

responsive design

responsiveness

fluid design

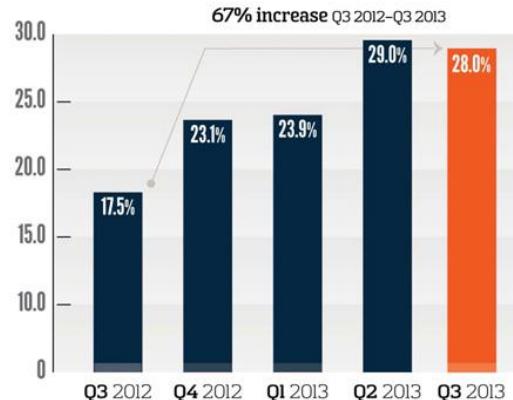
fonts and font-sizing

from browsing on the desktop to . . .

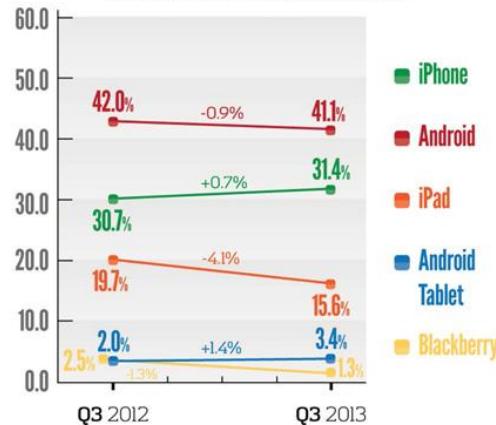


MOBILE WEBSITE TRAFFIC REPORT

PERCENTAGE OF WEBSITE TRAFFIC COMING FROM MOBILE DEVICES



MOBILE PLATFORM BREAKDOWN



WalkerSands.com/QuarterlyMobileTraffic

Mobile browsing: percentage of all web traffic (May 2012)



Data sources: StatCounter (May 1-7, 2012), Pingdom

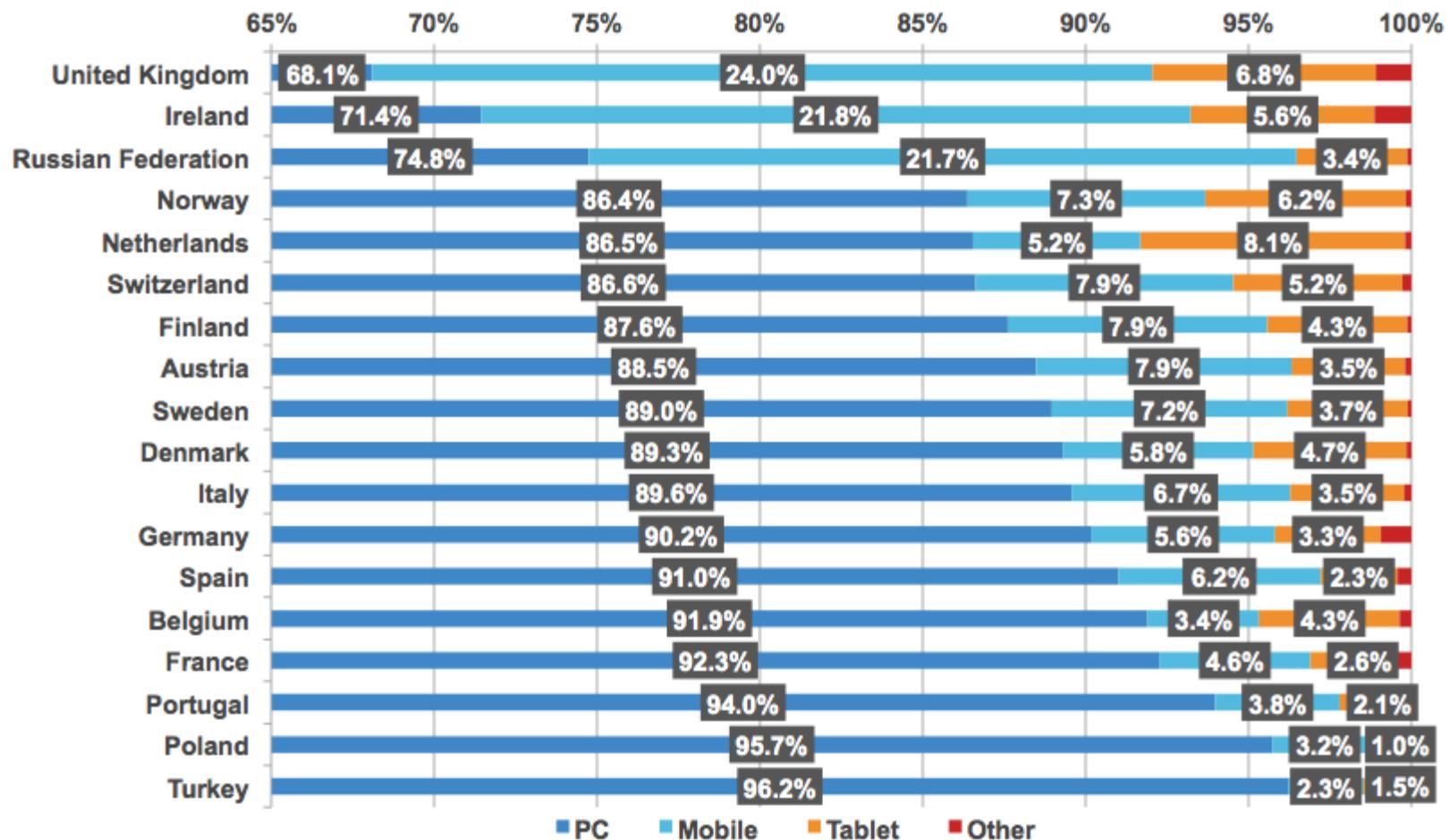
www.pingdom.com

Mobile share of web traffic

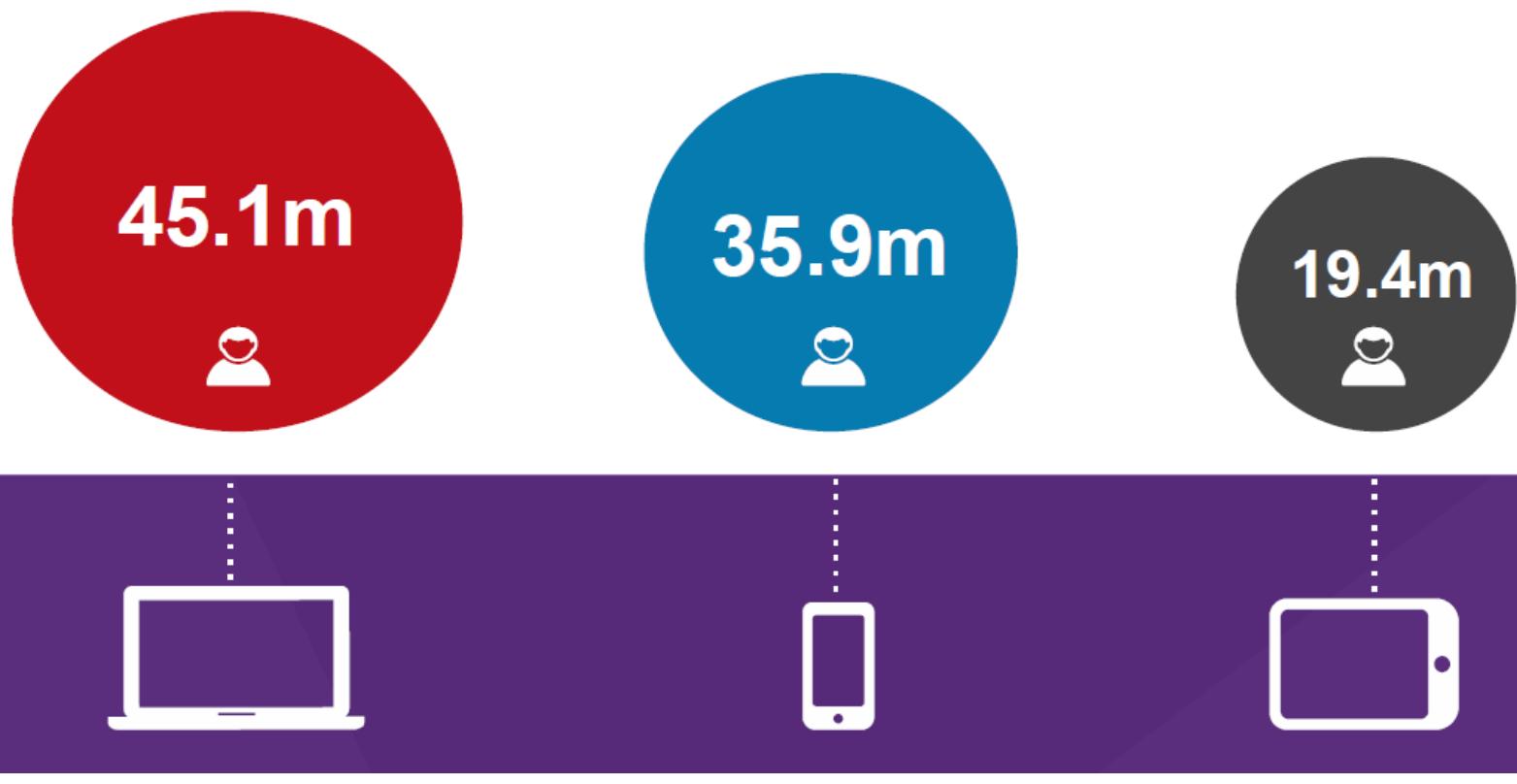
	2010	2012	Increase 2010-2012
Africa	5.81%	14.85%	155.59%
Asia	6.1%	17.84%	192.46%
Europe	1.81%	5.13%	183.43%
North America	4.71%	7.96%	69.00%
Oceania	2.88%	7.55%	162.15%
South America	1.46%	2.86%	95.89%
Worldwide	3.81%	10.01%	162.73%

Device Share of Page Views Across Countries in Europe

Nearly 1/3 of UK Page Views are from Mobiles and Tablets

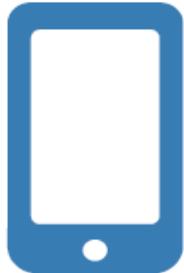


UK audience size by platform



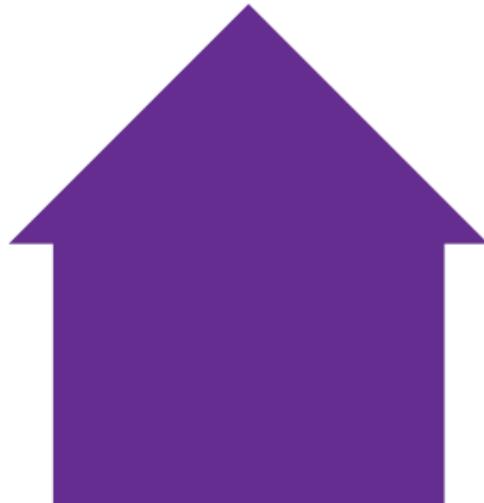
Mike Shaw, Cross Channel Measurement – Understanding Consumer Behaviour Across Multiple Devices, 2014
<http://www.comscore.com/Insights/Presentations-and-Whitepapers/2014/Cross-Channel-Measurement>

portable platforms growing in importance



SMARTPHONE % OF TOTAL UK
POPULATION

76%



TABLET % OF TOTAL UK
POPULATION

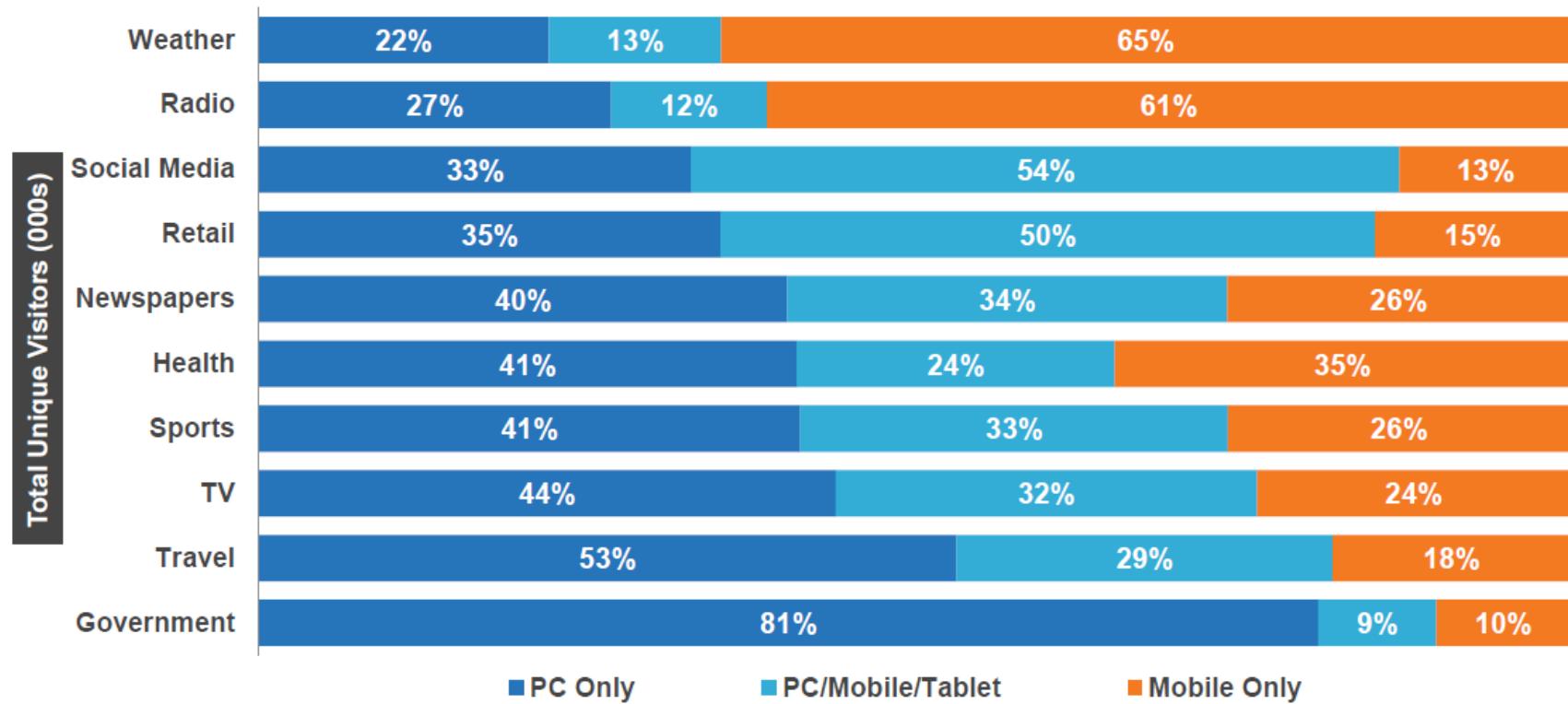
38%



Mike Shaw, Cross Channel Measurement – Understanding Consumer Behaviour Across Multiple Devices, 2014
<http://www.comscore.com/Insights/Presentations-and-Whitepapers/2014/Cross-Channel-Measurement>

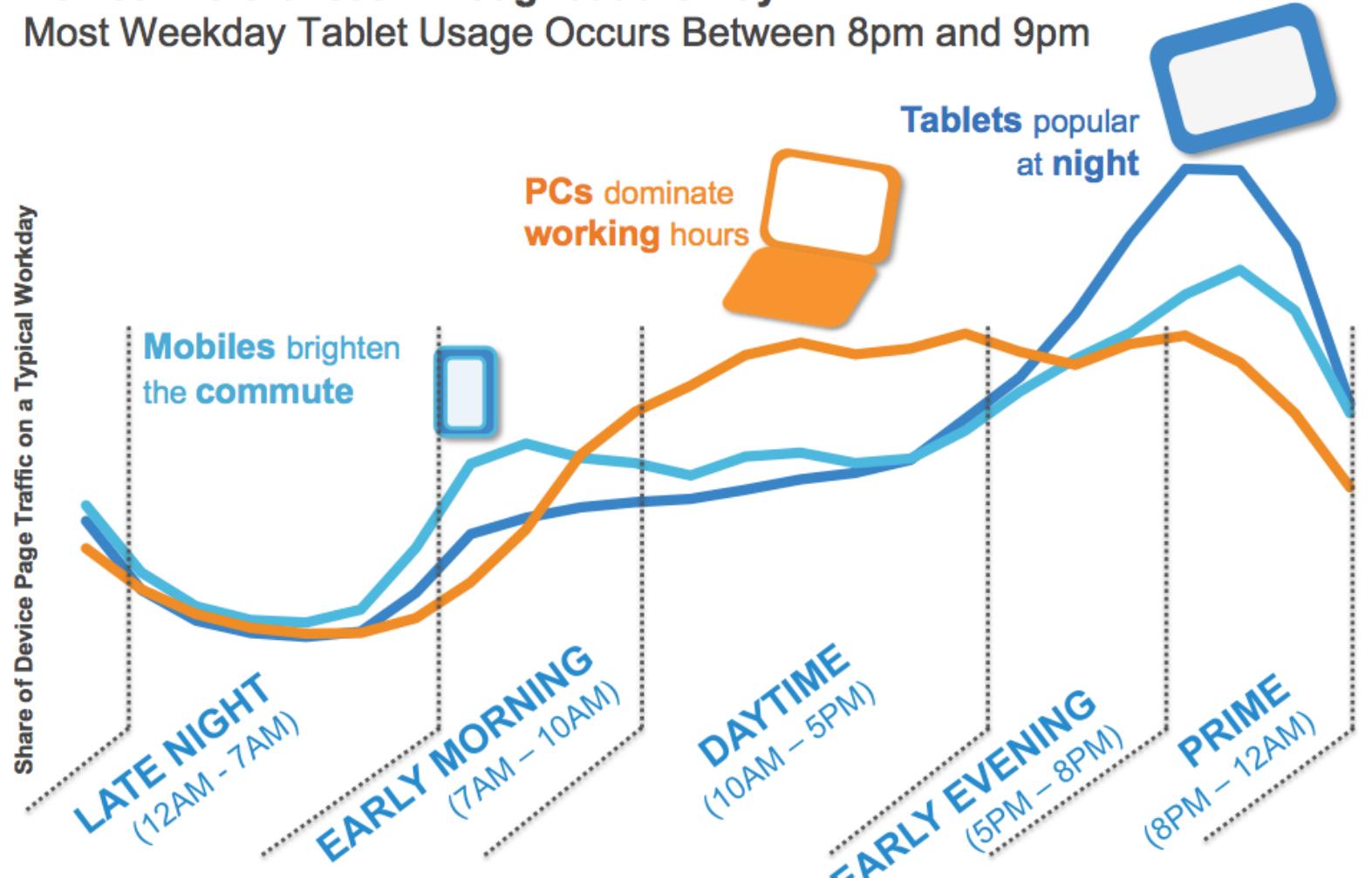
Content Not Consumed Equally

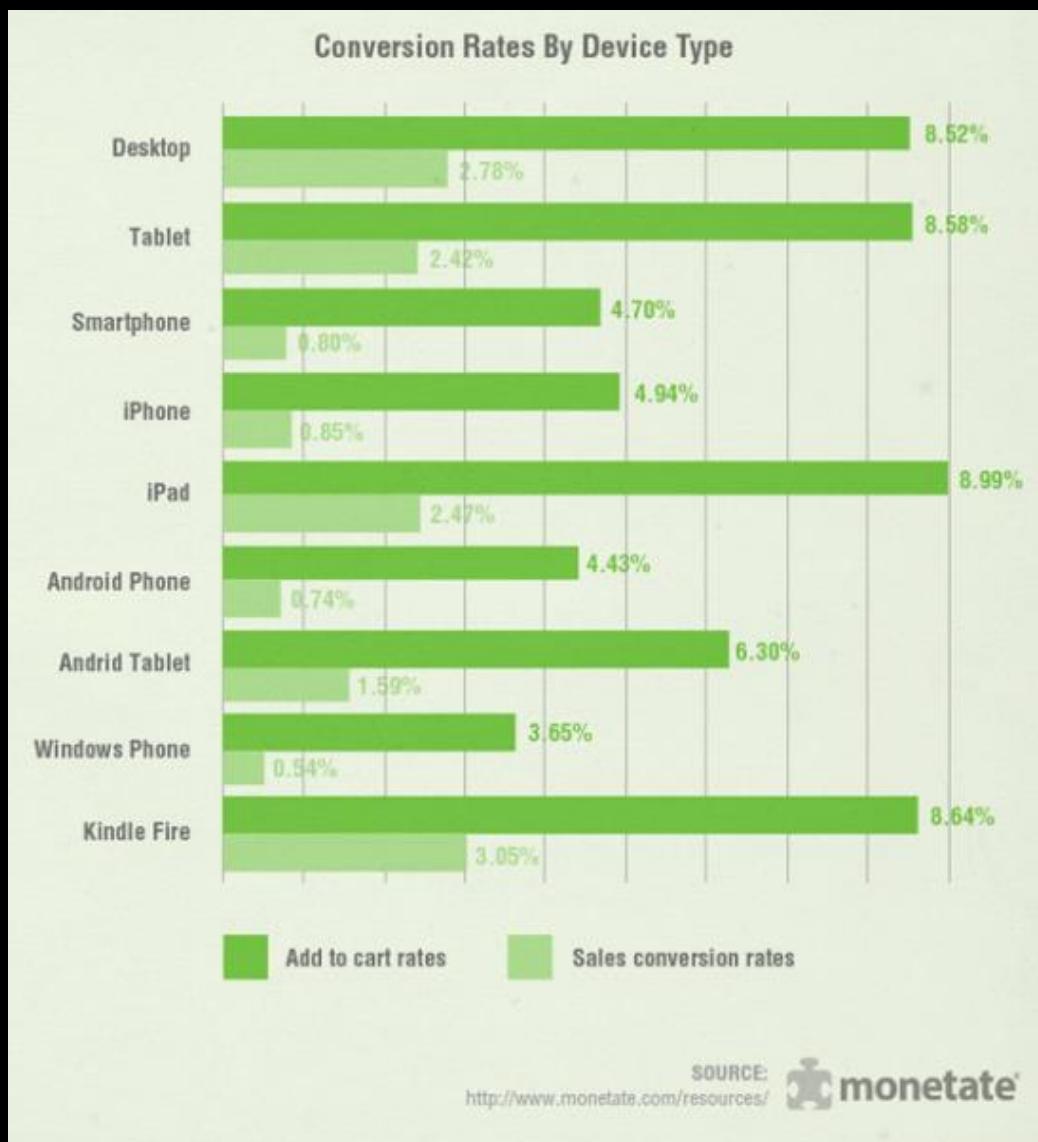
Selected Content Category Consumption by Platform



Device Preferences Throughout the Day

Most Weekday Tablet Usage Occurs Between 8pm and 9pm



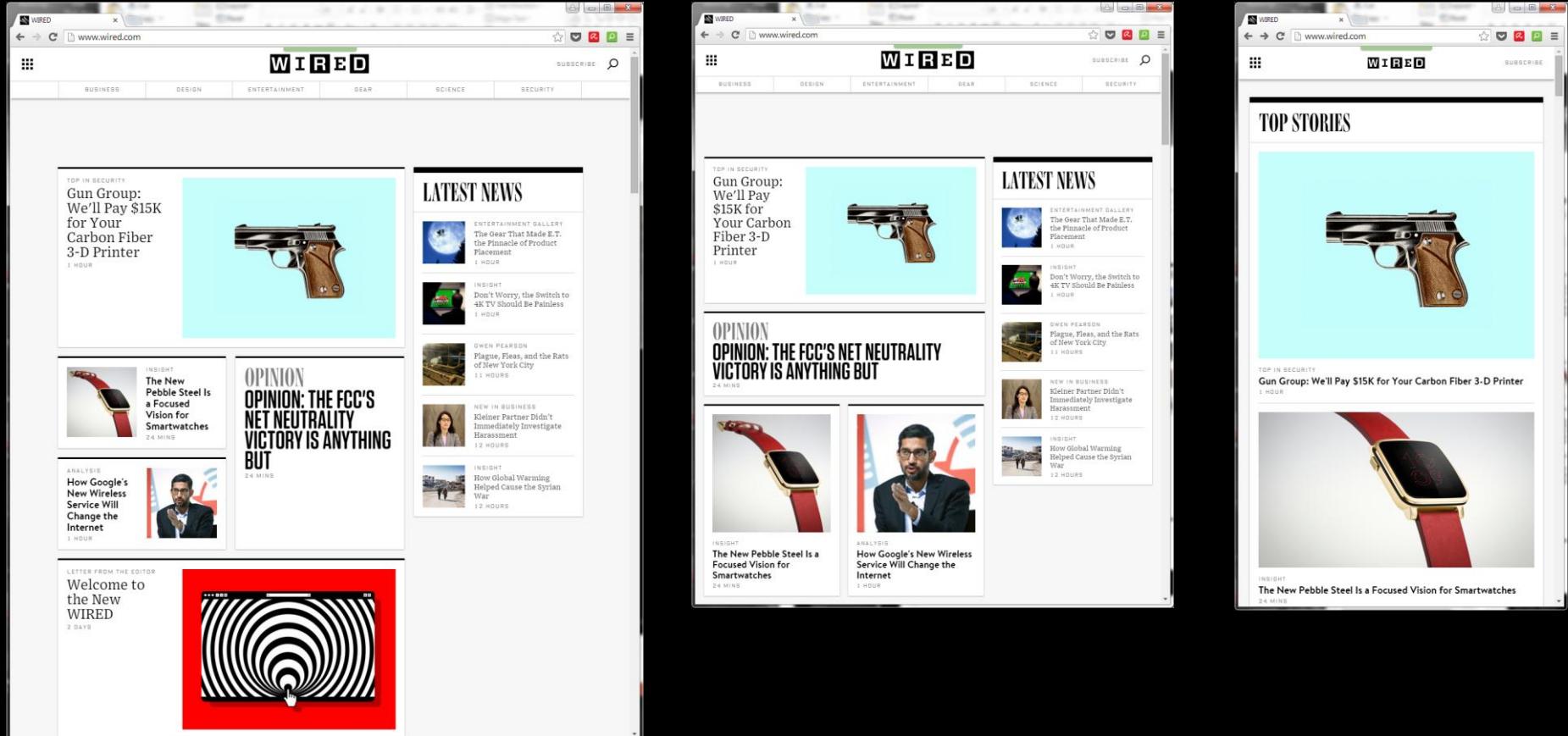


2014 Q4

supporting multiple devices



WIRED new responsive website

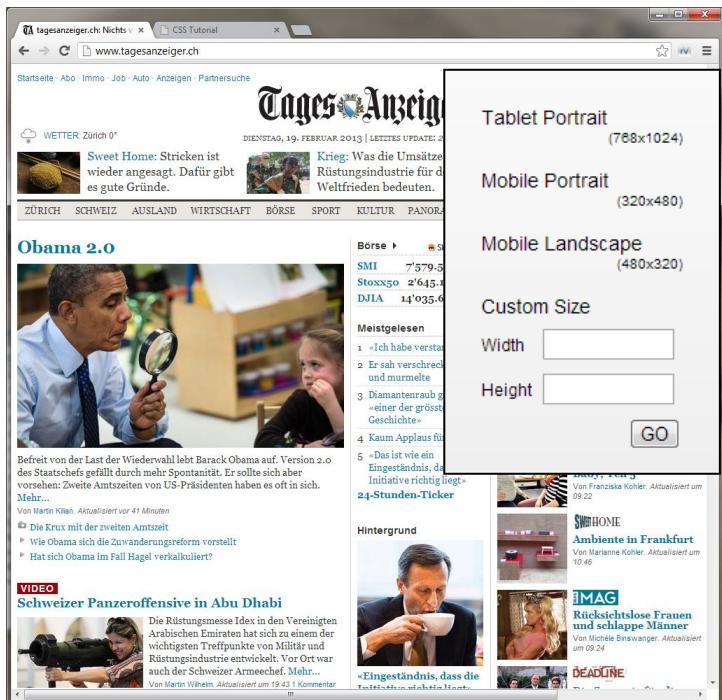


responsive dog

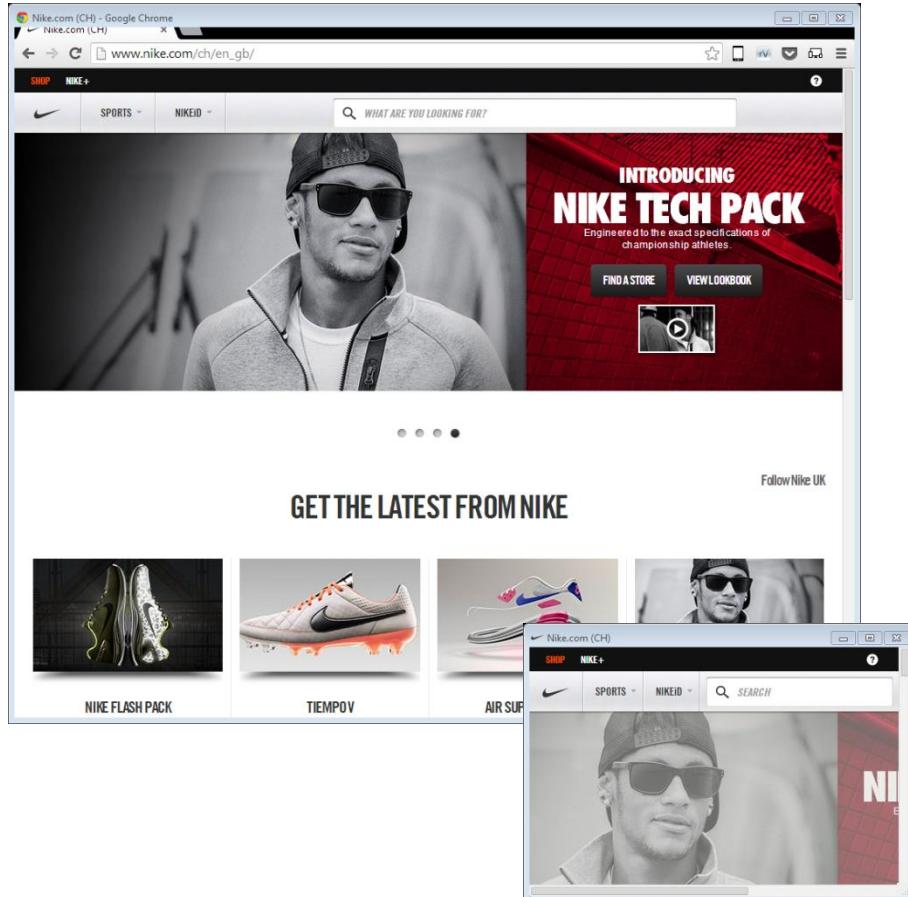


developer tools

various tools for supporting responsive design by allowing you to view sites at different viewport sizes



developer tools . . .



A screenshot of the Chrome Web Store page for the 'Responsive Web Design Tester' extension. The page shows a large preview image of a website layout displayed on multiple devices: a desktop monitor, a laptop, a tablet, and a smartphone. Below the preview, there are sections for 'OVERVIEW', 'DETAILS', 'REVIEWS', and 'RELATED'. The 'OVERVIEW' section includes a brief description: 'Test your mobile site on mobile devices. This extension reflects both the size and the browser of the mobile device.' and 'Runs Offline'. The 'REVIEWS' section shows a 5-star rating with 16 reviews. The 'RELATED' section lists other developer tools like 'Responsive Inspector', 'Break Yo' Self', 'Web Developer', and 'Check My Links'.

choice of whole range of specific devices

example for responsive de × barrach photography ×

← → C file:///C:/Users/moira/Desktop/WEB/barrach/index.html

barrach photography

HOME ABOUT ARTICLES

Wildlife in Motion



barrach photography

Capturing Motion

posted: 01 February 2013



In this article we write about using slow-shutter speed to capture motion. Here there will be a whole introduction to the article. What will go to the right of it? Well, let's wait and see ..

I'm adding a paragraph between the two that were already there to see how it will look. After that I will fix the navigation context and go on to work on the gallery sites.

For the moment I will add a bit more text to see how it looks when there is a war around. Ok - it doesn't wrap so will have to check how this is done. Next we can see how the layout is and maybe eventually actually write an article. [...]

ANTARCTICA ARCTIC



BIRDS GALAPAGOS



KENYA ZOOS



MORE ARTICLES

The Warp Factor
posted: 01 February 2013

In this article we write about using slow-shutter speed to capture motion. [...]

Safari Equipment
posted: 01 February 2013

For the moment I will add a bit more text to see how it looks when there is a war around. [...]

CONNECT

Downloads and prints of images as well as various other products are available at:

SmugMug

You can also follow me on Twitter and Facebook:

© barrach photography 2013

HOME ABOUT ARTICLES

The screenshot shows a responsive web design for a photography website. The layout includes a header, navigation, galleries, connect, more articles, and a footer.

header: The top navigation bar containing the site name "barrach photography" and links for "HOME", "ABOUT", and "ARTICLES".

navigation: The top navigation bar at the bottom of the page.

slideshow: A large, full-width image of a white owl in flight, serving as a lead image.

galleries: A grid of thumbnail images categorized by location: ANTARCTICA (penguin), ARCTIC (polar bear), BIRDS (owl), GALAPAGOS (tortoise), KENYA (cheetah), and ZOOS (leopard).

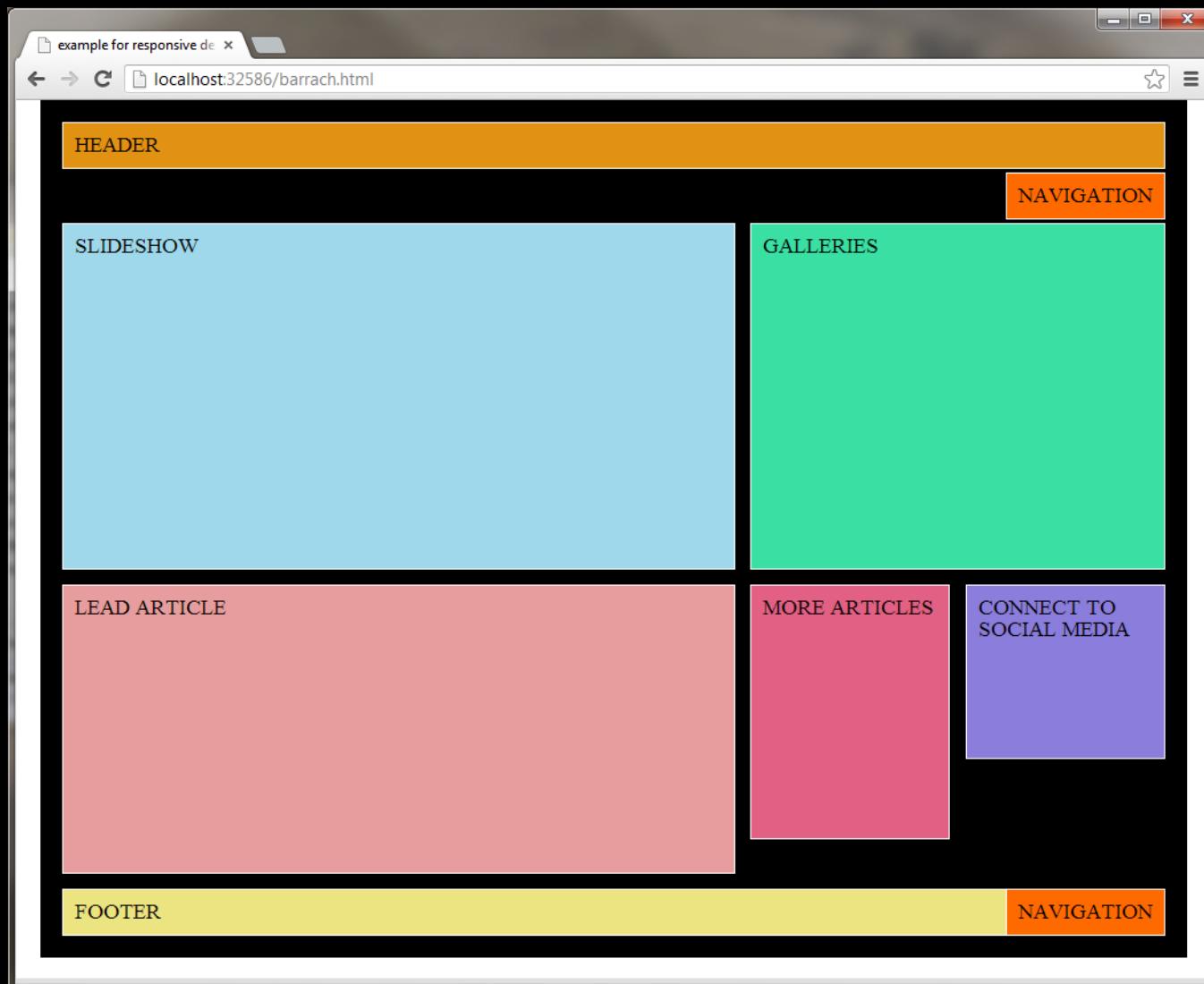
lead article: A featured article titled "Capturing Motion" posted on 01 February 2013. It includes a thumbnail image of a cheetah and some introductory text.

connect: A sidebar section titled "CONNECT" featuring links to SmugMug and social media profiles (Twitter and Facebook).

more articles: A sidebar section titled "MORE ARTICLES" listing other recent posts like "The Warp Factor" and "Safari Equipment".

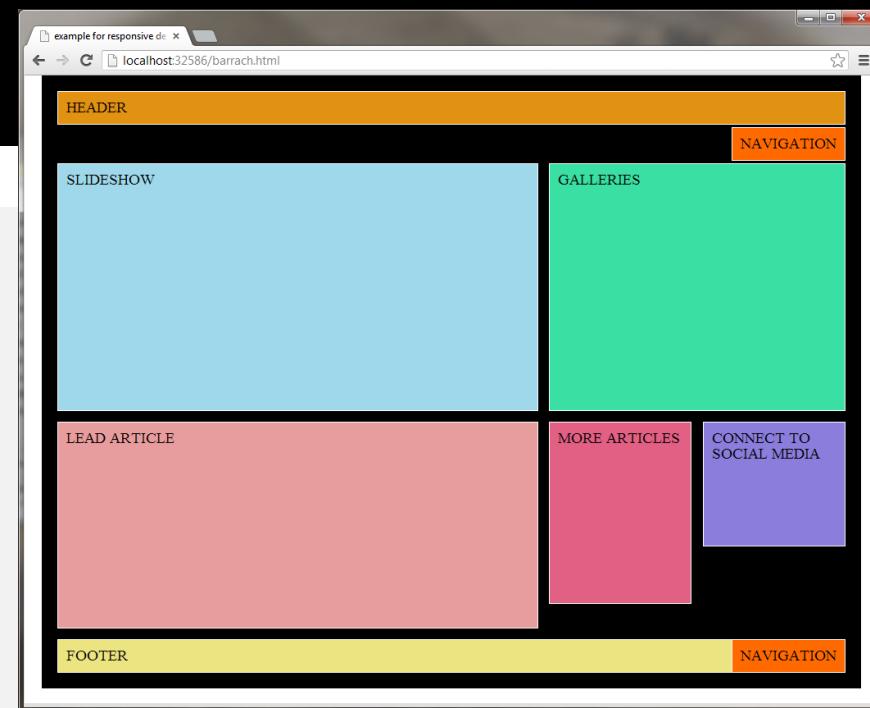
footer: The bottom navigation bar at the very bottom of the page.

layout of main elements



fixed layout

```
<body>
  <div id="container">
    <div id="header"> <p>header</p> </div>
    <div class="nav"> <p>navigation</p> </div>
    <div id="slideshow"> <p>slideshow</p> </div>
    <div id="galleries"> <p>galleries</p> </div>
    <div id="lead"> <p>lead article</p> </div>
    <div id="article_list"> <p>more articles</p> </div>
    <div id="connect"> <p>connect to social media</p> </div>
    <div id="footer">
      <p>footer</p>
      <div class="nav"> <p>navigation</p> </div>
    </div>
  </div>
</body>
```



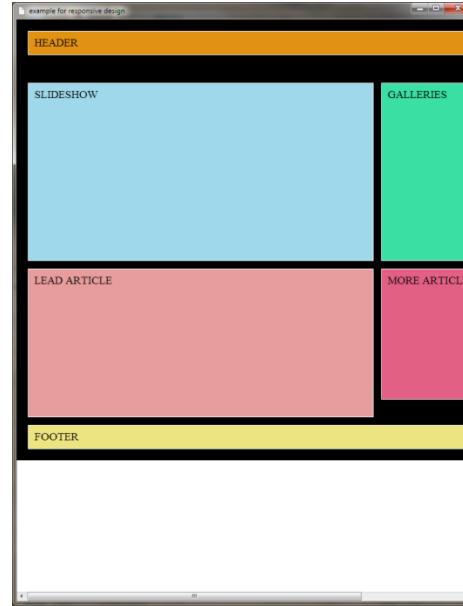
```
body { color:#000; }
p { padding:10px; text-transform:uppercase; font-size:120%; } /* labelling of elements */
div { outline: 1px solid white; } /* for debugging purposes */
#container { margin:auto; padding:20px; width:960px; background:#000; }
#header { margin-bottom:5px; background:#e29213; }
.nav { float:right; margin-bottom: 5px; background:#ff6a00; }
#slideshow { clear:both; float:left; margin: 0px 15px 15px 0px; width:585px; height:300px; background:#9fd8eb; }
#galleries { float:right; width:360px; height:300px; background:#3adfa3; }
#lead { float:left; margin: 0 15px 15px 0; width: 585px; height:250px; background:#e79d9d; }
#article_list { float:left; margin: 0 16px 15px 0; width:172px; height:220px; background:#e26083; }
#connect { float: right; width:172px; height:150px; background: #8a7ddb; }
#footer { clear:both; height:39px; background:#ece381; }
#footer p { display:inline-block; }
```

web site viewed with responsiView



1024 x 768

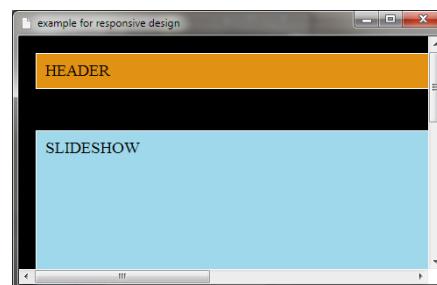
768 x 1024



320 x 480



480 x 320



browsing the web on mobiles

Wikipedia example



Safari



mobile version



responsiveView

viewport element

meta viewport element can be used to specify a viewport width or scale

```
<head>
  <title>example for responsive design</title>
  <meta charset="utf-8" />
  <meta name="viewport" content="initial-scale=2.0, width=device-width" />
  ...
</head>
```

this can be used to prevent the default canvas shrinking behaviour of some browsers on mobile phones and control zooming

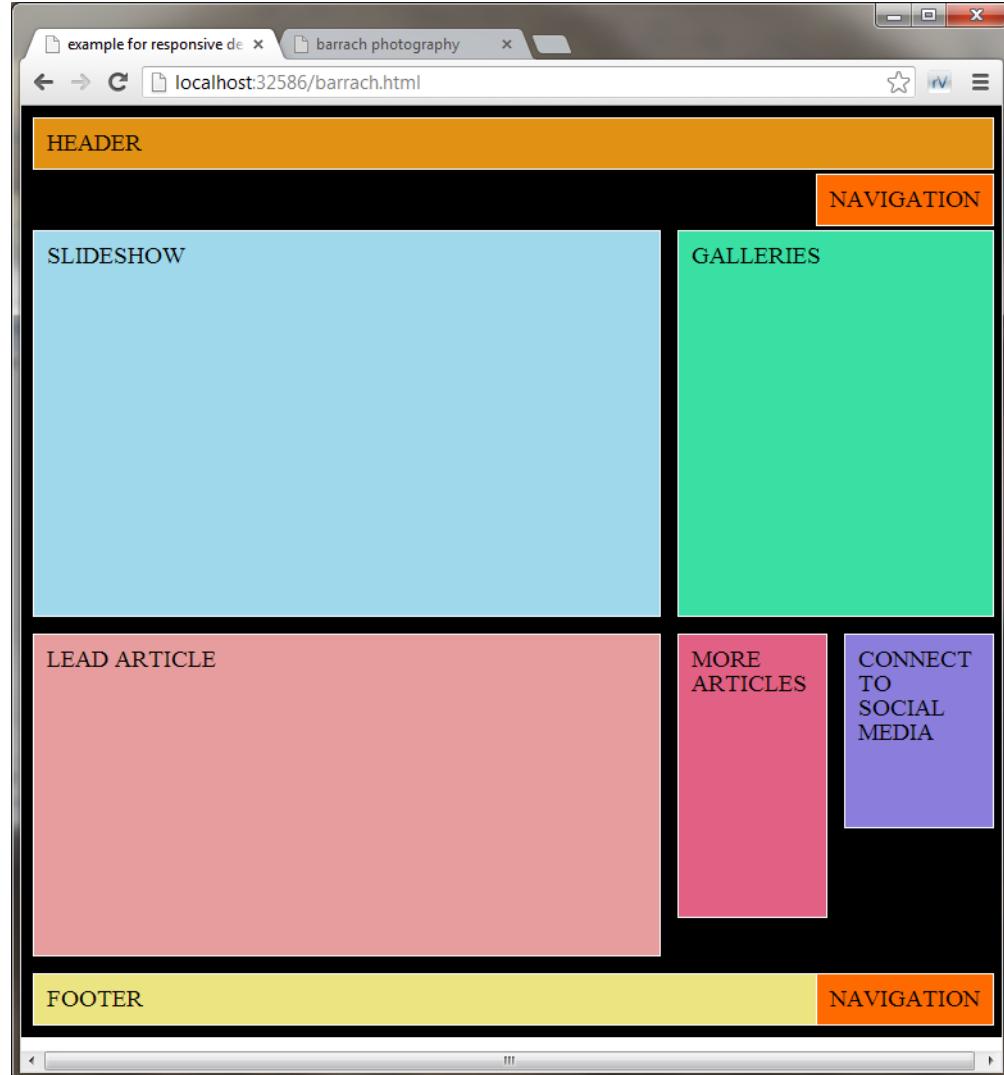
```
<head>
  <title>example for responsive design</title>
  <meta charset="utf-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0,
                                maximum-scale=3, minimum-scale=0.5" />
  ...
</head>
```

CSS3 media queries

```
@media screen and ( max-width:768px ) {  
    #container, #header, #footer {  
        width: 748px;  
    }  
    #slideshow, #lead {  
        width: 488px;  
    }  
    #galleries {  
        width: 245px;  
    }  
    #article_list, #connect {  
        width: 115px;  
    }  
}
```

specify an alternative version for viewports of width less than 768px

but horizontal scrolling still required at widths between 768px and 980px and less than 768px



issues

media queries ok for a specific known target device

but media queries alone have several shortcomings

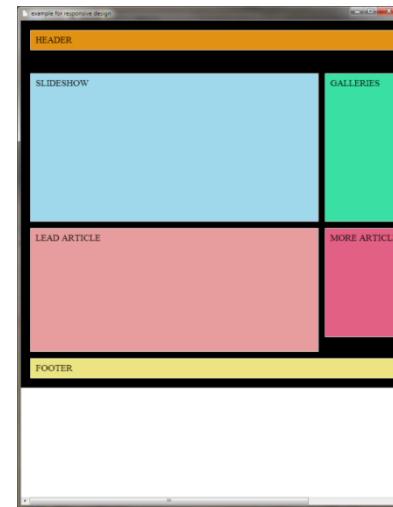
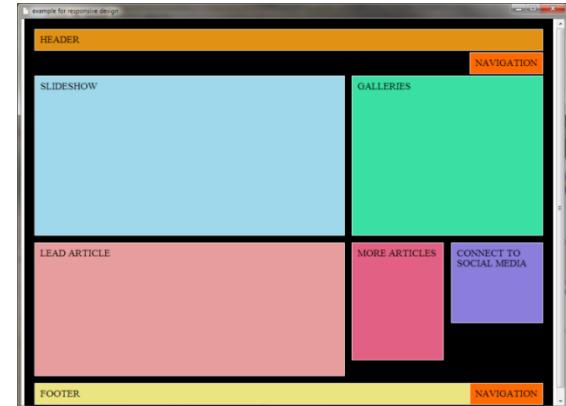
design snaps at specified break points – no linear progression between them

horizontal scrolling required in-between

doesn't allow for future or unknown devices

aim for something that looks good on all viewports and avoids horizontal scrolling

*** note: except for landscape modes on tablets etc.
where horizontal scrolling natural



changing trends

at end of 1990s, tables were used to control layouts and often percentages used

scaled well across limited range of viewports

as CSS-based designs took over, web designs could more closely mimic print and rigid, pixel-based layouts were preferred over proportionally-based layouts (950 – 1000px)

customers demanded that web sites looked exactly the same on all devices

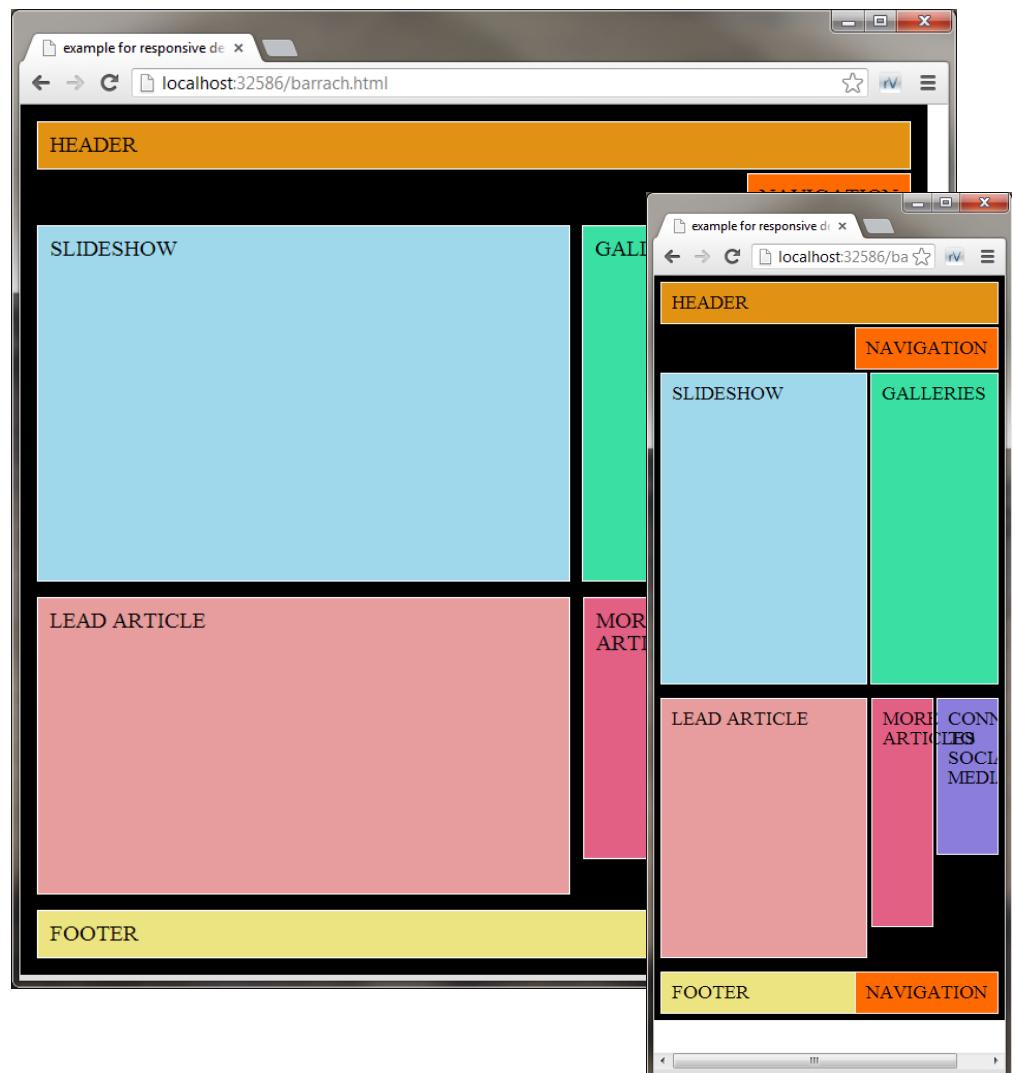
now there is a shift back to fluid proportionally-based layouts

elements scale relative to the viewport until a media query modifies the layout

moving to a fluid layout

convert all widths
to percentages

```
#container {  
    margin:auto;  
    padding:2%;  
    width:96%;  
    background:#000;  
}  
  
#slideshow {  
    clear:both;  
    float:left;  
    margin: 0px 1.5625% 15px 0px;  
    width:60.9375%;  
    height:300px;  
    background:#9fd8eb;  
}  
  
#galleries {  
    float:right;  
    width:37.5%; height:300px;  
    background:#3adfa3;  
}  
....
```

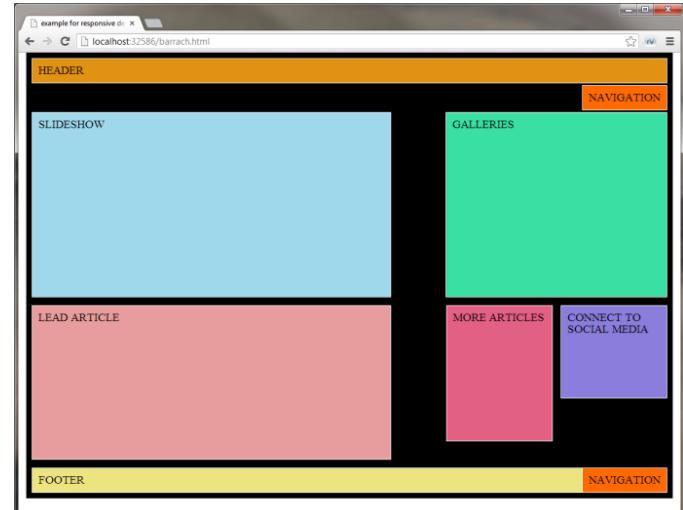
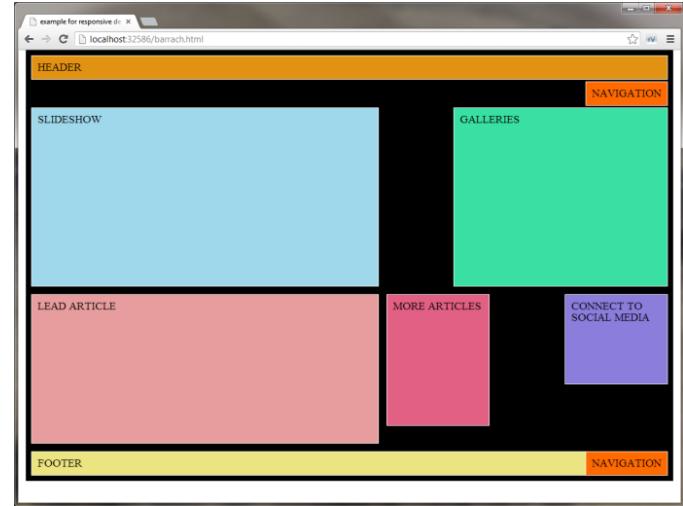


may require changes to element order and positioning

changing container to 96% -
already “breaks” design

change order of elements in
HTML and float MORE ARTICLES
to right instead of left

```
<div id="container">
  <div id="header"> <p>header</p> </div>
  <div class="nav"> <p>navigation</p> </div>
  <div id="slideshow"> <p>slideshow</p> </div>
  <div id="galleries"> <p>galleries</p> </div>
  <div id="lead"> <p>lead article</p> </div>
  <div id="connect"> <p>connect to social media</p> </div>
  <div id="article_list"> <p>more articles</p> </div>
  <div id="footer"> <p>footer</p>
    <div class="nav"> <p>navigation</p> </div>
  </div>
</div>
```

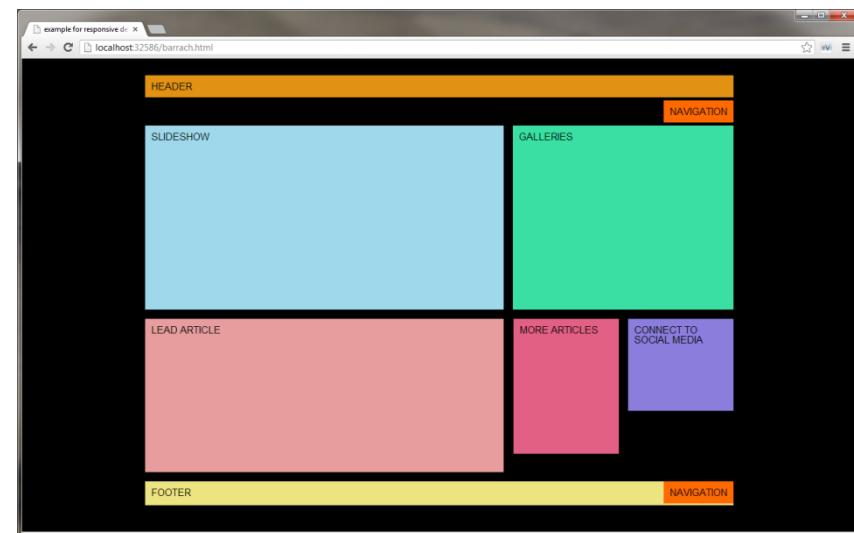


max-width

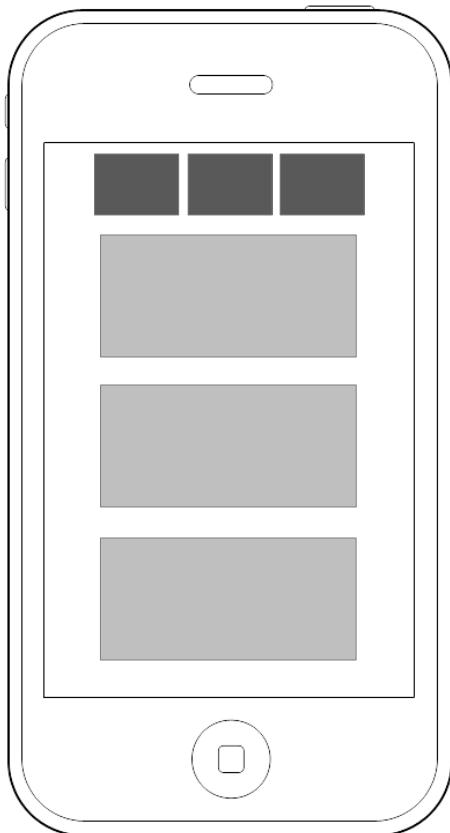
decide whether to let layout flow to fill entire viewport or restrict it to a maximum width



```
#container {  
    margin: auto;  
    padding: 2%;  
    width: 96%;  
    max-width: 960px;  
    background: #000;  
}
```



designing for mobiles



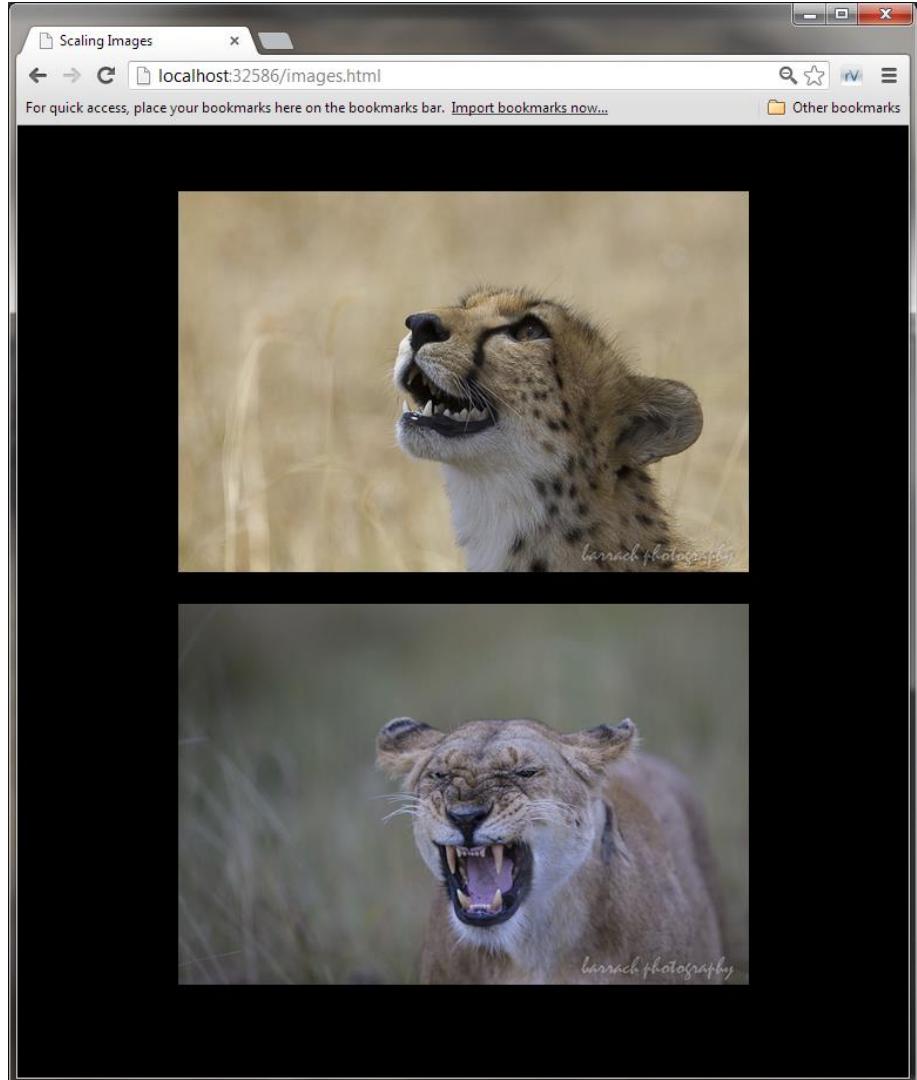
scaling images

```
#main {  
    margin: auto;  
    padding: 2%;  
    width: 96%;  
    max-width: 600px;  
    background: #000;  
}  
  
img {  
    width: 90%;  
    margin: 5%;  
    display: block;  
}
```

problem of scaling images beyond their true size

penalty of downloading images much larger than their display size

some browsers don't scale images well



adaptive images

ideally we would want to use different sizes, different versions or even different images as a web page adapts to different viewports

could be done by using media queries to select which images used when, but makes for even higher download costs

there are solutions based on JavaScript where specific images can be fetched from the server depending on screen size



Responsive design device x

spirelightmedia.com/resources/responsive-design-device-resolution-reference

SpireLight Media

Website Design and Development / Online Marketing / Training / Resources

Give us a call on 0207 404 8800 or contact us online here

Responsive design device resolution reference

As web developers, responsive design has taken us from designing for a limited variety of desktop resolutions to creating flexible websites optimised to all devices.

We developed this table to help us create media queries to target different screen resolutions.

We wanted to know what resolutions contain the largest number of devices both by variety and by units sold. We also wanted to produce a reference for testing our designs.

The latest screen resolutions are pushing the boundaries of what was previously thought possible. [This great article in .NET magazine](#) explains the impact that these high resolutions will have on web design.

Resolution / Graphic Array	Device using this resolution, screen size in inches and pixel density in pixels per inch	
2880 x 1800	15 in 226 ppi	15-inch Apple MacBook Pro with Retina display
2560 x 1700	12.85 in 239 ppi	Google Chromebook Pixel
2560 x 1600 WQXGA	10 in 300 ppi	Samsung Google Nexus 10
	13.3 in 227 ppi	13-inch Apple MacBook Pro with Retina display
2560 x 1440 (W)QHD	27 in 109 ppi	27-inch Apple iMac 10.2 / 11.1 / 11.3 / 12.2 (Late 2009 - 2012)
2048 x 1536 QXGA	9.7 in 264 ppi	Apple iPad 3 Apple iPad 4 (Apple iPad with Retina display) Apple iPad Air
1920 x 1280	9 in 256 ppi	NOOK HD+ Tablet
1920 x 1200	10.1 in 224	Sony Xperia Tablet Z Asus Transformer Pad Infinity & Transformer Prime TF700T

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Email Address *

Other Resources

An Introduction to Responsive Design

Learn about responsive design and how it can help create a website fit for any device.

Using Instagram for Business

Now with over 150 million users sharing 45 million photos a day, Instagram is becoming increasingly important for brands. The nature of Instagram means it is a natural way to promote your company culture...

Do's and Don'ts of using Facebook for Business

With over one billion members, Facebook is hard to ignore. There are many features that make it useful for businesses and provide new opportunities.

A Guide to Pinterest

New to Pinterest? Here's our guide to setting up an account and starting Pinning!

The Basics of Search Engine Optimisation (SEO)

Find out the basics of search engine optimisation in our simple(ish) guide.

Top things you need to know about PCI compliance as a website owner in the UK

After receiving a lot of questions about PCI compliance from our clients we decided to write an article about the subject that breaks through the dense layers of information and tells you what you need to know.





The screenshot shows a web browser window with the title "CSS Media Queries for iPads & iPhones" and the URL "stephen.io/mediaqueries/". The page content includes a header with the name "STEPHEN GILBERT | ANCHOUR", a large main heading, and two paragraphs of text. At the bottom, there is a navigation bar with four items: "iPad", "iPad mini", "iPhone", and "iPhone 6 Plus".

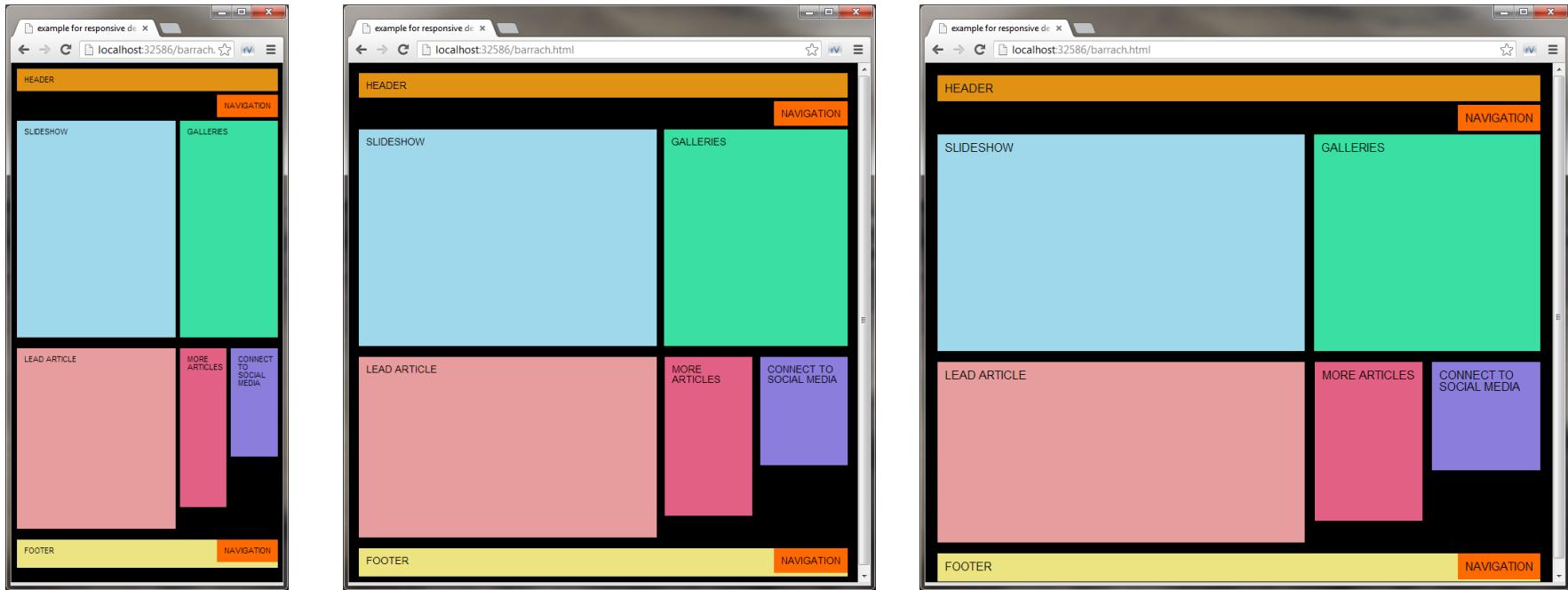
CSS Media Queries for
iPads & iPhones

Many times I've had to design responsive websites targeting specific devices with CSS media queries, and not just base the break points from the site's content. Because of this, I've ended up with a somewhat large list of CSS media queries for typical devices over the past year or two.

I've posted these media queries to help designers & developers save some time searching. I'll continue adding to the list as Apple (or another company that can sell a significant amount of products) releases them.

iPad iPad mini iPhone iPhone 6 Plus

scaling fonts



```
@media screen and (min-width:481px ) and (max-width:768px) {  
    p { font-size: 0.9em; }  
}  
@media screen and (max-width:480px) {  
    p { font-size: 0.7em; }  
}
```

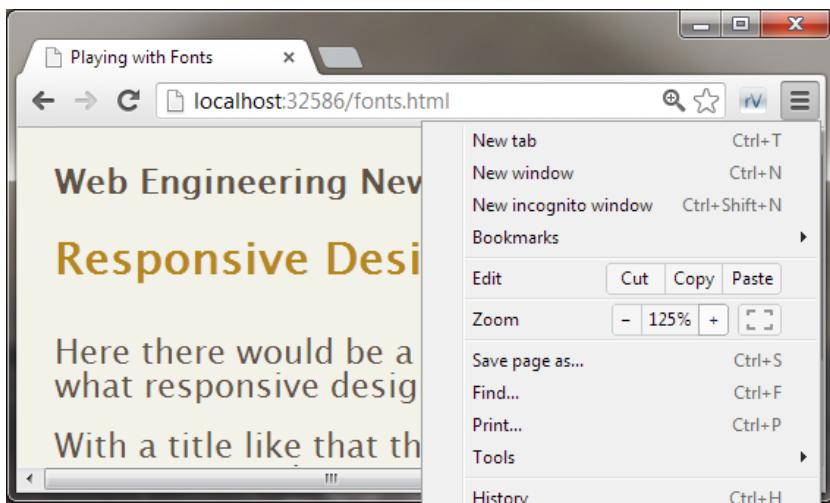
fonts and font sizing

font-size: 100% sets base type size to browser's default, e.g. 16px

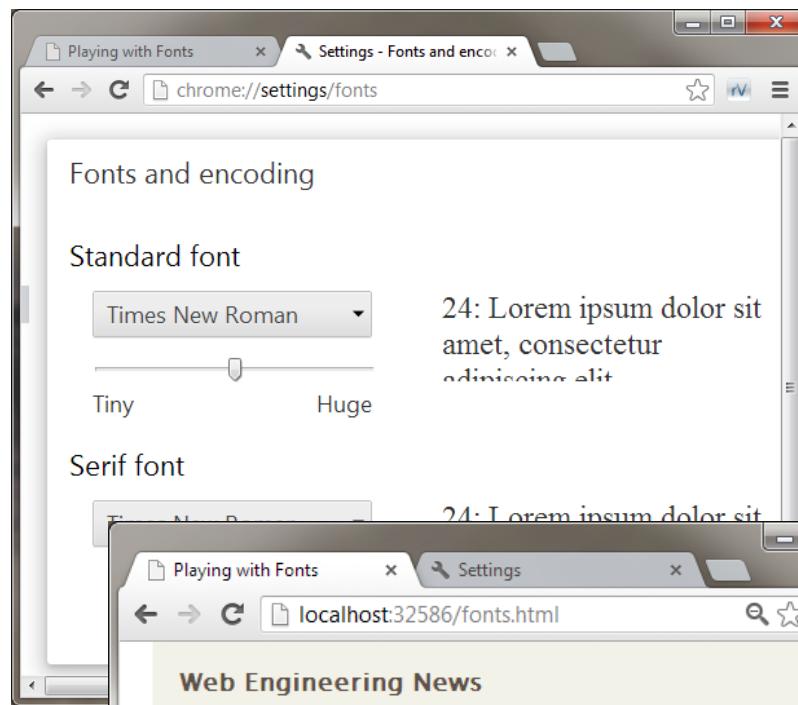


```
body {  
    font-size: 100%;  
    font-family: "Lucida Grande", "Lucida Sans Unicode", Helvetica, sans serif;  
    font-weight: normal; color: #5d5148;  
}  
h2 { font-size: 18px; }  
h3 { font-size: 24px; color: #b68718; }
```

zooming and changing font size settings



setting zoom



changing font setting



relative font sizing

size of an element's **em** is computed relative to the font-size of the parent

```
body {  
    font-size: 100%;  
    font-family: "Lucida Grande",  
    "Lucida Sans Unicode", Helvetica,  
    sans serif;  
    font-weight: normal; color: #5d5148;  
}  
  
h2 { font-size: 1.2em; }  
h3 { font-size: 1.4em; color: #b68718; }
```



font-sizing alternatives

px

fixed-size units used in screen media, 1px
smallest division of screen resolution

em

a scalable unit with 1em equal to the font-size
of the parent element

pt

fixed-size units traditionally used in print
media, 1pt equal to 1/72"

%

scales with respect to current font-size

note that you can also
use em for paddings
and margins so they
scale accordingly

	<code>body { font-size: 100%; }</code>	<code>body { font-size: 120%; }</code>
<code>font-size: 1em</code>	The quick brown fox	The quick brown
<code>font-size: 12pt</code>	The quick brown fox	The quick brown fox
<code>font-size: 16px</code>	The quick brown fox	The quick brown fox
<code>font-size: 100%</code>	The quick brown fox	The quick brown

© KyleSchaeffer.com

what exactly is an em?

origins in printing and typography

traditionally defined as the width of the letter “M” in the current typeface and point size

since “M” was the widest (and tallest) letter this determined the size of the blocks used in the printing press

evolved to have a general meaning for different fonts, typefaces and character sets



tip from practitioners

use % on the body element

```
body { font-size: 62.5%; }
```

use **em** unit from there

so with a default of 16px

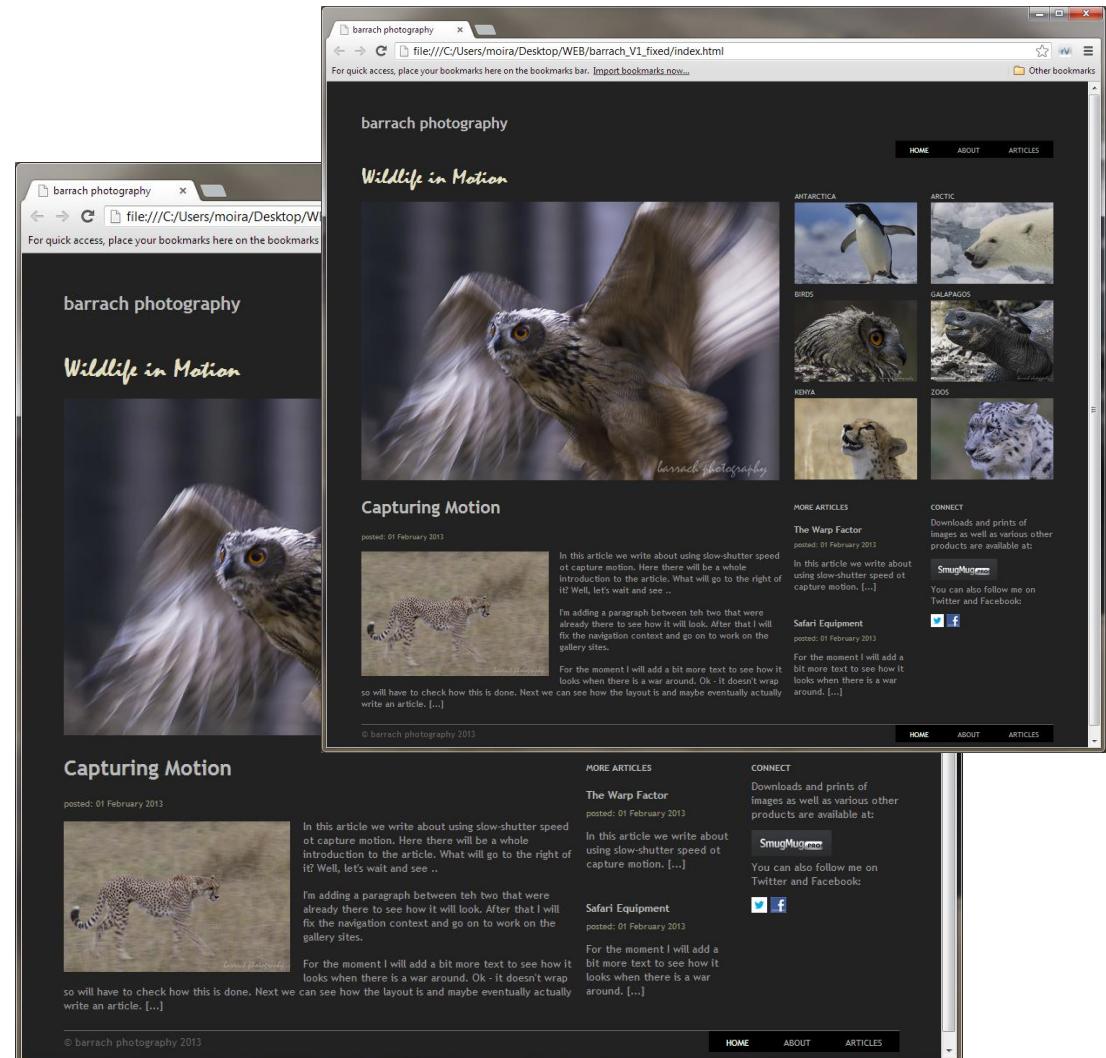
1em	10px
1.1em	11px
1.2em	12px
1.4em	14px

further problems with px

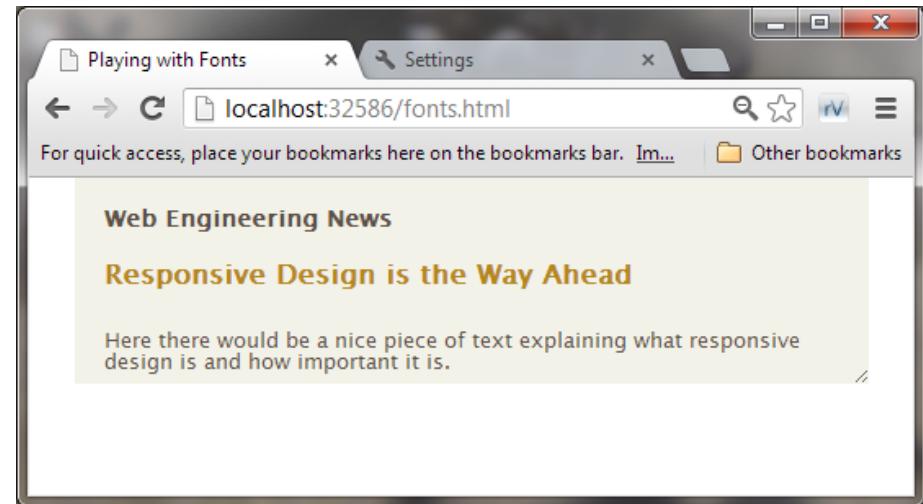
it is fixed, but also dependent
on screen resolution

as screen resolution increases,
font sizes actually decrease

consider modern mobile
devices with high density
screens which make small px
fonts difficult to read



CSS3 text overflow and resizing



text overflows main area

```
#main {  
    width: 500px;  
    height: 100px;  
    resize: vertical;  
    overflow: hidden;  
}
```

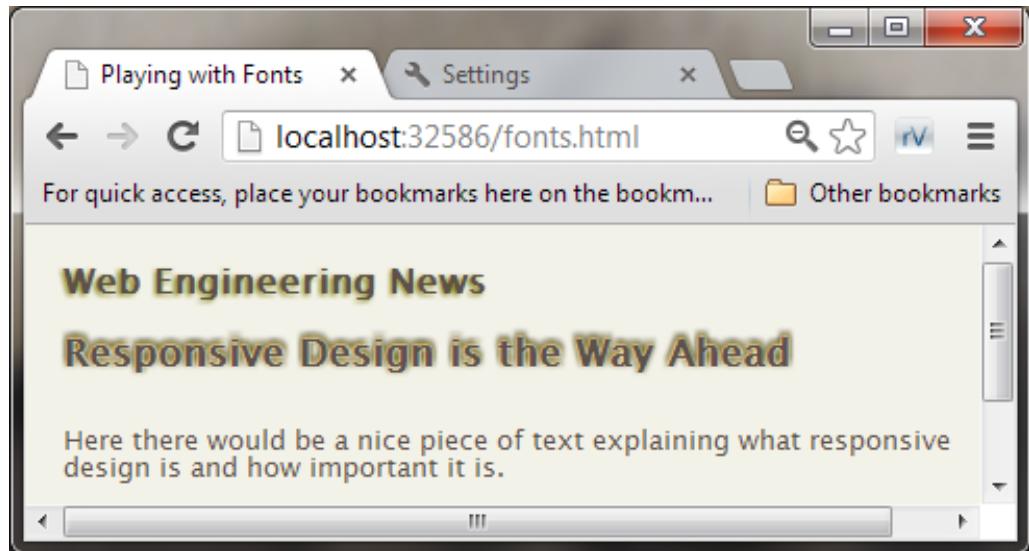


overflow text hidden and can resize vertically

CSS3 text shadows

```
{ text-shadow: x y blur color ; }
```

```
h2 {  
    font-size: 1.8em;  
    text-shadow: -2px 2px 4px #8f8f21;  
}  
  
h3 {  
    font-size: 2em;  
    color: #5d5148;  
    text-shadow:  
        0 -1px 3px #fff,  
        0 -1.5px 3px #c09632,  
        0 -2px 6px #867c10,  
        0 -3px 6px #000;  
}
```



shadows should also be converted to **em** (or %)

web fonts

allows the use of fonts
other than those
available on the user's
system

```
@font-face {  
    font-family: Chunk;  
    src: local('ChunkFive'), url('ChunkFive.ttf') format('truetype');  
}  
  
h2.webfont { font-family: Chunk, sans serif; }
```

available in CSS2 but
dropped in CSS2.1 due
to lack of support

```
<h2 class="webfont">Chunky Title</h2>
```

font-family	my name for font
src	one or more sources
local	true font name

note: supported in IE
since 1997

multiple font-faces

```
@font-face {  
    font-family: 'Museo Sans';  
    src: local('Museo Sans'), url('MuseoSans_500.otf') format('opentype');  
}
```

```
@font-face {  
    font-family: 'Museo Sans';  
    font-style: italic;  
    src: local('Museo Sans'), url('MuseoSans_500_Italic.otf') format('opentype');  
}
```

advantage that italic will be applied automatically

```
h2 { font-family: 'Museo Sans', sans serif; }
```

```
<h2><em>My Heading in Italics</em></h2>
```

true versus artificial font faces

artificial

```
@font-face {  
    font-family: GentiumBookBasic ;  
    src: local('Gentium Book Basic Regular'), url('GenBkBasR.ttf') format('truetype') ;  
}  
h2 {  
    font-family: GentiumBookBasic, sans-serif;  
    font-style: italic;  
}
```

true

```
@font-face {  
    font-family: GentiumBookBasicItalic ;  
    src: local('Gentium Book Basic Italic'), url('GenBkBasI.ttf') format('truetype') ;  
}  
h2 {  
    font-family: GentiumBookBasicItalic, sans-serif;  
}
```

some browsers will try to create their own italic font face while others will ignore it and give you regular face

font formats

fonts come in different formats and browsers vary in their support

eot	Embeddable Open Type
otf	OpenType
ttf	TrueType
woff	Web Open Font Format
svg	Scalable Vector Graphics

can create a stack to ensure widest possible range of browsers supported

```
@font-face {  
  font-family: name;  
  src: local('☺'),  
       url('filename.woff') format('woff'),  
       url('filename.otf') format('opentype'),  
       url('filename.svg#filename') format('svg');  
}
```

but this requires
that fonts
available in
multiple formats

licensing fonts for web use

many font foundries forbid embedding web fonts in web pages using @font-face since OpenType and TrueType too easy to locate and download

WOFF is a web-only format that can contain licensing information to track down copyright infringers

note that because a font is free to download, it does not mean it is free to use online

because of these issues some web font service providers have created mechanisms to include their fonts in web pages using JavaScript

Google Fonts x

www.google.com/fonts/ Search Star Bookmark More

Google Fonts

More scripts About Analytics New to Google Fonts?

674 font families shown

Word Sentence Paragraph Poster GO DOWN

Preview Text: Grumpy wizards make toxic brew for the evil Queen and Jack. Font Text Size: 28 px Sorting: Popularity

Filters:

- All categories
- Thickness
- Slant
- Width

Script:

- Latin

Reset all filters/search

Styles:

- Show all styles

Normal 400

Grumpy wizards make toxic brew for the evil Queen and Jack.

[Open Sans](#), 10 Styles by Steve Matteson Font Text Add to Collection

Normal 400

Grumpy wizards make toxic brew for the evil Queen and Jack.

[Roboto](#), 12 Styles by Christian Robertson Font Text Add to Collection

Normal 400

Grumpy wizards make toxic brew for the evil Queen and Jack.

[Lato](#), 10 Styles by Lukasz Dziedzic Font Text Add to Collection

Normal 400

Grumpy wizards make toxic brew for the evil Queen and Jack.

[Oswald](#), 3 Styles by Vernon Adams Font Text Add to Collection

Collection (0 font families) Choose Review Use

The screenshot shows the Google Fonts interface with the 'Sentence' tab selected. It displays four font families: Open Sans, Roboto, Lato, and Oswald, each shown in a sentence context ('Grumpy wizards make toxic brew for the evil Queen and Jack.') with preview buttons and an 'Add to Collection' button. The interface includes filters for categories, thickness, slant, width, script (Latin), and styles, along with a search and reset function. The bottom navigation bar includes 'Choose', 'Review', and 'Use' buttons.

books

