



CSS



HTML



Responsive CSS3 Built on HTML5

Presented by wesruv

MY BIAS

- UI/UX Designer and Front End Dev
- Degree in Illustration (not Computer Science)
- Started using HTML 16 years ago, CSS for 12
- I know just enough Javascript (JS) to be dangerous

OUTLINE



- What is Responsive Design
- Basic Concepts of Responsive Design
- HTML Meta Tags
- @Media
- CSS(3) Helpers
- Layout Tricks
- Image Tricks
- Troubleshooting

THE BIG PROBLEM



- Web is a fluid medium
- It's become more fluid with the amount of internet enabled devices
- Standards are slow, the world hasn't been

(checkout FutureFriendlyWeb.com for more)

Two main Front-End approaches



- **Responsive**

Layout page based on screen-size

- **Adaptive**

Change content & layout based on client/device/
screen detection

(Requires JS or Server-side language)

Adaptive is more involved, and great for special use cases, but not part of this presentation.

What can be solved in a responsive design web site?



- Differing screen sizes
- Differing pixel densities
- Mouse vs. Touch (with some JavaScript love)
- Fluid elements with rigid ratios (3x4, 6x8, 9x12, etc)
- Standard and Retina images

BASIC CONCEPTS



- Using the same HTML content, a good experience can be offered for different device/screen/interaction types
- `@media` screen size detection & fluid web site layout and are the most-used tools in responsive development
- Some device detection (using server-side language or JS) can inform functionality, layout and help solve bugs

MOUSE & TOUCH



- There is no hover on touch-only devices
- Often, mobile users will end up downloading more content than they need in a responsive site
- There are now touch laptops that also have mice
- Fingers aren't small, hit areas shouldn't be either
- For e-commerce, web apps or highly interactive sites, negotiations will be made to make an experience better for one device type and less good for another

WHEN WRITING CSS



- Avoid setting sizes in px
...except maybe an outer-most `<div>`
- As always, avoid writing overly-authoritative selectors. It bites harder in responsive.
- D.R.Y. `@media` is best `@media`
- Avoid overriding CSS in different `@media` rules
- Test. Test. Test! On actual devices when possible

MOBILE META TAGS



- **Viewport**

- Can enforce a site width

- Can enforce a zoom level (usually set to 1)

- Can set min-max zoom levels

- Can set site width to device width

- **HandheldFriendly**

- The older, simpler viewport tag, can be set to true!

Other meta tags to check out...



- **MobileOptimized**
Mobile IE Standard for mobile page size
- **apple-mobile-web-app-capable**
apple-mobile-web-app-status-bar-style
apple-touch-icon & apple-touch-icon-precomposed
Make your site prettier in iOS

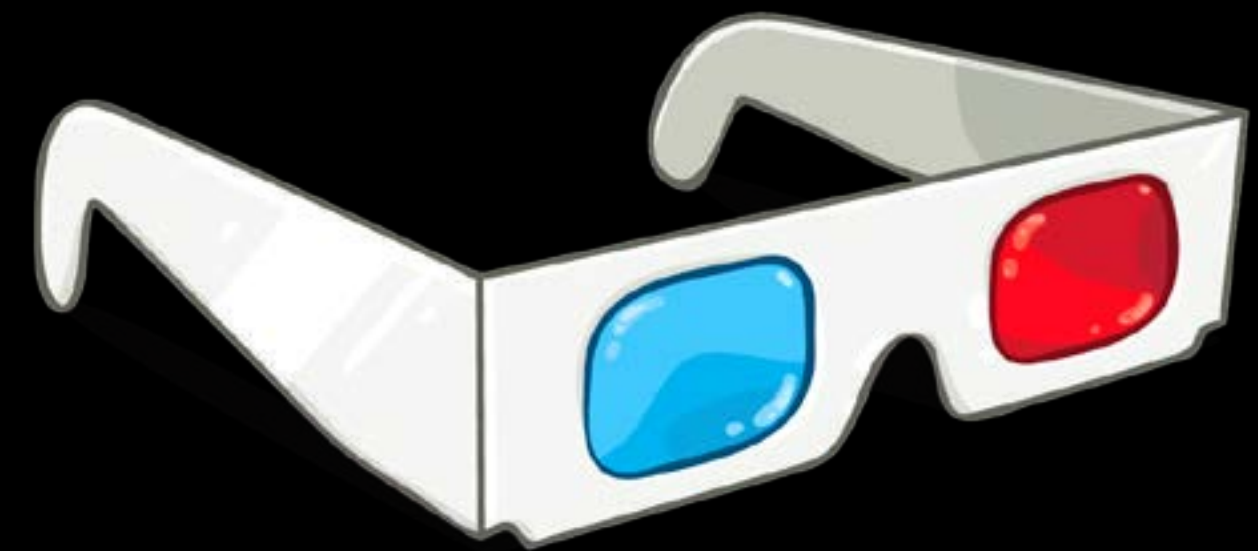
@MEDIA QUERIES



CSS that sets when certain styles should apply.

Rules can be based on:

- Media type (screen, print, aural, braille, handheld, projection, tty, tv & 3d-glasses)
- Viewport size (min and max sizes can be set)
- Pixel Density
- Orientation
- Aspect Ratio



Simple Screen & Print Example:



```
@media screen {  
  body {  
    width: 980px;  
  }  
  a {  
    text-decoration: none;  
  }  
}  
  
@media print {  
  body {  
    width: 100%;  
  }  
  a {  
    text-decoration: underline;  
  }  
}
```



Some more examples...



```
@media (min-width: 901px) {  
  // Larger than 901px styles  
}
```

```
@media (max-width: 900px) {  
  // Smaller than 900px styles  
}
```

```
@media (min-width: 401px) and (max-width: 900px) {  
  // Inbetween 401 and 900px wide  
}
```

```
@media (-webkit-min-device-pixel-ratio: 1.25), (min-resolution:  
120dpi) {  
  // 1.25 dpr styles  
}
```

@media Guidelines



- Plagiarize CSS frameworks for good guidelines!
Bootstrap is currently using:
< 480px, 768px, 992px, 1200px
Customize as needed
- To cover retina, make @media rules that set body font-size based on pixel density, make sure all other font-sizes inherit
- Inevitably there will be a few @media rules, keep that number low

CSS HELPERS



The tried, but true

- %
Good ole' fashioned fluid % sizing! It's based on parent elements sizing
- em
Based on font size of the current element, if it's put in font-size, it bases it on parent font-size
If font-size is 12px:
1em is 12px, 2em is 24px and .5em is 6px

CSS3 HELPERS



The new!

- rem (unit of measure)
Root EM, bases it's size in EM's on the EM of the `<body>` tag, not the parent element
- flexbox
vw, vh, vmin, vmax
Look these up (respectively), they're going to be game changers when they see better adoption and less bugs

CSS3 HELPERS



- `box-sizing: border-box;`
Remember how IE didn't add padding to width, but everyone else did? Well now it's a good thing, because you can make everyone* do it!



DEMO O'CLOCK

- Basic page layout demo:
<http://codepen.io/wesruv/pen/KukAh>
- Scaling on an aspect ratio:
<http://codepen.io/wesruv/pen/hindu>

SOURCES



FutureFriendlyWeb.com

CSS-Tricks.com by Chris Coyer

CSS Media Queries & Using Available Space

[/css-media-queries](#)

Retina Display Media Query

[/snippets/css/retina-display-media-query](#)

Responsive Web Design by Shay Howe

[learn.shayhowe.com/advanced-html-css/responsive-web-design](#)

A Comparison of Methods for Building Mobile-Optimized Websites

[http://sixrevisions.com/mobile/methods-mobile-websites](#)

Responsive design vs. adaptive delivery: Which one's right for you?

[http://venturebeat.com/2013/11/19/responsive-design-adaptive](#)

"Mobifying" Your HTML5 Site

[http://www.html5rocks.com/en/mobile/mobifying/#toc-meta](#)

Creating Intrinsic Ratios for Video

[http://alistapart.com/article/creating-intrinsic-ratios-for-video](#)