MAKING YOUR RESPONSIVE SITE

PICTURE PERFECT

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July 31, 2014 - Capital Camp and Gov Days '14
August 23, 2014 - Drupal Camp Asheville 2014
September 13, 2014 - Drupal Camp Chattanooga 2014

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- Started using Drupal in 2005
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PLAY ALONG AT HOME

Download a PDF and the code from this presentation at
http://startinggravity.github.io/picture-perfect-drupal

WHERE ARE WE TRYING TO GO?

GREAT LOOKING WEBSITES

...THAT LOOK GOOD ON ANY DEVICE

EASY RESPONSIVE IMAGES

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

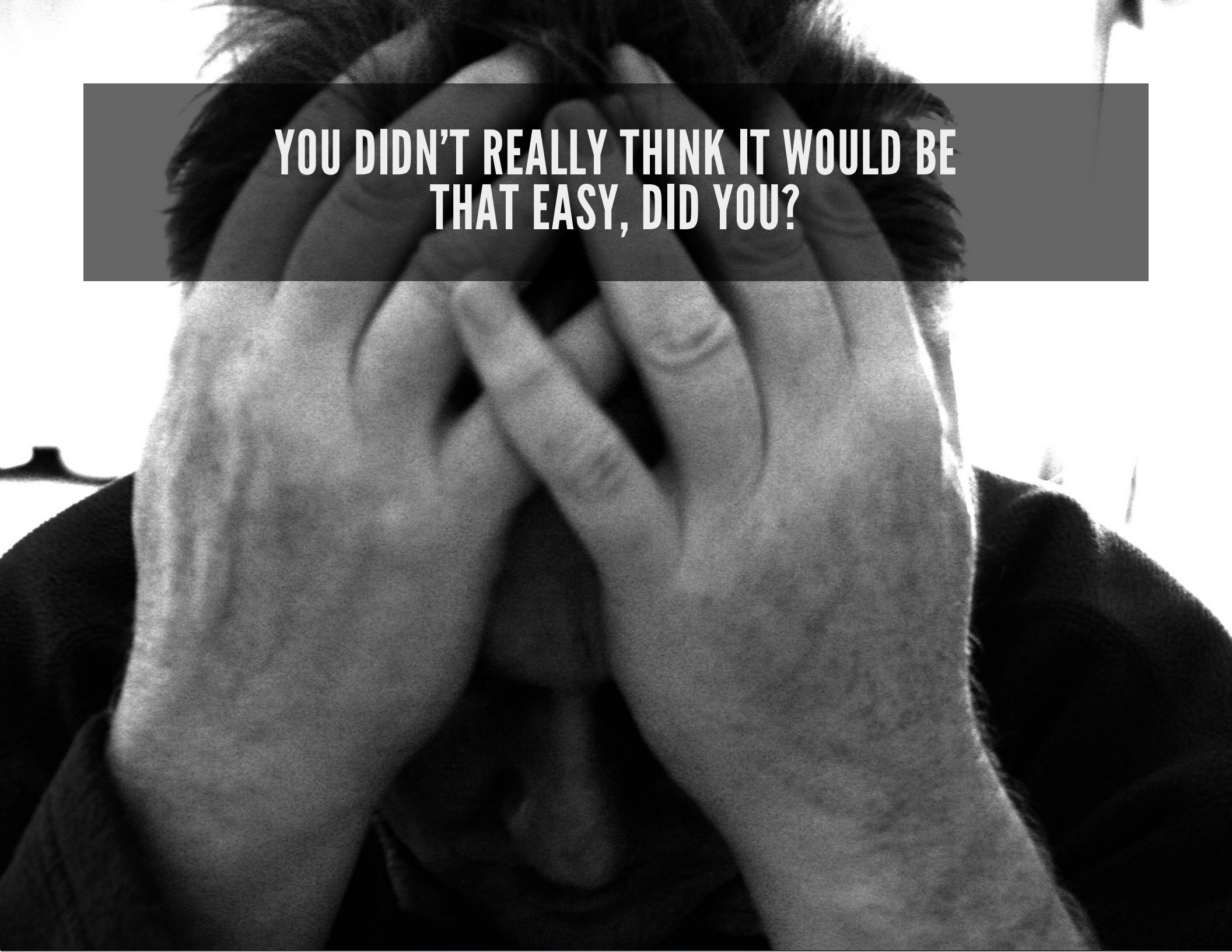
Except... This won't work on IE 6 or 7

http://sassmeister.com/gist/startinggravity/4f7f692eb60e92c23ece

EASY RESPONSIVE IMAGES FOR IE 6 & 7

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

THANK YOU

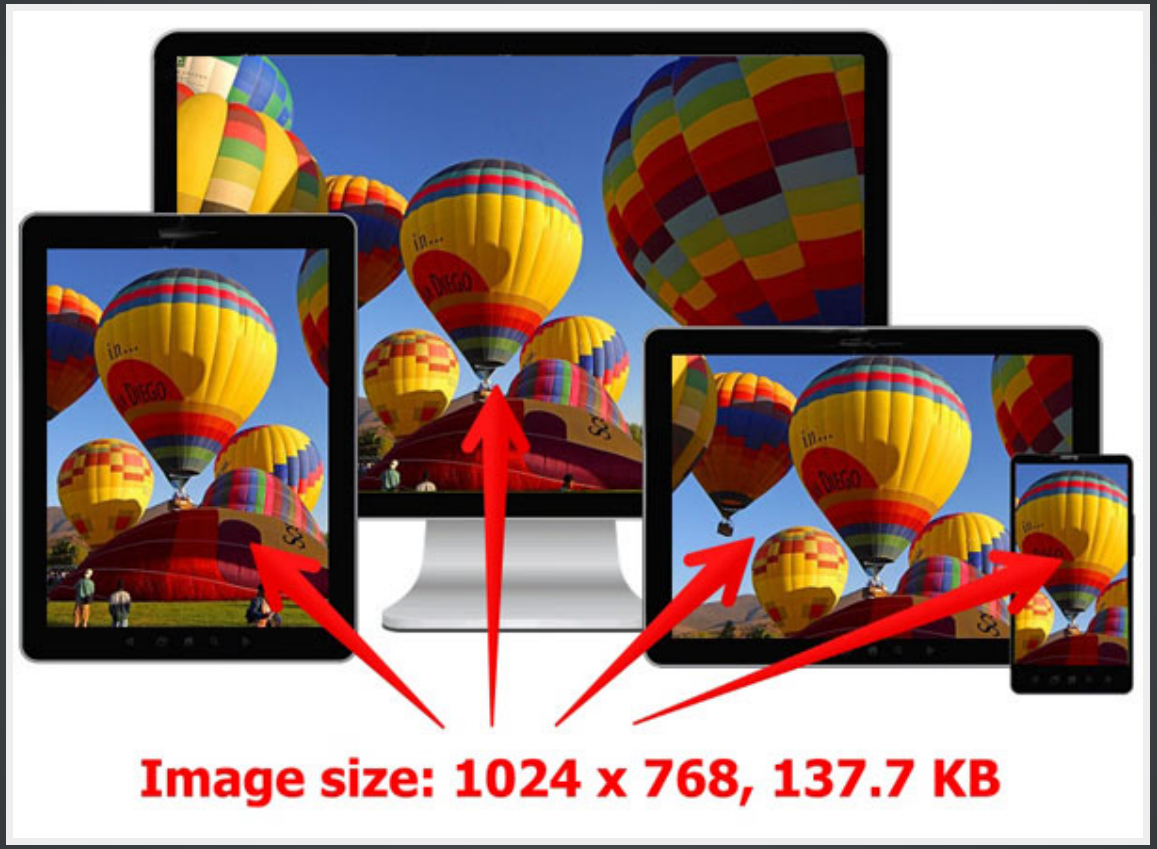

YOU DIDN’T REALLY THINK IT WOULD BE
THAT EASY, DID YOU?

WHAT'S WRONG WITH THE EASY WAY?

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

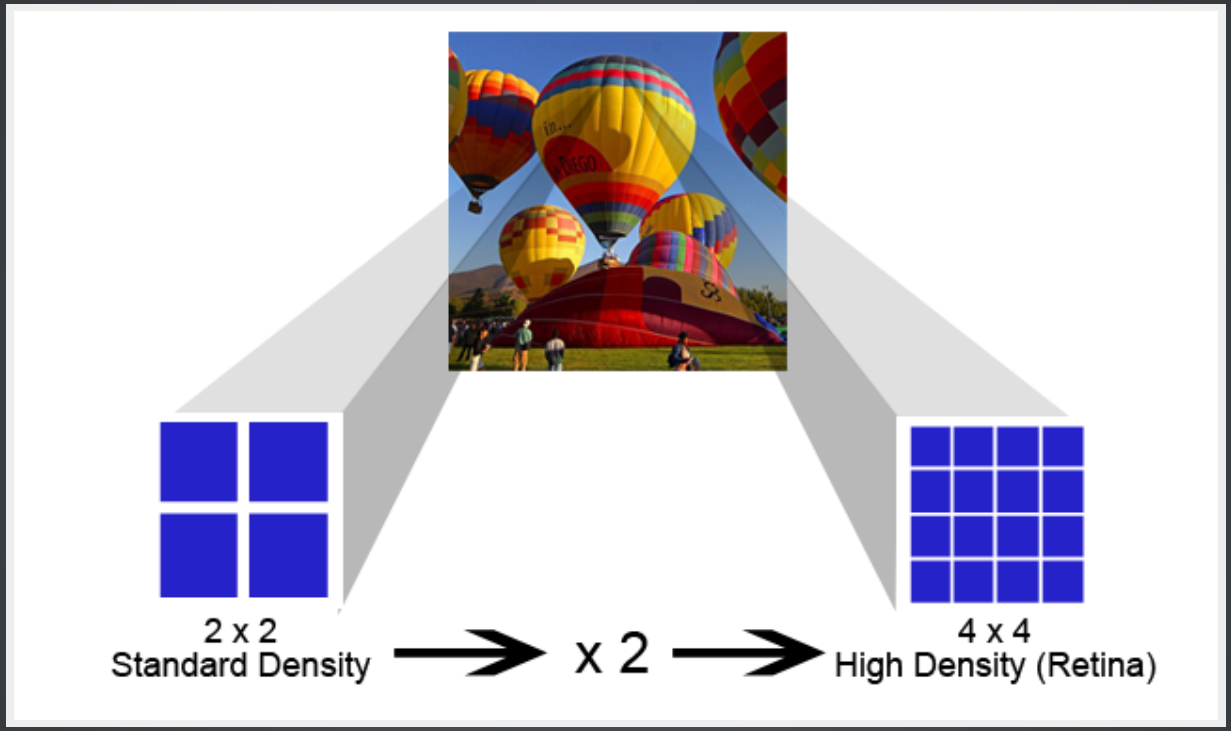
ONE SIZE DOES NOT FIT ALL!

Display Size



ONE SIZE DOES NOT FIT ALL!

Pixel Density



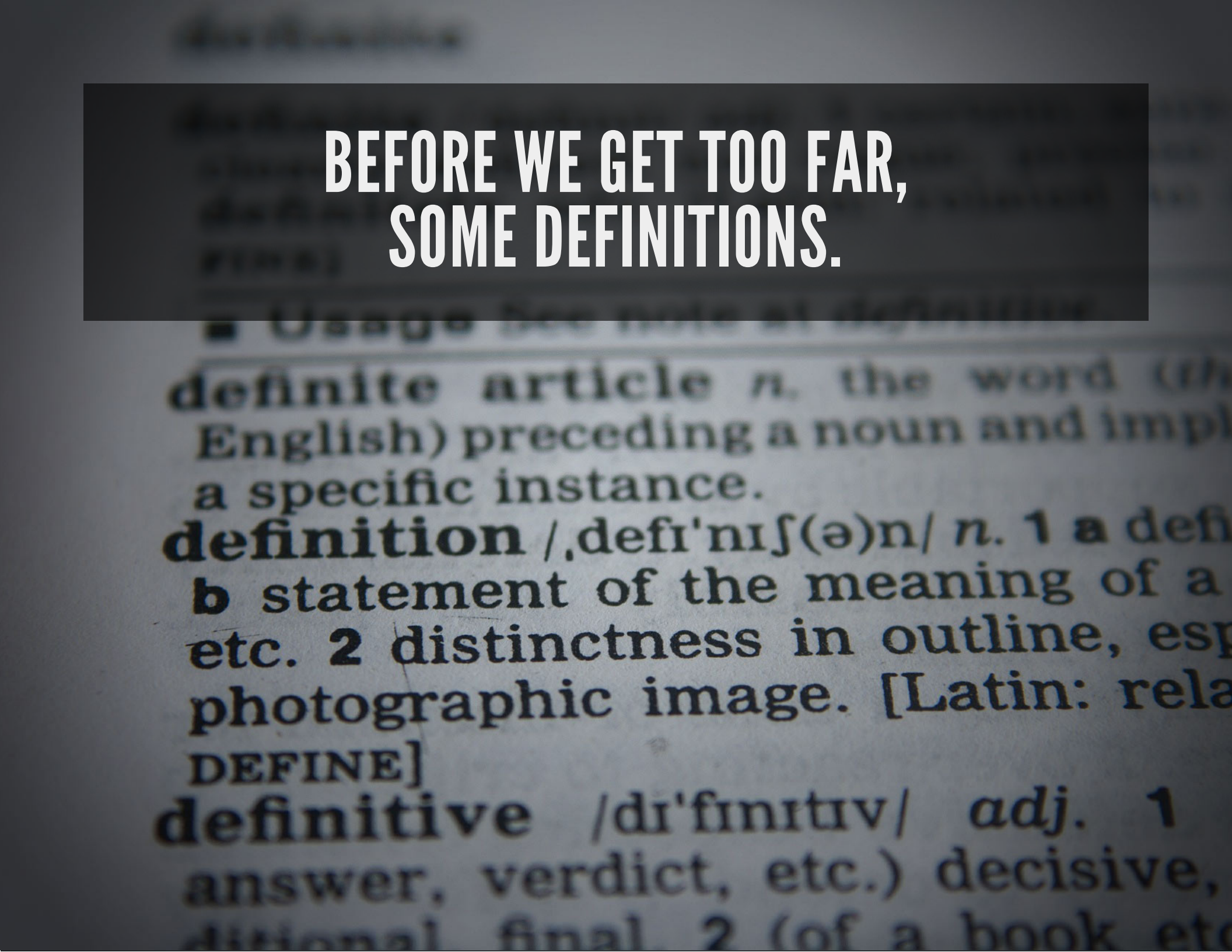
FOR GREAT IMAGES YOU MUST
USE THE RIGHT TOOLS

WHAT WE'LL USE

- Media Queries
- Breakpoints
- CSS Preprocessor (Sass)
- Compass
- Sprites
- Icon Fonts
- Modernizr.js
- Vector Graphics (SVG)

AND WE'LL USE

- Picture Module
- Breakpoints Module


BEFORE WE GET TOO FAR,
SOME DEFINITIONS.
definite article n. the word
English) preceding a noun and
a specific instance.
definition /ˌdefɪˈnɪʃ(ə)n/ n. 1 a
b statement of the meaning of a
etc. 2 distinctness in outline,
photographic image. [Latin:
DEFINE]
definitive /dɪˈfɪnɪtɪv/ adj. 1
answer, verdict, etc.) decisive,

MEDIA QUERY

A media type and zero or more expressions that define a style sheet's scope. These may be such things as width, height, color or resolution.

MEDIA QUERY

```
@media (max-width: 50.875em) {
  .links a {
    display: block;
    font-weight: 400;
    height: 70px;
    color: red;
  }
}
@media (max-width: 68.75em) {
  .links a {
    height: 90px;
    color: blue;
  }
}
```

BREAKPOINT

A defined point in the display where we want to make stuff change, such as the size and position of text and images, and the number of columns.

MULTIPLIER

A number indicating the increased total of pixels displayed in an image compared to a standard image.

CSS PREPROCESSOR

A preprocessed language to parse code into CSS. This allows for variables, selector inheritance and other shorthand methods to be used to speed up coding and make the CSS more flexible.

Sass: http://sass-lang.com

COMPASS

Extends the use of Sass by providing reusable patterns.

Compass: http://compass-style.org

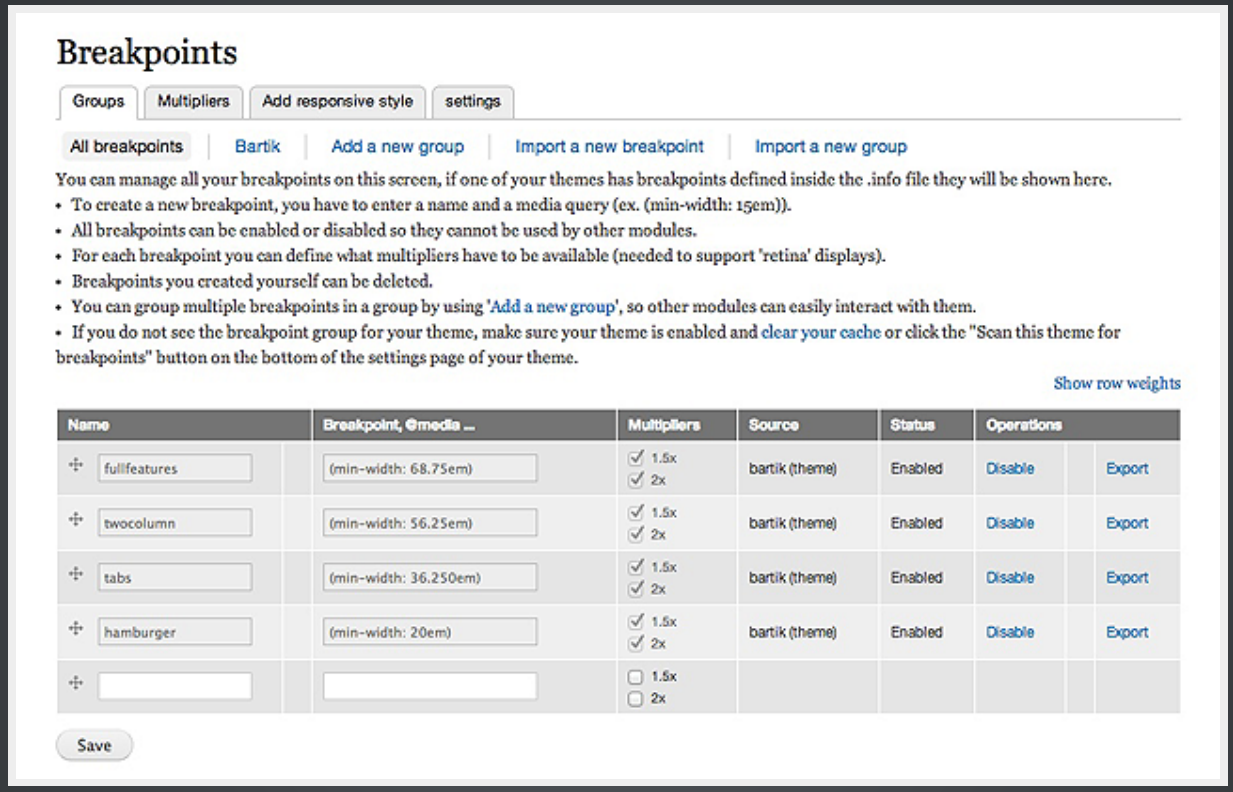
PICTURE MODULE:
PICTUREFILL POLYFILL GOODNESS BAKED IN!
AVAILABLE NOW IN DRUPAL 7
INCLUDED IN CORE FOR DRUPAL 8

PICTURE MODULE

```
<picture>
  <!--[if IE 9]><video style="display: none;"><![endif]-->
  <source srcset="images/extralarge.jpg" media="(min-width: 1000px)">
  <source srcset="images/large.jpg" media="(min-width: 800px)">
  <!--[if IE 9]></video><![endif]-->
  <img src="images/medium.jpg" alt="A picture">
</picture>
```

https://www.drupal.org/project/picture

BREAKPOINTS MODULE



Breakpoints

Groups | Multipliers | Add responsive style | settings

All breakpoints | Bartik | Add a new group | Import a new breakpoint | Import a new group

You can manage all your breakpoints on this screen, if one of your themes has breakpoints defined inside the .info file they will be shown here.

- To create a new breakpoint, you have to enter a name and a media query (ex. (min-width: 15em)).
- All breakpoints can be enabled or disabled so they cannot be used by other modules.
- For each breakpoint you can define what multipliers have to be available (needed to support 'retina' displays).
- Breakpoints you created yourself can be deleted.
- You can group multiple breakpoints in a group by using 'Add a new group', so other modules can easily interact with them.
- If you do not see the breakpoint group for your theme, make sure your theme is enabled and clear your cache or click the "Scan this theme for breakpoints" button on the bottom of the settings page of your theme.

Show row weights

Name	Breakpoint, @media ...	Multipliers	Source	Status	Operations	
fullfeatures	(min-width: 68.75em)	1.5x, 2x	bartik (theme)	Enabled	Disable	Export
twocolumn	(min-width: 56.25em)	1.5x, 2x	bartik (theme)	Enabled	Disable	Export
tabs	(min-width: 36.250em)	1.5x, 2x	bartik (theme)	Enabled	Disable	Export
hamburger	(min-width: 20em)	1.5x, 2x	bartik (theme)	Enabled	Disable	Export
		1.5x, 2x				

Save

https://www.drupal.org/project/breakpoints

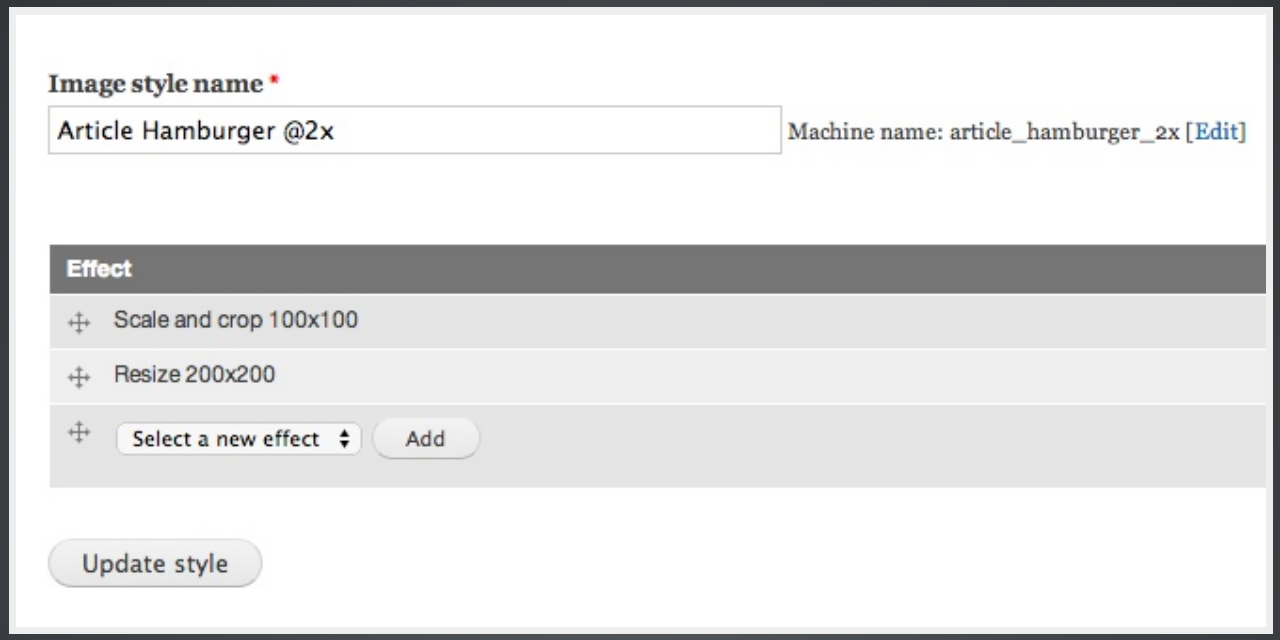
PICTURE & BREAKPOINTS MODULES

Using these modules with Image Styles allows you to select images of different sizes for your breakpoints.

PICTURE & BREAKPOINTS MODULES

Trigger the use of high-density images.

PICTURE & BREAKPOINTS MODULES



High-density versions can be created automatically with Image Styles.

PICTURE & BREAKPOINTS MODULES

Define breakpoints first

```
@import "breakpoint";
@import "compass";

// min-width (by default) if only a number
$breakpoint-hamburger: 20em; // 320px
$breakpoint-tabs: 36.250em; // 580px
$breakpoint-twocolumn: 56.25em; // 900px
$breakpoint-fullfeatures: 68.75em; // 1100px
```

If you use Sass, use the Breakpoint Compass extension.

http://sassmeister.com/gist/cd26d6de7d8779f2b4f4

PICTURE & BREAKPOINTS MODULES

Set breakpoints in theme.info

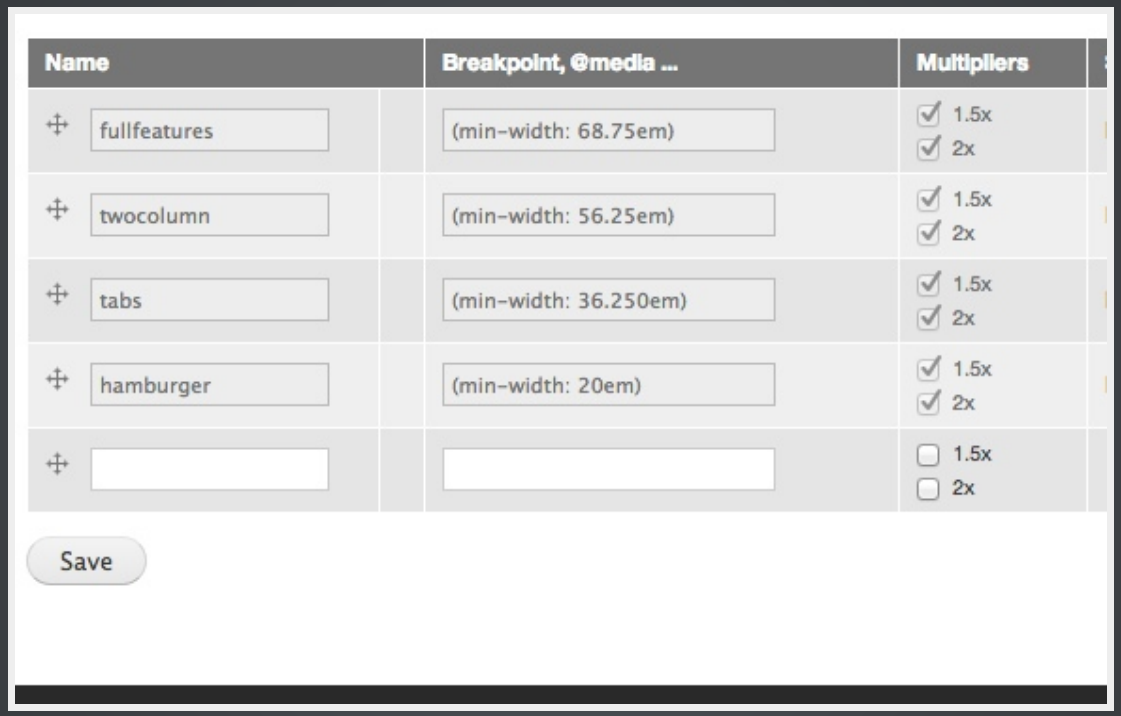
```
; ========================================
; Breakpoints
; ========================================

breakpoints[fullfeatures] = (min-width: 68.75em)
multipliers[fullfeatures][] = 1.5x
multipliers[fullfeatures][] = 2x
breakpoints[twocolumn] = (min-width: 56.25em)
multipliers[twocolumn][] = 1.5x
multipliers[twocolumn][] = 2x
breakpoints[tabs] = (min-width: 36.250em)
multipliers[tabs][] = 1.5x
multipliers[tabs][] = 2x
breakpoints[hamburger] = (min-width: 20em)
multipliers[hamburger][] = 1.5x
multipliers[hamburger][] = 2x
```

Breakpoint order should be largest to smallest.

PICTURE & BREAKPOINTS MODULES

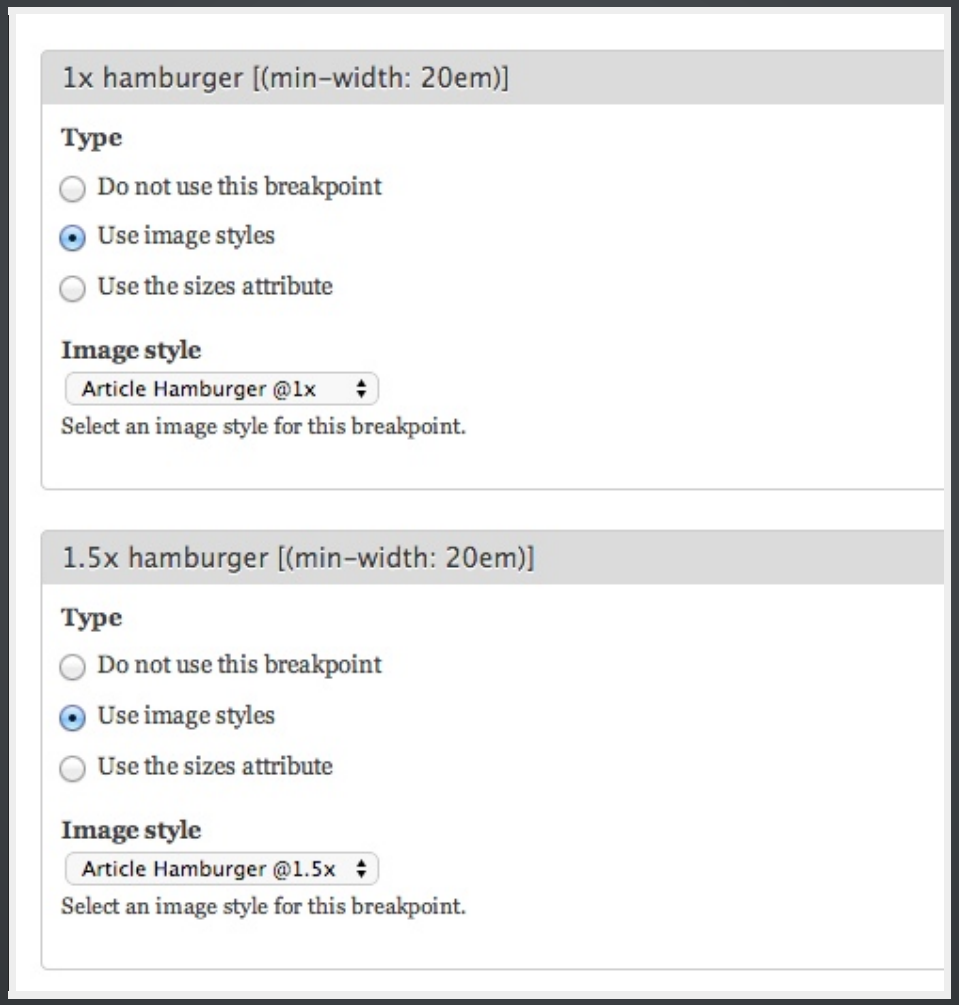
Breakpoints in theme.info will load automatically



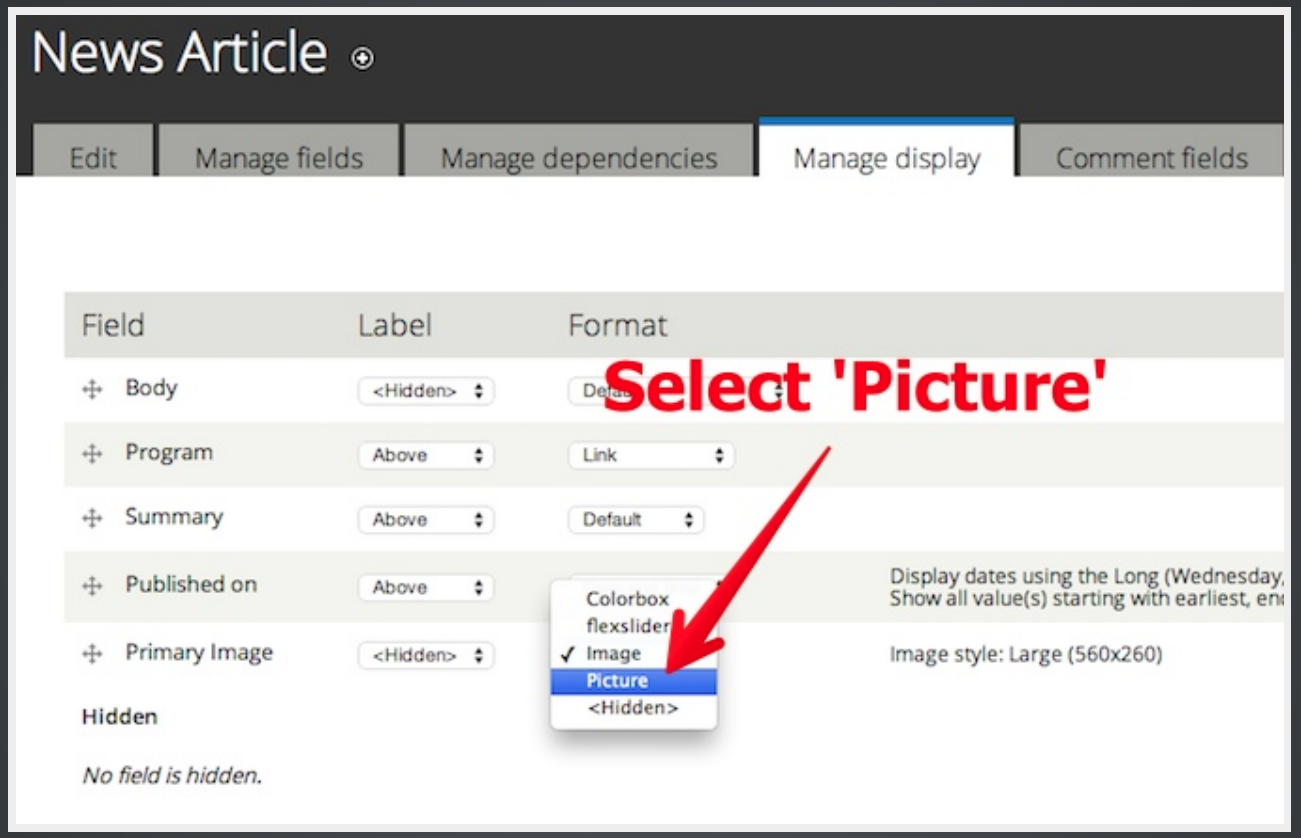
Clear cache to see breakpoints in the configuration page.

PICTURE & BREAKPOINTS MODULES

Map images to breakpoints and multpliers



PICTURE & BREAKPOINTS MODULES



PICTURE & BREAKPOINTS MODULES

Desktop

Mobile

Done correctly, the right image for the display size and pixel density will be delivered.

WHEN NOT TO USE PICTURE & BREAKPOINTS MODULES

Not every image is a photo, but
every image needs to be handled responsively.

SPRITES

Several small images combined into a single image, then a portion of the image is selected for display through CSS.

SPRITES

```
.stars-half, .stars-one, .stars-one-half, .stars-two, .stars-two-half, .st
  background-image: url("../images/sprite.png");
  background-repeat: no-repeat;
  display: inline-block;
}
.stars-half {
  background-position: 0 0;
  height: 17px;
  width: 8px;
}
.stars-one {
  background-position: -10px 0;
  height: 17px;
  width: 16px;
}
...
```

SEVERAL WAYS TO MAKE SPRITES

- Photoshop or other image creation software
- Online tool, such as SpritePad
- Application, such as Sprite Master Web

SPRITES AREN'T ALWAYS THE BEST APPROACH

- They use more bandwidth than you think.
  - Download size != memory size.
- They are pain to maintain.

ANOTHER WAY TO MAKE SPRITES

Use Compass and Sass to make your sprites on the fly!

- Much easier to maintain, update
- But also comes with costs
  - Can slow stylesheet compilation time
  - Can load up Sass file with many variables

More: http://compass-style.org/help/tutorials/spriting

ICON FONTS

Clean, resizable icons that can be used
regardless of browser or pixel density

ICON FONTS

- Scalable
- Small compared to images
- Change color, add text shadow with CSS
- No cross-browser compatibility issues
- Can't be complex; limited to one color
- Accessibility can be a tricky issue to solve

http://sassmeister.com/gist/startinggravity/70cb05adac7d5f386d1c

CREATE YOUR OWN ICON FONT SET

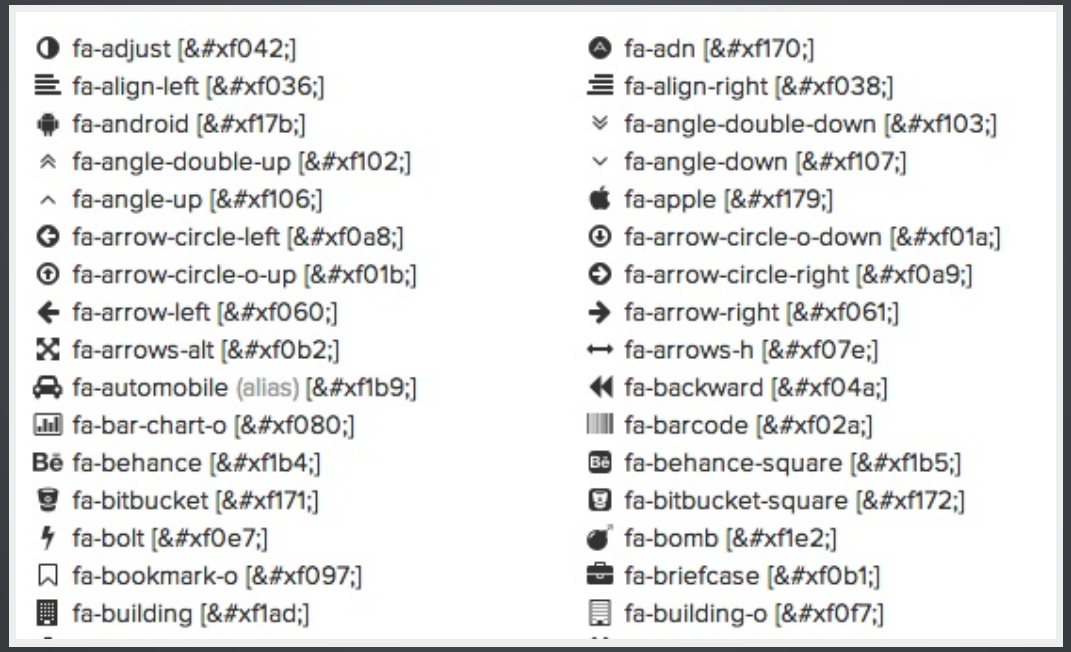
Online tools let you create a custom set from multiple libraries.

- Fontello: http://fontello.com
- IcoMoon: http://icomoon.io/app
- Fontastic: http://fontastic.me

BUT WAIT,
THERE'S ONE MORÉ WAY TO
ADD ICON FONTS!

FONT AWESOME LIBRARY & FONT AWESOME MODULE

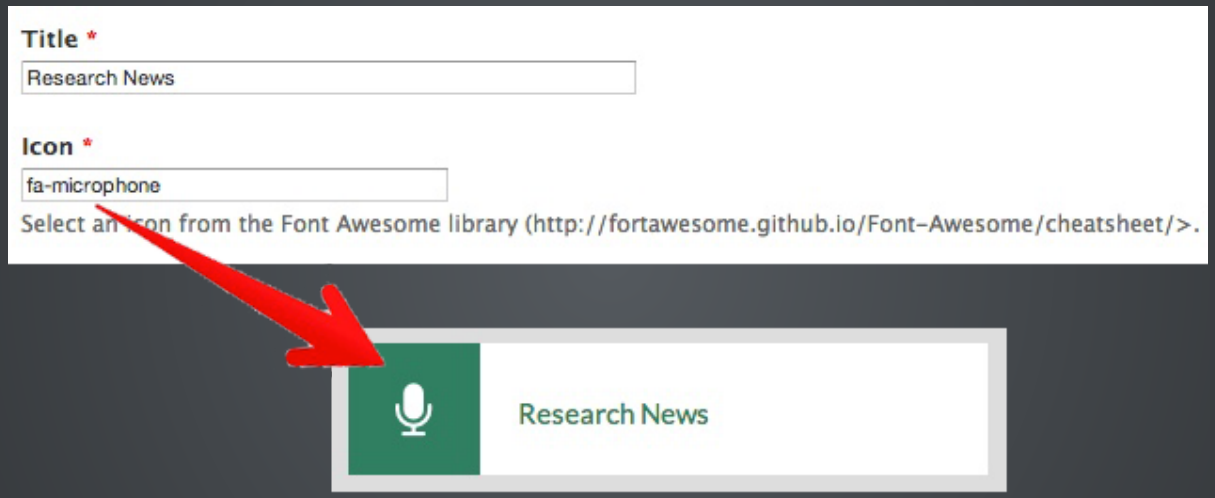
All the advantages of icon fonts
with the convenience of a Drupal module.



https://www.drupal.org/project/fontawesome

FONT AWESOME LIBRARY & FONT AWESOME MODULE

Several ways to use



This example shows just one way to use the Font Awesome module.

ICON FONTS SOMETIMES COME UP SHORT

They're convenient and flexible,
but they miss the mark for most logos.

That's when you need vector (SVG) images.

WHY SVG IMAGES?

- Completely scalable
- Resolution independent
- No matter how large or small, only one file is served
- The file size is small
- Opens opportunities for CSS3 animation

MAJOR BROWSERS NOW SUPPORT SVG IMAGES

- Internet Explorer 9+
- Firefox 4+
- Chrome 4+
- Safari 4+
- Opera 9.5+
- Android 2.4+

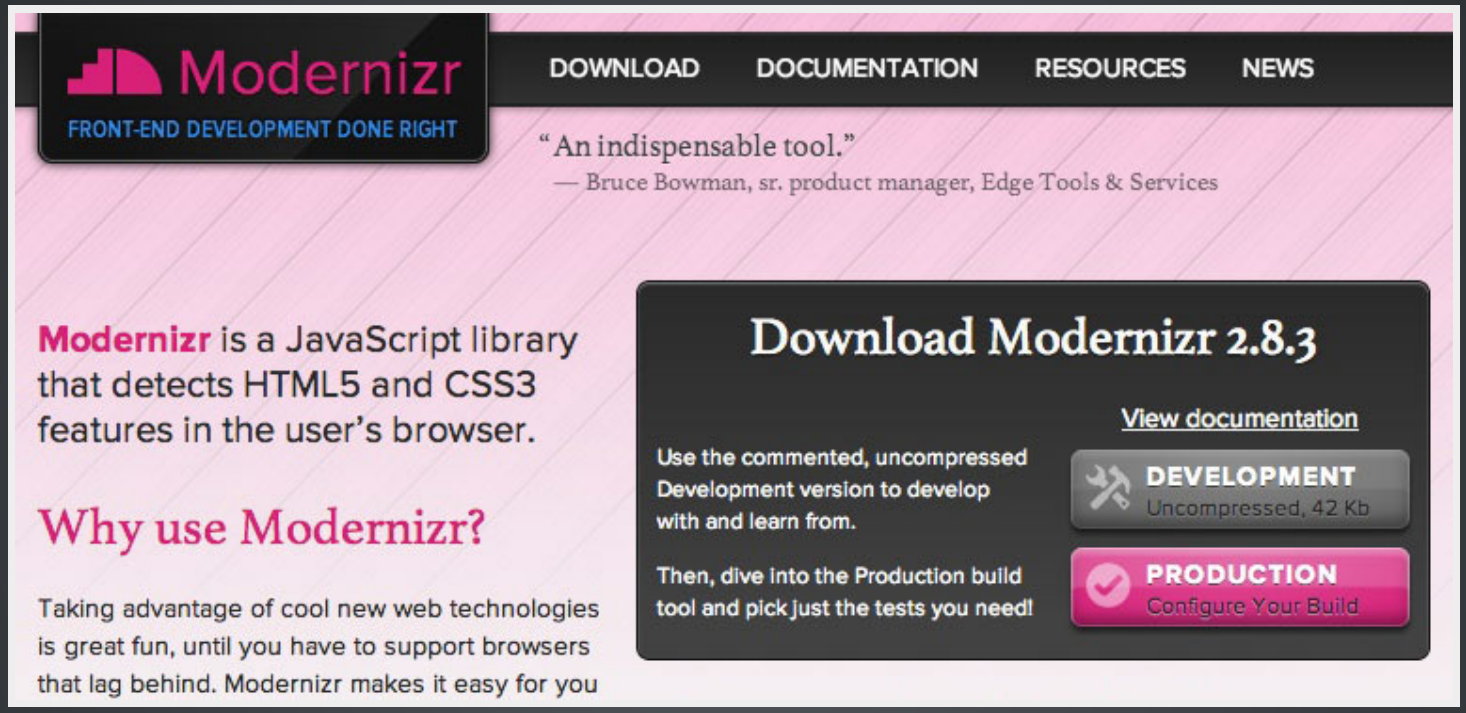
SIMPLE TO SAVE ANY VECTOR AS SVG

ADD SVG IMAGES 'THE OLD FASHIONED WAY'

```
<img src="logo.svg" alt="my logo">
```

WHAT HAPPENS WHEN YOU MUST DESIGN
FOR AN OLDER BROWSER?

MODERNIZR TO THE RESCUE!



http://modernizr.com

MODERNIZR TELLS YOU WHAT YOU HAVE TO WORK WITH AND WHAT YOU DON'T

```
<!DOCTYPE html>
<!--[if lt IE 9 ]>    <html class="lt-ie9 no-js"  lang="en" dir="ltr"> <![endif]-->
<!--[if gte IE 9]><!-->
▼<html class="js flexbox flexboxlegacy canvas canvastext postmessage indexeddb hashchange history draganddrop rgba
hsla multiplebgs backgroundsize borderimage borderradius boxshadow textshadow opacity cssanimations csscolumns
cssgradients cssreflections csstransforms csstransforms3d csstransitions fontface generatedcontent video audio
localstorage applicationcache svg inlinesvg smil svgclippaths" lang="en" dir="ltr" prefix="content: http://purl.org/
rss/1.0/modules/content/
 dc: http://purl.org/dc/terms/
```

http://modernizr.com

http://sassmeister.com/gist/6fa96162d0668cafb813

OR RUN A PIXEL DENSITY MEDIA QUERY!

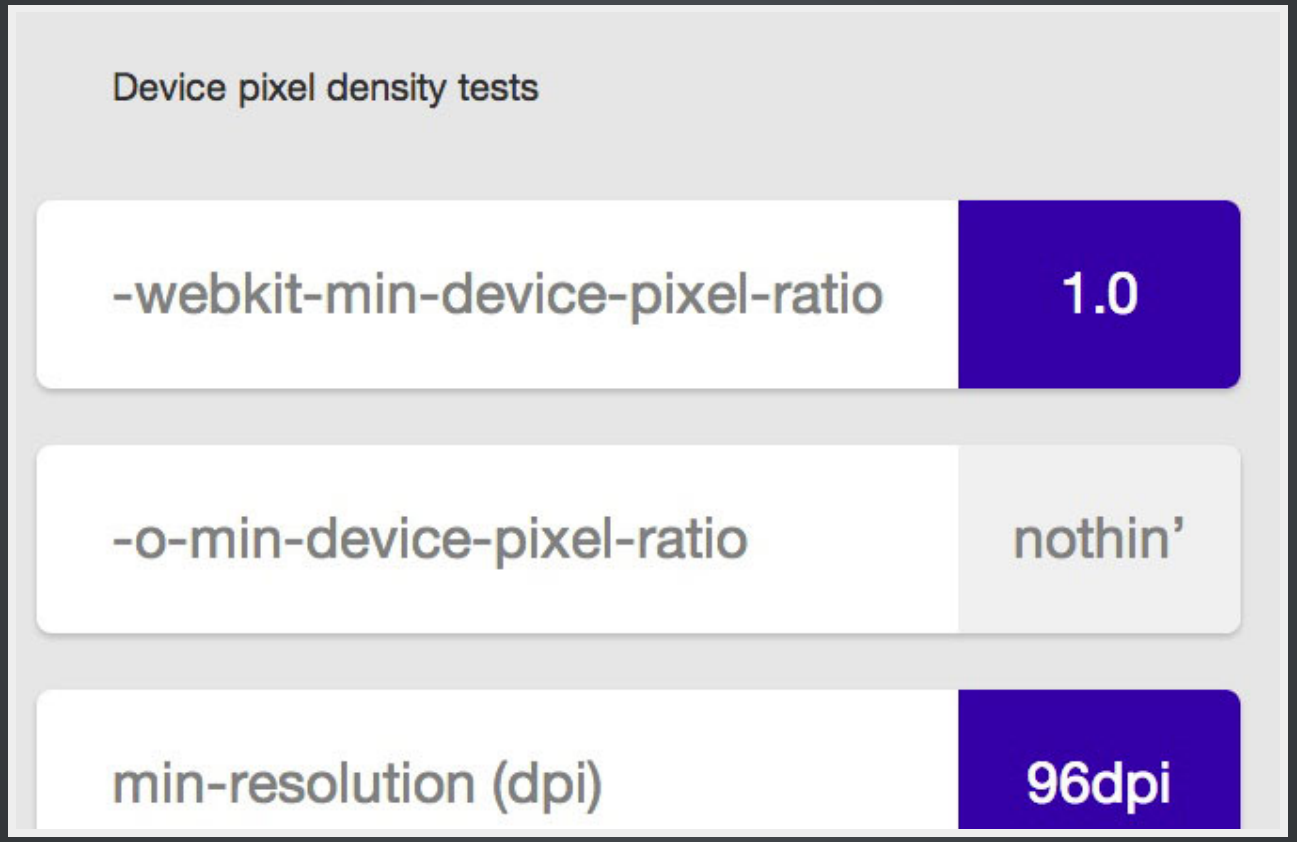
```
$hidpi: min-resolution 1.5dppx;
$cross-reso: max-resolution 143dpi;

#foo{
  @include breakpoint($hidpi){
    content:'Device Pixel Ratio of at least 1.5';
  }
  @include breakpoint($cross-reso){
    content:'Cross Browser Resolution Query'
  }
}
```

http://breakpoint-sass.com

KNOW WHAT YOUR SCREEN CAN DISPLAY

Device pixel density tests

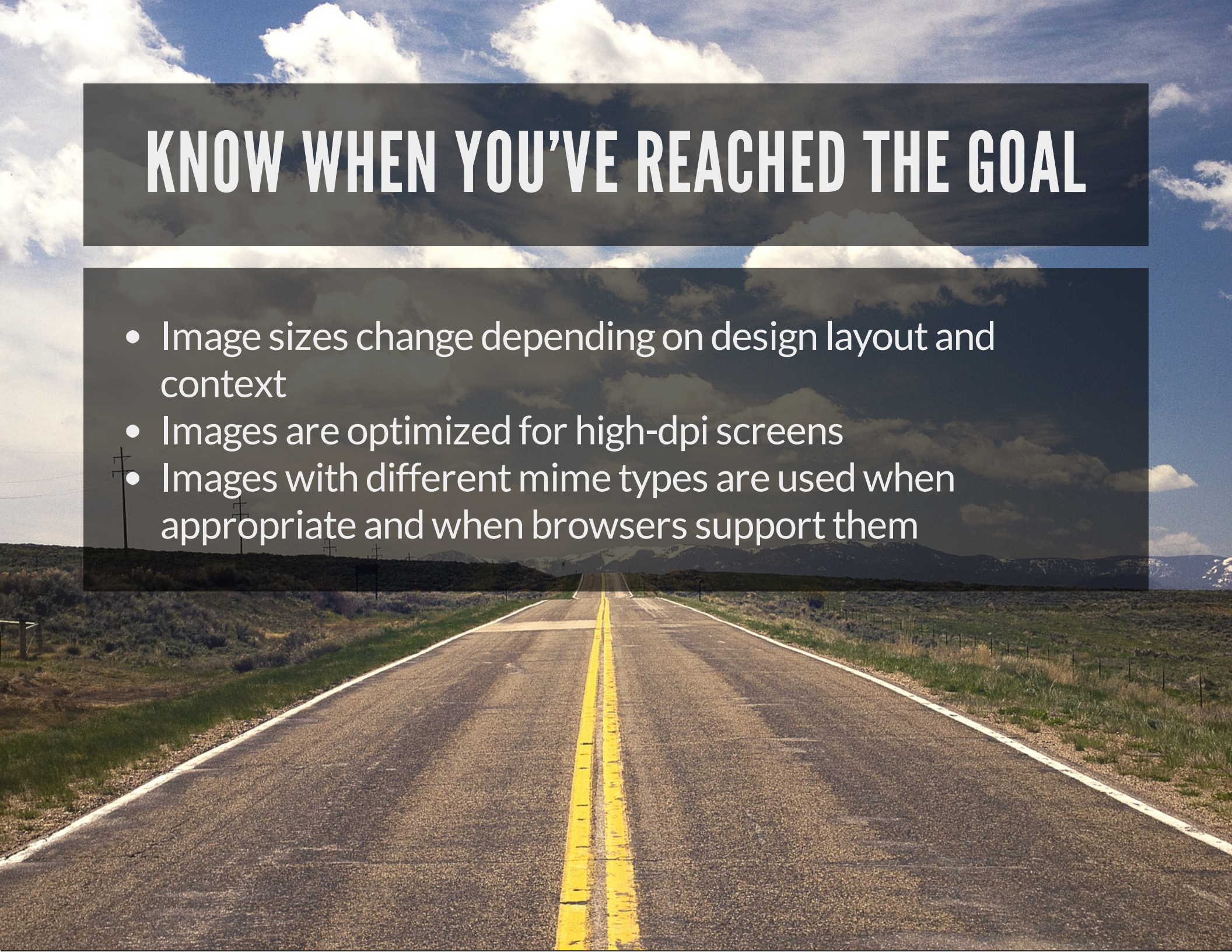


http://bjango.com/articles/min-device-pixel-ratio

KNOW WHAT YOUR BROWSER CAN DISPLAY

Can I Use ____ ?

http://caniuse.com



KNOW WHEN YOU'VE REACHED THE GOAL

- Image sizes change depending on design layout and context
- Images are optimized for high-dpi screens
- Images with different mime types are used when appropriate and when browsers support them

THANK YOU

(AGAIN)

REFERENCES

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  http://www.smashingmagazine.com/2013/07/08/choosing-a-responsive-image-solution
- Picturefill Polyfill
  http://scottjehl.github.io/picturefill
- Responsive Images with Drupal using the Picture Module
  http://www.ibeccreative.com/2014/06/Responsive-Images-with-Drupal-using-the-Picture-Module
- Responsive Images in Drupal with the Picture Module
  http://thinkshout.com/blog/2014/07/responsive-images-in-drupal-with-the-picture-module
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  http://www.smashingmagazine.com/2012/08/20/towards-retina-web

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  http://breakpoint-sass.com
- Sass: Syntactically Awesome Style Sheets
  http://sass-lang.com
- Compass CSS Authoring Framework
  http://compass-style.org
- Getting Started with Sass and Compass in Drupal
  http://www.trellon.com/content/blog/sass-and-compass
- 7 Habits of Highly Effective Media Queries
  http://bradfrostweb.com/blog/post/7-habits-of-highly-effective-media-queries

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  http://wearekiss.com/spritepad
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  http://www.mobinodo.com/spritemasterweb
- Spriting With Compass
  http://compass-style.org/help/tutorials/spriting
- Font Awesome Vector Icons
  http://fortawesome.github.io/Font-Awesome
- The benefits of Scalable Vector Graphics (SVG)
  http://www.appnovation.com/blog/benefits-scalable-vector-graphics-svg

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- Rethinking Responsive SVG
  http://www.smashingmagazine.com/2014/03/05/rethinking-responsive-svg
- Adding Your Own Icon Fonts to Your Drupal Theme
  http://www.mediacurrent.com/blog/adding-your-own-icon-fonts-your-drupal-theme

GET A COPY OF THIS PRESENTATION

Download a PDF and download the code at
http://startinggravity.github.io/picture-perfect-drupal

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