Tuesday, January 26, 2016

构建移动端网站

Content

- Flex Layout
- Responsive Web Design
- Grid System
- Mobile Optimization
- 移动端适配
- Other Aspects

Flex Layout

[Flex 语法](http://www.ruanyifeng.com/blog/2015/07/flex-grammar.html)
[Flex 实战]http://www.ruanyifeng.com/blog/2015/07/flex-examples.html
[](https://developer.mozilla.org/en-US/docs/Web/CSS/CSS_Flexible_Box_Layout/Using_CSS_flexible_boxes)

Responsive Web Design

[RWD demo](https://googlesamples.github.io/web-fundamentals/samples/fundamentals/getting-started/your-first-multi-screen-site/content-with-styles.html)

https://www.thinkwithgoogle.com/

[media query sites demo](http://mediaqueri.es/)

MEDIA QUERY:
[](https://developer.mozilla.org/zh-CN/docs/Web/Guide/CSS/Media_queries)

THE RWD STRATEGY:
mobile first
desktop first

mobile first:
PRIORITIZES CONTENT

ALLOWS PROGRESSIVE ENHANCEMENT

BREAKPOINT:
breakpoint 是在那些关键尺寸, 你的布局需要变动, 比如 bootstrap

<768px ,
768<= x
992<=x
1200<=x

Use relative units

RWD patterns:

[layout patterns](https://developers.google.com/web/fundamentals/design-and-ui/responsive/patterns/?hl=en)

RWD Images:

[](https://developers.google.com/web/fundamentals/design-and-ui/media/images/?hl=en)

- Use relative sizes for images
- Enhance img's with srcset for high DPI devices

<img src="image-src.png" srcset="image-1x.png 1x, image-2x.png 2x, image-3x.png 3x, image-4x.png 4x">

- Art direction in responsive images with picture

```
<picture>
  <source media="(min-width: 800px)" srcset="head.jpg, head-2x.jpg 2x">
  <source media="(min-width: 450px)" srcset="head-small.jpg, head-small-2x.jpg 2x">
  <img src="head-fb.jpg" srcset="head-fb-2x.jpg 2x" >
</picture>
```

note: css only apply to img element not picture element

- background-size or [max-]width:
- SVG, fontawsome

[](http://www.sitepoint.com/how-to-build-responsive-images-with-srcset/)
[](https://css-tricks.com/responsive-images-youre-just-changing-resolutions-use-srcset/)
[High DPI Images for Variable Pixel Densities](http://www.html5rocks.com/en/mobile/high-dpi/#toc-tech-overview)
[](http://www.sitepoint.com/how-to-build-responsive-images-with-srcset/)

[](https://developers.google.com/web/fundamentals/design-and-ui/media/images/images-in-markup?hl=en)

RWD Video

https://developers.google.com/web/fundamentals/design-and-ui/media/video/?hl=en

transposing Table:

>We recommend on a narrow viewport that you make your table into two rows, transposing the heading and cells in a row to make the columnar.

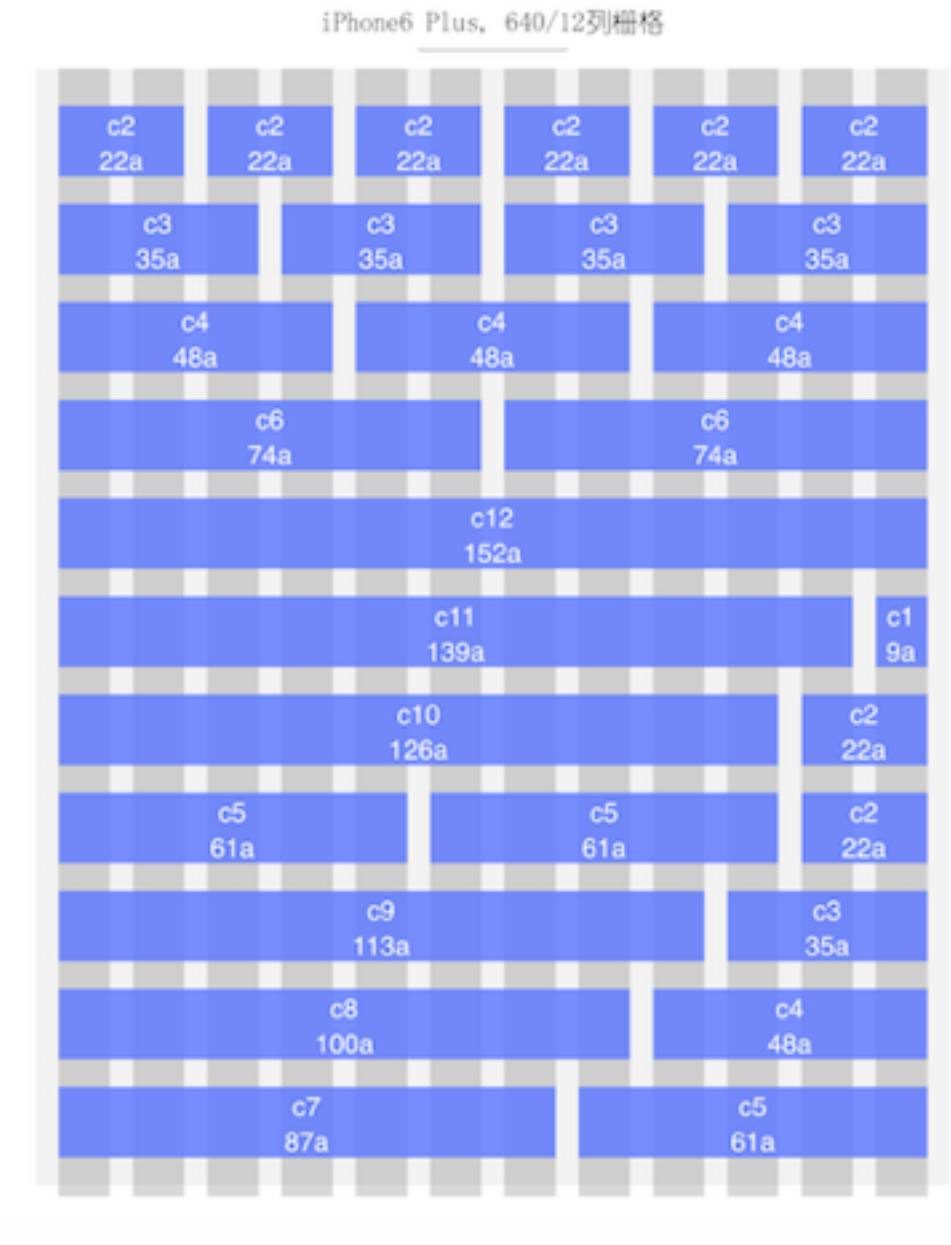
@[tables section](https://developers.google.com/web/fundamentals/getting-started/your-first-multi-screen-site/responsive?hl=en)

[](https://developers.google.com/web/fundamentals/design-and-ui/responsive/?hl=en)

[Responsive Web Design Pattern](https://bradfrost.github.io/this-is-responsive/patterns.html)

Grid System

what is Grid system:
a structure comprising a series of horizontal and vertical lines, used to arrange content.



what it provides:

Using a grid system in your designs is one way to achieve a level of consistency that would be otherwise extremely difficult to master and to portray in your designs.

Bootstrap Grid System :
http://getbootstrap.com/css/#grid

- 12 columns
- capable different layout
- helper class

http://getbootstrap.com/css/#grid-example-mixed-complete

https://github.com/twbs/bootstrap/blob/v4-grid-classes/

[Bootstrap 栅格系统的精妙之处](http://segmentfault.com/a/1190000000743553)

[网页的栅格系统设计](http://ued.taobao.org/blog/2008/09/grid_systems/)

Mobile Optimization

[](https://developers.google.com/web/fundamentals/performance/?hl=en)
[](https://www.smashingmagazine.com/2013/04/build-fast-loading-mobile-website/)

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移动端适配

REM:
html : font-size:

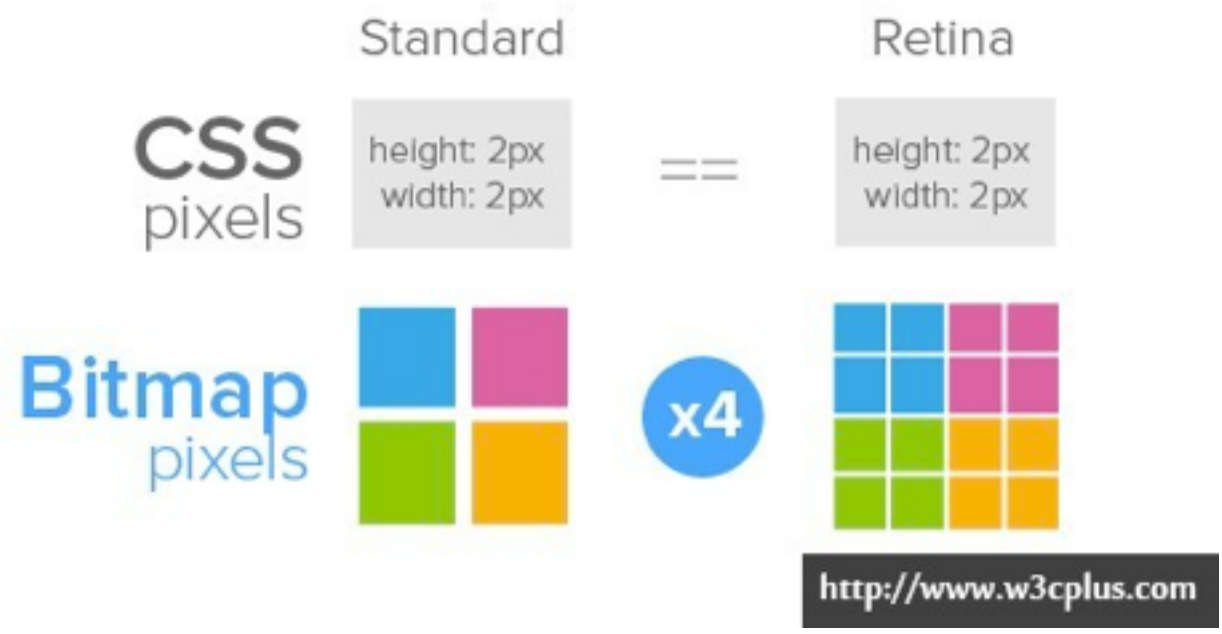
em:

HDPI 屏幕:

设备像素: 设备屏幕具有的真实像素数目

CSS像素 (设备独立像素):

CSS像素是一个抽象的单位，主要使用在浏览器上，用来精确的度量（确定）Web页面上的内容。一般情况下，CSS像素被称为与设备无关的像素（device-independent像素），简称为“DIPs”。在一个标准的显示密度下，一个CSS像素对应着一个设备像素。



css pixel = device_pixel / devicePixelRatio

设备像素和css像素的关系:
取决于两个条件: 页面是否缩放, 屏幕是否为 high dpi

获取布局视口(view port)的尺寸:

document.documentElement.clientWidth/Height

获取视觉视口的尺寸:
用户正在看到的网页的区域，大小是屏幕中CSS像素的数量

window.innerWidth/Height

VIEWPORT 标签:

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

默认的情况是, 浏览器会以一个更大的虚拟布局去渲染页面, 加上width=device-with 之后浏览器视口的宽度就变成了device的宽度

[A tale of two viewports — part one](http://www.quirksmode.org/mobile/viewports.html)
[A tale of two viewports — part two](http://www.quirksmode.org/mobile/viewports2.html)
[meta view port](http://www.quirksmode.org/mobile/metaviewport/)
[A pixel is not a pixel is not a pixel](http://www.quirksmode.org/blog/archives/2010/04/a_pixel_is_not.html)

[](https://developer.mozilla.org/zh-CN/docs/Mobile/Viewport_meta_tag)
[Responsive Meta Tag](https://css-tricks.com/snippets/html/responsive-meta-tag/)

基于REM的屏幕适配:

http://div.io/topic/1092

这种布局的好处就是可以根据视觉稿准确计算元素间的各个比例的位置, 通过rem来进行设置。可以完美还原设计稿的样式。

REM 基准值:
rem = document.documentElement.clientWidth * dpr / 10

说明:

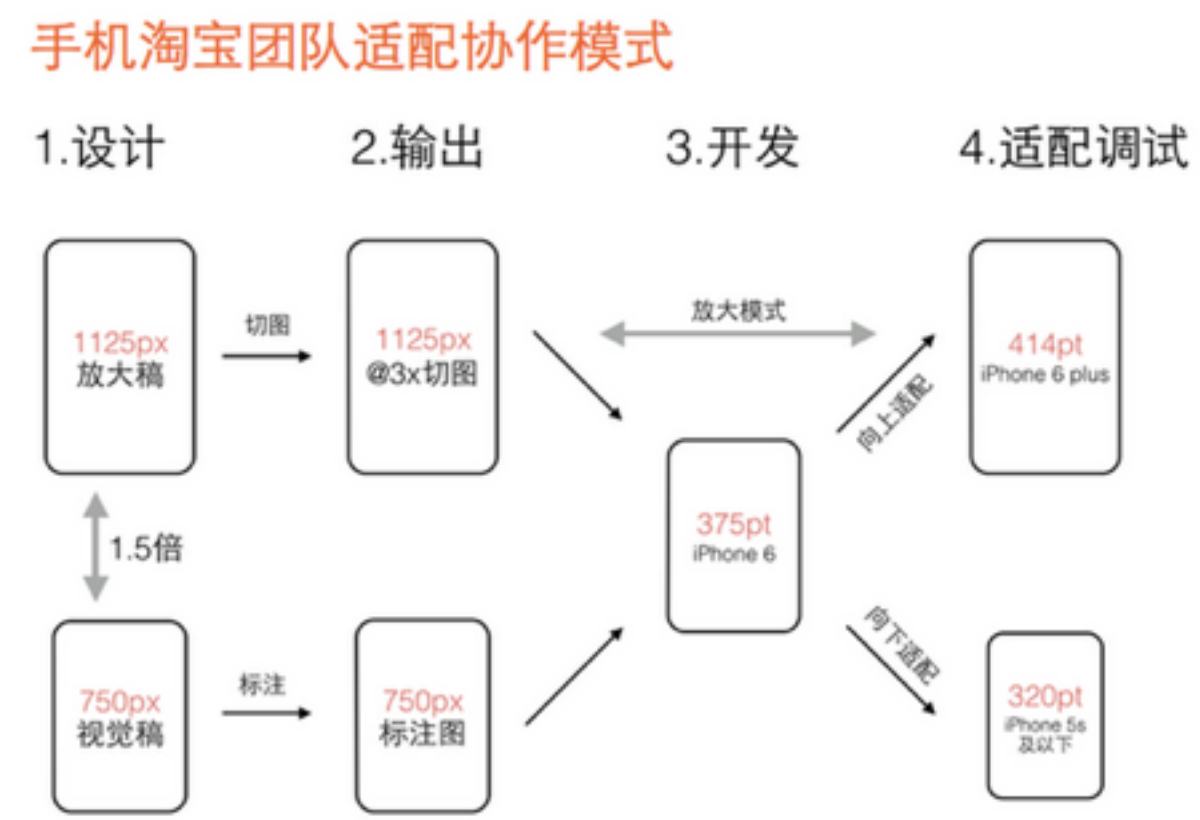
- 乘以dpr，是因为页面有可能为了实现1px border页面会缩放(scale) 1/dpr 倍(如果没有，dpr=1),。理论上是不需要考虑dpr的, 因为比例都是按照宽度的1/10作为基准放大或者缩小的。不考虑dpr 布局宽度就是文档的css 宽度. 如果考虑dpr则布局宽度则是文档宽度*dpr。不为了实现1px border 不需要考虑dpr
- 除以10，是为了取整，方便计算(理论上可以是任何值)

字体大小问题:
字体不能用REM进行适配的原因:
(注意，字体不可以用rem，误差太大了，且不能满足任何屏幕下字体大小相同)

字体如何适配:

```
font-size: 16px;
[data-dpr="2"] input {
  font-size: 32px;
}
```

手机淘宝的协作模式:



http://www.cnblogs.com/lyzg/p/4877277.html

链接:

! [移动端高清、多屏适配方案](http://div.io/topic/1092)
这个链接的基于REM的方案比较好, 要比手淘的方案更好和细腻

[移动端适配方案(上)](https://github.com/riskers/blog/issues/17)
! [移动端适配方案(下)](https://github.com/riskers/blog/issues/18)

[移动端自适应方案](http://f2e.souche.com/blog/yi-dong-duan-zi-gua-ying-fang-an/)

[走向视网膜（Retina）的Web时代](http://www.w3cplus.com/css/towards-retina-web.html)

[使用Flexible实现手淘H5页面的终端适配](https://github.com/amfe/article/issues/17)
[手淘移动端方案库](https://github.com/amfe/lib-flexible)

Other Aspects:

Hybrid Application:

Single Page Web Application（单页面应用）

reactjs：

functional, ui-libary, more composible, single data stream. much more modular(css html js)

[css module](http://zhuanlan.zhihu.com/purerender/20495964)

anguarjs 1.x

two-way data binding. MVC framework, heigh-weight, hard to master. easy to prototype.

MEAN stack

Mongoose, Express, Aularjs, Nodes

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The Rise of React Native:

Learn once, write anywhere.

[前端资源博客](https://www.smashingmagazine.com/)