

**NEW ORLEANS**

DRUPALCON 2016



TALK

# SIZING UP RESPONSIVE IMAGES

## MAKE A PLAN BEFORE YOU DRUPAL

DATE

MAY 10, 2016

SPEAKER

MARC DRUMMOND

Photo credit: Dave Emerson, "Trouble", Flickr Creative Commons

# Marc Drummond

## Front-end Developer, Lullabot



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**mdrummond**  
IRC, [drupal.org](http://drupal.org)

CERN, WE HAVE A PROBLEM  
AND IT INVOLVES CATS

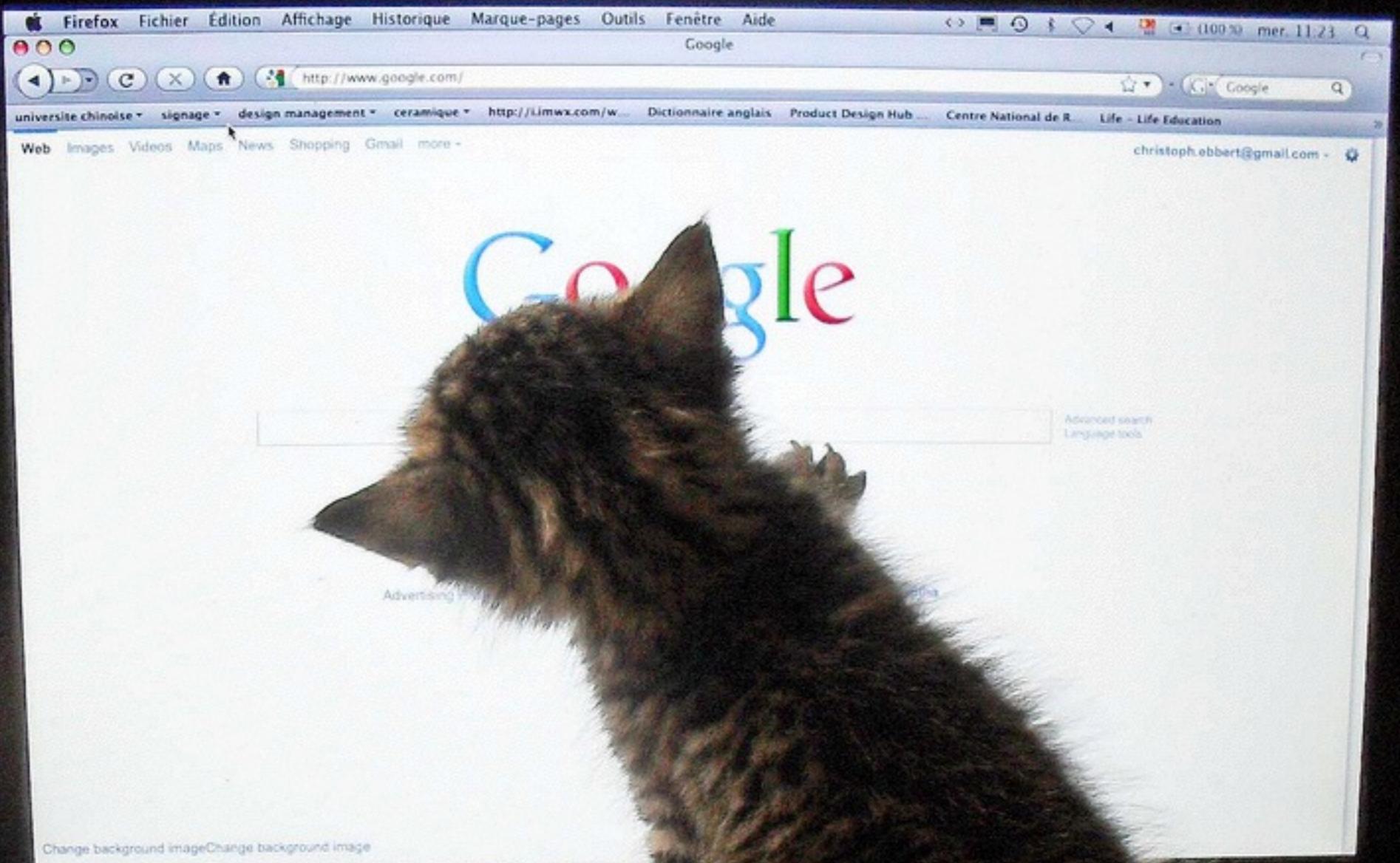




Photo credit: Doug Woods, "Midge Our Cute New Kitten Cat", Flickr Creative Commons



Photo credit: [paumelia], "so happy smiling cat", Flickr Creative Commons



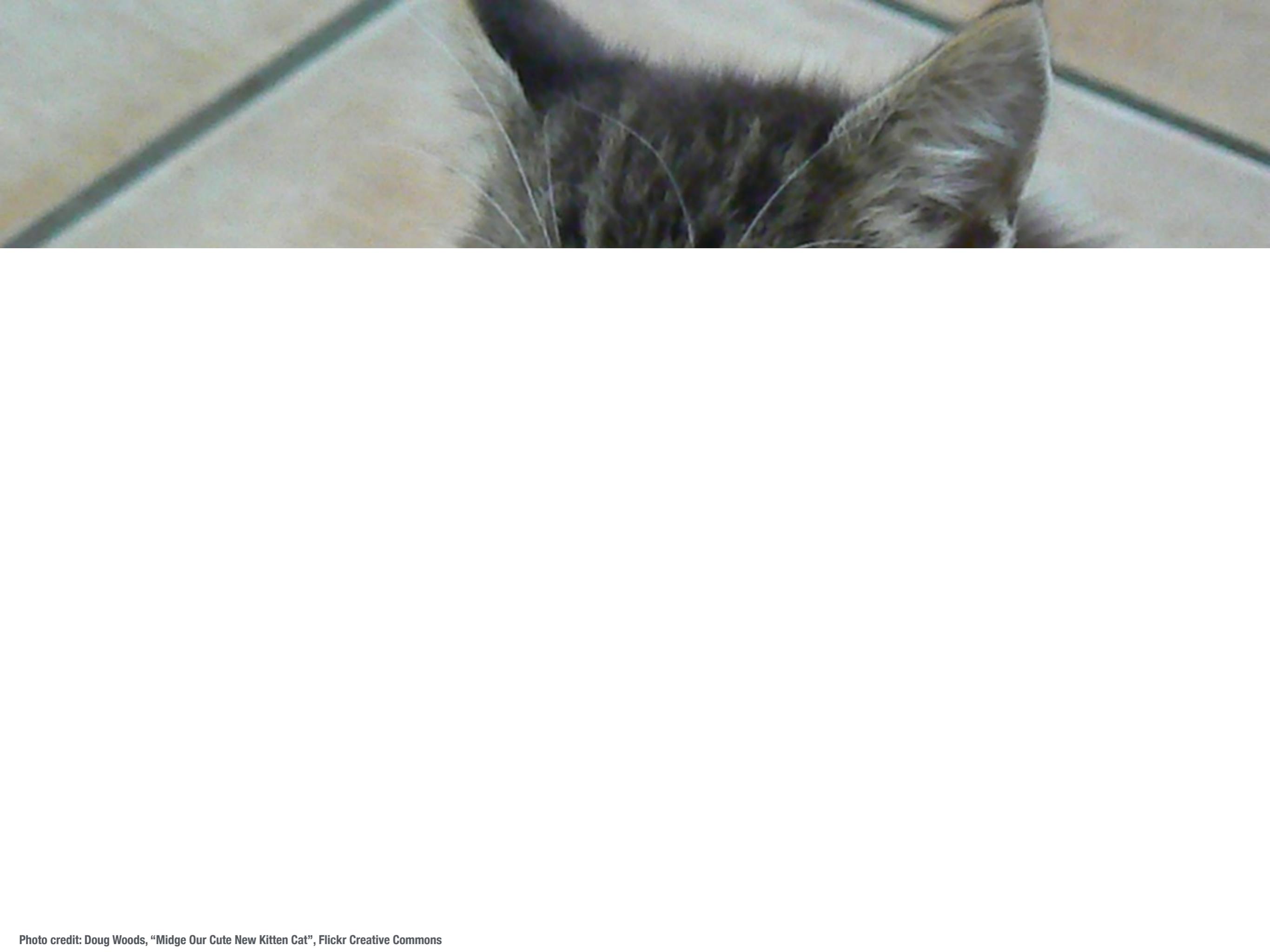










Photo credit: Guyon Moree, "Angry Tiger", Flickr Creative Commons

**JUST MAKE SMALL IMAGES  
SIZED FOR SMALL SCREENS!**

**WE GOT THIS.  
WHAT COULD GO WRONG?**





Photo credit: Doug Woods, "Midge Our Cute New Kitten Cat", Flickr Creative Commons



Photo credit: [paumelia], "so happy smiling cat", Flickr Creative Commons

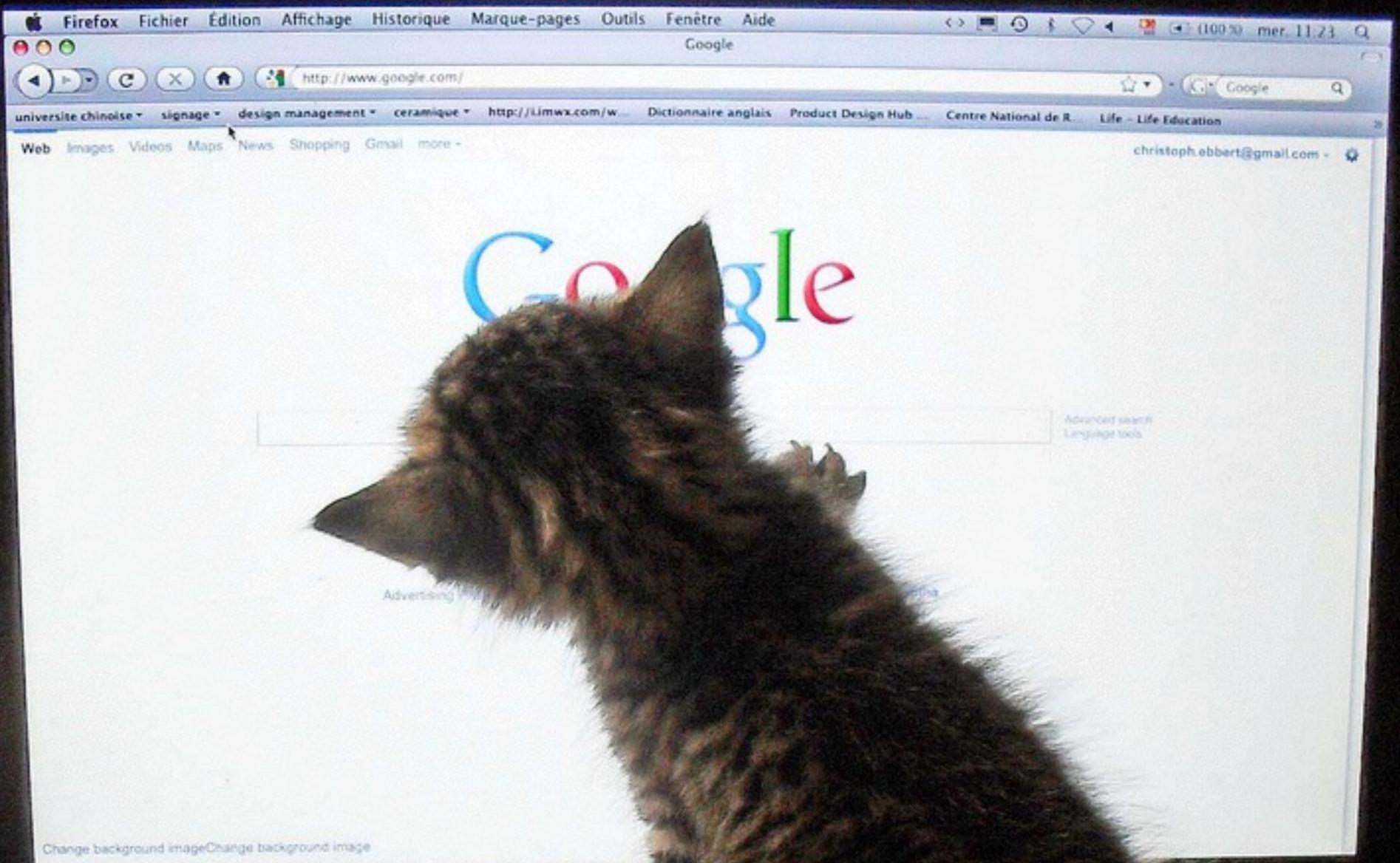




Photo credit: Doug Woods, "Midge Our Cute New Kitten Cat", Flickr Creative Commons



Photo credit: Guyon Moree, "Angry Tiger", Flickr Creative Commons

**SMALL PHOTO**

**SMALL SCREEN**



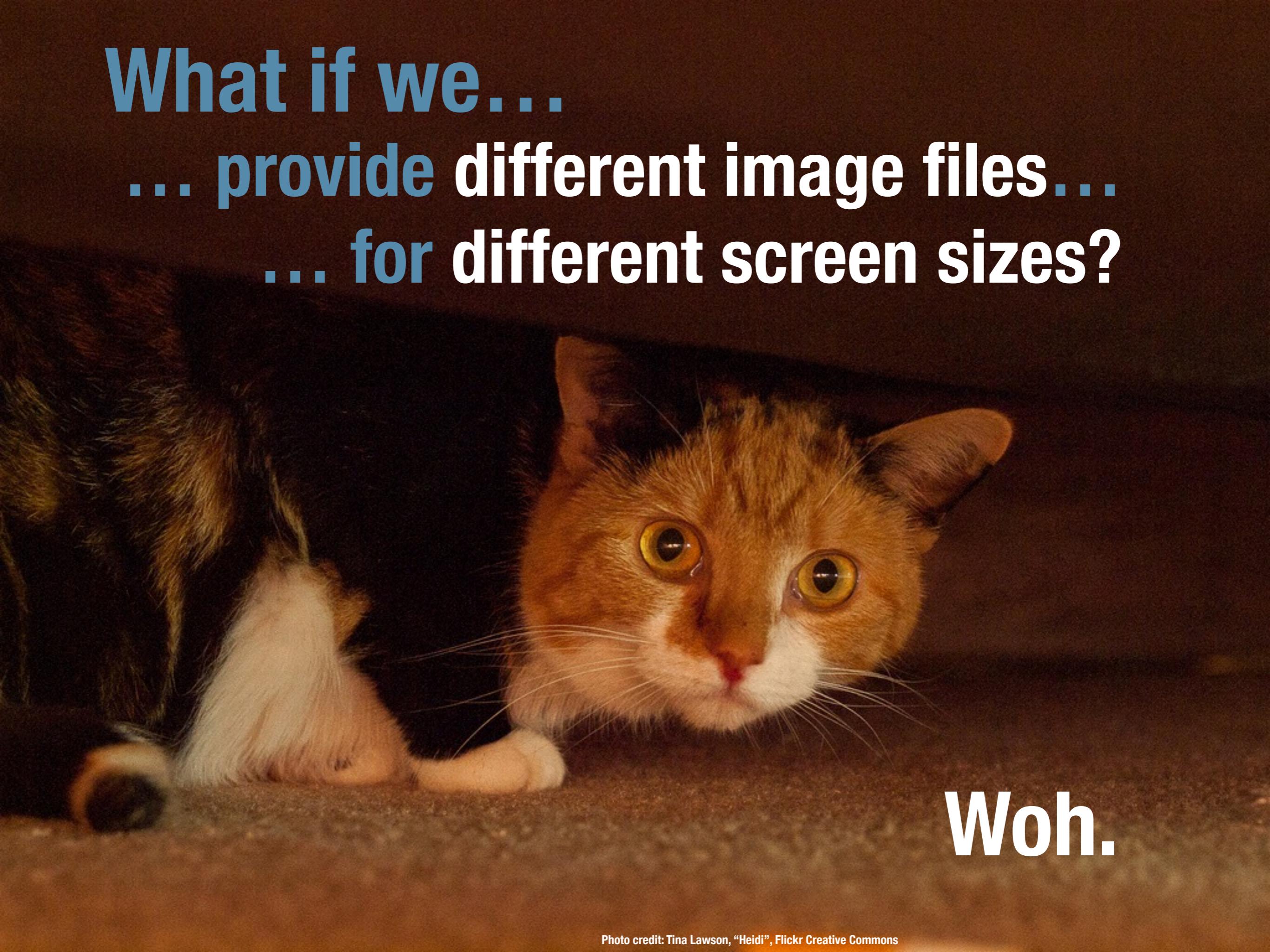
**LARGE SCREEN**



**LARGE PHOTO**



**What if we...  
... provide different image files...  
... for different screen sizes?**



**Woh.**

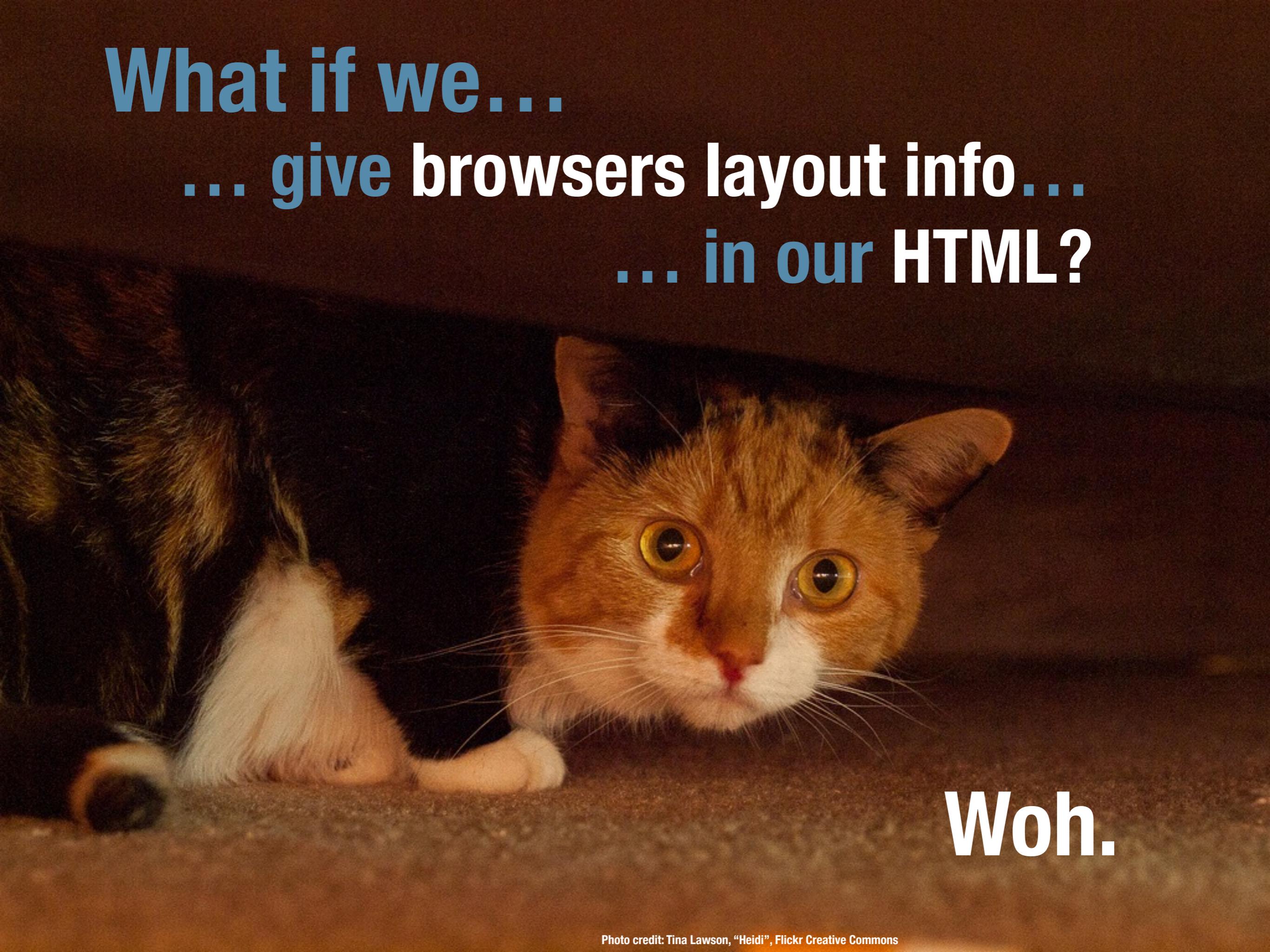
† 26-XII-1928

Except...

... browsers are *fast*

... **HTML parsed first,**  
before CSS or JS

**What if we...  
... give browsers layout info...  
... in our HTML?**



**Woh.**



**RESPONSIVE IMAGES COMMUNITY GROUP**

# SIZES + SRCSET ATTRIBUTES

```

```

# Breakpoint where image width changes

```

```

Width of image in layout  
**vw = % of viewport width**

```

```

**First match selected  
Largest to smallest**

## Width of image file

w = px



```

```

# Controlling image Initial file = fallback



```

```

# HOW MUCH SPACE FOR IMAGE? OPTIONS FOR IMAGE FILE SIZE?

```

```

THEN LET THE BROWSER PICK!

**LET'S MAKE A PLAN.**



# RESPONSIVE LAYOUTS ARE FLUID

IMAGE FILES ARE NOT

**TARGET / CONTEXT = RESULT**  
**WIDTH %**

**750px**

**370px**

**260px**

**TARGET / CONTEXT = RESULT  
WIDTH %**

**750px**

**49.33%**  
**(370px)**

**34.67%**  
**(260px)**

**TARGET / CONTEXT = RESULT**  
**WIDTH %**

**1000px**



**49.33%**  
**(493px)**

**34.67%**  
**(347px)**

**TARGET / CONTEXT = RESULT**  
**WIDTH %**

**1653px**



**49.33%**  
**(815px)**

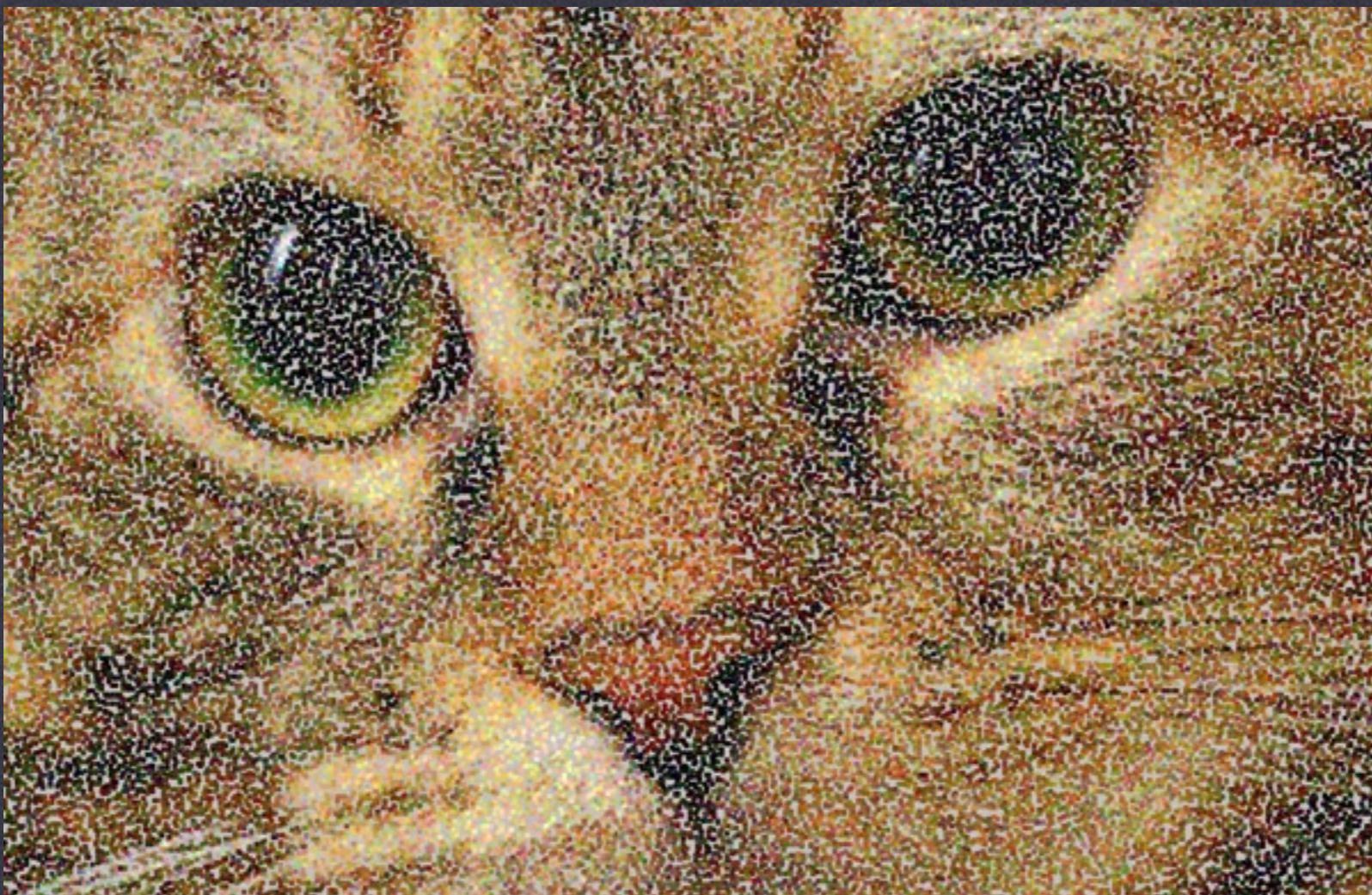
**34.67%**  
**(573px)**

**TARGET / CONTEXT = RESULT**  
**WIDTH %**

**RASTER IMAGES**  
**MEASURED IN PX, NOT %**



**RASTER IMAGES**  
**MEASURED IN PX, NOT %**

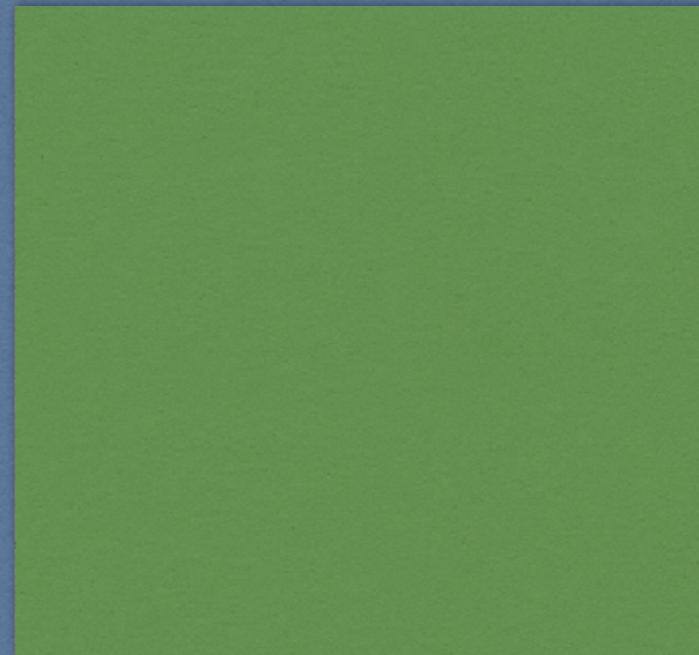


**RASTER IMAGES**  
**MEASURED IN PX, NOT %**



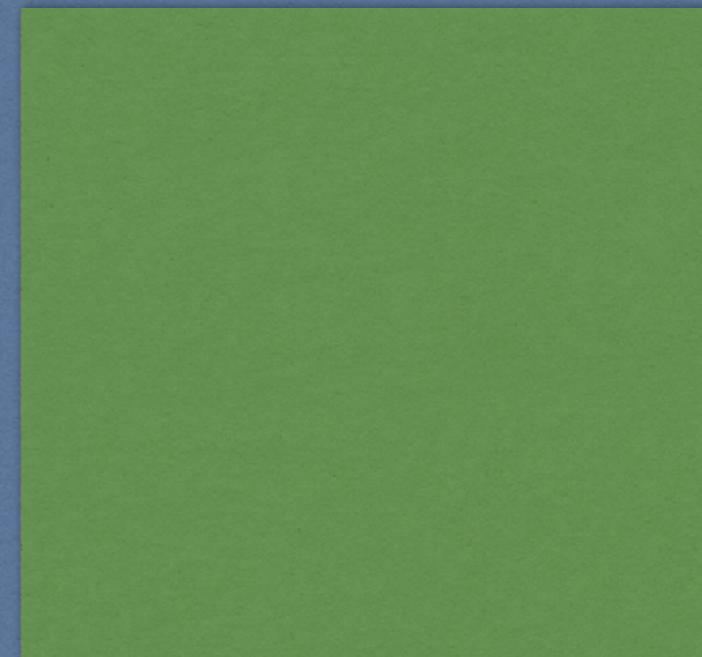
**RASTER IMAGES**  
**MEASURED IN PX, NOT %**

**750px**



**JUST ENOUGH IMAGE PX  
PX NEEDED VARIES BY VIEWPORT SIZE**

**1550px**



**JUST ENOUGH IMAGE PX  
PX NEEDED VARIES BY VIEWPORT SIZE**



## ANALYZE

HOW DOES THIS TYPE OF IMAGE FIT INTO THE SITE LAYOUT?



## Tiger sunbathing in a box

I am unable to envision anything quite as adorable as my cat Tiger lounging in the sun, cuddled in his precious little box.

He has been a fan of this box since he was just a kitten, and we have preserved it ever since. When Tiger was just nine months old, we almost threw out this little half box. He mauled a couch that day. The next day, we brought in the box from the recycling, and he has been a happy cat ever since.

I have taken many photos over the years of Tiger cuddled in this box, but I love how the light looks in this particular picture.

You can feel the warmth of the sun, Tiger purring, and envision him slowly closing his eyes and yawning. There are few moments more tender than those of a sunbathing cat.



*Tiger looks less cute on the bed than in the box*



# Tiger sunbathing in a box

I am unable to envision anything quite as adorable as my cat Tiger lounging in the sun, cuddled in his precious little box.

He has been a fan of this box since he was just a kitten, and we have preserved it ever since. When Tiger was just nine months old, we almost threw out this little half box. He mauled a couch that day. The next day, we brought in the box from the recycling, and he has been a happy cat ever

picture.

You can feel the warmth of the sun, Tiger purring, and envision him slowly closing his eyes and yawning. There are few moments more tender than those of a sunbathing cat.

---



# HERO IMAGE



## Tiger sunbathing in a box

I am unable to envision anything quite as adorable as my cat Tiger lounging in the sun, cuddled in his precious little box.

He has been a fan of this box since he was just a kitten, and we have preserved it ever since. When Tiger was just nine months old, we almost threw out this little half box. He mauled a couch that day. The next day, we brought in the box from the recycling, and he has been a happy cat ever since.

I have taken many photos over the years of Tiger cuddled in this box, but I love how the light looks in this particular picture.

You can feel the warmth of the sun, Tiger purring, and envision him slowly closing his eyes and yawning. There are few moments more tender than those of a sunbathing cat.



*Tiger looks less cute on the bed than in the box*

```
<article class="post">
  <figure class="post_hero-image"></figure>
  <div class="post_inner">
    <main class="post_body" role="main">
      <h1 class="post_title">Tiger sunbathing in a box</
h1>
      <p>I am unable to envision ... sunbathing cat.</p>
    </main>
    <aside class="post_aside" role="complementary">
      <figure class="post_aside-image">
        
        <figcaption class="post_aside-image-
caption">Tiger cuddles in his box, basking in the sun.</
figcaption>
      </figure>
    </aside>
  </div>
</article>
```

# SIDE IMAGE

.post > .post\_\_inner > .post\_\_aside > .post\_\_aside-image > img

```
<article class="post">
  ...
  <div class="post_inner">
    ...
      <aside class="post_aside"
        role="complementary">
        <figure class="post_aside-image">
          
        ...
      </figure>
    </aside>
  </div>
</article>
```

# SIDE IMAGE

.post > .post\_inner > .post\_aside > .post\_aside-image > img

# .POST\_ASIDE RULES

```
.post_aside {  
  padding: 5%;  
  width: 100%;  
  
  @media (min-width: 37.5em) {  
    float: right;  
    padding: 2%;  
    width: 40%;  
  }  
  
  @media (min-width: 75em) {  
    padding: 1.5rem;  
  }  
}
```

# SIDE IMAGE

Breakpoints	.post	.post__aside	Final width
Default	100%		
(min-width: 37.5em)	100%		
(min-width: 75em)	100%		
(min-width: 100em)	100rem		

# SIDE IMAGE

Breakpoints	.post	.post__aside	Final width
Default	100%	100% - 5% × 2	90%
(min-width: 37.5em)	100%		
(min-width: 75em)	100%		
(min-width: 100em)	100rem		

$$100\% - 5\% \times 2 = 90\%$$

# SIDE IMAGE

Breakpoints	.post	.post_aside	Final width
Default	100%	100% - 5% × 2	90%
(min-width: 37.5em)	100%	40% - 2% × 2	36%
(min-width: 75em)	100%		
(min-width: 100em)	100rem		

$$40\% - 2\% \times 2 = 36\%$$

# SIDE IMAGE

Breakpoints	.post	.post_aside	Final width
Default	100%	100% - 5% × 2	90%
(min-width: 37.5em)	100%	40% - 2% × 2	36%
(min-width: 75em)	100%	40% - 1.5rem × 2	40% - 48px
(min-width: 100em)	100rem		

40% - 1.5rem × 2

40% - (1.5 × 16px) × 2

40% - (24px) × 2 = 48px

# SIDE IMAGE

Breakpoints	.post	.post__aside	Final width
Default	100%	100% - 5% × 2	90%
(min-width: 37.5em)	100%	40% - 2% × 2	36%
(min-width: 75em)	100%	40% - 1.5rem × 2	40% - 48px
(min-width: 100em)	100rem	40% - 1.5rem × 2	640px - 48px

100rem × 40% - 48px  
(100 × 16px) × 40% - 48px  
(1600 px × 40%) - 48px



# BALLPARK FIGURES

DETERMINE INITIAL SOURCE FILE WIDTHS

# SIDE IMAGE

Breakpoints	Width	Min px	Max px
Default	90%		
(min-width: 37.5em)	36%		
(min-width: 75em)	40% - 48px		
(min-width: 100em)	640px - 48px		

# SIDE IMAGE

Breakpoints	Width	Min px	Max px
Default	90%	288	
(min-width: 37.5em)	36%		
(min-width: 75em)	40% - 48px		
(min-width: 100em)	640px - 48px		

$$90\% \times 320\text{px} = 288\text{px}$$

# SIDE IMAGE

Breakpoints	Width	Min px	Max px
Default	90%	288	540
(min-width: 37.5em)	36%		
(min-width: 75em)	40% - 48px		
(min-width: 100em)	640px - 48px		

90% x 37.5em

90% x (37.5 x 16px)

90% x 600px = 540px

# SIDE IMAGE

Breakpoints	Width	Min px	Max px
Default	90%	288	540
(min-width: 37.5em)	36%	216	
(min-width: 75em)	40% - 48px		
(min-width: 100em)	640px - 48px		

36% x 37.5em

36% x (37.5 x 16px)

36% x 600px = 216px

# SIDE IMAGE

Breakpoints	Width	Min px	Max px
Default	90%	288	540
(min-width: 37.5em)	36%	216	432
(min-width: 75em)	40% - 48px		
(min-width: 100em)	640px - 48px		

36% x 75em

36% x (75 x 16px)

36% x 1200px = 432px

# SIDE IMAGE

Breakpoints	Width	Min px	Max px
Default	90%	288	540
(min-width: 37.5em)	36%	216	432
(min-width: 75em)	40% - 48px	432	
(min-width: 100em)	640px - 48px		

40% x 75em - 48px

40% x (75 x 16px) - 48px

(40% x 1200px) - 48px

480px - 48px = 432px

# SIDE IMAGE

Breakpoints	Width	Min px	Max px
Default	90%	288	540
(min-width: 37.5em)	36%	216	432
(min-width: 75em)	40% - 48px	432	592
(min-width: 100em)	640px - 48px		

40% x 100em - 48px

40% x (100 x 16px) - 48px

(40% x 1600px) - 48px

640px - 48px = 592px

# SIDE IMAGE

Breakpoints	Width	Min px	Max px
Default	90%	288	540
(min-width: 37.5em)	36%	216	432
(min-width: 75em)	40% - 48px	432	592
(min-width: 100em)	640px - 48px	592	592

640px - 48px = 592px

# SIDE IMAGE

Breakpoints	Width	Min px	Max px
Default	90%	288	540
(min-width: 37.5em)	36%	216	432
(min-width: 75em)	40% - 48px	432	592
(min-width: 100em)	640px - 48px	592	592

**Min size: 216px**

**Max size: 592px**

# RULE OF 25%

WIDTH X 1.25

HEIGHT X 1.25

PIXELS X 1.5625

56.25% MORE PIXELS

# SIDE: RULE OF 25%

216

270

337.5

421.875

527.34375

659.1796875

**SIDE: -25% FROM TOP**

242.4832

303.104

378.88

473.6

592



# TWICE AS NICE SCREEN RESOLUTION DENSITIES



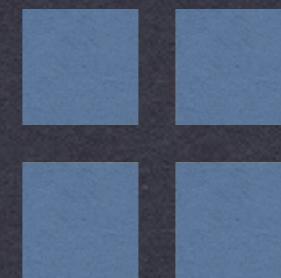
# 1X SCREEN RESOLUTION



= 1px in browser



# 2X SCREEN RESOLUTION



= 1px in browser



**GET ME MORE PIXELS, STAT!**

# SIDE: 2X SCREEN DENSITIES

242.4832 → 484.9664

303.104 → 606.208

378.88 → 757.76

473.6 → 947.2

592 → 1184



**TIDY UP**

**SENSIBLE SOURCE FILE WIDTHS**

# SIDE: TIDY NUMBERS

242.4832 → 240

303.104 → 300

378.88 → 375

473.6 → 470

592 → 600

# SIDE: TIDY NUMBERS

240

300

25%

375

25%

470

27%

600

27.7%

# SIDE: TIDY 2X

240	→	480
300	→	600
375	→	750
470	→	940
600	→	1200

# SIDE: MORE TIDY 2X

240	→	480		
300	→	600		
375	→	750		
470	480	→	940	960
600	→	1200		

# SIDE: FINAL SOURCE WIDTHS

240	
300	25%
375	25%
480	27%
600	27.7%
750	25%
960	28%
1200	25%

# SIDE: FINAL SOURCE WIDTHS

240  
300  
375  
480  
600  
750  
960  
1200

8 source widths

vs.

10 source widths



# SIZES ATTRIBUTE

QUICK ACCESS LAYOUT INFO

# SIDE: SIZES

Breakpoints	Final width	Sizes width
Default	90%	90vw
(min-width: 37.5em)	36%	36vw
(min-width: 75em)	40% - 48px	calc(40vw - 3rem)
(min-width: 100em)	640px - 48px	37rem

```
<img sizes="(min-width: 100em) 37rem,  
          (min-width: 75em) calc(40vw - 3rem),  
          (min-width: 37.5em) 36vw,  
          90vw">
```



# SRCSET ATTRIBUTE

## LIST IMAGE SOURCE FILES WITH WIDTHS

# SIDE: SRCSET

240  
300  
375  
480  
600  
750  
960  
1200

```
<img srcset="  
    side240.jpg 240w,  
    side300.jpg 300w,  
    side375.jpg 375w,  
    side470.jpg 470w,  
    side600.jpg 600w,  
    side750.jpg 750w,  
    side960.jpg 960w,  
    side1200.jpg 1200w">
```

# SIDE: FINAL

```

```



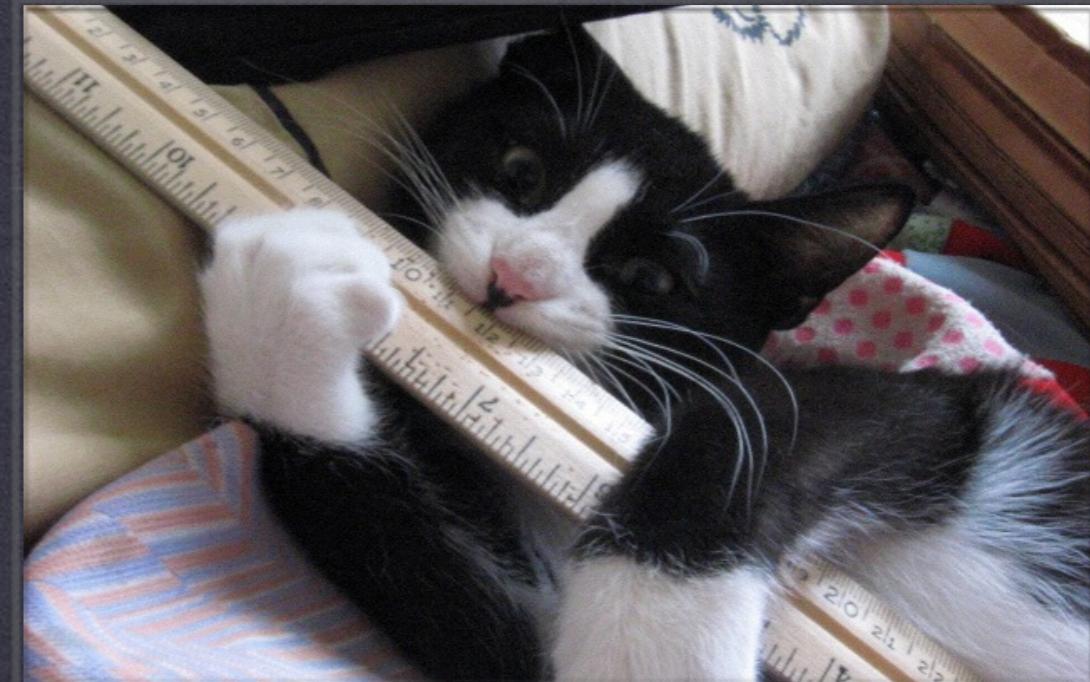
# CSS RULES

## MAKE IMAGES FLUID

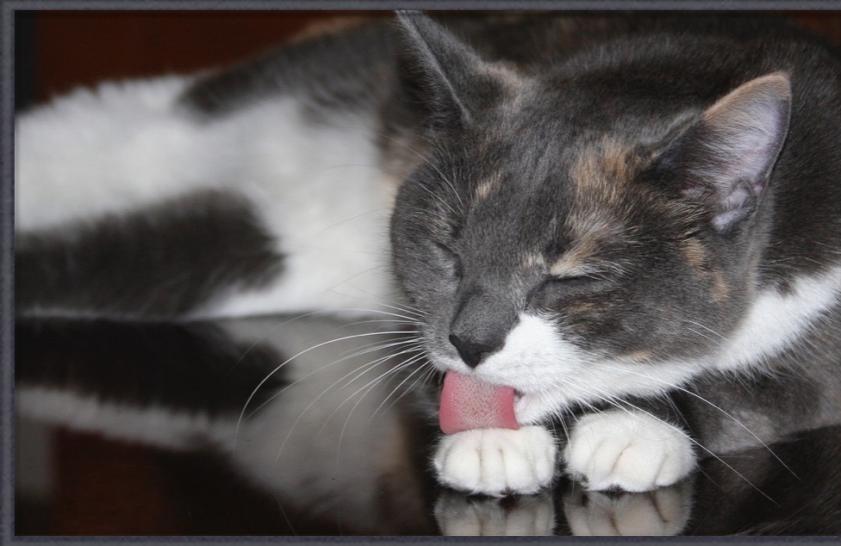
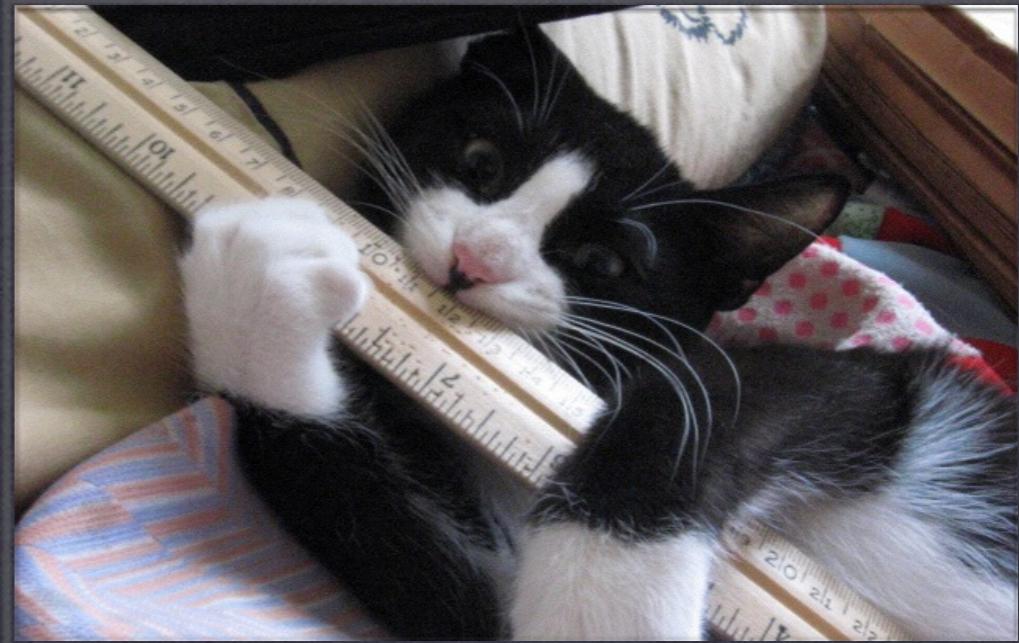
# IMAGE RULES

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

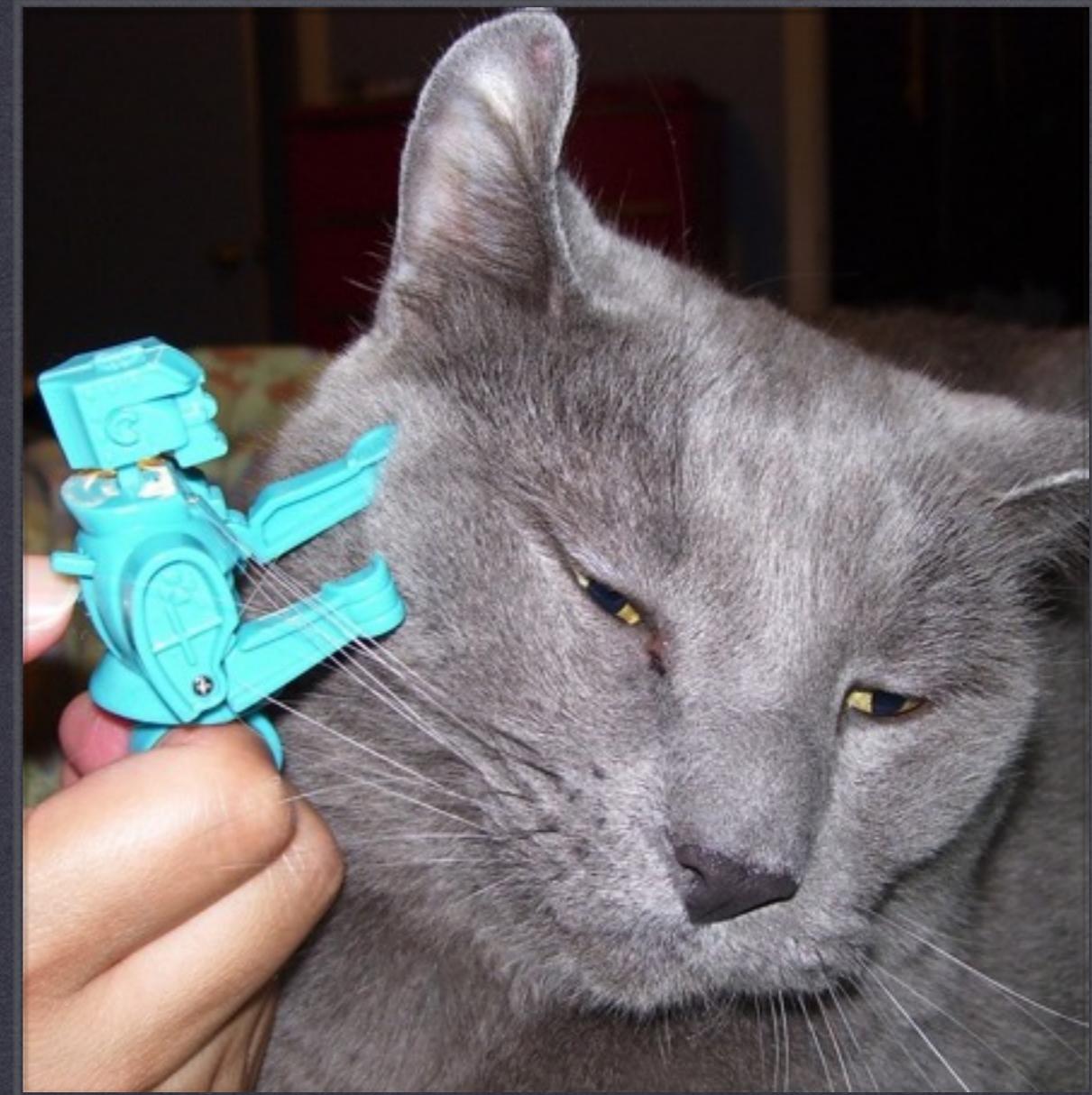
# WIDTH: 100%



# MAX-WIDTH: 100% (MAYBE)



THIS SOUNDS  
LIKE A JOB  
FOR...  
**ROBOTS!**



**PICTUREFILL.JS**  
**USE RESPONSIVE IMAGES IN OLDER BROWSERS**  
**[SCOTTJEHL.GITHUB.IO/PICTUREFILL/](https://scottjehl.github.io/picturefill/)**

**HOLD UP. TIME TO DRUPAL.**

# **DRUPAL 7**

## **PICTURE AND BREAKPOINTS MODULES**

# DRUPAL 8

## RESPONSIVE IMAGE AND BREAKPOINT MODULES (IN CORE!)



# BREAK DANCING

## BREAKPOINTS AND BREAKPOINT GROUPS

https://dkx1.ply.st/admin/config/media/breakpoints

Dashboard Content Structure Appearance People Modules Configuration Reports Help Hello admin Log out

Add content Find content Edit shortcuts

Home » Administration » Configuration » Media

## Breakpoints

GROUPS MULTIPLIERS ADD RESPONSIVE STYLE SETTINGS

All breakpoints 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
Empty srcset		<input type="checkbox"/> 1.5x <input type="checkbox"/> 2x	picture (module)	Enabled	Disable Export
		<input type="checkbox"/> 1.5x <input type="checkbox"/> 2x			

Save

# Empty srcset is all we need

group name \*

Sizes

Machine name: sizes [\[Edit\]](#)

Select the breakpoints you want to use in this group \*

 Empty srcset [Save](#)

# Add breakpoint group: Sizes

## Select Empty srcset

## Breakpoints

[GROUPS](#)[MULTIPLIERS](#)[ADD RESPONSIVE STYLE](#)[SETTINGS](#)[All breakpoints](#)[Sizes](#)[Add a new group](#)[Import a new breakpoint](#)[Import a new group](#) [Export Sizes](#)

Copy/Paste the following inside your theme.info file.

```
breakpoints[Empty srcset] =
```

You can manage the breakpoints of this group here.

- You can change the order of the breakpoints inside this group.
- You can enable multipliers for each breakpoint, but this will also affect other groups.

[Show row weights](#)

NAME	BREAKPOINT, @MEDIA ...	MULTIPLIERS	SOURCE	STATUS
Empty srcset		<input type="checkbox"/> 1.5x <input type="checkbox"/> 2x	picture (module)	Enabled

[Save](#)[Export breakpoints to theme](#)[Edit group breakpoints](#) [Duplicate group](#) [Delete this group](#)

# Export to theme .info file? Optional.

# DRUPAL 8 BREAKPOINTS.YML

```
THEME.empty:  
  label: Empty  
  mediaQuery: ''  
  weight: 1
```



# SEND IN THE ROBOTS

## IMAGE STYLES

# SIDE: FILE WIDTHS

300

375

470

600

750

940

1200

← → C https://dkx1.ply.st/admin/config/media/image-styles

Dashboard Content Structure Appearance People Modules Configuration Reports Help Hello admin Log out

Add content Find content Edit shortcuts

Home » Administration » Configuration » Media

## Image styles •

Image styles commonly provide thumbnail sizes by scaling and cropping images, but can also add various effects before an image is displayed. When an image is displayed with a style, a new file is created and the original image is left unchanged.

+ Add style

STYLE NAME	SETTINGS	OPERATIONS
Thumbnail (100x100)	Default	<a href="#">edit</a>
Medium (220x220)	Default	<a href="#">edit</a>
Large (480x480)	Default	<a href="#">edit</a>

# Image styles: Add style

## Image styles •

Style name \*

width\_300

Machine name: width\_300 [Edit]

Create new style

# Name style:

**width\_X**

**rectangle\_WxH**

**square\_WxH**

https://dkx1.ply.st/admin/config/media/image-styles/edit/width\_300

Dashboard Content Structure Appearance People Modules Configuration Reports Help Hello admin Log out Edit shortcuts

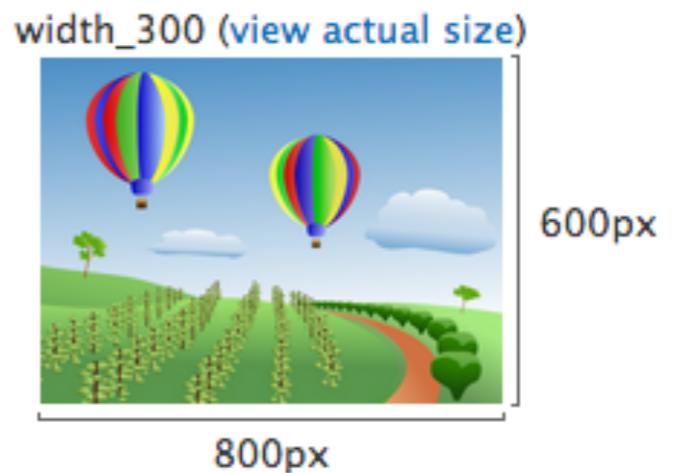
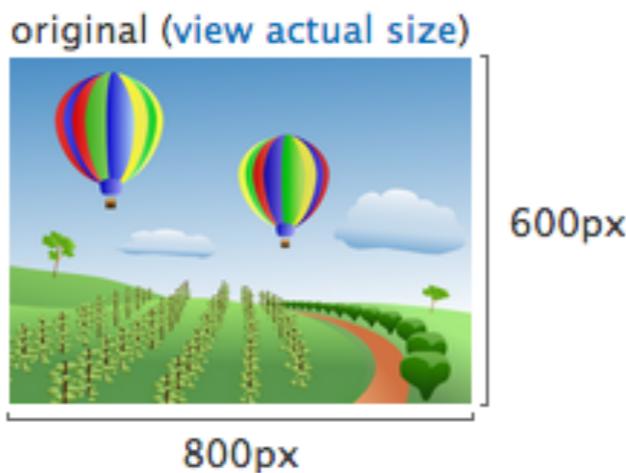
Add content Find content

Edit width\_300 style



Style *width\_300* was created.

### Preview



### Image style name \*

width\_300

Machine name: width\_300 [Edit]

Show row weights

EFFECT	OPERATIONS
There are currently no effects in this style. Add one by selecting an option below.	
<ul style="list-style-type: none"><li>+ <input checked="" type="checkbox"/> Select a new effect</li><li>Crop</li><li>Desaturate</li><li>Resize</li><li>Rotate</li><li>Scale</li><li>Scale and crop</li></ul>	<p>Add</p> <p>Scale</p>

## Add *Scale* effect

Scaling will maintain the aspect-ratio of the original image. If only a single dimension is specified, the other dimension will be calculated.

### Width

pixels

### Height

pixels

#### Allow Upscaling

Let scale make images larger than their original size

[Add effect](#)

[Cancel](#)

# Add width Allow upscaling



# LET'S MAP THIS OUT

## PICTURE MAPPINGS AND FALBACK STYLES

## Picture mappings •

LIST

SETTINGS

A picture mapping associates an image style with each breakpoint defined by your theme.

[+ Add](#) [+ Import](#)

Storage

Enabled

Search

- All -

- All -

Sort by

Order

Enabled, title

Up

Apply

Reset

TITLE	NAME	STORAGE	OPERATIONS
There are no picture mappings to display.			

# Add mapping

## Add a new picture mapping

LIST

SETTINGS

### Breakpoint group » Configure picture mappings

Breakpoint group \*

Sizes 

Select a breakpoint group.

Continue

Cancel

# Select breakpoint group



You have unsaved changes. These changes will not be made permanent until you click *Save*.

## Breakpoint group » Configure picture mappings

### Administrative title \*

Side image

Machine name: side\_image [\[Edit\]](#)

This will appear in the administrative interface to easily identify it.

### Breakpoint group \*

Sizes ▾

Select a breakpoint group.

1X EMPTY SRCSET []

#### Type

- Do not use this breakpoint
- Use image styles
- Use the sizes attribute

Mapping name  
Select sizes

## Responsive image styles ☆

[Home](#) » [Administration](#) » [Configuration](#) » [Media](#)

A responsive image style associates an image style with each breakpoint defined by your theme.

[+ Add responsive image style](#)

LABEL	MACHINE NAME	OPERATIONS
There is no Responsive image style yet.		

# Drupal 8!

# Add responsive image style

## Add responsive image style

Home » Administration » Configuration » Media » Responsive image styles

**Label \***

Machine name: side\_image [\[Edit\]](#)

Example: 'Hero image' or 'Author image'.

**Breakpoint group \***

Select a breakpoint group from the installed themes.

**Fallback image style \***

**Save**

# D8: Set fallback image style

# SIDE: SIZES

```
<img sizes="(min-width: 100em) 37em,  
          (min-width: 75em) calc(40vw - 3em),  
          (min-width: 37.5em) 36vw,  
                     90vw">
```

## • Use the sizes attribute

### Sizes

```
(min-width: 100em) 37em, (min-width: 75em) calc(40vw - 3em), (min-wid
```

Enter the value for the sizes attribute (e.g. "(min-width:700px) 700px, 100vw").

### Image styles

Thumbnail (100x100)

Medium (220x220)

Large (480x480)

width\_1200

width\_300

width\_375

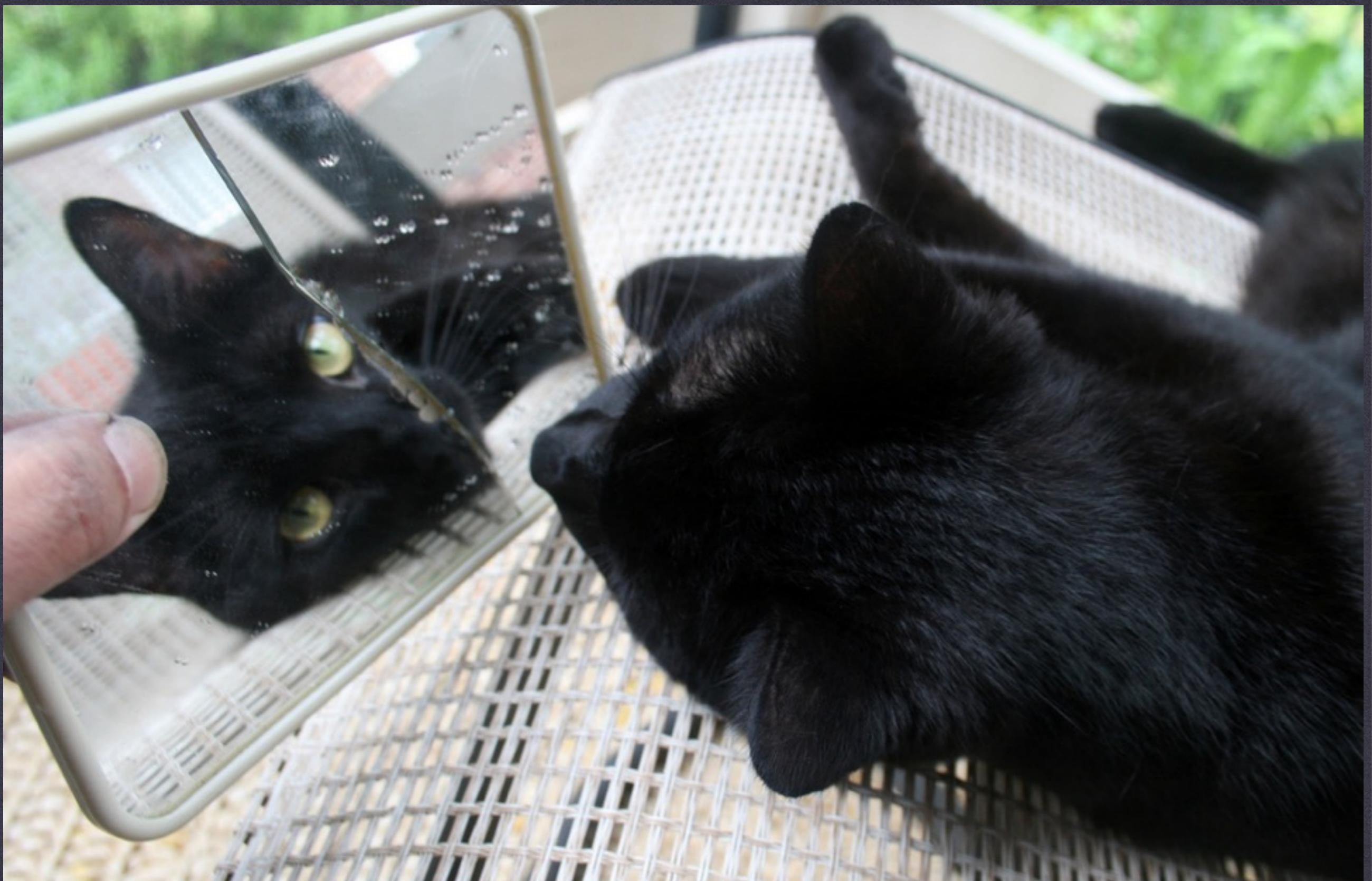
width\_470

width\_600

width\_750

width\_940

Enter sizes  
Select styles



**CHECK IT BEFORE YOU WRECK IT**  
**IMAGE QUALITY MATTERS**

## Image toolkit

The GD toolkit is installed and working properly.

### JPEG quality

75 %

Define the image quality for JPEG manipulations. Ranges from 0 to 100. Higher values mean better image quality but bigger files.

[Save configuration](#)

# Image quality

## Image toolkit +

The GD toolkit is installed and working properly.

### JPEG quality

60 %

Define the image quality for JPEG manipulations. Ranges from 0 to 100. Higher values mean better image quality but bigger files.

[Save configuration](#)

# Try lower: 60?



Photo credit: George Pavlov, "I'm pretty kitty, right?", Flickr Creative Commons

## STYLE SELECTIONS VIA UI FIELD FORMATTERS AND YOU

**Article** [EDIT](#)[MANAGE FIELDS](#)[MANAGE DISPLAY](#)[COMMENT FIELDS](#)[COMMENT DISPLAY](#)[Default](#)[Teaser](#)

Content items can be displayed using different view modes: Teaser, Full content, Print, RSS, etc. *Teaser* is a short format that is typically used in lists of multiple content items. *Full content* is typically used when the content is displayed on its own page.

Here, you can define which fields are shown and hidden when *Article* content is displayed in each view mode, and define how the fields are displayed in each view mode.

[Show row weights](#)

FIELD	LABEL	FORMAT	
⊕ Image	<Hidden>	Image	Image style: Large (480x480) 
⊕ Body	<Hidden>	Default	
⊕ Tags	Above	Link	
<b>Hidden</b>			
No field is hidden.			

[CUSTOM DISPLAY SETTINGS](#)

# Field display

## Article

[Edit](#)[Manage fields](#)[Manage display](#)[Comment fields](#)[Comment display](#)[Default](#)[Teaser](#)

Content items can be displayed using different view modes: Teaser, Full content, Print, RSS, etc. *Teaser* is a short format that is typically used in lists of multiple content items. *Full content* is typically used when the content is displayed on its own page.

Here, you can define which fields are shown and hidden when *Article* content is displayed in each view mode, and define how the fields are displayed in each view mode.

[Show row weights](#)

FIELD	LABEL	FORMAT	
⊕ <a href="#">Image</a>	<Hidden>	Picture	Picture mapping: Side image Automatic fallback 
⊕ <a href="#">Body</a>	<Hidden>	Default	
⊕ <a href="#">Tags</a>	Above	Link	
<b>Hidden</b>			
No field is hidden.			

[Custom display settings](#)

# Change format to Picture

## Article

[Edit](#)[Manage fields](#)[Manage display](#)[Comment fields](#)[Comment display](#)[Default](#)[Teaser](#)

Content items can be displayed using different view modes: Teaser, Full content, Print, RSS, etc. *Teaser* is a short format that is typically used in lists of multiple content items. *Full content* is typically used when the content is displayed on its own page.

Here, you can define which fields are shown and hidden when *Article* content is displayed in each view mode, and define how the fields are displayed in each view mode.

[Show row weights](#)

FIELD	LABEL	FORMAT
⊕ Image	<Hidden>	<p>Format settings: Picture</p> <p><b>Picture mapping *</b></p> <p>Side image</p> <p><b>Fallback image style</b></p> <p>width_300</p> <p><b>Link image to</b></p> <p>Nothing</p> <p><a href="#">Update</a> <a href="#">Cancel</a></p>

# Select mapping, fallback



# STYLE SELECTIONS VIA CODE

## THEME PREPROCESSING FUNCTIONS AND MORE

```
function THEME_preprocess_node(&$variables) {  
  
if ($variables['type'] == 'blog') {  
  $fallback_style = 'width_400';  
  if ($account = user_load($node->uid)) {  
    if (isset($account->picture->uri)  
      && ($mapping = picture_mapping_load('author_image'))  
      && ($breakpoints =  
picture_get_mapping_breakpoints($mapping, $fallback_style))) {  
      $image_options = array(  
        'uri' => $account->picture->uri,  
        'alt' => '',  
        'breakpoints' => $breakpoints,  
        'style_name' => $fallback_style,  
      );  
      $variables['user_picture'] =  
        theme('picture', $image_options);  
    }  
  }  
}  
}
```

# Simpler in D8!

```
$content['side_image_responsive'] = array(  
  '#type' => 'responsive_image',  
  '#uri' => 'public://side-image.png',  
  '#attributes' => array(  
    'alt' => t('Hero image'),  
    'title' => t('Hero image title'),  
  ),  
  '#responsive_image_style_id' => 'hero',  
);
```

# **RESPONSIVE IMAGES AND WYSIWYG IN DRUPAL**

**DRUPAL 8 ISSUE: DRUPAL.ORG/NODE/2061377**

# **RESPONSIVE IMAGE BATCH**

**[DRUPAL.ORG/SANDBOX/DANNYJORIS/2607668](https://drupal.org/sandbox/dannyjoris/2607668)**

**HELPS SET UP IMAGE STYLES BASED ON LAYOUT  
RIGHT NOW GEARED TOWARDS SRC PER BREAKPOINT**

# DRUPAL SASS BREAKPOINTS

[NPMJS.COM/PACKAGE/DRUPAL-SASS-BREAKPOINTS](https://npmjs.com/package/drupal-sass-breakpoints)  
IMPORT DRUPAL BREAKPOINTS.YML VALUES INTO SASS



## TIME TO GET EVEN MORE HIP ADVANCED RESPONSIVE IMAGE USE CASES

# PICTURE ELEMENT

```
<picture>
  <source media="(min-width: 40em)"
    srcset="big.jpg 1x, big-hd.jpg 2x">
  <source
    srcset="small.jpg 1x, small-hd.jpg 2x">
  
</picture>
```

# Container for image sources (Do not put widths on picture element)

```
<picture>
  <source media="(min-width: 40em)"
    srcset="big.jpg 1x, big-hd.jpg 2x">
  <source
    srcset="small.jpg 1x, small-hd.jpg 2x">
  
</picture>
```

Controlling image  
Initial file = fallback

## Breakpoint to select source element

```
<picture>
  <source media="(min-width: 40em)"
    srcset="big.jpg 1x, big-hd.jpg 2x">
  <source
    srcset="small.jpg 1x, small-hd.jpg 2x">
  
</picture>
```



File options based on screen resolution

```
<picture>
  <source media="(min-width: 40em)"
    srcset="big.jpg 1x, big-hd.jpg 2x">
  <source
    srcset="small.jpg 1x, small-hd.jpg 2x">
  
</picture>
```

**First match selected**  
**Largest to smallest**

**ART DIRECTION**  
**DIFFERENT ASPECT RATIOS PER MEDIA QUERY**



**75.33% ASPECT RATIO**

**MOBILE**



**61.87% ASPECT RATIO**

**TABLET  
(MIN-WIDTH: 40EM)**



**47.6% ASPECT RATIO**

**DESKTOP**  
**(MIN-WIDTH: 70EM)**



**31.47% ASPECT RATIO**

**WIDE DESKTOP  
(MIN-WIDTH: 100EM)**

# ASPECT RATIO SWITCHING

```
<picture>
  <source media="(min-width: 100em)"
    src="cat-field-75ratio-1600.jpg">
  <source media="(min-width: 70em)"
    src="cat-field-62ratio-1120.jpg">
  <source media="(min-width: 40em)"
    src="cat-field-48ratio-640.jpg">
  <source
    src="cat-field-32ratio-320.jpg">
  
</picture>
```

# ASPECT RATIO SWITCHING

```
<picture>
  <source media="(min-width: 100em)"
    sizes="100vw"
    srcset="cat-field-75ratio-4000.jpg 4000w,
            cat-field-75ratio-3200.jpg 3200w,
            cat-field-75ratio-2000.jpg 2000w,
            cat-field-75ratio-1600.jpg 1600w">
...
  
</picture>
```

# ASPECT RATIO CSS

```
.image-container {  
  height: 0;  
  padding-bottom: 75.33%;  
  position: relative;  
  overflow: hidden;  
}  
  
.image-container img {  
  left: 50%;  
  position: absolute;  
  top: 50%;  
  transform: translate(-50%, -50%);  
}
```

# ASPECT RATIO CSS

```
@media all and (min-width: 40em) {  
  .image-container {  
    padding-bottom: 61.87%;  
  }  
}  
  
@media all and (min-width: 70em) {  
  .image-container {  
    padding-bottom: 47.6%;  
  }  
}  
  
@media all and (min-width: 100em) {  
  .image-container {  
    padding-bottom: 31.47%;  
  }  
}
```

First match  
Small to large



**HEY WE ACTUALLY GET TO BREAK DANCE NOW!**  
**ART DIRECTION NEEDS BREAKPOINTS AND BREAKPOINT GROUPS**

# BREAKPOINTS.YML

```
THEME.hero.empty:
  label: Empty
  mediaQuery: ''
  weight: 0
  multipliers:
    - 1x

THEME.hero.narrow:
  label: Narrow
  mediaQuery: 'all and (min-width: 40em)'
  weight: 1
  multipliers:
    - 1x

THEME.hero.mid:
  label: Mid
  mediaQuery: 'all and (min-width: 70em)'
  weight: 2
  multipliers:
    - 1x

THEME.hero.wide:
  label: Wide
  mediaQuery: 'all and (min-width: 100em)'
  weight: 3
  multipliers:
    - 1x
```



I WILL NOT APOLOGIZE FOR MORE ROOMBA CAT  
CREATE IMAGE STYLES WITH SCALE AND CROP

https://dkx1.ply.st/admin/config/media/image-styles/edit/width\_300

Dashboard Content Structure Appearance People Modules Configuration Reports Help Hello admin Log out

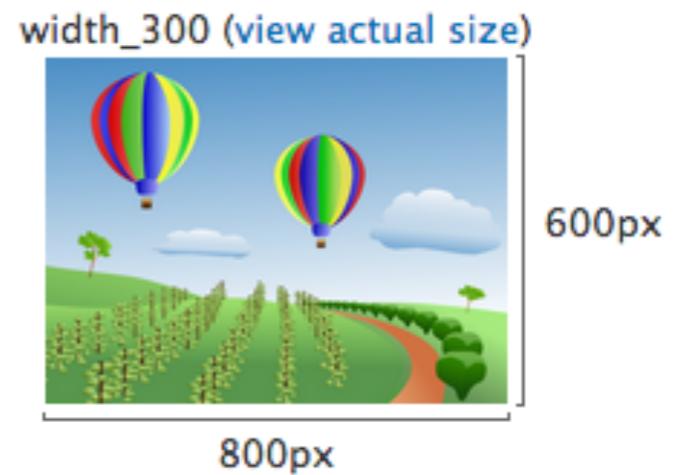
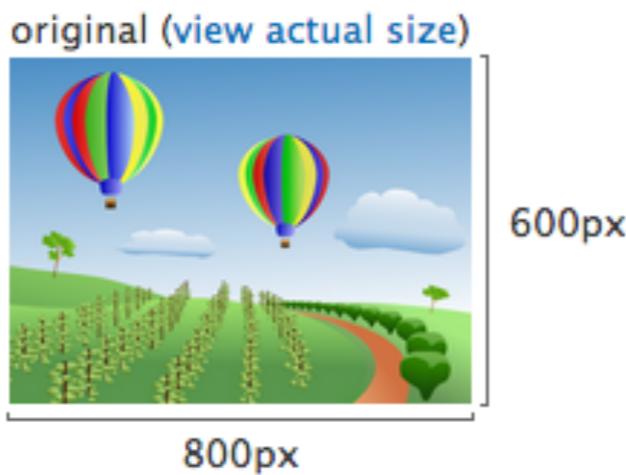
Add content Find content Edit shortcuts

EDIT width\_300 style



Style *width\_300* was created.

### Preview



### Image style name \*

width\_300

Machine name: width\_300 [Edit]

Show row weights

EFFECT	OPERATIONS
There are currently no effects in this style. Add one by selecting an option below.	
<ul style="list-style-type: none"><li>+ <input checked="" type="checkbox"/> Select a new effect</li><li>Crop</li><li>Desaturate</li><li>Resize</li><li>Rotate</li><li>Scale</li><li>Scale and crop</li></ul>	<p>Add</p>

A large yellow arrow points from the text "Scale and crop" to the "Scale and crop" option in the dropdown menu.

# Scale and crop



TIME TO LOUNGE ON A MAP

NOT REALLY, BUT HEY YOU SHOULD MATCH BREAKPOINTS WITH IMAGE STYLES

**ART DIRECTION**  
**DIFFERENT IMAGE CROPS PER MEDIA QUERY**



**FULL IMAGE**

**DESKTOP**  
**(MIN-WIDTH: 70EM)**



TIGHTER CROP

TABLET  
(MIN-WIDTH: 40EM)



**TIGHT CROP**

**MOBILE**

# IMAGE CROP SWITCHING

```
<picture>
  <source media="(min-width: 70em)"
    src="cat-field-full.jpg">
  <source media="(min-width: 40em)"
    src="cat-field-tighter.jpg">
  <source
    src="cat-field-tight.jpg">
  
</picture>
```

# IMAGE CROP SWITCHING

```
<picture>
  <source media="(min-width: 70em)"
    sizes="100vw"
    srcset="cat-field-full-2800.jpg 2800w,
            cat-field-full-2240.jpg 2240w,
            cat-field-full-1400.jpg 1400w,
            cat-field-full-1120.jpg 1120w">
...
  
</picture>
```



# BRING BACK BREAK DANCING

MORE ART DIRECTION WITH BREAKPOINTS AND BREAKPOINT GROUPS

# BREAKPOINTS.YML

THEME.artcrop.empty:

```
  label: Empty
  mediaQuery: ''
  weight: 0
  multipliers:
    - 1x
```

THEME.artcrop.narrow:

```
  label: Narrow
  mediaQuery: 'all and (min-width: 40em)'
  weight: 1
  multipliers:
    - 1x
```

THEME.artcrop.mid:

```
  label: Mid
  mediaQuery: 'all and (min-width: 70em)'
  weight: 2
  multipliers:
    - 1x
```



# ROOMBA CAT JUST WANTS TO HELP

## HOW CAN IMAGE STYLES HELP WITH CROPPING?

# FOCAL POINT: ART DIRECTION

[DRUPAL.ORG/PROJECT/FOCAL\\_POINT](https://drupal.org/project/focal_point)  
ASSIGN FOCUS LEVELS TO IMAGE STYLES



NEXT TIME TO NAP. MAP. I MEAN MAP.

YES, YOU SHOULD ONCE AGAIN MATCH BREAKPOINTS WITH IMAGE STYLES

# IMAGE TYPES

.WEBP CAN FALBACK TO .JPG

# IMAGE TYPE SWITCHING

```
<picture>
  <source type="image/webp"
    src="cat-field.webp">
  <source
    src="cat-field.jpg">
  
</picture>
```

# IMAGE TYPE SWITCHING

```
<picture>
  <source media="(min-width: 70em)"
    sizes="100vw" type="image/webp"
    srcset="cat-field-full-2800.webp 2800w,
            cat-field-full-2240.webp 2240w,
            cat-field-full-1400.webp 1400w,
            cat-field-full-1120.webp 1120w">
  <source media="(min-width: 70em)"
    sizes="100vw"
    srcset="cat-field-full-2800.jpg 2800w,
            cat-field-full-2240.jpg 2240w,
            cat-field-full-1400.jpg 1400w,
            cat-field-full-1120.jpg 1120w">
...
  
</picture>
```

**MAKE THE WEB BETTER**

**Beautiful photos +**

**Fast loading photos**



Photo credit: Pete Markham, "Domino the Cat, Week 2", Flickr Creative Commons

A close-up photograph of a black and white cat's face. The cat has large, expressive blue eyes with dark pupils. Its fur is a mix of black and white, with white patches on the forehead, nose, and chin. The background is blurred, showing warm, out-of-focus colors.

**5120px  
1500k**

A close-up photograph of a black and white cat's face. The cat has large, expressive blue eyes with dark pupils. Its fur is a mix of black and white, with white patches on the forehead, nose, and chin. The background is blurred, showing warm, out-of-focus colors.

**320px  
12.5k**



120x



Photo credit: Pete Markham, "Domino the Cat, Week 2", Flickr Creative Commons

# Marc Drummond

## Front-end Developer, Lullabot



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# Join us for Sprints

Friday, May 13 at the Convention Center

First-Time Sprinter Workshop - 9am-12pm in Room 271-273

Mentored Core Sprint - 9am-6pm in Room 275-277

General Sprints - 9am-6pm in Room 278-282





# So How Was It? - Tell Us What You Think

Evaluate this session  
[events.drupal.org/neworleans2016/sessions/sizing-  
responsive-images-make-plan-you-drupal](http://events.drupal.org/neworleans2016/sessions/sizing-responsive-images-make-plan-you-drupal)



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Thanks!

# NEW ORLEANS

DRUPALCON 2016