

# responsive design

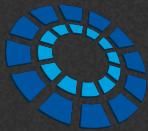


Planning + Execution + Management

With **B**OOTSTRAP 3

# me, myself, and i

who? Eric Carlisle

what? UI / UX Geek @  LOOKINGGLASS

where? Baltimore, MD

how?



JOHNS HOPKINS  
UNIVERSITY



DUKE  
ENERGY®

# Agenda

Planning : The Mobile-First Approach

Execution : Introduction to Bootstrap

Management : Workflow, Tooling, Caveats

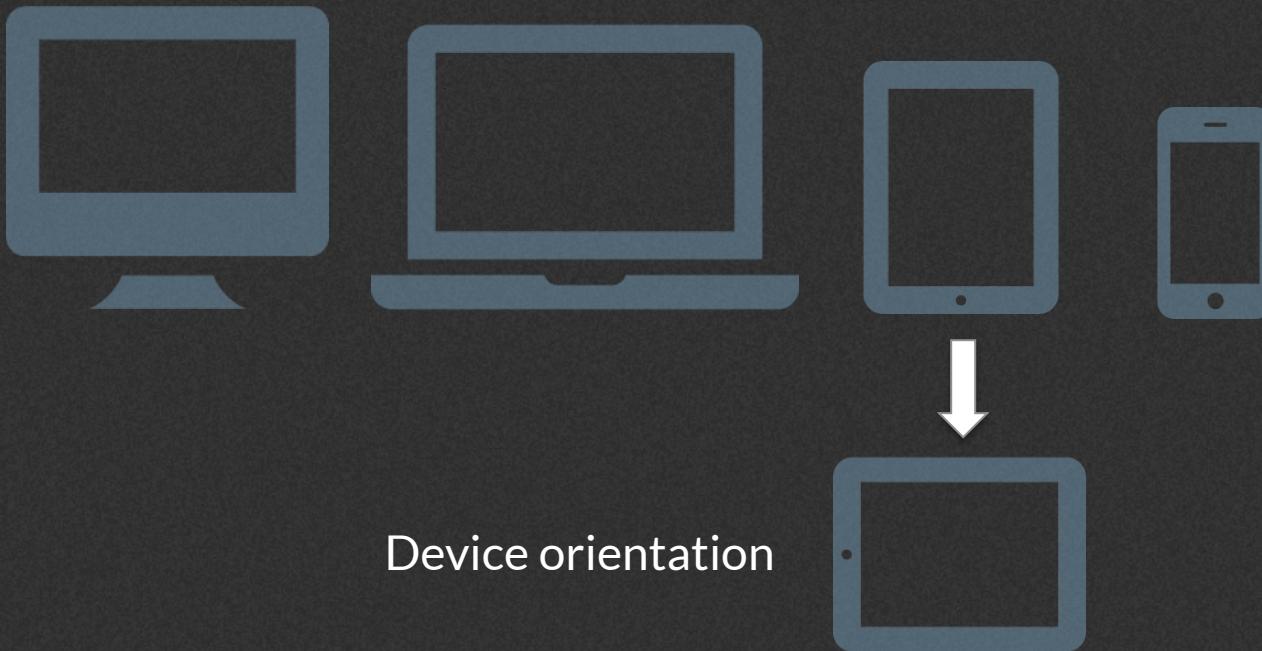
# responsive?

device type (screen width)



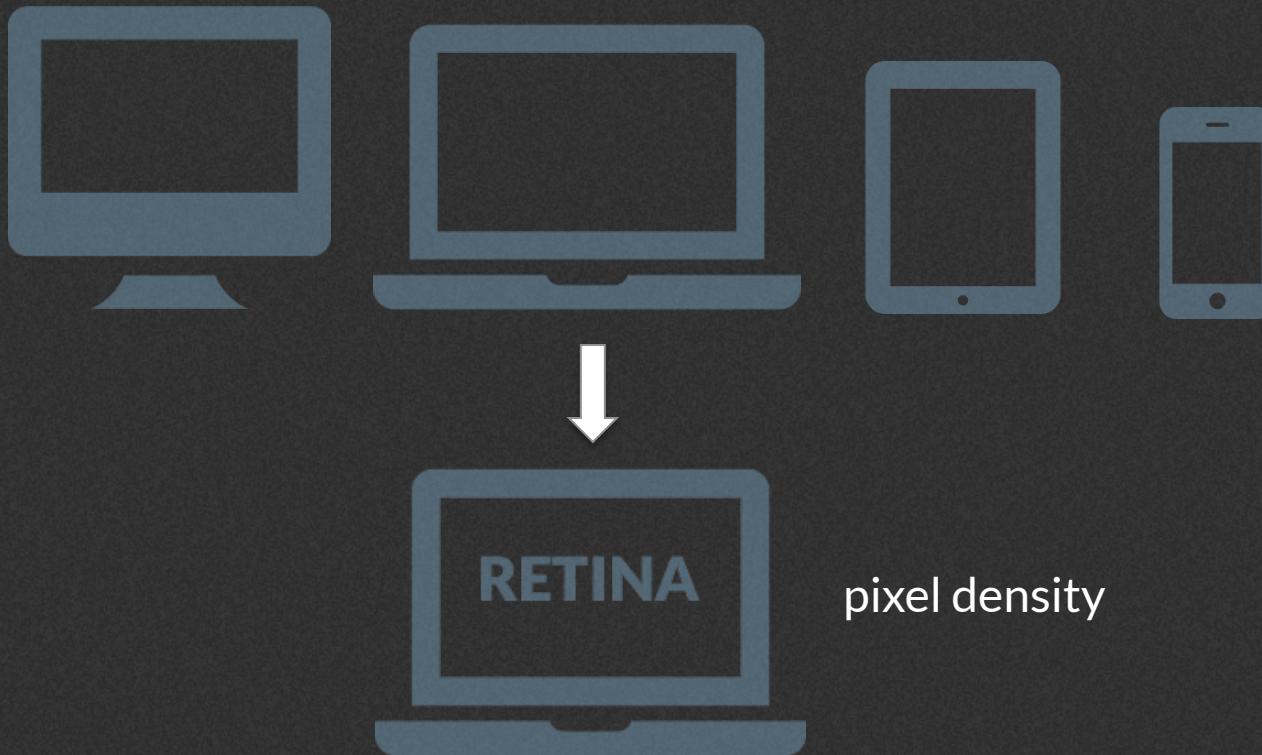
*Responsive to what?*

# responsive?



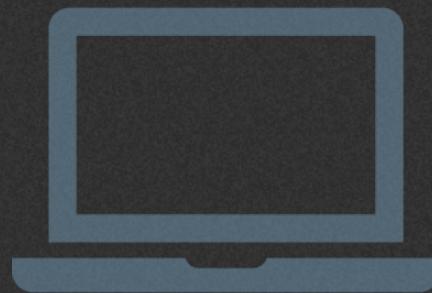
*Responsive to what?*

# responsive?



*Responsive to what?*

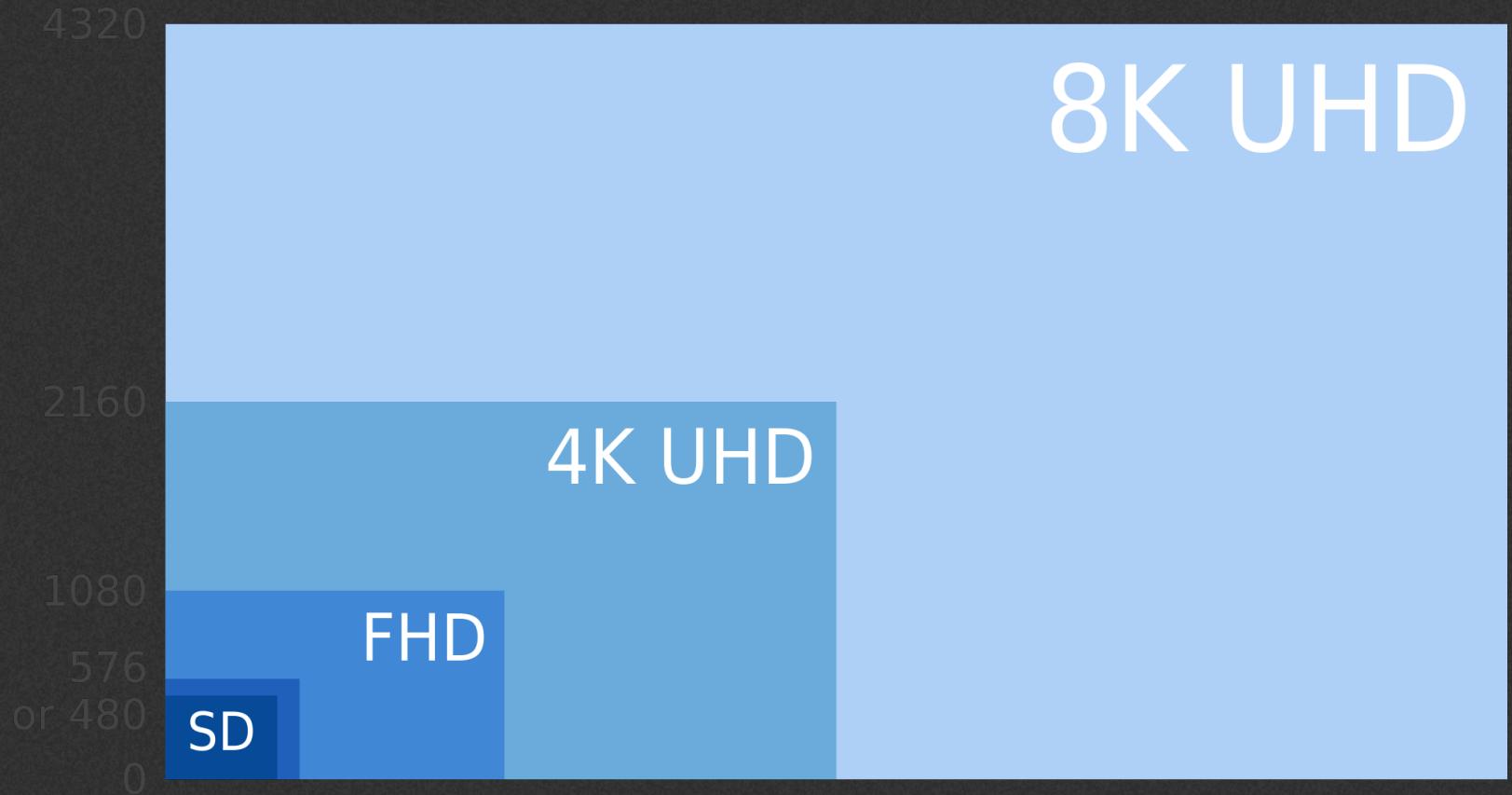
# responsive?



MUCH higher resolutions

*Responsive to what?*

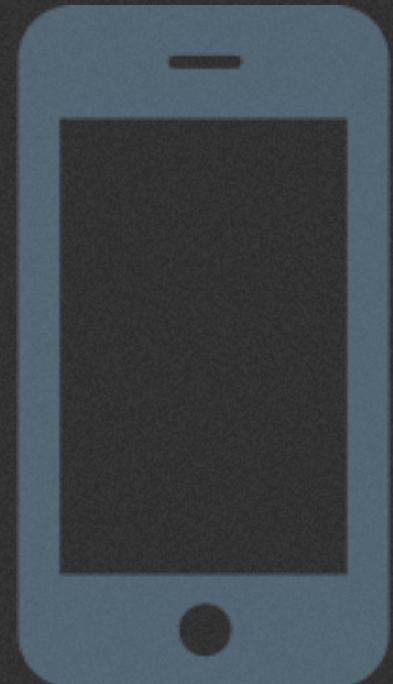
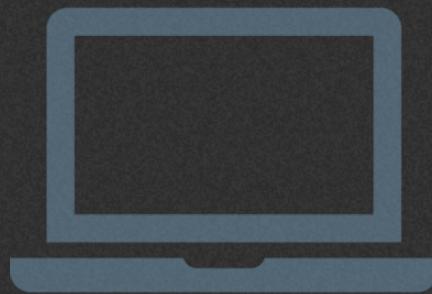
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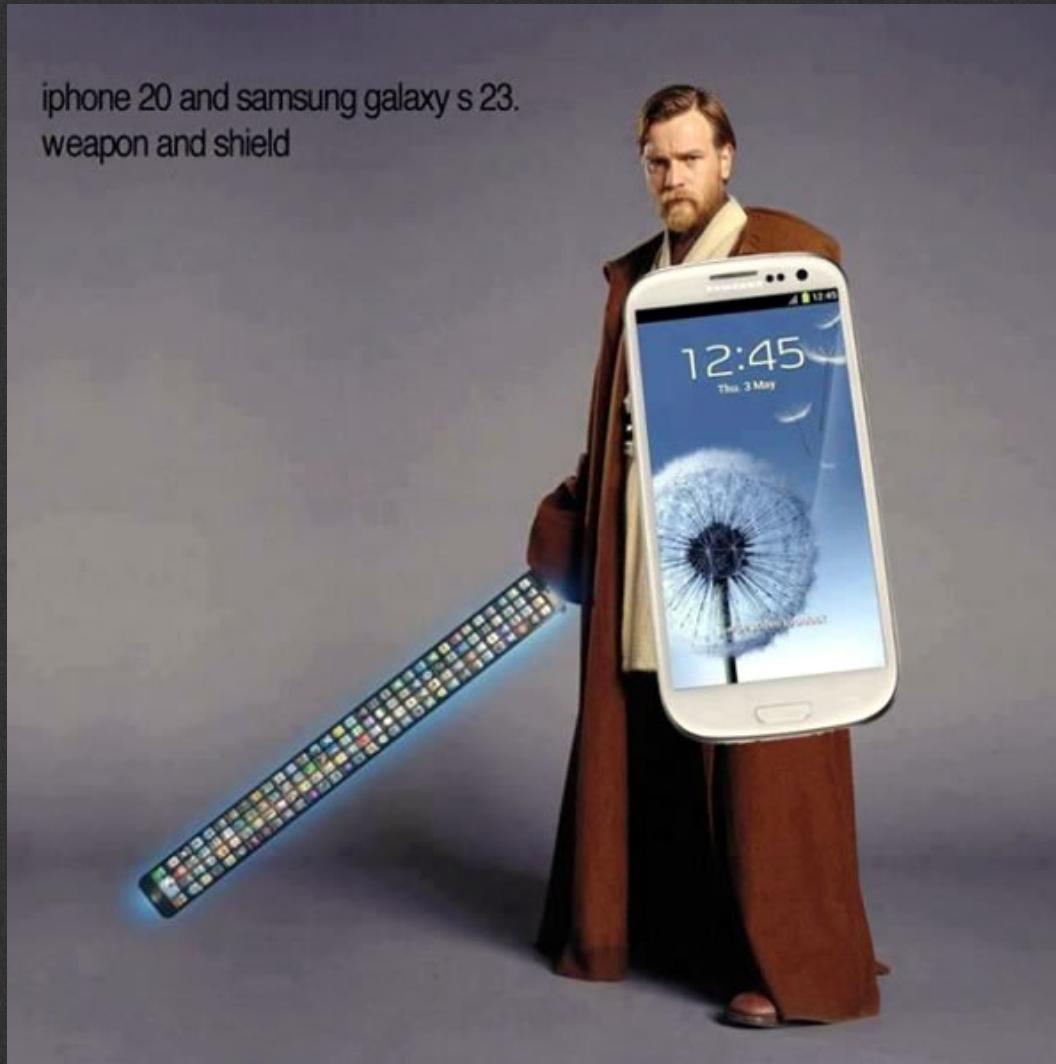


Phablets  
(Big-Ass Phones)



*Responsive to what?*

# responsive?

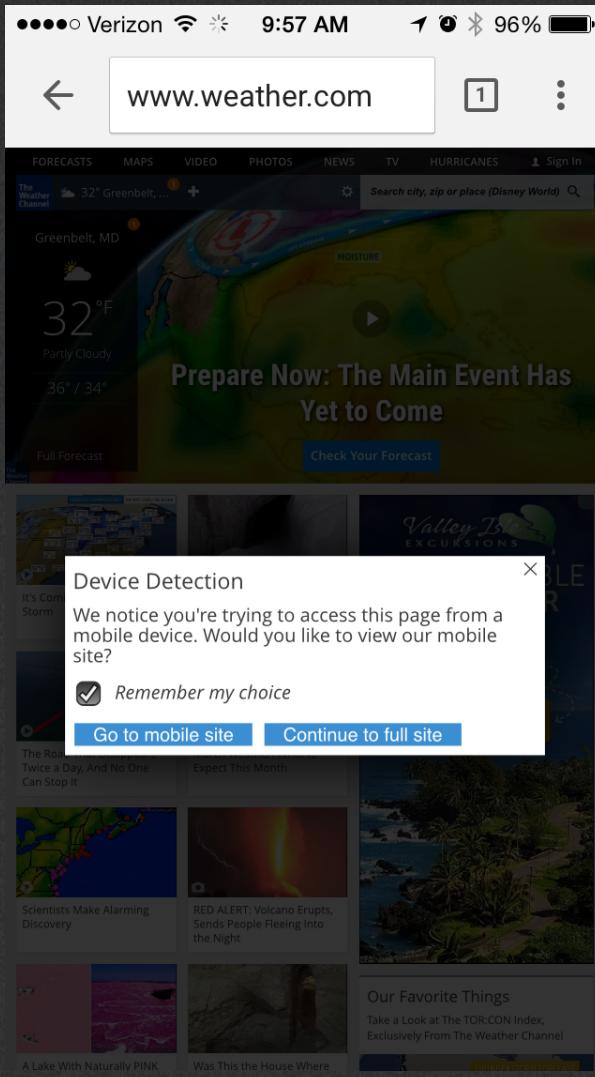


iphone 20 and samsung galaxy s 23.  
weapon and shield

# responsive?



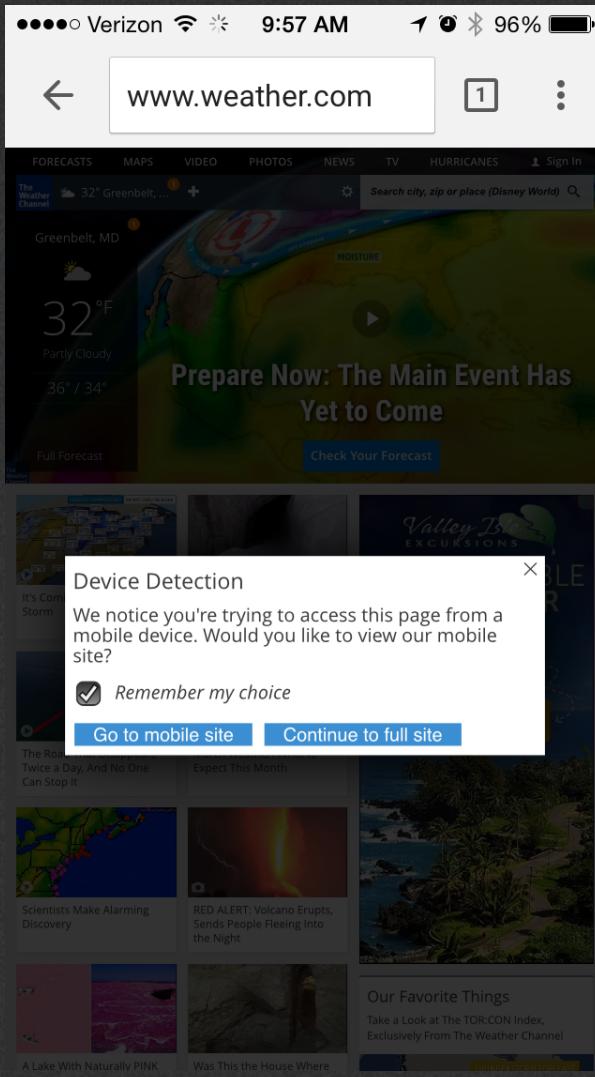
# responsive?



Why not just:

1. Detect mobile phone?
2. Navigate to mobile site?
3. Give option for “Desktop Version?”

# responsive?



Why not just:

1. Detect mobile phone?
2. Navigate to mobile site?
3. Give option for “Desktop Version?”

*Perhaps the desktop site is becoming a better default fit for (some) mobile?*

# responsive?



# IOT

the internet of things



# responsive?



# IOT

the internet of things



(...and is only reflects the consumer market)

# responsive?

*Responsive to WHAT NOT?*

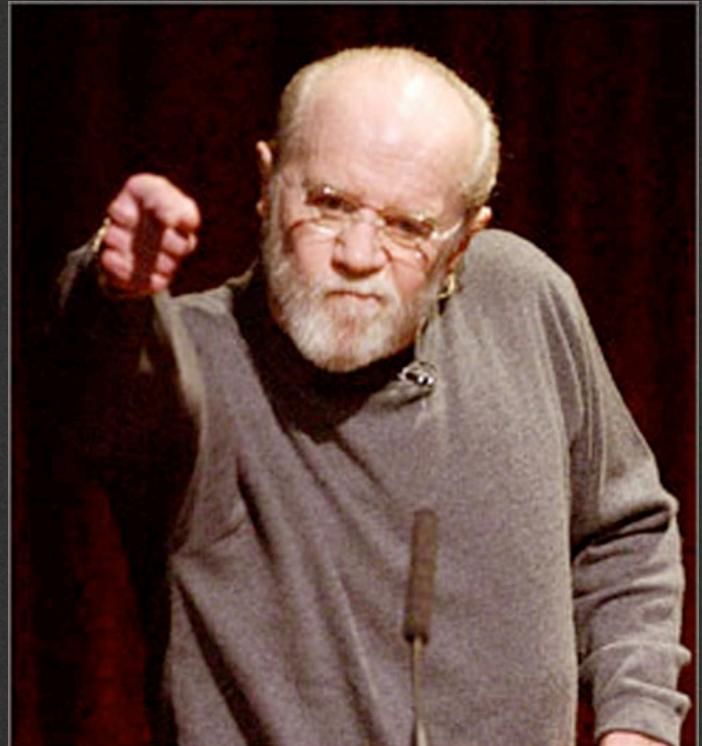


# planning

mobile first

Everyone says...

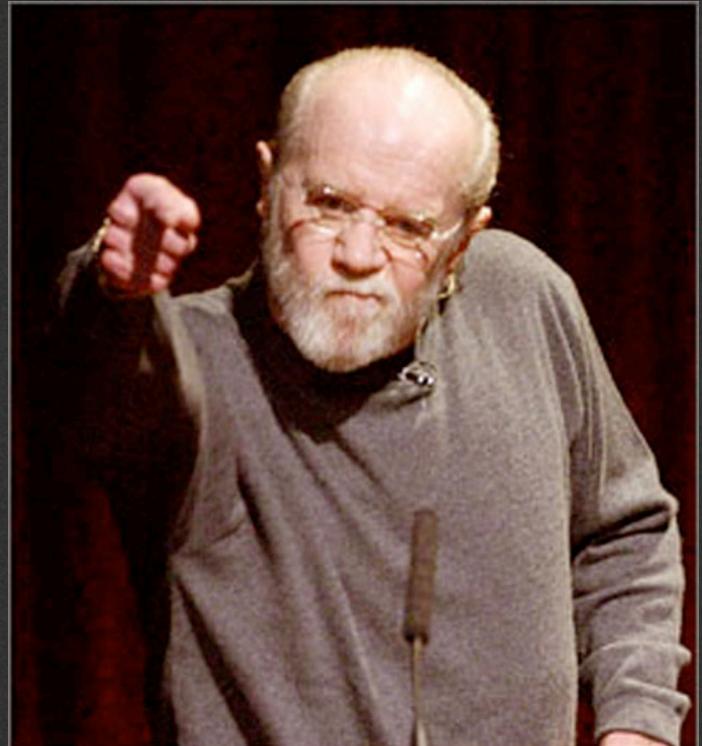
**FOCUS ON  
MOBILE!**



# mobile first

Everyone says...

# FOCUS ON MOBILE!



... and they're right!

(but not just because of the monstrous mobile market)

# mobile first – market forces

What percentage of web usage is mobile?

# mobile first – market forces

What percentage of web usage is mobile? **25%**

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What percentage of web usage is mobile? **25%**

What percentage of adult internet users own a smart phone?

# mobile first – market forces

What percentage of web usage is mobile? **25%**

What percentage of adult internet users  
own a smart phone? **80%**

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How many consumers worldwide own a smartphone?

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(2 billion by 2016)

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In the U.S., what percentage of web users are mobile-only?

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# mobile first

*“With the mobile market as it is, what other reasons do I need?”*

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Mobile-first methodologies encourage best practices for most types of web production.

# mobile first

*“With the mobile market as it is, what other reasons do I need?”*

Mobile-first methodologies encourage best practices for most types of web production.

Content Focus

Maintainability

Performance

# content focus

**CONTENT OUT**



**CONTENT FIRST**

Selective,  
prioritized  
content delivery.

• THIS IS THE MOST  
IMPORTANT  
THING I HAVE TO  
SAY.

# content focus

**CONTENT OUT**



**CONTENT FIRST**

Selective,  
prioritized  
content delivery.

THIS IS THE MOST  
IMPORTANT  
THING I HAVE TO  
SAY.

*How compelling can you make a  
story in the duration of an  
elevator ride?*

*How much more do you really get  
on a desktop?*

# content focus

*Though there's no competing with...*

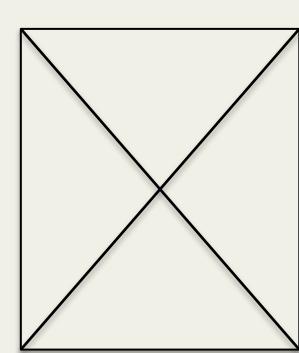


# content focus

**Lorem Ipsum is the enemy!**

# content focus

## Lorem Ipsum is the enemy!



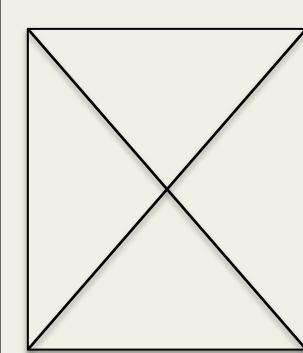
### **Lorem Ipsum**

Etiam ut lacus pulvinar, vulputate augue ac, gravida enim. Donec ac justo quis nisi suscipit sollicitudin. Mauris nec mi pretium, vulputate lacus in, gravida justo. Duis laoreet ipsum hendrerit cursus.

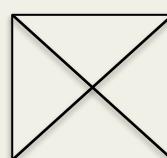
### **Posuere Massa**

Nam odio leo, lacinia in metus non, convallis elementum leo. Interdum et malesuada fames ac ante ipsum primis in faucibus. Quisque dapibus rhoncus dignissim. Class aptent taciti sociosqu.

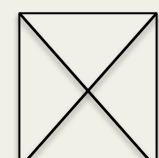
### **Henderit Cursus**



Fusce quis mauris id est tincidunt aliquet. Cras fringilla elit augue, vitae ornare turpis pharetra in. Donec vel ipsum non est viverra.



Fusce quis mauris id est tincidunt aliquet. Cras fringilla elit augue, vitae ornare turpis pharetra in. Donec vel ipsum non est viverra. Mauris dolor sapien, gravida vitae nisi ac, vestibulum laoreet arcu. Cras dapibus, metus porttitor sodales mollis, velit.



Praesent justo magna, vestibulum nec eleifend in, consectetur sit amet ex. Nulla elementum venenatis auctor. Phasellus vitae sem mollis, vulputate turpis non, cursus ante. Nullam mollis, urna dictum tincidunt porttitor, lectus mi fringilla orci, ac rhoncus augue libero quis odio. Etiam at iaculis erat. Praesent pharetra mattis mauris. Phasellus ut augue eleifend, rutrum sapien quis, lacinia turpis. Aliquam quis ornare quam.

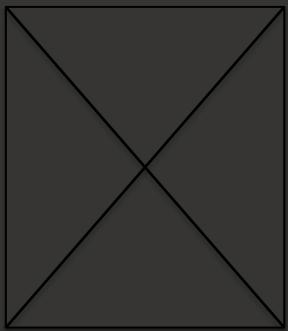


Cras fringilla elit augue, vitae ornare turpis pharetra in. Donec vel ipsum non est viverra faucibus. Mauris cursus bibendum nisi, ac egestas sapien euismod a. Vivamus erat mi, gravida ac vestibulum et, aliquam.

*What's going to happen?*

# content focus

## Lorem Ipsum is the enemy!

	<h3><b>Lorem Ipsum</b></h3> <p>Etiam ut lacus pulvinar, vulputate augue ac, gravida ipsum. Donec vel ipsum non est viverra. Mauris nec mi pretium, vulputate lacus in, gravida justo. Duis laoreet ipsum hendrerit cursus.</p>	<h3><b>Posuere Massa</b></h3> <p>Fusce quis mauris id est tincidunt aliquet. Cras fringilla elit augue, vitae ornare turpis pharetra in. Donec vel ipsum non est viverra. Mauris dolor sapien, gravida vitae nisi ac, vestibulum laoreet arcu. Cras dapibus, metus porttitor sodales mollis, velit.</p>	<h3><b>Henderit Cursus</b></h3> <p>Cras fringilla elit augue, vitae ornare turpis pharetra in. Donec vel ipsum non est viverra faucibus. Mauris cursus bibendum nisi, ac egestas sapien euismod a. Vivamus erat mi, gravida ac vestibulum et, aliquam.</p>
	<p>Praesent justo magna, vestibulum nec eleifend in, consectetur sit amet ex. Nulla elementum venenatis auctor. Phasellus vitae sem mollis, vulputate turpis non, cursus ante. Nullam mollis, urna dictum tincidunt porttitor, lectus mi fringilla orci, ac rhoncus augue libero quis odio. Etiam at iaculis erat. Praesent pharetra mattis mauris. Phasellus ut augue eleifend, rutrum sapien quis, lacinia turpis. Aliquam quis ornare quam.</p>		

*What's going to happen?*

# content focus



*What's going to happen?*

maintainability

Progressive Enhancement

*instead of*

Graceful Degradation

# maintainability

Progressive Enhancement

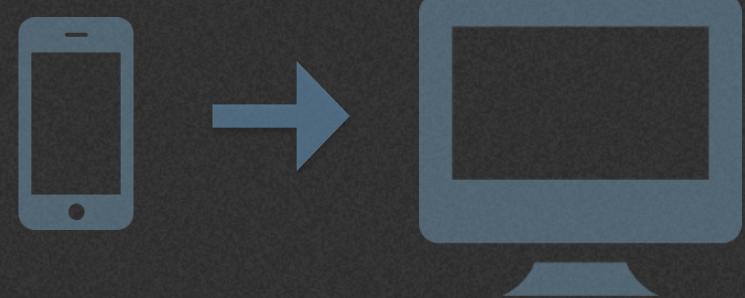
*instead of*

Graceful Degradation



Graceful Degradation

Control compatibility from complex to simple.  
(Subtractive)



Progressive Enhancement

Control compatibility from simple to complex.  
(Additive)

# maintainability

## Progressive Enhancement

*instead of*

## Graceful Degradation

Graceful degradation is  
often **much more**  
complicated than it  
would seem.



Progressive Enhancement

Control compatibility from simple to complex.

(Additive)

# performance

Performance on mobile is critical:

1. Short attention spans
2. Competing with the performance of the carrier
3. Mobile is less convenient than desktop

# performance

Performance on mobile is critical:

1. Short attention spans
2. Competing with the performance of the carrier
3. Mobile is less convenient than desktop

*Starting with mobile performance first makes us increasingly cognizant of performance for all devices.*

# Performance

**Load only what you need:**

- Media, libraries, frameworks
- Shrink, minify, optimize
- Less-expensive alternatives (CSS, SVG)
- Conditional loading
- Feature detection (Modernizr)
- TEST, TEST, TEST! (UI & UX)



execution

# bootstrap 3



## Awesomeness:

- Ease of use, quick ramp-up
- Fantastic grid system
- Customization
- Cross-browser consistent
- Components & Plugins
- Documentation & Community

# the bootstrap misconception

*“Every Bootstrap site looks the same.”*

This screenshot shows a template from the Bootstrap website. At the top, there's a navigation bar with links for 'Bootstrap theme', 'Home', 'About', 'Contact', and 'Dropdown'. Below the navigation is a large callout area with the text 'Hello, world!'. A small note below it says: 'This is a template for a simple marketing or informational website. It includes a large callout called the hero unit and three supporting pieces of content. Use it as a starting point to create something more unique.' A blue 'Learn more' button is at the bottom of this section. Below this is a section titled 'Buttons' containing five rows of different button styles: Default, Primary, Success, Info, Warning, Danger, and Link. Underneath the buttons is a section titled 'Thumbnails' showing a single placeholder image with the text '200x200'.

This screenshot shows another template from the Bootstrap website. It features a similar layout to the first one. At the top, there's a navigation bar with links for 'Project name', 'Email', 'Password', and a 'Sign in' button. Below the navigation is a large callout area with the text 'Hello, world!'. A small note below it says: 'This is a template for a simple marketing or informational website. It includes a large callout called a jumbotron and three supporting pieces of content. Use it as a starting point to create something more unique.' A blue 'Learn more' button is at the bottom of this section. Below this are three content cards, each with a heading ('Heading'), a short paragraph of text, and a 'View details' button. The first card's text is: 'Donec id elit non mi porta gravida at eget metus. Fusce dapibus, tellus ac cursus commodo, tortor mauris condimentum nibh, ut fermentum massa justo sit amet risus. Etiam porta sem malesuada magna mollis euismod. Donec sed odio dui.' The second card's text is: 'Donec id elit non mi porta gravida at eget metus. Fusce dapibus, tellus ac cursus commodo, tortor mauris condimentum nibh, ut fermentum massa justo sit amet risus. Etiam porta sem malesuada magna mollis euismod. Donec sed odio dui.' The third card's text is: 'Donec id elit non mi porta gravida at eget metus. Fusce dapibus, tellus ac cursus commodo, tortor mauris condimentum nibh, ut fermentum massa justo sit amet risus. Etiam porta sem malesuada magna mollis euismod. Donec sed odio dui.' At the bottom of the page, there's a footer with the text '© Company 2013'.

*They can, but...*

# the bootstrap misconception

- Use as much or as little as you need.
- Change the defaults to anything.

<http://getbootstrap.com/customize/>

# media queries

Conditional CSS for media types & features.

## Example Types:

- Screen
- Print
- Speech
- TV
- (All)

## Example Features:

- width (display, device)
- height (display, device)
- resolution
- orientation
- color

# media queries

## Example Formats:

```
@media screen and (min-width: 992px) {  
    /* CSS selectors */  
}
```

```
@media print {  
    /* Print selectors */  
}
```

```
@media (-webkit-min-device-pixel-ratio: 2)  
and (min-resolution: 192dpi) {  
    /* Retina selectors */  
}
```

# bootstrap 3 media queries

Mobile first uses “min-width”  
*(in most cases)*

```
@media (min-width: 768) { ... }
```

```
@media (min-width: 992) { ... }
```

```
@media (min-width: 1200px) { ... }
```

*Since we're mobile-first, all default styles are for the smallest targeted display.*

# Container, Row, Column

```
<div class="container">  
  <div class="row">  
    <div class="col-[size]-[count]"></div>  
  </div>  
</div>
```

*Enough slides already!  
Let's dig into code examples!*

# Offsets

```
<div class="container">  
  <div class="row">  
    <div class="col-[size]-[count]  
          col-[size]-offset-[count]">  
      </div>  
    </div>  
  </div>
```

*MOAR code examples!*

# utility class example – pulls

```
<div class="container">  
  <div class="row">  
    <div class="col-xs-12">  
      <div class="pull-left">Hello</div>  
      <div class="pull-right">World</div>  
    </div>  
  </div>  
</div>
```

*MOAR, MOAR code examples!*

# resets – columns & offsets

```
<div class="container">  
  <div class="row">  
    <div class="col-md-6 col-lg-3"></div>  
    <div class="col-md-6 col-lg-9"></div>  
  </div>  
</div>
```

*Wait for it...*

# resets – columns & offsets

```
<div class="container">  
  <div class="row">  
    <div class="col-md-6 col-md-offset-6"  
        "col-lg-3 col-lg-offset-9>  
      </div>  
    </div>  
  </div>
```

*Shazam! More Code!*

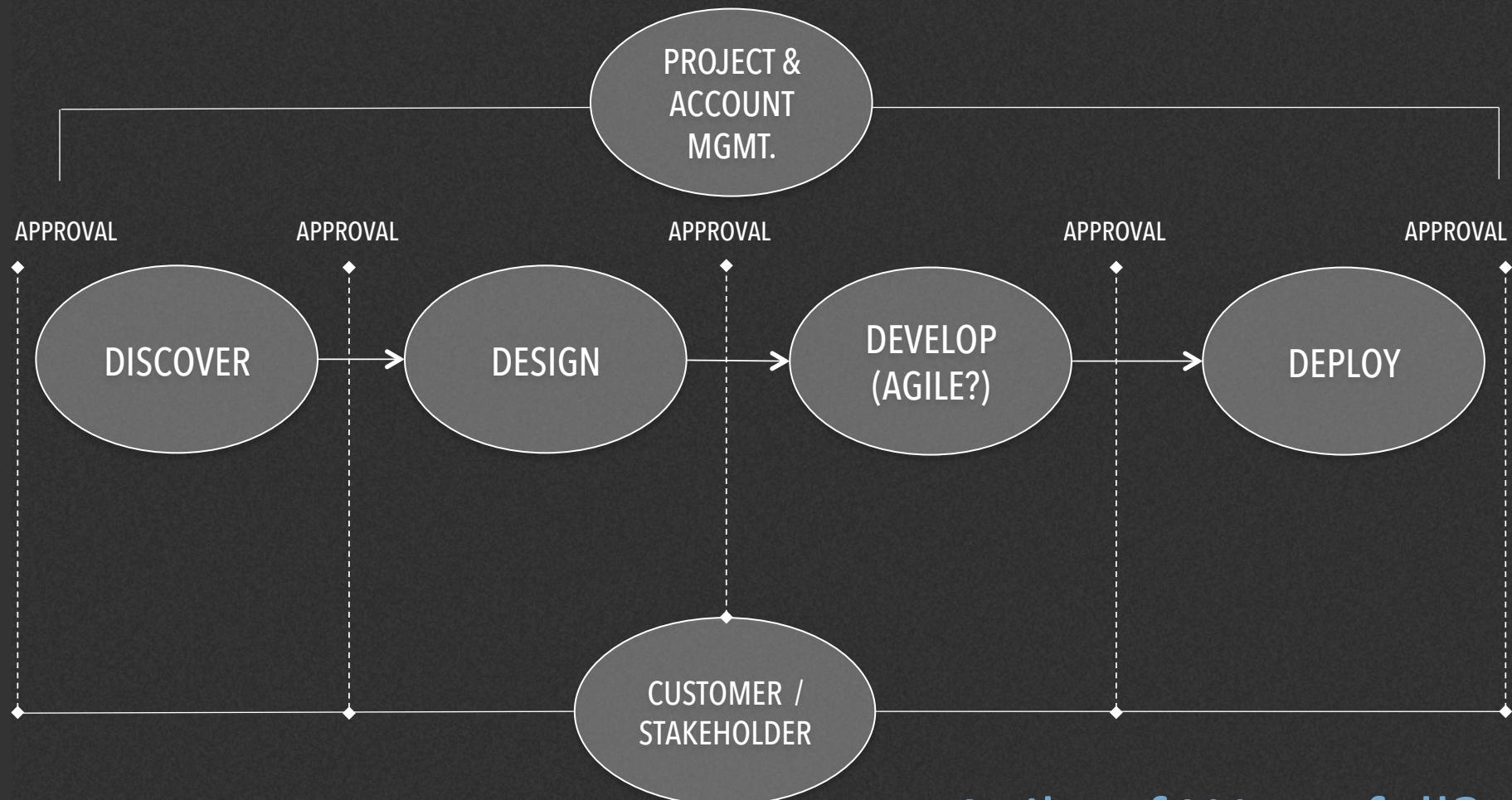


management

# responsive workflows

- No more silos or assembly lines.
- Smartly iterate over the production process.  
(Agile)
- Avoid premature fidelity.

# Eek, the traditional workflow!



Agile or Waterfall?

# Eek, the traditional workflow!

IT'S A  
WATERFALL!!

CUSTOMER /  
STAKEHOLDER



# responsive workflows

- Stay iterative, agile.
- This isn't easy!

## Risks:

- Beauocracy
- Work Injection
- Groupthink
- “Oops, we’re not actually agile.”

# responsive workflows

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# tools – CSS preprocessors



CSS can get big fast!

Keep it modular & manageable.

# tools – automation



Bower



NPM



Yeoman



Grunt



Gulp

# Testing!



Jasmine



*And many, many others!*

# responsive caveats

- Sometimes not the easiest sell to a client
- Contrary to the way we typically visualize
- Works better when starting from scratch
- Matching user expectation is trickier!
- Higher cost

# Questions?

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*Not very creative, is he?*