

Responsive Design & APEX

Dimitri Gielis



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About me



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Dimitri Gielis Blog (Oracle Application Express - APEX)
I created this Blog to share my knowledge especially in Oracle Application Express (APEX) and my feelings ...

SUNDAY, JUNE 24, 2012

My view on APEX 4.2 EA (ready to test)

Things have been busy lately... now being at the ODTUG KScope 2012 conference I'll take the opportunity to do some more tweets and blog posts.

The last week the Oracle APEX Development team made a public APEX 4.2 EA available. You find it on <https://apexea.oracle.com/index.htm>
You may also want to read [this post](#) to find more details about availability etc.

So what is new in APEX 4.2?

You find a description of all the new features [here](#).

The top 3 biggest things for me are around:

- Mobile development
- HTML5 (themes, items, charts)
- Packaged applications

I'll go into more detail in some other blog posts later, but here are already some teasers.

1) [An APEX app](#) build by [Marc Sewtz](#), it shows what you can build with the new Mobile Wizards in APEX 4.2.



My next public appearances:

- ORUG Health SIG: 19th June 2012
- ODTUG KScope: 24/28-JUN-2012
- Oracle Open World: 30/4-OCT-2012

About Me

[Dimitri Gielis](#)

The views expressed are my own. The views and opinions expressed by visitors to this blog are theirs and do not necessarily reflect mine.

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- [G&G Design](#)

Tools

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Challenges of the Web



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Please Stand Up!

The **Web** today...

Different devices?



Different platforms?

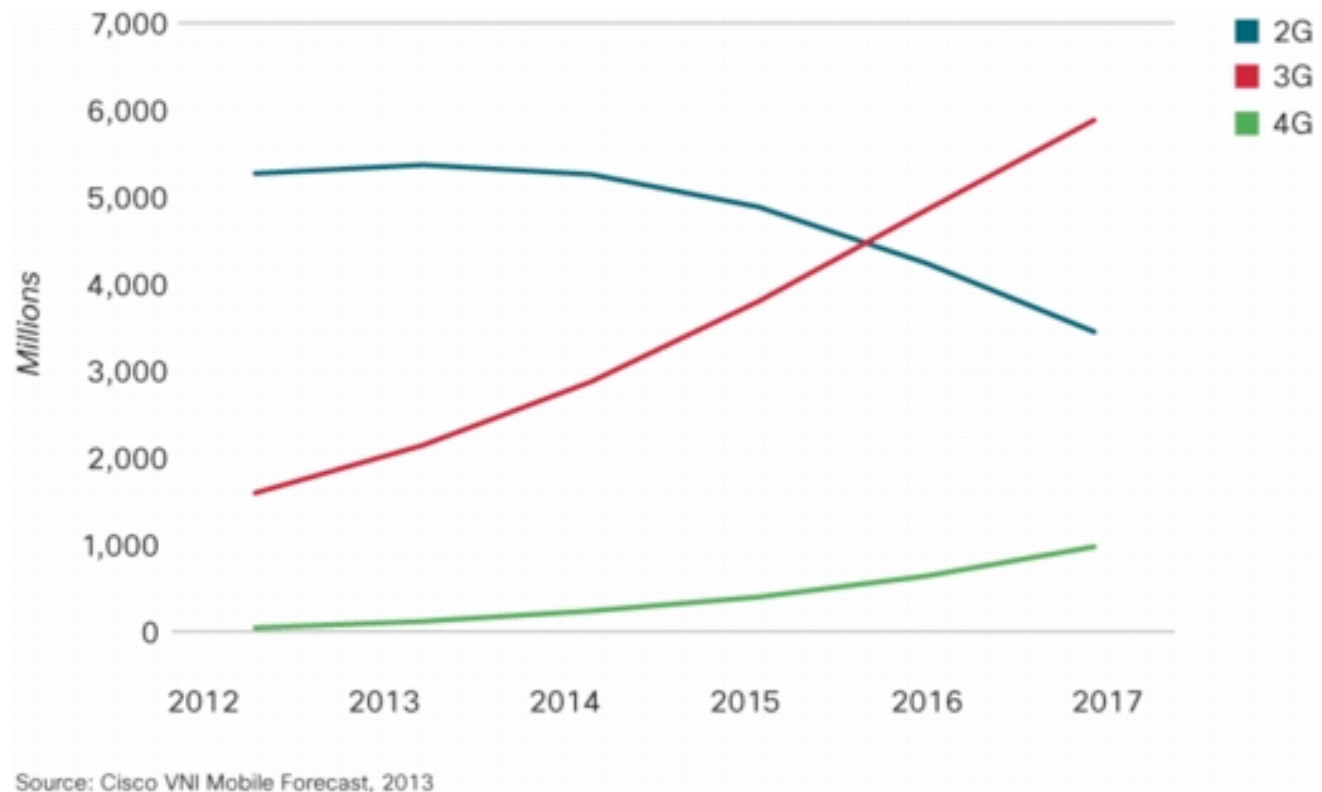
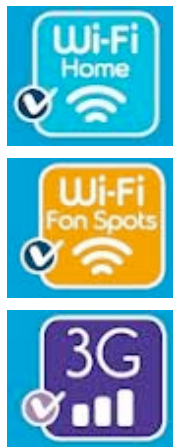


...

Different browsers?

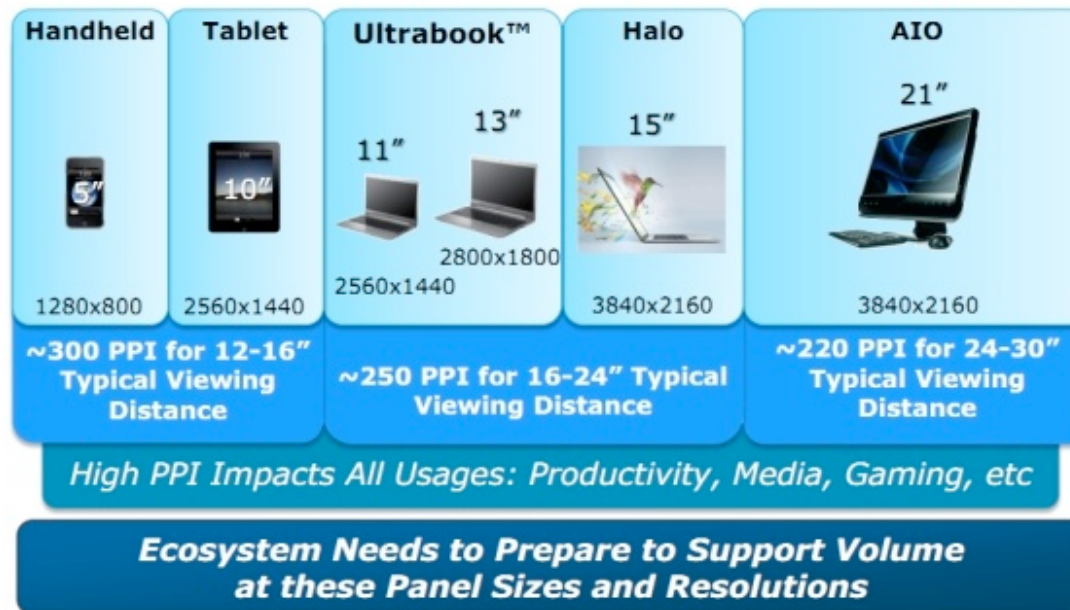


Different connection speeds?

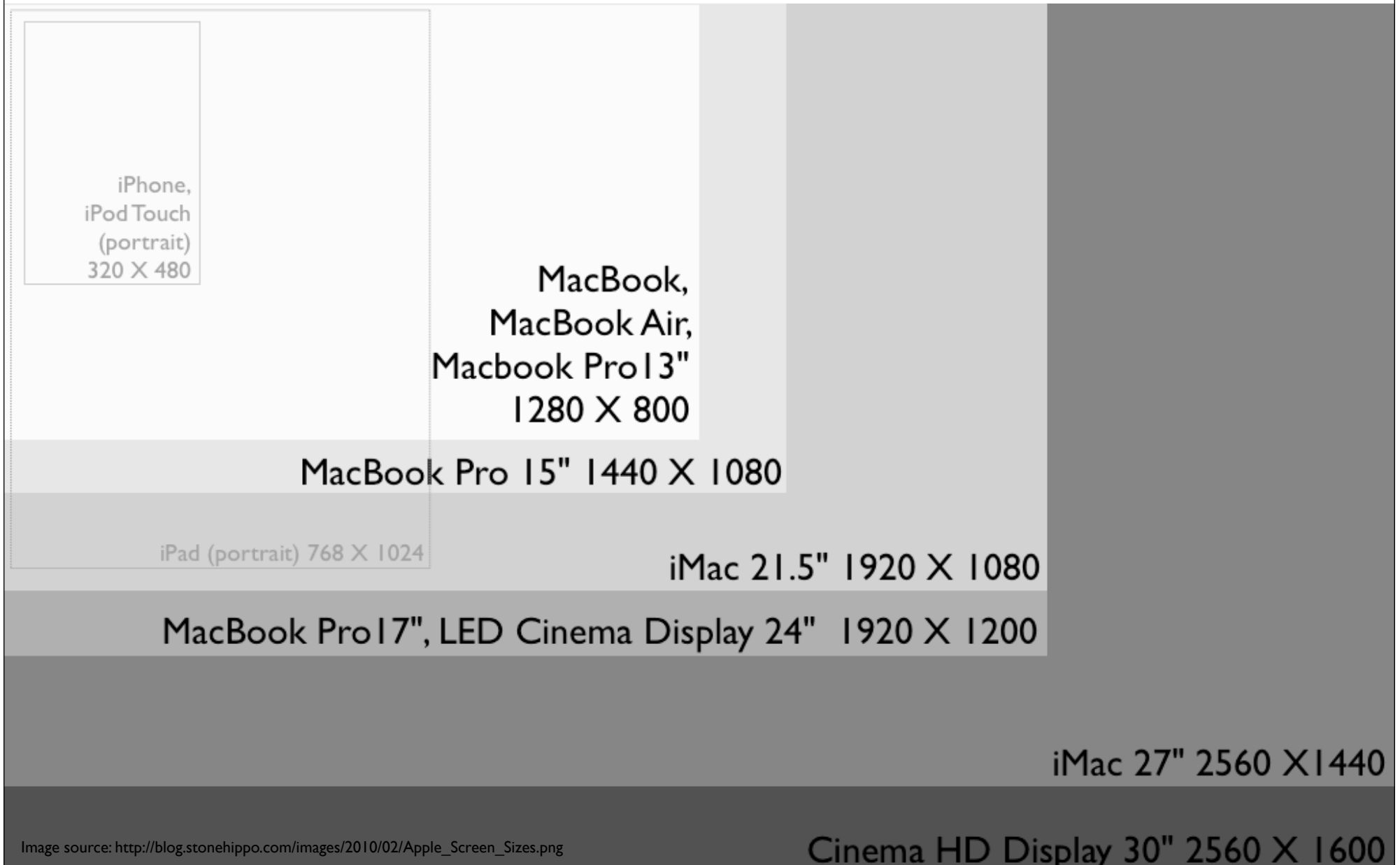


Different resolutions?

2013+ Rich Displays: High Pixel Density



Different screen sizes?



Who's still standing?

The **Web** tomorrow...



“The total number of people using the web on mobile devices is set to surpass desktops by 2015” source: idc.com

“CIO #2 Priority is Mobile technologies” source: Gartner.com

How to address those challenges?



Responsive **Web** Design (RWD)?

Ethan Marcotte introduced the term responsive web design (RWD) in a May 2010 article in A List Apart.

“Responsive web design (RWD) is a web design approach aimed at crafting sites to provide an **optimal viewing experience** - easy reading and navigation with a minimum of resizing, panning, and scrolling - **across a wide range of devices”**

source: http://en.wikipedia.org/wiki/Responsive_web_design

Example Of Biggest RWD Impl.

Get a baseball season of savings - Enjoy BostonGlobe.com for just \$1.01/week.

Time remaining for sale:

13 42 39

HOURS MINUTES SECONDS

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MONDAY, APRIL 8, 2013

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MAGAZINE

INSIDERS

TODAY'S PAPER

MY SAVED

DAN SHAUGHNESSY | RED SOX VS. ORIOLES, 2:05 P.M.

Red Sox clicking as they open at Fenway today

The winning Red Sox have made good on their winter pledges and they come home with heads high and infinite promise.



INTERACTIVE GRAPHIC

Explore the Red Sox clubhouse inside Fenway Park

It's a relatively small space where players, coaches, reporters and clubhouse workers all collide.

• **Graphic: Anatomy of the Green Monster**

Margaret Thatcher, Britain's 'Iron Lady,' dies

Lady Thatcher, whose 11 1/2 years as prime minister transformed British society as much as it did British politics, died of a stroke. **2:22 pm**



HULTON ARCHIVE

SLIDE 1 OF 8

Charter school demand in Mass. disputed

A state tally showing more than 53,000 students on charter school waiting lists is overstating



Today's Circulares →



Home Depot USA
Expires this Wednesday



Menards
Brand New Flyer



Ame
Furn

[MORE CIRCULARES →](#)

Example Of APEX RWD Impl.

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Empower People

Realize the power of your employees

[Human Capital Management](#)



Boost Sales

Maximize revenues and engage customers

[Sales and Marketing](#)

Others RWD – [Http://mediaqueries.es](http://mediaqueries.es)

Media
Queries

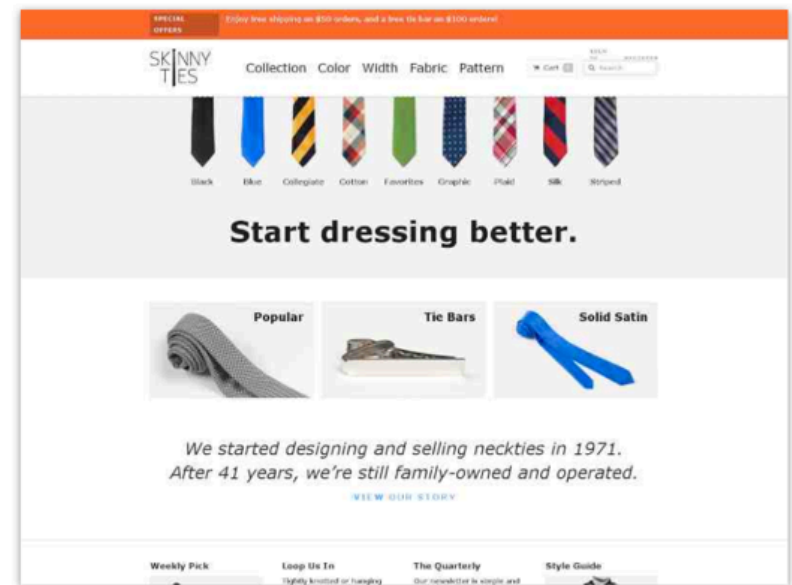
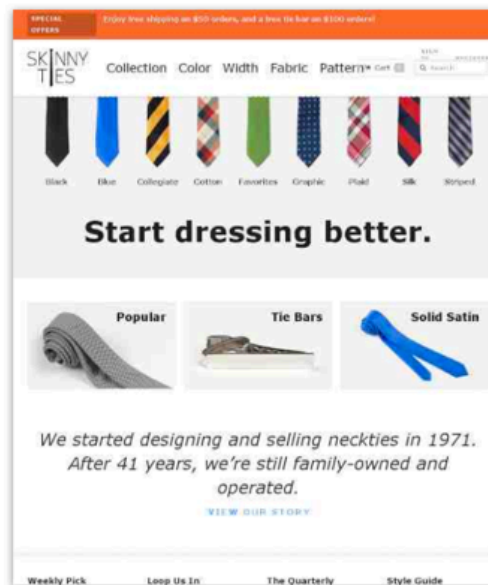
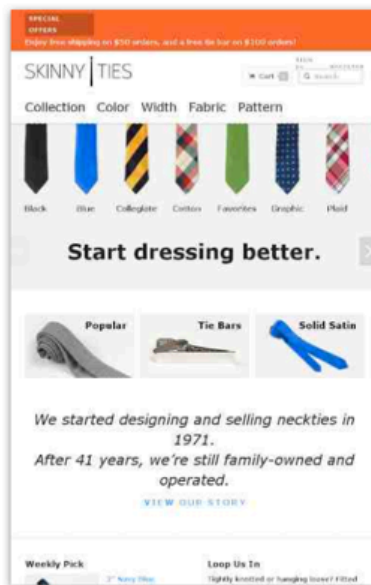
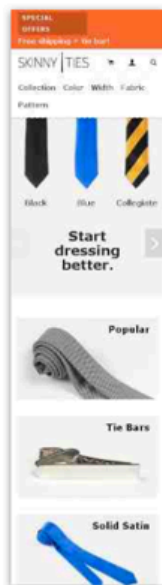
WordPress Hosting
No Hassle Hosting you and
your clients can turn on and
forget about.

WP Engine

via Ad Packs

Skinny Ties

14



RWD Examples

DEMONSTRATION



Why RWD (vs Mobile Specific)

- One url
- One set of markup
- One deployment
- Future friendly



Elements Of RWD

- Media Queries
 - different CSS based on characteristics of the device
- Fluid/Adaptive Grids
 - 
- Flexible Media (images & video)
 - sized relative to element



Media Queries

- Define styles based on conditions
- Set breakpoints depending the design (not the device!)

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

```
@media only screen and (min-width: 768px)  
and (max-width: 959px){ ... }
```

```
@media only screen and (min-width: 480px)  
and (max-width: 767px){ ... }
```



Fluid/Adaptive Grids

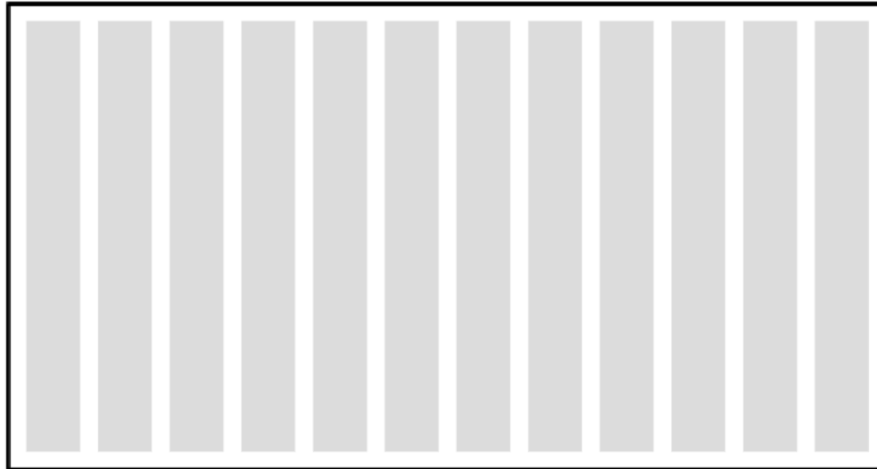
- TARGET ÷ CONTEXT = RESULT
- APEX 4.2.1 Grid (responsive_grid.css)

```
}_@media only screen and(min - width: 960px) and(max - width: 1024px) {.apex_grid_container {  
    width: 948px  
    }.apex_span_1 {  
        width: 67px  
    }.apex_span_2 {  
        width: 146px  
    }.apex_span_3 {  
        width: 225px  
    }.apex_span_4 {  
        width: 304px  
    }.apex_span_5 {  
        width: 383px  
    }.apex_span_6 {  
        width: 462px  
    }.apex_span_7 {  
        width: 541px  
    }.apex_span_8 {  
        width: 620px  
    }.apex_span_9 {  
        width: 699px  
    }.apex_span_10 {  
        width: 778px  
    }.apex_span_11 {  
        width: 857px  
    }.apex_span_12 {  
        width: 936px  
    }  
}_@media screen and(min - width: 1260px) and(max - width: 1419px) {.apex_grid_container {  
    width: 1248px  
    }.apex_span_1 {  
        width: 92px
```

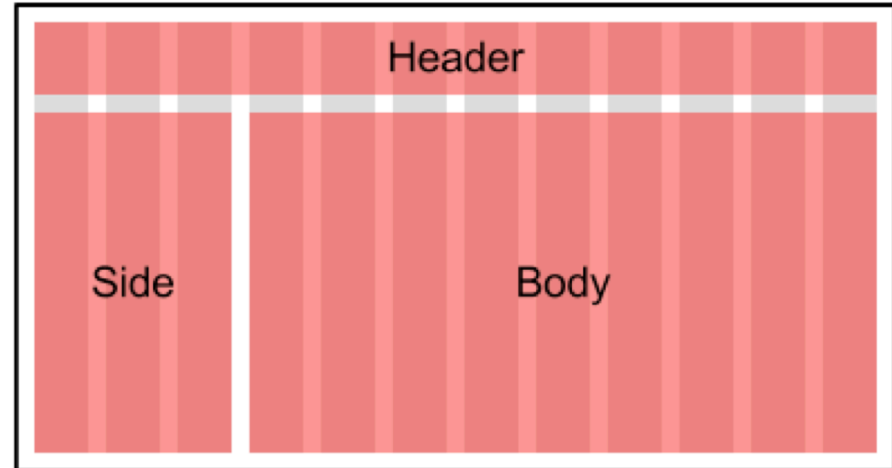


APEX Grids

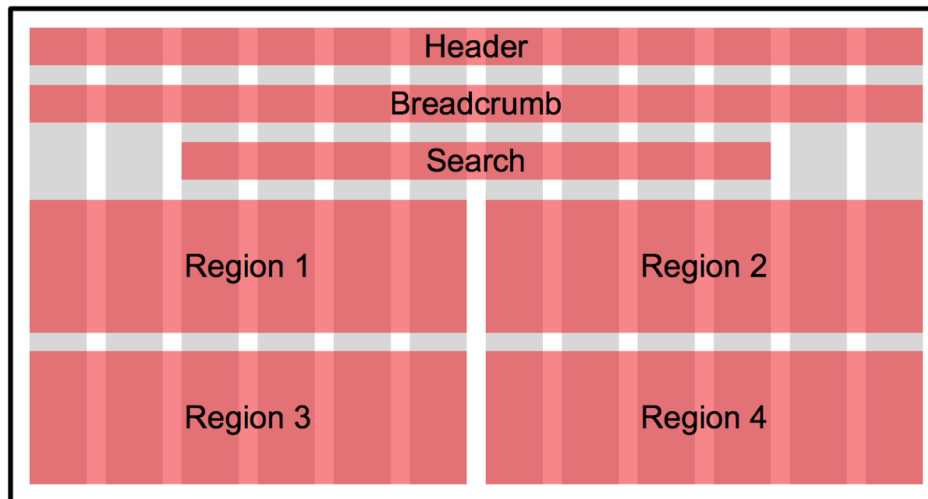
Page with a 12-column Grid Layout



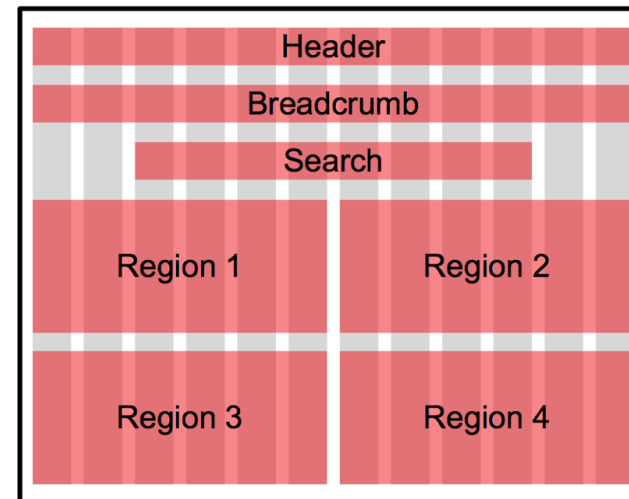
Page Components Positioned on Grid



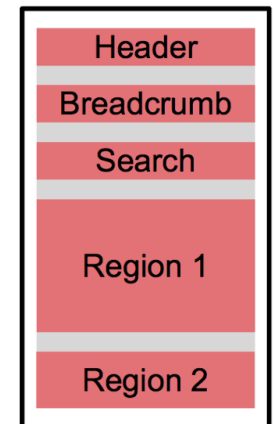
Desktop



Tablet



Mobile



Flexible Media

- CSS: max-width to the rescue

```
embed, object, img {  
    max-width: 100%;  
}
```

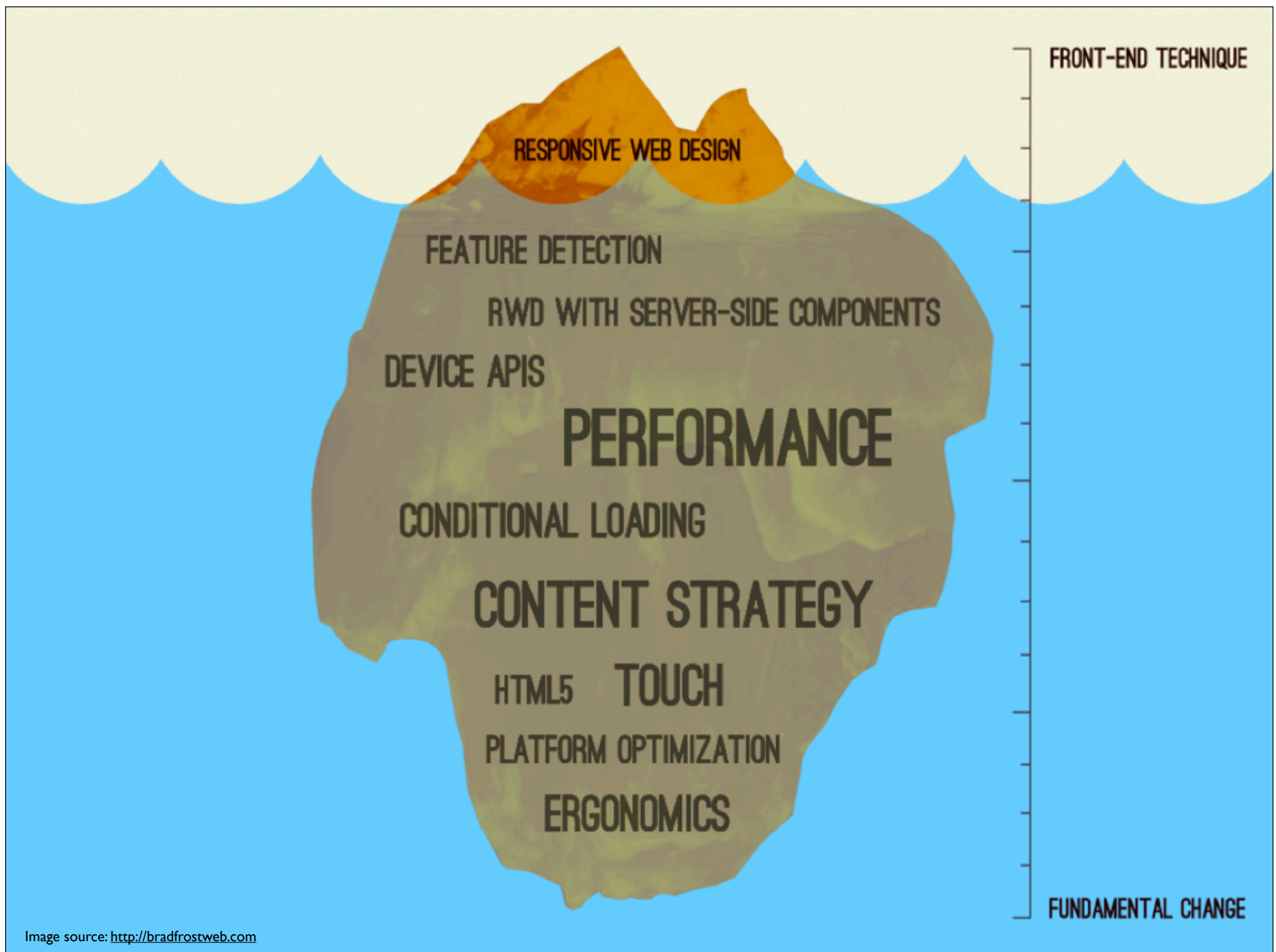
- But there are some challenges ...



RWD Just The Start...

- Other concepts
 - Adaptive design
 - Mobile Optimized
 - Mobile First
 - Progressive enhancements based on browser-, device- or feature-detection





Frameworks Can Help

[Home](#) [Get started](#) [Scaffolding](#) [Base CSS](#) [Components](#) [JavaScript](#) [Customize](#) **Bootstrap**

Bootstrap
Sleek, intuitive, and powerful front-end framework for faster and easier web development.
[Download Bootstrap](#)
[GitHub project](#) [Examples](#) [Extend](#) [Version 2.3.1](#)

Foundation [Features](#) [Add-ons](#) [Case Studies](#) [Docs](#) [Getting Started](#)

Foundation
The most advanced responsive front-end framework in the world.
[Download Foundation 4](#)
★ 10.6k stargazers @foundationzurb

Skeleton

[What & Why](#)
[Grid](#)
[Typography](#)
[Buttons](#)
[Forms](#)
[Media Queries](#)
[Support](#)
[Examples](#)
[Download](#)
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jQuery / HTML5
Controls: Responsive
Design on Any Browser,
Any Platform, & Any
Device
ads via Carbon

A Beautiful Boilerplate for Responsive, Mobile-Friendly Development

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What Is It?

Skeleton is a small collection of CSS files that can help you rapidly develop sites that look beautiful at any size, be it a 17" laptop screen or an iPhone. Skeleton is built on three core principles:



Responsive Grid Down To Mobile

Skeleton has a familiar, lightweight 960 grid as its base, but elegantly scales down to downsized browser windows, tablets, mobile phones (in landscape and portrait). **Go ahead, resize this page!**

Less Framework 4

An adaptive CSS grid system.



Technology Behind RWD

- HTML5
- CSS3
- Javascript (jQuery - and plugins)



HTML5

- Semantic tags
 - `<section>` `<header>` `<footer>` `<nav>` ...
- Multimedia
 - Figure, Audio, Video, Canvas, SVG
- Device API's
 - Geolocation, Microphone, Camera
- Offline / Local Storage
- Web Sockets, Web Workers



HTML 5 TAG REFERENCE



<code><!--...--></code>	Define a comment
<code><!DOCTYPE></code>	Defines the document type
<code><a></code>	Defines a hyperlink href, hreflang, media, ping, rel, target, type
<code><abbr></code>	Defines an abbreviation
* <code><acronym></code>	Used to define an embedded acronym
<code><address></code>	Defines an address element
* <code><applet></code>	Used to define an embedded applet
<code><area></code>	Defines an area inside an image map alt, coords, href, hreflang, media, ping, rel, shape, target, type
★ <code><article></code>	Defines an article cite, pubdate
★ <code><aside></code>	Defines content aside from the page content
★ <code><audio></code>	Defines sound content autobuffer, autoplay, controls, src
<code></code>	Defines bold text
<code><base></code>	Defines a base URL for all the links in a page href, target
* <code><basefont></code>	Used to define a default font-color, font-size, or font-family for all the document
<code><bdo></code>	Defines the direction of text display dir
* <code><big></code>	Used to make text bigger
<code><blockquote></code>	Defines a long quotation cite
<code><body></code>	Defines the body element
<code>
</code>	Inserts a single line break
<code><button></code>	Defines a push button autofocus, disabled, form, formaction, formenctype, formmethod, formnovalidate, formtarget, name, type, value
★ <code><canvas></code>	Defines graphics height, width
<code><caption></code>	Defines a table caption
* <code><center></code>	Used to center align text and content
<code><cite></code>	Defines a citation
<code><code></code>	Defines computer code text autobuffer, autoplay, controls, src
<code><col></code>	Defines attributes for table columns
<code><colgroup></code>	Defines groups of table columns span
★ <code><command></code>	Defines a command button checked, disabled, icon, label, radiogroup, type

★ <code><datalist></code>	Defines a dropdown list
<code><dd></code>	Defines a definition description
<code><del></code>	Defines deleted text cite, datetime
★ <code><details></code>	Defines details of an element open
★ <code><dialog></code>	Defines a dialog (conversation)
<code><dfn></code>	Defines a definition term
* <code><dir></code>	Used to define a directory list
<code><div></code>	Defines a section in a document
<code><dl></code>	Defines a definition list
<code><dt></code>	Defines a definition term
<code></code>	Defines emphasized text
★ <code><embed></code>	Defines external interactive content or plugin height, src, type, width
<code><fieldset></code>	Defines a fieldset disabled, form, name
★ <code><figure></code>	Defines a group of media content, and their caption
* <code></code>	Used to define font face, font size, and font color of text
★ <code><footer></code>	Defines a footer for a section or page
<code><form></code>	Defines a form accept-charset, action, autocomplete, enctype, method, name, novalidate, target
<code><frame></code>	Used to define one particular window (frame) within a frameset
* <code><frameset></code>	Used to define a frameset, which organized multiple windows (frames)
<code><h1> to <h6></code>	Defines header 1 to header 6
<code><head></code>	Defines information about the document
★ <code><header></code>	Defines a header for a section or page
★ <code><hgroup></code>	Defines information about a section in a document
<code><hr></code>	Defines a horizontal rule
<code><html></code>	Defines an html document manifest, xmlns
<code><i></code>	Defines italic text
<code><iframe></code>	Defines an inline sub window height, name, sandbox, seamless, src, width
<code></code>	Defines an image alt, src, height, ismap, usemap, width
<code><input></code>	Defines an input field accept, alt, autocomplete, autofocus, checked, disabled, form, formaction, formenctype, formmethod, formnovalidate, formtarget, height, list, max, maxlength, min, multiple, name, pattern, placeholder, readonly, required, size, src, step, type, value, width

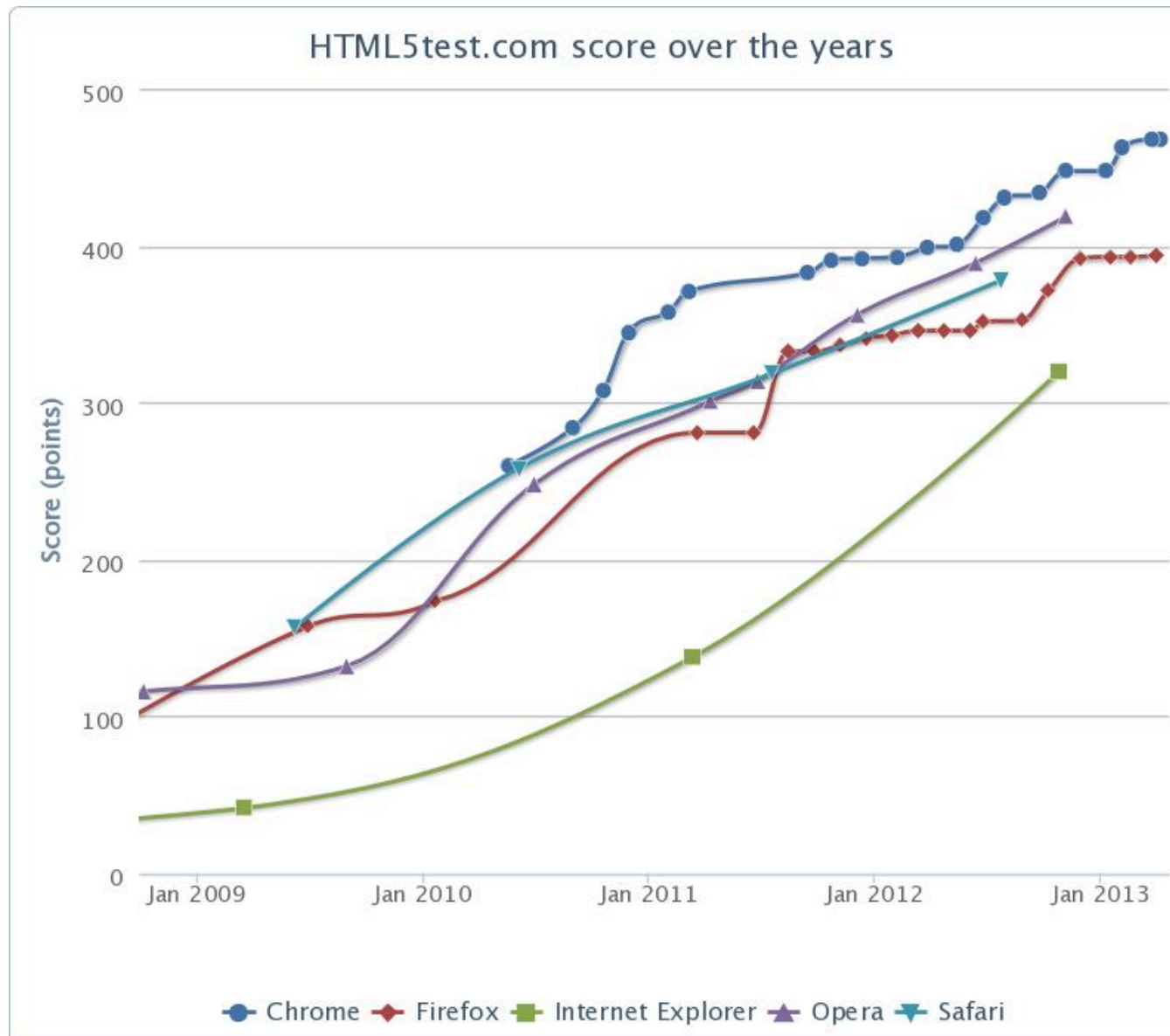
<code><ins></code>	Defines inserted text cite, datetime
★ <code><keygen></code>	Defines a generated key in a form autofocus, challenge, disabled, form, keytype, name
<code><kbd></code>	Defines keyboard text
<code><label></code>	Defines an inline sub window for, form
<code><legend></code>	Defines a title in a fieldset
<code></code>	Defines a list item value
<code><link></code>	Defines a resource reference href, hreflang, media, rel, sizes, type
<code><map></code>	Defines an image map name
★ <code><mark></code>	Defines marked text
<code><menu></code>	Defines a menu list label, type
<code><meta></code>	Defines meta information charset, content, http-equiv, name
★ <code><meter></code>	Defines measurement within a predefined range high, low, max, min, optimum, value
★ <code><nav></code>	Defines navigation links
* <code><noframes></code>	Used to display text for browsers that do not handle frames
<code><noscript></code>	Defines a noscript section
<code><object></code>	Defines an embedded object data, form, height, name, type, usemap, width
<code></code>	Defines an ordered list reversed, start
<code><optgroup></code>	Defines an option group label, disabled
<code><option></code>	Defines an option in a drop-down list disabled, label, selected, value
★ <code><output></code>	Defines some types of output for, form, name
<code><p></code>	Defines a paragraph
<code><param></code>	Defines a parameter for an object name, value
<code><pre></code>	Defines preformatted text
<code><progress></code>	Defines progress of a task of any kind max, value
<code><q></code>	Defines a short quotation cite
★ <code><rp></code>	Used in ruby annotations to define what to show browsers that do not support the ruby element
★ <code><rt></code>	Defines explanation to ruby annotations
★ <code><ruby></code>	Defines ruby annotations
* <code><s>, <strike></code>	Used to define strikethrough text.

<code><samp></code>	Defines sample computer code
<code><script></code>	Defines a definition list async, type, charset, defer, src
★ <code><section></code>	Defines a section cite
<code><select></code>	Defines a selectable list autofocus, disabled, form, multiple, name, size
<code><small></code>	Defines small text
★ <code><source></code>	Defines media resources media, src, type
<code></code>	Defines a section in a document
<code></code>	Defines strong text
<code><style></code>	Defines a style definition type, media, scoped
<code><sub>, <sup></code>	Defines sub/super-scripted text
<code><table></code>	Defines a table summary
<code><tbody></code>	Defines a table body summary
<code><td></code>	Defines a table cell colspan, headers, rowspan
<code><th></code>	Defines a text area autofocus, cols, disabled, form, maxlength, name, placeholder, readonly, required, rows, wrap
<code><tfoot>, <thead></code>	Defines a table footer / head
<code><th></code>	Defines a table header colspan, headers, rowspan, scope
<code><time></code>	Defines a date/tim datetime
<code><title></code>	Defines the document title
<code><tr></code>	Defines a table row datetime
* <code><tt></code>	Used to define teletype text
* <code><u></code>	Used to define underlined text
<code></code>	Defines an unordered list
<code><var></code>	Defines a variable
★ <code><video></code>	Defines a video autobuffer, autoplay, controls, height, loop, src, width
★	HTML 5 new tag
*	Tag not supported in HTML 5

Designed by Antonio Lupetti
(<http://woorkup.com>)
<http://facebook.com/antoniolupetti>
<http://www.twitter.com/woork>

THE
WORKING
BRAIN

HTML5 – Browsers Ready?



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CSS3

- New Properties
 - Gradients, Shadows, Border Radius, Transitions, Transforms, Animations, Multiple Background Images, and more
- Pseudo Selectors
 - :nth-child(n), :last-child, :empty, :disabled, :not
- Attribute Selectors
 - [attr=val], [attr^=val], [attr\$=val], [attr*=val]



CSS3 Issues

- Browser dependent syntax

```
.gradient_box {  
  background: -moz-linear-gradient(top, #ed2a2d 0%, #440000 100%);  
  background: -webkit-linear-gradient(top, #ed2a2d 0%, #440000 100%);  
  background: -o-linear-gradient(top, #ed2a2d 0%, #440000 100%);  
  background: -ms-linear-gradient(top, #ed2a2d 0%, #440000 100%);  
  background: linear-gradient(top, #ed2a2d 0%, #440000 100%);  
  filter: progid:DXImageTransform.Microsoft.  
    gradient(startColorstr='#ed2a2d',  
}  
}
```



JavaScript

- Being backwards compatible
 - Modernizr.js
 - allows to use HTML5 and CSS3 syntax today!
 - Respond.js
 - polyfill for min/max-width CSS3 Media Queries ($\leq$ IE8)
 - Retina.js
 - serve high-resolution images to devices with retina displays
 - FitVids.js
 - jQuery plugin for fluid width video embeds
 - ...



RWD in APEX



RWD In APEX 4.2

- Multiple User Interfaces
- Theme 25: Blue Responsive
 - Page Template - Grid layout
- Page Regions are Grid aware
- HTML5 Items
- HTML5 Charts



RWD In APEX 4.2

- CSS3

- Buttons in CSS3
- Icons in two versions (highres)
- Different classes: visible-phone, visible-tablet, ...
- SCSS source included (SASS)
 - Helps with vendor prefixes
- CSS3 transformations
- ...



RWD In APEX 4.2

- JavaScript libraries
 - Modernizr.js
 - Responsive.js
 - ...
- Framework files (not declarative)
 - 960-gs
 - Twitter-bootstrap
 - ...



RWD in APEX

DEMONSTRATION



Learn More?

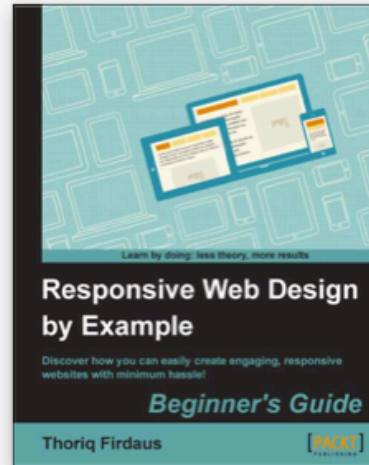


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Nice Books



Responsive Web Design
Ethan Marcotte



Responsive Web Design...



Responsive Web Design...



Many Websites ...

- http://en.wikipedia.org/wiki/Responsive_web_design
- <http://webdesign.tutsplus.com>
- <http://css-tricks.com/>
- <http://alistapart.com>
- <http://bradfrostweb.com/>
- <http://www.smashingmagazine.com>
- <http://www.lukew.com>
- ...



Summary



Summary

- Challenges on the (Mobile) Web
- Responsive Web Design (RWD) only partly solution
- Industry still addressing under water challenges
- Technologies to learn: HTML5, CSS3 and JavaScript
- Responsive Web Design in APEX



Q&A

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