  
}  
  
@media (max-width: 40em) {  
    /* styles for 40em and down here */  
}
```

RWD 101: Media Queries

```
/* Small Resolution First CSS File Structure */  
  
/* smallest resolution layouts here */  
  
@media (min-width: 28em) {  
    /* styles for 28em and up here */  
}  
  
@media (min-width: 53em) {  
    /* styles for 53em and up here */  
}
```

RWD 101: Media Queries

Large Rez First

Easy support for old IE

Small devices load all assets

Small Rez First

More logical (build up vs tear down)

Old IE is tricky

RWD 101: Media Queries

The Media Query Bookmarklet

by @robtarr

<http://sparkbox.github.com/mediaQueryBookmarklet>

RWD 101: Media Queries

Example

Throw in a media query.

/01-RWD101/br-4.html

<http://bit.ly/LWLTEA>

RWD 101

A Fluid Foundation

Flexible Content

Media Queries

RWD 101

Other Considerations

- Touch Target Area
- Hover States
- Contrast
- Readability

RWD 101: Other Considerations

→ Touch Target Area

- Apple recommends minimum 44px X 44px
 - This is based on non-retina displays
 - Using padding instead of margin

<http://www.lukew.com/ff/entry.asp?1085>

http://developer.apple.com/iphone/library/documentation/UserExperience/Conceptual/MobileHIG/DesigningNativeApp/DesigningNativeApp.html#/apple_ref/doc/uid/TP40006556-CH4-SW1

RWD 101: Other Considerations

→ Hover States

- ▶ Don't hide content behind :hover
- ▶ Consider using modernizr

```
a {  
    /* standard styles */  
}
```

```
.no-touch a:hover {  
    /* :hover styles */  
}
```

RWD 101: Other Considerations

→ Contrast

- Try your site outside in the sun
- Try your site in bed when it's dark
- Take it with you

RWD 101: Other Considerations

→ Readability

- Small screen != small type
- Consider increasing font size

RWD 101

A Fluid Foundation

Flexible Content

Media Queries

- ➔ Touch Target Area
- ➔ Hover States
- ➔ Contrast
- ➔ Readability

RWD Process

RWD Process

A Process Myth

Each client deliverable needs to look more like a final, beautiful end-product than the previous one.

RWD Process

Which Results In

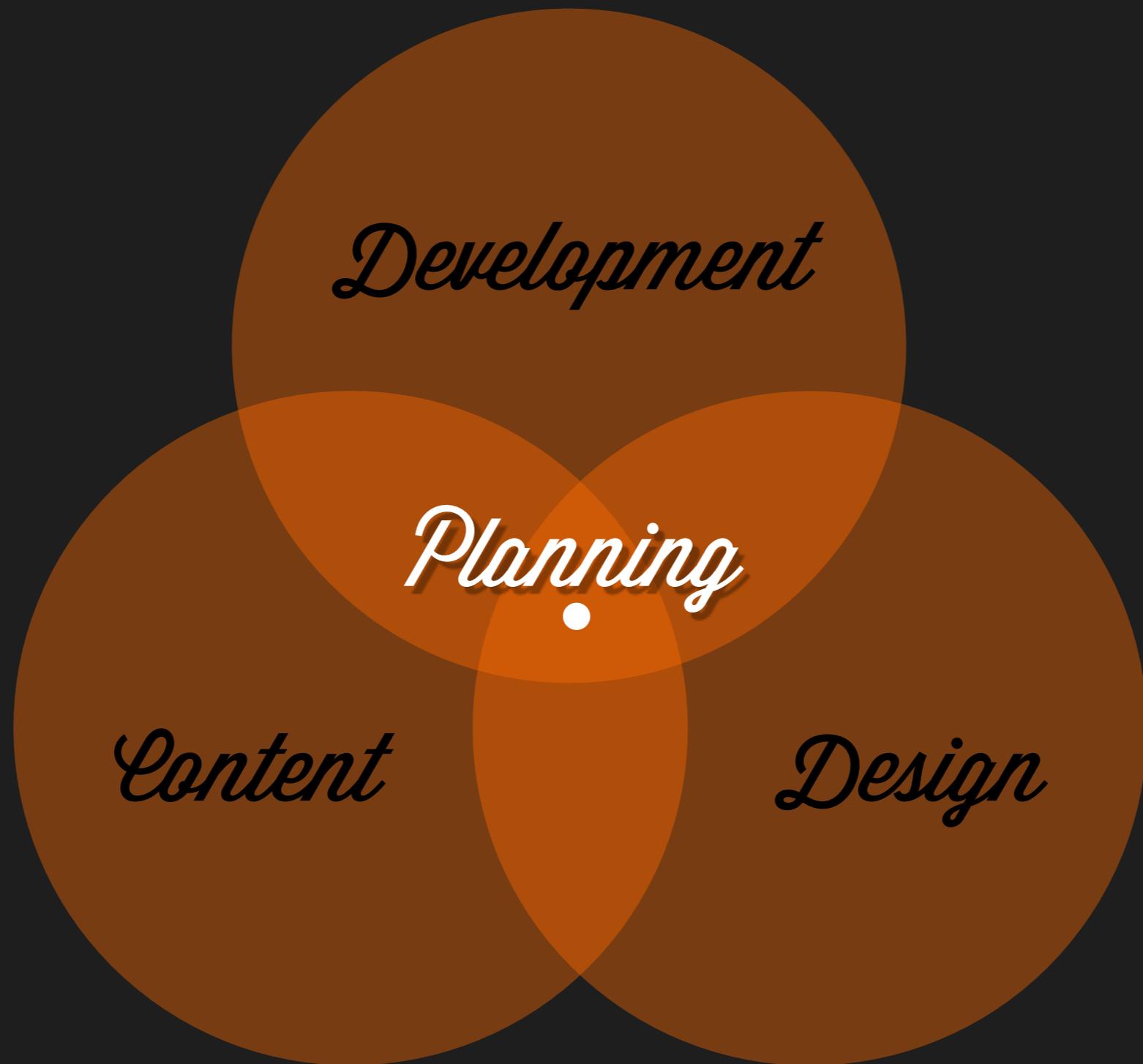
Pushing toward nearly-designed wireframes quickly and completely designed comps soon after.

RWD Process

A Better Mindset

Deliverables that best serve the organization and prioritization of content and function across multiple resolutions.

RWD Process



RWD Process

Our Deliverables

Research Deliverables

Content Deliverables

Priority Deliverables

Style Deliverables

Functional Deliverables

RWD Process

Let's Focus On

Research Deliverables

Content Deliverables

Priority Deliverables

Style Deliverables

Functional Deliverables

RWD Process: Priority Deliverables

Content Priority Prototype

Takes the place of a traditional wireframe.

As much real content as you can.

Linear in nature, so priority is implied.

Created in HTML, viewed in a browser.

Generated by content/UX people.

RWD Process: Priority Deliverables

Take A Look

There is an example in the repository.

/02-PlanDesign

<http://bit.ly/LWLTEA>

RWD Process: **Style Deliverables**

Style Prototype

Like Style Tiles, but in the browser.

Very fast to build.

Accurate web typography.

Easy to show web interaction.

Client reviews in their browser of preference.

RWD Process: **Style Deliverables**

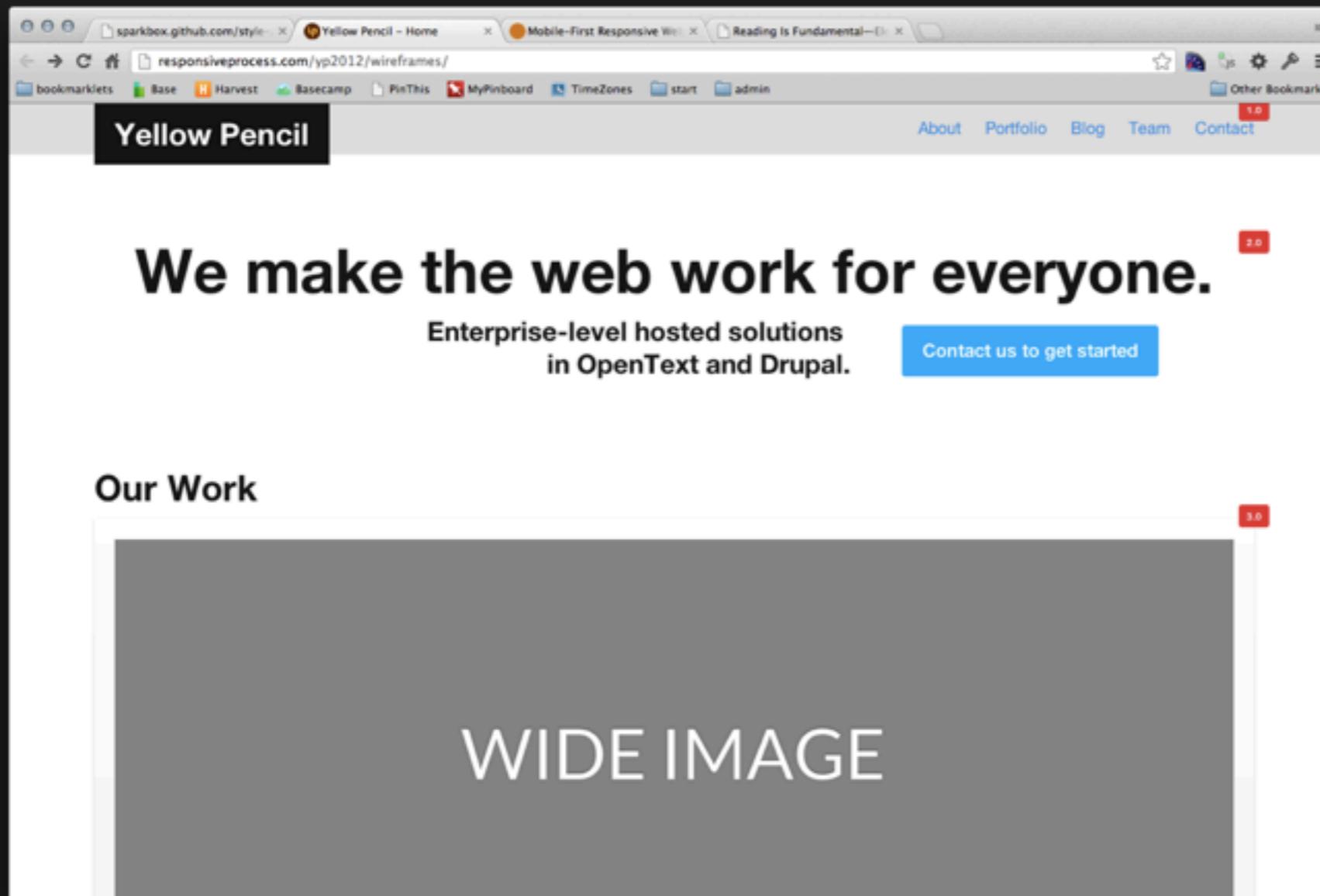
Take A Look

There is an example on Github.

<http://sparkbox.github.com/dr-style-prototype>

<http://bit.ly/Tb7HPr>

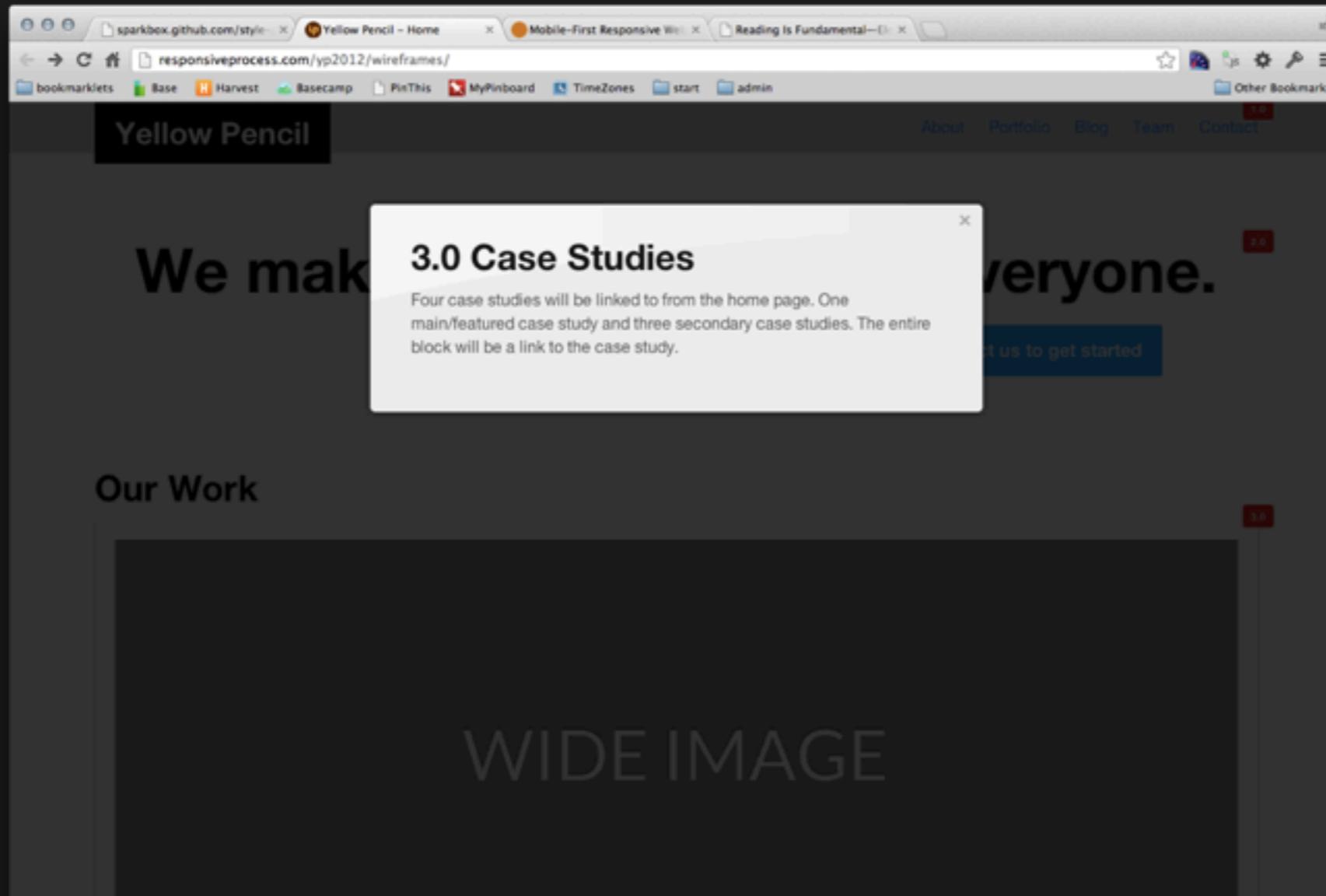
RWD Process: Style Deliverables



From @hellocfisher

<http://responsiveprocess.com/yp2012/wireframes/>

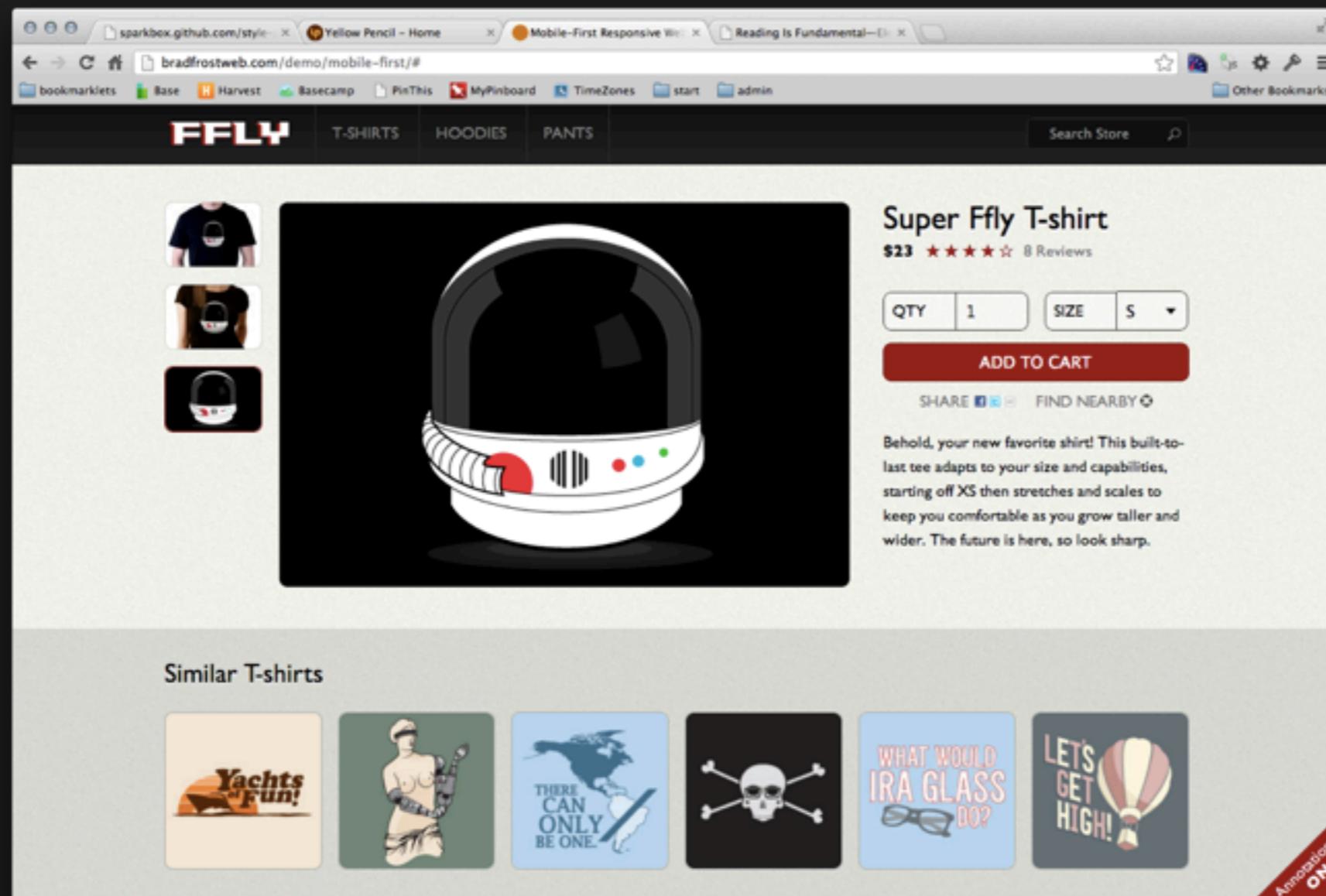
RWD Process: Style Deliverables



From @hellocfisher

<http://responsiveprocess.com/yp2012/wireframes/>

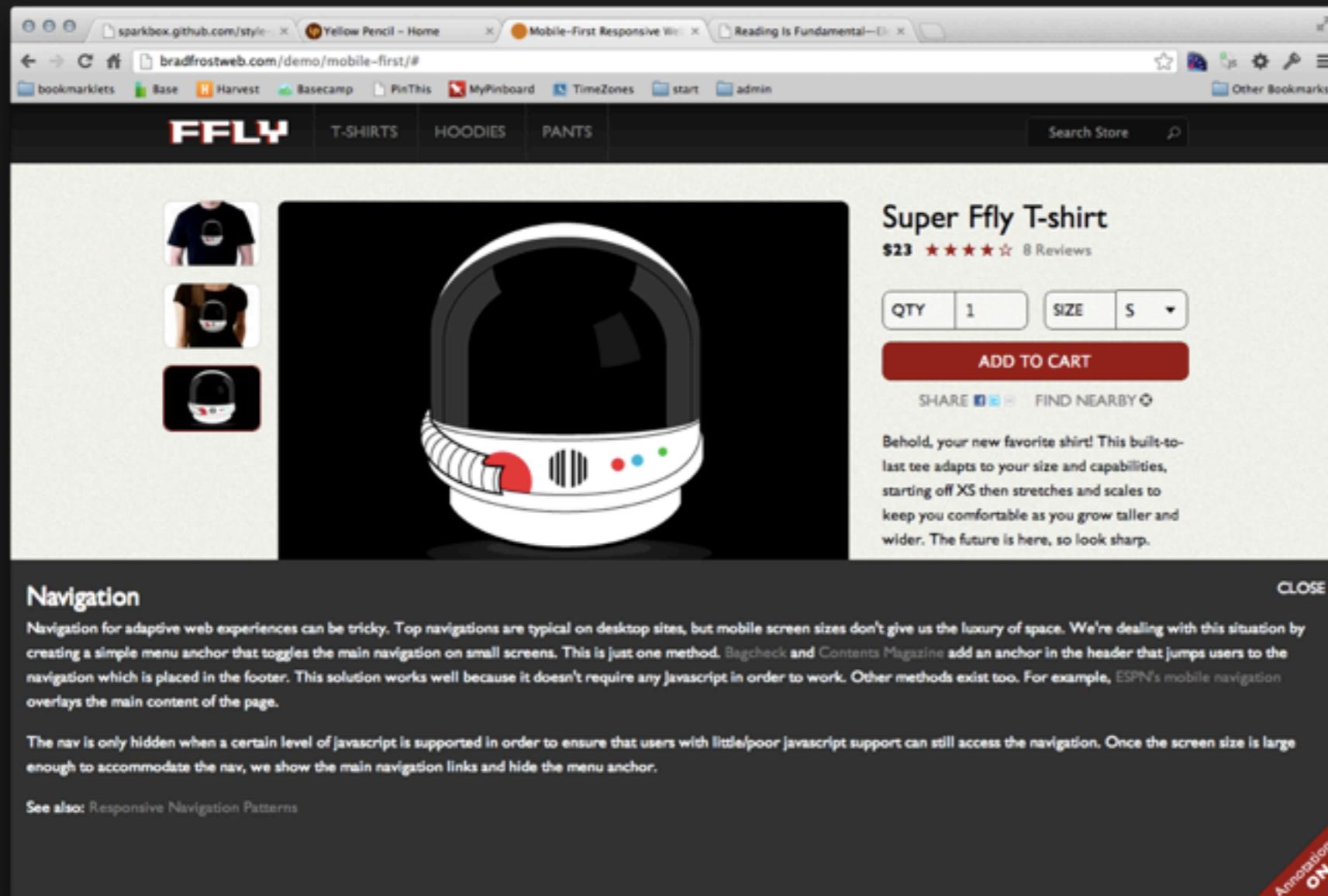
RWD Process: Style Deliverables



From @brad_frost

<http://bradfrostweb.com/demo/mobile-first/>

RWD Process: Style Deliverables



Navigation

Navigation for adaptive web experiences can be tricky. Top navs are typical on desktop sites, but mobile screen sizes don't give us the luxury of space. We're dealing with this situation by creating a simple menu anchor that toggles the main navigation on small screens. This is just one method. Bagcheck and Contents Magazine add an anchor in the header that jumps users to the navigation which is placed in the footer. This solution works well because it doesn't require any Javascript in order to work. Other methods exist too. For example, ESPN's mobile navigation overlays the main content of the page.

The nav is only hidden when a certain level of javascript is supported in order to ensure that users with little/poor javascript support can still access the navigation. Once the screen size is large enough to accommodate the nav, we show the main navigation links and hide the menu anchor.

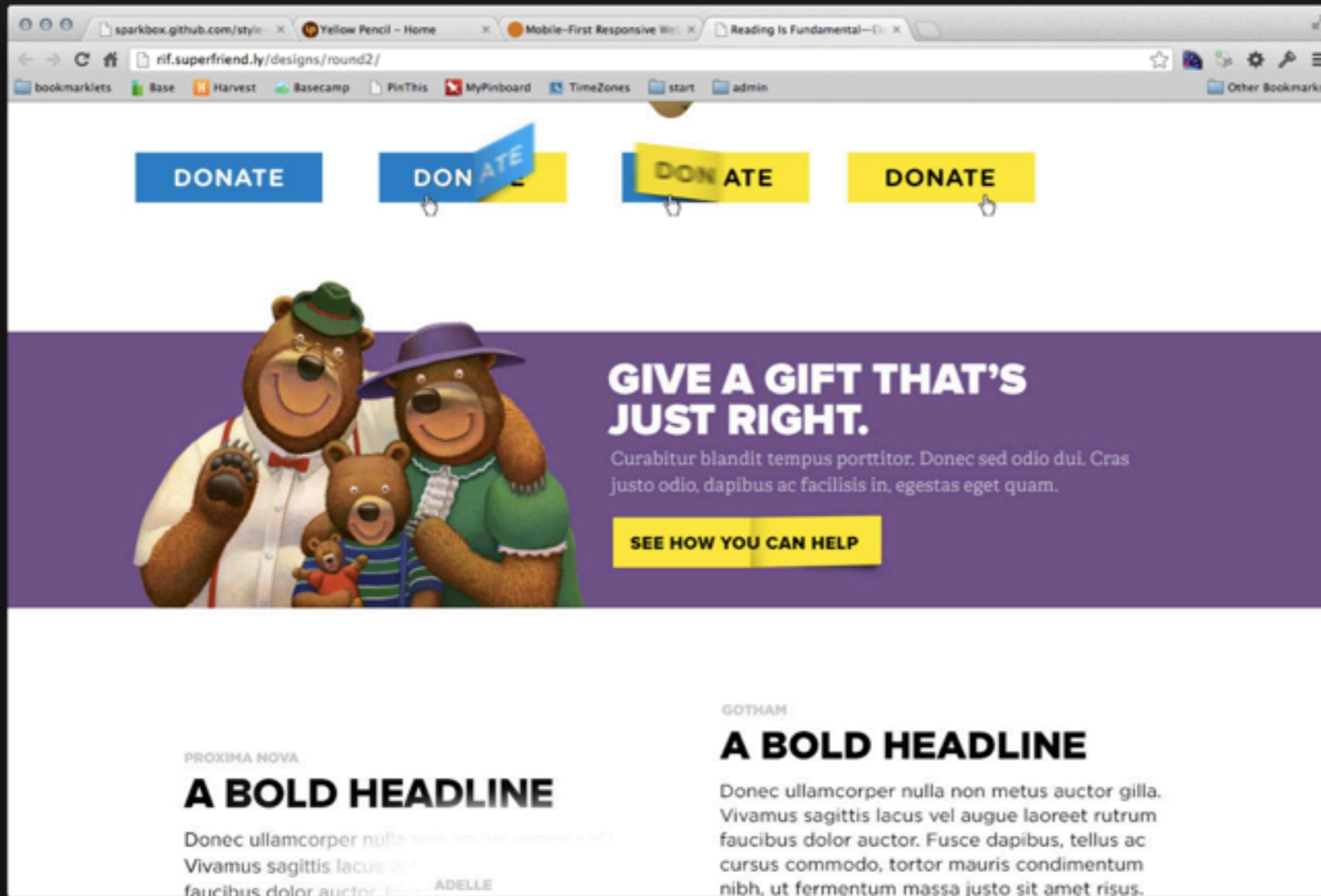
See also: [Responsive Navigation Patterns](#)

Annotations
ON

From @brad_frost

<http://bradfrostweb.com/demo/mobile-first/>

RWD Process: Style Deliverables



From @danielmall
<http://rif.superfriend.ly/designs/round2/>

RWD Process: **Style Deliverables**

Our New RWD Deliverable:
The Style Prototype

From @jeremyloyd
[http://seesparkbox.com/foundry/
our_new_responsive_design_deliverable_the_style_prototype](http://seesparkbox.com/foundry/our_new_responsive_design_deliverable_the_style_prototype)

RWD Process: **Style Deliverables**

Responsive Comping:
Obtaining Signoff without Mockups

From  Aeleafontpress

<http://www.alistapart.com/articles/responsive-comping-obtaining-signoff-with-mockups/>

RWD Process: Collaboration

Can't throw it over the wall

RWD Process: Priority

Priority becomes critical with
small displays

RWD Process

Content Priority Prototype

Style Prototype

Applying RWD Styles

Applying RWD Styles

HTML (index.html)

```
<head>
  <media name="viewport"
        content="width=device-width, initial-scale=1.0">

  <link rel="stylesheet" href="c/base.css">
  <link rel="stylesheet" media="not print" href="c/mq.css">

  <!--[if (lte IE 8)&(!IEMobile)]>
    <link rel="stylesheet" media="screen" href="c/nomq.css">
  <![endif]-->
</head>
```

Applying RWD Styles

SCSS (base.css)

```
@-ms-viewport {  
    width: device-width;  
}
```

```
@import "reset";  
@import "smallest";
```

```
@media print {  
    @import "print";  
}
```

Applying RWD Styles

SCSS (mq.css)

```
@media (min-width: 30em) {  
  @include "min-width-30em";  
}
```

```
@media (min-width: 60em) {  
  @include "min-width-60em";  
}
```

Applying RWD Styles

SCSS (nomq.css)

```
@include "min-width-30em";  
@include "min-width-60em";
```

Applying RWD Styles

Using em-based media queries

A more proportional measurement

Layout adjusts based on font-size

Adheres more to the principles of RWD



Retrofitting

What is a Retrofit?

What is a Retrofit?

Finding the fastest and lowest-risk approach to creating a better experience on an existing site for users of any size screen.

What is a Retrofit?

1. How to do it.
2. Managing your client.

aklayon

Copyrighted Material

Mobilizing Web Sites

DEVELOP AND DESIGN

Strategies for Mobile Web Implementation



Kristofer Layon

Copyrighted Material

Retrofitting Techniques

If you like, you can clone this repository:

<http://github.com/bencallahan/rwd-retrofitting>

Retrofitting Techniques: From Fixed to Fluid

(demo of Twitter.com)

Retrofitting Techniques: From Fixed to Fluid

→ Demo of Twitter.com

target / context = result

<http://www.alistapart.com/articles/fluidgrids/>

Retrofitting Techniques: From Fixed to Fluid

→ Demo of Twitter.com

target / context = result

302 / 837 = 36.08%

522 / 837 = 62.37%

<http://www.alistapart.com/articles/fluidgrids/>

Retrofitting Techniques: From Fixed to Fluid

→ Demo of Twitter.com

```
* {  
  -moz-box-sizing: border-box;  
  -webkit-box-sizing: border-box;  
  box-sizing: border-box;  
}
```



<http://paulirish.com/2012/box-sizing-border-box-ftw/>

Retrofitting Techniques: **Inline Image Styles**

(demo of /Images)

<http://github.com/bencallahan/rwd-retrofitting>

Retrofitting Techniques: **Inline Image Styles**

→ Support

- FireFox 5+ Win/Mac
- IE7+ (exception: IE8 & min-width)
- Chrome 14+ Win/Mac
- Safari 4+ Win, 5+ Mac
- Opera 10+ Win, 11+ Mac
- Mobile Safari (iOS 5)
- Android Browser 2.3+

Retrofitting Techniques: **Background Images**

Tim Kadlec on timkadlec.com

“Media Query & Asset Downloading Results”

- display: none on parent element
- specify all background images inside media queries

<http://timkadlec.com/2012/04/media-query-asset-downloading-results/>

Retrofitting Techniques: Tables

	Today	Sep 28	Oct 28	Nov 28	Dec 28	Jan 28	Feb 28	Mar 28	Apr 28	May 28	Jun 28
11 Payments	\$27.00	\$18.00	\$18.00	\$18.00	\$18.00	\$18.00	\$18.00	\$18.00	\$18.00	\$18.00	\$18.00
9 Payments	\$32.00	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00		
6 Payments	\$40.00	\$22.00	No Payment	\$22.00	No Payment	\$22.00	No Payment	\$22.00	No Payment	\$18.00	
4 Payments	\$40.00	No Payment	\$30.00	No Payment	\$30.00	No Payment	\$30.00				
Paid in Full	\$152.00 (saves up to \$5.00 per month)										

Retrofitting Techniques: **Tables**

(demo of /Tables)

<http://github.com/bencallahan/rwd-retrofitting>

Retrofitting Techniques: Tables

11 Payments			
Today \$27.00	Month 2 \$18.00	Month 3 \$18.00	Month 4 \$18.00
Month 5 \$18.00	Month 6 \$18.00	Month 7 \$18.00	Month 8 \$18.00
Month 9 \$18.00	Month 10 \$18.00	Month 11 \$18.00	
9 Payments			
Today \$32.00	Month 2 \$20.00	Month 3 \$20.00	Month 4 \$20.00
Month 5 \$20.00	Month 6 \$20.00	Month 7 \$20.00	Month 8 \$20.00
Month 9 \$20.00			
6 Payments			
Today \$40.00	Month 2 \$22.00	Month 3 No Payment	Month 4 \$22.00
Month 5 No Payment	Month 6 \$22.00	Month 7 No Payment	Month 8 \$22.00

	Today	Sep 28	Oct 28	Nov 28	Dec 28
11 Payments	\$27.00	\$18.00	\$18.00	\$18.00	\$18.00
9 Payments	\$32.00	\$20.00	\$20.00	\$20.00	\$20.00
6 Payments	\$40.00	\$22.00	No Payment	\$22.00	No Payment
4 Payments	\$40.00	No Payment	\$30.00	No Payment	\$30.00
Paid in Full	\$152.00 (saves up to \$5.00 per month)				

Retrofitting Techniques: Media Queries

- Large Resolution First
- Small Resolution First, Capped

Retrofitting Techniques: Media Queries

→ Large Resolution First

```
/* FILE: main.css */  
/* all your original styles */  
  
@media (max-width: 53em) {  
    /* styles for 53em and lower */  
}  
  
@media (max-width: 37em) {  
    /* styles for 37em and lower */  
}
```

Retrofitting Techniques: Media Queries

→ Small Resolution First, Capped

- Serve the original CSS to large viewports
- Serve mobile-first CSS to small viewports
- No changes to original CSS

Retrofitting Techniques: Media Queries

→ Small Resolution First, Capped

```
<html class="no-js">
<head>
  <script src="/js/modernizr.js"></script>

  <script>
    yepnope({
      test : Modernizr.mq('(min-width: 0px)'),
      yep   : 'base.css',
      nope  : 'original.css'
    });
  </script>

  <noscript>
    <link rel="stylesheet" href="original.css">
  </noscript>
</head>
```

Retrofitting Techniques: Media Queries

→ Small Resolution First, Capped

```
@media (max-width: 979px) {  
  @import "small";  
}  
  
@media (min-width: 661px) and (max-width: 979px) {  
  @import "medium";  
}  
  
@media (min-width: 980px) {  
  @import "original";  
}
```

Client Interaction

Client Interaction: Great Need

Big Companies

+ No Mobile Presence

+ Triple Digit Growth

= Anxious Clients

Client Interaction: Great Need

Less than Half the Cost

+ Less than Half the Time

+ Increased Conversions

= Desperate Clients

Client Interaction: When It's Right

→ Evaluate the Project

- Solid UX at higher widths?
- Semantic markup?
- Can't start over?
- Immediate need?
- Real benefit for the user?

Client Interaction: Proceed Carefully

Retrofitting is a step in
the right direction.

Client Interaction: Proceed Carefully

Make sure you're
capturing analytics.

Client Interaction: Proceed Carefully

Constantly remind them
of the user.

Client Interaction: Proceed Carefully

When you're done and
they ask for more...

...push for even better
experiences!

Fun with Retrofitting

Fun with Retrofitting

(demo of Responsive Retrofitting Bookmarklet)

RWD Patterns

RWD Patterns: Navigation

Top Nav	http://siyelo.com/
Bottom Nav	http://contentsmagazine.com
Slide Down Nav	http://2012.dconstruct.org
Select Box Nav	http://www.stry.us/
Menu Icon Nav	http://twitter.github.com/bootstrap
Multi-Level	http://msj.edu/ http://dpndl.com http://bostonglobe.com

RWD Patterns: Tables

Show the first column

<http://www.zurb.com/playground/responsive-tables>

Flip it on it's side

<http://css-tricks.com/examples/ResponsiveTables/responsive.php>

<http://codepen.io/bencallahan/pen/xvmCe>

Just hide some of it

<http://elvery.net/demo/responsive-tables>

Selective Display

<http://filamentgroup.com/examples/rwd-table-patterns>

RWD Patterns: Images

Picturefill

<https://github.com/scottjehl/picturefill>

Sencha.io

<http://docs.sencha.io>

Resrc.it

<http://resrc.it>

Adaptive Images

<http://adaptive-images.com>

and tons more...

RWD Patterns: Images

“...performance is important, but access is more important. Mobile later is better than mobile never.”

Kristofer Layon

<http://tiny.cc/vr24gw>

RWD Patterns: Off-Canvas Layouts

www.lukew.com/ff/entry.asp?1569

JS To The Rescue

JS To The Rescue: **Media Queries**

Pollyfills for Media Queries

respond.js (by @scottjehl)

<https://github.com/scottjehl/Respond>

css3-mediaqueries.js (by @wvjvandergraaf)

<http://code.google.com/p/css3-mediaqueries-js/>

JS To The Rescue: **matchMedia**

Part of the CSS Object Module

```
if (window.matchMedia(  
  "(min-width: 400px)").matches) {  
  /* the view port is at least  
   400 pixels wide */  
} else {  
  /* the view port is less than  
   400 pixels wide */  
}
```

JS To The Rescue: **matchMedia**

Polyfills & Wrappers

matchMedia.js (by @paulirish)

<https://github.com/paulirish/matchMedia.js/>

Harvey (by the team at Harvest)

<https://github.com/harvesthq/harvey>

mediaCheck (by @robtarr)

<https://github.com/sparkbox/mediaCheck>

JS To The Rescue: **Conditional Loading**

Aggressive Enhancement

Ajax-Include-Pattern (by Filament Group)

<https://github.com/filamentgroup/Ajax-Include-Pattern>

Demo with Media Queries

<http://filamentgroup.github.com/Ajax-Include-Pattern/test/functional/media.html>

Live Example of this Pattern

<http://m.people.com>

JS To The Rescue: **Responsive Images**

Polyfill for <picture>

Picturefill (by @scottjehl)

<https://github.com/scottjehl/picturefill>

JS To The Rescue: Intelligent Loading

Only load needed CSS

eCSSential (by @scottjehl)

<https://github.com/scottjehl/eCSSential>

JS To The Rescue: Fun Stuff

fittext.js (by @paravel)
<http://fittextjs.com/>

fitvid.js (by @chriscroyier and @paravel)
<http://fitvidsjs.com/>

Lessons Learned

Lessons Learned

Pricing

Lessons Learned: Pricing

As much as 100% more, initially

Likely to be 50% more, soon after

Probably never less than 25% more



Lessons Learned

Prioritization

Lessons Learned: Prioritization



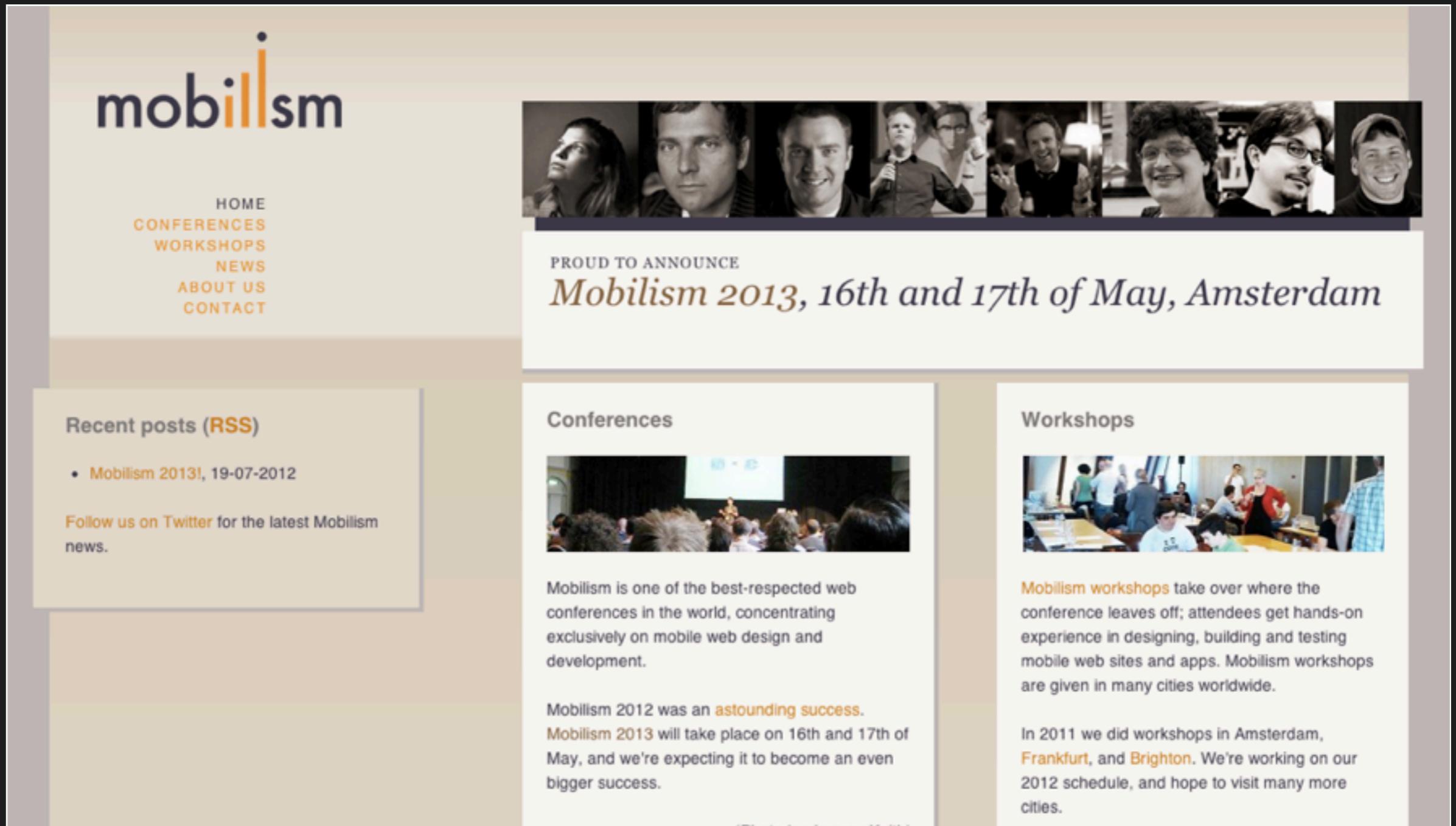
Lessons Learned: Prioritization



Lessons Learned: Prioritization



Lessons Learned: Prioritization



The screenshot shows the Mobilism website homepage. The header features the 'mobilism' logo with orange vertical bars through the 'o' and 'i'. Below the logo is a navigation menu with links: HOME, CONFERENCES (highlighted in orange), WORKSHOPS, NEWS, ABOUT US, and CONTACT. A banner at the top right announces 'PROUD TO ANNOUNCE *Mobilism 2013, 16th and 17th of May, Amsterdam*'. To the left, a sidebar has 'Recent posts (RSS)' with a link to 'Mobilism 2013!', and a 'Follow us on Twitter' link. The main content area has three columns: 'Conferences' (with a photo of a speaker on stage), 'Workshops' (with a photo of people at tables), and a summary of Mobilism 2012 and its success.

mobilism

HOME
CONFERENCES
WORKSHOPS
NEWS
ABOUT US
CONTACT

PROUD TO ANNOUNCE
Mobilism 2013, 16th and 17th of May, Amsterdam

Recent posts (RSS)

- [Mobilism 2013!](#), 19-07-2012

Follow us on Twitter for the latest Mobilism news.

Conferences



Mobilism is one of the best-respected web conferences in the world, concentrating exclusively on mobile web design and development.

Mobilism 2012 was an [astounding success](#). Mobilism 2013 will take place on 16th and 17th of May, and we're expecting it to become an even bigger success.

Workshops



[Mobilism workshops](#) take over where the conference leaves off; attendees get hands-on experience in designing, building and testing mobile web sites and apps. Mobilism workshops are given in many cities worldwide.

In 2011 we did workshops in Amsterdam, [Frankfurt](#), and [Brighton](#). We're working on our 2012 schedule, and hope to visit many more cities.

Lessons Learned: Prioritization



PROUD TO ANNOUNCE
*Mobilism 2013, 16th and
17th of May, Amsterdam*

Lessons Learned

Testing

Lessons Learned: Testing

You must test on real devices

Do your development in a webkit browser

Build libraries of your patterns



Lessons Learned

Consistency

Lessons Learned: **Consistency**

Familiarity breeds usability

Don't do crazy stuff just because you can

Users do resize their browser

http://seesparkbox.com/foundry/cross_width_consistency



Lessons Learned

Experimentation

Lessons Learned: Experimentation

Get into the browser quickly

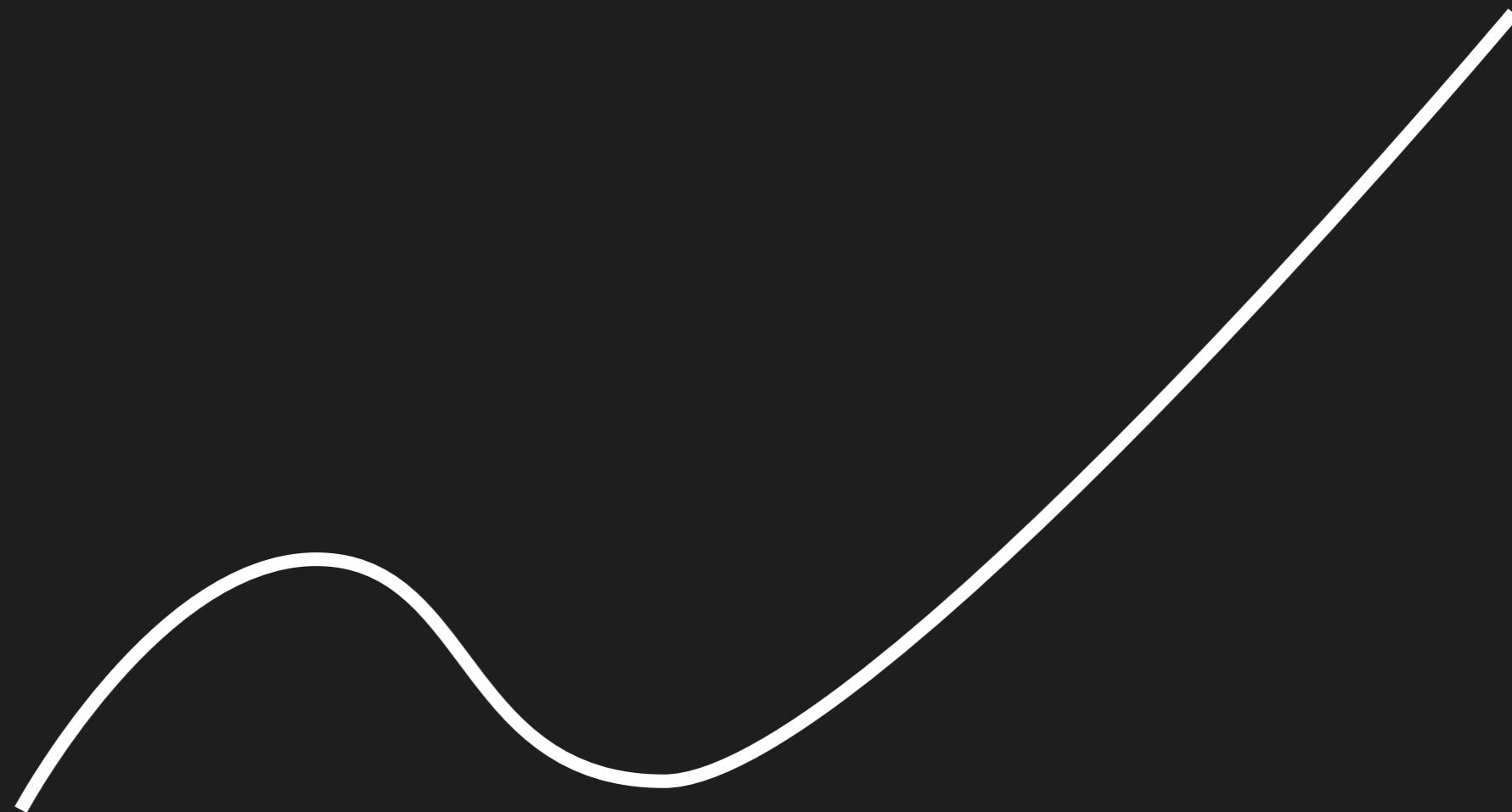
The inspector is your friend

What's Next in RWD

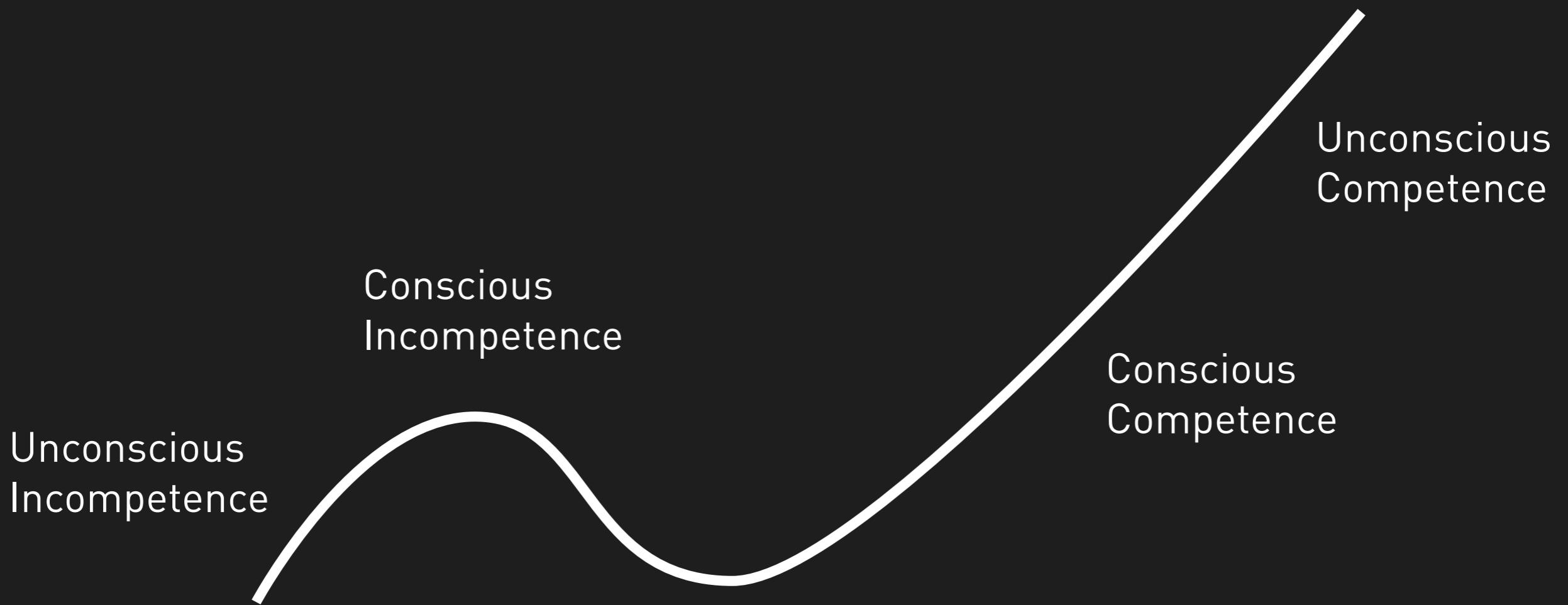


Thursday, December 6, 12

What's Next in RWD: The Dip



What's Next in RWD: The Dip



Stages of Competence

What's Next in RWD

The Responsive Dip

<http://bit.ly/MasqBk>

What's Next in RWD

The Responsive Mindset

What's Next in RWD

The Responsive Mindset

“The truly responsive design web designer wasn’t born until after the launch of the iPhone. We haven’t seen his or her work yet.”

Andy Clarke

<http://the-pastry-box-project.net/andy-clarke/2012-april-8/>

What's Next in RWD

Move **beyond** the technique

- Mobile first process
- Performance as a feature
- The server is our friend
- Modular content systems
- Content and functional priority



What's Next in RWD

Move the industry **forward**

- Apprenticeships
- Board of Advisors
- Experimentation

Thank You!

Ben Callahan President, Sparkbox
Frontend Masters November 16, 2012

<http://bit.ly/LWLTEA>