USING RESPONSIVE IMAGES (NOW)
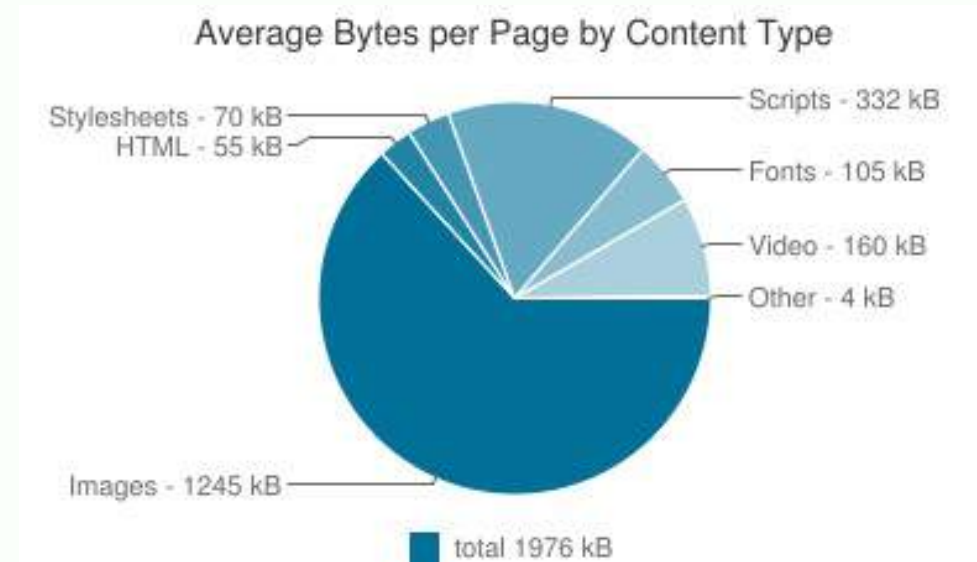
By Chen Hui Jing / @hj_chen

SO YOU WANT TO BUILD A RESPONSIVE WEBSITE?

THE OBESITY PROBLEM

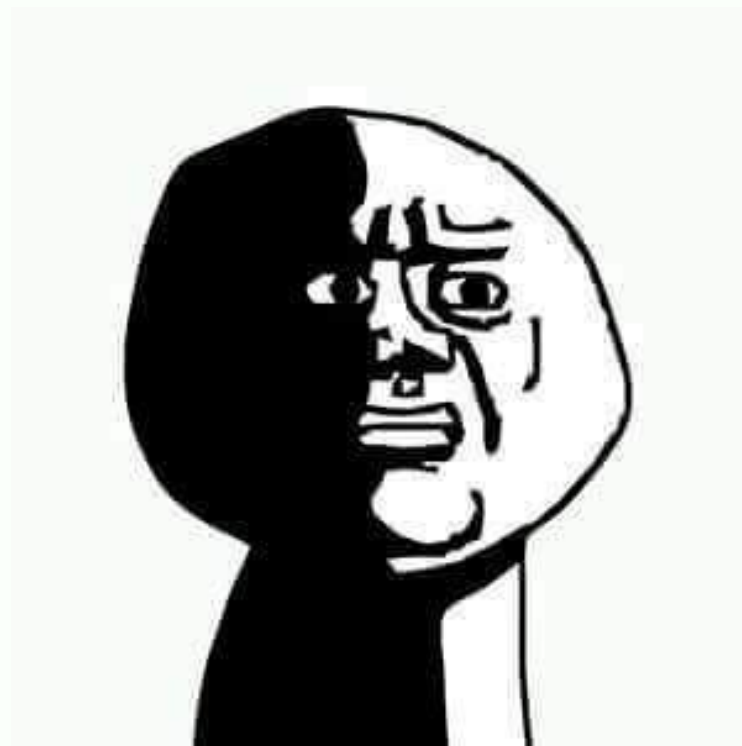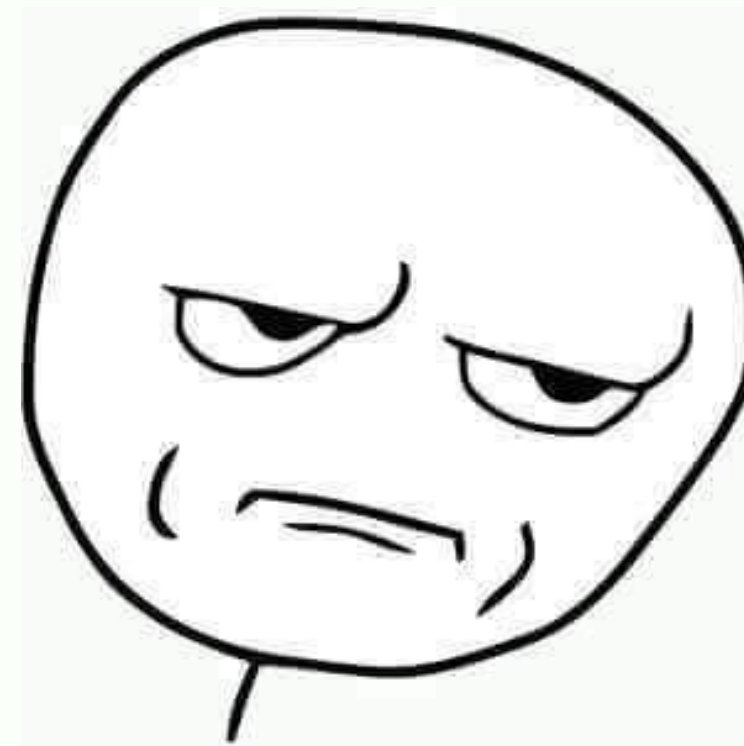Source: http archive

>60% from images

LOSE-LOSE SITUATION

Blurry image on HD 5K display?

5mb pixel-dense image on 3.8inch Nokia phone?

POTENTIAL SOLUTIONS

WURFL.js	Requires additional development effort for it to place nice in your project
Adaptive image	Server-side solution; Dependent on PHP; May need to mess around with server configuration
Using cookies	Mostly experimental; Not advisable for production sites
Hack `<img>`	Not scalable for image heavy sites; Fails validation; Not semantic

<SRCSET> AND <PICTURE>

Responsive image solution native to the browser.

Refer to latest specification for all the details.

SOME BACKGROUND

My name is Chen Hui Jing.

Self taught designer and developer.

Work at Nurun Singapore.

Write blog posts from time to time.

🎮 🏀 🚲 💻 👟

THE <SRCSET> ATTRIBUTE

Declare comma-separated list of image sources, which browsers will serve according to certain conditions we specify using descriptors.

DESCRIPTORS

x descriptors indicate the pixel-density of an image

w descriptors indicate the width of an image

THE <SIZES> ATTRIBUTE

Specify the intended display size of the image

Must be present if w descriptors are used

Syntax: <media-condition> <CSS length>

You can't use percentages for the second condition.
The only relative CSS lengths you can use are viewport units.

```
sizes="(max-width: 400px) 100vw,
       (max-width: 960px) 75vw,
       640px"
```

FIXED WIDTH IMAGES


```
<img srcset="crest-383.jpg 1.5x, crest-510.jpg 2x"
     src="crest-255.jpg"
     alt="USWNT crest" />
```

FLUID WIDTH IMAGES


```
<img srcset="uswnt-480.jpg 480w,
             uswnt-640.jpg 640w,
             uswnt-960.jpg 960w,
             uswnt-1280.jpg 1280w"
     sizes="(max-width: 400px) 100vw,
            (max-width: 960px) 75vw,
            640px"
     src="uswnt-640.jpg" alt="USWNT World Cup victory">
```

THE <PICTURE> ELEMENT

A wrapper for the image and its sources.

Will not work without an <img> element.

```html
<picture>
    <source media="(min-width: 40rem)"
            srcset="full-large.jpg 1024w,
                    full-medium.jpg 640w,
                    full-small.jpg 320w"
            sizes="33.3vw" />
    <source srcset="cropped-large.jpg 2x,
                    cropped-small.jpg 1x" />
    <img src="full-small.jpg" alt="An awesome image" />
</picture>
```

THE <SOURCE> ELEMENT

Allows us to declare multiple sets of image sources.

Syntax: <media attribute>|<type attribute> <srcset attribute>

```
<source media="(min-width: 1280px)" srcset="wide-large.jpg 1280w, wi
<source media="(min-width: 960px)" srcset="cropped-large.jpg 960w, c
<source srcset="narrow-large.jpg 2x, narrow-small.jpg 1x">
```

ART DIRECTION USE-CASE


```html
<picture>
  <source media="(min-width: 960px)" srcset="ticker-tape-large.jpg">
  <source media="(min-width: 575px)" srcset="ticker-tape-medium.jpg">
  <img src="ticker-tape-small.jpg" alt="USWNT ticker-tape parade">
</picture>
```

IMAGE FORMAT USE-CASE

Order of source matters.

Falls back to original <img> element.

```
<picture>
  <source type="image/vnd.ms-photo" src="wwc2015.jxr">
  <source type="image/jp2" src="wwc2015.jp2">
  <source type="image/webp" src="wwc2015.webp">
  <img src="wwc2015.png" alt="WWC 2015">
</picture>
```

CAN I USE...SRCSET?

Srcset attribute 📄 - LS

Global   56.46% + 7.72% = 64.17%

Allows authors to define various image resources and "hints" that assist a user agent to determine the most appropriate image source to display (e.g. high-resolution displays, small monitors, etc).

| Current aligned | Usage relative | Show all | | | | | | | |

IE	Edge *	Firefox	Chrome	Safari	Opera	iOS Safari *	Opera Mini *	Android Browser *	Chrome for Android
			31					4.1	
8		38	43					4.3	
9		39	44					4.4	
10		40	45	² 8		² 8.4		4.4.4	
11	² 12	41	46	9	32	9	8	44	45
	13	42	47		33				
		43	48		34				
		44	49						

CAN I USE...PICTURE?

Picture element 📄 - LS

A responsive images method to control which image resource a user agent presents to a user, based on resolution, media query and/or support for a particular image format

Global   54.29%

Current aligned   Usage relative   Show all

IE	Edge	Firefox *	Chrome	Safari	Opera	iOS Safari *	Opera Mini *	Android Browser *	Chrome for Android
			31					4.1	
8		38	43					4.3	
9		39	44					4.4	
10		40	45	8		8.4		4.4.4	
11	12	41	46	9	32	9	8	44	45
	13	42	47		33				
		43	48		34				
		44	49						

POLYFILL

The go-to polyfill for responsive images is Picturefill by Scott Jehl.

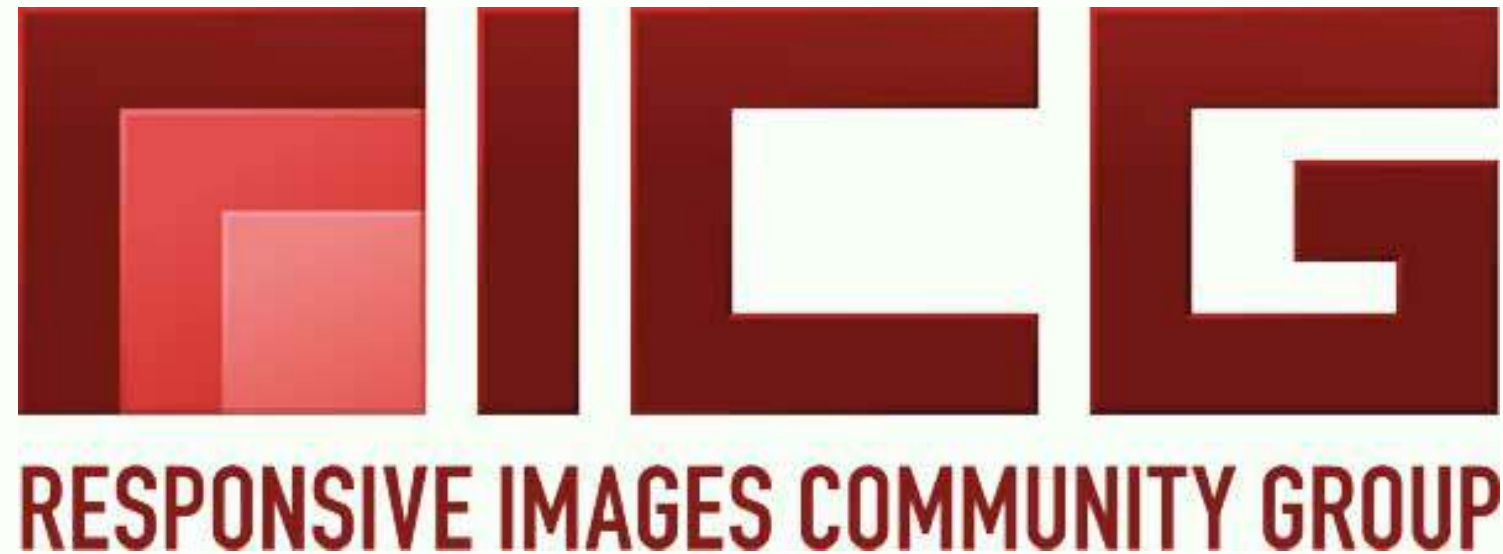# TO FIND OUT MORE...

Native Responsive Images by Yoav Weiss

Responsive images get real with Mat Marquis

The anatomy of responsive images by Jake Archibald

Srcset and sizes by Eric Portis

Responsive Images 101 by Jason Grigsby

FOR LATEST UPDATES...

Join the Responsive Images Community Group.

Sign up for their newsletter.

Follow the RICG on Twitter.

THE END

http://www.chenhuijing.com

@hj_chen

@hj_chen

@huijing