



You can't spell **Accessibility** without **CSS**

A presentation by [Jemima Abu](#)



Jemima Abu

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TeleSoftas







**“CSS benefits accessibility primarily by
separating document structure from
presentation.”**

— [w3.org](https://www.w3.org)



Sure, but there comes a certain point where accessibility becomes difficult to integrate with the design



10



Alex Hardy

@alexhardy

Replying to

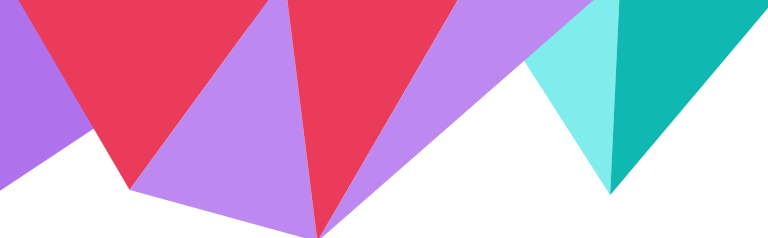


Then the design sucks.

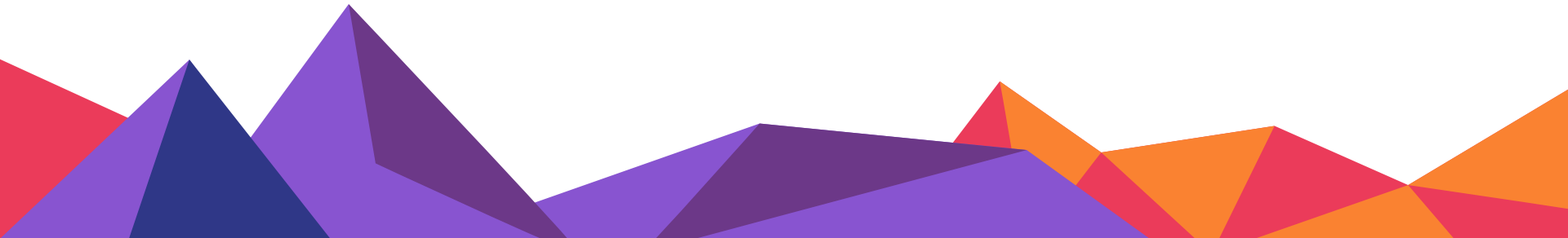


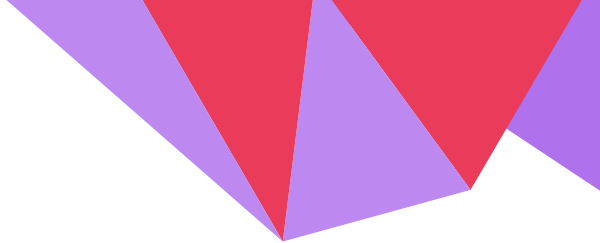
“People ignore design that ignores people.”

— Frank Chimero



Text and background contrast





The general rule for Level AA contrast is that normal text needs a ratio of 4.5:1 between the foreground and background colours, while really large text (at least 18 point) can have a 3:1 ratio.

— [simplyaccessible](#)



Text has same color as the background

21:1

White text on black background (and vice versa)

Read more

<https://css-tricks.com/understanding-web-accessibility-color-contrast-guide-lines-and-ratios/>

Balance colors, weight and size

Bold, large fonts can use lighter colors

Light, small fonts need dark colors

**Use high contrast to distinguish
elements**



Disabled

Active



Disabled

Active




```
.disabled {  
  user-select: none;  
  pointer-events: none;  
  /* cursor doesn't work if pointer-events is set  
to none */  
  cursor: not-allowed;  
}
```

A close-up photograph of dark green, glossy leaves covered in small water droplets. The lighting is soft, highlighting the texture of the leaves and the glistening water. The background is dark and out of focus, creating a high-contrast scene.

This has good contrast

What if the image doesn't load?

Set a fallback for the background



```
.banner {  
  background: #000 url('');  
  color: white;  
}
```

An abstract black and white graphic. It features several concentric, hand-drawn oval shapes in the lower-left quadrant. A thick, dark, slightly irregular diagonal line runs from the top right towards the bottom right. The background is a light gray with some subtle texture and a faint horizontal band across the middle. The text 'This has poor contrast' is overlaid in the center in a white, sans-serif font.

This has poor contrast

The background features a solid gray field with several thick, hand-drawn black lines. A large, irregular loop is on the left, and a long, slightly curved line runs vertically on the right. In the lower-left area, there are several concentric, elongated oval shapes. The text 'Add an overlay' is centered in a white, sans-serif font.


Add an overlay



```
.background::after {  
  content: "";  
  position: absolute;  
  top: 0;  
  left: 0;  
  height: 100%;  
  width: 100%;  
  background-color: rgba(0, 0, 0, 0.5);  
}
```

The background features several thick, hand-drawn black lines. A large, irregular black line forms a shape on the left side. Another thick black line runs vertically on the right side. In the center, there are several concentric, elongated oval shapes drawn with thin black lines. A light gray, irregularly shaped area is visible in the upper right quadrant, partially overlapping the black lines.

**Blend text with
background**



```
.blend {  
  color: #fff;  
  mix-blend-mode: difference;  
}
```

CSS property: mix-blend-mode

Usage % of all users ?
Global 90.71%

Current aligned	Usage relative	Date relative	Apply filters	Show all	?								
IE	Edge *	Firefox	Chrome	Safari	Opera	iOS Safari *	Opera Mini *	Android Browser *	Opera Mobile *	Chrome for Android	Firefox for Android	UC Browser for Android	Samsung Internet
	12-18	2-31	4-40	3.1-7.1	10-27	3.2-7.1							
6-10	79-81	32-76	41-81	8-13	28-67	8-13.3		2.1-4.4.4	12-12.1				4-10.1
11	83	77	83	13.1	68	13.5	all	81	46	81	68	12.12	11.2
		78-79	84-86	TP									

■ = Supported ■ = Not supported ■ = Partial support ■ = Support unknown

The background features several thick, hand-drawn black lines. A large, sweeping curve starts from the top left and goes towards the bottom center. Another thick line runs vertically on the right side. In the center, there are several concentric, elongated oval shapes drawn with thinner lines. A light gray, irregularly shaped area is visible in the upper right quadrant.

Invert text colors based on
background



```
.invert {  
  background-image: inherit;  
  color: transparent;  
  background-clip: text;  
  filter: invert(1) grayscale(1) contrast(5);  
}
```

CSS property: background-clip: text

Usage
Global % of all users 6.24% + 87.07% = 93.31%

Current aligned	Usage relative	Date relative	Apply filters	Show all	?								
IE	Edge *	Firefox	Chrome	Safari	Opera	iOS Safari *	Opera Mini *	Android Browser *	Opera Mobile *	Chrome for Android	Firefox for Android	UC Browser for Android	Samsung Internet
		2-47											
	¹ 12-14	² 48		3.1-3.2	10-12.1								
6-10	15-81	49-76	³ 4-81	³ 4-13	³ 15-67	³ 3.2-13.3		2.1-4.4.4	12-12.1				³ 4-10.1
11	83	77	³ 83	³ 13.1	³ 68	³ 13.5	all	³ 81	³ 46	³ 81	68	12.12	³ 11.2
		78-79	³ 84-86	³ TP									

■ = Supported ■ = Not supported ■ = Partial support ■ = Support unknown



Provide options



```
body {  
  background-color: white;  
  color: black;  
}
```

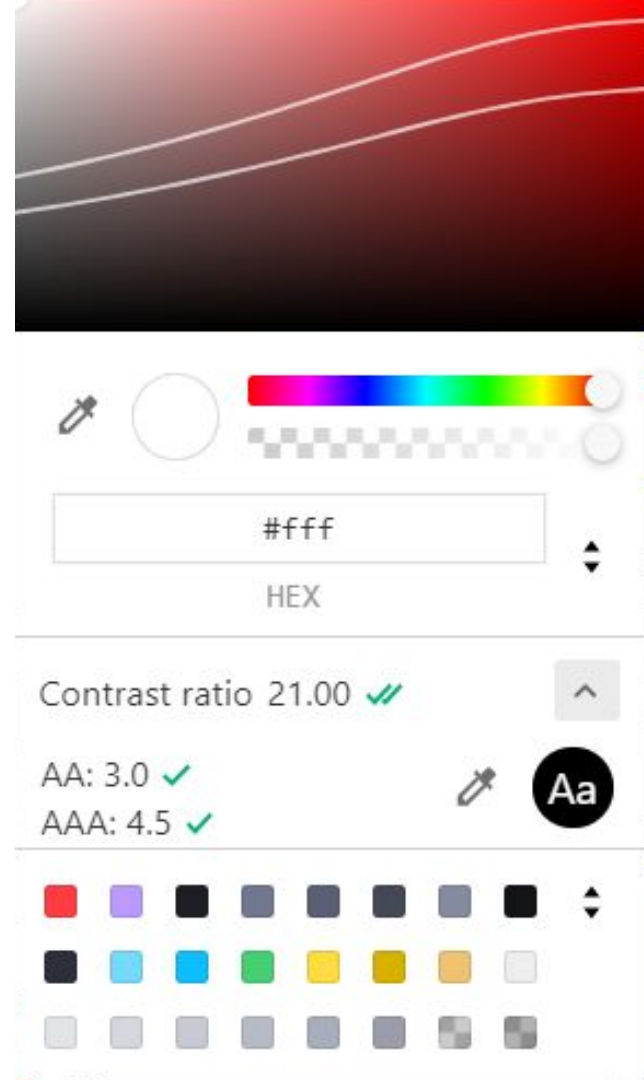
```
@media screen and (prefers-color-scheme: dark) {  
  body {  
    background-color: black;  
    color: white;  
  }  
}
```



Tools for testing contrast



Chrome DevTools



WEBAIM Contrast Checker

Contrast Checker

[Home](#) > [Resources](#) > Contrast Checker

Foreground Color

#0000FF



Lightness



Background Color

#FFFFFF



Lightness



Contrast Ratio

8.59:1

[permalink](#)

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.

Graphical Objects and User Interface Components

WCAG AA: **Pass**

Text Input





Font, text and units



**Don't override the browser's
default font-size**



```
html {  
  font-size: 14px;  
}
```



```
html {  
  font-size: 100%;  
}
```

Use relative units for font sizes



px, pt, vh, vw, vmax



em, rem, %, ch

**Avoid using semantics for
styling**



``

``

`<h1></h1>`



```
span {  
  font-weight: bold  
}
```

```
div {  
  font-style: italic  
}
```

```
p {  
  font-size: larger  
}
```

Don't justify text in large paragraphs



```
p {  
  text-align: justify  
}
```

It breaks concentration and it's kinda ugly :(Lorem ipsum dolor sit amet, consectetur adipisicing elit. Reiciendis atque excepturi quis assumenda tenetur dolore laboriosam deleniti natus quidem pariatur quasi 😞 culpa 😞 minima, 😞 velit 😞 quisquam 😞 quaerat exercitationem ratione amet repellat! Nostrum atque totam doloribus nihil ipsum assumenda, sed pariatur culpa quia laudantium architecto quos dolor velit molestiae reprehenderit natus corrupti hic minus explicabo. Facere in quas maxime nobis, quibusdam voluptates? Ipsum incidunt molestiae odit optio accusantium fugit labore sequi temporibus! Nihil, consequuntur 😞 harum 😞 ab 😞 necessitatibus exercitationem saepe praesentium. At totam fugiat pariatur nam impedit id exercitationem fugit blanditiis maxime quaerat. Dolores nobis dolor facilis voluptates, dolore architecto? Voluptate neque harum sed quam. Esse quos possimus, corrupti in officiis maiores perspiciatis. Quo, laboriosam. Porro harum ipsa sed alias non, reprehenderit necessitatibus!

**Keep paragraph width narrow
(55 to 65 characters)**



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```
p {  
  max-width: 65ch;  
}
```

**Apply text-effects with styles
(or SVG) not content**



HELLO



```
<span>H</span>
```

```
<span>E</span>
```

```
<span>L</span>
```

```
<span>L</span>
```

```
<span>O</span>
```



```
p {  
  text-transform: uppercase;  
  letter-spacing: .5em;  
}
```

Allow users to control zoom

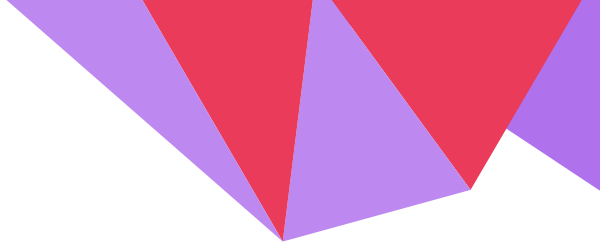


```
<meta name="viewport"  
content="maximum-scale=1, user-scalable=no">
```



```
<meta name="viewport"  
content="width=device-width, initial-scale=1">
```

CSS can influence screen readers



“However, you'll learn that VoiceOver has confused the capitalized "ADD" button for the acronym A.D.D.—something it definitely wouldn't have done if we hadn't changed the CSS.”

— Ben Meyers



Read more

<https://blog.benmyers.dev/css-can-influence-screenreaders/>

A cluster of overlapping triangles in red, purple, and teal colors located in the top-left corner of the slide.

Order and hierarchy of elements

A series of overlapping triangles in various shades of purple, blue, orange, and red along the bottom edge of the slide.

Group related content



Name:

Name

Email:

Email

Comments:

Comments



Name:

Name

Email:

Email

Comments:

Comments

Arrange content logically

1	2	3
4	5	6
7	8	9



**CSS reorders visually not
logically**



```
.grid-item:nth-of-type(7) {  
  order: 1  
}
```

```
.grid-item:nth-of-type(4) {  
  order: 2  
}
```

...



7	4	1
8	2	3
5	9	6





```
<div class="grid-item" tabindex="1">7</div>
```

```
.grid-item:nth-of-type(7) {  
  order: 1  
}
```




7	4	1
8	2	3
5	9	6



**Place logically with HTML not
CSS**



```
<div class="grid-item">7</div>
```

```
<div class="grid-item">4</div>
```

```
<div class="grid-item">1</div>
```

```
<div class="grid-item">8</div>
```

...

Nav

Header



```
<header>Header</header>
```

```
<nav>Nav</nav>
```

```
nav {  
    position: absolute;  
    top: 0;  
    left: 0;  
}
```



```
<nav>Nav</nav>
```

```
<header>Header</header>
```

```
nav {  
    position: sticky;  
    top: 0;  
}
```

Keep columns together



1. Lorem ipsum dolor, sit amet consectetur adipisicing elit. Exercitationem non quos vel dolore, debitis ipsam atque vero. Ipsam, fugit porro est facilis nisi voluptate minus a! Nam cupiditate dolore velit!

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error quisquam quibusdam! Id?

6. Lorem, ipsum dolor sit amet consectetur adipisicing elit. Unde magnam vero at saepe earum, fuga deleniti, quia ducimus quae quam quas distinctio odio doloribus ipsa dolor? Molestiae pariatur iure voluptatem? Hic laudantium omnis vel qui accusantium est obcaecati provident quasi iusto impedit animi assumenda corrupti, ullam harum architecto doloribus possimus modi eius ea et ducimus cupiditate. Ratione repudiandae est distinctio?



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4. Lorem, ipsum dolor sit amet consectetur adipisicing elit. Repudiandae, natus dolor. Vitae possimus at expedita explicabo dicta voluptate obcaecati quibusdam animi quam dignissimos, laborum ut blanditiis deserunt nostrum asperiores recusandae? Lorem ipsum dolor sit amet consectetur adipisicing elit. Odio voluptate odit consectetur temporibus ea laborum, magnam voluptas sunt expedita rerum possimus a corrupti. Vel reprehenderit inventore doloremque quia nulla voluptates! !

5. Lorem ipsum dolor sit amet consectetur adipisicing elit. Sed facilis soluta, saepe, quasi provident, impedit illum temporibusidunt quia quaerat eaque accusamus natus nemo ipsa velit error quisquam quibusdam! Id?

6. Lorem, ipsum dolor sit amet consectetur adipisicing elit. Unde magnam vero at saepe earum, fuga deleniti, quia ducimus quae quam quas distinctio odio doloribus ipsa dolor? Molestiae pariatur iure voluptatem? Hic laudantium omnis vel qui accusantium est obcaecati provident quasi iusto impedit animi assumenda corrupti, ullam harum architecto doloribus possimus modi eius ea et ducimus cupiditate. Ratione repudiandae est distinctio?



```
.column {  
    -webkit-column-break-inside: avoid;  
    page-break-inside: avoid;  
    break-inside: avoid;  
}
```



** vs
background-image**



img is for content

**WikiLeaks is *not associated* with Wikipedia**

The media organisation WikiLeaks has no connection whatsoever to Wikipedia or its parent, the Wikimedia Foundation, which operates the encyclopedia. Wikipedia merely contains an article *about* the WikiLeaks organisation.

image as content

```
<img src="" alt="" />
```

Reports and releases

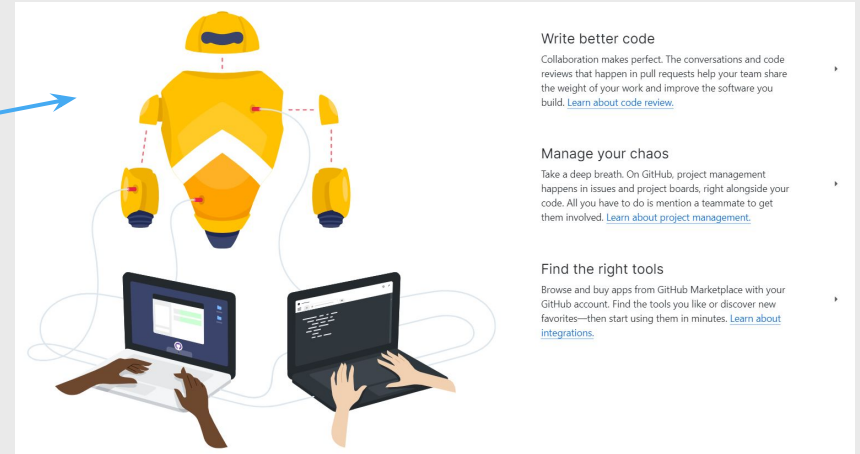


The 2015–2016 Annual Report—Facts matter

Check out the [press room](#) for our press releases. Be sure to [sign up](#) to receive reports and announcements by e-mail.

background-image is for design

image as design



Write better code

Collaboration makes perfect. The conversations and code reviews that happen in pull requests help your team share the weight of your work and improve the software you build. [Learn about code review.](#)

Manage your chaos

Take a deep breath. On GitHub, project management happens in issues and project boards, right alongside your code. All you have to do is mention a teammate to get them involved. [Learn about project management.](#)

Find the right tools

Browse and buy apps from GitHub Marketplace with your GitHub account. Find the tools you like or discover new favorites—then start using them in minutes. [Learn about integrations.](#)

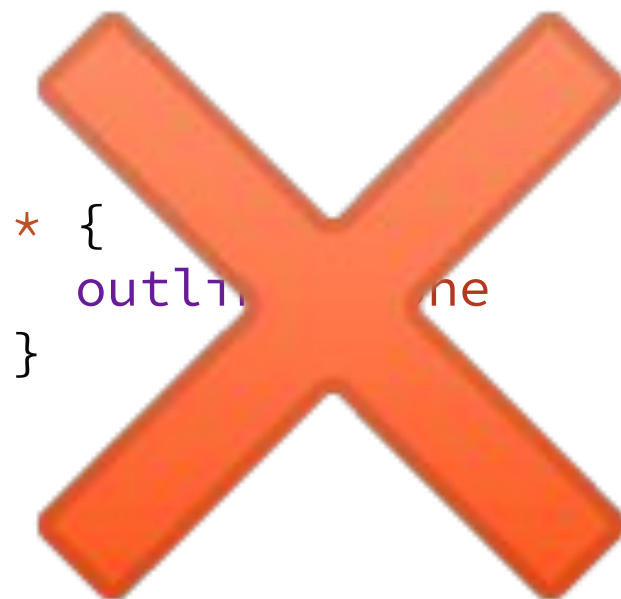
```
.container {  
  background-image: url('');  
}
```



A cluster of overlapping triangles in red, purple, and teal colors located in the top-left corner of the slide.

Outlines

A series of overlapping triangles in various shades of purple, blue, orange, and red along the bottom edge of the slide.



Include in focus (and hover) styles



```
button:hover,  
button:focus {  
    background-color: #fff;  
    border: 2px solid;  
    outline: none;  
}
```



Fallback for properties



**Use fallback for custom
properties**



```
:root {  
  --bg-color: #000;  
}
```

*/*fallback for not supported variable*/*

```
body {  
  background-color: #000;  
  background-color: var(--bg-color);  
}
```




```
:root {  
  --bg-color: #000;  
}
```

/ fallback for undefined variable*/*

```
body {  
  background-color: var(--bg-color, #000)  
}
```

Use browser prefixes



```
button {  
  -webkit-transition: color 1s;  
  -moz-transition: color 1s;  
  -ms-transition: color 1s;  
  -o-transition: color 1s;  
  transition: color 1s;  
}
```

```
button {  
  -webkit-transition: color 1s;  
  -moz-transition: color 1s;  
  -ms-transition: color 1s;  
  -o-transition: color 1s;  
  transition: ▶ color 1s;  
}
```

```
button {  
  ☒ -webkit-transition: color 1s;  
    -moz-transition: color 1s;  
    -ms-transition: color 1s;  
    -o-transition: color 1s;  
  ☐ transition: color 1s;  
}
```

Fallback for images?

```

```



```
<img alt="kitty" src="" />
```



```
img {  
  width: 100%;  
  background-image:  
url('https://images.pexels.com/  
photos/730896/pexels-photo-7308  
96.jpeg');  
  min-height: 550px;  
  background-size: cover;  
  color: #fff;  
}
```



Tools for testing design accessibility

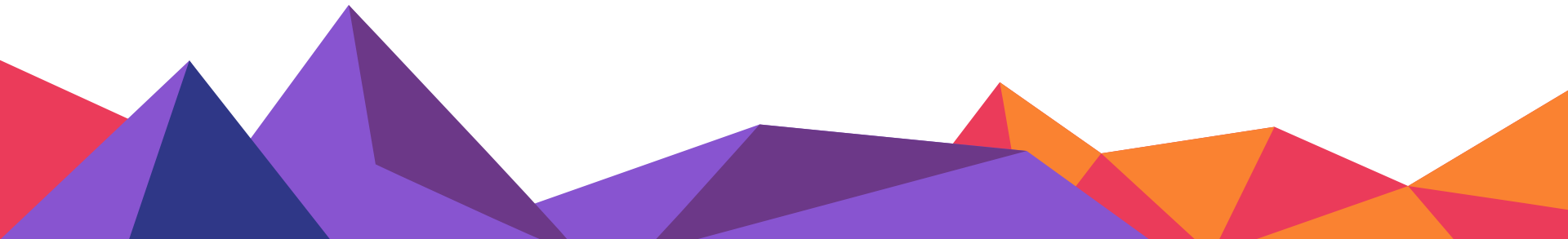
- [Lighthouse](#)
- [ChromeVox](#)
- [WAVE Web Accessibility Evaluation Tool](#)
- Manually manipulate design

Slides:

<https://speakerdeck.com/jemimaabu>

Code:

<https://codepen.io/Jemimaabu/pen/abdmYOa>



Resources

- [CSS Accessibility](#) - TSBVI
- [Writing CSS with Accessibility in Mind](#) - Manuel Matuzovic
- [Website Accessibility Checklist \(15 Things You Can Improve\)](#) - Bruce Lawson
- [5 Keys to Accessible Web Typography](#) - Better Web Type
- [CSS Media Queries for Accessibility](#) - Karl Castillo



Thanks!

Does anyone have any questions?

www.jemimaabu.com

@jemimaabu





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