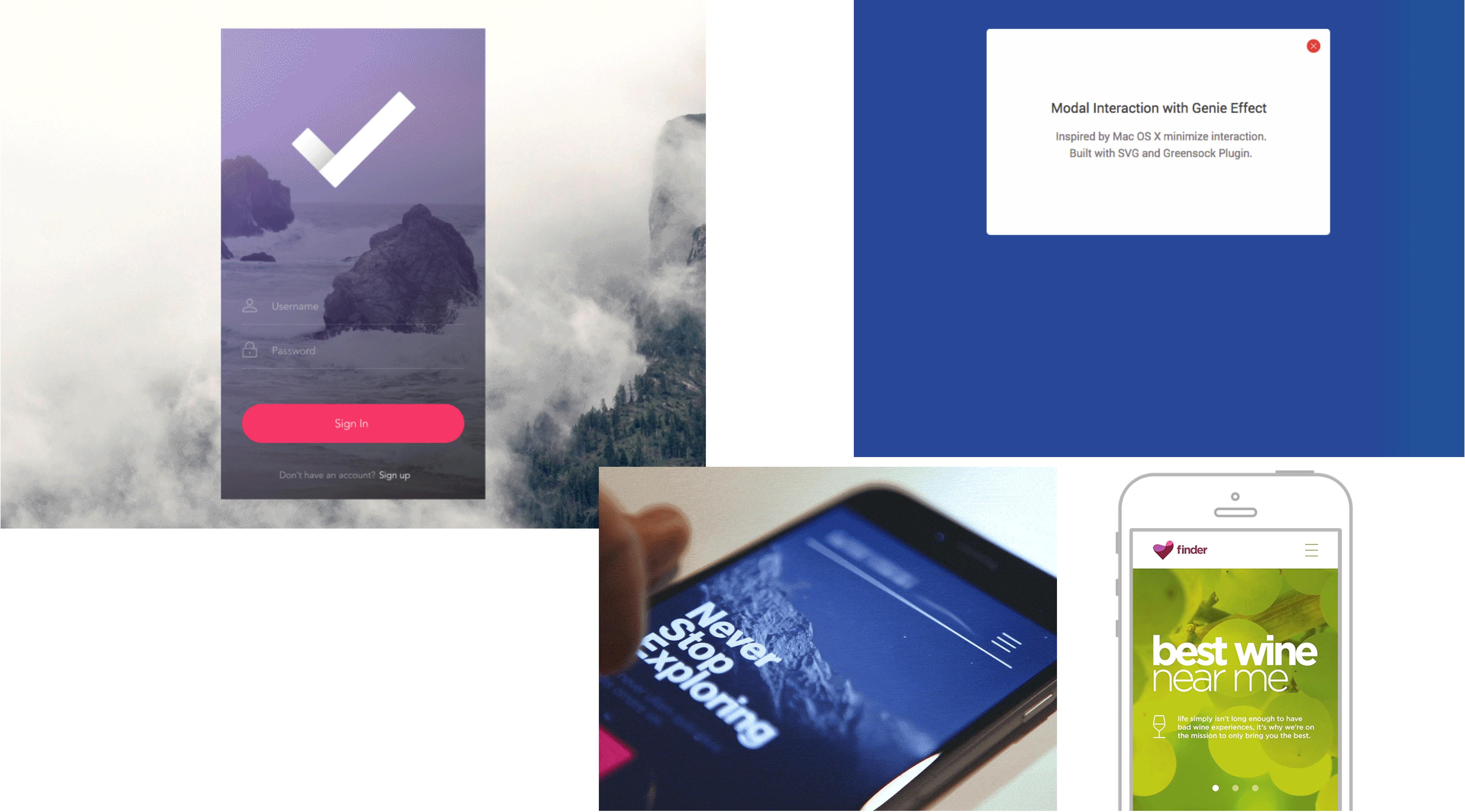


# Improving the Usability of Your Interface with CSS (& SVG)





# Responding to Reduced Motion User Preferences

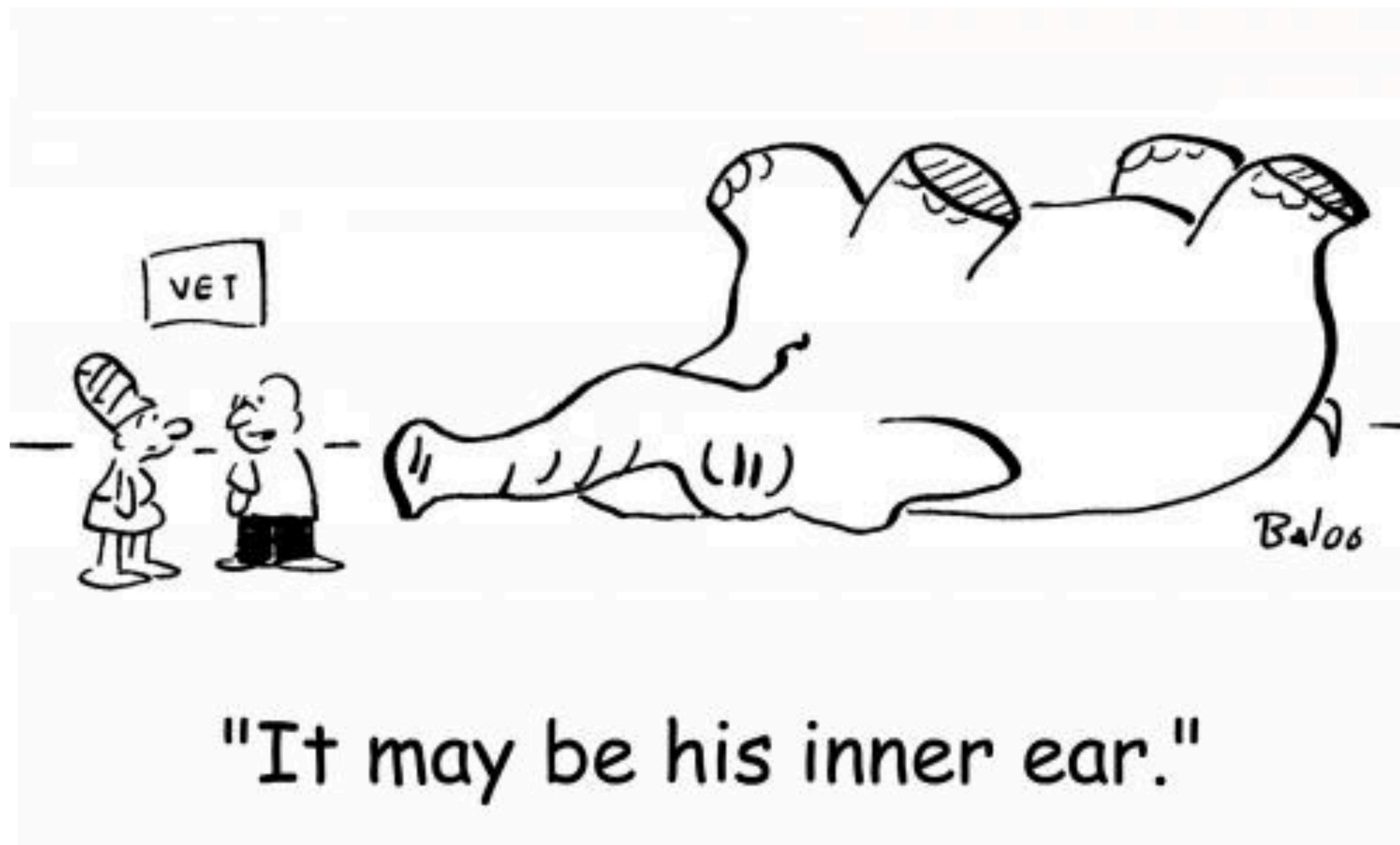


- Orient and give context,
- direct focus and attention,
- show cause and effect,
- provide feedback to UI interactions (error messages, confirmations, loading spinners, etc.),
- demonstrate functionality and behavior in onboarding processes,
- express a brand, show personality, etc.

# ios

7





"It may be his inner ear."

# Vestibular Triggers

- **Scaling and Zooming.** Visual scaling or zooming animations give the illusion that the viewer is moving forward or backward in physical space. Some animated blurring effects give a similar illusion.
- **3D Zoom + Blur.** A three-dimensional dolly zoom and animated blur give the viewer a sense that physical position and focal depth-of-field is changing.
- **Spinning & Vortex Effects.** Effects that use spiraling or spinning movements can cause some people with vestibular disorders to lose their balance or vertical orientation.
- **Multi-Speed or Multi-Directional Movement,** such as parallax effects.
- **Dimensionality or Plane Shifting.** These animations give the illusion of moving two-dimensional (2D) planes in three-dimensional (3D) space. The technique is sometimes referred to as two-and-a-half-dimensional (2.5D).
- **Peripheral Motion,** such as subtle constant animation near a block of text.



# Reduce screen motion on your iPhone, iPad, or iPod touch

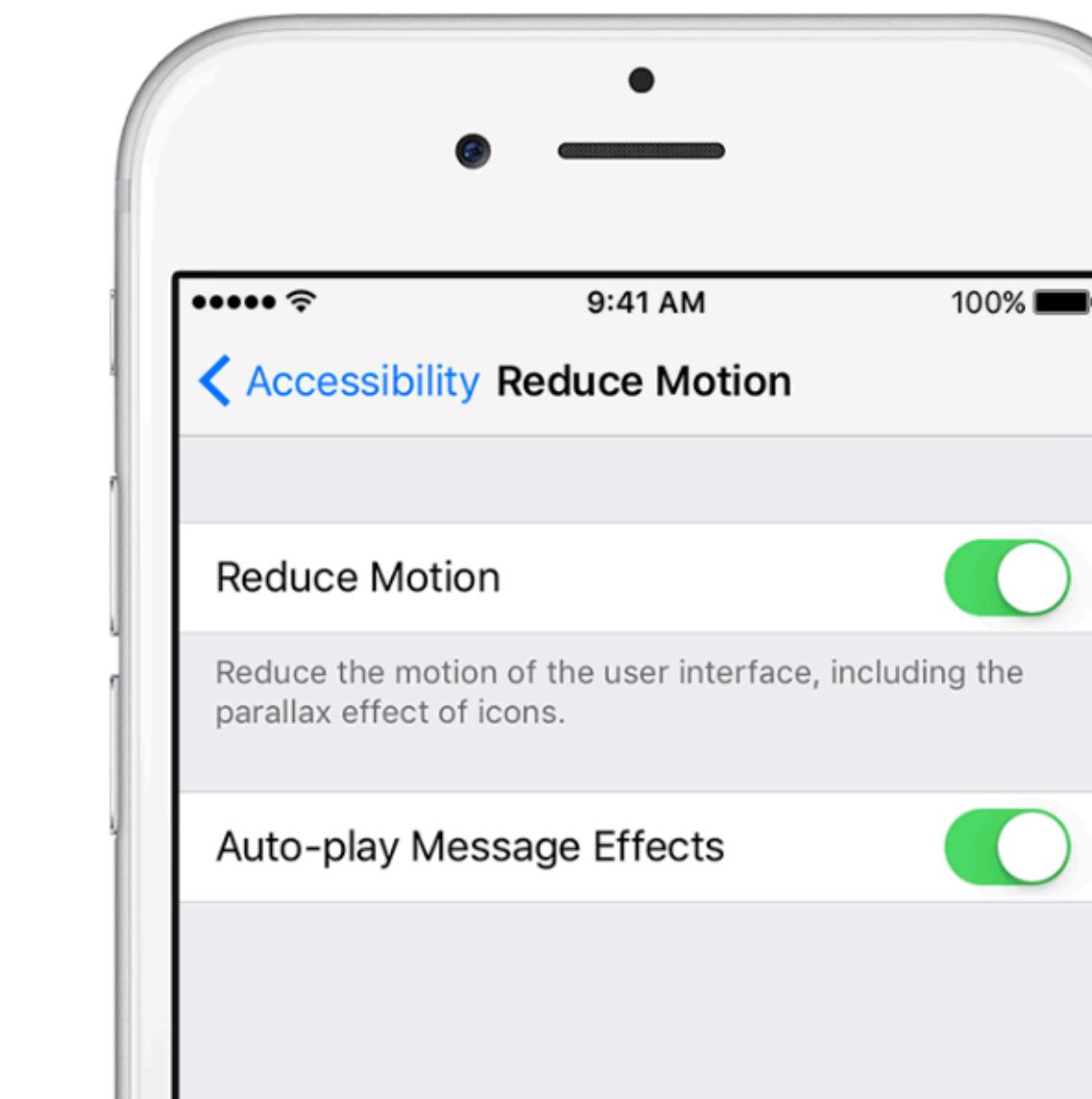
If you notice screen movement on your iPhone, iPad, or iPod touch, you can turn on Reduce Motion.

iOS uses motion effects to create the perception of depth on your Home screen and within apps. If you have sensitivity to motion effects or screen movement on your iPhone, iPad, or iPod touch, you can use Reduce Motion to turn off these effects.

To turn on Reduce Motion, go to Settings > General > Accessibility and tap the slider for Reduce Motion.

When Reduce Motion is on, certain screen effects change or are disabled on your device, including:

- Screen transitions and effects use the dissolve effect instead of zoom or slide effects.
- Parallax effect where your wallpaper, apps, and alerts that move or shift slightly as you tilt your device are disabled.
- Animation and effects in certain apps are disabled. For example, weather animations in the Weather app.



```
@media screen and (prefers-reduced-motion: reduce){  
    // styles here  
}
```

// or

```
@media screen and (prefers-reduced-motion: no-preference){  
    // styles here  
}
```



Orde Saunders 10  
@decadecity

Follow

User queries: like media queries but for user preferences. #edgeconf

5:30 PM - 27 Jun 2015

6 Retweets 8 Likes



1



6



8



Tweet your reply



Orde Saunders 10 @decadecity · 28 Jun 2015

Replies to @decadecity

New blog post: User queries, what are they and how would they work  
[decadecity.net/blog/2015/06/2...](http://decadecity.net/blog/2015/06/2...) #edgeconf



5



10



5



HTeuMeuLeu @HTeuMeuLeu · 29 Jun 2015

@decadecity This sounds a bit like the User Context specification.  
[dvcs.w3.org/hg/IndieUI/raw...](http://dvcs.w3.org/hg/IndieUI/raw...)



***Web designers and developers can use this feature to create styles and serve alternate animations that avoid large areas of motion and motion sickness triggers experienced by some site visitors***

<https://webkit.org/blog/7551/responsive-design-for-motion/>

```
.element {  
  animation: animateIn .2s linear forwards;  
}  
  
@media screen and (prefers-reduced-motion: reduce) {  
  .element {  
    animation: animateIn 0s linear forwards;  
  }  
}
```

```
.element {  
  animation: animateIn .2s linear forwards;  
}  
  
@media screen and (prefers-reduced-motion: reduce) {  
  .element {  
    animation-duration: 0s;  
  }  
}  
  
/* ... */  
  
.element-2 {  
  animation: animateOut .2s linear forwards;  
}  
  
@media screen and (prefers-reduced-motion: reduce) {  
  .element-2 {  
    animation-duration: 0s;  
  }  
}  
  
/* ... */
```

# **CSS Custom Properties**

**(a.k.a CSS Variables)**

```
.element {  
  animation: animateIn .2s linear forwards;  
}  
  
@media screen and (prefers-reduced-motion: reduce) {  
  .element {  
    animation-duration: 0s;  
  }  
}  
  
/* ... */  
  
.element-2 {  
  animation: animateOut .2s linear forwards;  
}  
  
@media screen and (prefers-reduced-motion: reduce) {  
  .element-2 {  
    animation-duration: 0s;  
  }  
}  
  
/* ... */
```

```
.element {  
  --anim-duration: .2s;  
  animation: animateIn var(--anim-duration) linear forwards;  
}  
  
@media screen and (prefers-reduced-motion) { // can remove the  
  value `reduce` and it will resolve to true as well
```

```
.element {  
  --anim-duration: 0s;  
}  
}
```

```
:root {  
  --anim-duration: .2s;  
}  
  
.element {  
  animation: animateIn var(--anim-duration) linear forwards;  
}  
  
@media screen and (prefers-reduced-motion) {  
  .element {  
    --anim-duration: 0s;  
  }  
}
```

```
:root {  
  --anim-duration: .2s;  
}  
  
.element {  
  animation: animateIn var(--anim-duration) linear forwards;  
}  
  
.second-element {  
  animation: animateAnotherWay var(--anim-duration) linear forwards;  
}  
  
@media screen and (prefers-reduced-motion) {  
  .element {  
    --anim-duration: 0s;  
  }  
  
  .second-element {  
    --anim-duration: 0s;  
  }  
}
```

```
:root {  
  --anim-duration: .2s;  
}  
  
@media screen and (prefers-reduced-motion) {  
  :root {  
    --anim-duration: 0s;  
  }  
}  
  
.element {  
  animation: animateIn var(--anim-duration) linear forwards;  
}  
  
.second-element {  
  animation: animateAnotherWay var(--anim-duration) linear forwards;  
}
```

```
:root {  
  --anim-duration: .2s;  
}  
  
@media screen and (prefers-reduced-motion) {  
  :root {  
    --anim-duration: 0s;  
  }  
}  
  
.element {  
  animation: animateIn var(--anim-duration) linear forwards;  
}  
  
.second-element {  
  animation: animateAnotherWay calc( var(--anim-duration) * 2 )  
  linear forwards;  
}
```

# Takeaways

- Motion can be a great tool for increasing usability and engagement, but certain visual effects trigger physical discomfort in some viewers.
- Avoid vestibular trigger animations where possible, and use alternate animations when a user enables the “Reduce Motion” setting. Try out these settings, and use the new media feature when necessary.
- Remember that the Web belongs to the user, not the author. **Always adapt your site to fit their needs.**



Providing Options that Respond  
to User's Needs & Preferences

# Customizable Type

 HTML CSS (SCSS)

A



```
1  :root, :root.small {  
2    --base-font-size: calc( 13px + .5vw );  
3  
4    // set heading font sizes based on a ratio  
5    --ratio: 1.25;  
6    --h6: calc( var(--base-font-size) * var(--ratio) );  
7    --h5: calc( var(--h6) * var(--ratio) );  
8    --h4: calc( var(--h5) * var(--ratio) );  
9    --h3: calc( var(--h4) * var(--ratio) );  
10   --h2: calc( var(--h3) * var(--ratio) );  
11   --h1: calc( var(--h2) * var(--ratio) );  
12  
13 }  
14  
15 }  
16  
17 :root.large {  
18   --base-font-size: calc( 17px + .5vw );  
19 }  
20  
21 body {  
22   font-size: var(--base-font-size);  
23   line-height: calc(var(--base-font-size) * 1.5);  
24  
25   transition: font-size .1s ease-out;  
26 }  
27  
28 h1 {  
29   font-size: var(--h1);  
30   line-height: calc(var(--h1) * 1.2);  
31 }
```

 JS

```
:root, :root.small {  
    /* base font size value: */  
    --base-font-size: calc( 13px + .5vw );  
}
```

 HTML

```
1 <h1>Scalable  
Heading</h1>
```

 CSS

```
1 body {  
2   padding: 30px;  
3 }  
4  
5 h1 {  
6   font-size: 10vw;  
7 }
```

 JS

```
1
```

# Scalable Heading

```
:root{  
    font-size: calc(16px + 3vw);  
}
```

min font size

min screen size

font-size: calc( 16px + (24 - 16) \* (100vw - 400px) / (800 - 400) );

max font size - min font size

max screen size - min screen size

```
:root {  
  /* base font size value: */  
  --base-font-size: calc( 13px + .5vw );
```

```
}
```

```
:root.large {  
  --base-font-size: calc( 17px + .5vw );
```

```
}
```

```
:root, :root.small {  
  /* base font size value: */  
  --base-font-size: calc( 13px + .5vw );  
}  
  
:root.large {  
  --base-font-size: calc( 17px + .5vw );  
}  
  
body {  
  font-size: var(--base-font-size);  
  line-height: calc(var(--base-font-size) * 1.5);  
  
  transition: font-size .1s ease-out;  
}
```

```
:root, :root.small {  
    /* base font size value: */  
    --base-font-size: calc( 13px + .5vw );  
  
    /* set heading font sizes based on a ratio */  
    --ratio: 1.25;  
    --h6: calc( var(--base-font-size) * var(--ratio) );  
    --h5: calc( var(--h6) * var(--ratio) );  
    --h4: calc( var(--h5) * var(--ratio) );  
    --h3: calc( var(--h4) * var(--ratio) );  
    --h2: calc( var(--h3) * var(--ratio) );  
    --h1: calc( var(--h2) * var(--ratio) );  
}  
  
h1 {  
    font-size: var(--h1);  
    line-height: calc(var(--h1) * 1.2);  
}  
  
h3 {  
    font-size: var(--h3);  
    line-height: calc(var(--h3) * 1.2);  
}
```

```
<label for="textRange">Text Size:</label>  
  
<input name="textSize"  
       id="textRange"  
       type="range"  
       min="13" max="24"  
       step="1"  
       value="13"  
       style="width: 200px;"/>
```

## HTML

## CSS (SCSS)

```
1  html {  
2      // base font size value  
3      --base-font-size: calc( 13px + .5vw );  
4  
5      // set heading font sizes based on a ratio  
6      --ratio: 1.25;  
7      --h6: calc( var(--base-font-size) * var(--ratio) );  
8      --h5: calc( var(--h6) * var(--ratio) );  
9      --h4: calc( var(--h5) * var(--ratio) );  
10     --h3: calc( var(--h4) * var(--ratio) );  
11     --h2: calc( var(--h3) * var(--ratio) );  
12     --h1: calc( var(--h2) * var(--ratio) );  
13 }  
14  
15 body {  
16     font-size: var(--base-font-size);
```

## JS

```
1  var slider = document.getElementById("textRange"),  
2      html = document.querySelector("html");  
3  
4  slider.addEventListener("input", function() {  
5      var size = this.value;  
6      html.style.setProperty('--base-font-size', 'calc(' + size  
+ 'px + 0.5vw')');  
7  });
```

# Adding a UI font size switcher

## CSS Variables make it easy and elegant

It is a long established fact that a reader will be distracted by the readable content of a page when looking at its layout. The point of using Lorem Ipsum is that it has a more-or-less normal distribution of letters, as opposed to using 'Content here, content here', making it look like readable English. Many desktop publishing packages and web page editors now use Lorem Ipsum as their default model text, and a search for 'lorem ipsum' will uncover many web sites still in their infancy. Various versions have evolved over the years, sometimes by accident, sometimes on purpose (injected humour and the like).

```
var slider = document.getElementById("textRange"),
    html = document.querySelector("html");

slider.addEventListener("input", function() {
    var size = this.value;
    html.style.setProperty('--base-font-size', 'calc(' + size + 'px + 0.5vw)');
});
```

The screenshot shows the Chrome DevTools interface with the 'Elements' tab selected. The left panel displays the DOM tree:

```
<!doctype html>
...<html lang="en" class="-webkit-" style="--base-font-size:calc(18px + 0.5vw);">
  ><head>...
  ><body translate="no">
    ><form action="...">...
    <h1>Adding a UI font size switcher</h1>
```

The right panel shows the element's styles. The 'Styles' tab is active, displaying the following CSS rule:

```
element.style {
  --base-font-size: calc(18px + 0.5vw);
}
```

The 'Computed' tab shows the final computed styles for the `html` element:

```
html {
  --base-font-size: calc(18px + 0.5vw);
  --ratio: 1.25;
```

**Quia etiam** quod non  
adipisci possumus, id est  
quod non possunt nos  
adipisci, **consequatur**,  
adipisci possemus, id est  
quod possunt nos  
adipisci.

**By combining viewport units with other units,  
we give the user back the ability to zoom the  
text in and out.**

# Variable Fonts



**A variable font is a single font file that acts like multiple fonts. The variable font stores multiple variations of a type family.**

The wizard quickly jinxed the gnomes before they vaporized

The wizard quickly jinxed the gnomes before they vaporized

The wizard quickly jinxed the gnomes before they vaporized

The wizard quickly jinxed the gnomes before they vaporized

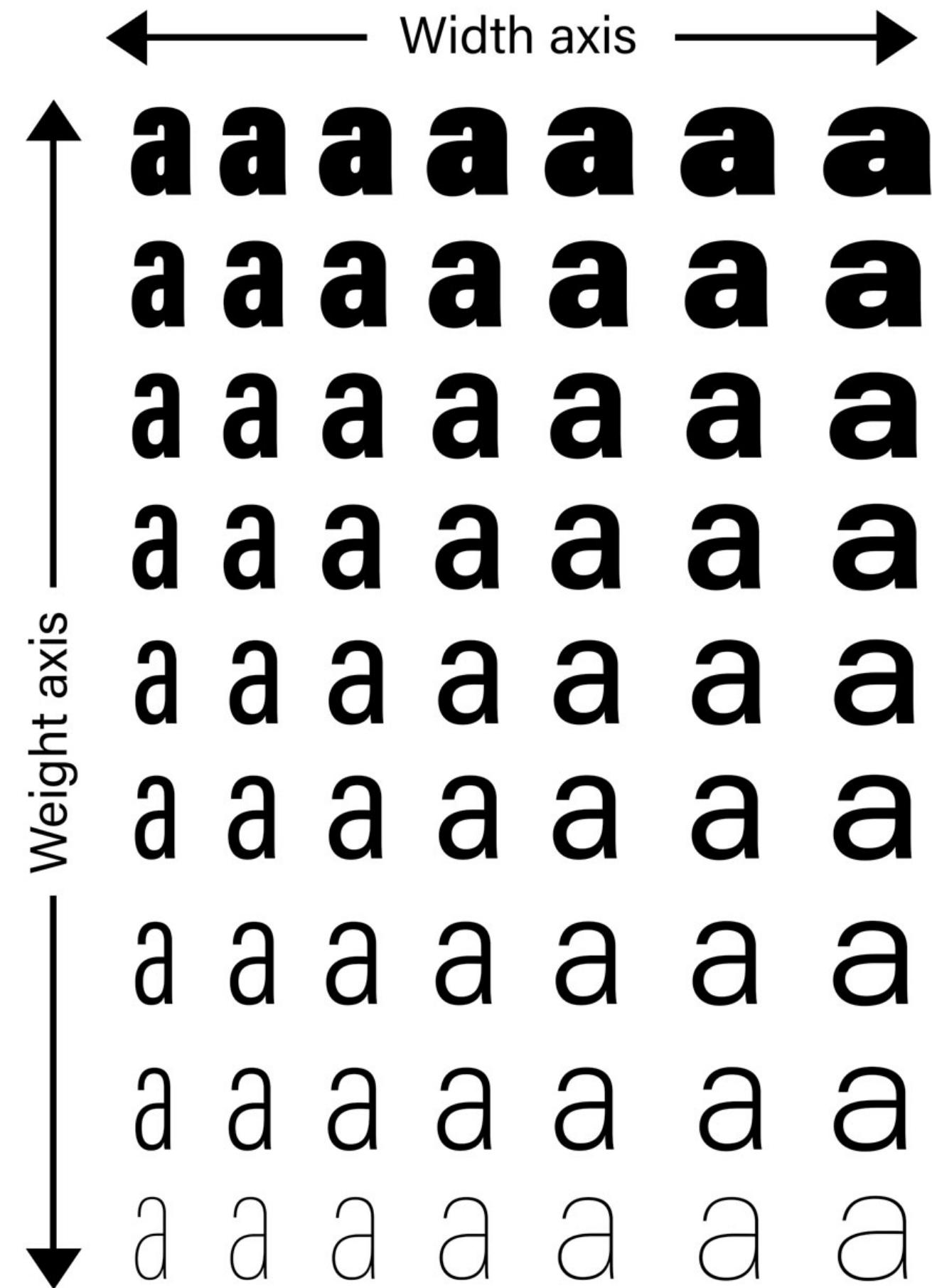
The wizard quickly jinxed the gnomes before they vaporized

**The wizard quickly jinxed the gnomes before they vaporized**

**The wizard quickly jinxed the gnomes before they vaporized**

**The wizard quickly jinxed the gnomes before they vaporized**

**The wizard quickly jinxed the gnomes before they vaporized**



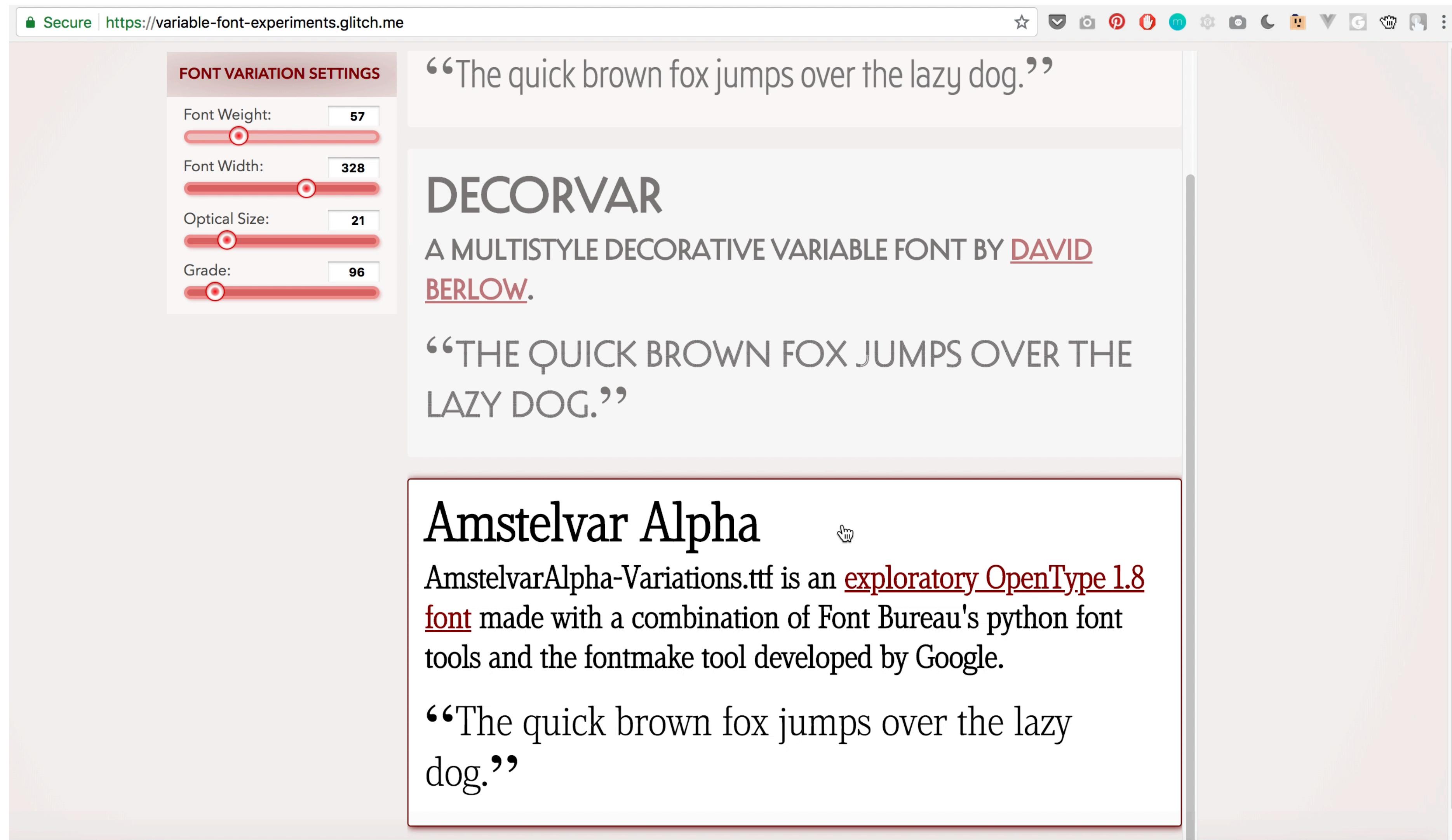
← A variable font rendered in 63 different styles, all from one file.

The image varies width and weight, along the **width axis** and the **weight axis**.

There are 5 axes pre-defined as four-character tags:

1. weight (**wght**),
2. width (**wdth**),
3. italic (**ital**),
4. slant (**slnt**) and
5. optical size (**opsz**).

# You can define your own custom axes of variation with their own 4-character tags.



The screenshot shows a web browser window displaying a font variation experiment. The URL is <https://variable-font-experiments.glitch.me>. The page features a sidebar on the left with "FONT VARIATION SETTINGS" and four sliders: Font Weight (57), Font Width (328), Optical Size (21), and Grade (96). The main content area contains two examples of text. The first example shows the text "The quick brown fox jumps over the lazy dog." in a decorative font. The second example shows the text "THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG." in a bold, uppercase version of the same font. Below this, a section titled "Amstelvar Alpha" provides information about the font, stating it is an exploratory OpenType 1.8 font made with Python font tools and fontmake. It also includes another example of the text "The quick brown fox jumps over the lazy dog." in a different style.

Secure | https://variable-font-experiments.glitch.me

FONT VARIATION SETTINGS

Font Weight: 57

Font Width: 328

Optical Size: 21

Grade: 96

“The quick brown fox jumps over the lazy dog.”

DECORVAR

A MULTISTYLE DECORATIVE VARIABLE FONT BY [DAVID BERLOW](#).

“THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG.”

Amstelvar Alpha

AmstelvarAlpha-Variations.ttf is an [exploratory OpenType 1.8 font](#) made with a combination of Font Bureau's python font tools and the fontmake tool developed by Google.

“The quick brown fox jumps over the lazy dog.”

# Using variable font variations in CSS is straightforward.

```
h2 {  
    font-family: "Amstelvar";  
    font-variation-settings: "wdth" 600, "wght" 200, "opsz" 48;  
}
```

## Defining variable fonts is also straightforward.

```
@font-face {  
  font-family: 'SourceSans';  
  src: url('source-sans-variable.ttf') format('truetype');  
  font-weight: 1 999;  
}  
  
p { font-weight: 275; }
```

## ature: Variable fonts

# # Variable fonts 📄 - WD

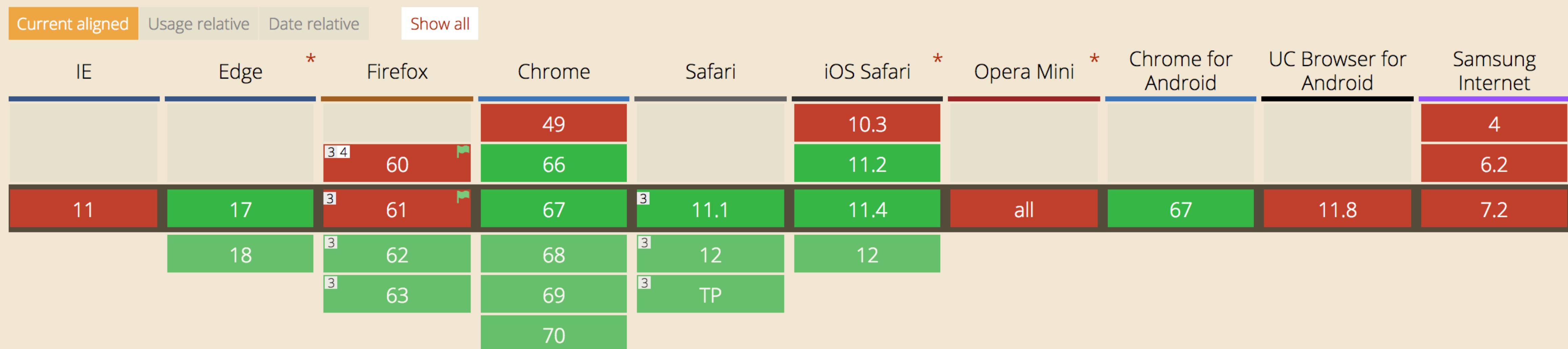
OpenType font settings that allows a single font file to behave like multiple fonts: it can contain all the allowed variations in width, weight, slant, optical size, or any other exposed axes of variation as defined by the font designer. Variations can be applied via the `font-variation-settings` property.

## Usage

Global

% of all users

$$58.21\% + 1.28\% = 69.49\%$$



## Notes

## Known issues (1)

## Resources (8)

## Feedback

<sup>3</sup> Requires MacOS 10.13+

<sup>4</sup> Does not support the `font-weight` and `font-stretch` properties.

# Provide a non-variable font for non-supporting browsers.

```
@font-face {  
    font-family: 'SourceSansVariable';  
    src: url('source-sans-variable.woff2') format('woff2');  
    font-weight: 1 999;  
}  
  
@font-face {  
    font-family: 'SourceSans';  
    src: url('source-sans-black.woff2') format('woff2'),  
        url('source-sans-black.woff') format('woff');  
    font-weight: 900;  
}  
  
@font-face {  
    font-family: 'SourceSans';  
    src: url('source-sans-semibold.woff2') format('woff2'),  
        url('source-sans-semibold.woff') format('woff');  
    font-weight: 600;  
}
```

# **Use feature detection in CSS to render variable fonts in capable browsers.**

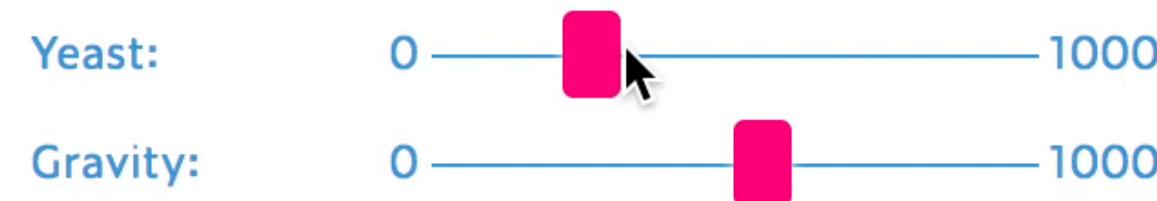
```
html {  
  font-family: 'SourceSans' sans-serif;  
}  
  
@supports (font-variation-settings: normal) {  
  html {  
    font-family: 'SourceSansVariable', sans-serif;  
  }  
}
```

# Variable Fonts (beta)

A simple resource for finding and trying variable fonts



## Cheee Variable

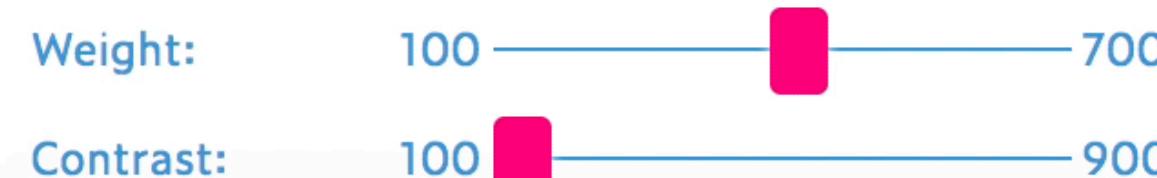


A blobby all-caps typeface, offered with discounted pricing while it's still a work in progress.

Design: James T. Edmondson  
Publisher: OH no Type Co.  
Characters: Latin (limited)  
Licensing: Paid/commercial  
Info/fonts: [futurefonts.xyz](http://futurefonts.xyz)

A B C D E F G H I J K L M N O P  
Q R S T U V W X Y Z  
0 1 2 3 4 5 6 7 8 9

## Quell Variable



Quell Variable  
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k l m n o p q r s t u v w x y z 0 1 2 3 4 5 6 7 8 9

Axis-Praxis: Variable Fonts in t1 x

Secure | https://www.axis-praxis.org/specimens/\_DEFAULT\_

AXISPRAXIS playground blog resources support

TEXTBOX

Textbox heading1

Font Zeitung Pro Regular

Drag & drop fonts here

Font size

Line-height

Alignment

CSS New textbox Delete textbox

FONT VARIATIONS

Instance Thin

Weight 860.84

Optical Size 20

FONT FEATURES

c2sc calt case dnom frac liga Inum loc  
numr onum pnum sinf smcp ss01 subs  
sups tnum zero

COLOUR

**Axis-Praxis is a website for playing with OpenType Variable Fonts**

Discover 30+ variable fonts. Experiment with the typographic controls in the right panel on this default layout, or choose a typeface specimen from the left column. Every textbox is fully editable: change font, font size, alignment, line-spacing as well as the variation sliders. And type your own text, of course.

 *Font makers can try out their own variable fonts. Just drag any variable TTF to the right panel, the current textbox gets set to that font, and its axes show up right away in the Font Variation section.*

The Font Variation controls adapt according to the font's characteristics.

Font Playground -- Play with   Sara

play.typedetail.com

Font Playground

Design Code About

FONTS

Adobe VF Prototype

Amstelvar

Avenir Next

Bahnschrift

Barlow

Buffalo Gals

CHEEE

Compressa

DT JAKOB

FONTS INFO

Designer Frank Grießhammer

Publisher Adobe

License Open source

Link [github.com](https://github.com)

Font Size 100

PRESET VARIATIONS

Black High Contrast Ag

Black Medium Contrast Ag

Black Ag

VARIABLE OPTIONS

Weight 648.00

Contrast 21.50



x Untitled-1.ai\* @ 100% (RGB/GPU Preview)

Variable Fonts are

the future of

Web type

Variable Fonts and Dyslexia | A X +

Not Secure | adrianroselli.com/2018/08/variable-fonts-and-dyslexia.html

**Adrian Roselli**  
Consultant, Writer, Speaker

**Blog ▾** **Bio** **Books** **Contact**

# Variable Fonts and Dyslexia

August 19, 2018 ; [2 Comments](#)

Dyslexia is not a black or white, on or off condition. Some with dyslexia report different challenges than others, ranging from typefaces to page layout to other factors. A few years ago I wrote [Typefaces for Dyslexia](#), where I gathered some research suggesting that dedicated typefaces, on the whole, do little to help readers with dyslexia. Generally readers performed better when good typography practices (alignment, spacing, etc.) were followed.

Since then there have been some developments that I think can be beneficial for users. The most important is the support for variable typefaces coupled with new variable font releases. These could allow users to control some parts of typefaces that give them the most trouble — bowl size, bowl

Resolving host...

“ Some with dyslexia report different challenges than others, ranging from typefaces to page layout to other factors. [...] dedicated typefaces, on the whole, do little to help readers with dyslexia. Generally readers performed better when good typography practices (alignment, spacing, etc.) were followed.

*Success Criterion 1.4.12 Text Spacing (Level AA): In content implemented using markup languages that support the following text style properties, no loss of content or functionality occurs by setting all of the following and by changing no other style property:*

- *Line height (line spacing) to at least 1.5 times the font size;*
- *Spacing following paragraphs to at least 2 times the font size;*
- *Letter spacing (tracking) to at least 0.12 times the font size;*
- *Word spacing to at least 0.16 times the font size.*

# Variable Font Demo Using Amstelvar Alpha

A PEN BY Sara Soueidan **PRO**

Fork

Change View

## Three wise monkeys

The three wise monkeys at the Tōshō-gū shrine in Nikkō, Japan The three wise monkeys are a pictorial maxim, embodying the proverbial principle "see no evil, hear no evil, speak no evil". The three monkeys are Mizaru, covering his eyes, who sees no evil; Kikazaru, covering his ears, who hears no evil; and Iwazaru, covering his mouth, who speaks no evil....



### Font Settings



Width (currently 80):

35  100

Weight (currently 400):

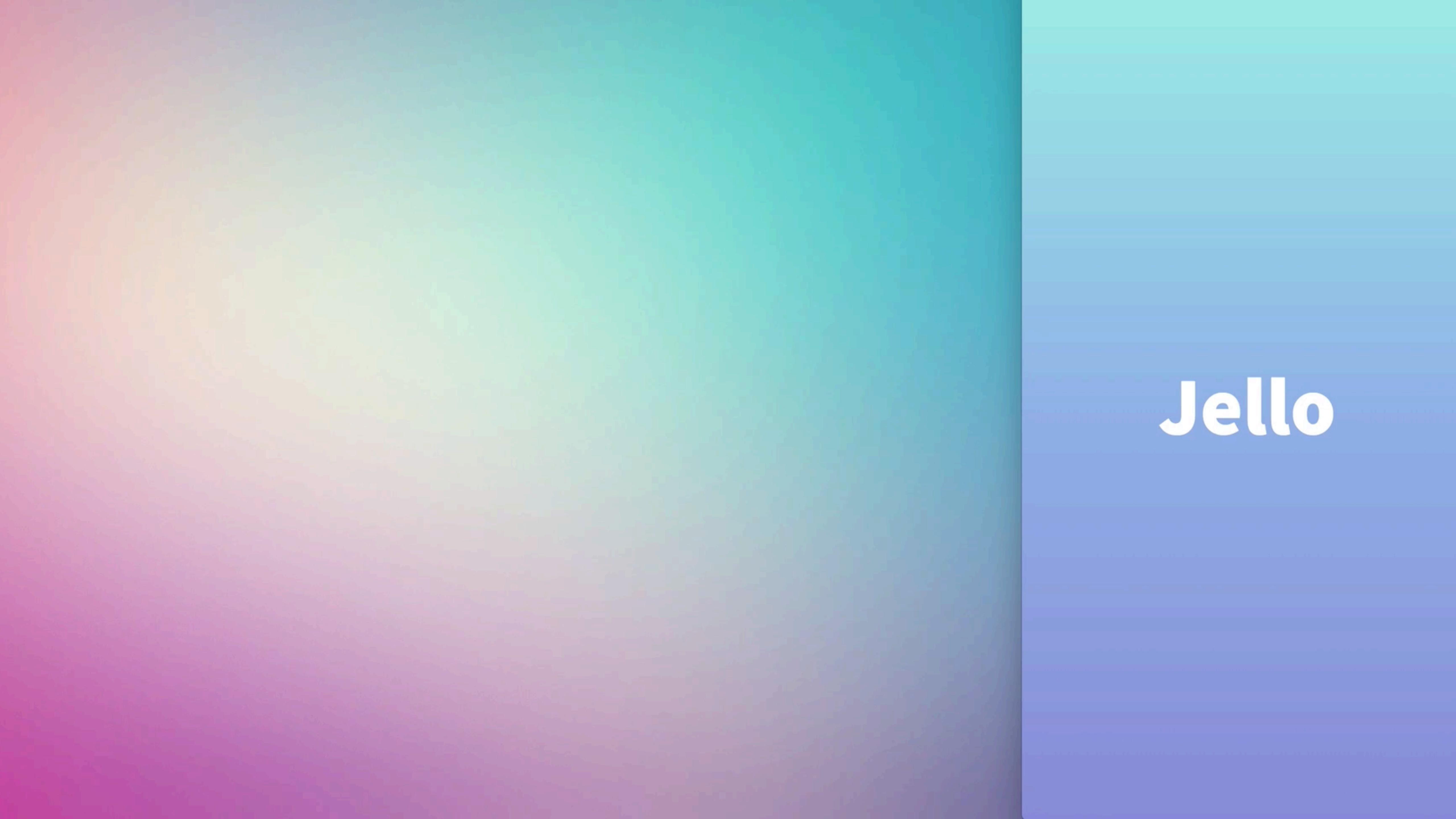
100  900

X thickness (currently 80):

5  500

Y thickness (currently 50):

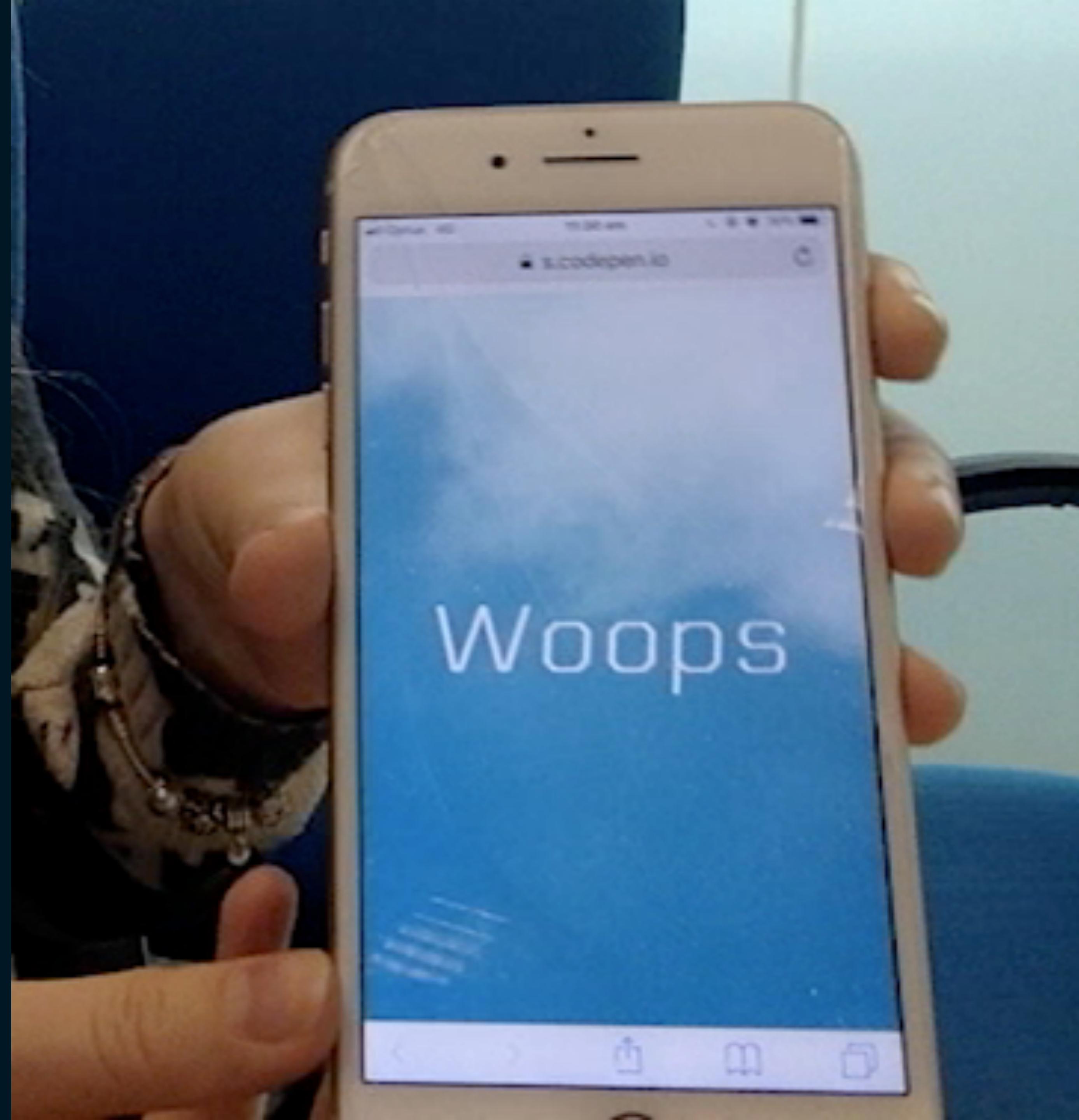
**When combined with user media queries,  
Variable fonts have the ability to allow type to  
adapt and respond to screens, environments, and  
our devices' technologies.**

The background of the image is a soft, out-of-focus photograph of a jello mold. The mold is shaped like a landscape and has a vibrant, multi-colored gradient from left to right, resembling a rainbow. The colors transition smoothly from a warm orange and yellow on the left, through red and purple, to a cool blue and green on the right.

Jello

scroll







[Home](#)[Moments](#)[Notifi](#)

Isabel Lea  
@isabellea95

[studioatypical.com](#)

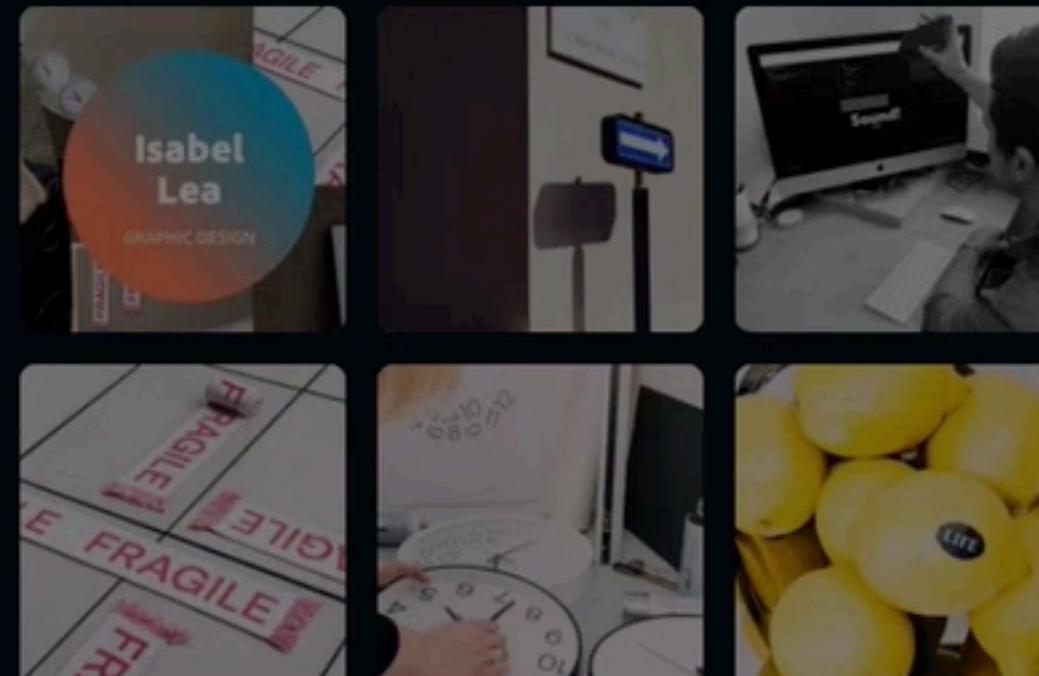
Joined October 2014

[Tweet to Isabel Lea](#)

[Followers you know](#)



[Photos and videos](#)



Isabel Lea  
@isabellea95

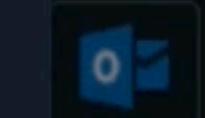
Following

Our #variablefont experiment loves a round of applause



Aaron Bernstein @Hungr...

[Follow](#)



[Find people you know](#)

Import your contacts from Outlook

Connect other address books

Trends for you · Change

#NBL19

#9TheBlock

1,034 Tweets

#PineGap

Jimin

2.59M Tweets

Alexa

35.6K Tweets

#TheProjectTV

#alltogethernowau

#ShakespeareSunday

1,868 Tweets

#SundayMotivation

21.6K Tweets

David Davis



## Tom Lokhorst

@tomlokhorst

Functional Programming enthusiast.  
Software Writer at [@Q42](#).

⌚ The Netherlands

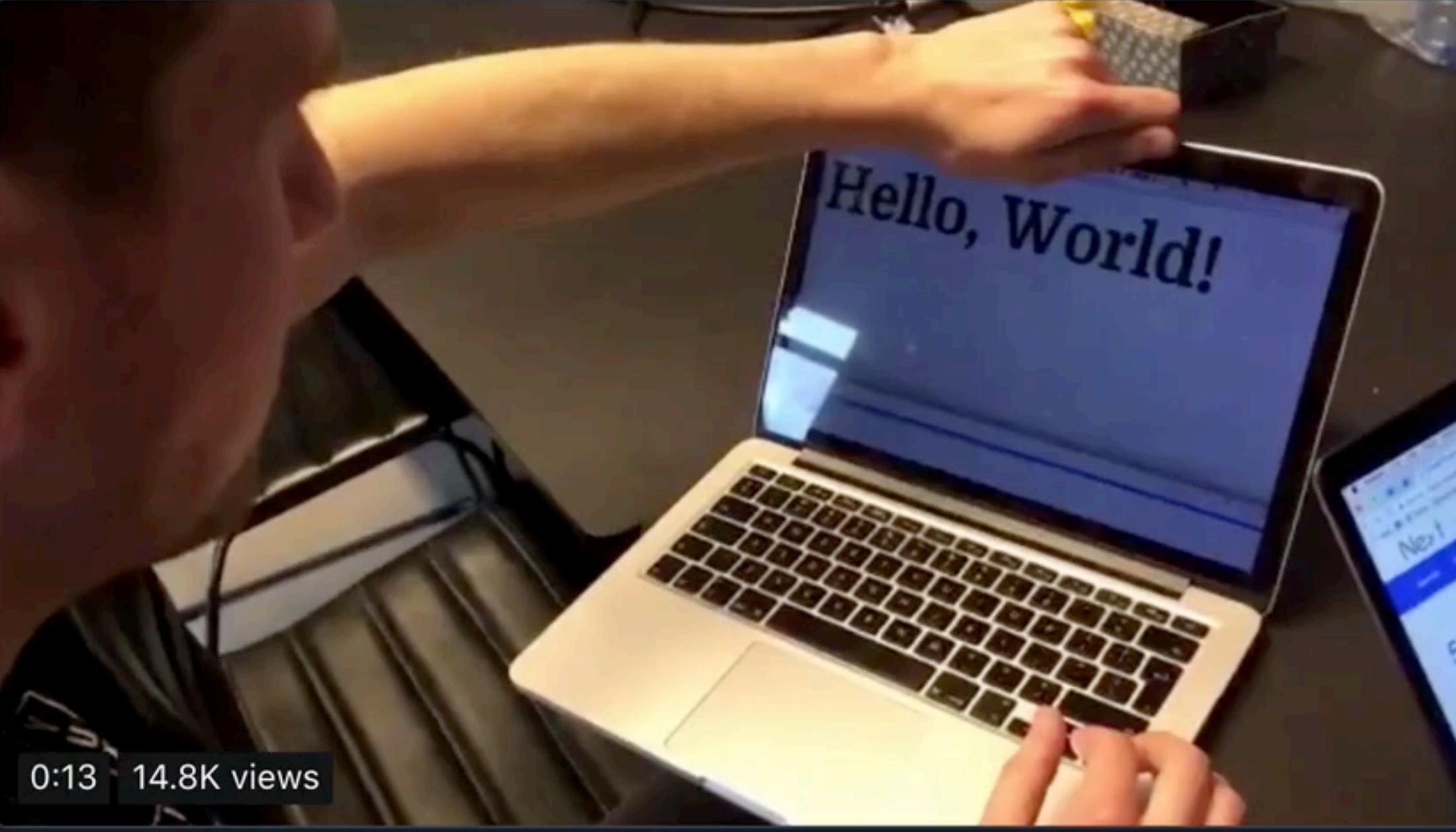
🔗 [tom.lokhorst.eu](http://tom.lokhorst.eu)

📅 Joined May 2008

 **Tom Lokhorst**  
@tomlokhorst

**Following**

Changing font grade (weight irrespective of width) based on ambient light. “Heavy” font in low-light. **#typography** [@q42](#)



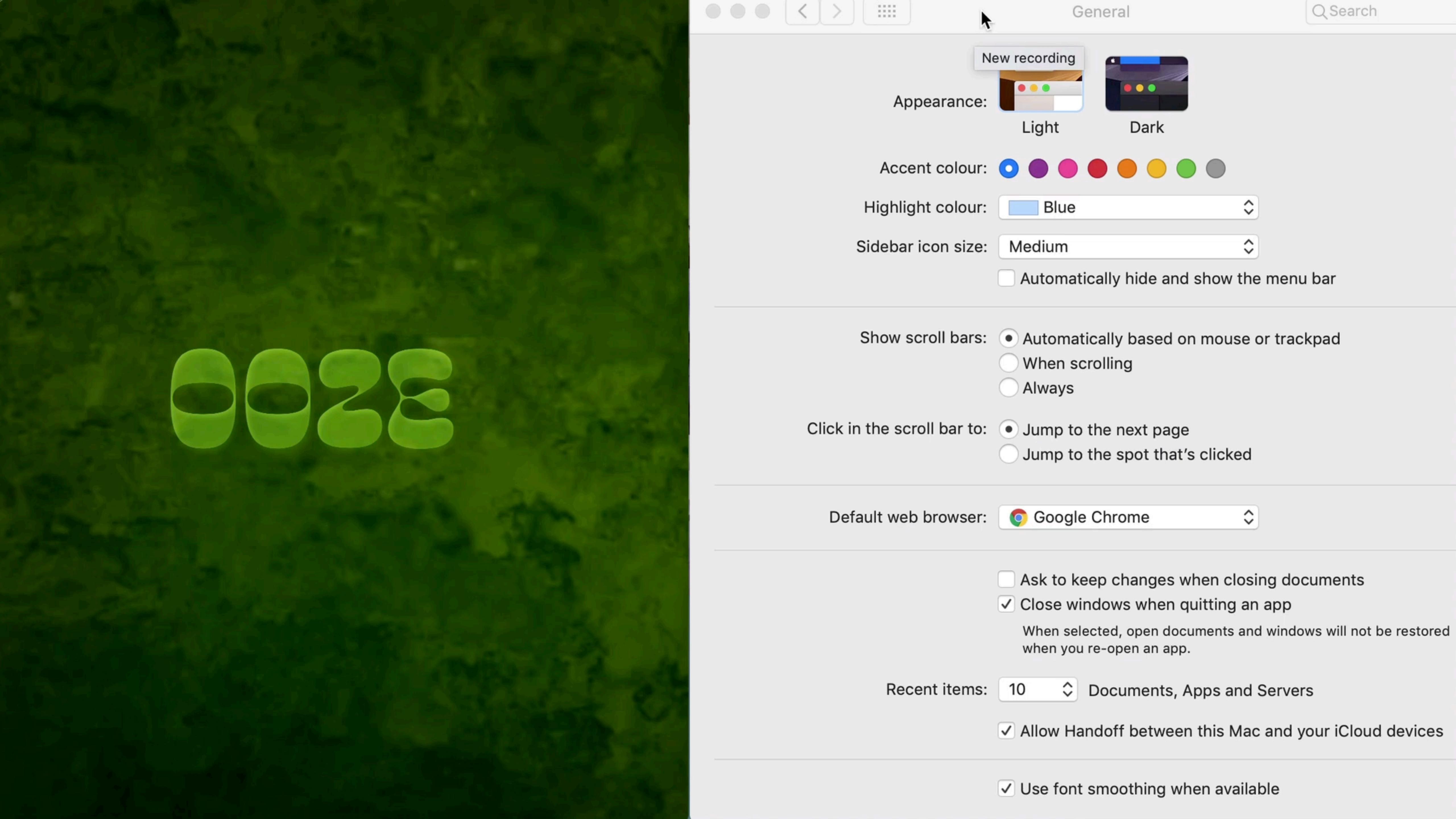
0:13 14.8K views

4:31 AM - 2 Mar 2017

227 Retweets 431 Likes

13 227 431

```
h1 {  
    font-variation-settings: "TEMP" 0;  
    transition: all 4s linear;  
}  
  
@media (prefers-color-scheme: dark) {  
    h1 {  
        font-variation-settings: "TEMP" 1000;  
    }  
}
```



**“We can improve the readability and accessibility of our content. This is a level of control that is *unprecedented*.”**

– Mandy Michaels

# Color Customization



```
@media (light-level: dim) {  
    /* Dark environment: provide a dark theme */  
}  
/* Bright environment: increase contrast levels of UI */
```

```
:root {  
  --text-color: #333;  
  --background-color: #eee;  
}  
  
body {  
  color: var(--text-color);  
  background-color: var(--background-color);  
}  
  
@media (light-level: dim) {  
  :root {  
    --text-color: #eee;  
    --background-color: #111;  
  }  
}  
  
@media (light-level: washed) {  
  :root {  
    --text-color: #000;  
    --background-color: #fff;  
  }  
}
```

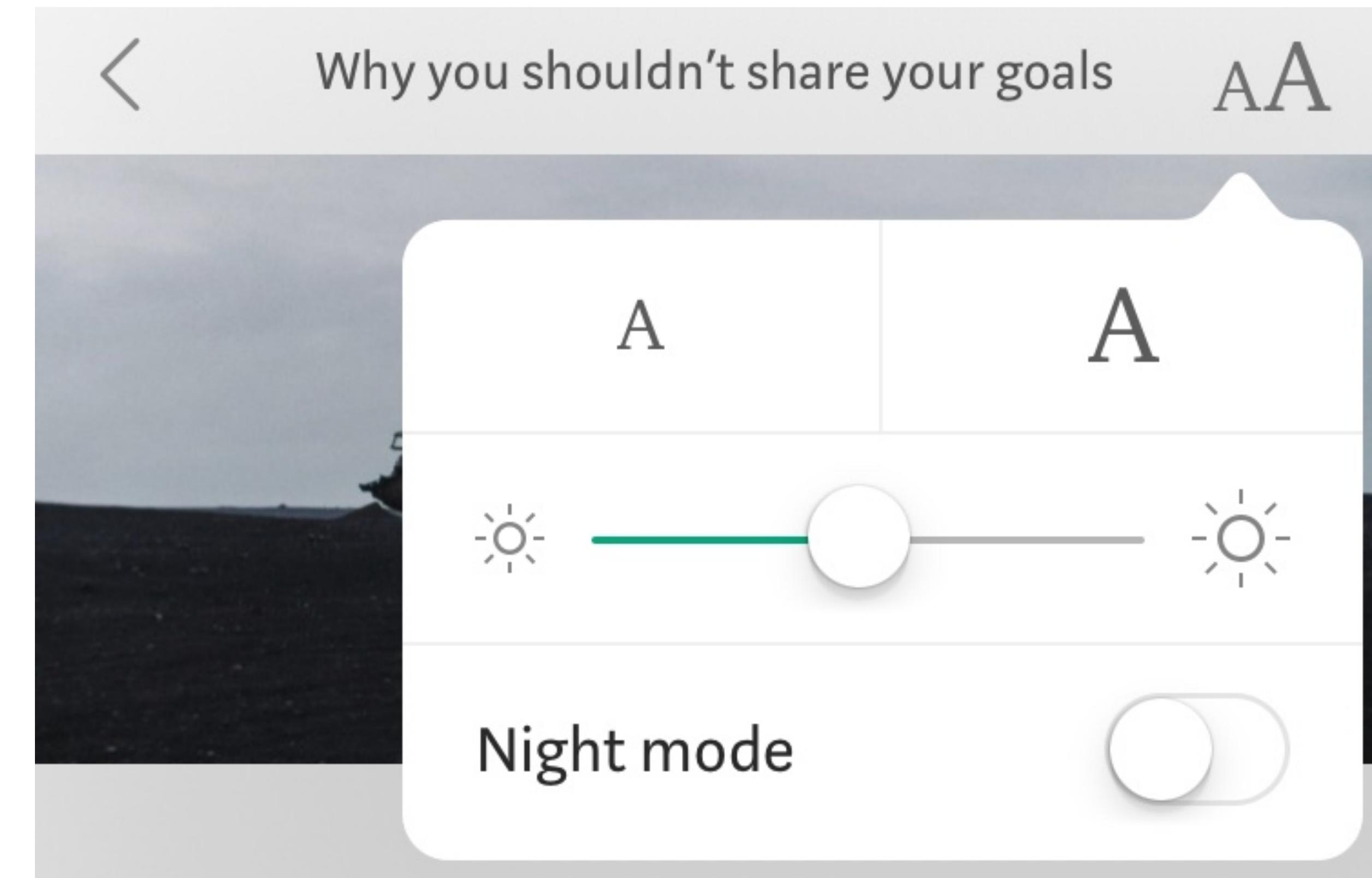
# Theme Switcher

“There is often more than one way to complete a task. You cannot assume what someone's preferred way might be. By providing alternatives for layout and task completion, you offer people choices that suit them and their circumstances at the time.”

<https://inclusivedesignprinciples.org/#offer-choice>

**One of the few types of alternative theme that adds real value to users is a low light intensity "night mode" theme. Not only is it easier on the eyes when reading in the dark, but it also reduces the likelihood of migraine and the irritation of other light sensitivity disorders.**

– Heydon Pickering



The mobile Medium app provides an option to switch to a night mode theme for reading in dark environments.

```
html {  
background-color: #fff;  
filter: invert(100%);  
}
```

```
* {  
background-color: inherit;  
}
```

```
img:not([src*=".svg"]) , video {  
filter: invert(100%);  
}
```

Web Directions

# Code 2018

**Melbourne**  
August 2 & 3 2018

**Australia's conference for JavaScript Developers and Front End Engineers.**



**Code '18**

[Speakers](#)

[Schedule](#)

[Venue](#)

[Pricing](#)

## Why Code?

The Front End technology stack constantly changes, along with best



*“Jank is a term that focuses on how a webpage is performing. But instead of being linked to the speed at which the page loads, jank is linked to how smoothly the page renders. [...]”*

***“Jank” is any stuttering or choppiness that a user experiences when there is motion on the screen—like during scrolling, transitions, or animations.***

*So although a website may look incredible and load quickly, if there’s jank—a noticeable choppiness when using the page—this will negatively affect the user experience—something we all want to avoid.”*

*—Shawn Maust ([Source](#))*



Rachel Andrew *wrote*

## Text Editing Tips And Tricks Roundup

2 comments

# Workflow 288

# Tools 182

# Techniques 220



The Smashing Editorial *wrote*

## Animating SVG Files With SVG.js

<https://www.smashingmagazine.com/2018/07/animating-svg-files-with-svgjs/>



The Smashing Editorial *wrote*

## Webfonts And Performance: SmashingConf Videos

Leave a comment

# Fonts 76

# Performance 78

# SmashingConf 11



Vitaly Friedman *wrote*

## New Treasures In Front-End And UX – Meet SmashingConf NYC

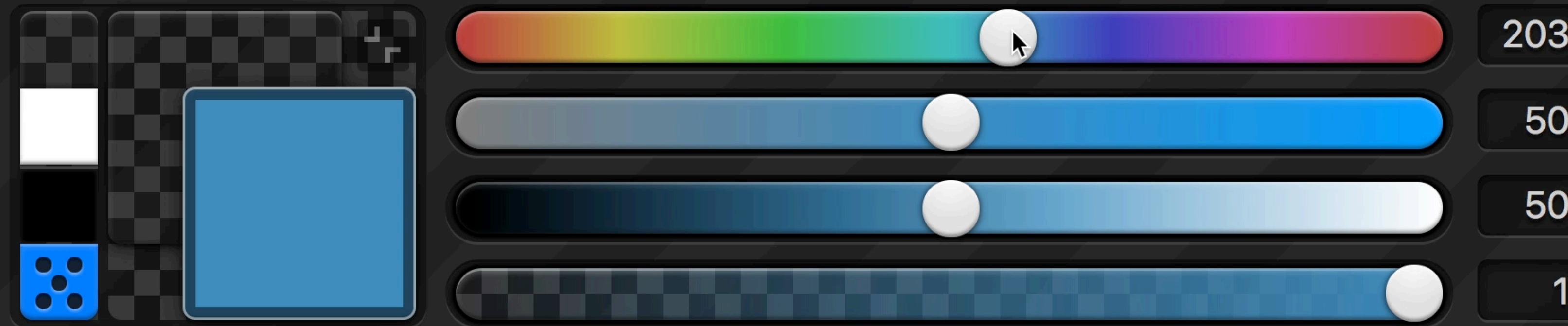
# Inverted Themes

- Invert colors is handy for reading pages in dark settings.
- Using CSS invert(), performance can take a serious hit and cause page jank on scroll.
- **Color inversion does not increase the contrast of the colors on the page.**

A MOST EXCELLENT

# HSL COLOR PICKER

CREATED FOR YOUR ENJOYMENT, BY BRANDON MATHIS



#408ebf

rgba(64, 142, 191, 1)

hsla(203, 50%, 50%, 1)

HSL Color Picker adores modern browsers. © 2012 Brandon Mathis | [What's HSL?](#) | [Source](#)

[hslpicker.com/#408ebf](http://hslpicker.com/#408ebf)

```
html {  
  --background-color: #fff;  
  --text-color: #000;  
  --small-text-color: #777;  
  
  --hue: 330; //pink  
  --accent: 203; //blue  
  --header-background-color: hsl(var(--hue), 61%, 50%);  
  --header-text-color: #fff;  
  --link-color: hsl(var(--accent), 83%, 56%);  
  --button-color: hsl(var(--accent), 96%, 57%);  
}
```

```
html[data-theme="dark"] {  
  --background-color: #222;  
  --text-color: #eee;  
  --small-text-color: #ccc;  
  
  --header-background-color: hsl(var(--hue), 61%, 35%);  
  --header-text-color: #fff;  
  --link-color: hsl(var(--accent), 83%, 78%);  
  --button-color: hsl(var(--accent), 96%, 38%);  
}
```

# More User Friendly UIs Offer Users Choice

[Web Content Accessibility Guidelines \(WCAG\) 2.0](#) covers a wide range of recommendations for making Web content more accessible. Following these guidelines will make content accessible to a wider range of people with disabilities, including blindness and low vision, deafness and hearing loss, learning disabilities, cognitive limitations, limited movement, speech disabilities, photosensitivity and combinations of these. Following these guidelines will also often make your Web content more usable to users in general.



This is an image caption. It should give more context to the photo.

Web Content Accessibility Guidelines (WCAG) 2.0 defines how to make Web content more accessible to people with disabilities. Accessibility involves a wide range of disabilities, including visual, auditory, physical, speech, cognitive, language, learning, and neurological disabilities. Although these guidelines cover a wide range of issues, they are not able to address the needs of people with all types, degrees, and combinations of disability. These guidelines also make Web content more usable by older individuals with changing abilities due to aging and often improve usability for users in general.

Call to Action

Follow us on Facebook

Follow us on Twitter

Light Dark

- SVG images embedded as CSS background images cannot be styled (or animated) from CSS.
- You can, however, work around that by using **CSS Filters** or **CSS Masks**.

- **The SVG shape (icon) becomes a mask.**
- The mask is used to **clip the element to the shape of the icon.**
- This will clip out any text, borders, outlines and content in the element, which is not desirable.
- Create a `::before` pseudo-element on the element and **apply the mask to the pseudo element.**
- Position the pseudo-element any way you want within the element.
- **The background color of the pseudo-element determines what the color of the icon will be.** You can use gradients.
- This technique works only for monochrome icons.

 HTML

```
1 <ul>
2   <li class="facebook">Follow us on Facebook</li>
3   <li class="twitter">Follow us on Twitter</li>
4 </ul>
5
```

 CSS (SCSS)

```
21
22 .twitter {
23   background-image: url('https://s3-us-west-
24   2.amazonaws.com/s.cdpn.io/9674/twitter.svg');
25   background-position: left center;
26   background-repeat: no-repeat;
27   background-size: auto 85%;
28   // background-color: deepPink;
29
30   outline: 5px solid deeppink;
31 }
32 .facebook {
33   background-image: url('https://s3-us-west-
34   2.amazonaws.com/s.cdpn.io/9674/facebook.svg');
35   background-position: left center;
```

 JS

```
1 var radios = document.getElementsByName('theme');
```

 Follow us on Facebook

 Follow us on Twitter

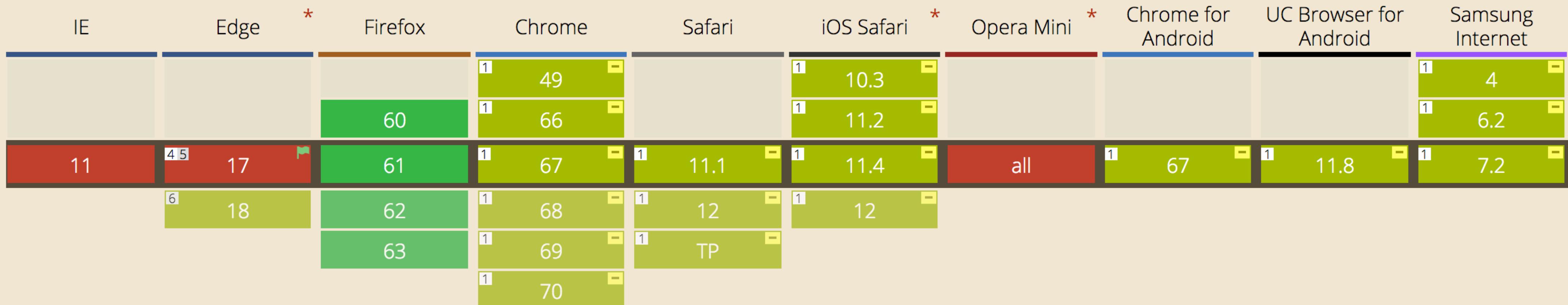
## # CSS Masks - CR

Method of displaying part of an element, using a selected image as a mask

Usage  
Global  
4.07% + 85.29% = 89.36%

unprefixed:  
4.07% + 1.13% = 5.2%

[Current aligned](#) [Usage relative](#) [Date relative](#) [Show all](#)



[Notes](#) [Sub-features \(1\)](#) [Known issues \(0\)](#) [Resources \(8\)](#) [Feedback](#)

MS Edge status: [In Development](#)

<sup>1</sup> Partial support in WebKit/Blink browsers refers to supporting the mask-image and mask-box-image properties, but lacking support for other parts of the spec.

<sup>4</sup> Can be enabled in MS edge behind the "Enable CSS Masking" flag.

<sup>5</sup> Partial support refers to supporting mask-image and mask-size

<sup>6</sup> Partial support refers to supporting mask-image, mask-size, mask-position, and the mask shorthand

Home

Find a setting

Ease of Access

Vision

Display

Cursor &amp; pointer size

Magnifier

Color filters

High contrast

Narrator

Hearing

Audio

Closed captions

Interaction



Type here to search

## High contrast

Press left Alt + left Shift + Print Screen to turn high contrast on and off.

Make Windows better

Give us feedback

Choose a theme

High Contrast Black

Select a colored rectangle to customize high contrast colors



# Preparing the product for foreign environments: Making the UI high contrast friendly



[←](#) Settings

- □ ×

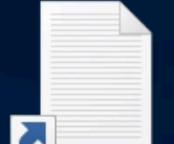
## Windows Settings



Find a setting

 **System**  
Display, sound, notifications, power **Devices**  
Bluetooth, printers, mouse **Phone**  
Link your Android, iPhone **Network & Internet**  
Wi-Fi, airplane mode, VPN **Personalization**  
Background, lock screen, colors **Apps**  
Uninstall, defaults, optional features **Accounts**  
Your accounts, email, sync, work, family **Time & Language**  
Speech, region, date **Gaming**  
Game bar, DVR, broadcasting, Game Mode **Ease of Access**  
Narrator, magnifier, high contrast **Cortana**  
Cortana language, permissions, notifications **Privacy**  
Location, camera **Update & Security**  
Windows Update, recovery, backupEnterprise Evaluation  
valid for 86 days  
base.180410-1804

Recycle Bin



eula

Parallels  
Share...

Type here to search



1:26 PM

7/25/2018



**Shaun Finglas**

@ShaunFinglas

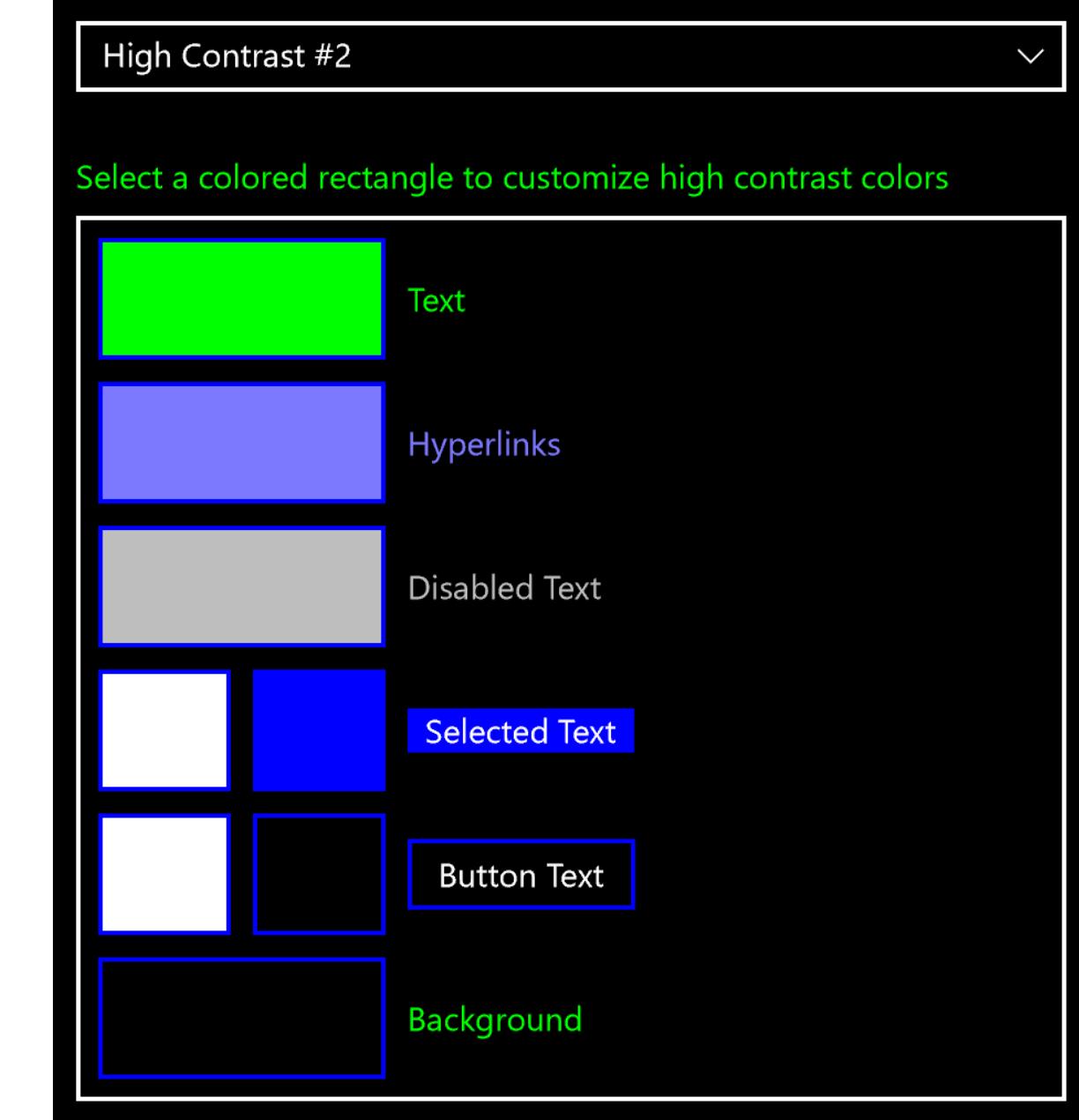
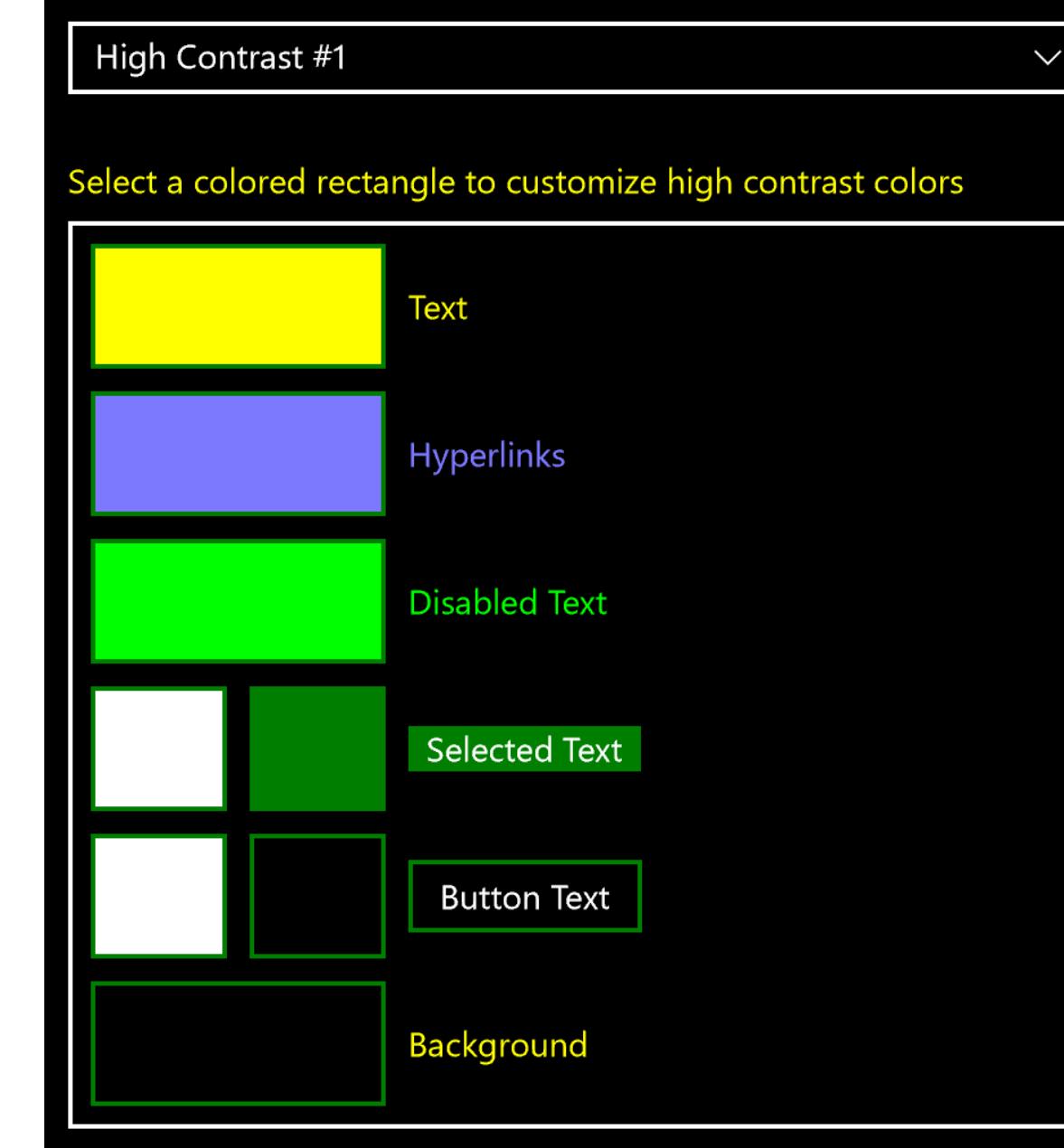
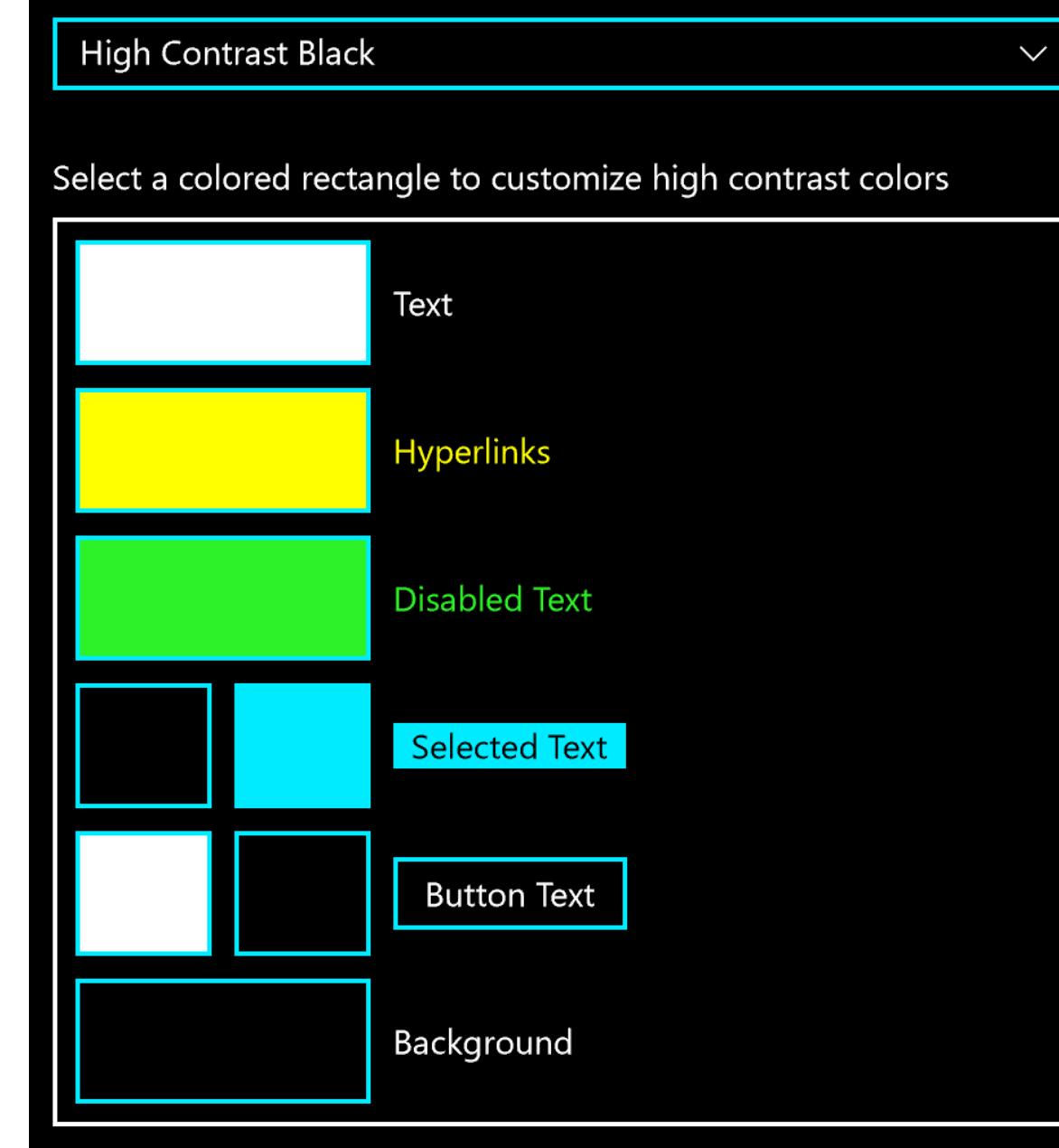
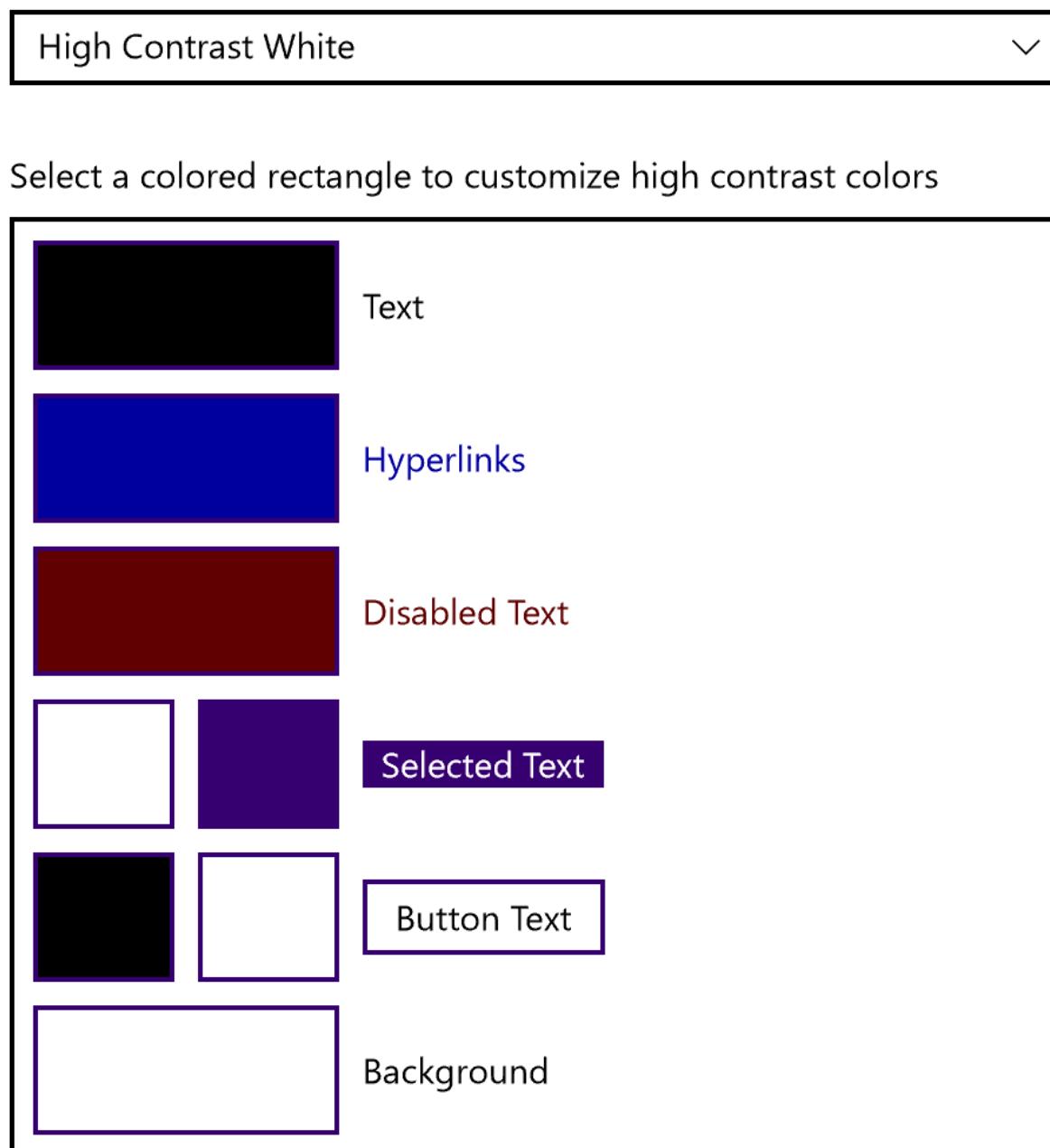
Follow

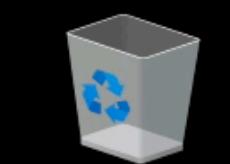


Protip - max brightness and high contrast mode enabled allows you to use your laptop in the garden. Looks ugly but functional.

4:03 PM - 28 May 2017







Recycle Bin



eula

Parallels  
Share...

← Settings

Home

Find a setting

Ease of Access

Vision

Display

Cursor & pointer size

Magnifier

Color filters

High contrast

Narrator

Hearing

Audio

# High contrast

Use high contrast

Turn on high contrast

On

Press left Alt + left Shift + Print Screen to turn high contrast on and off.

Choose a theme

High Contrast Black

Select a colored rectangle to customize high contrast colors

	Text
	Hyperlinks
	Disabled Text
	Selected Text

Theme settings

Have a question?

Get help

Make Windows better

Give us feedback

```
@media screen and (-ms-high-contrast: white-on-black) {  
    /* Style tweaks for the High Contrast Black theme */  
}  
  
/*  
    This section contains the most significant styling changes.  
    It includes:  
        - Redefining the primary colors (red, green, blue, yellow, black, white)  
        - Adjusting font sizes and weights  
        - Modifying line heights and margins  
        - Implementing a grid system for layout  
        - Defining a set of utility classes for common UI elements  
    These changes are designed to provide a clean, modern look while maintaining readability.  
*/
```

```
@media screen and (-ms-high-contrast: black-on-white) {  
    /* Style tweaks for the High Contrast White theme */  
}  
  
/*  
    This section contains the most significant styling changes.  
    It includes:  
        - Redefining the primary colors (red, green, blue, yellow, black, white)  
        - Adjusting font sizes and weights  
        - Modifying line heights and margins  
        - Implementing a grid system for layout  
        - Defining a set of utility classes for common UI elements  
    These changes are designed to provide a clean, modern look while maintaining readability.  
*/
```

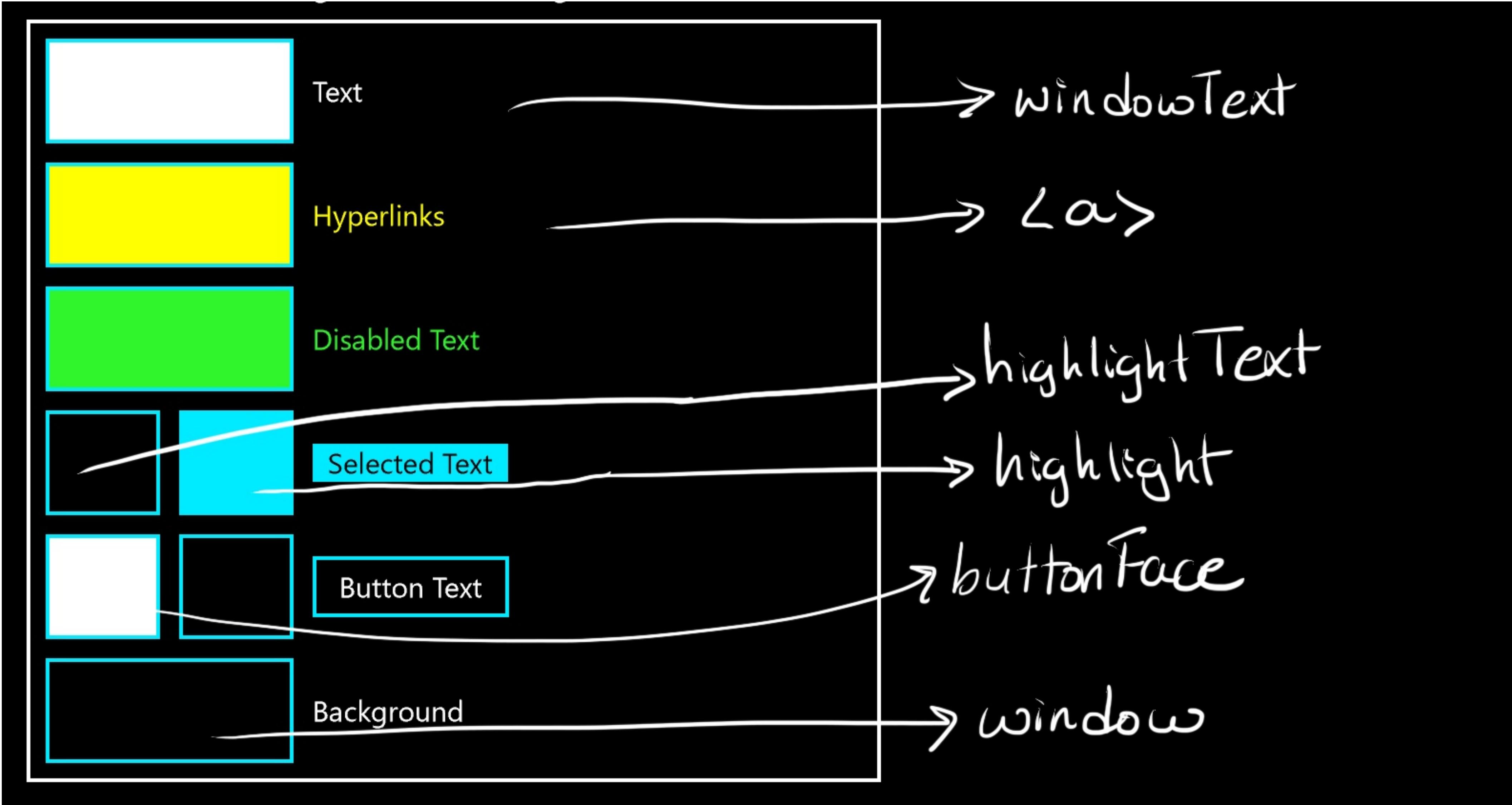
```
@media screen and (-ms-high-contrast: active) {  
    /* Style tweaks High Contrast Mode, Any Theme */  
}  
  
/*  
    This section contains the most significant styling changes.  
    It includes:  
        - Redefining the primary colors (red, green, blue, yellow, black, white)  
        - Adjusting font sizes and weights  
        - Modifying line heights and margins  
        - Implementing a grid system for layout  
        - Defining a set of utility classes for common UI elements  
    These changes are designed to provide a clean, modern look while maintaining readability.  
*/
```

All authors can really do here is to **ensure that their styles will “work well” in a high-contrast setting...**

– Patrick H. Lauke ([Source](#))

To make this easier we ***mapped the Windows High Contrast colors to CSS system color keywords*** so you can utilize the specified colors without needing to know them.

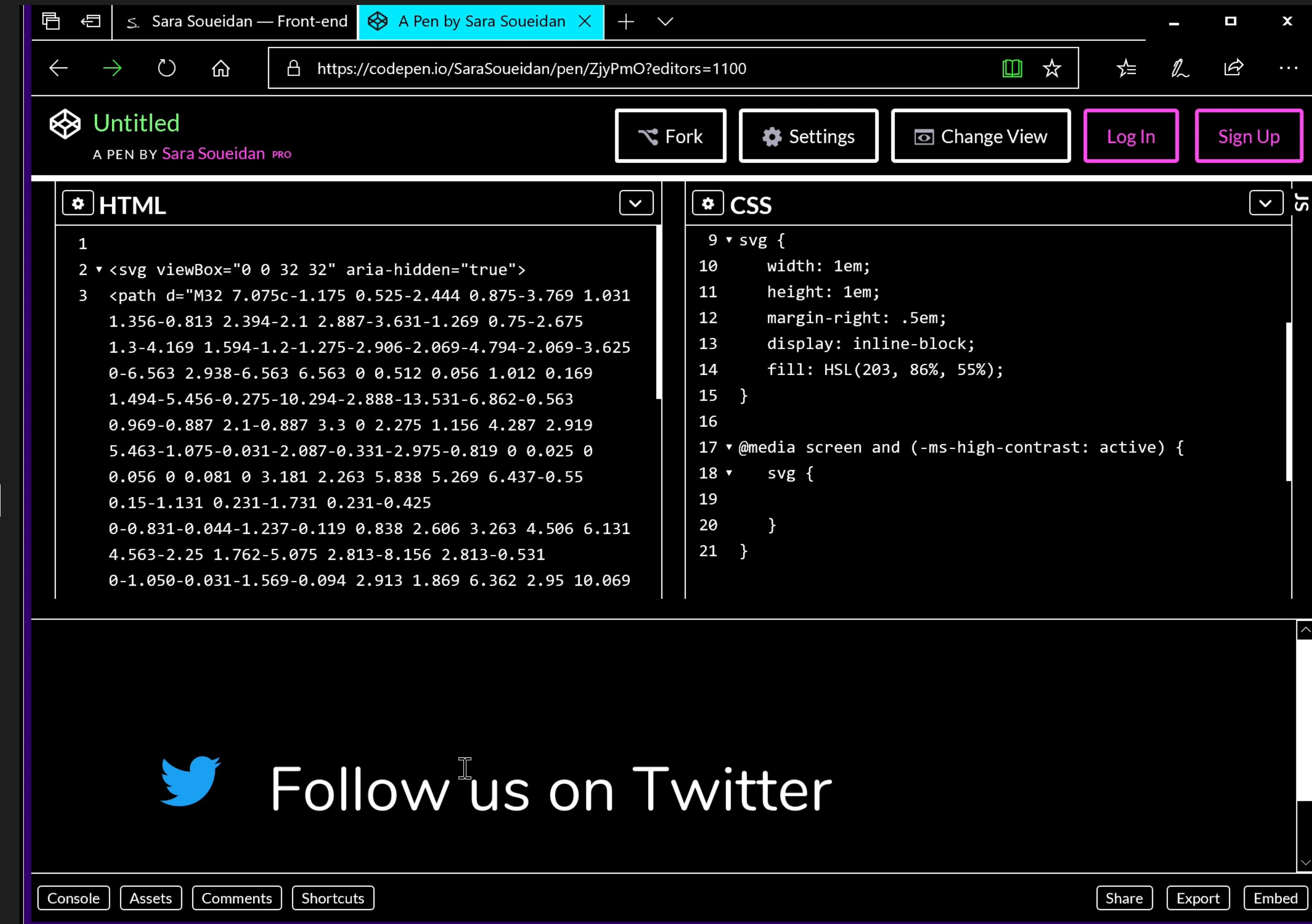
- *Text is mapped to windowText*
- *Hyperlinks is mapped to N/A, we apply the color to <a>*
- *Selected Text is mapped to highlightText & highlight*
- *Button Text is mapped to buttonFace*
- *Background is mapped to window*



#1

Don't use CSS background images to deliver content or convey important information.

**For icons, use inline SVG and style the SVG using system color keywords.**



The screenshot shows a CodePen interface with the title "Untitled" and author "A PEN BY Sara Soueidan PRO". The top navigation bar includes "Fork", "Settings", "Change View", "Log In", and "Sign Up" buttons. The main area is split into two panes: "HTML" on the left and "CSS" on the right. The HTML pane contains a single line of code:1<svg viewBox="0 0 32 32" aria-hidden="true">The CSS pane contains the following styles:9▼ svg {  
10 width: 1em;  
11 height: 1em;  
12 margin-right: .5em;  
13 display: inline-block;  
14 fill: HSL(203, 86%, 55%);  
15 }  
16  
17▼ @media screen and (-ms-high-contrast: active) {  
18▼ svg {  
19  
20 }  
21 }

At the bottom, there is a Twitter icon followed by the text "Follow us on Twitter". Navigation buttons include "Console", "Assets", "Comments", "Shortcuts", "Share", "Export", and "Embed".

Ensure images with transparency have enough contrast. If you can't do that, provide an opaque version (w/background color) of the images instead if you can.

A screenshot of a web browser window displaying a dark-themed website. The address bar shows the URL <https://www.sarasoueidan.com/>. The page content includes text about hiring for front-end development workshops and a link to learn more. A signature "Sara Soueidan" is displayed in a white box, with the name "Sara Soueidan" repeated below it. The footer features a "TRUSTED BY" section with logos for Netflix, Schiphol Amsterdam Airport, Smashing Magazine, Provata, COBI, and Telus.

you know you can also hire me to run a front-end development workshop at your company or event? You can learn more about that [here](#).

Cheers,

Sara Soueidan

TRUSTED BY

**NETFLIX**

**Schiphol**  
Amsterdam Airport

**SMASHING**  
MAGAZINE

**P|PROVATA**

**COBI**

**TELUS**



```
@media screen and (-ms-high-contrast: active) {  
    .logo svg {  
        fill: currentColor;  
    }  
}
```

Custom Checkbox  
using a PNG image  
with a black checkmark.

EDIT ON [CODEPEN](#)

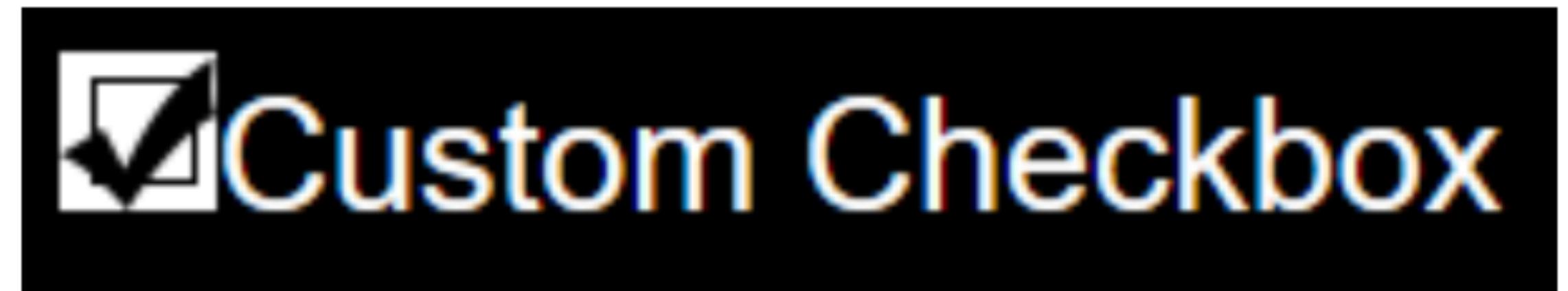
HTML CSS Result

Custom Checkbox

The custom checkbox as viewed in WHCM.  
The black checkmark and checkbox border  
disappear.



Solution: start with a high contrast PNG that  
has a background.





Create demo



write article



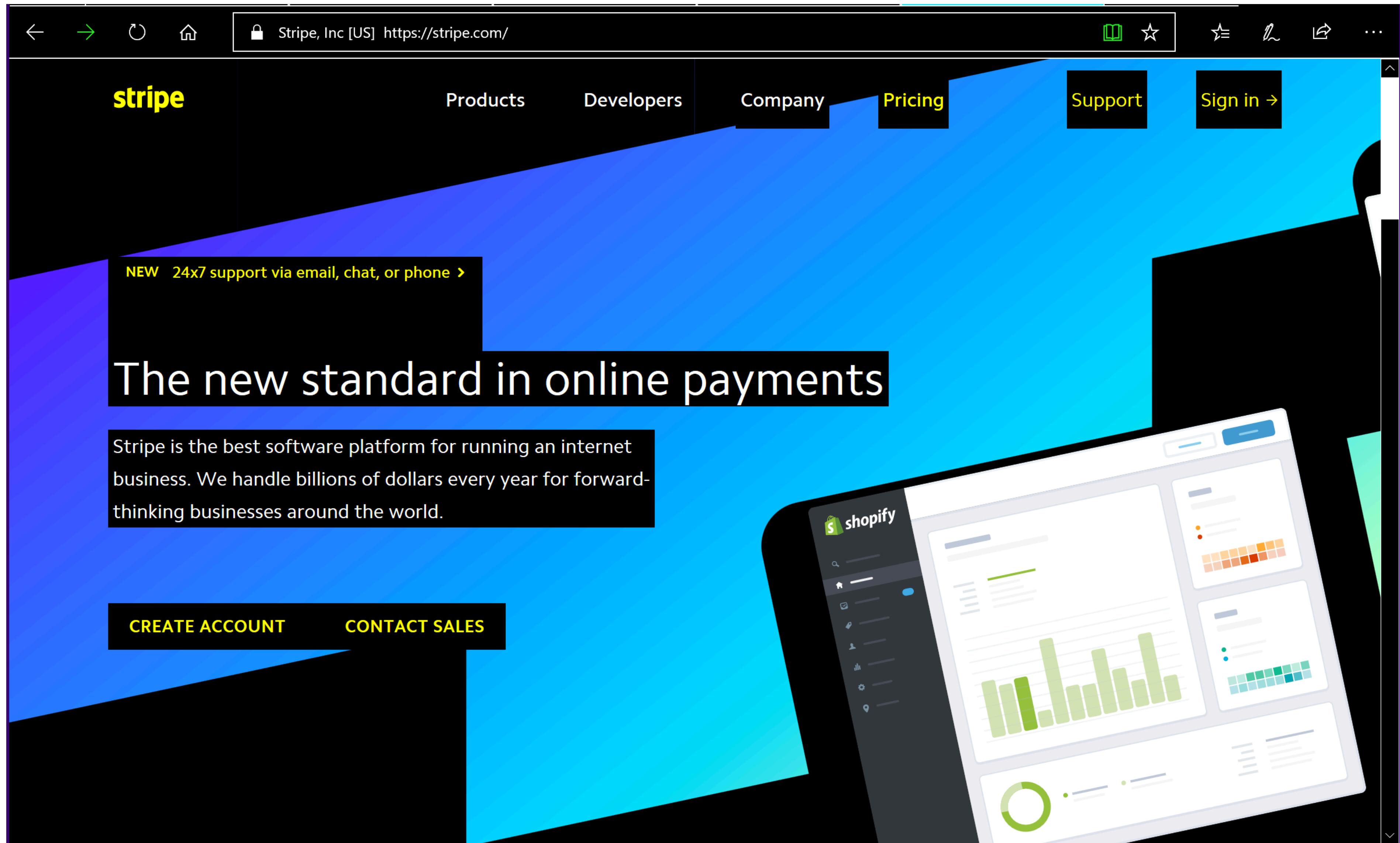
Exercise

[...] **Microsoft Edge will no longer remove background images, and instead will render an opaque layer behind text** to improve legibility while maintaining the site design.

[...]

**Users can disable the “Render backgrounds in high contrast” feature under about:flags to get the previous behavior.**

– *Building a More Accessible Web Platform, Windows Blog*



[stripe.com](https://stripe.com) in WHCM.

**NEW** 24x7 support via email, chat, or phone >

# The new standard in online payments

Stripe is the best software platform for running an internet business. We handle billions of dollars every year for forward-thinking businesses around the world.

[CREATE ACCOUNT](#)

[CONTACT SALES](#)



[stripe.com](https://stripe.com) in normal state.

[Home](#)[About](#)[Services](#)[Case Studies](#)[Contact](#)

# Front-end Architecture and Performance Engineering

## Consultancy

I provide CSS and performance consultancy to companies of all sizes across the globe. From

## Development

I work on products and long-running projects, focusing on scalability, maintainability,

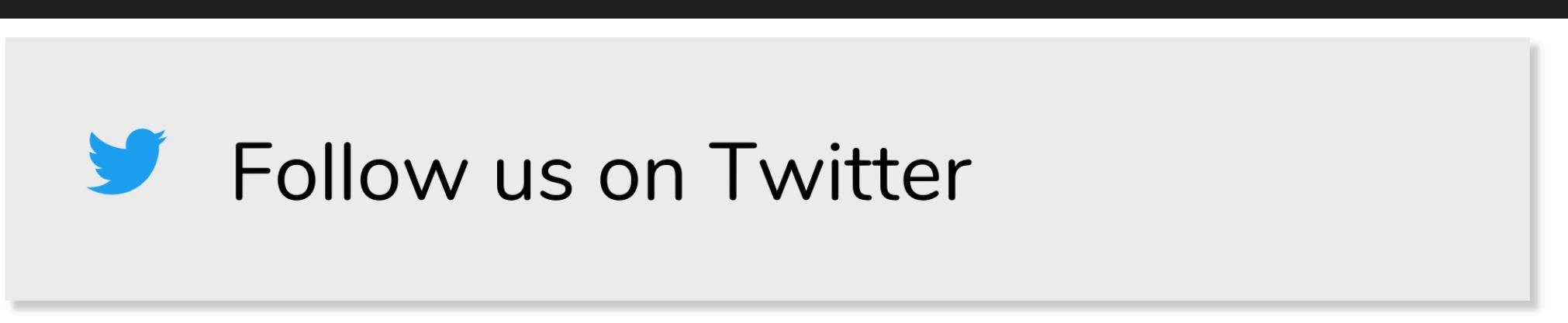
## Workshops

I run workshops and training sessions for existing teams, getting them up to scratch and prepared for

#2

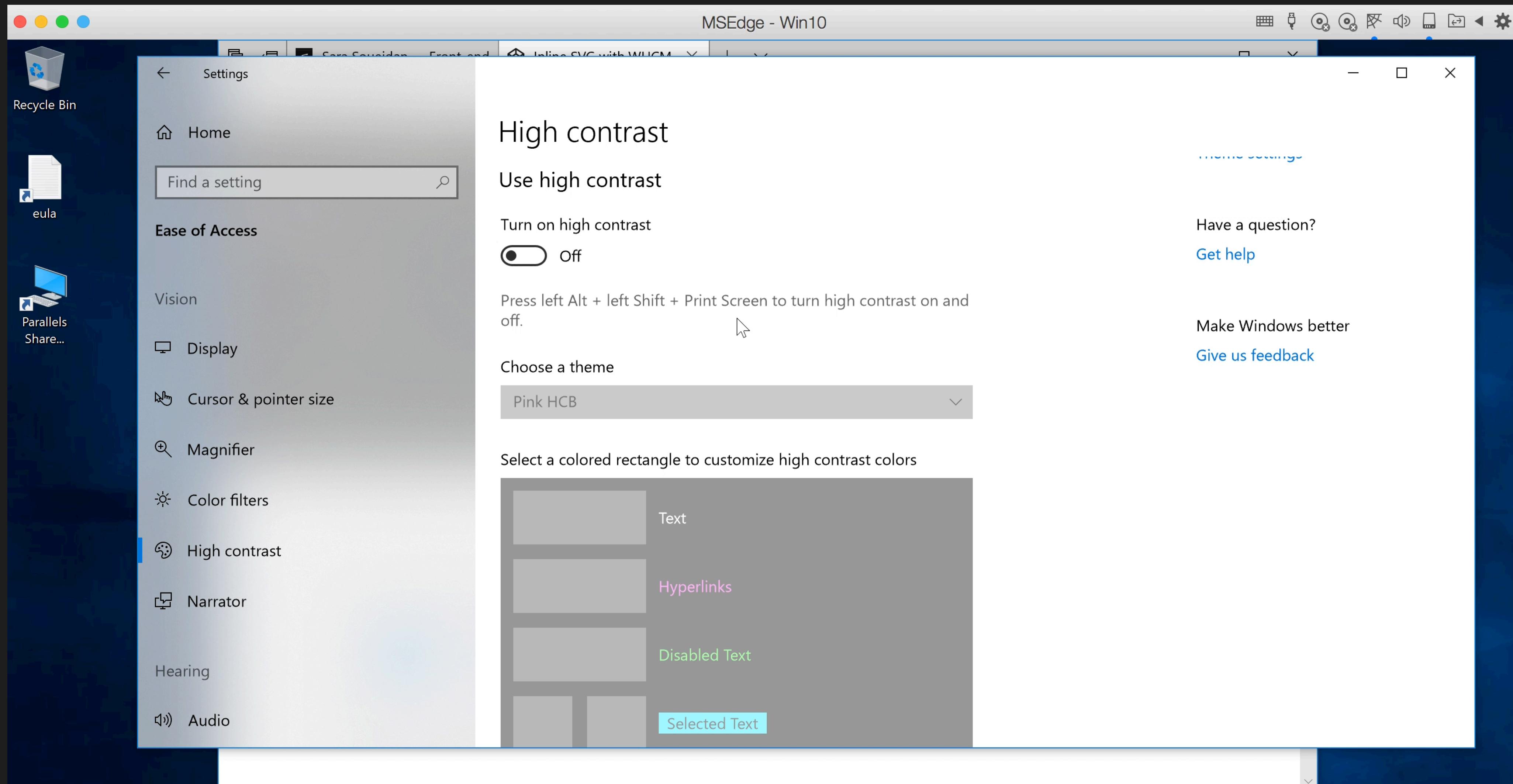
Replace shadows with borders or add outlines. Use system color keywords for these outlines, or make them transparent and let the OS style them.

```
.element {  
    /* this box shadow will be removed in HCM */  
    box-shadow: 5px 5px 5px rgba(0,0,0,0.2);  
  
    /* either add this transparent outline  
       to create "borders" for the element in HCM automatically... */  
    outline: 5px solid transparent;  
}  
  
/* ...OR add a border of a different color  
(using system keywords)  
for e.g. in the high contrast media query */  
  
@media screen and (-ms-high-contrast: active) {  
    .element {  
        border: 5px solid transparent;  
    }  
}
```



#3

If your elements have a background color that is removed in WHCM, apply a border to the element instead. You can apply a transparent border to the element at all times – the browser will highlight it automatically in HCM.



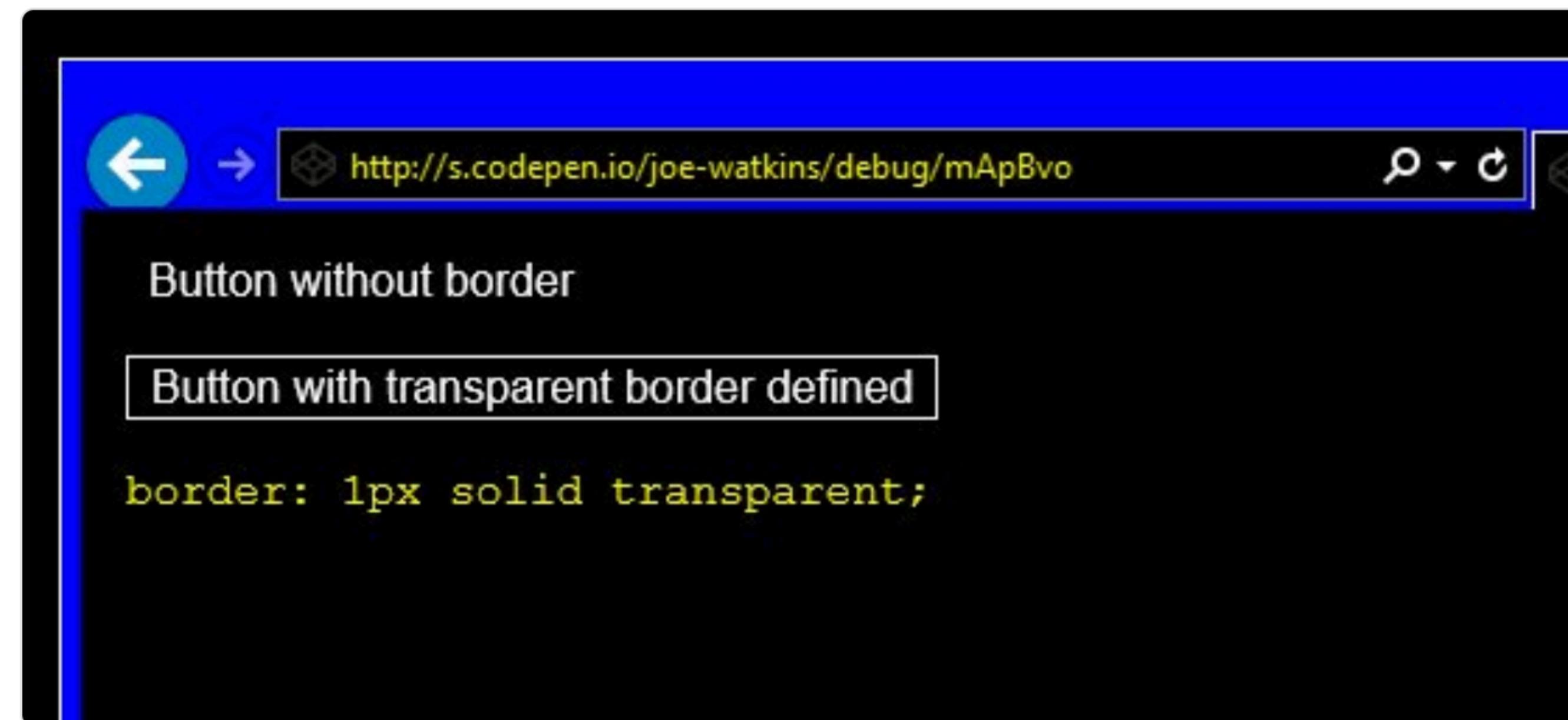


**Joe Watkins**  
 @\_josephwatkins

Follow



Adding a transparent border to buttons that have no borders can help make the buttons more obvious in High Contrast Mode #a11y #webdev



9:04 PM - 5 Oct 2016

17 Retweets 40 Likes



17

40



**#4**

**Do not use colors only to convey information or deliver content.**



## 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

[Find closest color](#)

### GRAY PALETTE

#2c3643  
\$darkgray

#3b444f  
\$titlegray

#67747c  
\$bodygray

#99a9b3  
\$lightgray

#dbe6ec  
\$subduedgray

### PRIMARY PALETTE

#142b44  
\$darkblue

#1d508d  
\$navblue

#297CBB  
\$lpblue

#288ad6  
\$linkblue

#0FDEBD  
\$teal

#16c98d  
\$green

#feef6d  
\$yella

#ffc83f  
\$orange

#fa5e5b  
\$red

#bf538d  
\$plum

### SECONDARY PALETTE

#4a3a6a

#e63373

#1a9999

#4a7ebb

#72c679



## Design Eleme...

### 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`

## 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

Semantic HTML for Colors by  Sara

Secure | https://codepen.io/tigt/post/semantic-html-for-colors

YOUR EXPLORE  
Dashboard Pens Projects Posts Collections Spark Jobs Challenges Blog Create ▾

 Taylor Hunt Follow | Taylor Hunt's Posts JUL 13, 2018

# Semantic HTML for Colors

One thing that design systems, style guides, and, *uh I guess the content of your website if you sell paint* all do at some point is display the colors available in a palette.

Usually with `<div style="background-color: ...>`, but I think we can do better than that. My vote goes to:

```
HTML
<label>My favorite shade of raspberry:
  <input type="color" disabled value="#bf1942"/>
</label>
```

It's a color. Semantically.

```
<label>My favorite shade of raspberry:  
    <input type="color" disabled value="#bf1942"/>  
</label>
```

## **It's a color. Semantically.**

- You can give it a name with `<label>`.
- Its value is accessibly exposed by assistive technology.
- It will show up as the correct hue no matter the accessibility settings, like High-Contrast Mode. Color inversion mode should also have some special dispensation for it.
- User stylesheets leave it be.
- With `appearance` and some goofy `::-webkit` pseudo-elements, you can style it just fine.

**(I'd prefer `readonly` to `disabled` – which even seems to work in most browsers – but sadly the spec only allows the `readonly` attribute on other types of `<input>`.)**

# Color input type  - LS

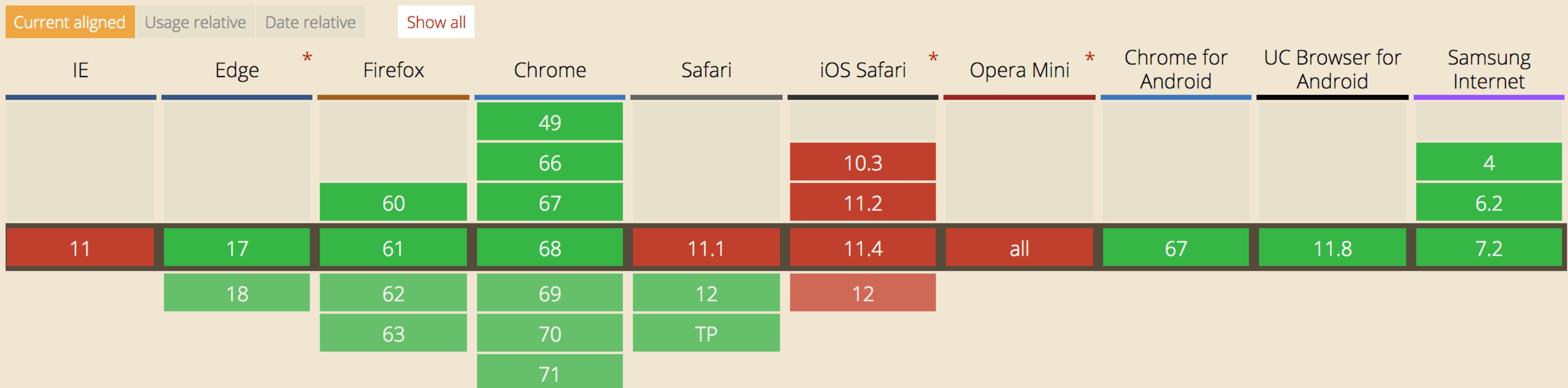
Usage

Global

% of all users

78.64%

Form field allowing the user to select a color.



Notes

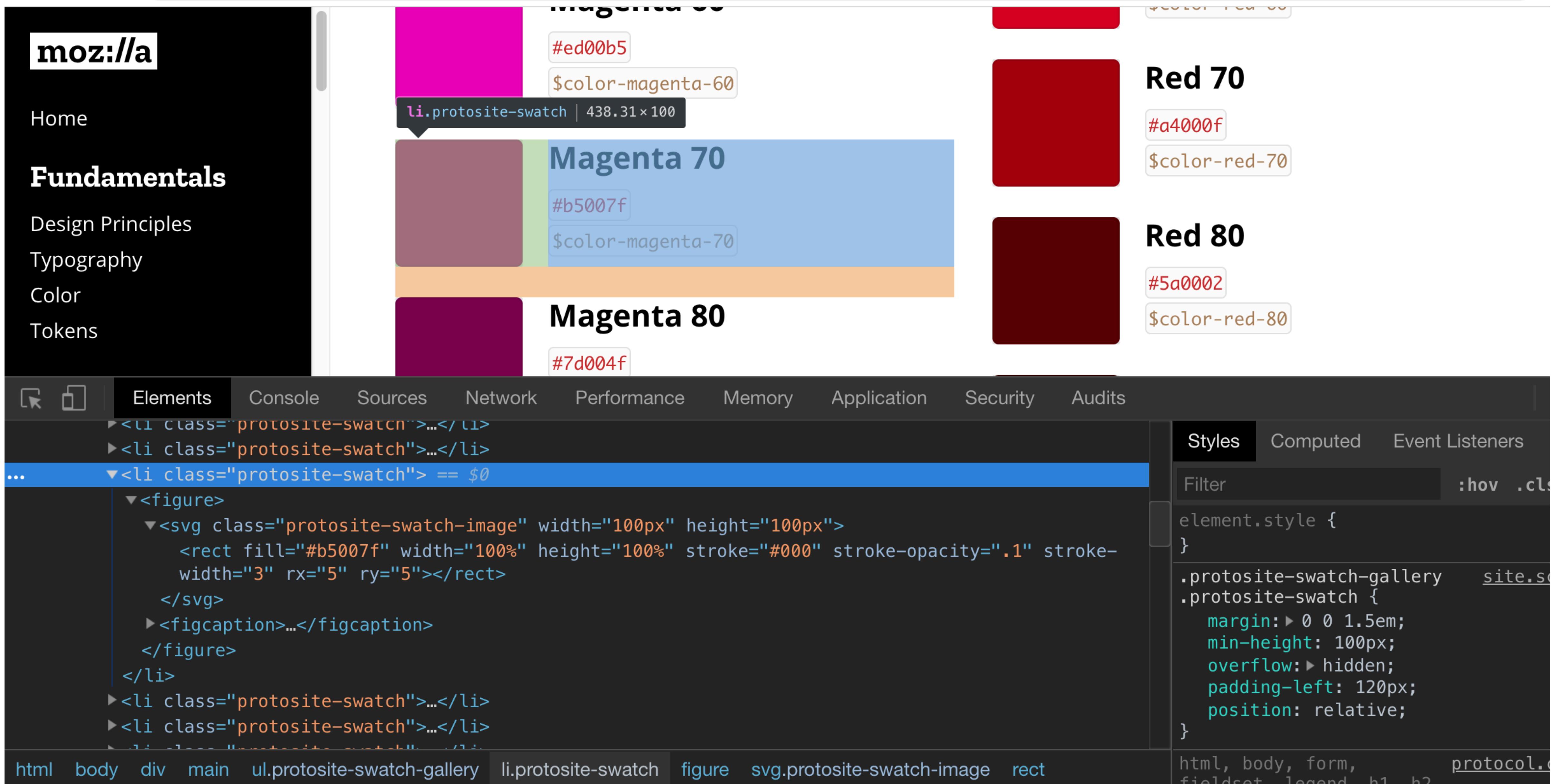
Known issues (0)

Resources (7)

Feedback

No notes

```
<figure>  
  <figcaption>My favorite shade of raspberry:</figcaption>  
  <svg width="3em" height="3em" aria-label="#bf1942">  
    <rect fill="#bf1942"  
          width="100%" height="100%"/>  
  </svg>  
</figure>
```





# Don't Break Keyboard Accessibility

**A visible focus is a requirement for a site to  
be considered accessible under the Web  
Content Accessibility Guidelines (WCAG).**

**Avoid overriding default browser focus styles,  
unless you are providing a better focus indicator  
than the one provided by the browsers.**

**Chrome**

I'm a Button

**Firefox**

I'm a Button

**MS Edge**

I'm a Button

**The focus indicator would only be applied  
when the element receives keyboard  
focus, not mouse/pointer focus.**

```
/* applies focus to links regardless of where they  
received focus from */  
  
a:focus {  
    outline: 2px solid hsl(248, 82%, 60%);  
}
```

```
/* applies focus to links only when focused via  
keyboard */  
  
a:focus-visible {  
    outline: 2px solid hsl(248, 82%, 60%);  
}
```

GitHub - WICG/focus-visible:  Sara

← → ⌛ GitHub, Inc. [US] | https://github.com/WICG/focus-visible

Features Business Explore Marketplace Pricing Search Sign in or Sign up

WICG / focus-visible Watch 21 Star 417 Fork 48

Code Issues 14 Pull requests 5 Projects 0 Insights

Join GitHub today  
GitHub is home to over 28 million developers working together to host and review code, manage projects, and build software together.

Dismiss Sign up

Polyfill for `:focus-visible` [https://wicg.github.io/focus-visible/...](https://wicg.github.io/focus-visible/)

224 commits 18 branches 15 releases 21 contributors

Branch: master New pull request Find file Clone or download

plinehan and robododson Use `isContentEditable` Latest commit 1d9cf2d 21 days ago

.vscode Add tab switching fix. Fixes #115 (#117) 6 months ago

demo Move demo.css to standalone file and clean up unused var. (#144) 2 months ago

src Use `isContentEditable` 21 days ago

```
button:focus { /* some exciting button focus styles
*/ }

button:focus:not(:focus-visible) {
    /* undo all the above focused button styles
       if the button has focus but the browser wouldn't
normally
    show default focus styles */
}

button:focus-visible {
    /* some even *more* exciting button focus styles */
}
```

*If you care about backwards compatibility (and you should, **until you can absolutely guarantee without any doubt that all your users***

**will have a browser that supports :focus-visible**), you will always

have to either polyfill or use the combination of :focus and :not(:focus-visible) (plus optional even stronger :focus-visible).

# Thank you.

<https://sarasoueidan.com>

@SaraSoueidan