BUMPS IN THE ROAD

Addressing the Challenges of Responsive Web Design

genuine INTERACTIVE

WHO WE ARE

- Michael Miles (@mikemiles86)
- Salem Ghoweri (@salem_ghoweri)
- Genuine Interactive (@WeAreGenuine)

AS RESPONSIVE WEB DESIGN (RWD) IS MATURING
WE ARE BEGINNING TO

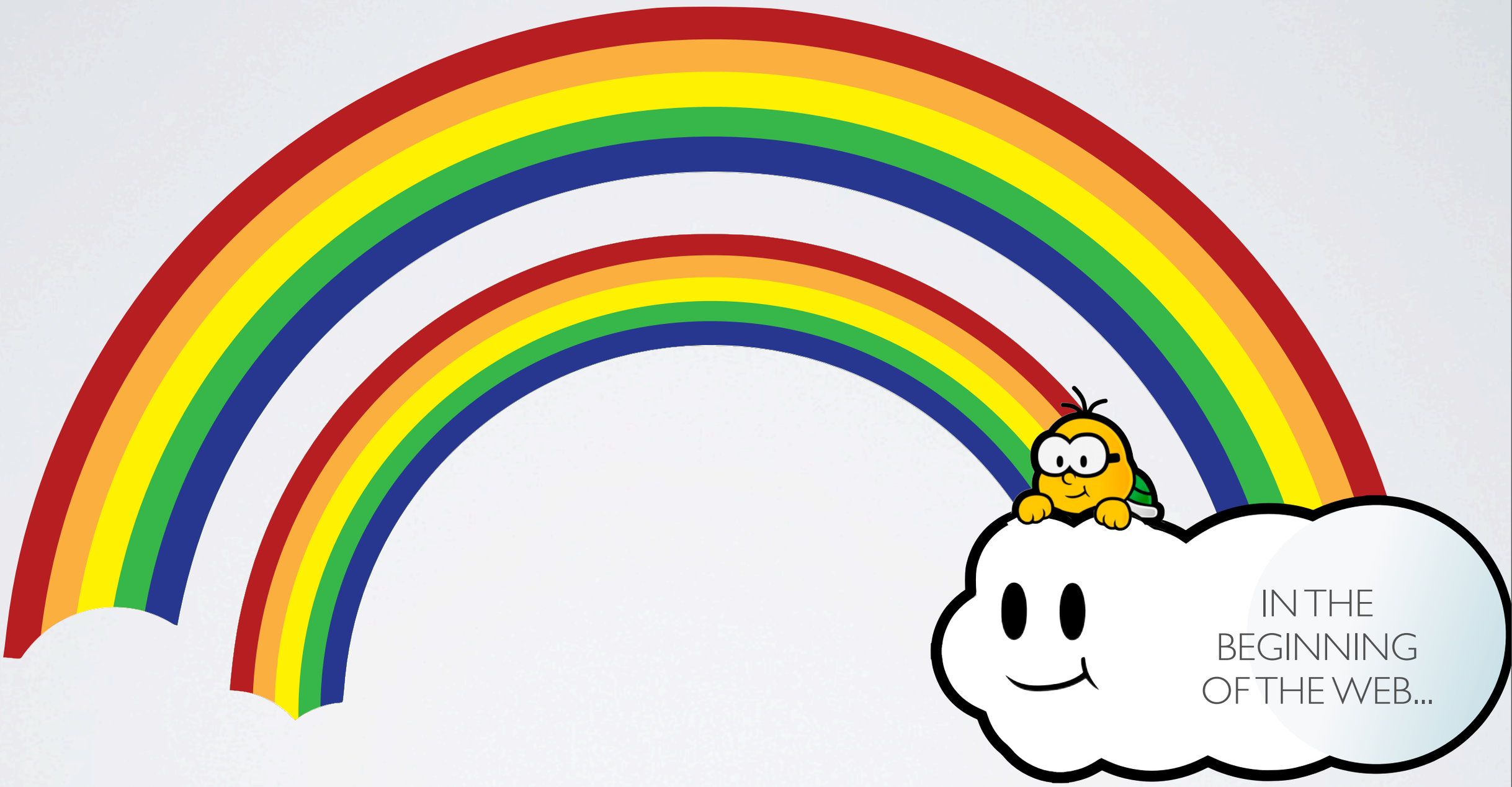
IDENTIFY AND UNDERSTAND

THE ROADBLOCKS

WE ARE HERE TO SHARE WHAT WE'VE LEARNED

RWD CHALLENGES

- many designers still think in terms of pixels
- traditional design software only supports static layouts
- confusion about what's appropriate for which tools
- where to start? start from scratch? use community theme?
- page bloat (multiple versions of images, tons of javascript and css)


IN THE
BEGINNING
OF THE WEB...

- Everyone used the same up-to-date Modern browser

- On the same sized, perfectly calibrated monitor

307
CARRIER
TRANSDATA
LIMITED
DATA
1
2
3
4
5
6
7
8
9
*
0
#

The Million Dollar Homepage™

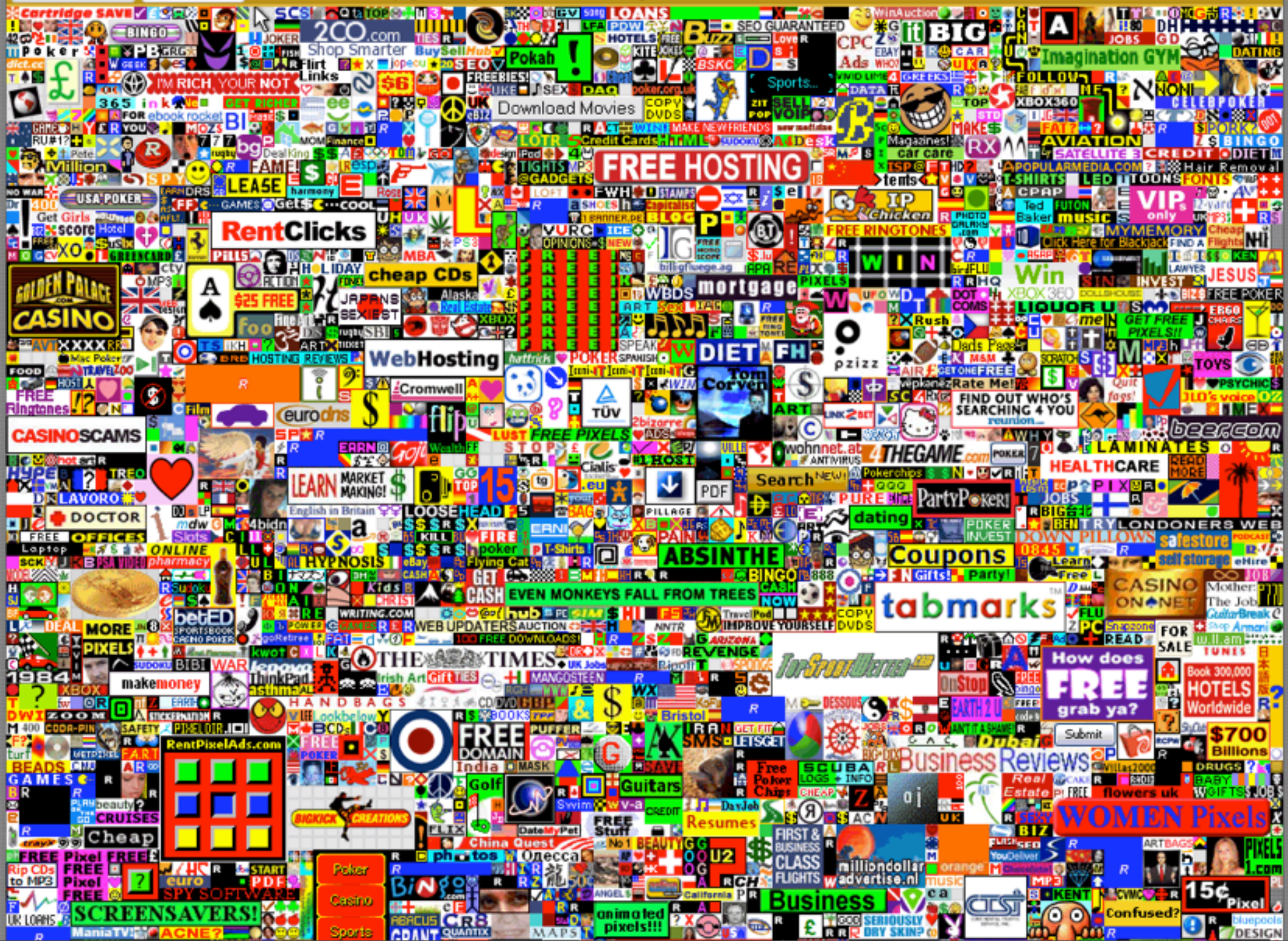
1,000,000 pixels • $1 per pixel • Own a piece of internet history!

1000 Limited Edition MDHP Poster Prints - Available Now

Sold: 1,000,000 SOLD OUT!

Follow @tewy 8,871 followers

Homepage | Buy Pixels | FAQ | Blog | Pixel List | Press | Testimonials | Contact me



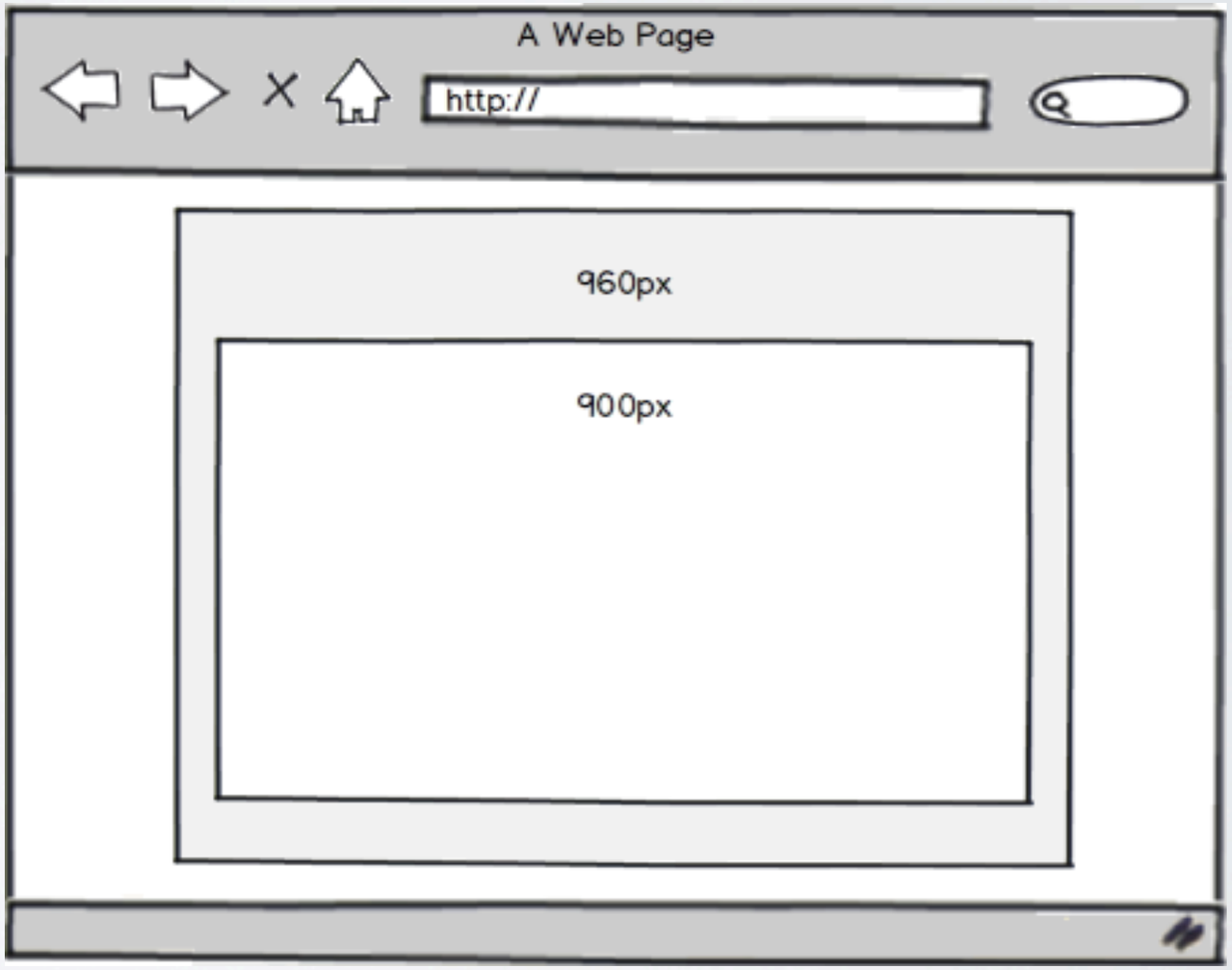
“Ever” -no one

ASSUMPTIONS PERIOD:
.COM BUBBLE - IPHONE

- "The web is just a page in a browser"

- Defined design areas.

- Only needed one design

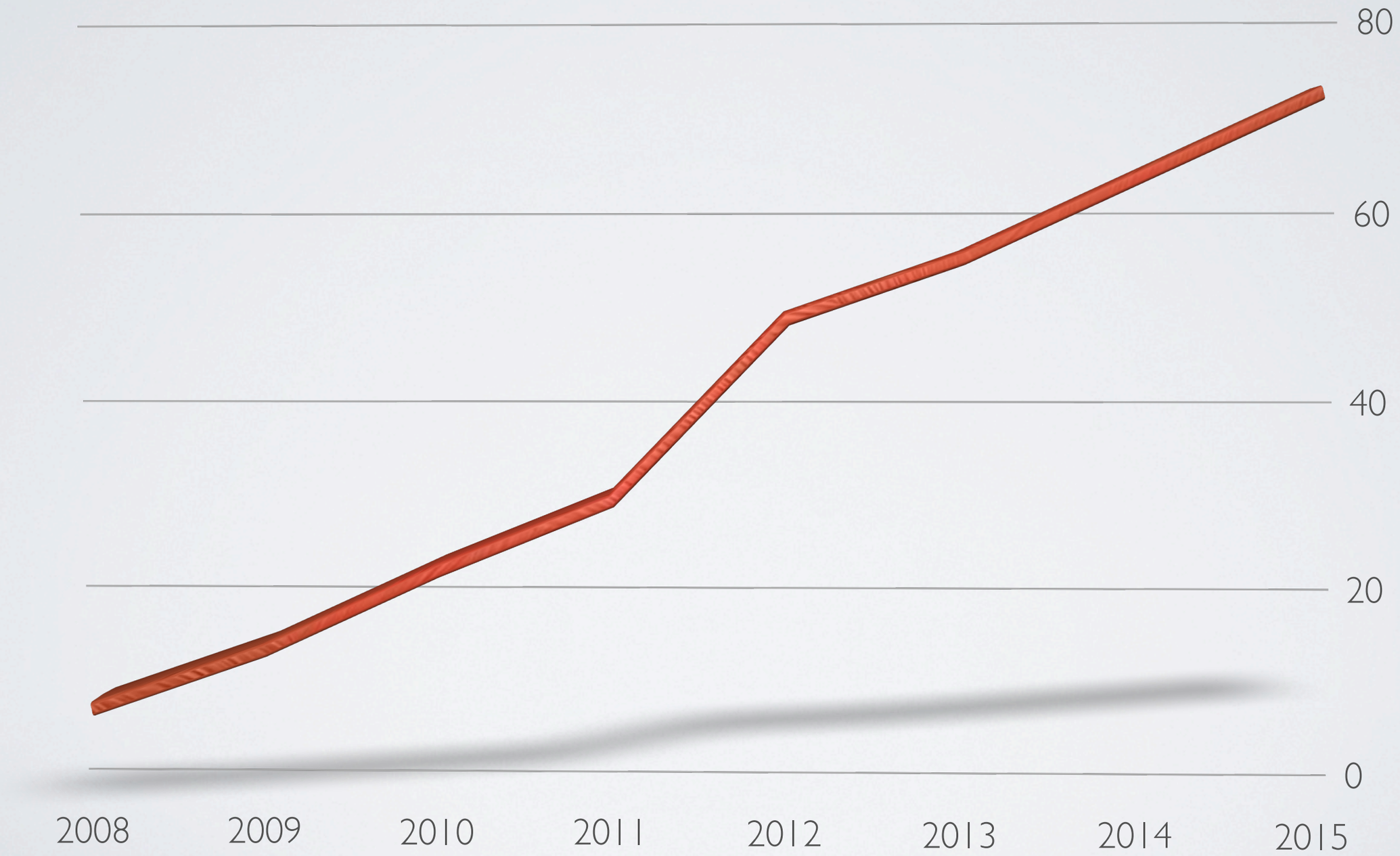


http://nataliemilton.com/wp-content/uploads/2013/03/960px-900.png

ASSUMPTIONS PERIOD:
IPHONE - IPAD

- Mobile web browsing
- Separate, different experiences for users.
- Need two designs

U.S. SMARTPHONE ADOPTION



iPhone 4S

iPhone 5

Nexus 4

Galaxy S 3

Galaxy S 4

Droid DNA

HTC One

Galaxy Note 2

LG Optimus

Galaxy Mega

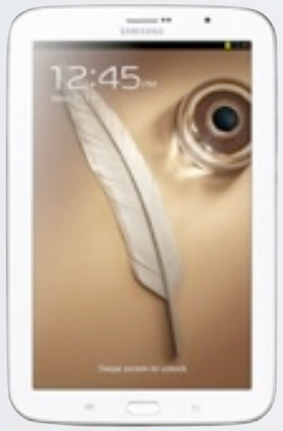
Galaxy Mega

Nexus 7

TODAY, THINGS ARE COMPLICATED.

Galaxy Tab 3

iPad Mini



Galaxy Note

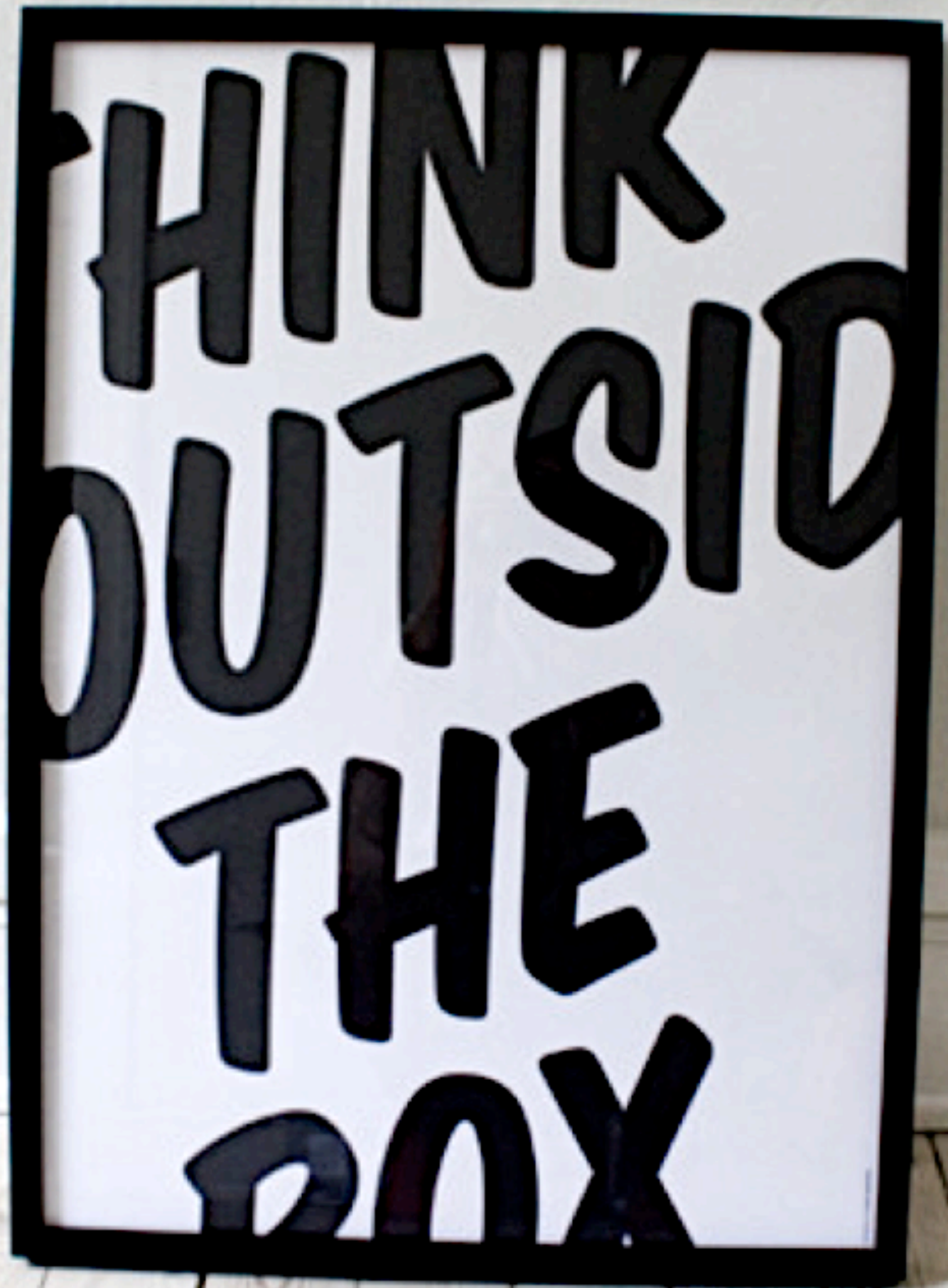
iPad

Nexus 10

Galaxy Tab 3

ASSUMPTIONS PERIOD:
IPAD - TODAY

- There is only one web
- There is only one design
- Users expect one experience


THINK
OUTSIDE
THE
BOX

A PAGE IS NOT A PAGE

Can't make assumptions

Fixed sizes: Gone

Must think differently

HOW DO I DESIGN RESPONSIVELY?

Width
150px / 15%

Width
150px / 15%

Width
150px / 15%

Width
150px / 15%

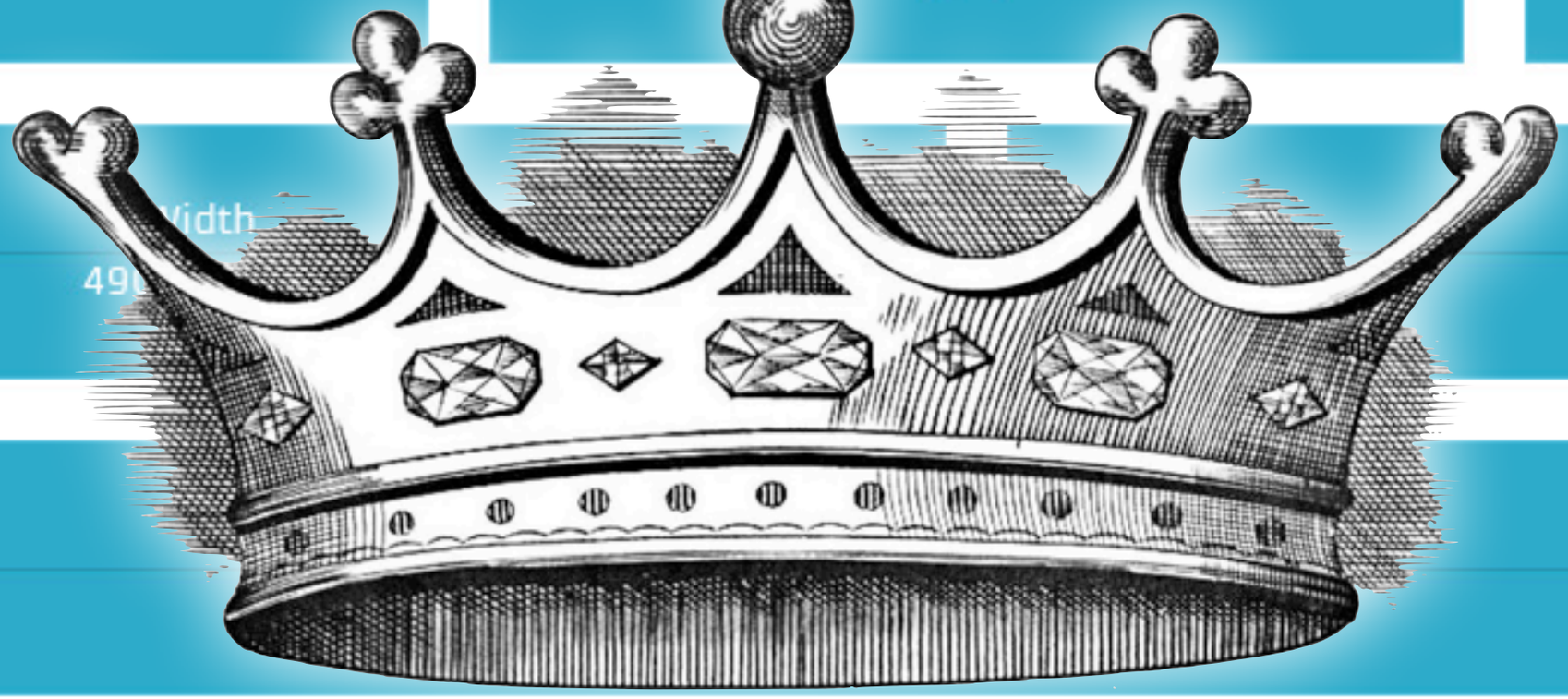
Width
150px / 15%

Width
320px / 32%

Width
320px / 32%

Width
490px / 49%

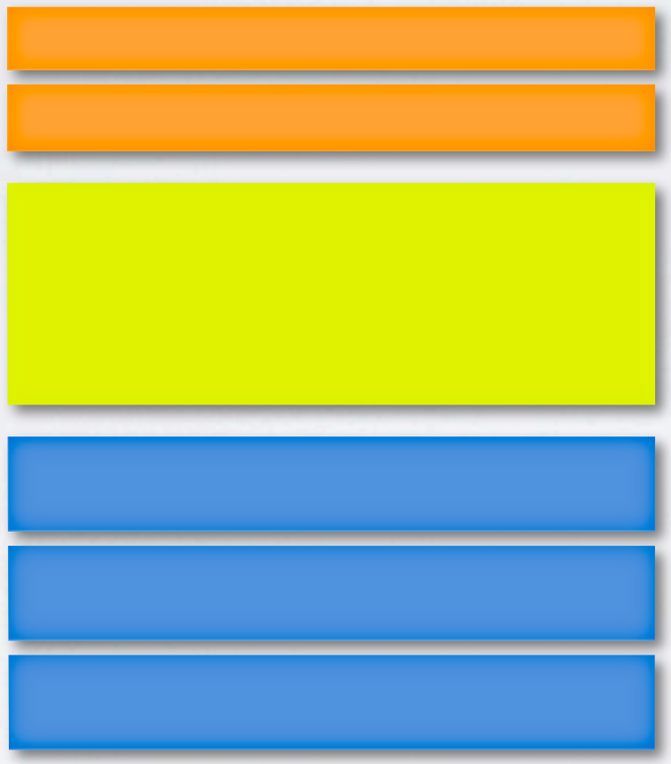
Width
490px / 49%



Width
830px / 83%

Width
660px / 66%

- Elements will shift

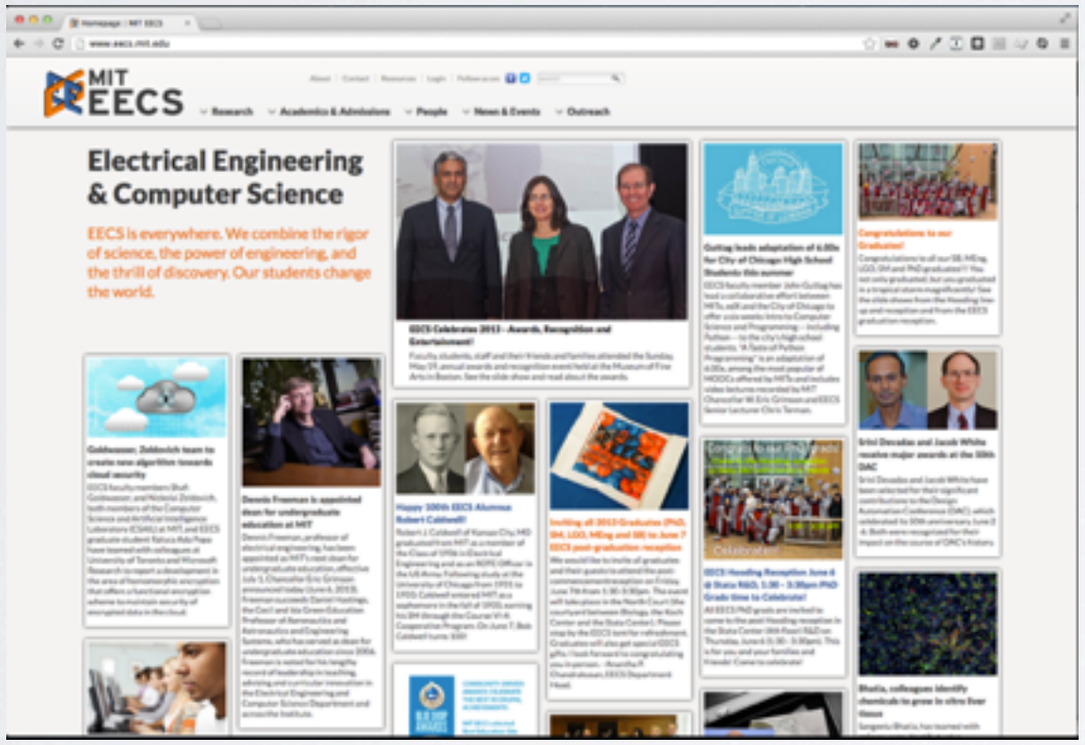


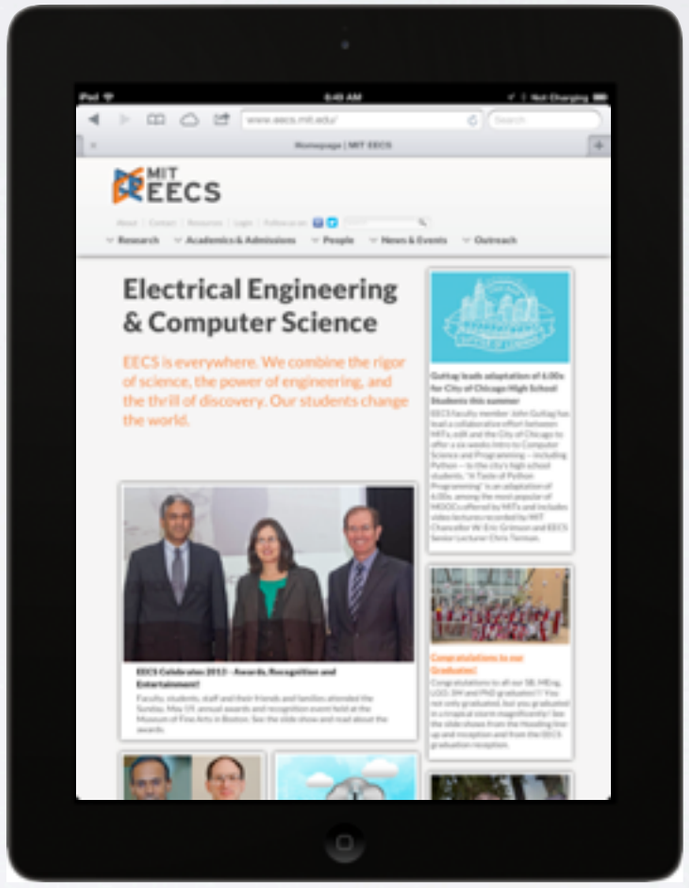
- Define columns

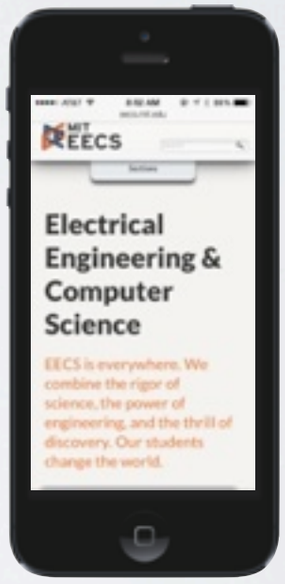
- Keep it simple

MIT EECS

eesc.mit.edu



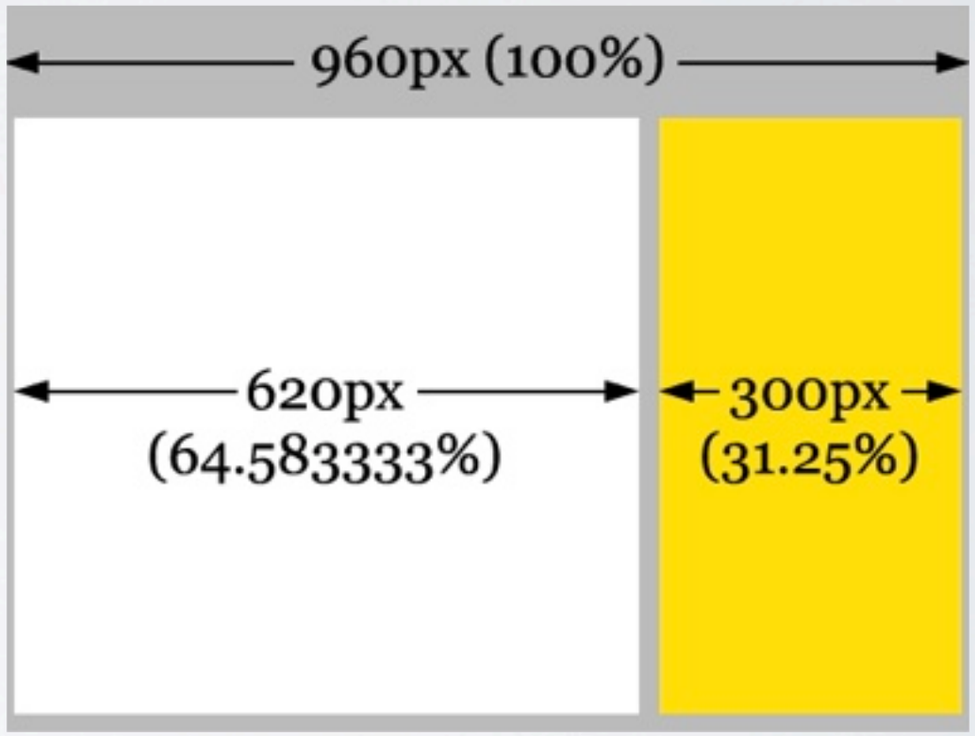




FROM FIXED TO FLUID

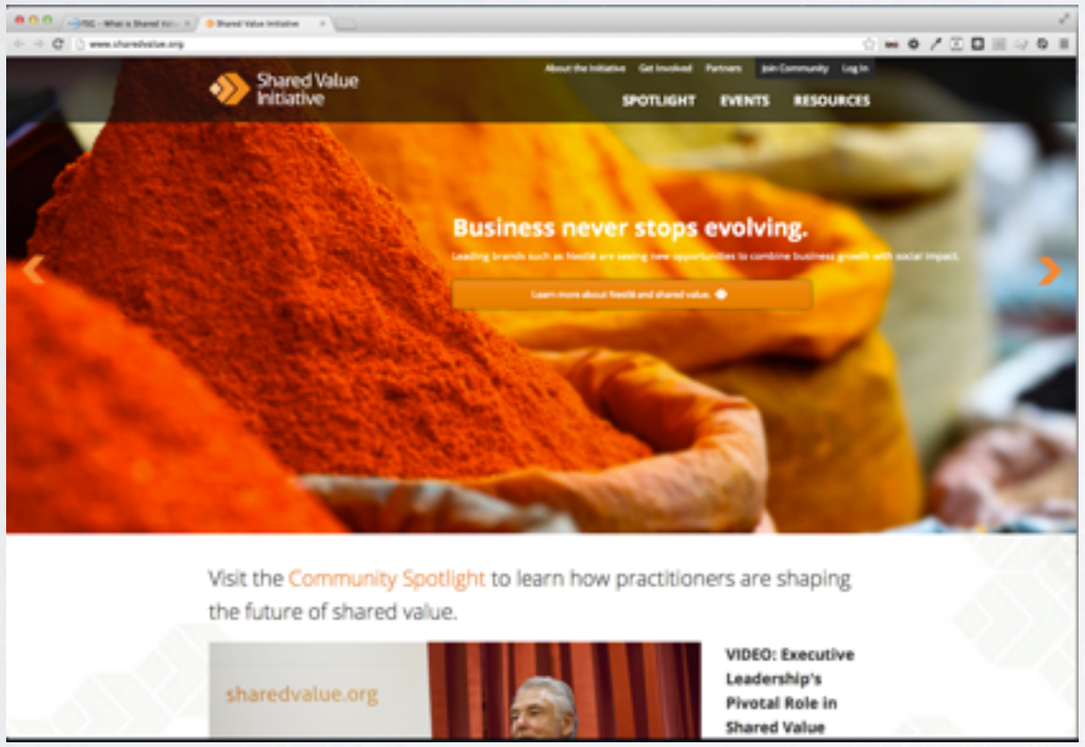
Designers:

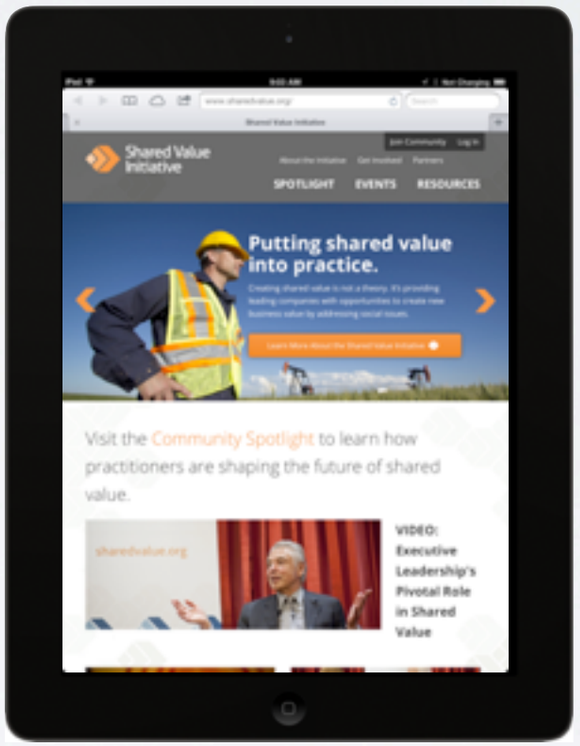
- Think in terms of percentages
- Make element proportional to parents
- Discuss with developers



SHARED VALUE INITIATIVE

sharedvalue.org





FLUID FLEXIBLE GRID

- Does not care about device
- Easy to implement
- Create clear, creative designs

TOOLS IN AN AGE OF RESPONSIVE

VS

DESIGNING IN PHOTOSHOP

- Static mockups don't translate into flexible layouts
- Impractical to mockup infinite number of layout variations
- Difficult to communicate behavior, gestures, animations, etc.

YOU CAN'T DESIGN FOR THE UNKNOWN

DESIGNING IN THE BROWSER

- Not everyone is comfortable coding

- Problematic to build what hasn't been explicitly defined

- Unknown factor: setting expectations and client sign-off are difficult

You lose details that might not easily translate to the browser!

- Adobe Edge Reflow

Edge Reflow File Edit View Window Help

Responsive Final* – Edge Reflow

Layout Styling

Padding 0px

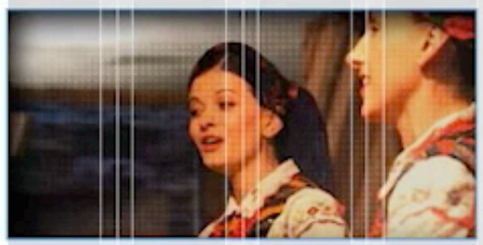
0px 0px

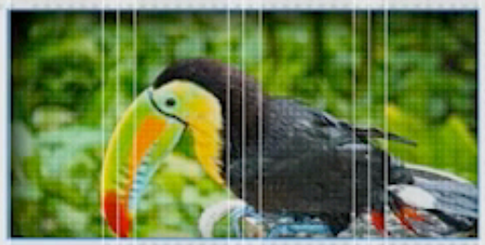
0px 0px

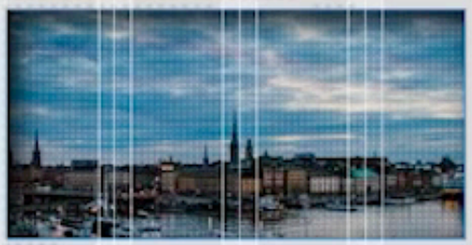
450 768

TRAVEL SPOTLIGHT

South Africa







"To travel is to realize everyone is

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi gravida nisl a nunc elementum vel blandit ipsum elementum. Aenean vehicula vehicula sollicitudin. Etiam sem libero, fermentum sit amet venenatis porttitor, tempor

ADOBE TV

THE “PERFECT” RWD DESIGNER TOOL DOESN’T EXIST YET

& MIGHT NEVER EXIST

DON'T WAIT FOR PERFECT;

USE WHAT WORKS FOR YOU

ADDITIONAL SOLUTIONS

Style Tiles

The Examiner
WASHINGTON

Style Tile
version:3

Election Headline

Font: FF Tisa Web Pro Bold Typekit

Election Subhead

Font: FF Tisa Web Pro Typekit

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at

This is an example of a Text link »

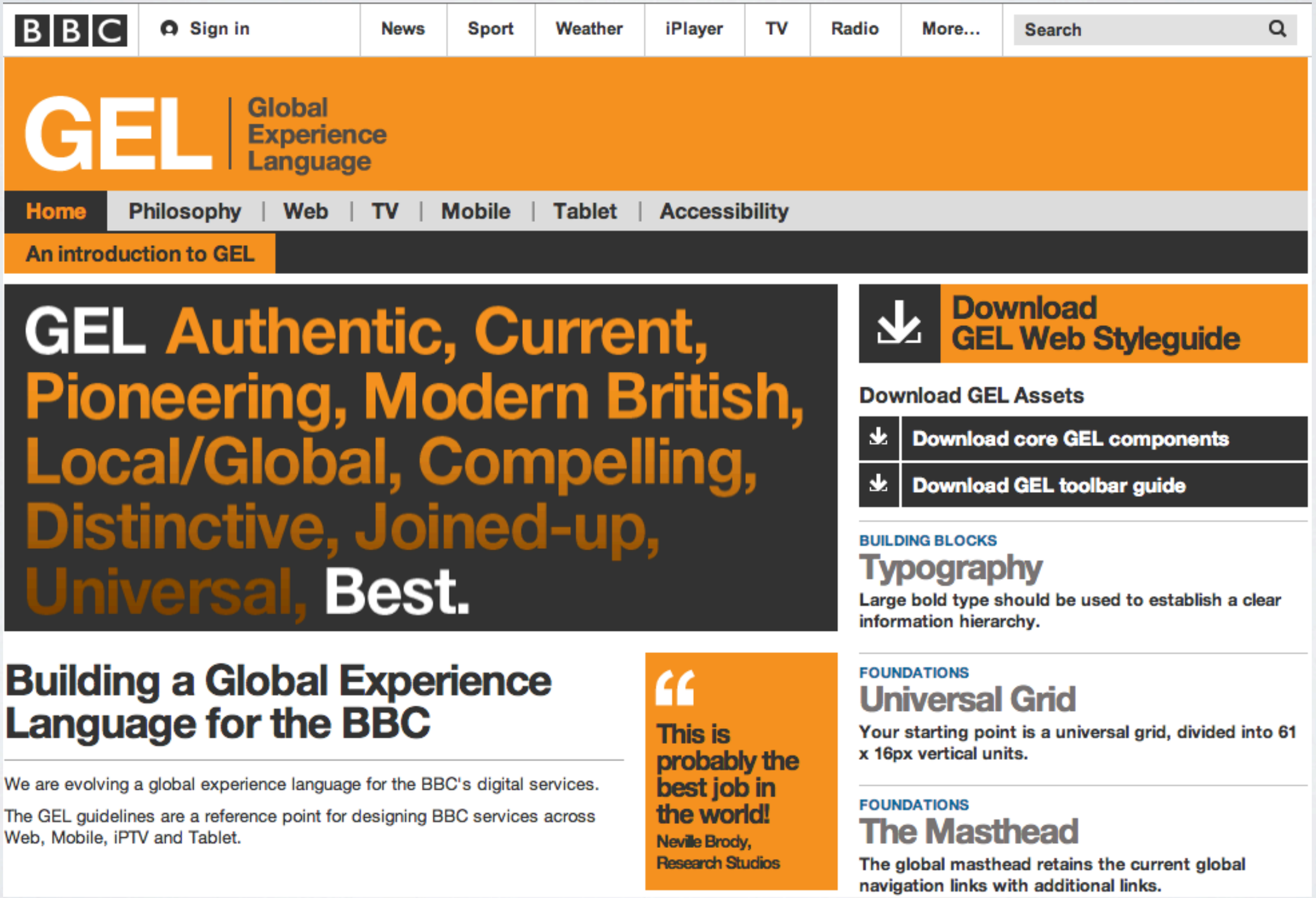
Learn More →

Possible Colors

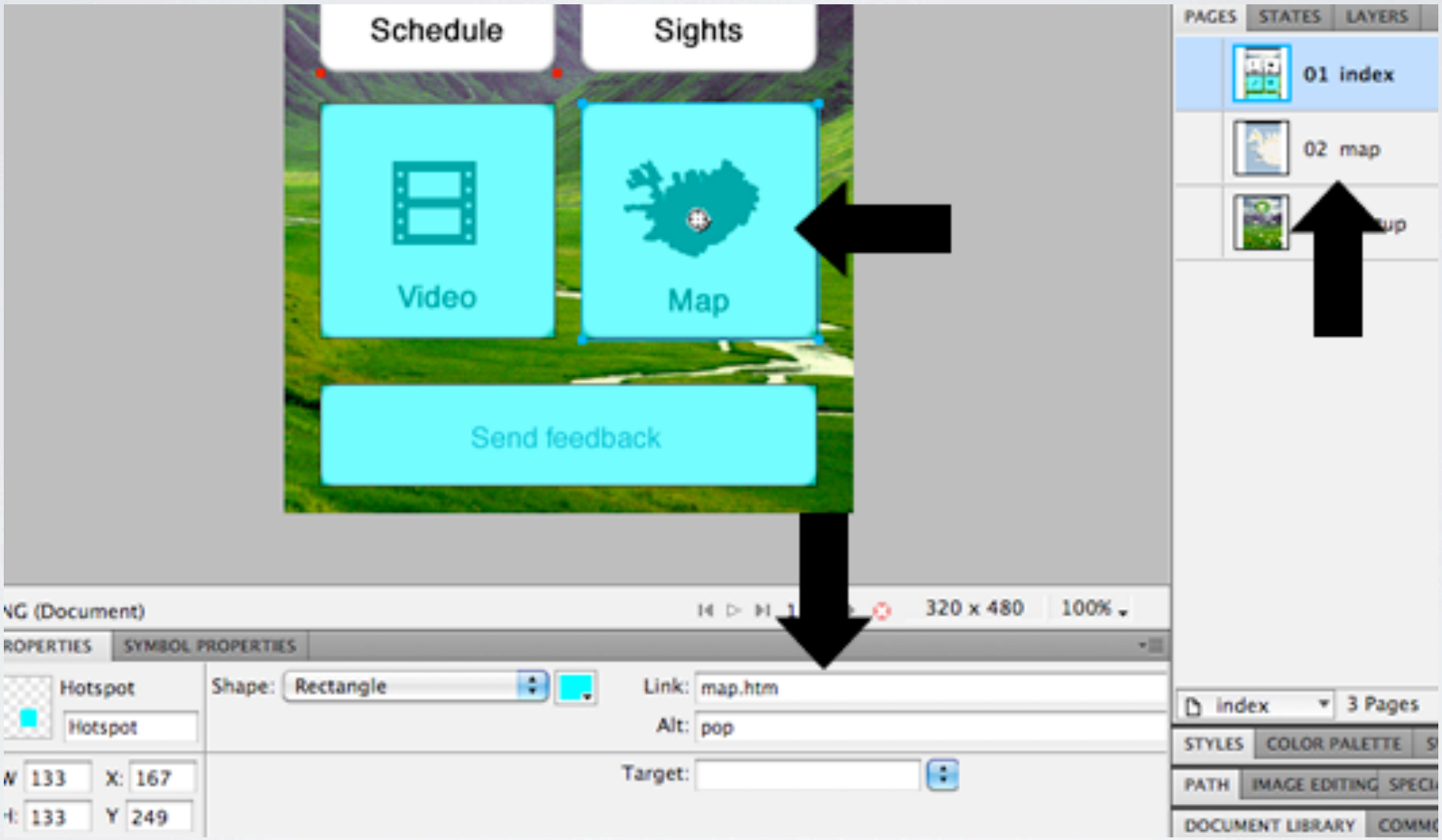
Possible Patterns

Accessible Personable
Reliable Inviting
Modern **Friendly**

Style Guide


BBC
Sign in
News
Sport
Weather
iPlayer
TV
Radio
More...
Search
GEL
Global
Experience
Language
Home
Philosophy
Web
TV
Mobile
Tablet
Accessibility
An introduction to GEL
GEL Authentic, Current, Pioneering, Modern British, Local/Global, Compelling, Distinctive, Joined-up, Universal, Best.
Download
GEL Web Styleguide
Download GEL Assets
Download core GEL components
Download GEL toolbar guide
Building a Global Experience Language for the BBC
We are evolving a global experience language for the BBC's digital services.
The GEL guidelines are a reference point for designing BBC services across Web, Mobile, iPTV and Tablet.
This is probably the best job in the world!
Neville Brody, Research Studios
BUILDING BLOCKS
Typography
Large bold type should be used to establish a clear information hierarchy.
FOUNDATIONS
Universal Grid
Your starting point is a universal grid, divided into 61 x 16px vertical units.
FOUNDATIONS
The Masthead
The global masthead retains the current global navigation links with additional links.

Interactive Prototype



THEMING

Front-end Development & Drupal

WHERE TO START?

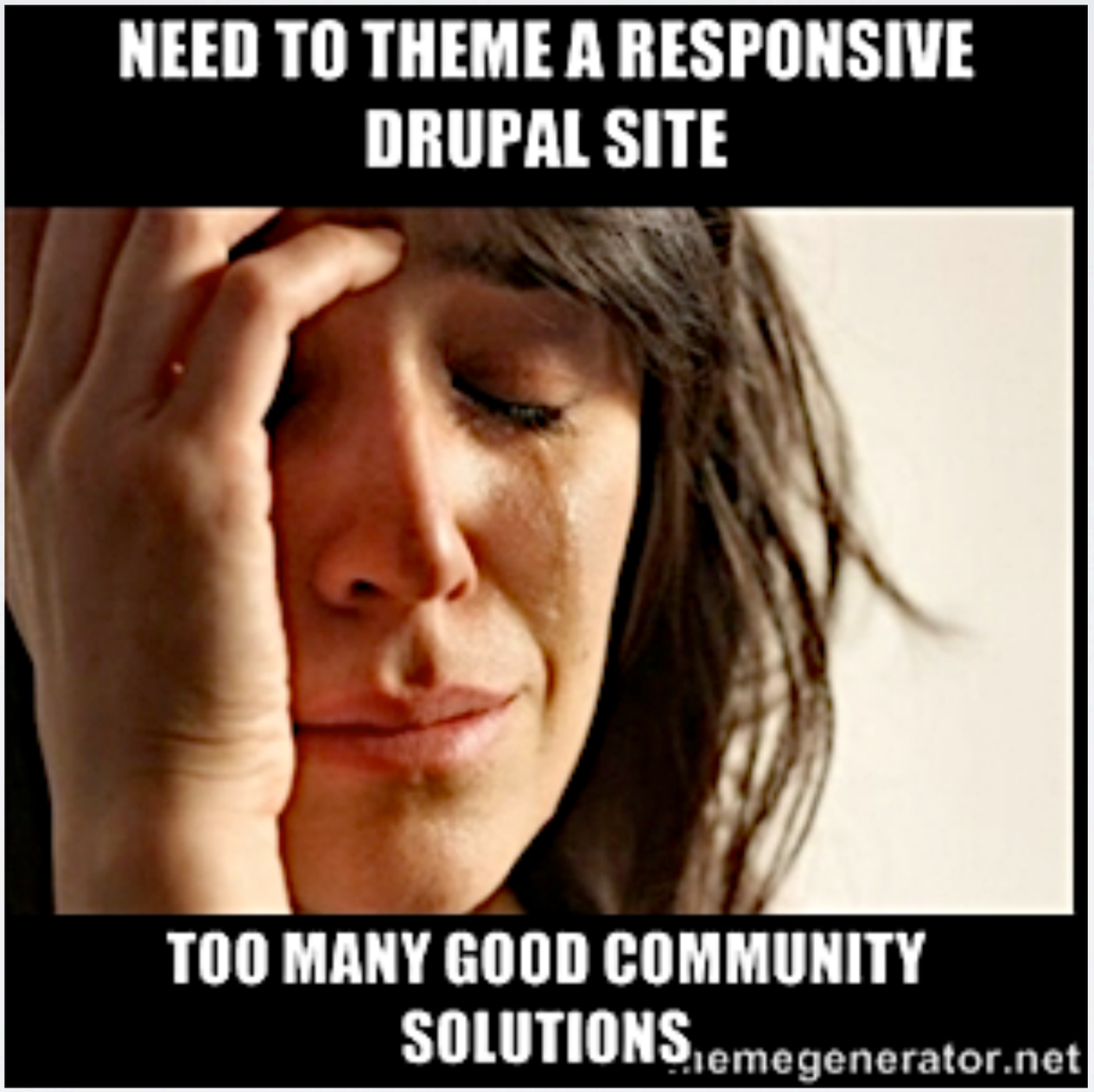
- Project has a timeline and budget
- Limited amount of time to start
- Need to know your options

TWO ROADS TO TRAVEL

Community Theme

Custom Theme

FIRST WORLD PROBLEMS



THREE BEST OPTIONS

(in our experience)

Adaptive Themes

Omega

Zen

ADAPTIVE THEMES

drupal.org/project/adaptivetheme

PROS

- Modern techniques (SASS, Compass, etc)
- Plugin system
- Plays well with others

CONS

- Advanced settings
- Generate CSS files (6-8)

OMEGA

drupal.org/project/omega

PROS

- Optimize core CSS
- Drupal 8 CSS Standards
- Drush Integration

CONS

- Advanced settings
- Unique "Zones" paradigm

ZEN

drupal.org/project/zen

PROS

- Flexible Fluid Grid
- SASS or vanilla CSS
- Clean Templates

CONS

- Very basic
- More time consuming

CUSTOM THEME

PROS

- Fits your workflow
- You control the code
- Customized to fit projects

CONS

- Very time consuming to build correctly
- No community support

WHICH TO CHOOSE?

Budget

<?php CUSTOM ?>

ADAPTIVE THEMES

禪 zen
extend and design

Flexibility & Time

COMBATTING PAGE BLOAT

- Having a single code base with RWD is a double-edged sword

- Common practice is to hide and show device specific content (display: none)

Browsers still download hidden inline images!

- Remember: mobile users expect **fast** browsing experience

THE SOLUTION:
SEND LESS CODE!

drupal.org/project/conditional_styles

```
; Set the conditional stylesheets that are processed by IE.
stylesheets-conditional[lt IE 7][all][] = ie6-and-below.css
stylesheets-conditional[IE 9][all][] = ie9.css
stylesheets-conditional[IE][print][] = ie-print.css
```

THE SOLUTION:
SEND LESS CODE!

- Conditional Stylesheets Module
- Modularize CSS with SASS & Compass
- Load, fire your JavaScript conditionally (RequireJS, EnquireJS, Modernizr)

+

compass

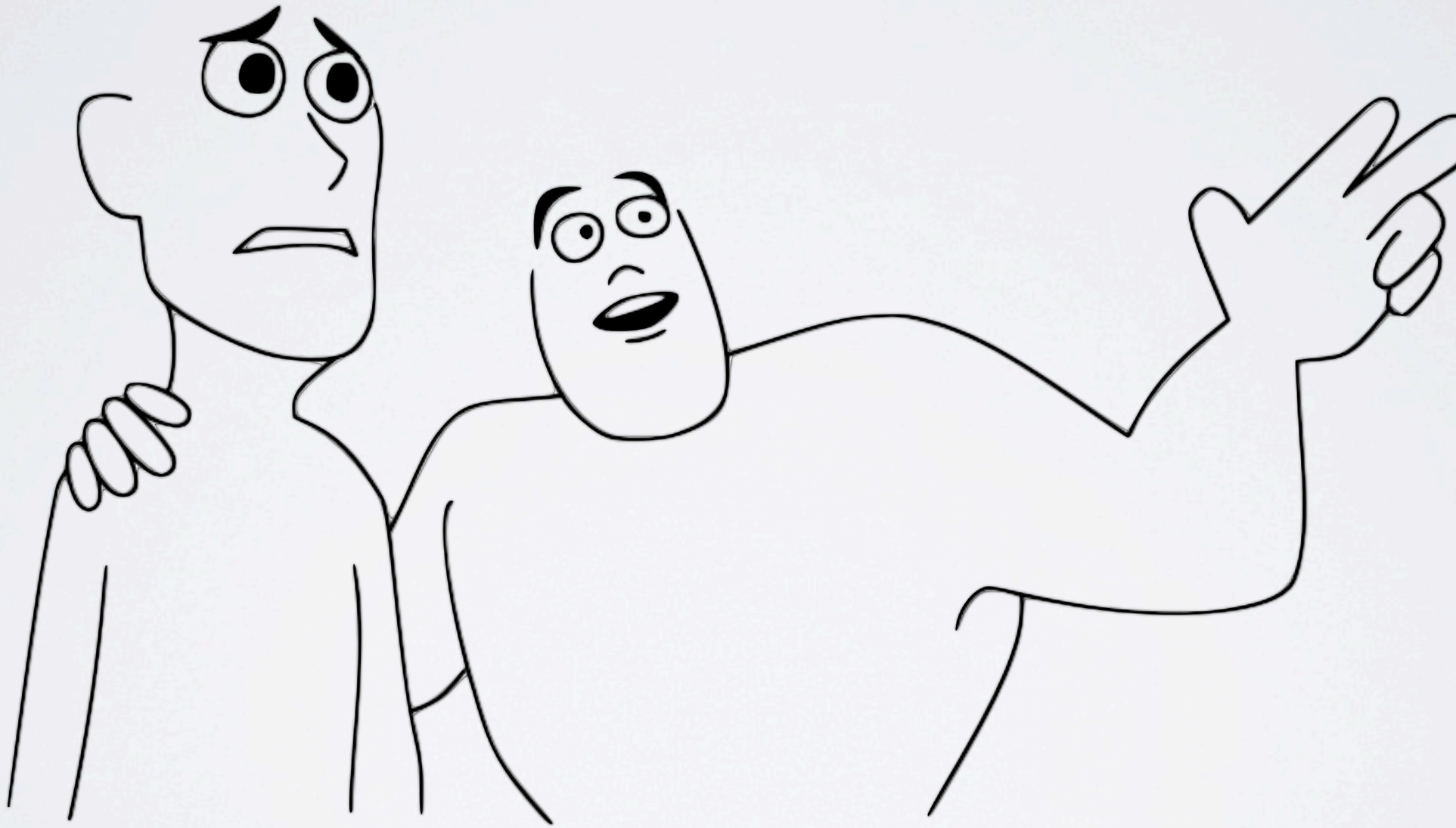
THE SOLUTION:
SEND LESS CODE!

- Conditional Stylesheets Module

- Modularize CSS with SASS & Compass

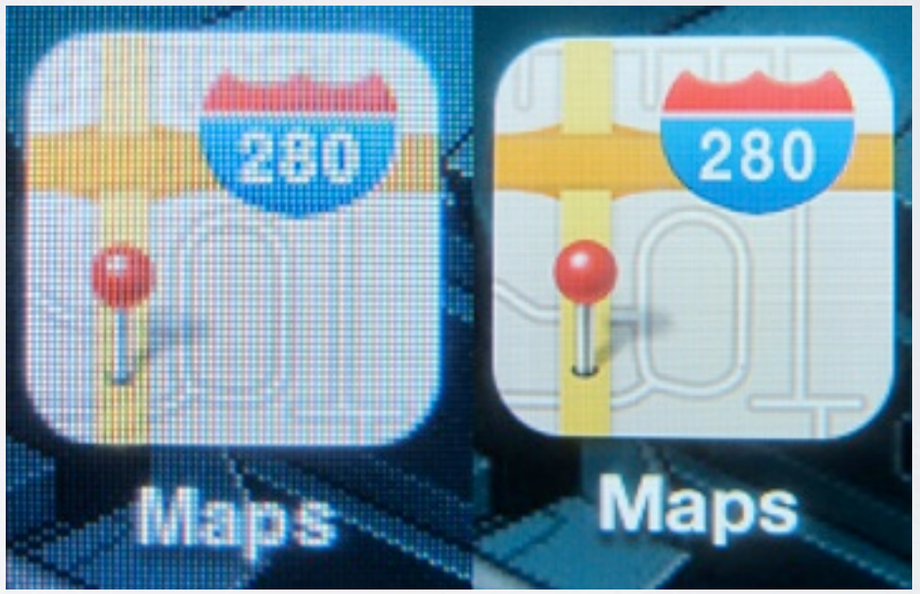
- Load, fire your JavaScript conditionally (RequireJS, EnquireJS, Modernizr)

IMAGES. IMAGES EVERYWHERE.



IMAGES. IMAGES EVERYWHERE.

- Images account for ~60% of page weight
- Resolution independence is one of the largest challenges facing RWD
- Many techniques exist, browser vendor solutions in-progress (Picturefill, srcset)



Retina is here to stay.

SOLUTION #1:

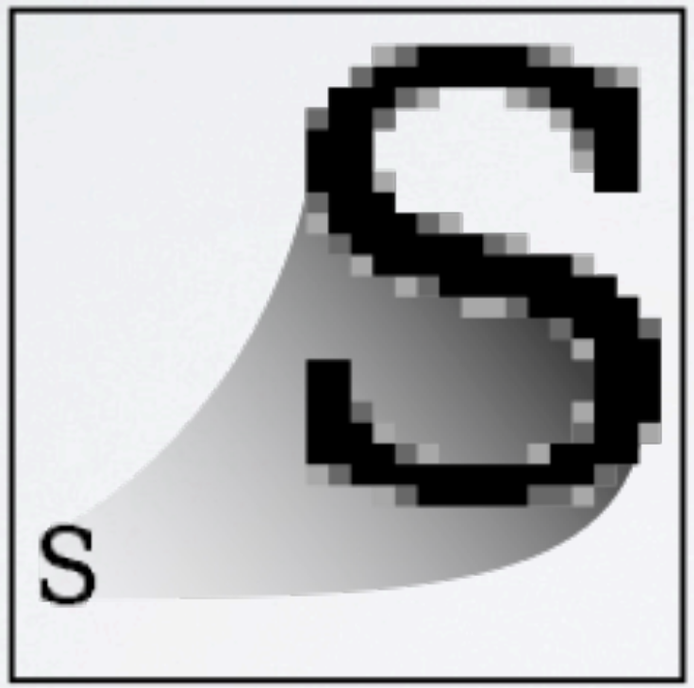
TACKLE EVERYTHING BUT INLINE <IMG>

ICONS & SPRITES

Font-icons such as Icomoon or Font Awesome

SVG

Scalable Vector Graphics (SVGs) for vector graphics, textures



Raster

.jpeg .gif .png

Vector

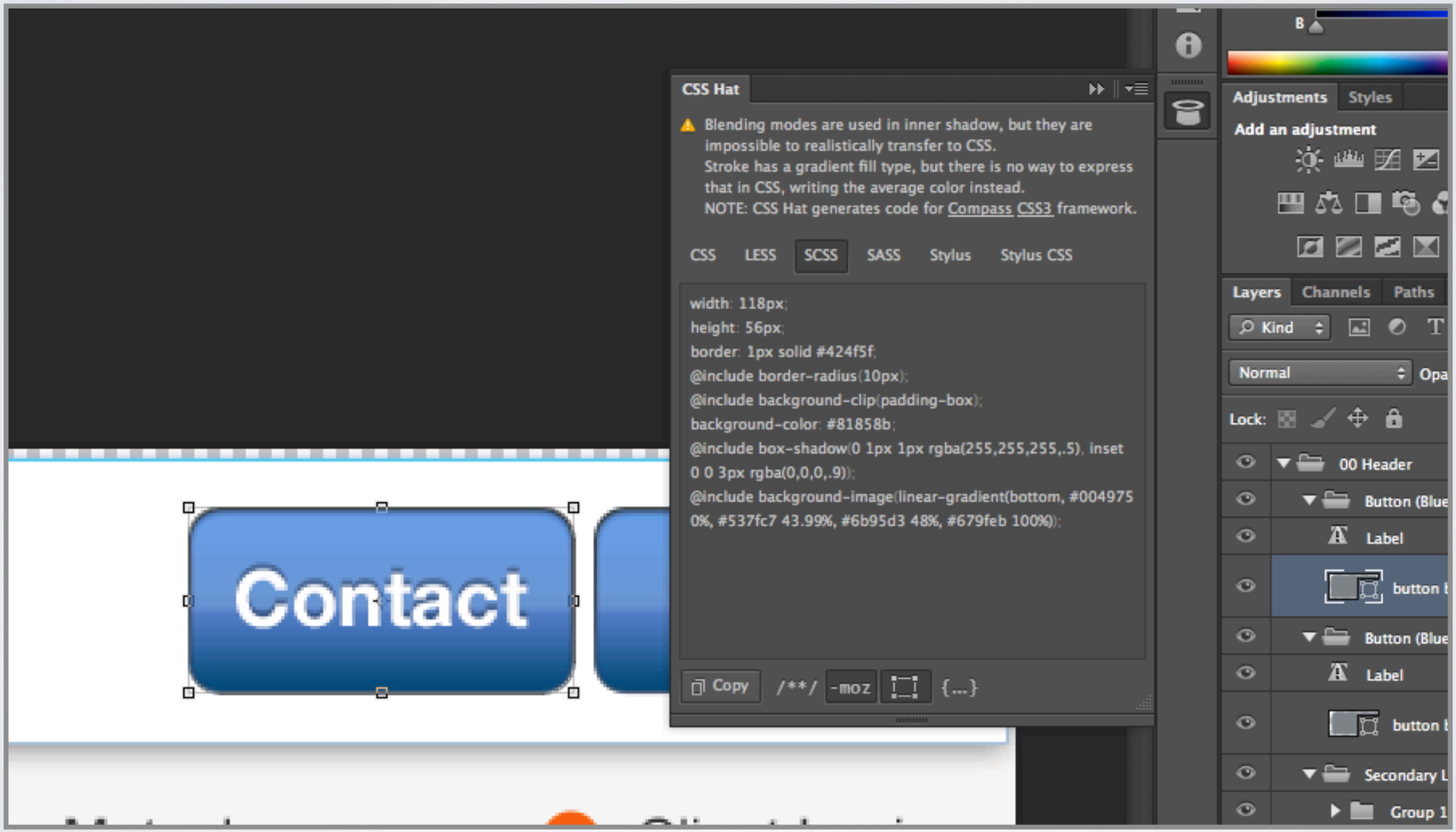
.svg

CSS3

Background image gradients, textures, box-shadow, etc.

CSS3

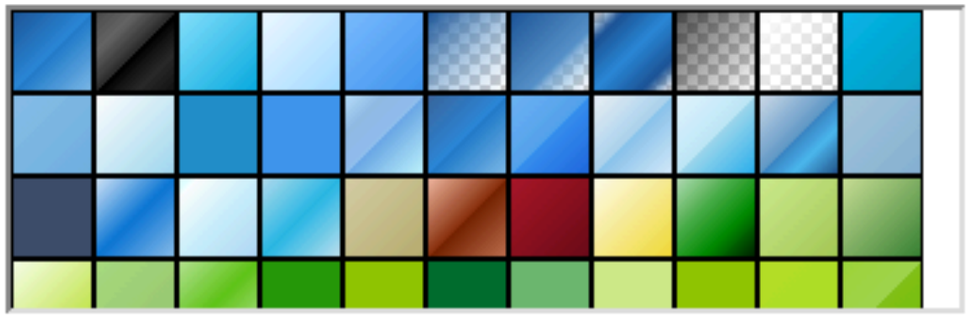
CSS Hat plugin for Photoshop



CSS3

colorzilla.com/gradient-editor

Presets



Name: Blue Gloss Default save

Stops

Opacity: Location: % delete

Color: Location: % delete

Adjustments

hue/saturation... reverse

Preview

Orientation: vertical ↓ Size: 370 x 50 IE

SCSS (Sass) switch to css

```
// needs latest Compass, add '@import "compass"' to
   your scss
background-color: #1e5799; // Old browsers
@include filter-gradient(#1e5799, #7db9e8,
   vertical); // IE6-9
@include background-image(linear-gradient(top,
   #1e5799 0%,#2989d8 50%,#207cca 51%,#7db9e8
   100%));
```

Color format: hex Comments IE9 Support (?)

import from image import from css

Permalink

Link to, save or share the current gradient using its unique link.

SOLUTION #2:

DELIVER HIGH-RES INLINE IMAGES, OPTIMIZED LIKE HELL

DELIVER SUPER-OPTIMIZED RETINA <IMG>

Retina: 45KB
1024 x 768

Non-retina: 95KB
400 x 300

filamentgroup.com/lab/rwd_img_compression/

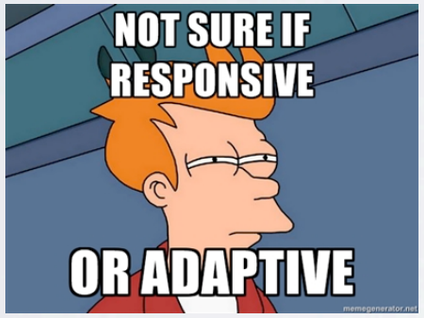
SOLUTION 3:

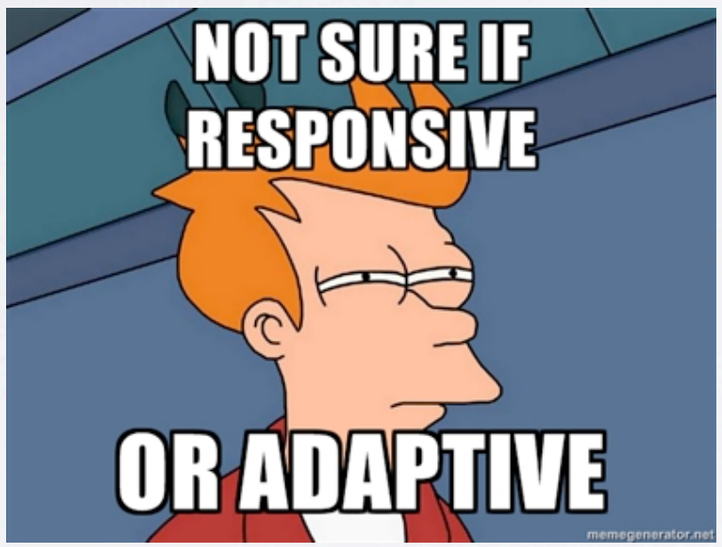
SHIM INLINE RESPONSIVE IMAGES

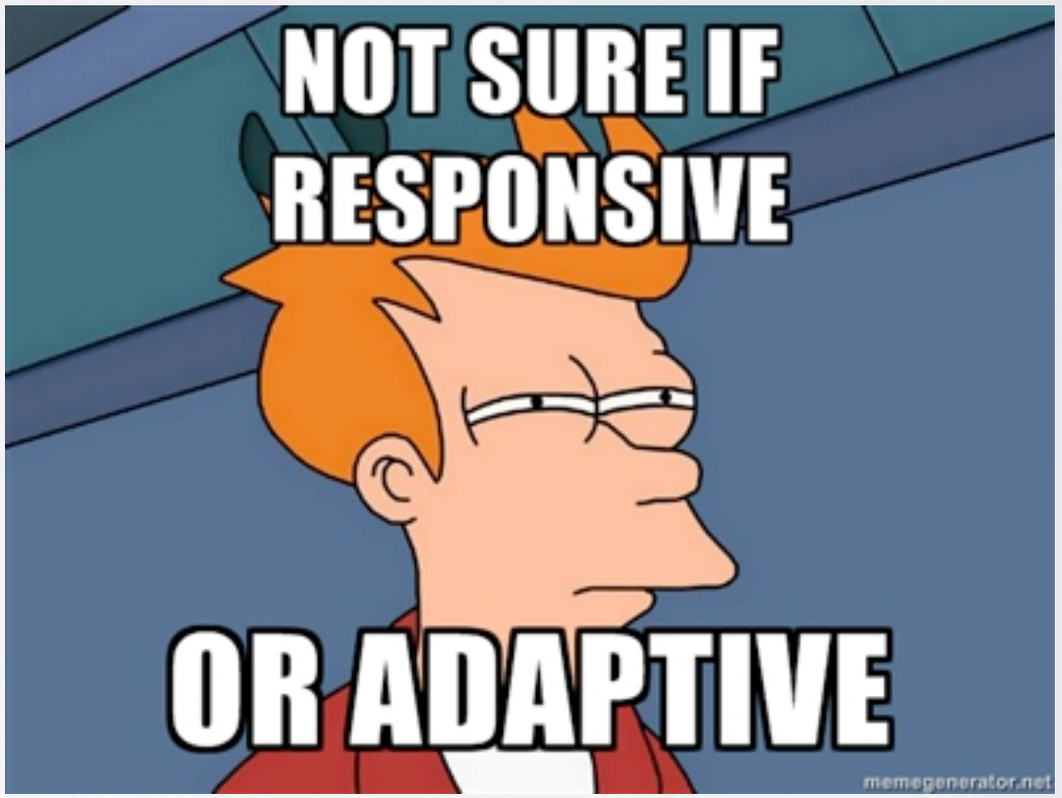
(FOR NOW)

Adaptive Images Module

JS-set cookie determines which image version is served







PictureFill Module

future <picture> element today via JS

```
 <span data-picture data-alt="A giant stone face at The Bayon temple in Angkor Thom,
Cambodia">
        <span data-src="small.jpg"></span>
        <span data-src="medium.jpg"     data-media="(min-width: 400px)"></span>
        <span data-src="large.jpg"      data-media="(min-width: 800px)"></span>
        <span data-src="extralarge.jpg" data-media="(min-width: 1000px)"></span>

        <!-- Fallback content for non-JS browsers. Same img src as the initial,
unqualified source element. -->
        <noscript>
            <img src="external/imgs/small.jpg" alt="A giant stone face at The Bayon temple
in Angkor Thom, Cambodia">
        </noscript>
    </span>
```

DOWN THE ROAD

DRUPAL 8

MOBILE INITIATIVE

groups.drupal.org/mobile/drupal-8

- All core themes are HTML5 and responsive
- Front-end performance improvements (device detection, conditional loading, responsive images)
- Documentation & Guidelines

TAKEAWAYS

- think percentages, not pixels
- mockup in BOTH photoshop & browser, or use tool like Reflow
- code your own theme if experienced, have time, and need lots of flexibility
    - otherwise use Adaptive Theme, Omega, or Zen
- reduce page bloat with Compass, Sass., and conditional JS loading

genuine

INTERACTIVE

THANK YOU!

genuine
INTERACTIVE