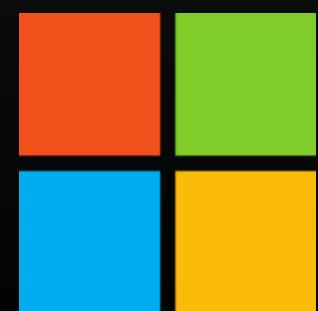


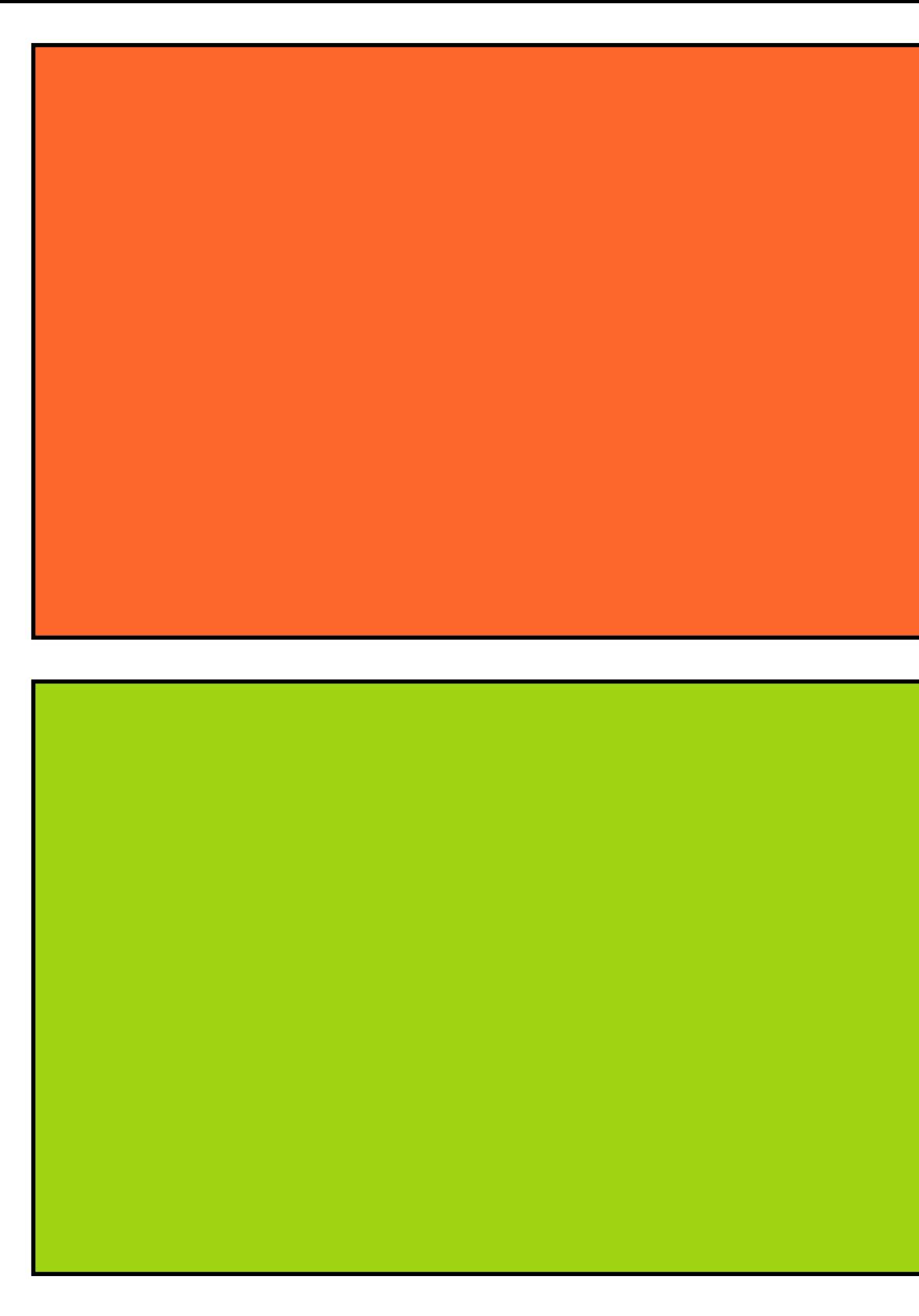
# Advanced Design Methods



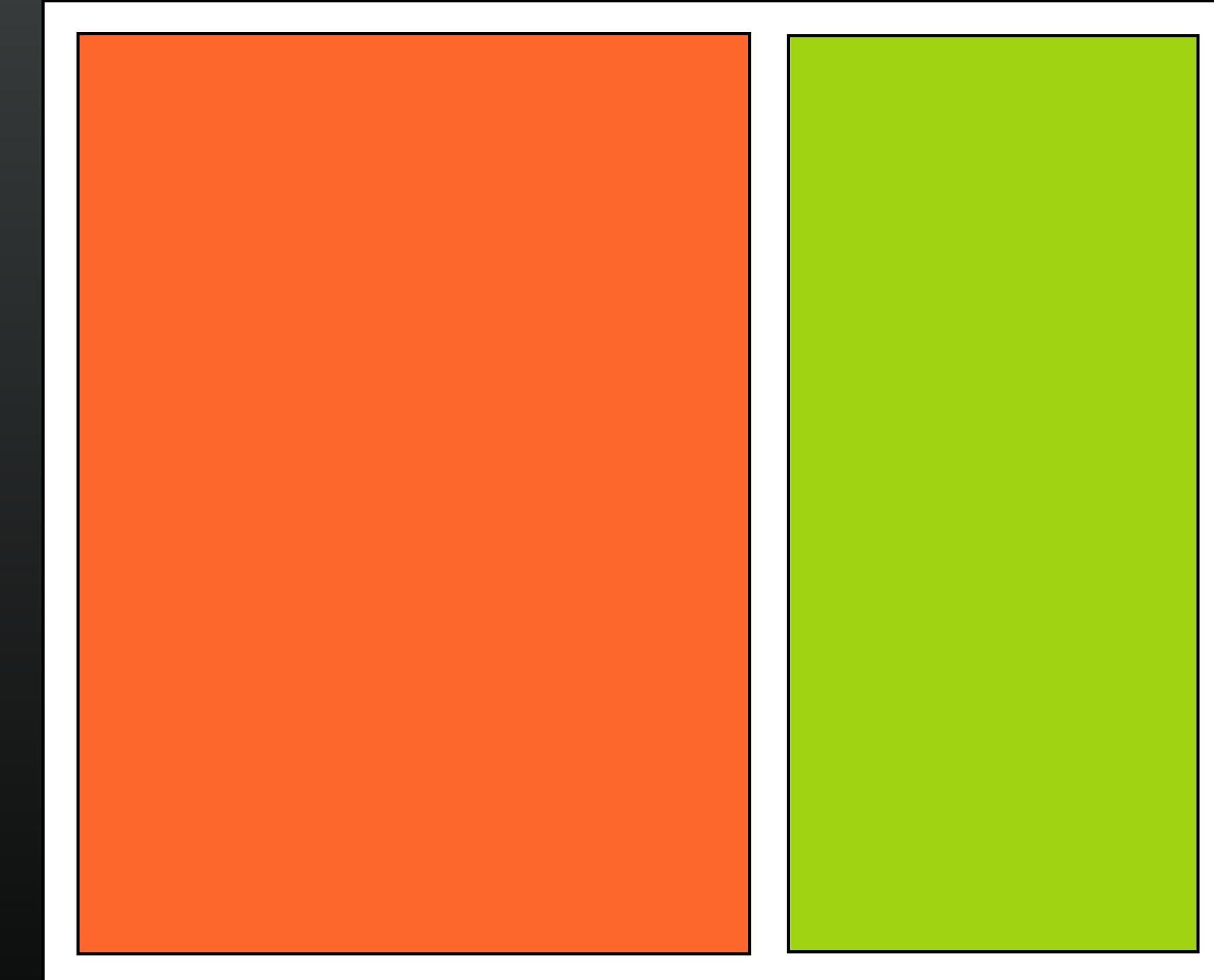
Aaron Gustafson  
@AaronGustafson  
[slideshare.net/AaronGustafson](http://slideshare.net/AaronGustafson)

Modern  
approaches  
to layout

# Remember this?



narrow

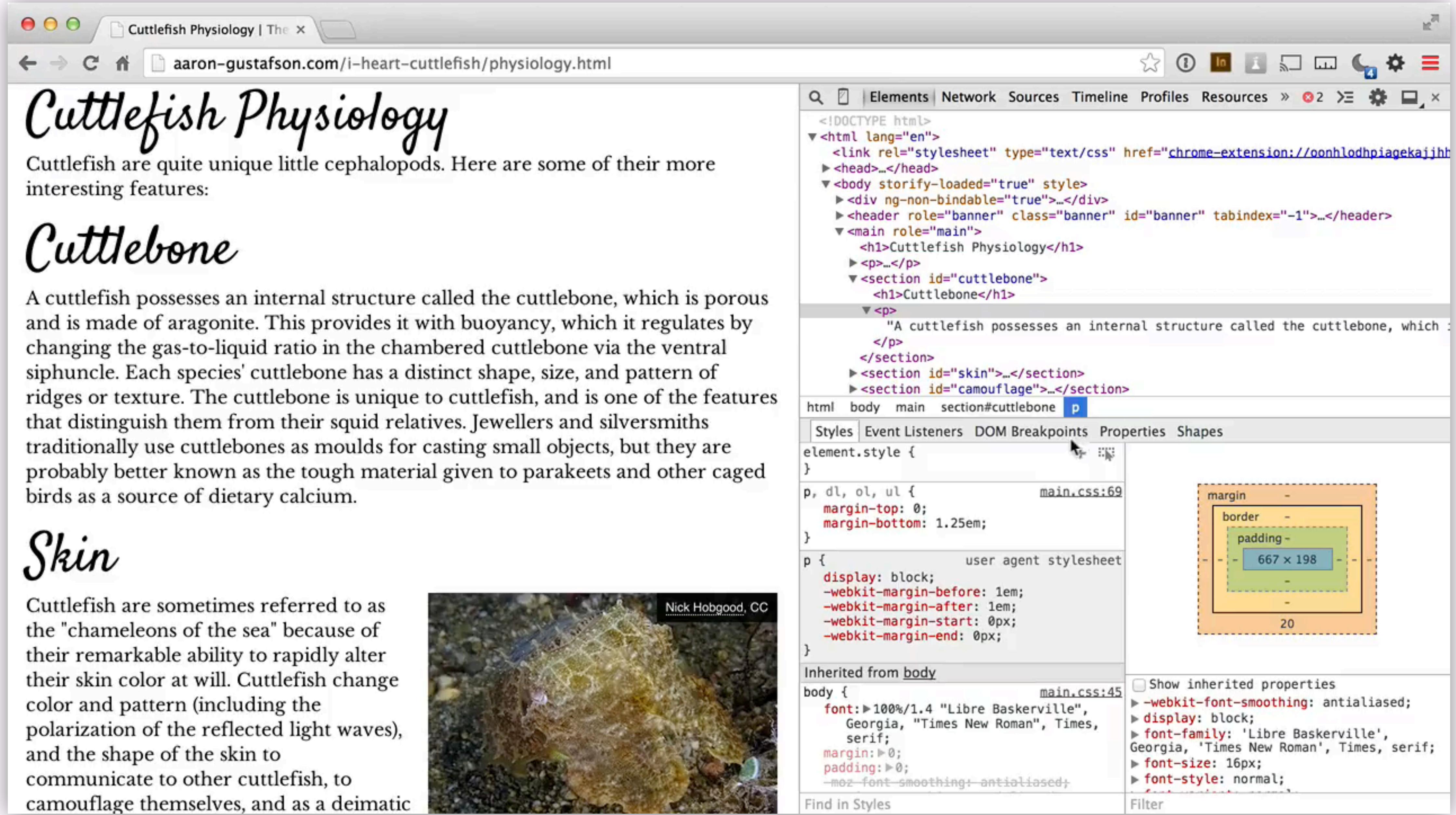


wide

# Compare: small screen first

```
@media (min-width:600px) {  
    .primary {  
        float: left;  
        width: 68%;  
    }  
    .secondary {  
        float: right;  
        width: 32%;  
    }  
}
```

**Floating** an element  
removes it from the  
normal flow &  
pushes it to a side

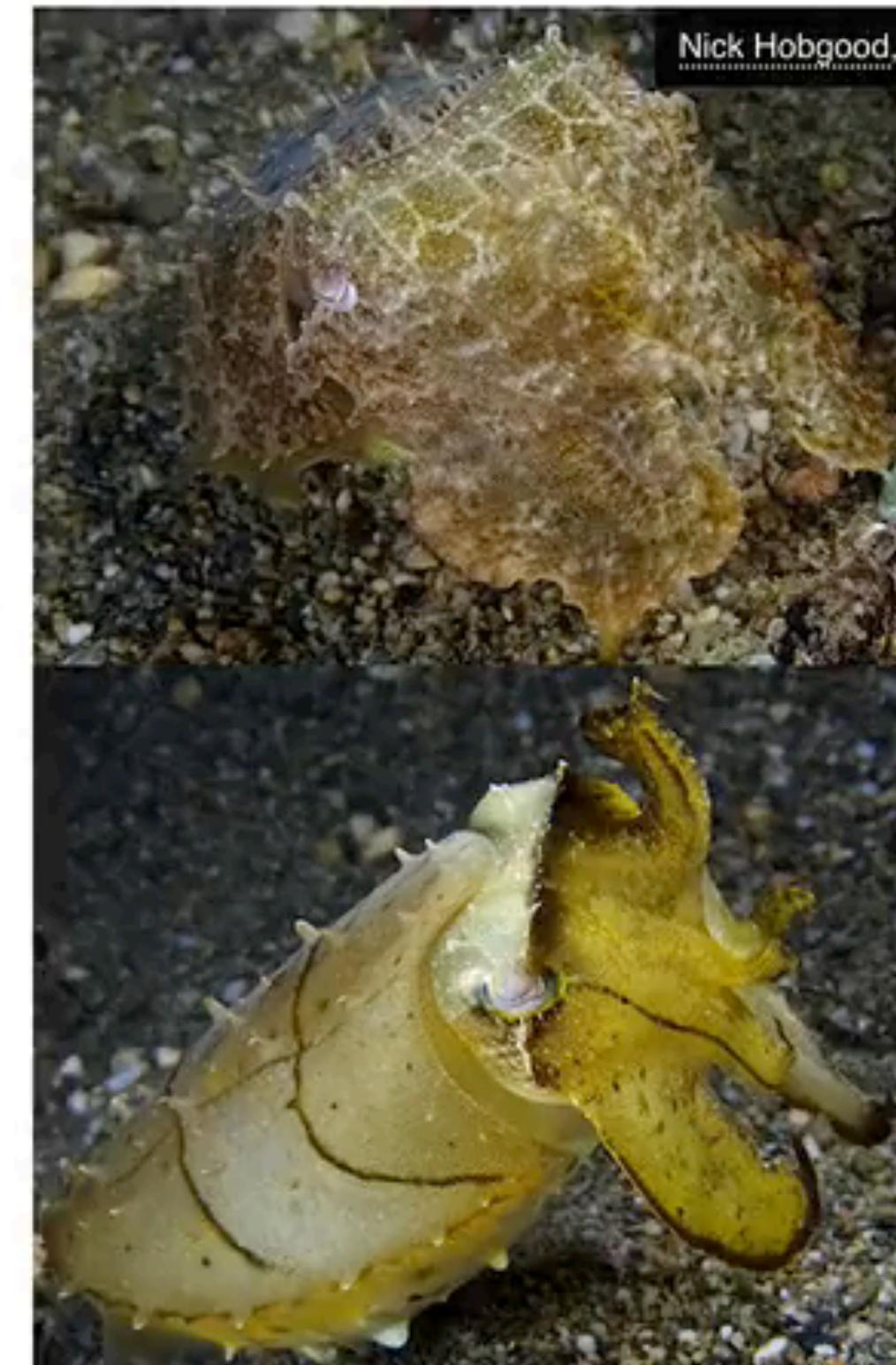


The **clear** property  
controls how content  
flows around a  
floated element

# Skin

Cuttlefish are sometimes referred to as the "chameleons of the sea" because of their remarkable ability to rapidly alter their skin color at will. Cuttlefish change color and pattern (including the polarization of the reflected light waves), and the shape of the skin to communicate to other cuttlefish, to camouflage themselves, and as a deimatic display to warn off potential predators.

This color-changing function is produced by groups of blue, red, yellow, brown, and black pigmented chromatophores above a layer of reflective iridophores and leucophores, with up to 200 of these specialized pigment cells per square millimeter, which would correspond to about 359 DPI if they could be individually controlled. The pigmented chromatophores have a sac of pigment and a large membrane that is folded when retracted. The six to 20 small muscle cells on the sides can contract to squash the elastic sac into a disc against the skin. Yellow chromatophores



*This Sepia latimanus (Broadclub Cuttlefish) can go from camouflage tans and browns (top) to yellow with dark highlights (bottom) in less than a second.*

A cuttlefish possesses an internal structure called the cuttlebone, which

```
</p>
</section>
<section id="skin">
  <h1>Skin</h1>
  <figure class="figure figure--inline">
    
    <figcaption class="figure__caption">...</figcaption>
  </figure>
  <p>...</p>
  <p>...</p>
  <p>...</p>
</section>
<section id="camouflage">...</section>
<section id="eyes">...</section>
<section id="suckers">...</section>
<section id="circulation">...</section>
<section id="ink">...</section>
```

html body main section#skin h1

Styles Event Listeners DOM Breakpoints Properties Shapes

element.style { }

article, aside, details, main.css:42 figcaption, figure, footer, header, hgroup, main, menu, nav, section, summary { display: block; }

article, aside, user agent stylesheet footer, header, hgroup, main, nav, section { display: block; }

Inherited from body

body { main.css:45 font: 100%/1.4 "Libre Baskerville", Georgia, "Times New Roman", Times, serif; margin: 0; padding: 0; -moz-font-smoothing: antialiased; }

Show inherited properties

-webkit-font-smoothing: antialiased; display: block; font-family: 'Libre Baskerville', Georgia, 'Times New Roman', Times, serif; font-size: 16px; font-style: normal;

margin border padding 667 x 1173.188

Find in Styles Filter

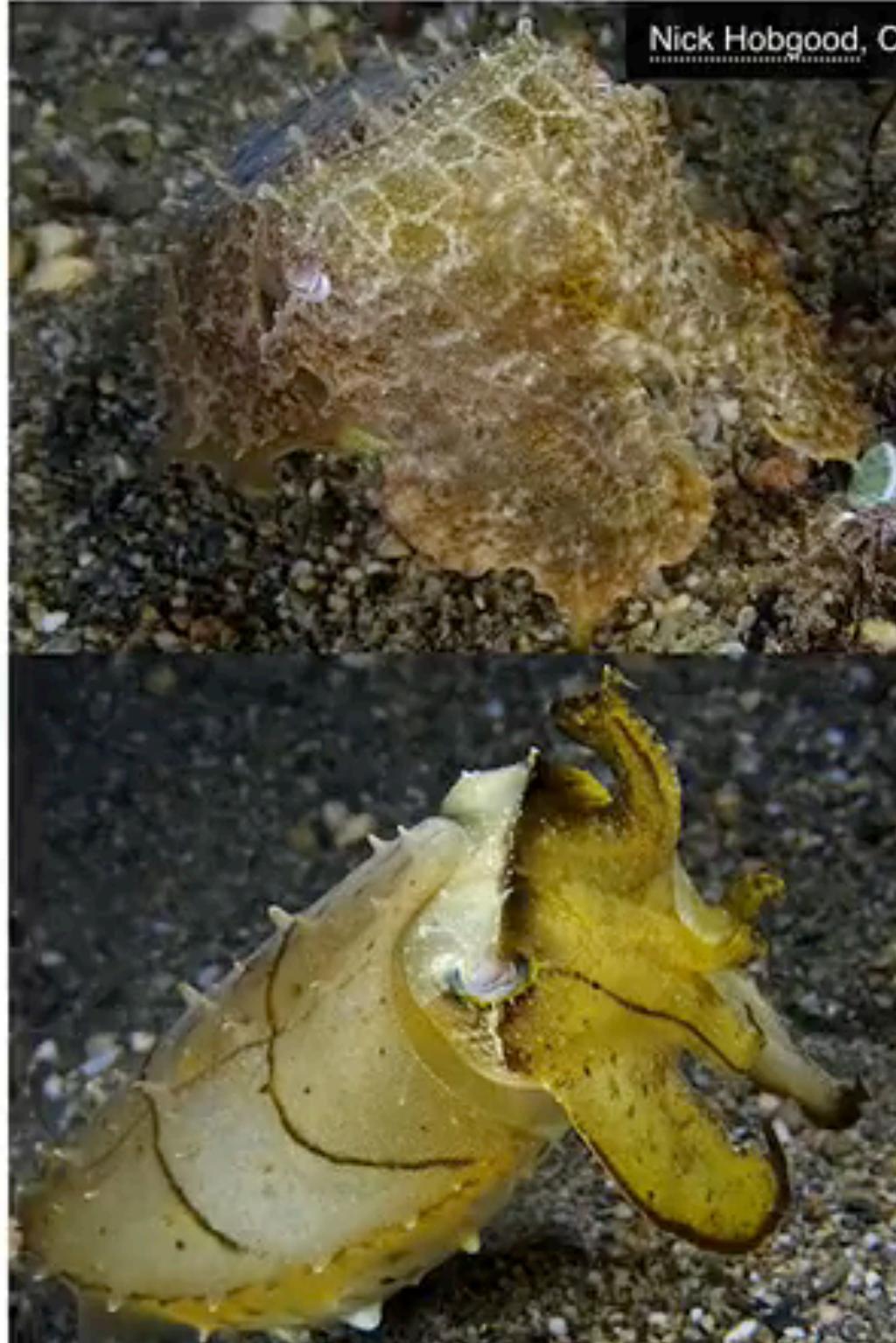
When all children  
of an element are  
floated, it has  
**no inherent height**

Cuttlefish Physiology | The x

aaron-gustafson.com/i-heart-cuttlefish/physiology.html

# Skin

Cuttlefish are sometimes referred to as the "chameleons of the sea" because of their remarkable ability to rapidly alter their skin color at will. Cuttlefish change color and pattern (including the polarization of the reflected light waves), and the shape of the skin to communicate to other cuttlefish, to camouflage themselves, and as a deimatic display to warn off potential predators.



Nick Hobgood, CC

This *Sepia latimanus* (Broadclub Cuttlefish) can go from camouflage tans and browns (top) to yellow with dark highlights (bottom) in less than a second.

Elements Network Sources Timeline Profiles Resources

html body main section#camouflage

Styles Event Listeners DOM Breakpoints Properties Shapes

element.style { }

section { inspector-stylesheet:1 clear: both; }

article, aside, details, main.css:42 figcaption, figure, footer, header, hgroup, main, menu, nav, section, summary { display: block; }

article, aside, user agent stylesheet footer, header, hgroup, main, nav, section { display: block; }

Inherited from body

body { main.css:45 font: 100%/1.4 "Libre Baskerville", Georgia, "Times New Roman", Times, serif; font-size: 16px; }

Show inherited properties

-webkit-font-smoothing: antialiased;

clear: both;

display: block;

font-family: 'Libre Baskerville', Georgia, 'Times New Roman', Times, serif;

font-size: 16px;

margin -

border -

padding -

667 x 471.188 -

Find in Styles Filter

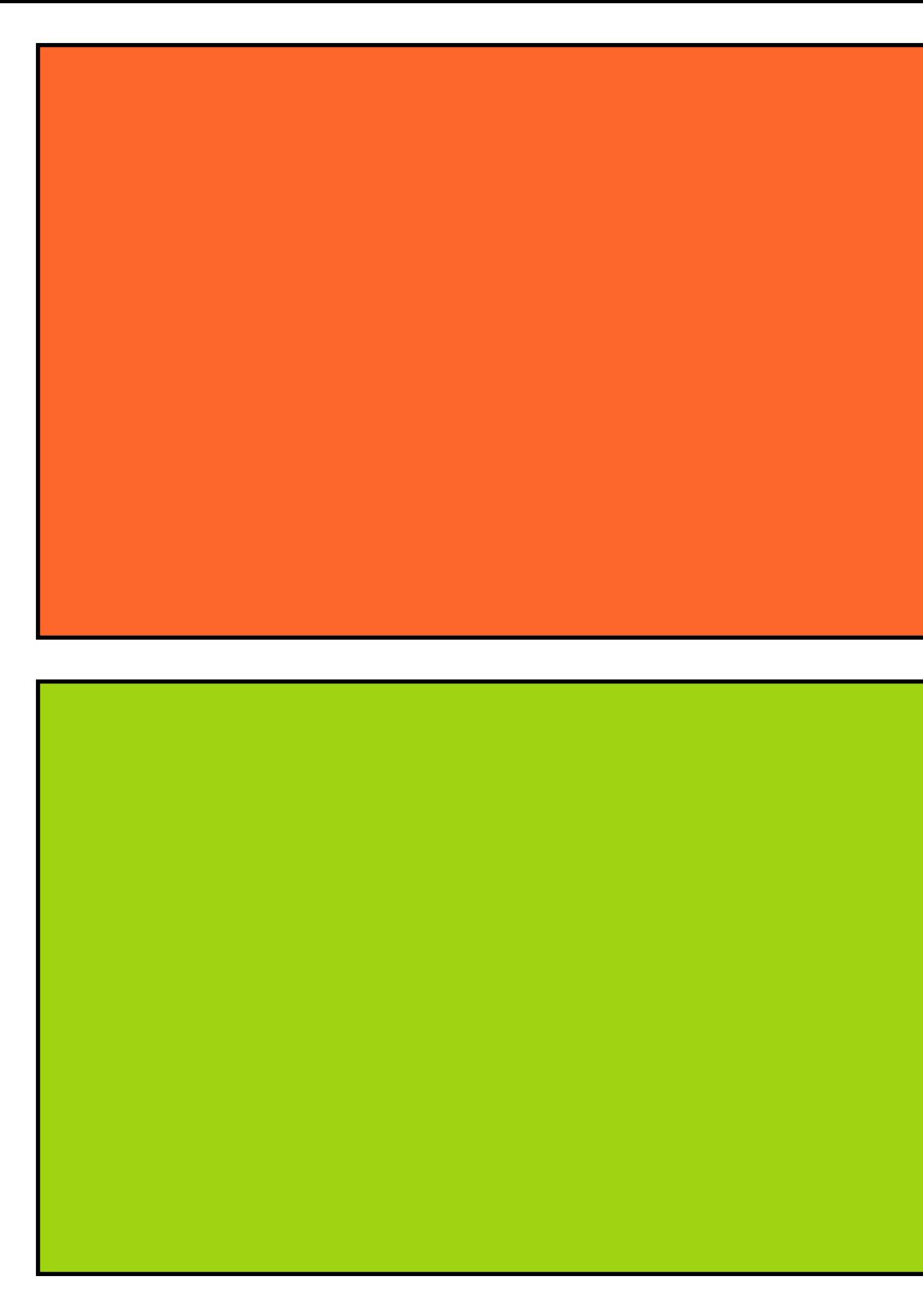
This made floated  
layouts **challenging**  
to build

# We hacked CSS to make it work

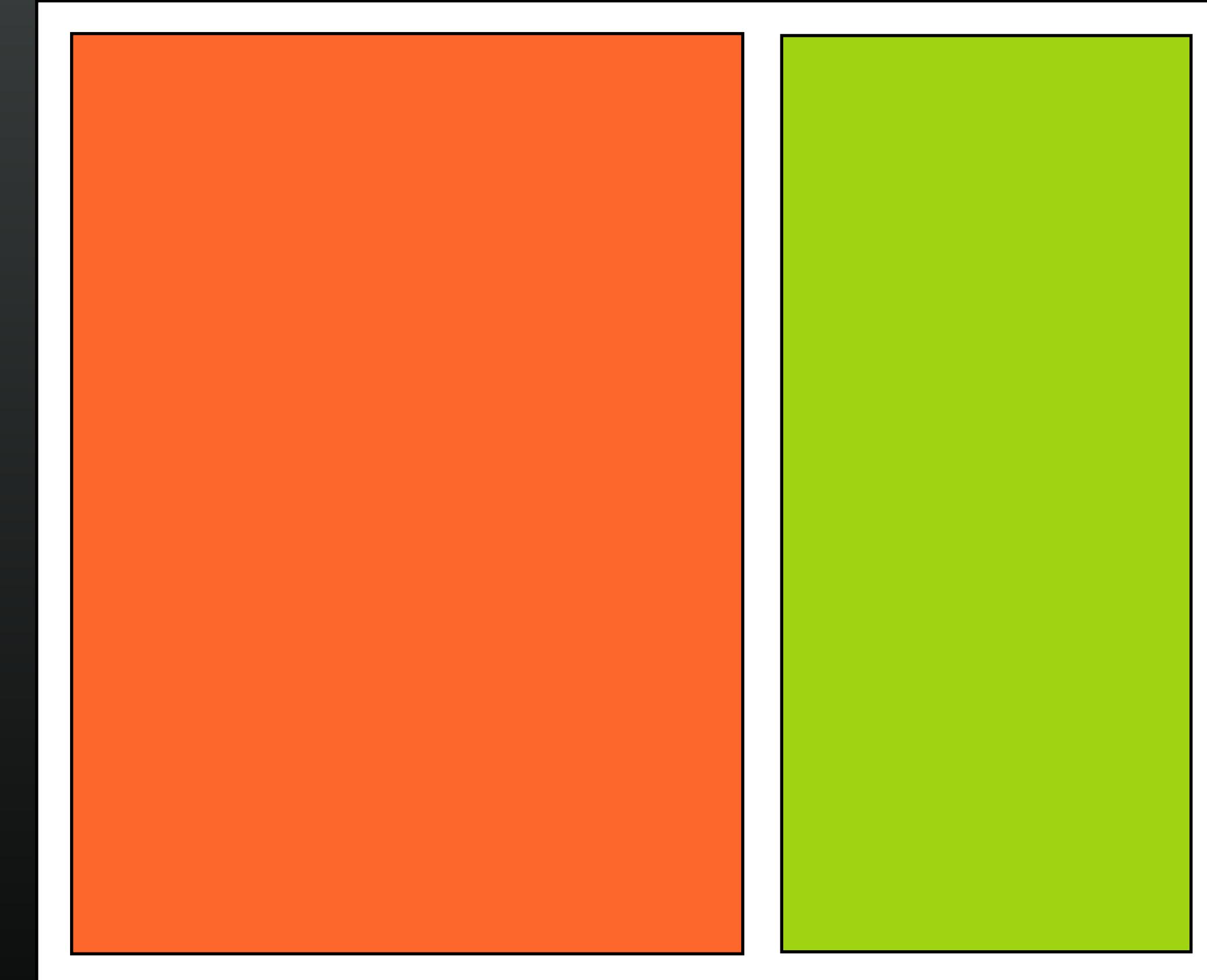
```
.layout-container::after {  
    content: " ";  
    display: block;  
    clear: both;  
    width: 0;  
    height: 0;  
}
```

# Flexbox: layout control in 1 dimension

# Let's try this again



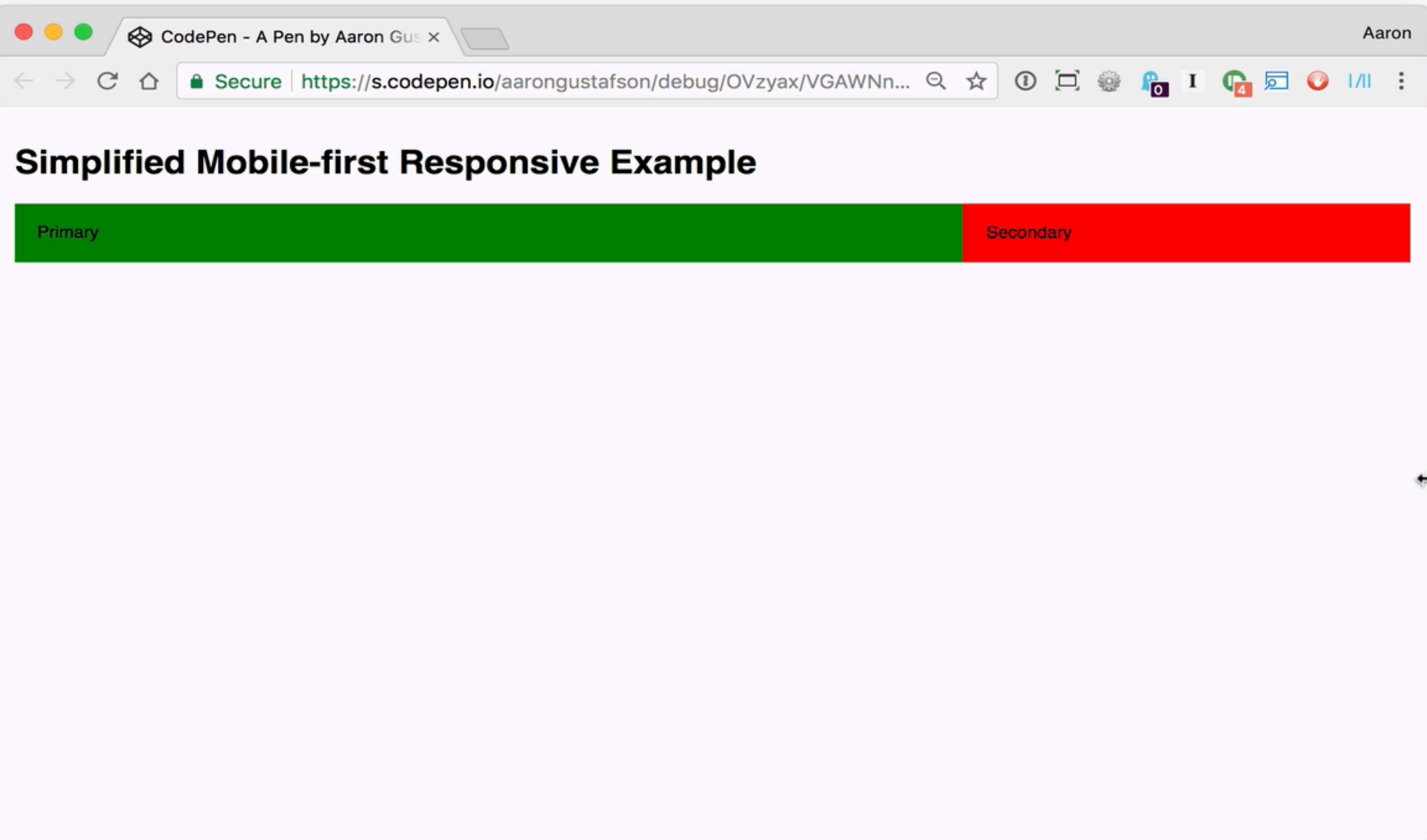
narrow

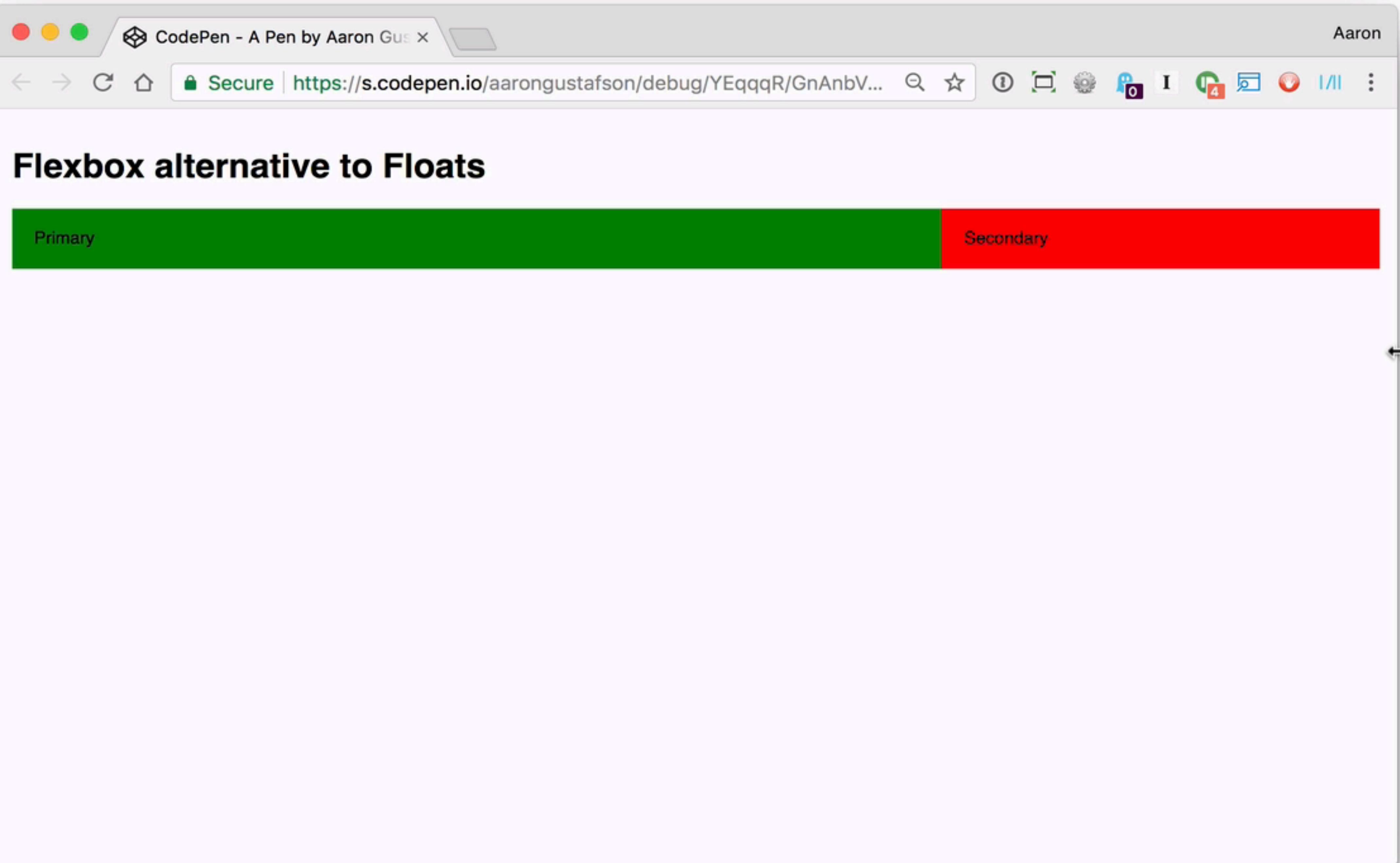


wide

# Same thing, but with flex

```
@media (min-width:600px) {  
  .layout-container {  
    display: flex;  
  }  
  .primary {  
    width: 68%;  
  }  
  .secondary {  
    width: 32%;  
  }  
}
```





# AARON GUSTAFSON

This site is undergoing an open redesign, so if it looks strange, that's why.

About   Notebook   Speaking   Publications   Interviews   Contact   RSS   Search

# A Complete List of My Conferences & Workshops

It's hard to believe this list includes over 124 talks and workshops! In addition to these public events, I've also been invited to give talks and workshops for companies and organizations around the world.

If you'd like me to come present at your company or event, [please drop me a line.](#)

♦ ♦ ♦ IN THE FUTURE ♦ ♦ ♦



# Here's how it works

```
.listing--events {  
  display: flex;  
  flex-wrap: wrap;  
  align-items: stretch;  
}  
.event {  
  flex: 0 0 100%; /* small screen first */  
}
```



# Tweak at specific breakpoints

```
/* 2 column */
@media (min-width: 28.75em) {
  .event {
    flex: 0 0 calc(50% - 1.25rem / 2);
  }
}
/* 3 column */
@media (min-width: 43.125em) {
  .event {
    flex: 0 0 calc(100% / 3 - .875rem);
  }
}
```

# Handle the special cases

```
/* First, if more than 1 */
@media (min-width: 28.75em) {
  .event--future:nth-last-child(n+1):first-child {
    flex: 0 0 100%;
  }
}
```

# Handle the special cases

```
/* When more than 2, make the first 2 go 50% */
@media only screen and (min-width: 43.125em) {
  .event--future:nth-last-child(n+2):first-child,
  .event--future:nth-last-child(n+2):first-child
    + .event--future {
    flex: 0 0 calc( 50% - 1.25rem / 2 );
  }
}
```



Code Snippets » CSS »

# A Complete Guide to Flexbox

BY **CHRIS COYIER** LAST UPDATED ON OCTOBER 30, 2017

• FLEXBOX, LAYOUT

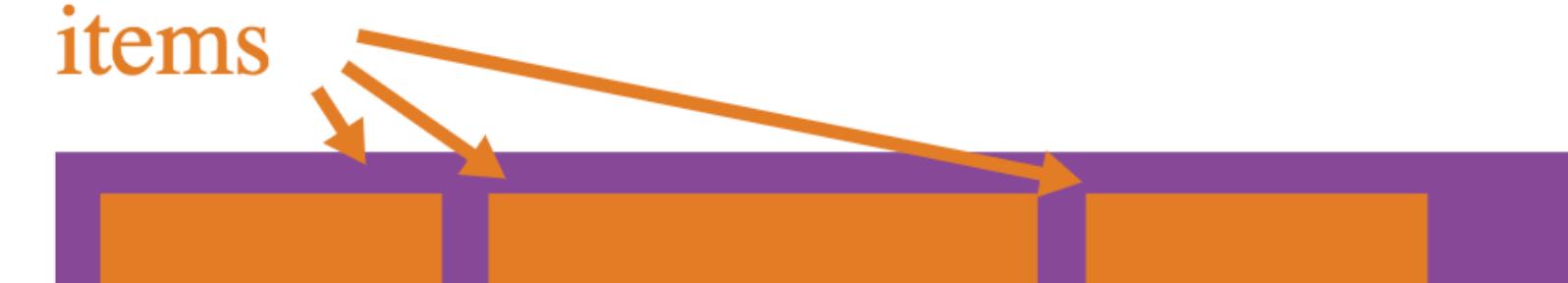
## ► Background

## ► Basics & Terminology

container



items



**Grid:**  
layout control in  
2 dimensions

# Here's how it works

```
.listing--events {  
  display: grid;  
  grid-template-columns: repeat( 6, 1fr );  
  grid-gap: 1em;  
}  
.event {  
  grid-column: span 6;  
}
```

stretch  
full width  
by default

separated by 1em  
of whitespace

each row has  
6 equal columns

# Here's how it works

```
@media(min-width: 28.75em) {  
  .event {  
    grid-column: span 3;   
  }  
  
  /* when more than 1,  
   make the first span both columns */  
  .event--future:nth-last-child(n+1):first-child {  
    font-size: 1.5em;  
    grid-column: span 6;   
  }  
}
```

# Here's how it works

```
@media(min-width: 43.125em) {  
  .event {  
    grid-column: span 2; default = 3-up  
  }  
  
  /* Quantity Query - when more than 2,  
   make the first 2 go 50% */  
  .event--future:nth-last-child(n+2):first-child,  
  .event--future:nth-last-child(n+2):first-child  
  + .event--future {  
    font-size: 1.5em;  
    grid-column: span 3; 2-up  
  }  
}
```

CodePen - Quantity Querie... +

https://s.codepen.io/aarongustafson/debug/wPGjWX/WPMLYGdVqaNr

Search

# Grid with Quantity Queries

**Web Sherpa Summit**  
April 2015 Online

**UX Mobile Immersion**  
April 2015 Salt Lake City, UT USA

**Converge SE**  
April 2015 Columbia, SC USA

**Breaking Development**  
June 2015 Nashville, TN USA

**Web Design Day**  
June 2015 Pittsburgh, PA USA

**Responsive Day Out**  
June 2015 Brighton, England

**Design/Content**  
August 2015 Vancouver, BC Canada

**An Event Apart**  
August 2015 Washington, DC USA

TBA

TBA

# Grid with Quantity Queries

# Web Sherpa Summit

April 2015 Online

## UX Mobile Immersion

April 2015 Salt Lake City, UT USA

**Converge SE**

**April 2015 Columbia, SC USA**

## Breaking Development

**June 2015 Nashville, TN USA**

**Web Design Day**

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## Responsive Day Out

**June 2015 Brighton, England**

## Design/Content

August 2015 Vancouver, BC Canada

**An Event Apart**

August 2015 Washington, DC USA

TBA

TBA



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# Progressively Enhancing CSS Layout: From Floats To Flexbox To Grid

By [Manuel Matuzović](#) July 24th, 2017 [CSS](#), [CSS Grid](#), [Tutorials](#) 20 Comments

Earlier this year, support for [CSS grid layout](#) landed in most major desktop browsers. Naturally, the specification is one of the hot topics at meet-ups and conferences. After having some conversations about grid and progressive enhancement, I believe that there's a **good amount of uncertainty** about using it. I heard some quite interesting questions and statements, which I want to address in this post.

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234,898

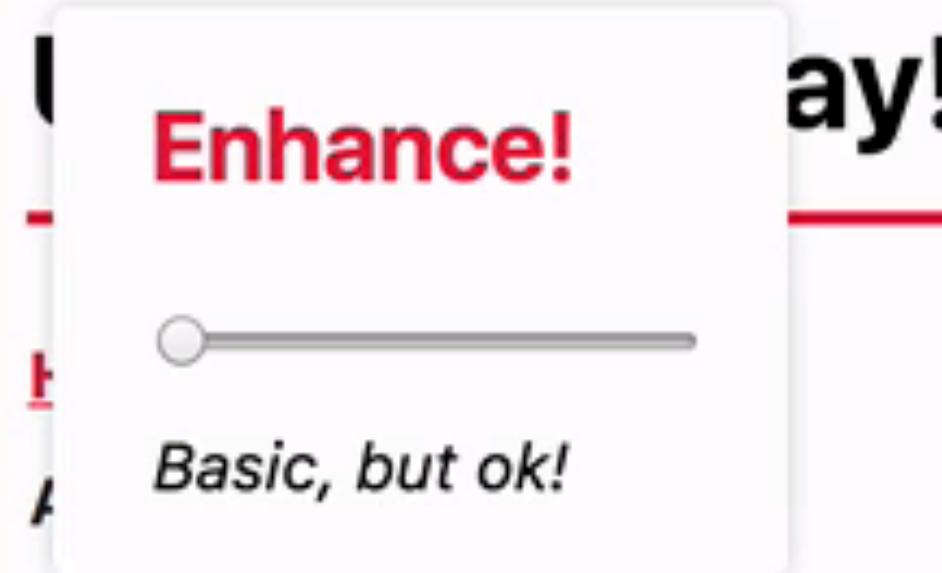
Subscribers

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As designing static pages has become untenable, many have started to approach design in a



Gridbyexample

Progressive Enhancement

Grid Garden

# Progressive Enhancement Demo

Leverage the power of CSS Grid Layout!

Read [this article](#) for details on how to use CSS Grid Layout today.

Four levels of enhancement

# Grid by Example

Everything you need to learn CSS Grid Layout

[Start Here](#)

[Examples](#)

[Patterns](#)

[Video tutorial](#)

[Resources](#)

## The examples

The following examples include an image of how the example should look in a supporting browser, they each link to a page with more information about the technique being shown, code and a CodePen of the example. Unless otherwise noted these examples work in any browser supporting the up to date Grid

Let's look at the  
content teaser

# Content Teasers

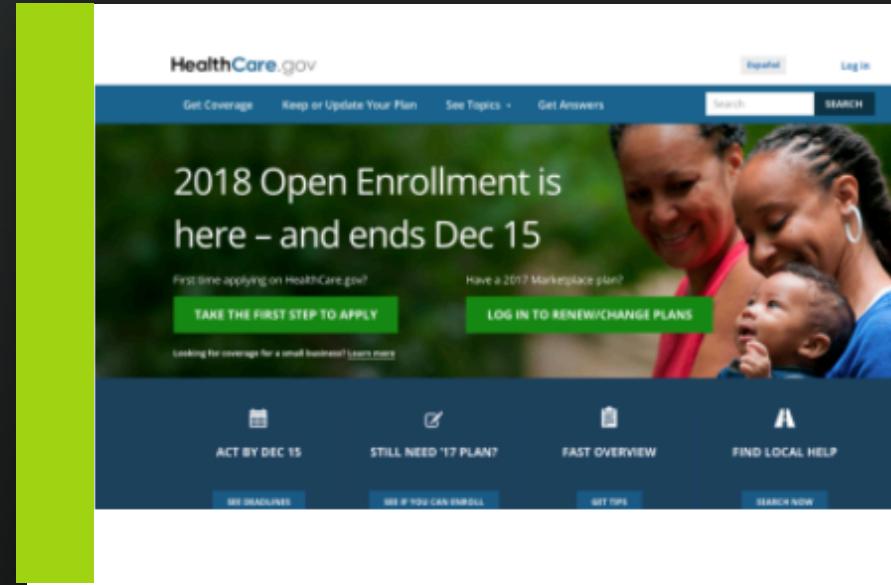


● GOVERNMENT

## Obamacare sign-ups begin; cost-sharing reduction still available

By CHLOÉ MORRISON

# Content Teasers



• GOVERNMENT

## Obamacare sign-ups begin; cost-sharing reduction still available

By CHLOÉ MORRISON

# Content Teasers

```
grid-template-columns: 1rem 1fr 1rem 2fr 1rem;
```



• GOVERNMENT

Obamacare sign-ups begin; cost-sharing reduction still available

By CHLOÉ MORRISON

1fr

2fr

# Content Teasers

```
grid-template-columns: 1fr 2fr;  
grid-gap: 1rem;
```



• GOVERNMENT

## Obamacare sign-ups begin; cost-sharing reduction still available

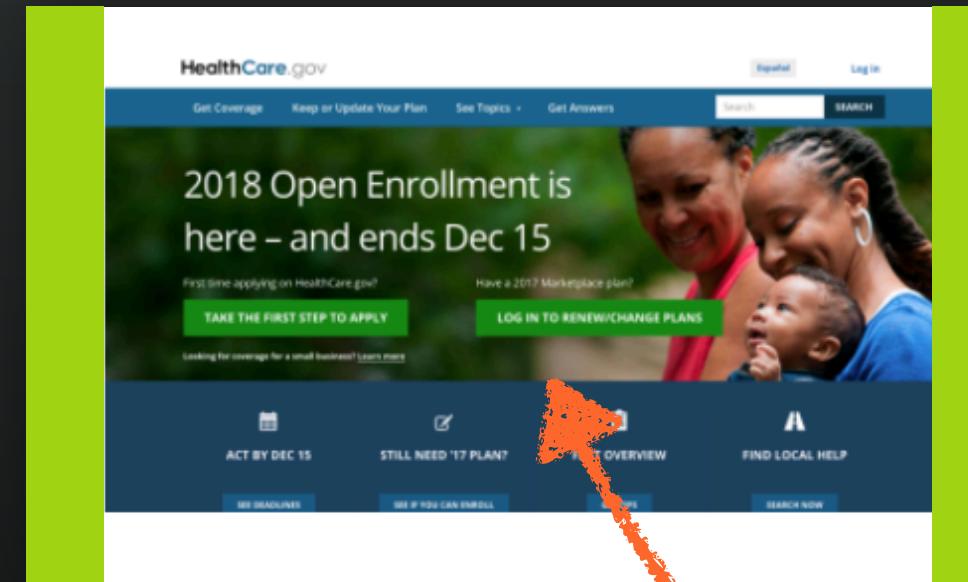
By CHLOÉ MORRISON

1fr

2fr

# Content Teasers

```
grid-template-columns: 1fr 2fr;  
grid-gap: 1rem;  
grid-template-areas: "image content";
```



• GOVERNMENT

Obamacare sign-ups begin; cost-sharing reduction still available

By CHLOÉ MORRISON

1fr

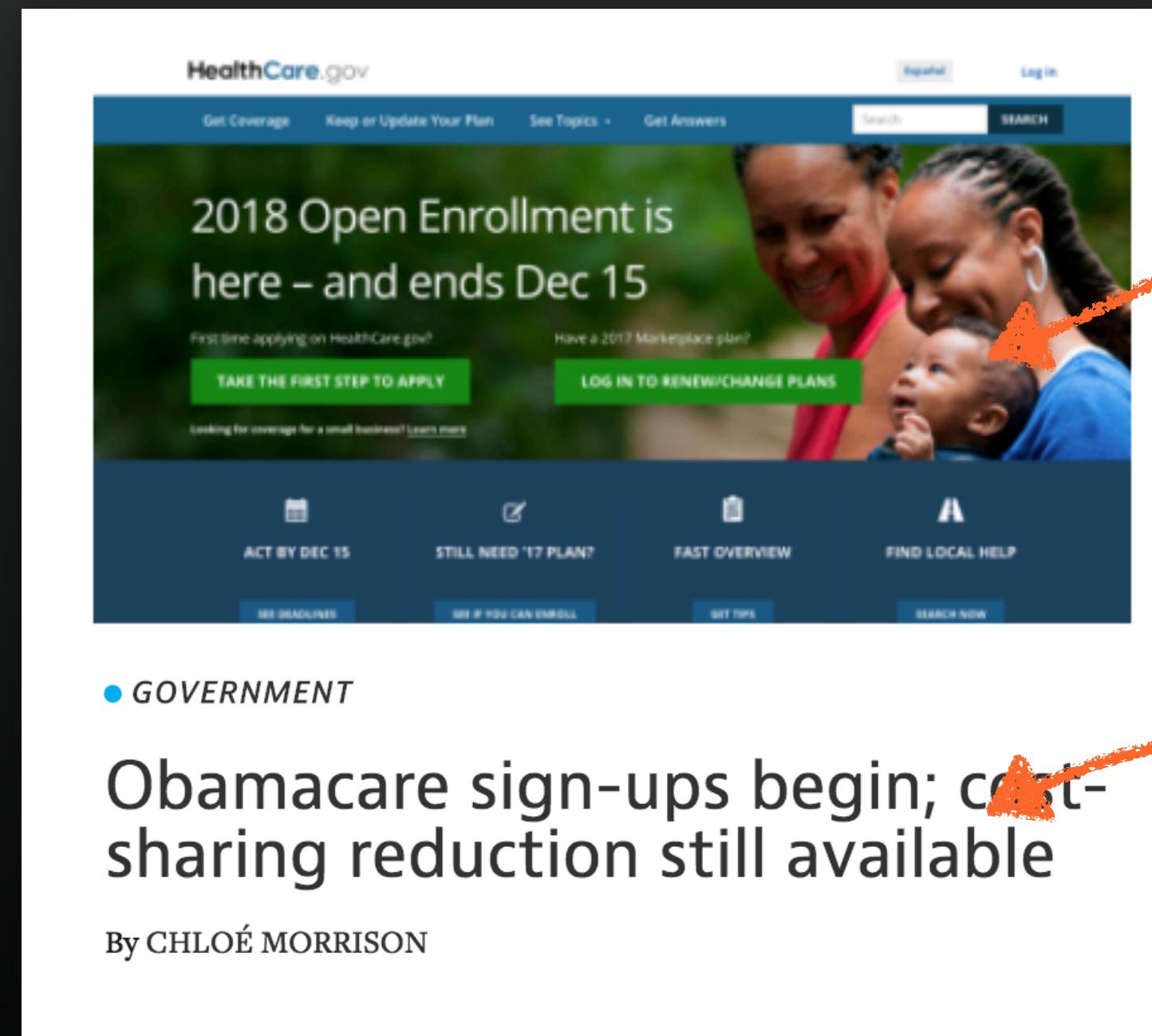
2fr

*grid-area: image;*

*grid-area: content;*

# Content Teasers

```
grid-template-areas: "image" "content";  
grid-gap: 1rem;
```



grid-area: image;

grid-area: content;

A Pen by Aaron Gustafson

Secure | https://codepen.io/aarongustafson/pen/YEWzbW?editors=0100

Untitled

A PEN BY Aaron Gustafson

Save Fork Settings Change View

HTML

CSS (SCSS)

```
1> body {<-->}  
4> h3 {<-->}  
7> article {  
8>   border: 1px solid; padding: 1em; max-width: 300px;  
9>   display: grid;  
10>  grid-template-areas: "image" "content";  
11>  grid-gap: 1em;  
12> }  
13> article img {  
14>   max-width: 100%; height: auto;  
15>   grid-area: image;  
16> }  
17> .lede {  
18>   grid-area: content;  
19> }  
20> @media (min-width: 600px) {  
21>   article {  
22>     grid-template-columns: 1fr 2fr;  
23>     grid-template-areas: "image content";  
24>     max-width: 600px;
```

JS

Console Assets Comments ⌂

Last saved 5 minutes ago

Save Fork Settings Change View

HealthCare.gov

2018 Open Enrollment is here – and ends Dec 15

Take the first step to apply Log in to renew/change plans

ACT BY DEC 15 STILL NEED '17 PLAN? FAST OVERVIEW FIND LOCAL HELP

Government  
Obamacare sign-ups begin; cost-sharing reduction still available  
By Chloé Morrison



# Designing with Frameworks

Aaron

Bootstrap · The most popular front-end framework for developing responsive, mobile-first projects on the web.

getbootstrap.com

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# Bootstrap

Build responsive, mobile-first projects on the web with the world's most popular front-end component library.

Bootstrap is an open source toolkit for developing with HTML, CSS, and JS. Quickly prototype your ideas or build your entire app with our Sass variables and mixins, responsive grid system, extensive prebuilt components, and powerful plugins built on jQuery.

Get started Download

Currently v4.0.0-beta.2

getbootstrap.com/docs/4.0/examples/



The most advanced responsive front-end framework in the world.

**Download Foundation 6**

26.6k GitHub stars  
@ZURBfoundation

Aaron

Secure | https://foundation.zurb.com

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A screenshot of a web browser window showing the Lightning Design System homepage. The page has a light blue background with white clouds and a hot air balloon icon. A navigation menu icon is in the top-left corner. The main title "LIGHTNING DESIGN SYSTEM" is in large, dark blue capital letters. Below it is a subtitle "Create the world's best enterprise app experiences." A prominent blue button labeled "GET STARTED" is centered. In the middle of the page, text indicates the "Current release: Winter '18 (SLDS 2.4.4) | Archives". At the bottom, a navigation bar contains links for "Guidelines", "Accessibility", "Components", "Utilities", "Design Tokens", "Icons", and "Help & Support", along with a search icon. The overall design features a stylized landscape with orange and teal triangles and a small bear silhouette.

Lightning Design System

Secure | https://www.lightningdesignsystem.com

Aaron

≡

LIGHTNING DESIGN SYSTEM

Create the world's best enterprise app experiences.

GET STARTED

Current release: Winter '18 (SLDS 2.4.4) | Archives

Guidelines Accessibility Components Utilities Design Tokens Icons Help & Support

Material Design

Secure | https://material.io

# MATERIAL DESIGN

Material Design is a unified system that combines theory, resources, and tools for crafting digital experiences.

WATCH THE VIDEO



GUIDELINES & RESOURCES

TOOLS

<https://material.io>

# Pros & Cons

- Rapid prototyping
- Many common components included
- No need to know how to code (cut & paste)
- Tested
- Proven
- Limited to available components
- Opinionated
- Designed to solve their problems (not yours)
- Looks the same as everything else
- If not used in production, is entirely throw-away code
- If taken to production, could result in bloat

The image shows the homepage of the TRNK website. At the top, there's a dark header bar with the word "TRNK" in white. Below it, a large, semi-transparent overlay features a photograph of a dark wood cabinet. Overlaid on this image is the text "DESIGN IDEA" in a light font, followed by a large, bold title "The Monochromatic Home". Below the title is a subtitle "Our curated guide to the sophisticated, scandiavian-inspired style". A prominent button labeled "READ & SHOP" is positioned in the lower-left area of the overlay. The background of the page has a subtle, warm-toned texture.

The background image shows a nighttime aerial view of a coastal city, likely Sydney, Australia, with lights from buildings and traffic on a bridge over water.

The image shows a close-up of a person's hand resting on a white computer keyboard. The hand is positioned as if ready to type. The background is a light-colored wooden desk. Overlaid on the image is a dark circular logo containing the text 'UNI MO' in white, with 'UNI-Vision Marketing Office' underneath. Below the logo, the phrase 'We colour as we go' is written in a colorful, brushstroke-style font, with each word in a different color: blue, pink, and red.

The image shows the Jitbit Help Desk homepage. The background is a photograph of a white rocket launching against a blue sky. In the foreground, two men are seated at a dark wooden desk. The man on the left is wearing a dark jacket over a patterned shirt and has his hands clasped. The man on the right is wearing a dark jacket over a light-colored shirt and is holding a dark mug to his mouth as if drinking from it. Between them on the desk is a small, dark rectangular device, possibly a laptop or tablet. A red button with the text "GET IT FREE" is overlaid on the bottom center of the image. At the top of the page, there is a navigation bar with icons for GitHub, Jitbit, PROFILE, and ABOUT.

A woman with long white hair, wearing a blue poncho and a white cap, sits on a beach with waves in the background. Overlaid text reads "We're At First Sight Films." and "LET'S TELL A STORY.".

We are an easy-going, creative & strong storytelling team with years of experience, having worked with and been trusted by some of the most exceptional clients.

[www.fsfilms.com](#)

The Leisure Leisure logo consists of a stylized geometric icon followed by the word "LEISURE" in a serif font.

Schneider  
Glasses

The Epson logo, featuring a stylized "E" inside a square frame.

The Océ logo, featuring a stylized "O" inside a square frame.

The Screen Media logo, featuring a stylized "S" inside a circle.

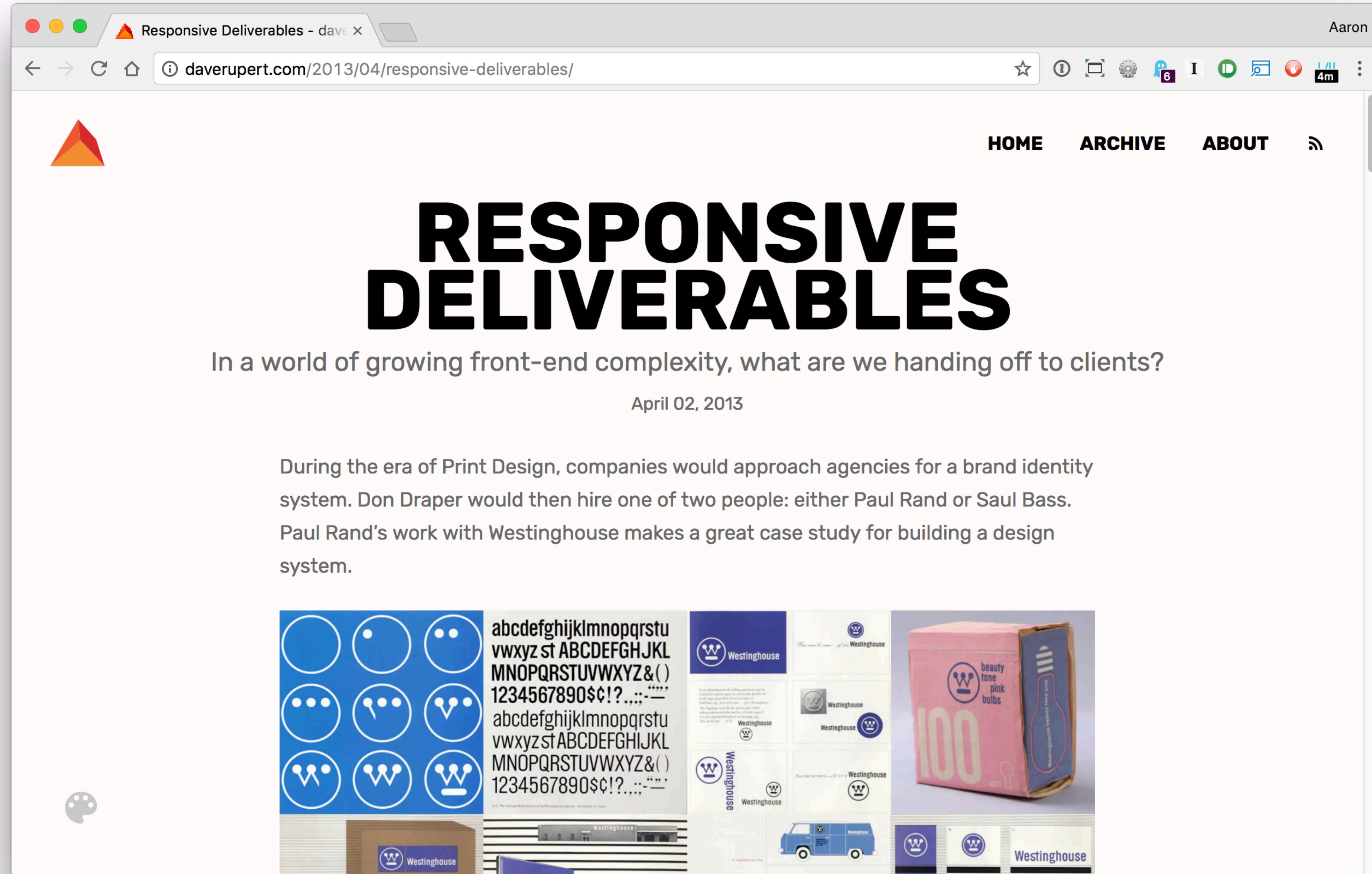
The Google logo, featuring a stylized "G" composed of colored dots.

Google

The Camerawork logo, featuring a stylized camera lens icon next to the word "camerawork".

AKA

Credit: Friday



**“Tiny Bootstraps, for  
every client.”**

—Dave Rupert

Pattern Lab | Build Atomic Desi x Aaron

patternlab.io

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Documentation

Demo

# Create atomic design systems with Pattern Lab.

Pattern Lab helps you and your team build thoughtful, pattern-driven user interfaces using atomic design principles.

ATOMS ▾ MOLECULES ▾ ORGANISMS ▾ TEMPLATES ▾ PAGES ▾ ALL

SIZE 1251PX / 78.19EM S M L FULL RAND ⚙



This screenshot shows a web browser window titled "Pattern Primer" with the URL "patternprimer.adactio.com". The browser interface includes standard navigation buttons (back, forward, search, etc.) and a user profile "Aaron".

The main content area displays several UI patterns:

- Text Block:** A block of text: "This text is quoted. A block of quoted text like this is particularly useful when presented as a pull-quote within an article of text." This is associated with the file `blockquote.html` containing the following HTML:

```
<blockquote>
<p>This text is quoted. A block of quoted text like this is particularly useful when presented as a pull-quote within an article of text.</p>
</blockquote>
```

- Error Feedback:** A pink rectangular box containing the text "This is an error feedback message." This is associated with the file `feedback-error.html` containing the following HTML:

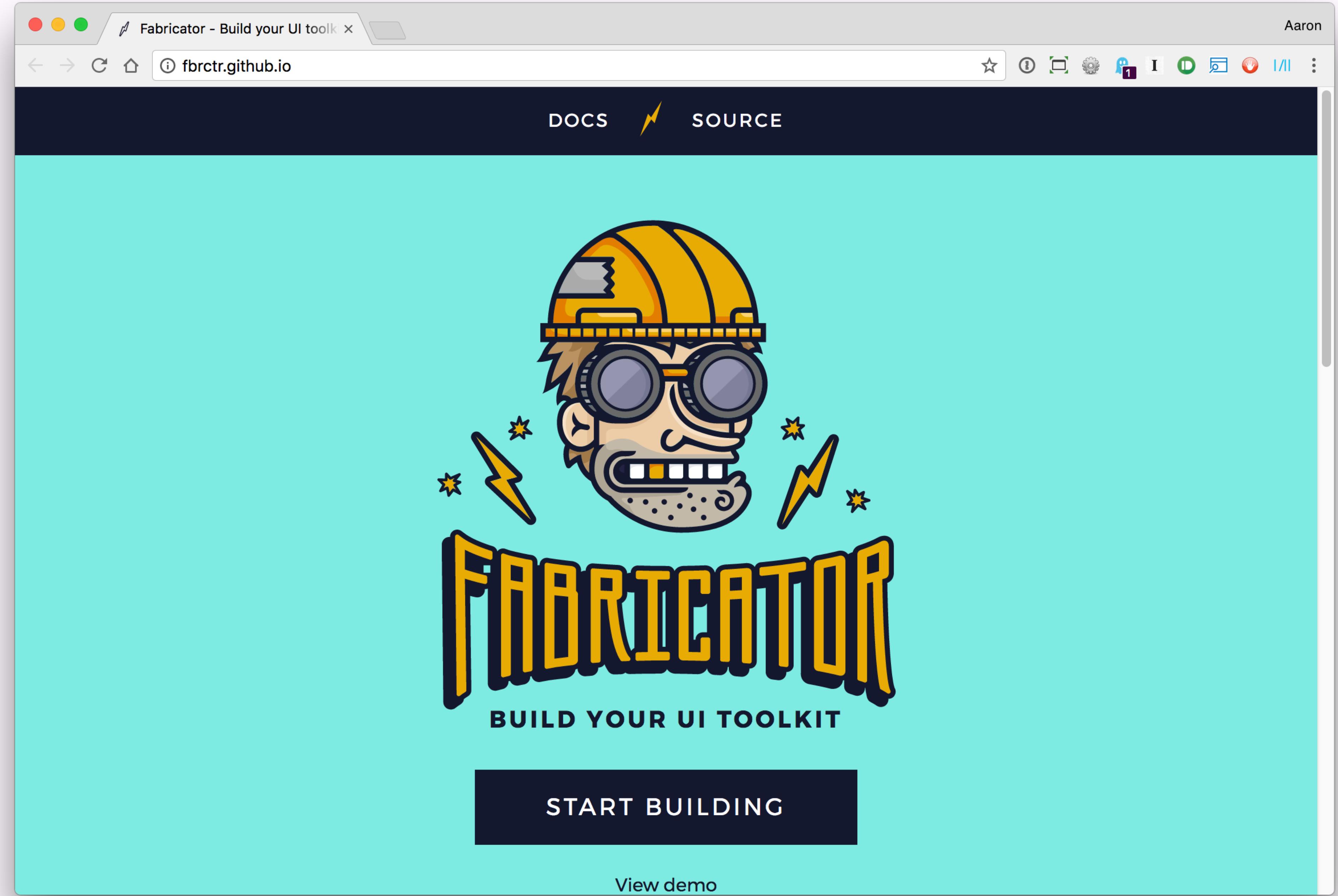
```
<div class="feedback error">
<p>This is an error feedback message.</p>
</div>
```

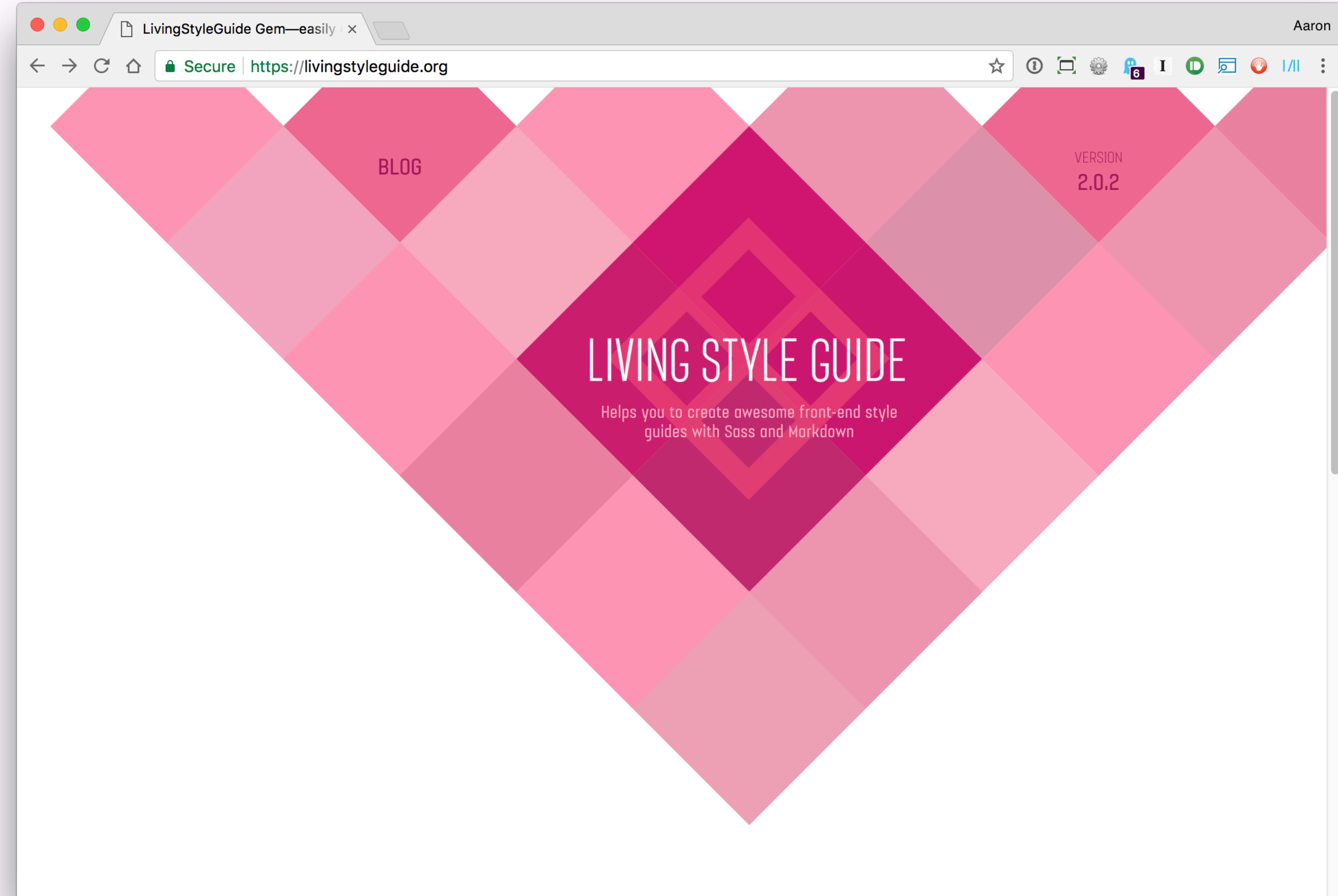
- Feedback:** A yellow rectangular box containing the text "This is a feedback message for the user." This is associated with the file `feedback.html` containing the following HTML:

```
<div class="feedback">
<p>This is a feedback message for the user.</p>
</div>
```

- Buttons:** Two blue rounded rectangular buttons labeled "Button element" and "Submit button".

The browser's status bar at the bottom shows the path "patternprimer.adactio.com" and some system icons.





Lonely Planet Travel Guides an x Aaron

← → C ⌘ ⌘ rizzo.lonelyplanet.com/styleguide/design-elements/colours

lonely planet STYLE GUIDE DOCUMENTATION PERFORMANCE MONITORING ABOUT RIZZO

Design Eleme...

Design Elements UI Components JS Components Widgets CSS Utilities

DESIGN

- Design Palette >
- UI Colours >
- Destination Next Colors >
- Typography >

ICONS

- Destination >
- Interests >
- Interface >
- Need to Know >
- Weather >

## Colour Palette

This is the primary and secondary colour palettes as described in the PSD styleguide and in [colour\\_palette.sass](#)

Find closest color

GRAY PALETTE

#2c3643	#3b444f	#67747c	#99a9b3	#dbe6ec
\$darkgray	\$titlegray	\$bodygray	\$lightgray	\$subduedgray

PRIMARY PALETTE

#142b44	#1d508d	#297CBB	#288ad6	#0FDEBD
\$darkblue	\$navblue	\$lpblue	\$linkblue	\$teal
#16c98d	#feef6d	#ffc83f	#fa5e5b	#bf538d
\$green	\$yella	\$orange	\$red	\$plum

# Pros & Cons

- Designed around the project's needs & goals
- Once built, you can rapidly prototype
- Prototyping code can be production-ready (tested, proven)
- Add new components as needed
- Update/modify components as needed
- You own it
- Takes time to build
- Need everyone on board
- You own it



# Questions?

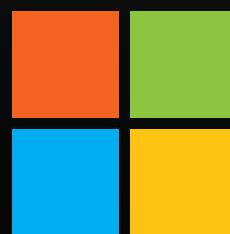
Tweet me at  
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# Thank you!

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