Talk

Web Design Accessibility, Performance and Aesthetics

Guest

Scott Gruber, designer | developer

Schedule

Mix and mingle (pizza provided) @ 7:00pm
Recorded talk @ 7:30pm
Unrecorded Q&A @ 7:45pm
More mixing and mingling @ 8:15pm onward

The free monthly **FWD:labs Salon** is for makers, do-ers, filmmakers, photographers, designers, creative directors, strategists, producers, web designers, brand consultants, social media marketers, entrepreneurs, small biz owners, and all aspiring to become masters of industry.

FWD:labs

What are the building blocks of the web?

HTML, CSS and a pinch of JavaScript

Is building for the web easy?

HTML5, Mustache, Handlebars, Blade, Jade, Twig, Bootstrap, Foundation, Material Design, CSS3, Sass, Less, SMACSS, OOCSS, BEM, jQuery, Angular, Ember, Meteor, React, React Native, Backbone, React again (just in case), NodeJS, Espresso, CoffeeScript, IcedCoffeeScript, Java, Cappuccino, Express, Ionic, Cordova, PhoneGap, Git, SVN, MongoDB, NoSQL, MySQL, YourSQL, HerSQL, OurSQL, AWS, .NET, ASP, Python, PHP (lol JK), Ruby, Ruby on Rails, Drupal 7, Drupal 8, Django, Django Unchained, Wordpress, Wordpress Plugin Development, Joomla, Perch, CQ5, Photoshop, Sketch, Macaw, Froont, Adobe Edge Reflow, Adobe Image Ready, Adobe InDesign, Balsamic, Microsoft Azure, Microsoft Paint, and a whammy bar.

It makes me nervous just thinking about it!

Let's all take a deep breath.

Breathe.

OK. Feel better?

What kind of people use the Internet?

Millennials.

Millennials. Cultural icons. Digital natives.

Who else?

Could be a blind person using a screen reader.
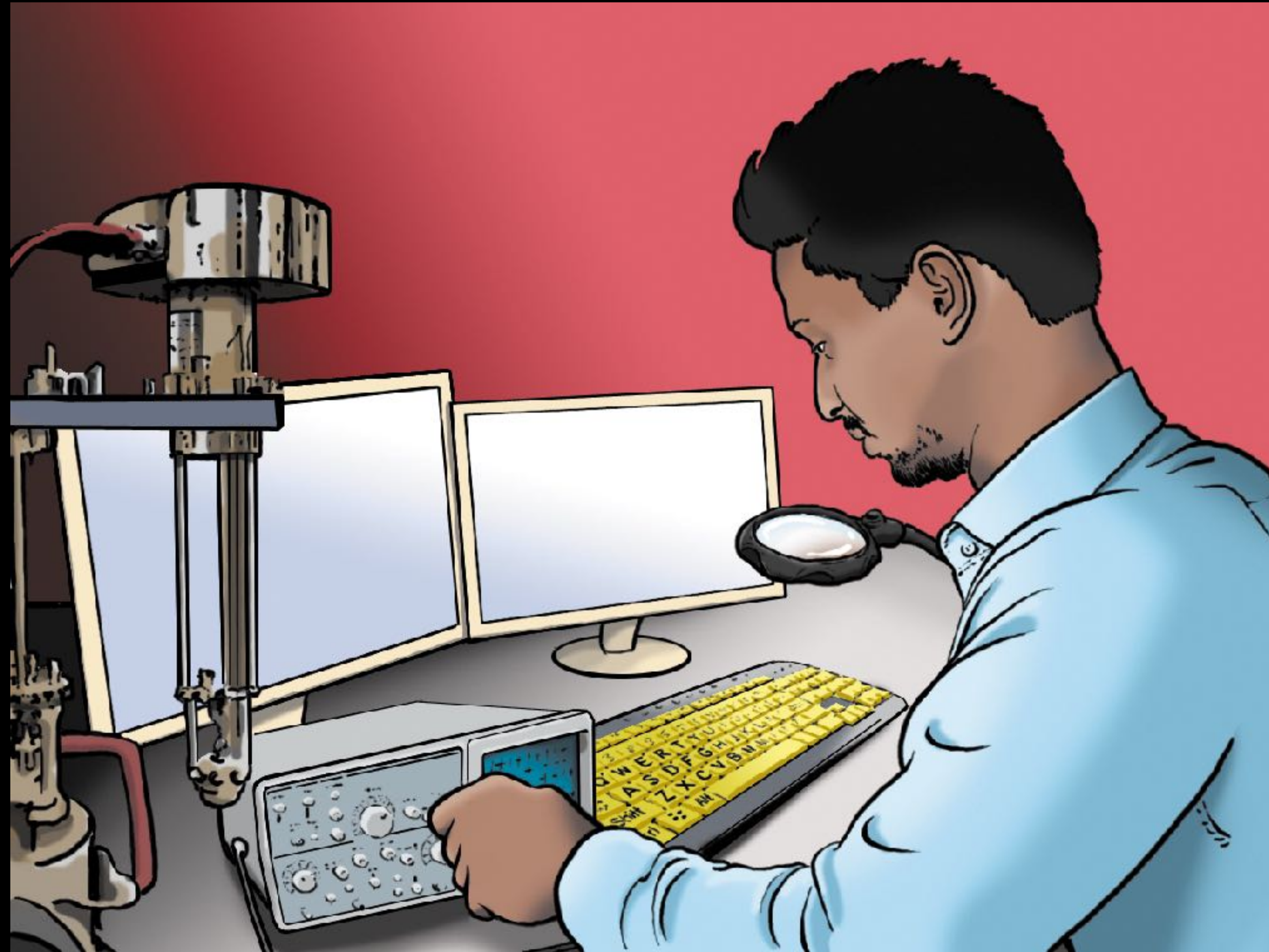
Could be someone in a wheelchair walking her dog.

Could be a special education student.

Could be a business woman.

Could be an engineer flashing a cub scout sign.

Could be an scientist or inventor.

Could be your grandma.

Everyone can access the world wide web.

How do people access the web?

THIS IS THE WEB.

The web is not a platform.
It's a continuum.
-Jeremy Keith

What the hell does that mean?

I have no control over the network. It could be fast, it could be slow, it could be down entirely.
-Tim Kadlec

I have no control over the end device. It could be a phone, a laptop, an e-reader, a watch, a tv. It could be top-of-the line or it could be budget device with low specs. It could be a device released the other day, or a device released 5 years ago.

I have no control over the client running on that device. It could be the latest and greatest of modern browsers. It could be one of those browsers we developers love to hate. It could be a proxy browser. It could be an in-app browser.

I have no control over the visitor or their context. They could be sitting down. They could be taking a train somewhere. They could be multitasking while walking down the street. They could be driving (I know). They could be color-blind.

We have no control. And it's ok.

I can only control what I do.

My Design Process

Accessibility, Performance and Aesthetics

1. Accessibility

Web Content Accessibility Guidelines or WCAG

Color Contrast Ratio

Lightest Blue
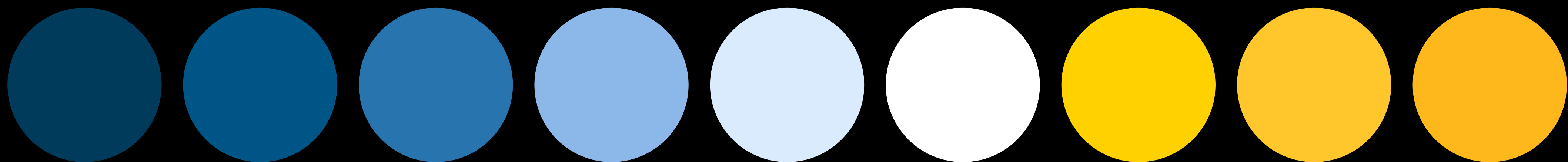
Lighter Blue

Primary Blue

Darker Blue

Darkest Blue

White

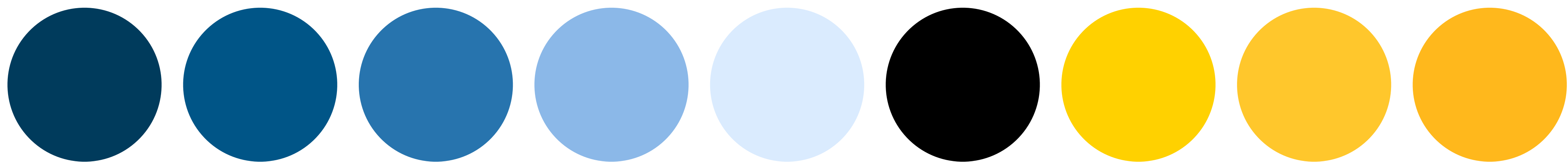**Primary Gold**

Darker Gold

Darkest Gold

ADA Compliance

- All possible color combinations have been tested for contrast ratios

- Contrast ratios need to meet WCAG 2.0 AA standards of 4.5:1 or greater

- This grid is available in the style guide as a tool for choosing compliant color combinations

Background \ Text	Darkest Blue #003B5C	Darker Blue #005587	UCLA Blue #2774AE	Lighter Blue #8BB8E8	Lightest Blue #DAEBFE	White #FFFFFF	UCLA Gold #FFD100	Darker Gold #FFC72C	Darkest Gold #FFB81C
Darkest Blue #003B5C		DNP 1.4	DNP 2.3	AA 5.6	AAA 9.7	AAA 11.8	AAA 8	AAA 7.5	AA 6.x
Darker Blue #005587	DNP 1.4		DNP 1.5	AA18 3.8	AA 6.5	AAA 7.9	AA 5.4	AA 5	AA 4.x
UCLA Blue #2774AE	DNP 2.3	DNP 1.5		DNP 2.4	AA18 4.1	AA 5	AA18 3.4	AA18 3.2	DNP 2.x
Lighter Blue #8BB8E8	AA 5.6	AA18 3.8	DNP 2.4		DNP 1.7	DNP 2	DNP 1.4	DNP 1.3	DNP 1.x
Lightest Blue #DAEBFE	AAA 9.7	AA 6.5	AA18 4.1	DNP 1.7		DNP 1.2	DNP 1.2	DNP 1.2	DNP 1.x
White #FFFFFF	AAA 11.8	AAA 7.9	AA 5	DNP 2	DNP 1.2		DNP 1.4	DNP 1.5	DNP 1.x
UCLA Gold #FFD100	AAA 8	AA 5.4	AA18 3.4	DNP 1.4	DNP 1.2	DNP 1.4		DNP 1	DNP 1.x
Darker Gold #FFC72C	AAA 7.5	AA 5	AA18 3.2	DNP 1.3	DNP 1.2	DNP 1.5	DNP 1		DNP 1.x
Darkest Gold #FFB81C	AA 6.8	AA 4.5	DNP 2.8	DNP 1.2	DNP 1.4	DNP 1.7	DNP 1.1	DNP 1.1	

Legend:
- AAA — Pass, AAA (7+)
- AA — Pass, AA (4.5+)
- AA18 — Pass, Large Text Only (3+)
- DNP — Does Not Pass

About WCAG 2.0 contrast

3.8	DNP	2.4		DNP	1.7	DNP	2	DNP	1.4	DNP	1.3
6.5	Text / AA18	4.1	Text / DNP	1.7		Text / DNP	1.2	Text / DNP	1.2	Text / DNP	1.2
7.9	Text / AA	5	Text / DNP	2	Text / DNP	1.2		DNP	1.4	Text / DNP	1.5
5.4	Text / AA18	3.4	Text / DNP	1.4	Text / DNP	1.2	Text / DNP	1.4		Text / DNP	1

Color Contrast Ratio

Texts have a contrast ratio of at least 4.5:1

Headlines have a contrast ratio of at least 3:1

WebAIM
web accessibility in mind

Search WebAIM

Introduction to Web Accessibility

WebAIM Training

Color Contrast Checker

Home > Resources > Color Contrast Checker

Foreground Color

#0000FF   #0000FF

Lightness

Background Color

#FFFFFF   #FFFFFF

Lightness

Contrast Ratio

8.59:1

permalink

Related Resources

- Understanding WCAG 2 Contrast and Color Requirements
- Quick Reference: Testing Web Content for Accessibility
- Web Accessibility for Designers

Normal Text

WCAG AA: **Pass**

WCAG AAA: **Pass**

The five boxing wizards jump quickly.

Large Text

WCAG AA: **Pass**

WCAG AAA: **Pass**

The five boxing wizards jump quickly.

2. Performance

Websites should load fast.

How fast?

In 2 seconds or less!

Example headline.

Cras justo odio, dapibus ac facilisis in, egestas eget quam. Donec id elit non mi porta gravida at eget metus. Nullam id dolor id nibh ultricies vehicula ut id elit.

[Sign up today]

Heading

Donec sed odio dui. Etiam porta sem malesuada magna mollis euismod. Nullam id dolor id nibh ultricies vehicula ut id elit. Morbi leo risus, porta ac consectetur ac, vestibulum at eros. Praesent commodo cursus magna, vel scelerisque nisl consectetur et.

[View details »]

Heading

Duis mollis, est non commodo luctus, nisi erat porttitor ligula, eget lacinia odio sem nec elit. Cras mattis consectetur purus sit amet fermentum. Fusce dapibus, tellus ac cursus commodo, tortor mauris condimentum nibh, ut fermentum massa justo sit amet risus.

[View details »]

Heading

Donec sed odio dui. Cras justo odio, dapibus ac facilisis in, egestas eget quam. Vestibulum id ligula porta felis euismod semper. Fusce dapibus, tellus ac cursus commodo, tortor mauris condimentum nibh, ut fermentum massa justo sit amet risus.
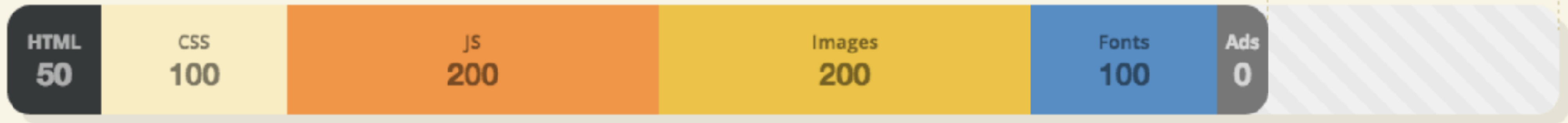
[View details »]

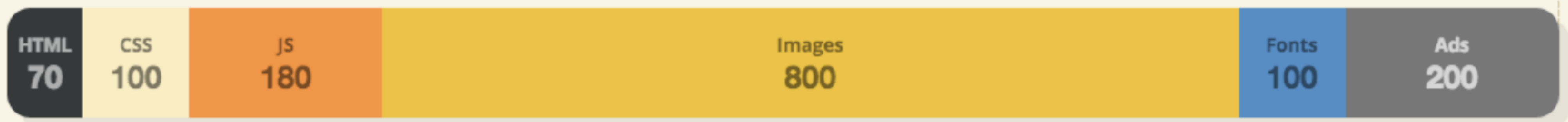# Jumbotron images with a carousel?

Don't use it.

Don't assume your audience surfs the web on a fast, shiny network

What to do?

Homepage

Budget: 800KB
Actual: 650KB

| HTML 50 | CSS 100 | JS 200 | Images 200 | Fonts 100 | Ads 0 |

Article

Budget: 1200KB
Actual: 1450KB

| HTML 70 | CSS 100 | JS 180 | Images 800 | Fonts 100 | Ads 200 |

Category

Budget: 900KB
Actual: 896KB

| HTML 40 | CSS 100 | JS 100 | Images 506 | Fonts 50 | Ads 100 |

Set a performance budget

http://bradfrost.com/blog/post/performance-budget-builder/

Use Responsive Images

One image may not be enough.

```html
<picture alt="Description of image subject">
<source srcset="small.jpg 1x, small-highres.jpg 2x">
<source media="(min-width: 18em)" srcset="med.jpg 1x, med-highres.jgp 2x">
<source media="(min-width: 45em)" srcset="large.jpg 1x, large-highres.jpg 2x">
<img src="small.jpg" alt="Description of image subject">
</picture>
```

3. Aesthetics

Websites still gotta look good.

CSS Zen Garden, 2003
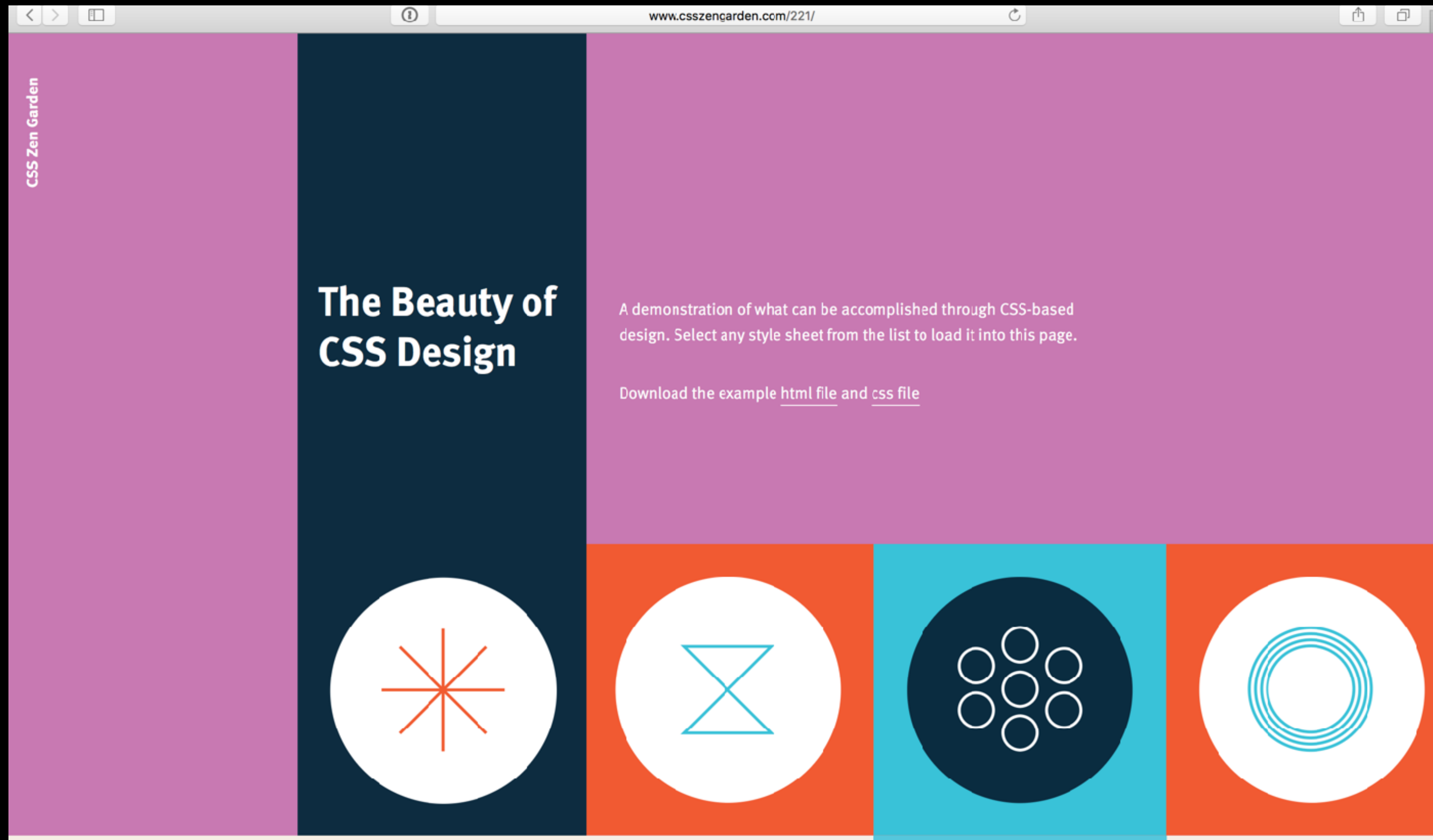
MID CENTURY MODERN
by Andrew Lohman

no. 218   5.23 fl oz

~ DR. SHEA'S MIRACULOUS ~

CSS Zen Garden

THE BEAUTY OF CSS DESIGN

A demonstration of what can be accomplished through CSS-based design. Select any style sheet from the list to load it into this page.

Download the example *html file* and *css file*

THE ROAD TO
ENLIGHTENMENT

APOTHECARY
by Trent Walton

STEEL
by Steffen Knoeller

A ROBOT NAMED JIMMY
by meltmedia

Responsive Web Design, 2010
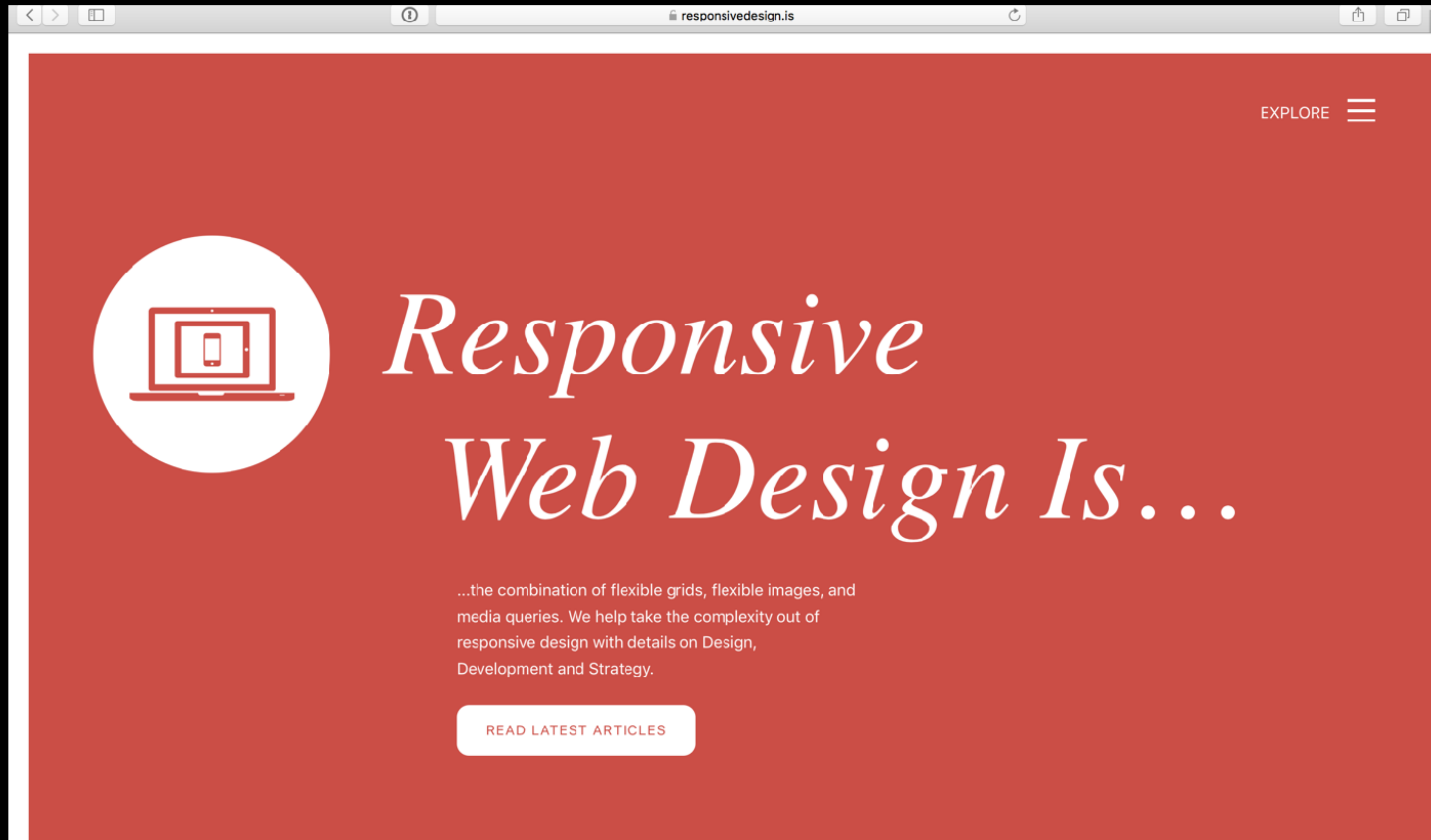
Justin Avery, site and newsletter
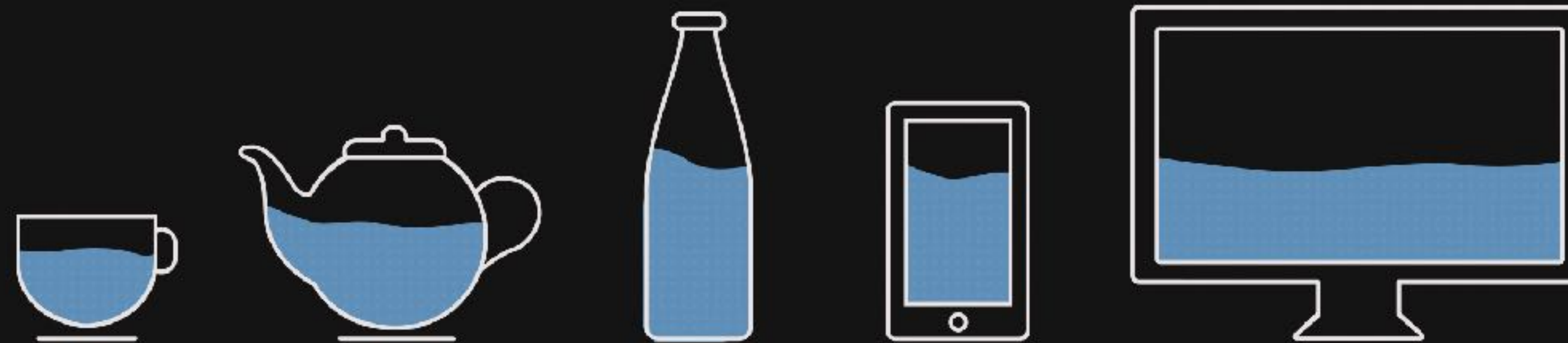
https://blog.stephaniewalter.fr/en/download-illustration-content-is-like-water/
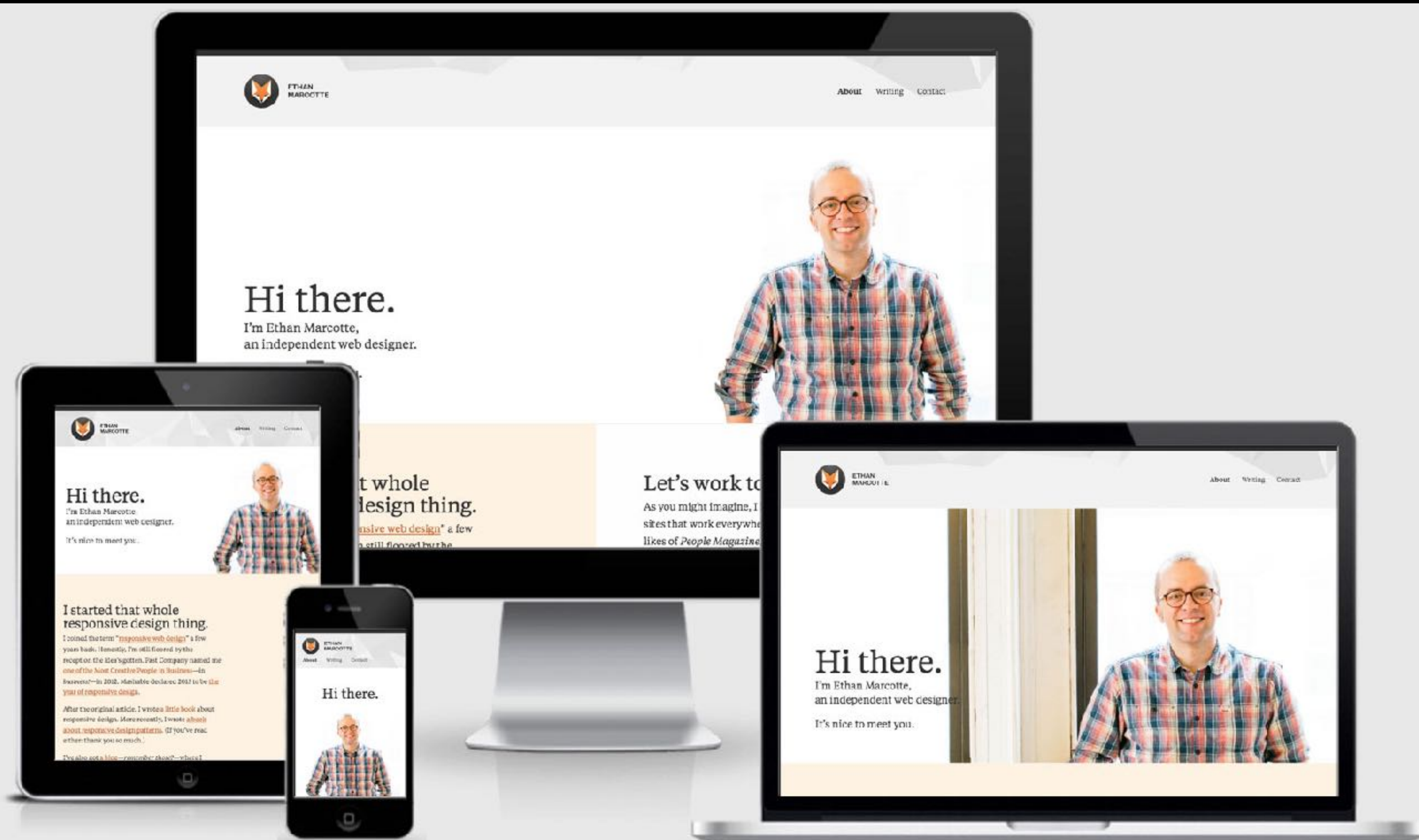
Ethan Marcotte RWD across 4 viewports
https://responsivedesign.is/examples/ethan-marcotte/

```
body {
  font-size: calc(14px + (16 - 14) * ((100vw - 300px)/ (1400 - 300)));
  max-width: 40em;
}
```

This effectively gives us something along the lines of this scale

Viewport Size	font-size
200px	13.81818182px
300px	14px
500px	14.36363636px
800px	14.90909091px
1000px	15.27272727px
1200px	15.63636364px
1600px	16.36363636px

Ethan Marcotte, Calc and font-size
https://responsivedesign.is/examples/ethan-marcotte/
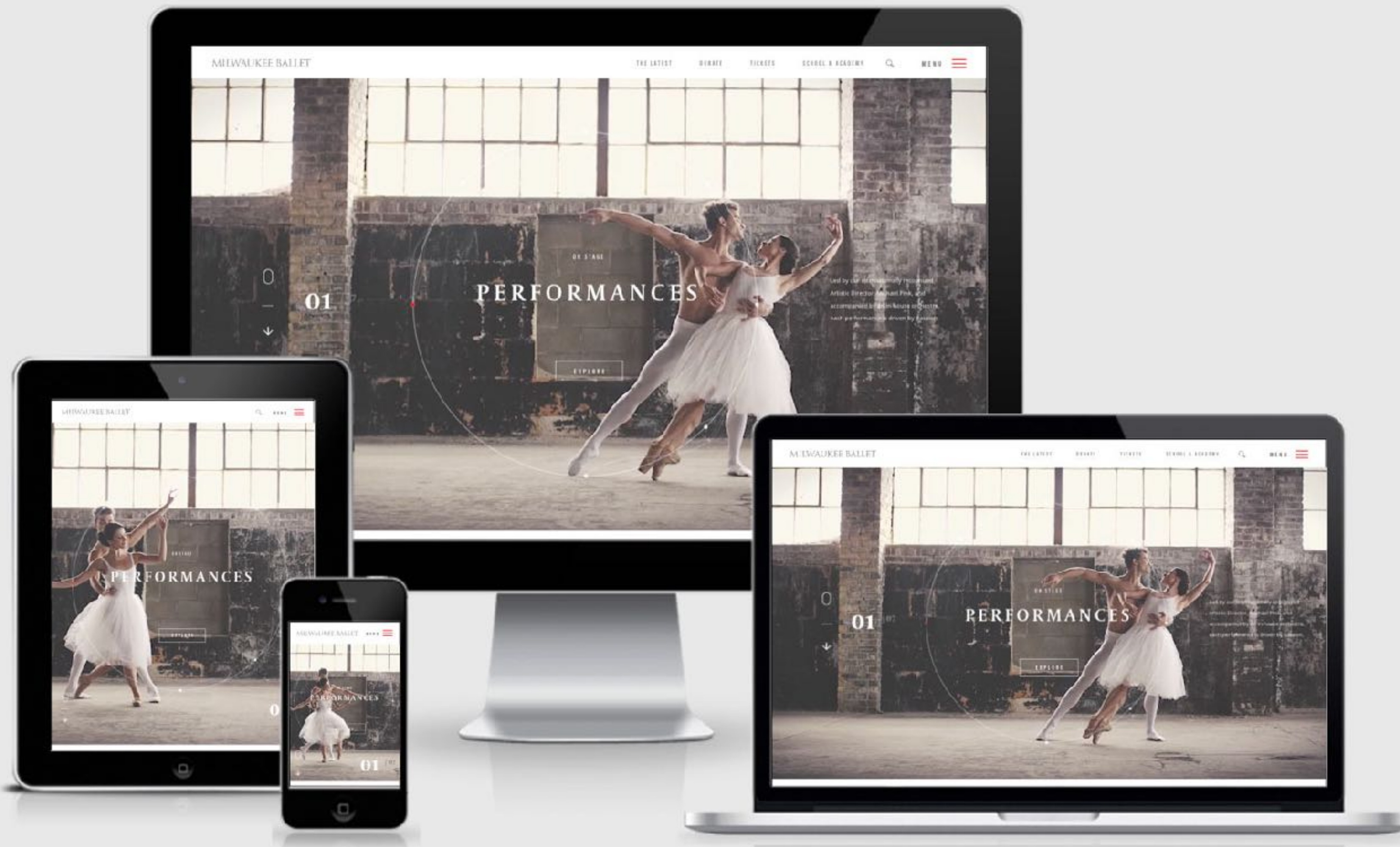
Milwaukee Ballet across 4 viewports
https://responsivedesign.is/examples/milwaukee-ballet/

Typography, at least for headings, have been set in two differnet ways. It looks as though component titles are se while page titles are set with vw units (which I love). Here's an example of the titlel typography layout

```
@media (min-width: 1350px) {
.titles h2 { font-size: 3vw }
}

@media (min-width: 1778px) {
.titles h2 { font-size: 54px }
}

@media (max-width: 959px) {
.titles h2 { font-size: 5.8vw }
}

@media (max-height: 600px) {
.titles h2 { font-size: 3vw }
}

@media (max-width: 480px) {
.titles h2 { font-size: 6.7vw }
}
```

Milwaukee Ballet typography media queries
https://responsivedesign.is/examples/milwaukee-ballet/

CSS Grid Layout, 2017

**CSS Grid Layout will transform the way you design and develop for the web–
and Rachel Andrew will change the way you understand the spec.**

Rachel Andrew, web developer, teacher and
author of *The New CSS Layout*

Jen Simmons, Mozilla Developer Advocate and creator of
YouTube video series *Layout Land*

https://scottgruber.me

Most Visited   Getting Started   DevTools Challenger   Getting Started   REVENGE.CSS   Grid by Example - U...
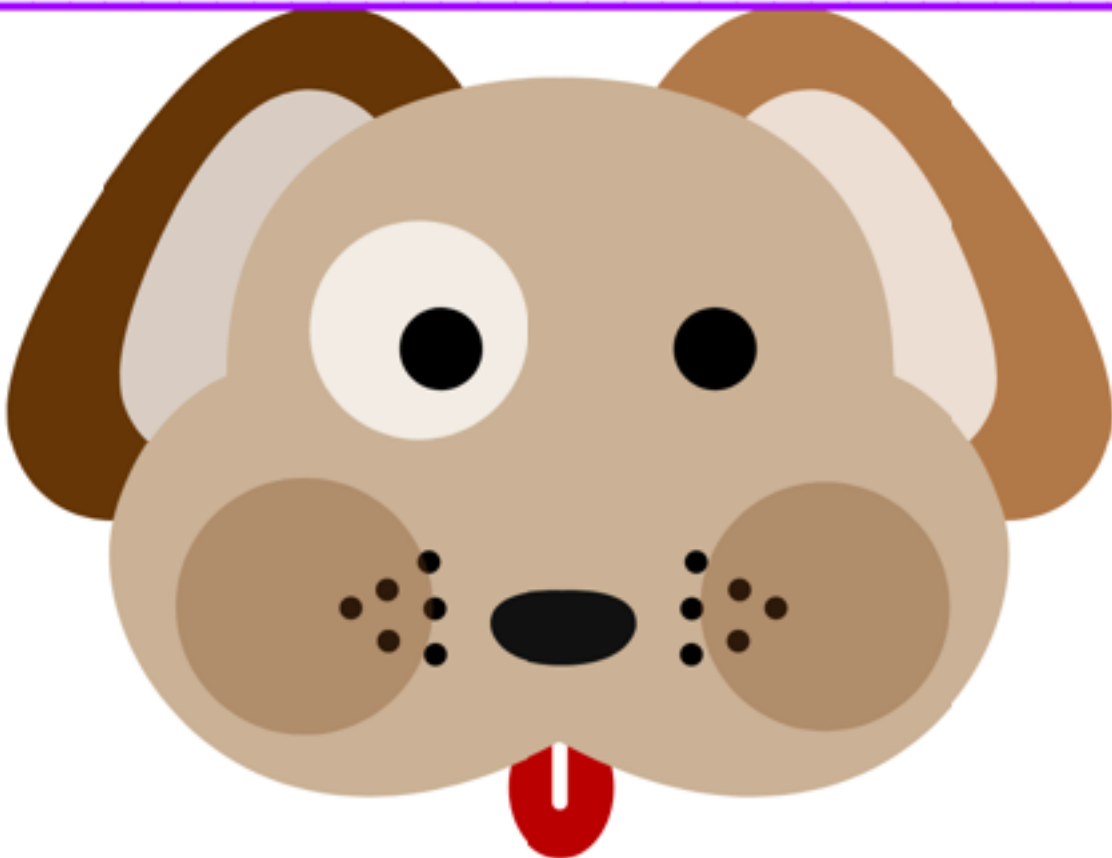
header

SG

HOME   NOW   NOTES   nav   生肖   BLOG   TWITTER

Year of the dog

main

欢迎来到 狗的一年

Hello friend. Welcome and thanks for visiting my little part of the web. We're celebrating the year of the

Inspector

Search HTML

```
<!DOCTYPE html>
<html lang="en-us"> event
<head> ⊟ </head>
<body class="home h-feed"> event grid
  <header role="banner"> ⊟ </header> flex
  <nav role="navigation" title="main
  navigation"> ⊟ </nav>
  <main role="main"> ⊟ </main>
  <footer role="contentinfo"> ⊟ </footer>
  <!--begin scripts-->
  <script id="gauges-tracker"
  type="text/javascript" async="" data-sit
  id="5a7f7c8a0b35911506000036" data-track
  path="https://track.gaug.es/track.gif"
  src="https://d2fuc4clr7gvcn.cloudfront.r
  /track.js"></script>
  <script async="" src="/assets/js/vendor
  /prism.js"></script>
  <script type="text/javascript"> ⊟ </script>
  </script>
</body>
</html>
```

html > body.home.h-feed

Rules   Layout   Computed   Animatio

Grid

Overlay Grid

☑ body.home.h-feed ⚙ ●

Grid Display Settings

☑ Display line numbers

☑ Display area names

☑ Extend lines infinitely

Most Visited   Getting Started   DevTools Challenger   Getting Started   REVENGE.CSS   Grid by Example - U...

Stuff & Nonsense

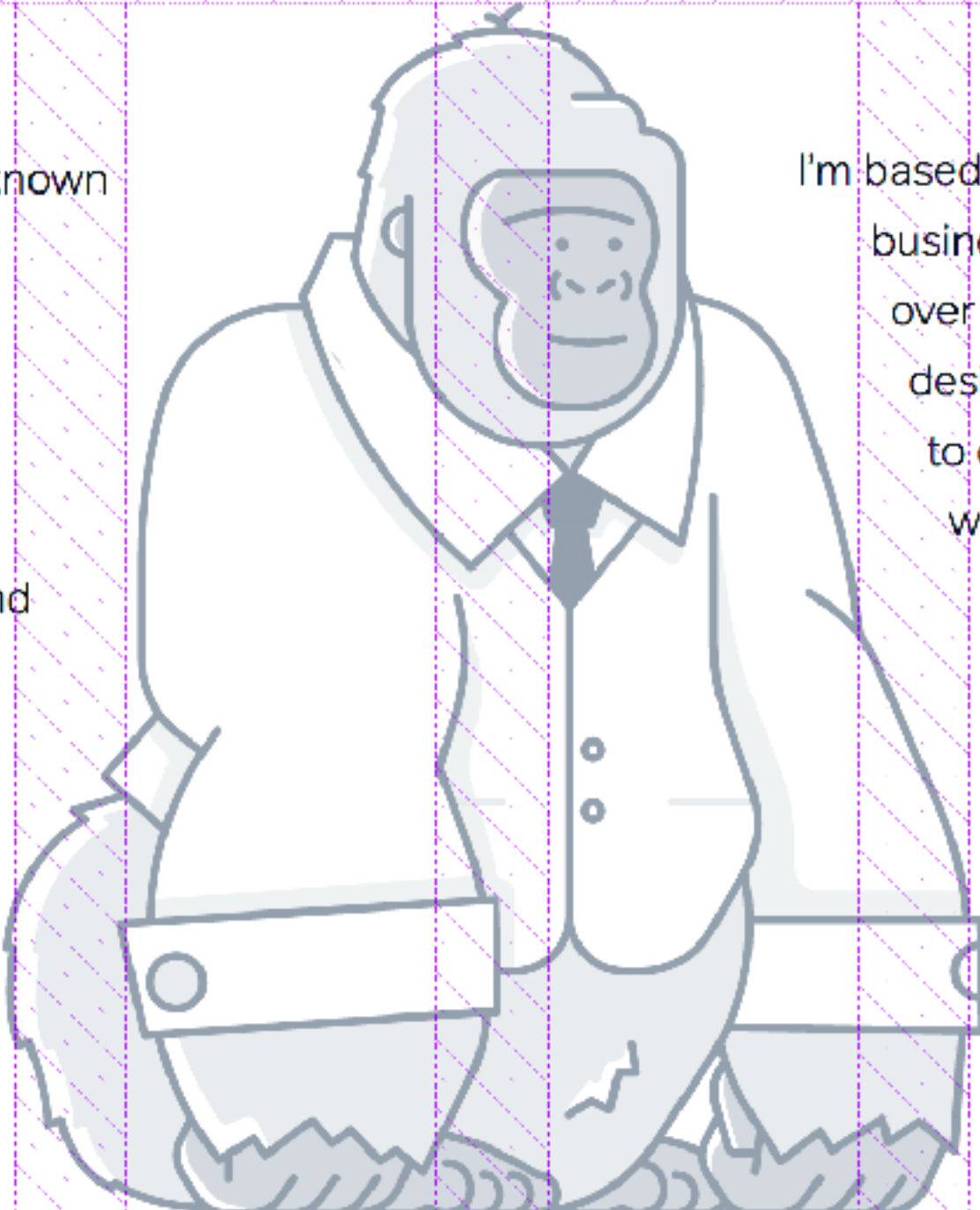Books   Design   Consulting   About   Blog   Contact

Design for successful digital products and websites

My name's **Andy Clarke**. I'm a well-known website designer, consultant, speaker, and writer on art direction and design for products and websites.

For 20 years, I've helped companies big and small to improve their website and product designs by providing consulting and design expertise.

My work is distinctive and original and I deliver engaging customer experiences and world-class designs.

I'm based in beautiful North Wales and work with businesses, charities, companies, and NGOs all over the world. I regularly work alongside designers, developers, and leadership teams to create designs, processes, and systems which deliver results.

I consult with companies on art direction for the web, design systems, and style guides, speak at conferences world-wide, and write books about art direction and web design.

Inspector

Search HTML

```
<!DOCTYPE html>
<html lang="en-GB"> event
  <head> ... </head>
  <body id="stuffandnonsense-co-uk"
    class="rodan"> event grid
    <header role="banner"> ... </header> grid
    <h1> ... </h1>
    <div class="rodan__left"> ... </div>
    <div class="rodan__right"> ... </div>
    <div class="col1"> ... </div>
    <div class="col2"> ... </div>
    <div class="col3"> ... </div>
    <div class="content"> ... </div>
    <hr>
    <div class="content"> ... </div>
    <div id="mechagodzilla-1"
      class="mechagodzilla" style="background-
      color:#f5f3f5"> ... </div>
    <p> ... </p>
    <div class="mechagodzilla-link"> ... </div>
    <div id="mechagodzilla-2"
      class="mechagodzilla" style="background-
      color:#f8f7f6"> ... </div>
    <p> ... </p>
```

html > body#stuffandnonsense-co-uk.rodan

Rules   Layout   Computed   Animatio

Grid

Overlay Grid

☑ body#stuffandnonsense-co-uk.rodan ⚙
●

☐ header ⚙ ●
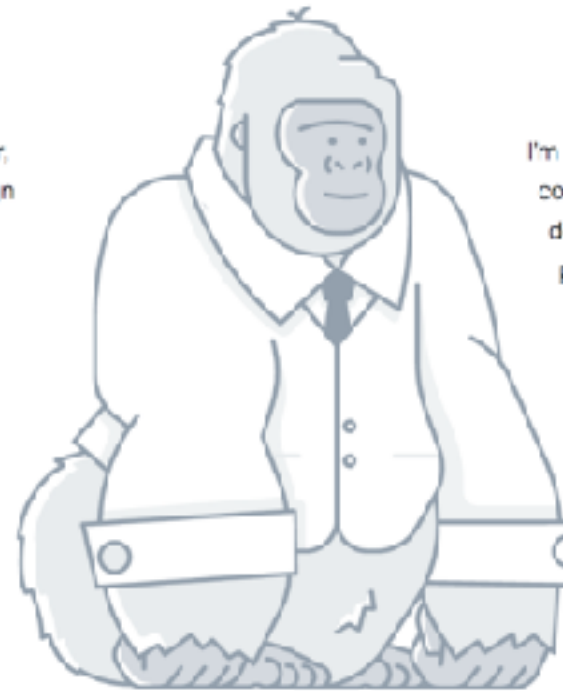
Grid Display Settings

☑ Display line numbers

☑ Display area names

☑ Extend lines infinitely

Andy Clarke, Head of Creative at Stuff and Nonsense. Design consultant and mentor. Author of "Art Direction for the Web"

Art direction and design helps your
audience feel something

Hatton Garden (Un)Safe Deposit Company

How four old-school London villains pulled off the biggest heist in British history and drove away with £200 million in stolen jewellery from safety deposit boxes.

IN APRIL 2015, the Hatton Garden Safe Deposit Company, an underground safe deposit facility in London's Hatton Garden area, was burgled. The total stolen may have a value of up to £200 million, and the incident has been called the "largest burglary in English legal history." The heist was planned and carried out by four elderly men who were experienced thieves, all of whom pleaded guilty and received prison sentences in March 2016. Four men were also tried on suspicion of involvement; three were found guilty and sent to prison, while the fourth was cleared.
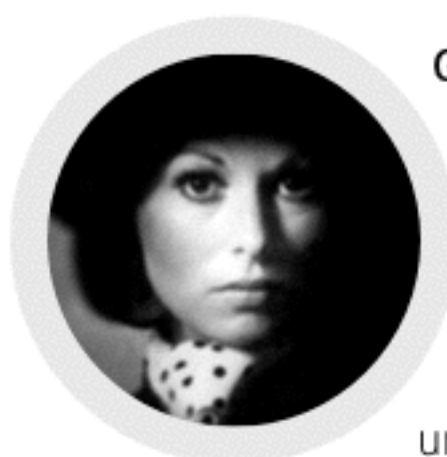
Getaway driver

> I was driving on sidewalks, down alleys. I ducked into one alley, and then we saw the cops go by… It was intense. It was very intense. I got in pretty deep

Georgia Durante's life has taken some unexpected turns. She was a photographic model for Kodak, a "Kodak Girl"—who went on to work as a stunt driver. She was the stunt double for Cindy Crawford in a commercial for Pepsi. Going from modelling to television isn't unusual, but what Hollywood film crews didn't know was that in between, Durante's driving skills were honed during a career as a driver.

In her teens mobsters such as Carlos Gambino, and Sammy Giancana, took Durante under their wing. Durante's driving story began in New York City. She says she never knew exactly what went down at the after-hours club, but the intrigue drew her into the mafia's underworld. She said:

"I'm there and 5 feet away from me, this guy pulls out a gun and shoots the guy next to him. Everybody scattered, the guy fell to the floor."

Suddenly, the owner of Sundowners threw Durante a set of car keys. They put the man in the back of the car and Durante found herself in the driver's seat. They dropped the man off at the hospital, and Durante sped away.

"I was driving on sidewalks, down alleys. I ducked into one alley, and then we saw the cops go by… It was intense. It was intense. I got in pretty deep."

That incident earned her a reputation. She started off picking up and delivering packages to locations around the city. Then they moved her up to what were called "pickups." But when a mob war broke out, Durante knew she had to leave that lifestyle.

She wanted to take her daughter away from their abusive household, but she could never escape her husband. Then one day, she grabbed her daughter, got in the car and started driving. They ended up in Los Angeles; Durante arrived with only $7 in her wallet. She and her daughter lived out of their car and stole food from convenience stores. She desperately needed a job, but she had to lay low. And the only work experience she had came from modelling and driving cars.

Then it hit her: Every time she turned on the TV at her friend's house, she would see a car commercial. For someone on the run, it was perfect. At first, everyone ignored her. But Durante kept showing up.

"Finally, they said, 'All right, we'll see what you can do.' And that was my big break," she says. "Before I knew it, I was turning down work. I was only one person. I couldn't do it all."

"If I would've taken no for an answer, who knows where I'd be now." ◆

Getaway Driver

I WAS DRIVING ON SIDEWALKS, DOWN ALLEYS I DUCKED INTO ONE ALLEY, AND THEN WE SAW THE COPS GO BY… IT WAS INTENSE. IT WAS VERY INTENSE. I GOT IN PRETTY DEEP

GEORGIA DURANTE'S LIFE has taken some unexpected turns. She was a photographic model for Kodak a "Kodak Girl"—who went on to work as a stunt driver. She was the stunt double for Cindy Crawford in a commercial for Pepsi. Going from modelling to television isn't unusual, but what Hollywood film crews didn't know was that in between, Durante's driving skills were honed during a career as a getaway driver.

In her late teens legendary mobsters such as Carlos Gambino, and Sammy Giancana, took Durante under their wing. Durante's driving story began in New York City at a mafia-run club called Sundowners. She says she never knew exactly what went down at the after-hours club, but the intrigue drew her into the underworld. She said:

"I'm there and 5 feet away from me, this guy pulls out a gun and shoots the guy. Everybody scattered, the guy fell to the floor."

That incident earned her a reputation. She started off picking up and delivering packages to locations around the city. Then they moved her up to what were called "pickups." But when a mob war broke out, Durante knew she had to leave that lifestyle. She wanted to take her daughter away from their abusive household, but she could never escape her husband. ◆

Good looking sites can be accessible and fast loading.

With the new CSS we have a wonderful opportunity to bring editorial design to the web and with it a sense of control and craftmanship that I began with 20 years ago.

My design principles

Accessibility, Performance and Aesthetics

Thank you.

https://speaking.scottgruber.me