WCAG & Color Contrast

https://toddl.dev

@toddlibby

Thank You!

Sponsors, Hosts, Speakers, and Guests!

WCAG

Web Content Accessibility Guidelines

https://www.w3.org/TR/WCAG21/

Success Criterion 1.4.3 Contrast (Minimum) (AA)

- The visual presentation of **text** and **images of text** has a **contrast ratio** of at least 4.5:1, except for the following: (Level AA)
  - Large Text: Large-scale text and images of large-scale text have a contrast ratio of 3:1
  - Incidental: Text or images of text that are part of an inactive **user interface component**, that are **pure decoration**, that are not visible to anyone, or that are part of a picture that contains significant other visual content, have no contrast requirement.
  - Logotypes: Text that is part of a logo or brand name has no minimum contrast requirement.

https://www.w3.org/TR/UNDERSTANDING-WCAG20/visual-audio-contrast-contrast.html

How to Meet WCAG 2.0 Success Criterion (SC)

- Situation A: text is < 18 point (24 px) if not bold and < 14 point (18.666666666666664 px).

- Situation B: text is at least 18 point if not bold and at least 14 point if bold.

https://www.w3.org/WAI/WCAG20/quickref/20160105/#visual-audio-contrast-contrast

Arial Font, 18pt, 4.5 to 1 Level AA

Arial Font, 18pt, 2.57 to 1

Arial Font, 18pt, 6.1 to 1

Arial Font, 18pt, 4.91 to 1

Success Criterion 1.4.6 Contrast (Enhanced) (AAA)

- Success Criterion 1.4.6 Contrast (Enhanced): The visual presentation of **text** and **images of text** has a **contrast ratio** of at least 7:1, except for the following:

  - Large Text: Large-scale text and images of large-scale text have a contrast ratio of at least 4.5:1

  - Incidental: Text or images of text that are part of an inactive **user interface component**, that are **pure decoration**, that are not visible to anyone, or that are part of a picture that contains significant other visual content, have no contrast requirement.

  - Logotypes: Text that is part of a logo or brand name has no contrast requirement.

https://www.w3.org/WAI/WCAG21/Understanding/contrast-enhanced.html

Success Criterion 1.4.11 Non-text Contrast (AA)

- Success Criterion 1.4.11 Non-text Contrast: The visual presentation of the following have a contrast ratio of at least 3:1 against adjacent colors:

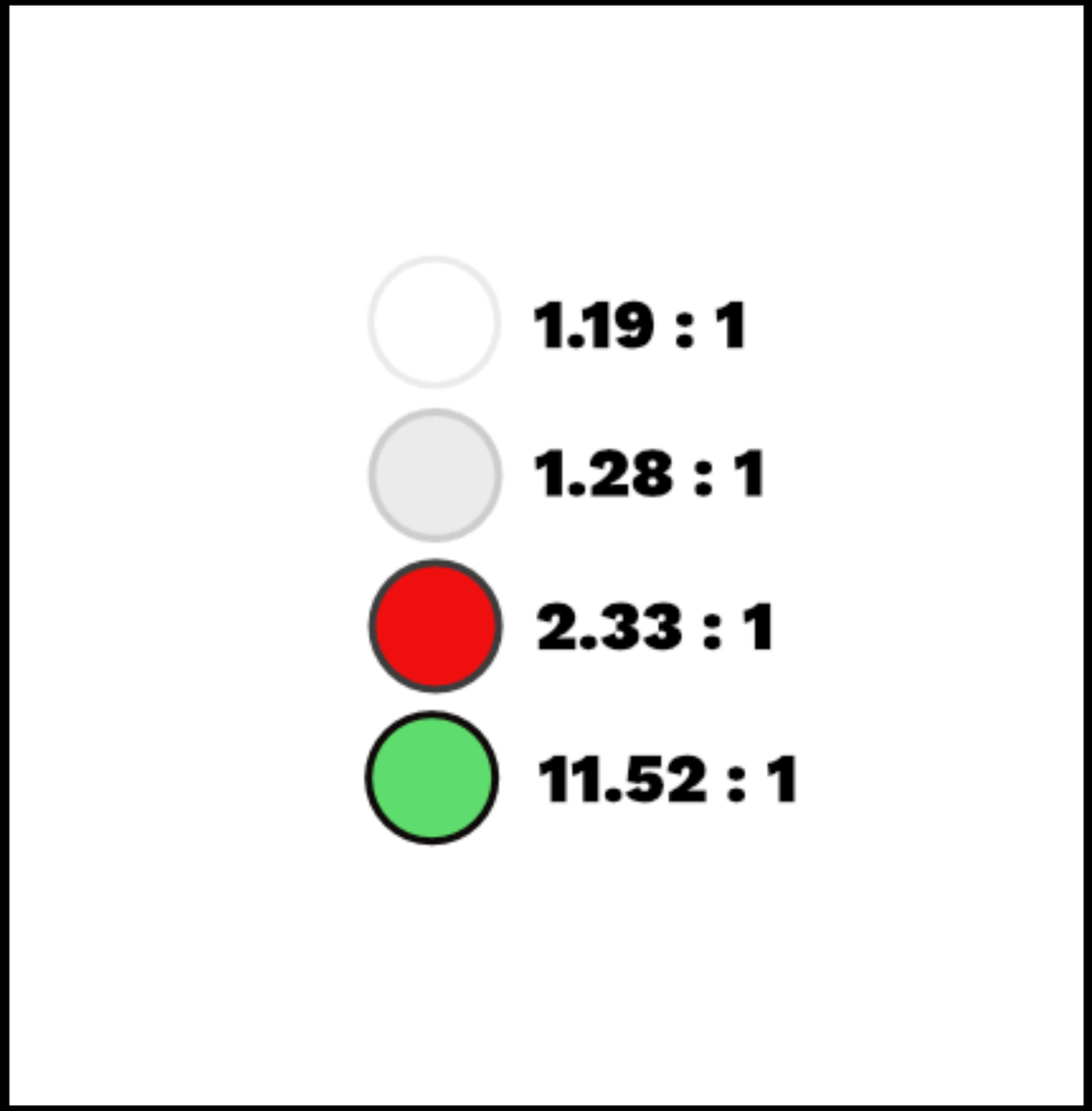
  - User Interface Components: Visual information required to identify **user interface components** and **states**, except for inactive components or where the appearance of the component is determined by the user agent and not modified by the author;

  - Graphical Objects: Parts of graphics required to understand the content, except when a particular presentation of graphics is **essential** to the information being conveyed.

https://www.w3.org/WAI/WCAG21/Understanding/non-text-contrast.html

Component Contrast

Adjacent colors to flat design radio buttons



Example radio buttons using different color contrasts

Success Criterion 1.4.11 Non-text Contrast (AA)

- Success Criterion 1.4.11 Non-text Contrast: The visual presentation of the following have a contrast ratio of at least 3:1 against adjacent colors:

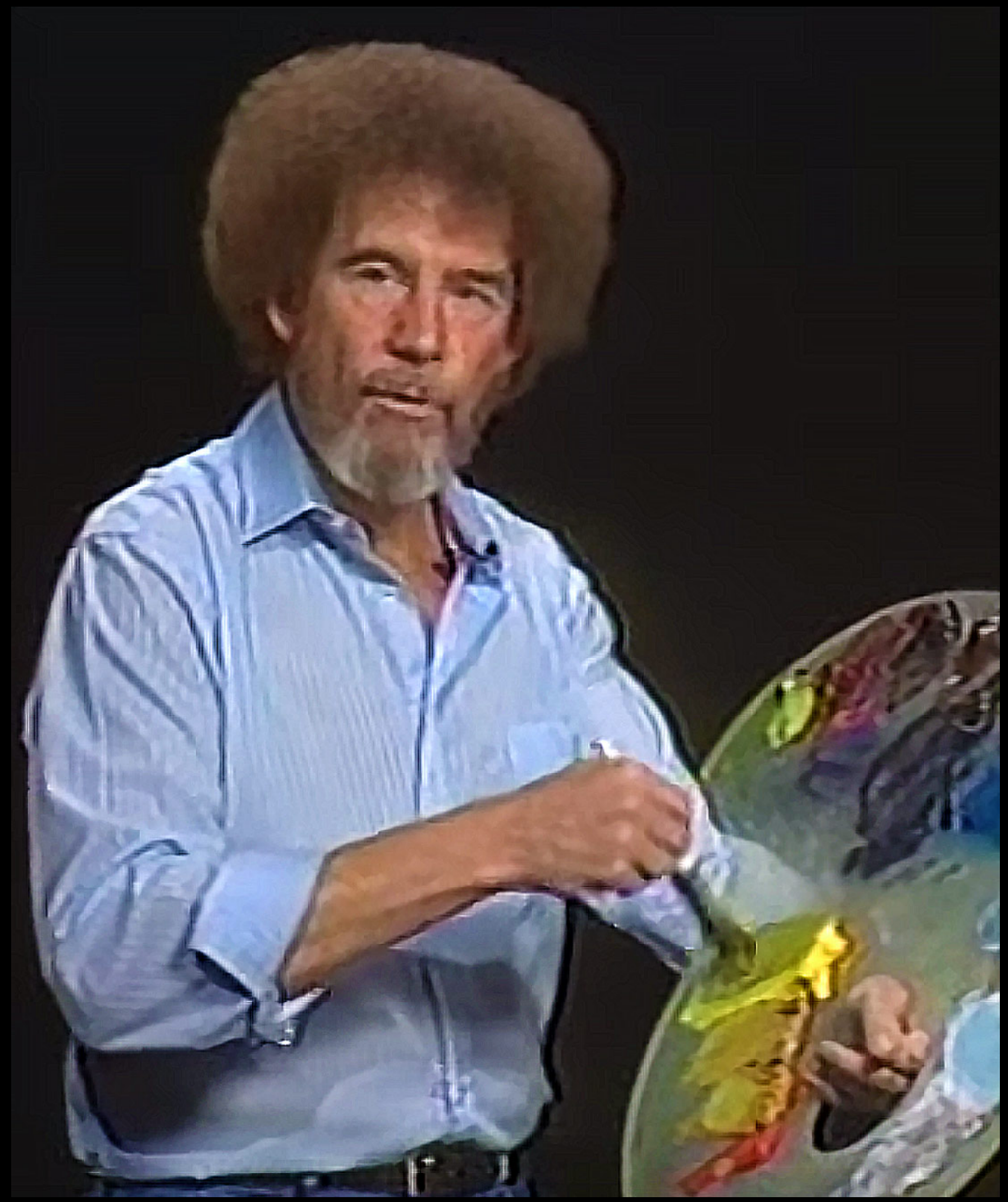
  - User Interface Components: Visual information required to identify **user interface components** and **states**, except for inactive components or where the appearance of the component is determined by the user agent and not modified by the author;

  - Graphical Objects: Parts of graphics required to understand the content, except when a particular presentation of graphics is **essential** to the information being conveyed.

https://www.w3.org/WAI/WCAG21/Understanding/non-text-contrast.html

Bob Ross

Painter, art instructor, TV host



“Mix up a little more shadow color here, then we can put us a little shadow right in there. See how you can move things around? You have unlimited power on this canvas—can literally, literally move mountains”

— **Bob Ross**

“We don't make mistakes; we just have happy accidents.”

— Bob Ross

Stay connected

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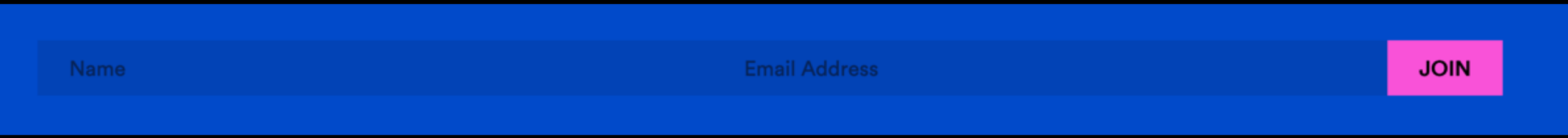
Name
Email Address
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What?!

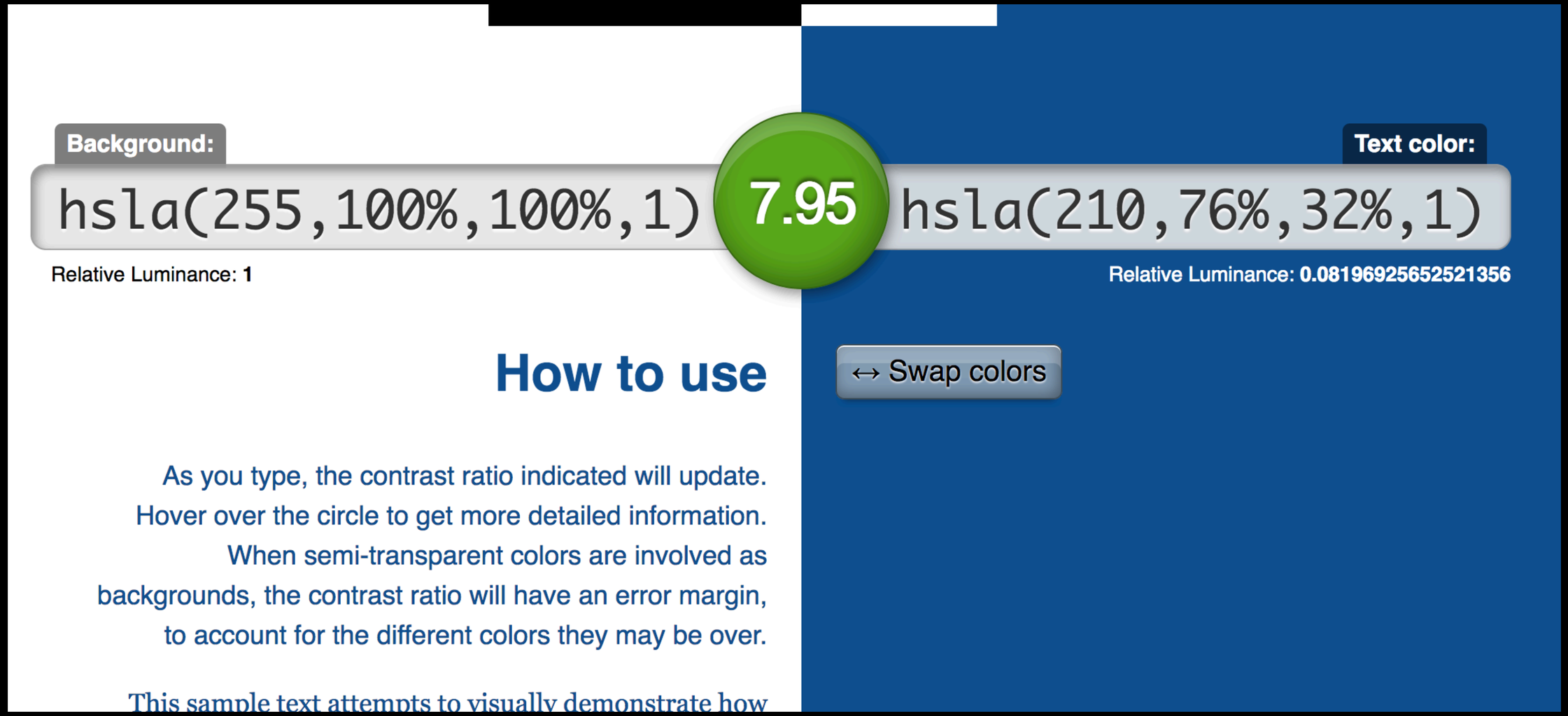
What is the number one common failure in sites today regarding accessibility?

Most common types of WCAG 2 failures

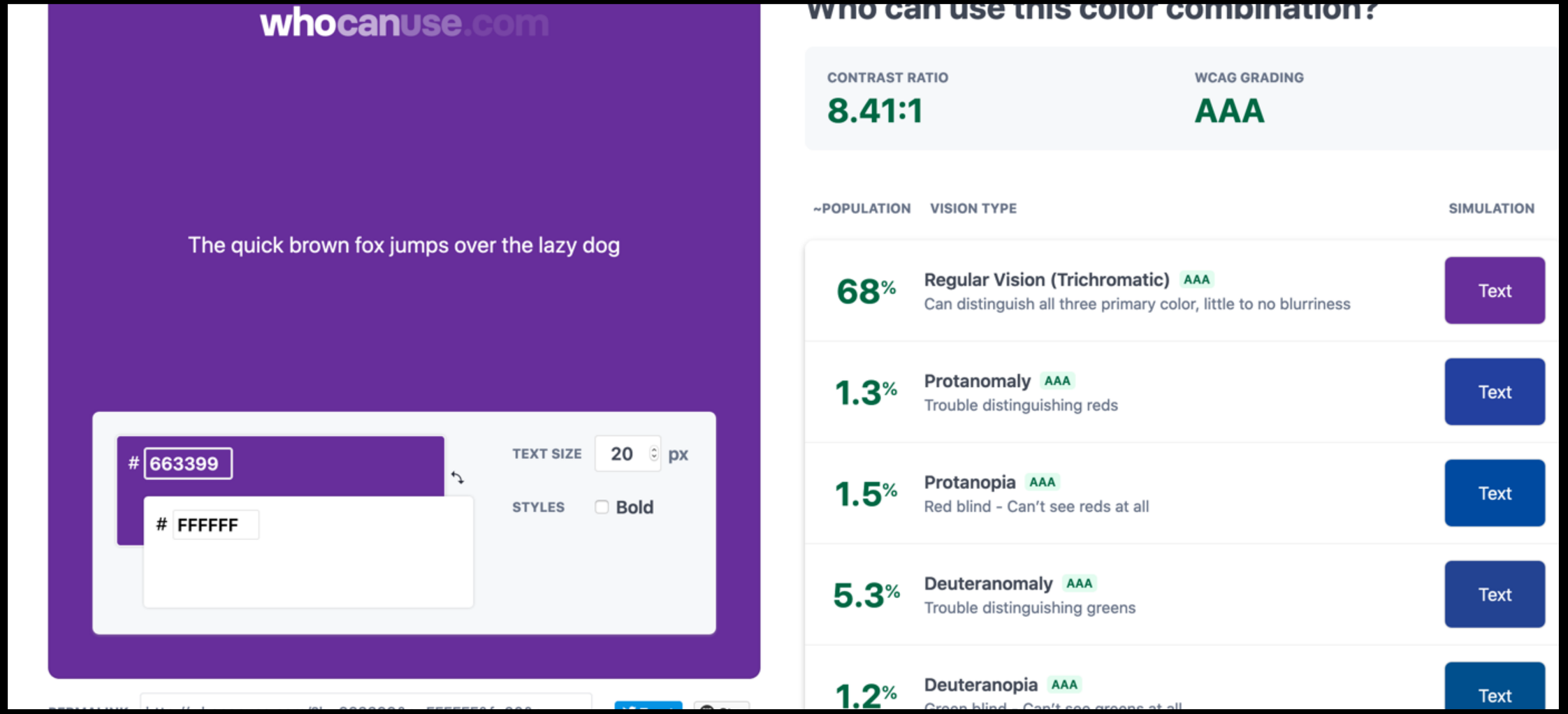
WCAG Failure Type	% of home pages in February 2021	% of home pages in February 2020	% of home pages in February 2019
Low contrast text	86.4%	86.3%	85.3%
Missing alternative text for images	60.6%	66.0%	68.0%
Missing form input labels	54.4%	53.8%	52.8%
Empty links	51.3%	59.9%	58.1%
Missing document language	28.9%	28.0%	33.1%
Empty buttons	26.9%	28.7%	25.0%

WebAIM Million Report - Low Contrast of text **increased last year**

25mm



Lea Verou's Color Contrast Checker - **https://contrast-ratio.com**



Who Can Use: **https://whocanuse.com**

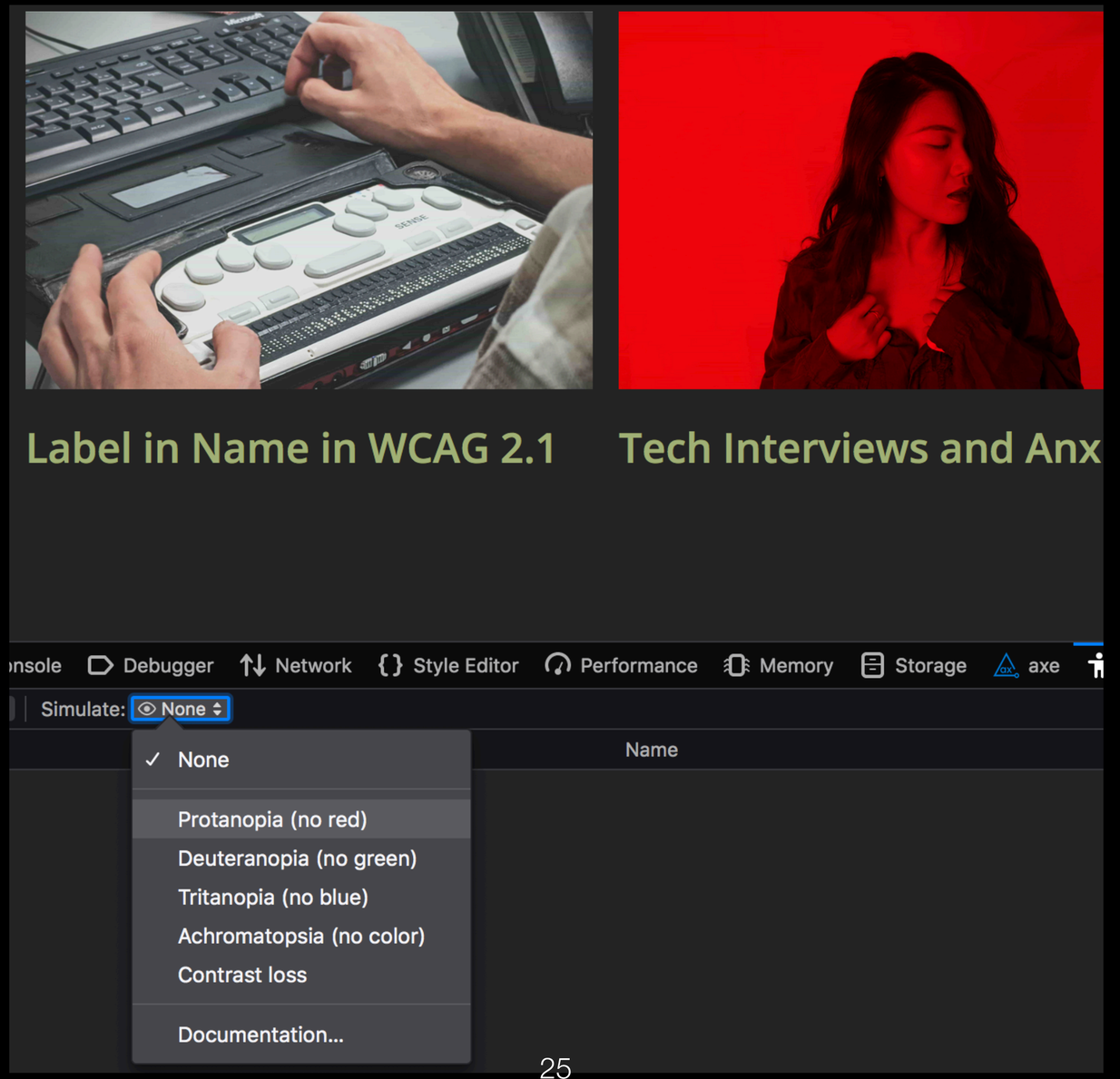
MORE!

- WCAG Contrast Checker: **https://contrastchecker.com**
- WebAIM Contrast Checker: **https://webaim.org/resources/contrastchecker**
- ColourContrast: **https://colourcontrast.cc**
- RandomA11y: **https://randoma11y.com**
- Button Contrast Checker: https://www.aditus.io/button-contrast-checker/

Browser Extensions

- WAVE: **https://wave.webaim.org/extension**
- Axe: **https://www.deque.com/axe**
- Firefox & Chrome DevTools

Firefox Vision Simulator



Chrome DevTools

- This feature is **built-in**
- **No** config required
- Toggle the element on the page to enable modal

See what I did here?

Color Contrast Apps

- Pika https://superhighfives.com/pika - MacOS
- Contraste https://contrasteapp.com/ - MacOS
- Colour Contrast Analyser (CCA) https://www.tpgi.com/color-contrast-checker/ - Windows
- Chromatic Vision Simulator by Kazunori Asada for iOS/Android
- VisionSim by The Braille Instititue for iOS

Color Palette Testers

- Contrast Grid - https://contrast-grid.eightshapes.com
- Accessible Color Palette Builder - https://toolness.github.io/accessible-color-matrix/
- Tanaguru Contrast Finder - https://contrast-finder.tanaguru.com/
- A11y Color Palette - http://a11yrocks.com/colorPalette/

Tips for Great Color Contrast

- Font **weights**, **sizes**, and **colors** matter.
- **Test** your color palettes.
- Ratios that **exceed the minimums** of 4.5 to 1, 3 to 1, or 7 to 1.
- **Avoid stark contrasts** with text which can result in blurred text.

Captions!

“Readability is the most important aspect of captioning in video. No other rules matter if captions cannot be read.”

–Meryl K. Evans

This is a lobster roll. They are delicious!
They are the best food in the entire world and I love to eat them!

This is a lobster roll. They are delicious!
They are the best food in the entire world and I love to eat them!

A11y is a **right**.
NOT a privilege.

— Me🦞

https://cottonbureau.com/products/a11y-is-a-right#/5254643/

Thank You!

@toddlibby

Slides: https://noti.st/colabottles/gcPUQc/color-contrast-and-wcag