

# Responsive Web Design (RWD)

Building a single web site for the desktop,  
tablet and smartphone

An Infopeople Webinar

November 13, 2013

Jason Clark

Head of Digital Access & Web Services

Montana State University Library



pinboard.in tag

pinboard.in/u:jasonclark/t:rwd/

twitter as channel (#hashtag)

@jaclark #rwd

# Terms: HTML + CSS

Does everybody know what these elements are?

## CSS

- style rules for HTML documents

## HTML

- markup tags that structure docs
- browsers read them and display according to rules

# Overview

- What is Responsive Web Design?
- RWD Principles
- Live RWD Redesign
- Getting Started
- Questions



# Links and Anchors

A link is the connection between one piece of hypertext and another.

```
1 <title>Hypertext Links</title>
2 <h1>Links and Anchors</h1>
3 A link is the connection between one piece of
4 <a href=WhatIs.html>hypertext</a> and another.
```

# Responsive design = 3 techniques

1. Media Queries

2. A Fluid Grid

3. Flexible Images or Media Objects



# RWD Working Examples

HTML5 Mobile Feed Widget

[www.lib.montana.edu/~jason/files/html5-mobile-feed/](http://www.lib.montana.edu/~jason/files/html5-mobile-feed/)

Mobilize Your Site with CSS (Responsive Design)

[www.lib.montana.edu/~jason/files/responsive-design/](http://www.lib.montana.edu/~jason/files/responsive-design/)

[www.lib.montana.edu/~jason/files/responsive-design.zip](http://www.lib.montana.edu/~jason/files/responsive-design.zip)

Learn more by viewing source

OR

Download from [jasonclark.info](http://jasonclark.info) & [github.com/jasonclark](https://github.com/jasonclark)

# Media Queries

- switch stylesheets based on width and height of viewport
- same content, new view depending on device

```
@media screen and (max-device-width:480px) { ... mobile styles here... }
```

\* note “em” measurements based on base sizing of main body font are becoming standard (not pixels)

# Media Queries in Action

```
<link rel="stylesheet"  
type="text/css" media="screen and  
(max-device-width:480px) and  
(resolution: 163dpi)"  
href="shetland.css" />
```

**Responsive Web Design, Ethan Marcotte**

<http://www.alistapart.com/articles/responsive-web-design>

# Define the Breakpoints

- 3 major breaks

480 / 768 / 1024

# Define the Breakpoints

- 3 major media query rules

< 480

< 768

> 768

# A Fluid Grid

- Create Flexible Layouts with Relative Sizing

~~| 200 px | 300 px | 800 px |~~

| 15.38% | 23.07% | 61.5384% |

# Box Sizing

Set how the browser calculates the width of an element to include (or not include) padding, borders, and margins

```
div.doc {  
    width: 200px;  
    padding: 0 30px;  
    -webkit-box-sizing: border-box;  
    -moz-box-sizing: border-box;  
    box-sizing: border-box;  
}
```

# Flexible Images & Media

- Adaptive Sizing

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

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



# Flexible Images & Media ...

- Adaptive Sizing

```
<div class="video-container">  
<iframe src="http://player.vimeo.com/video/6284199?  
title=0&byline=0&portrait=0" width="800" height="450"  
frameborder="0"></iframe>  
</div>
```

```
.video-container {position:relative;padding-bottom:  
56.25%;padding-top: 30px;height:0;overflow:hidden;}  
.video-container iframe {position:absolute;top:0;left:  
0;width:100%;height: 100%;}
```

# Ensure Device Screen Size

- meta viewport tag in <head>

```
<meta name="viewport"  
content="width=device-  
width, initial-scale=1">
```

# Linearize Layout for Mobile

- Turn all block level elements into full width to create single column layout

`width -> 100%`

# Hide Non-Essential Content

- As screen sizes shrink, remove elements from view
- Apply a `.hide` class

```
@media screen and (max-width:480) {  
  .hide {display:none;}  
}
```

# RWD Gotchas

- Hidden page weights
- Be lean with your markup
- Minify if performance bottleneck

# Minification + Optimization

Removing unnecessary characters and spacing from code to reduce size, and optimizing the code to improve load times

Minify

[www.cleancss.com](http://www.cleancss.com)

Optimize

[csstidyonline.com](http://csstidyonline.com)

# What Type of Support?

- see "When can I use..."
  - <http://a.deveria.com/caniuse/>
- Mobile browsers leading the way
- Modernizr
  - <http://www.modernizr.com/>
- HTML5 enabling script
  - <http://remysharp.com/2009/01/07/html5-enabling-script/>

# RWD Tools

- Twitter Bootstrap  
[twitter.github.io/bootstrap/](https://twitter.github.io/bootstrap/)
- Responsify  
[responsify.it/](https://responsify.it/)
- 960 Grid System  
<http://960.gs/>



# Resources

- HTML5 & CSS3 Cheat Sheets
  - [webresourcesdepot.com/html-5-and-css3-cheat-sheets-collection/](http://webresourcesdepot.com/html-5-and-css3-cheat-sheets-collection/)
- HTML5 Boilerplate
  - <http://html5boilerplate.com/>
- HTML5rocks
  - [html5rocks.com](http://html5rocks.com)
- HTML5 Please
  - [html5please.com/#use](http://html5please.com/#use)

# Next version of RWD = Flexbox

- A flexible box model?

```
body>div#main {  
  display: -webkit-flexbox;  
  display: -moz-flexbox;  
  display: -ms-flexbox;  
  display: -o-flexbox;  
  height: 500px;  
  padding: 1em;  
  background-color: gray;  
}
```

# Live RWD redesign

Taking off the training wheels....

# RWD in Libraries

- Matthew Reidsma  
matthew.reidsrow.com  
@mreidsma
- Brad Czerniak  
brad.hawidu.com  
@ao5357

11 12 13 14 15 16 17 18 19 20 Copyrighted Material

## THE TECH SET

Ellyssa Kroski, Series Editor

# #12

# Building Mobile Library Applications



Jason A. Clark

LIBRARY AND INFORMATION TECHNOLOGY ASSOCIATION  
Copyrighted Material



# Questions?

[twitter.com/jaclark](https://twitter.com/jaclark)

[www.lib.montana.edu/~jason/talks.php](http://www.lib.montana.edu/~jason/talks.php)



Infopeople webinars are supported in part by the U.S. Institute of Museum and Library Services under the provisions of the Library Services and Technology Act, administered in California by the State Librarian. This material is licensed under a Creative Commons 3.0 Share & Share-Alike license. Use of this material should credit the author and funding source.