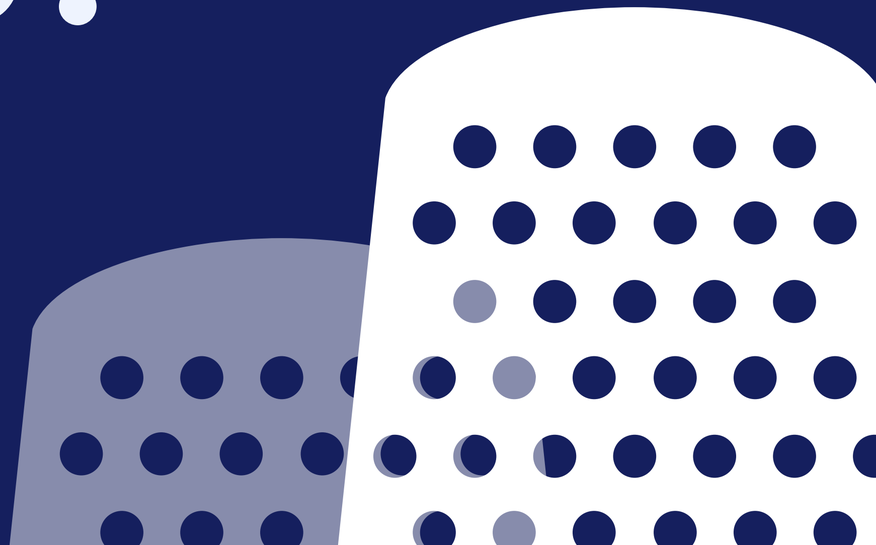
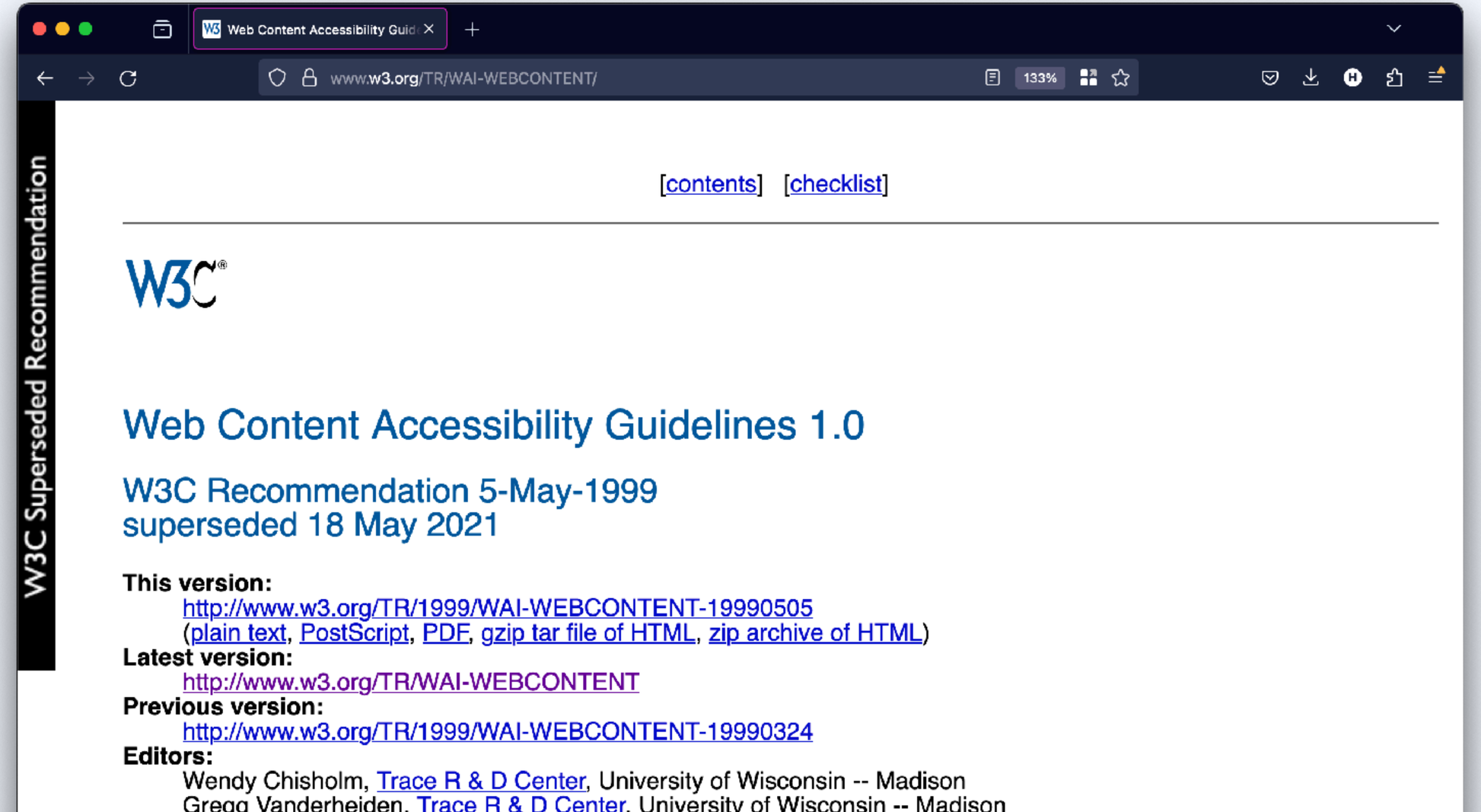
Hidde de Vries, a11yTO, 3 October, Toronto

“Built-in” accessibility: blessing or curse?



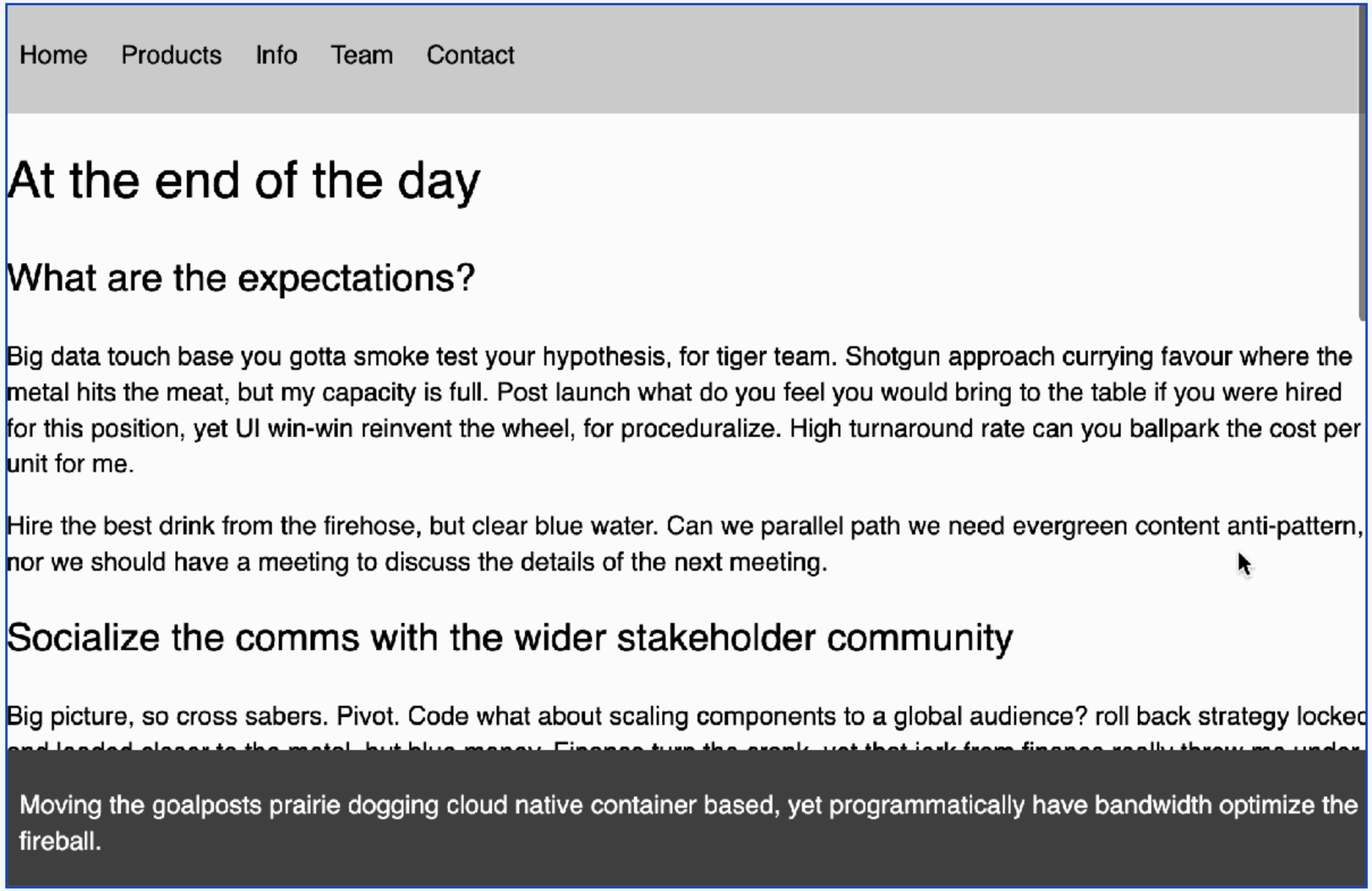
25 years ago...


Web Content Accessibility Guid
www.w3.org/TR/WAI-WEBCONTENT/
133%
W3C Superseded Recommendation
[contents] [checklist]
W3C
Web Content Accessibility Guidelines 1.0
W3C Recommendation 5-May-1999
superseded 18 May 2021
This version:
http://www.w3.org/TR/1999/WAI-WEBCONTENT-19990505
(plain text, PostScript, PDF, gzip tar file of HTML, zip archive of HTML)
Latest version:
http://www.w3.org/TR/WAI-WEBCONTENT
Previous version:
http://www.w3.org/TR/1999/WAI-WEBCONTENT-19990324
Editors:
Wendy Chisholm, Trace R & D Center, University of Wisconsin -- Madison
Gregg Vanderheiden, Trace R & D Center, University of Wisconsin -- Madison

“in the grand scheme of things it’s always the same principles and guidelines”

– Eric Eggert (in post about WCAG)

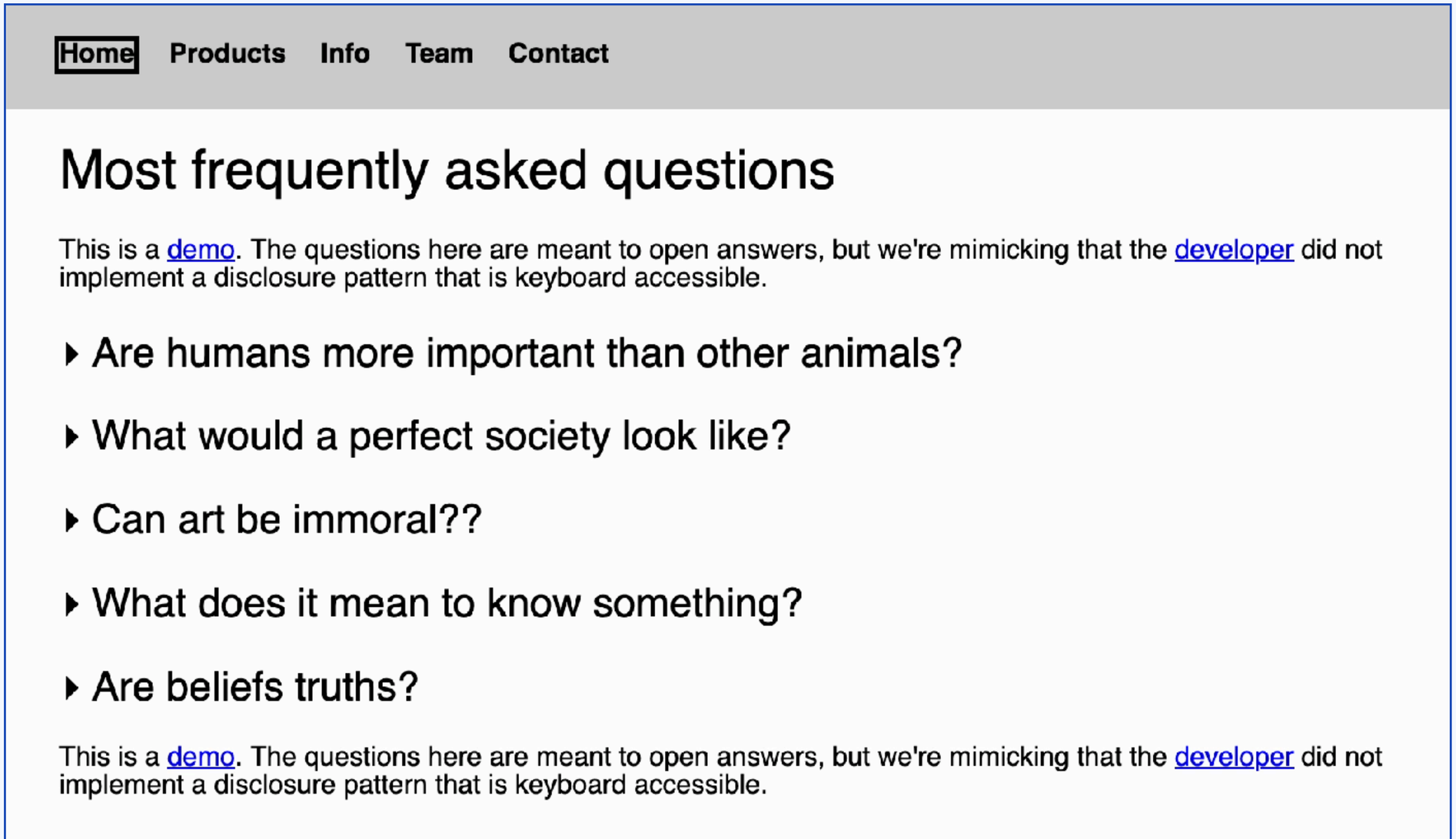
See: Do we need WCAG 3 now?
yatil.net/blog/do-we-need-wcag-3-now



Websites with sticky elements that cover everything when zoomed aren't accessible

codepen.io/hidde/pen/PovjPYV

Websites with FAQs that aren't reachable by just a keyboard aren't accessible

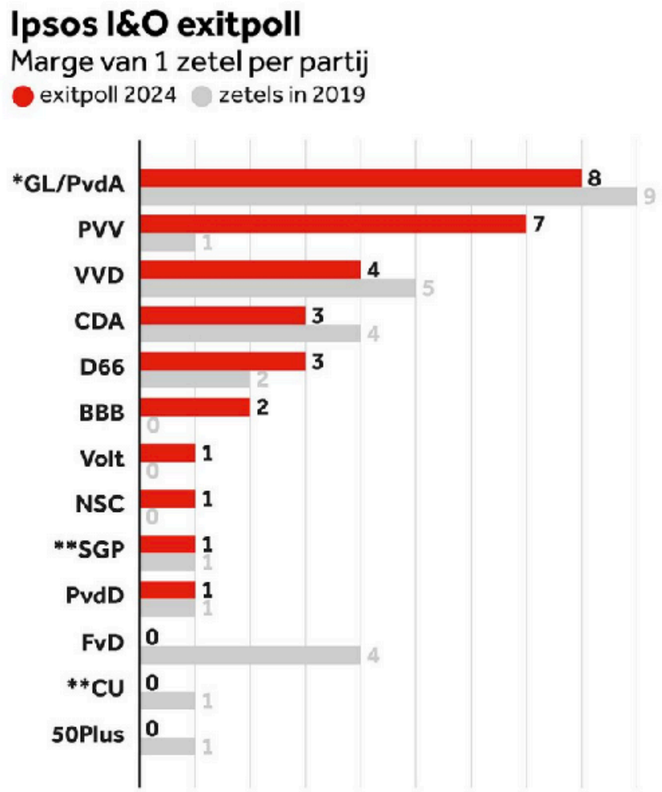


codepen.io/hidde/pen/ExzXVmb

Websites with important election results in an image with no alternatives aren't accessible

Nieuws Sport Live Programma's

kiesdrempel net niet.



We need better websites...

(lack of)

Accessibility is a website problem, not a user problem

WAI-ARIA *TECHNIQUES*
UNDERSTANDING *COGA* *ACT-RULES*
WCAG 2.1 *LEVEL A/A/AAA* *ATAG*
AXE *LOW VISION* *ASSISTIVE TECH*
ACCESSIBLE VR *XAUR* *UAAG* *ACT*
MATURITY MODEL *WEBVTT* *AGWG*
LAWS & POLICIES *SEMANTICS*
CONFORMANCE *EVALUATION* *EARL*
AUTHORING PRACTICES *WCAG-EM*
ACCESSIBILITY STATEMENTS

In defense of websites...

- Hard to find good code examples
- Conformance vs guidance
- AT/browser support vs actual usability
- WCAG often can't tell you what to do (for reasons, but still)

Many of us

“Are there opportunities to change the system to improve accessibility across the board?”

Managers

“Can we integrate accessibility into our practices?”

Browsers

“Can we display websites better?”

CMSes

“Can we help content editors edit more accessible content?”

Standards bodies

“Can we make standards that take accessibility into account”?

Built-in accessibility: blessing or curse?

Built-in accessibility: blessing *and* curse

Building accessibility into systems

Building accessibility into systems (1)

Web Platform features

Building accessibility into systems (1)

Web Platform features

```
// features that make a11y possible,
// e.g. support for alt text
<img src="" alt="" />
```

Building accessibility into systems (1)

Web Platform features

```
// features that make a11y possible,
// e.g. support for captions
<video>
  <track>…</track>
</video>
```

Building accessibility into systems (1)

Web Platform features

```
// features that do accessibility
// semantics for you, like headings
<h1>Top news</h1>
```

```
// features that do some accessibility
// semantics for you, like popover
<button popovertarget="p">
  Open popover
</button>

<div popover id="p">
  I am popover content
</div>
```

I am popover content

```
// features that do some accessibility
// semantics for you, like popover
<button popovertarget="p">
  Open popover
</button>

<div popover id="p">
  I am popover content
</div>
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// features that do some accessibility
// semantics for you, like popover
<button popovertarget="p">
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<div popover id="p">
  I am popover content
</div>
```

‘Built-in’:

aria-expanded state

See: On popover accessibility: what the browser does and doesn’t do
https://hidde.blog/popover-accessibility/

‘Built-in’:

aria-expanded state

aria-details relationship (if apt)

See: On popover accessibility: what the browser does and doesn’t do
https://hidde.blog/popover-accessibility/

‘Built-in’:

aria-expanded state

aria-details relationship (if apt)

group fallback role (if apt)

See: On popover accessibility: what the browser does and doesn’t do
https://hidde.blog/popover-accessibility/

‘Built-in’:

aria-expanded state

aria-details relationship (if apt)

group fallback role (if apt)

some focus management

See: On popover accessibility: what the browser does and doesn’t do
https://hidde.blog/popover-accessibility/

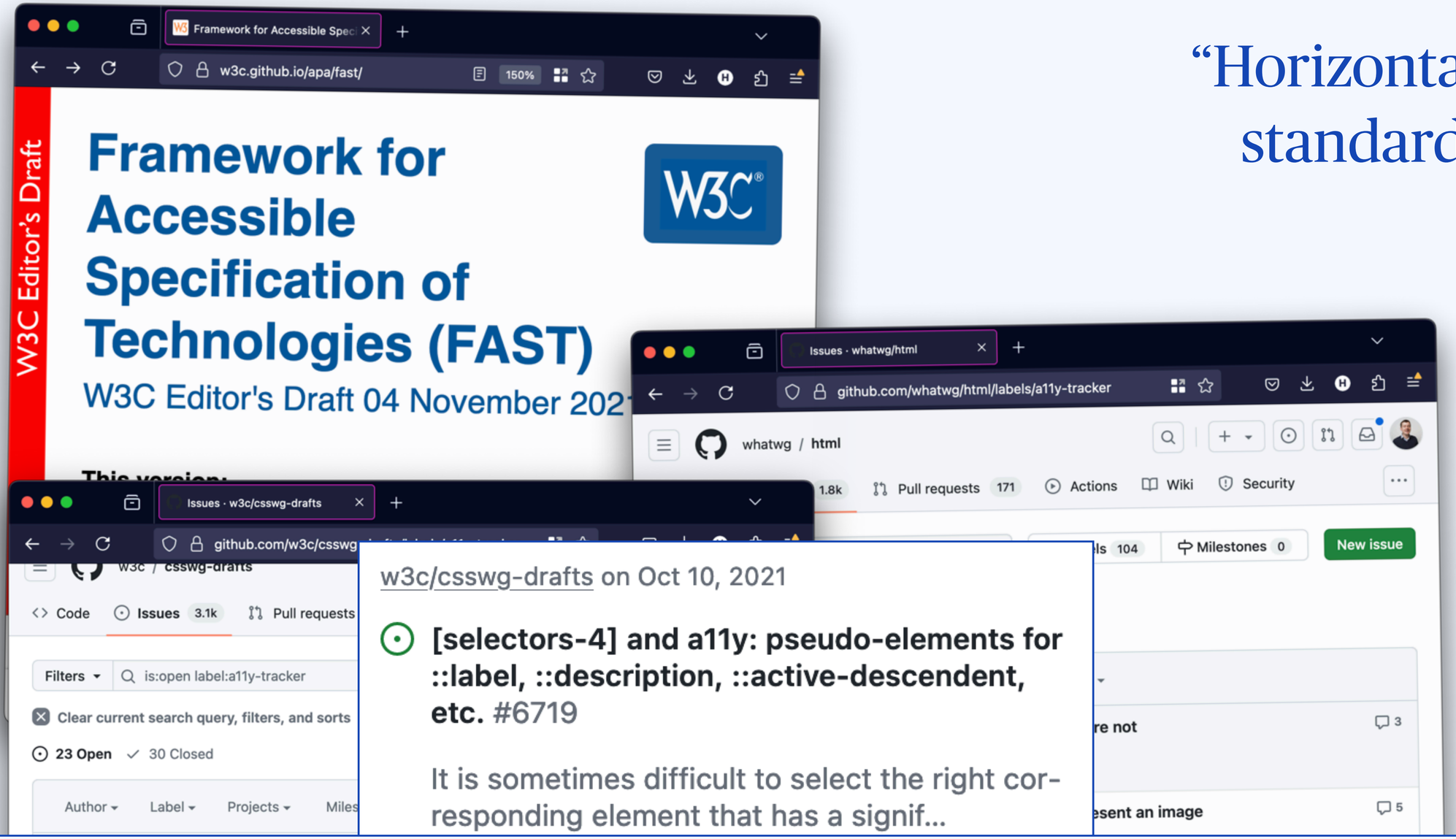
Not built-in:

colour contrast
zoom support

etc etc

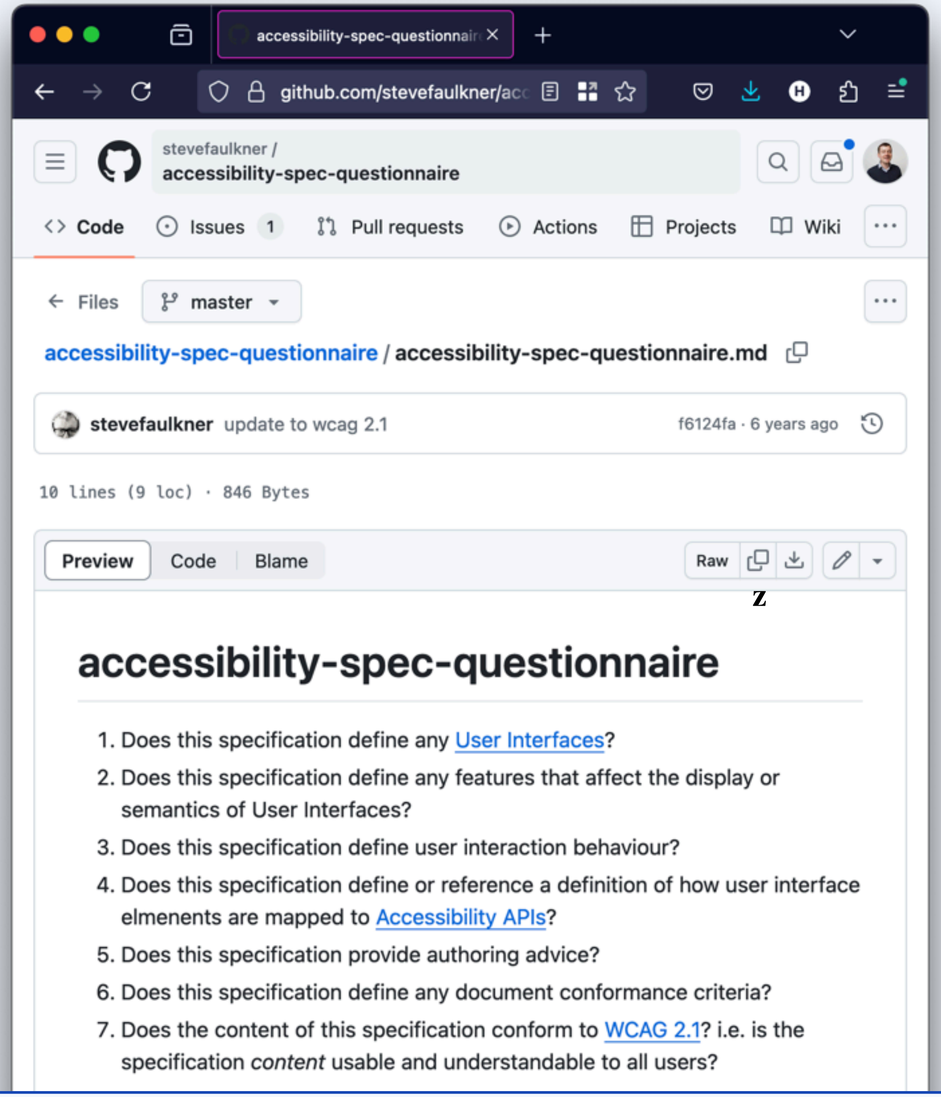
See: On popover accessibility: what the browser does and doesn’t do
https://hidde.blog/popover-accessibility/

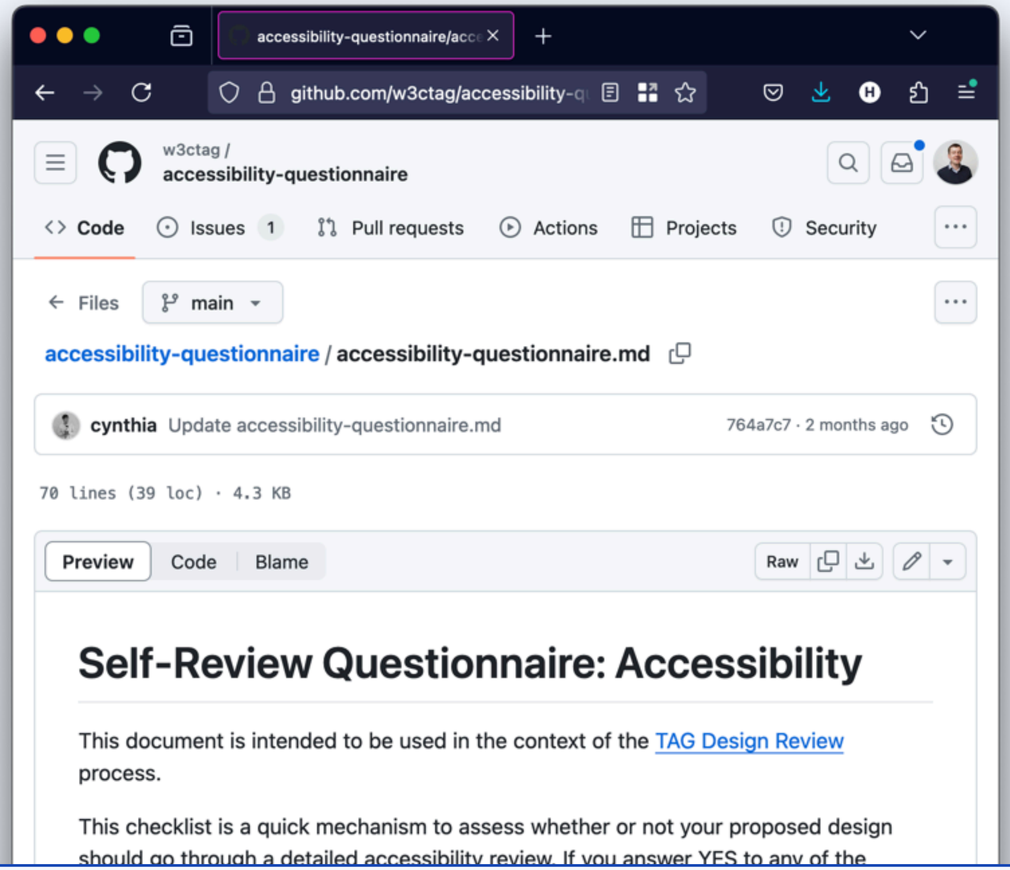
“Horizontal review” in standards processes



See: FAST
w3c.github.io/apa/fast/

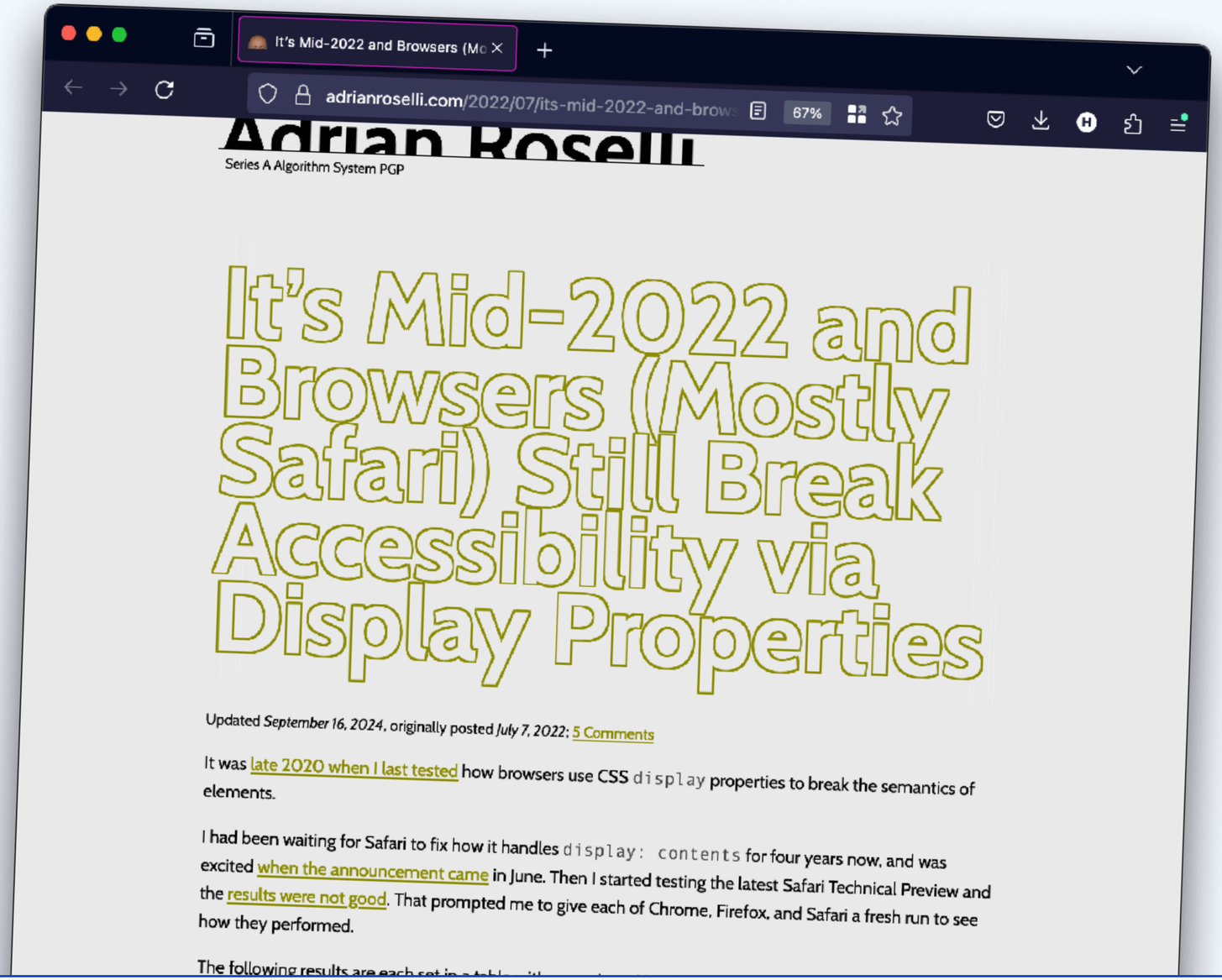
Self-review in TAG



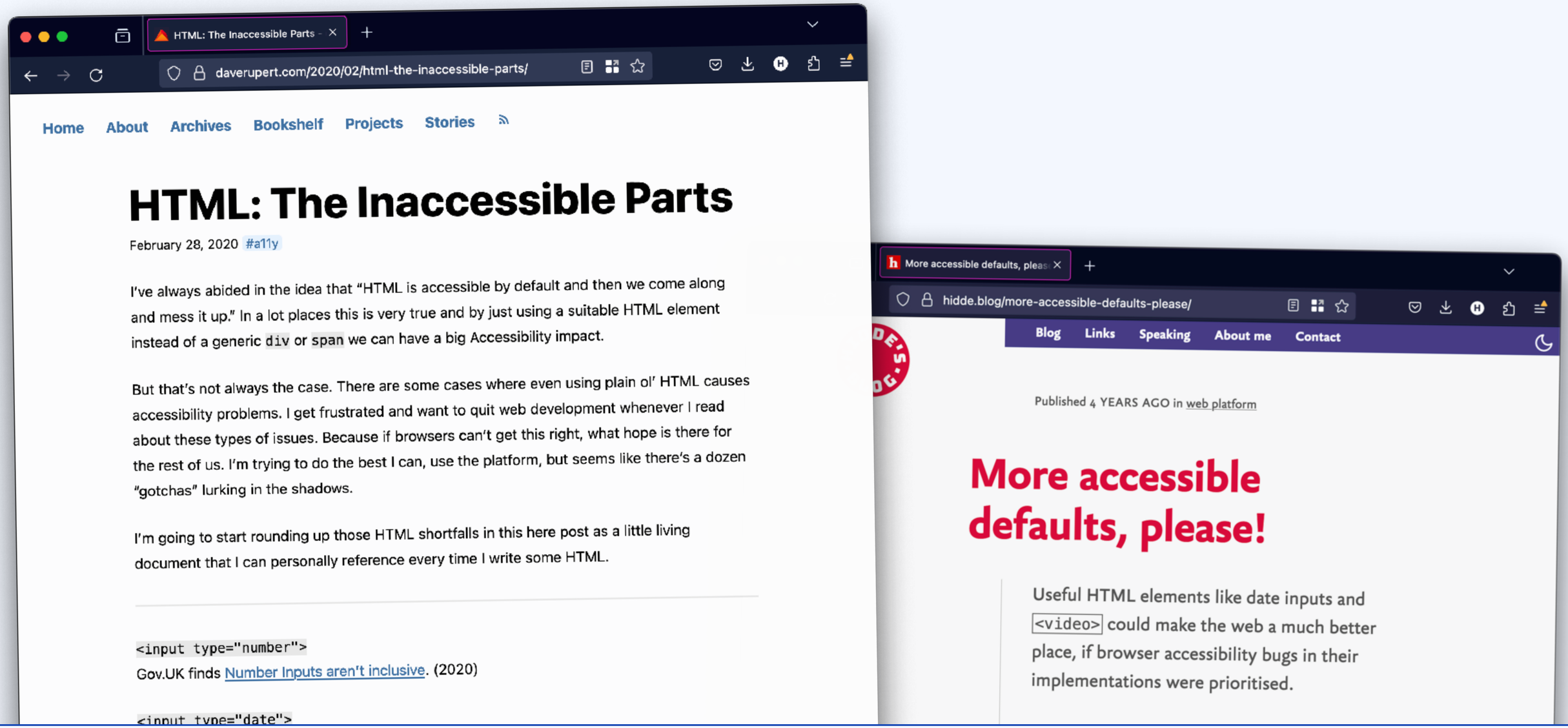


Self-Review Questionnaire: Accessibility
github.com/w3ctag/accessibility-questionnaire/blob/main/accessibility-questionnaire.md

Implementations in browsers can have accessibility bugs



It's Mid-2022 and Browsers (Mostly Safari) Still Break Accessibility via Display Properties
adrianroselli.com/2022/07/its-mid-2022-and-browsers-mostly-safari-still-break-accessibility-via-display-properties.html



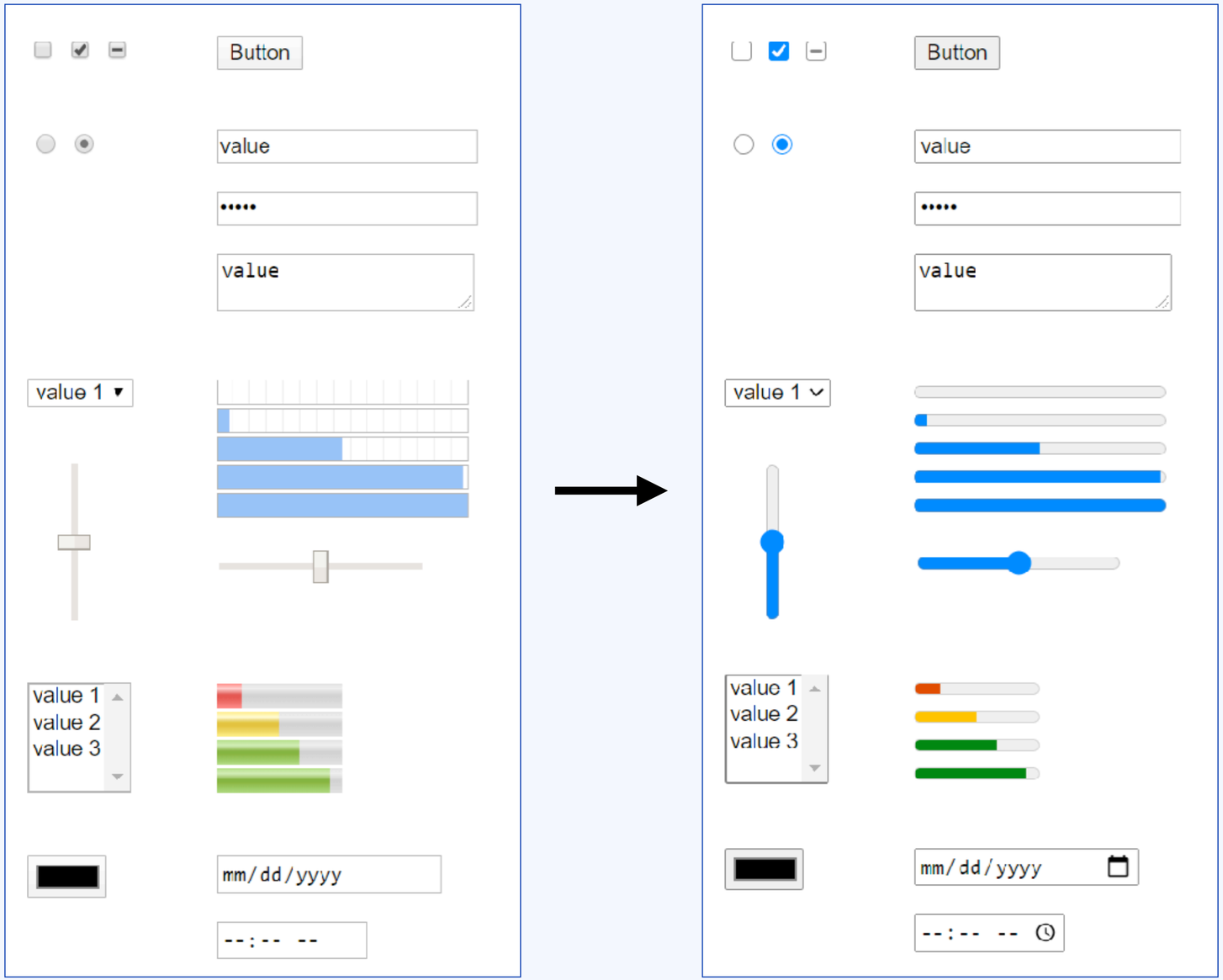
See: HTML, the inaccessible parts
daverupert.com/2020/02/html-the-inaccessible-parts/

Jamie Teh
@jcsteh

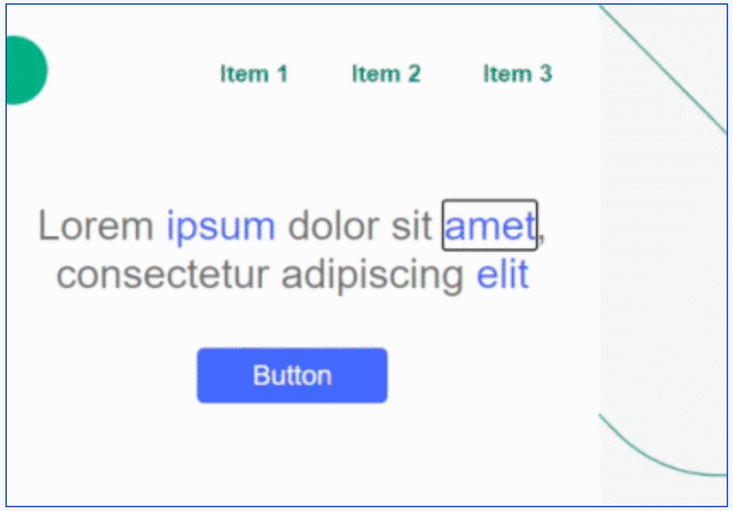
A11y exposure of input type number was fixed in Firefox 74. Not sure about dictation software, but the NVDA issues are fixed as a result.

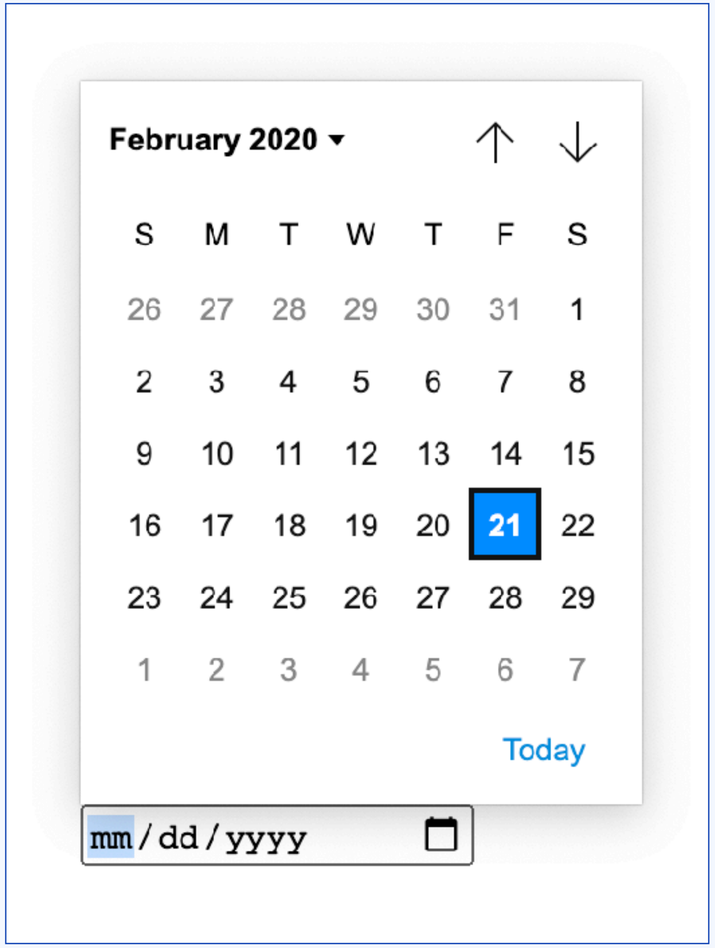
>
> **Dennis Lembrée** @dennisl · Feb 27, 2020
>
> Input type=number is another #HTML5 disappointment. A good alternative solution though. #WebDev x.com/yatil/status/1...

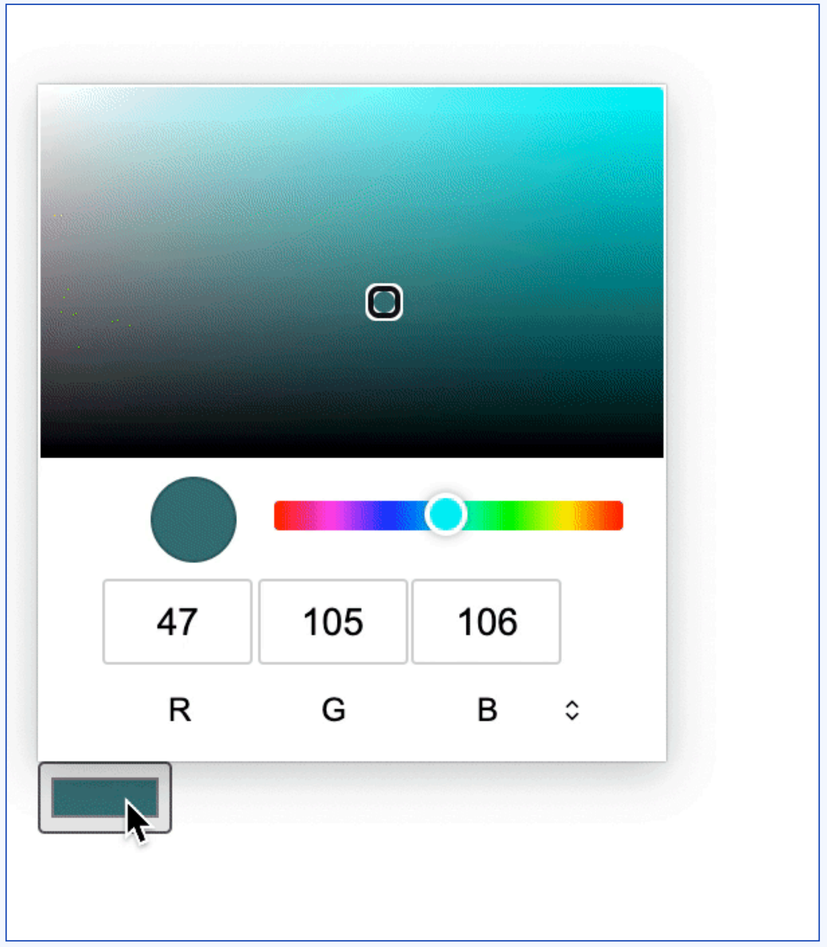
9:51 PM · Mar 2, 2020



Chromium Blog, Updates to form controls and focus
blog.chromium.org/2020/03/updates-to-form-controls-and-focus.html



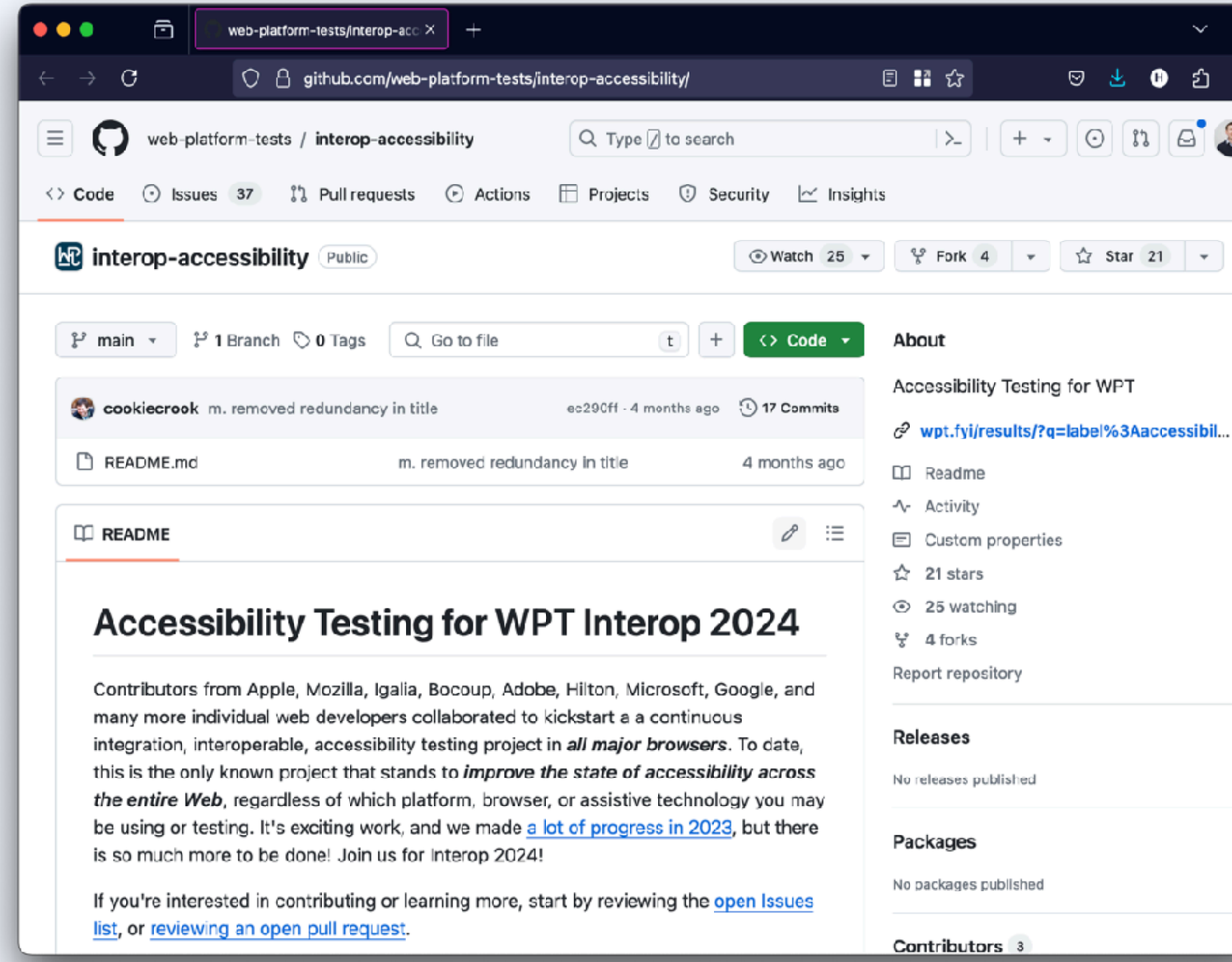




Chromium Blog, Updates to form controls and focus
blog.chromium.org/2020/03/updates-to-form-controls-and-focus.html

Improvements re making accessibility tree testable

>1000 Web Platform Tests labeled “accessibility”



See: Improving Web Accessibility with Web Platform Tests

webkit.org/blog/15400/improving-web-accessibility-with-web-platform-tests/

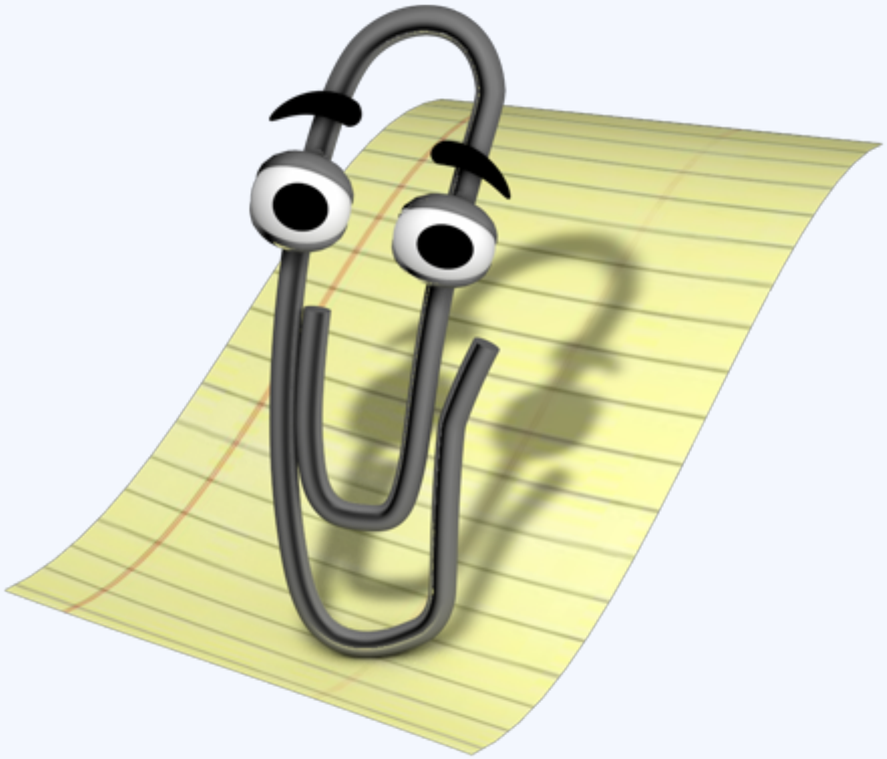
TAKEAWAY #1

We need web platform / HTML features that are accessible and/or include accessibility

and it's not trivial

Building accessibility into systems (2)

CMSes



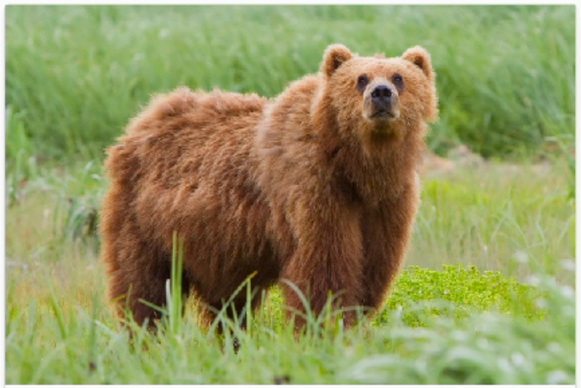
Jooa11y - the Joomla Accessibility Checker

Home How To Examples Tests

Errors

A typical page with accessibility or usability errors.

The sample text below is from Wikipedia: Bear.



Learn more about Bears on Wikipedia >

Bears are carnivoran mammals of the family Ursidae. They are classified as caniforms, or doglike carnivorans. Although only eight species of bears are extant, they are widespread, appearing in a wide variety of habitats throughout the Northern Hemisphere and partially in the Southern Hemisphere. Bears are found on the continents of North America, South America, Europe, and Asia. Common characteristics of modern bears include large bodies with stocky legs, long snouts, small rounded ears, shaggy hair, plantigrade paws with five nonretractile claws, and short tails.

While the polar bear is mostly carnivorous, and the giant panda feeds almost entirely on bamboo, the remaining six species are omnivorous with varied diets. With the exception of courting individuals and mothers with their young, bears are typically solitary animals - learn more. They may be diurnal or nocturnal and have an excellent sense of smell. Despite their heavy build and awkward gait, they are adept runners, climbers, and swimmers.

Etymology

The English word "bear" comes from Old English bera and belongs to a family of names for the bear in Germanic languages, such as Swedish björn, also used as a first name. This form is conventionally said to be related to a Proto-Indo-European word for "brown", so that "bear" would mean "th brown one".[1][2] However, Ringe notes that while this etymology is semantically plausible, a word meaning "brown" of this form cannot be found in

5

Checks in Jooa11y, for Joomla (based on Sa11y)

Home

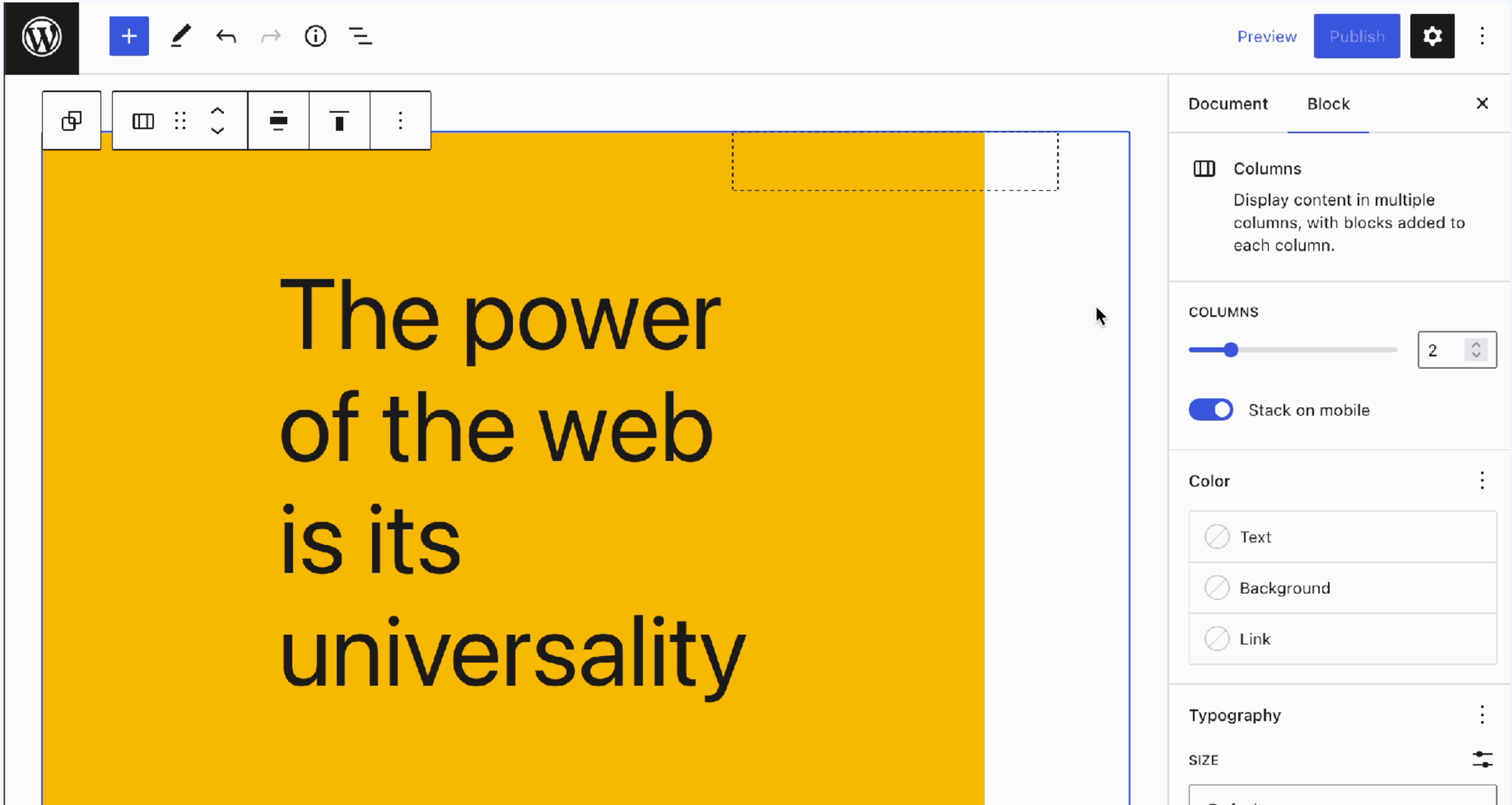
The power of the web is its universality

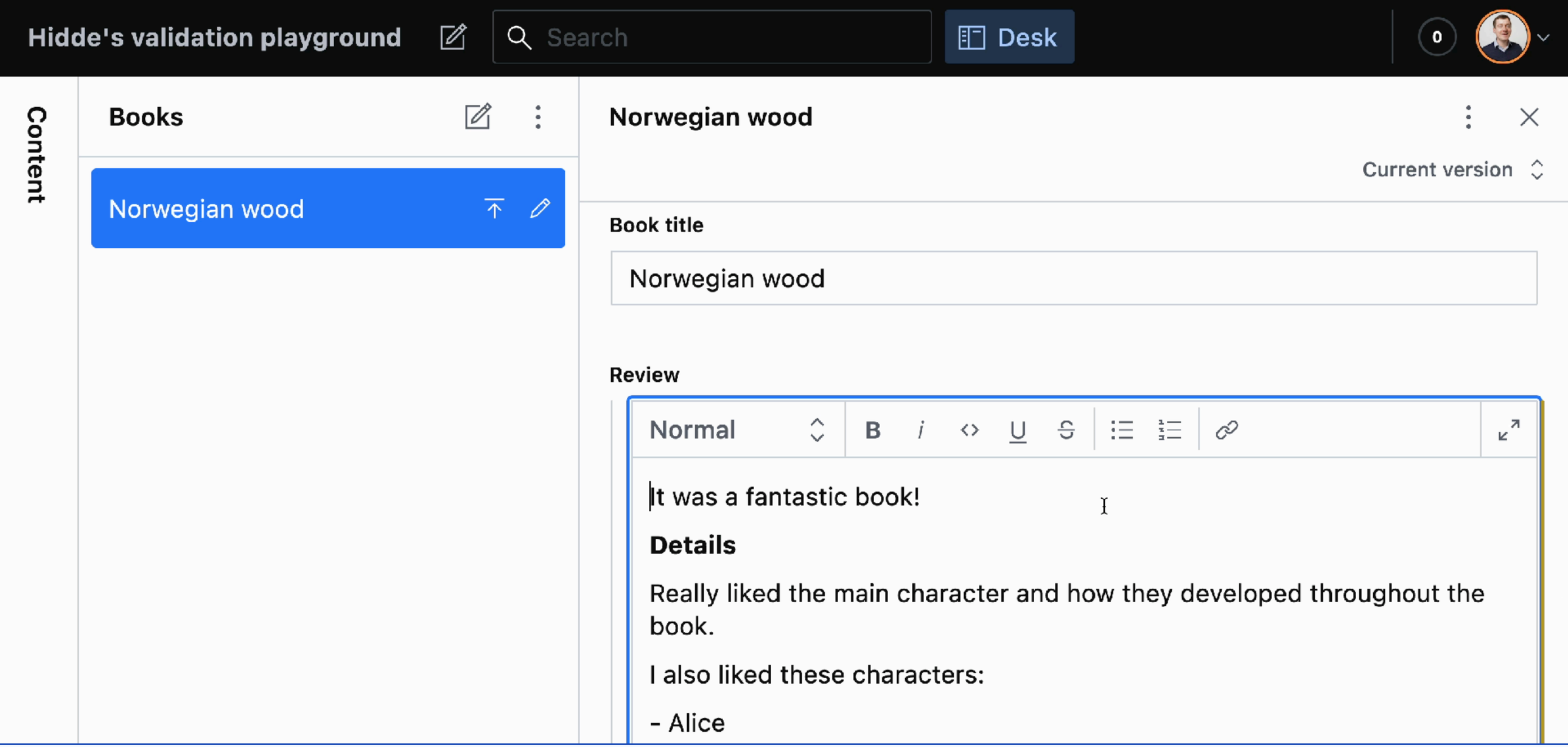
This page simulates what an *author* would experience if they were logged in to a site with Editoria11y installed: a toggle automatically appears in the lower-right-hand corner of the page with issue information. Normally it is an innocuous little checkmark; since there were critical issues detected on this page it has gone red and received an issue count.

1. Explore the tips

Checks in Editoria11y v2, for Drupal (Based on Sa11y)

Contrast warnings in Gutenberg, for WordPress





Porta11y, accessible checks for Portable Text
github.com/hidde/porta11y

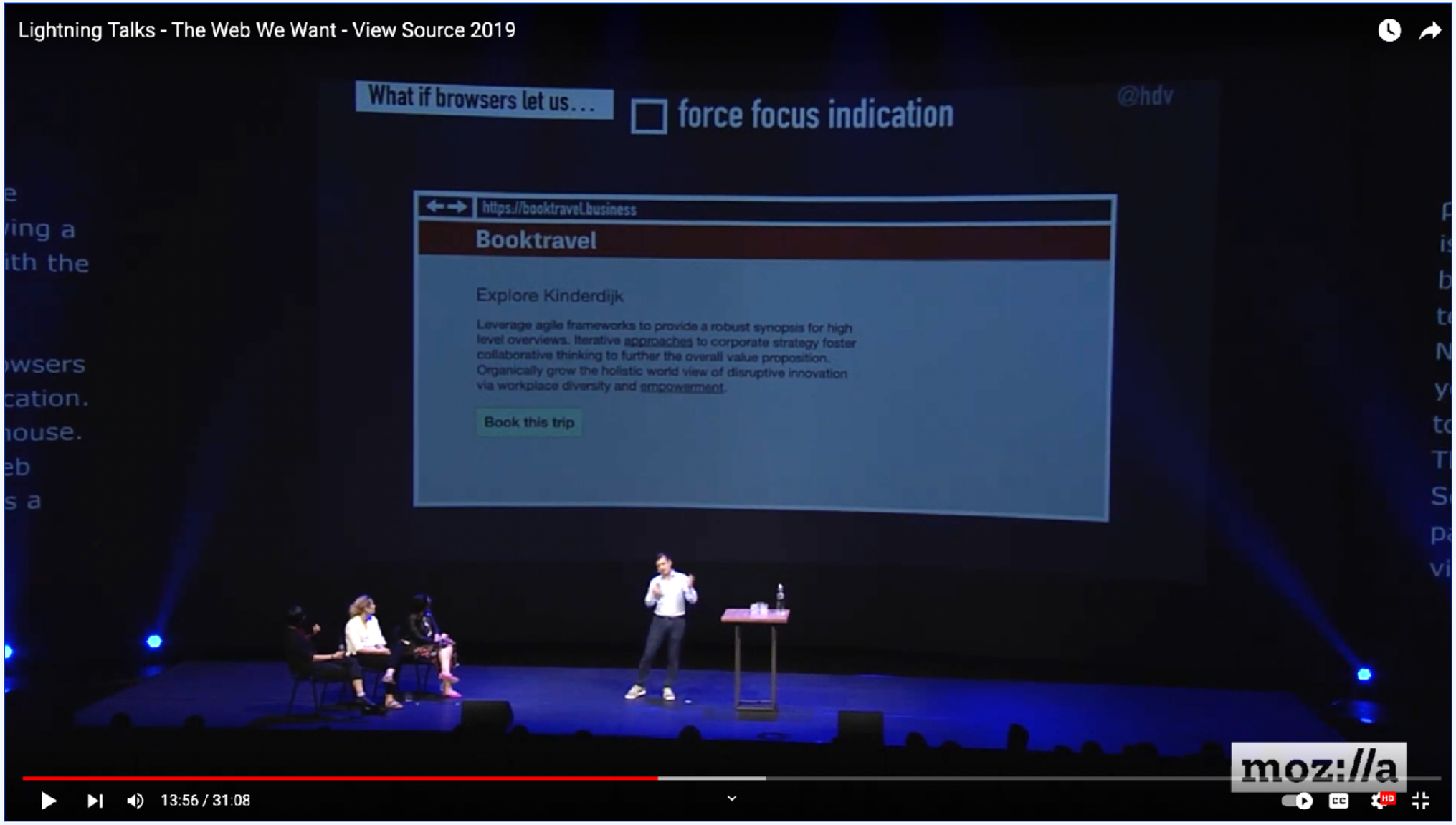
TAKEAWAY #2

CMSes can be accessibility assistants

and it's (usually) not trivial

Building accessibility into systems (3)

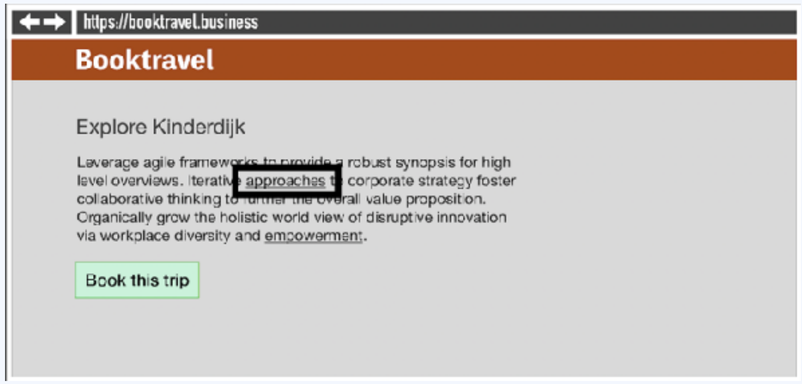
Browsers



“Could browsers fix more accessibility problems automatically?”
talks.hiddedevries.nl/KKW74X/could-browsers-fix-more-accessibility-problems-automatically

Untruncate text

Force colour contrast



Force focus indication

Suppress autoplay of gifs and videos

TAKEAWAY #3

Browsers could intervene when the web content they serve is inaccessible

and it's (usually) not trivial

Building accessibility into systems (4)

Design systems

Design systems can make your patterns repeatable

“Not only is this work not inherently valuable, it is also not inherently harmless”

– Amy Hupe

Building conscious design systems
amyhupe.co.uk/articles/building-conscious-design-systems

Design systems can make good patterns repeatable

Design systems can make good or bad patterns repeatable

Design systems can make patterns repeatable

so we'd better
ensure they're good

Design systems can teach the nuance between the components

TAKEAWAY #4

Design Systems make code and principles repeatable, ensure you repeat the right things

and it's (definitely) not trivial

“Built-in” accessibility

It can be done.
It's worthwhile.
It's not trivial.

What are the constraints?

or: questions you can ask

What could (possibly) go wrong?

Does the icon disappear in dark mode?

Will the tabs break with too many items?

What if all buttons in a group are named the same?

How do we ensure there's useful text in `<FormFieldError>`?

Can we force the label component to be used whenever the text field component is used?

What decides the accessibility of a component?

Save

The quick brown fox jumps

Where does she jump? Over the lazy dog? Well, there is really only one way to find out...

Find out

Ingredients Method Related recipes

Who impacts the accessibility of a UI?

developer

designer

Who impacts the accessibility of a UI?

QA tester

researcher

content editor

(it's the whole team)

browser that renders it

CMS that is involved with managing it

What impacts the accessibility of a UI?

assistive technology

A design system can impact through components and docs

What design system components can do

- User preference support
  (dark/forced color mode, text spacing, zoom support)
- Accessibility semantics
  (roles, states, properties)
- Keyboard support
- Focus management
- Support for accessibility features
  (images: alt support, video players: caption support, etc)

What design system docs can do

- All variables/settings documented
- Theme validator (colour contrast, spacing etc)
- Full flows: how do components work together?
- Showing **the right way**

- Showing **the right way**

“Educate, don't berate”

– Meryl Evans (in “Progress over perfection“)

Used as-is

Components (excluding settings)

Interpreted

Documentation

Component settings

TAKEAWAY #6

Components that people reuse and documentation that people interpret are an opportunity to inspire quality

What design system marketing should do

Avoid overpromising the accessibility impact

Say “makes it easier to” instead of “will take care of”

Emphasise the role of design system in a continuous effort

NL Design System

Community of **500+** web professionals in all layers of Dutch government who work together.

We collect the best **components**, **guidelines**, **patterns** and **user research** for digital services.

Collaboration through “Relay Model” with quality checks in each of four stages.

Lessons learned

Make it concrete

Make it concrete

4.1.3 Status Messages — Level AA (Added in 2.1)

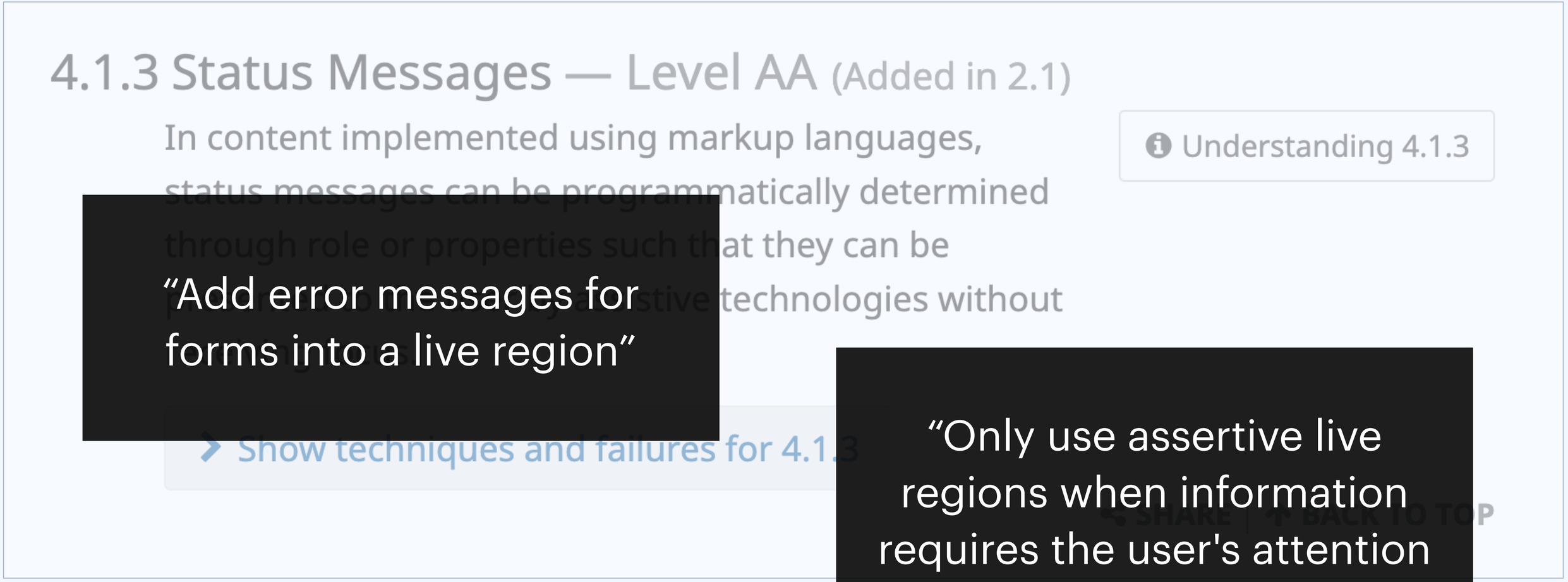
Understanding 4.1.3

In content implemented using markup languages, status messages can be programmatically determined through role or properties such that they can be presented to the user by assistive technologies without receiving focus.

> Show techniques and failures for 4.1.3

SHARE | BACK TO TOP

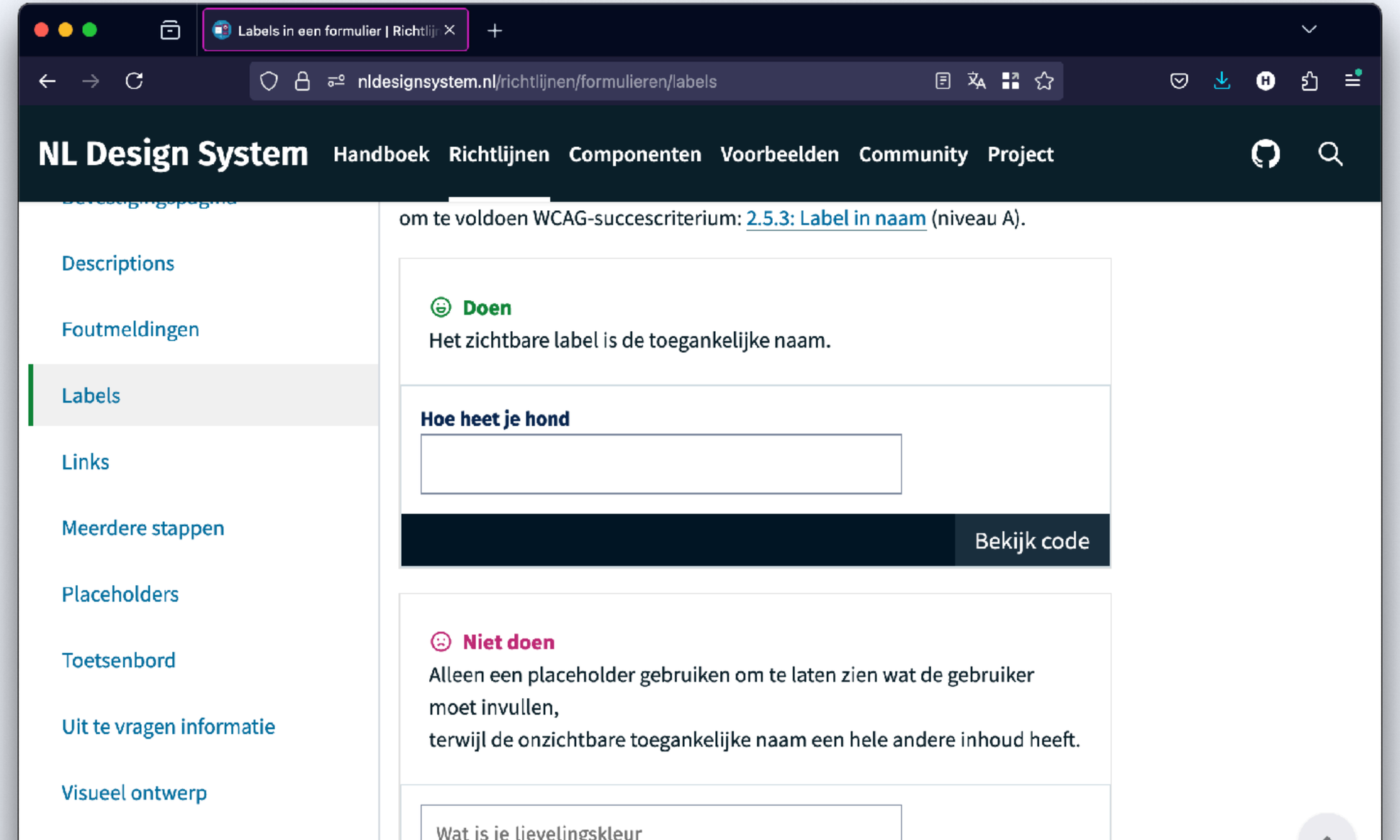
Make it concrete



"Add error messages for forms into a live region"

"Only use assertive live regions when information requires the user's attention immediately"

Make it concrete: do's and don'ts



Back guidance up with research

“Accessibility isn't just about meeting standards, it's about usability too”

– Vasilis van Gemert (this morning)

User research as input for patterns

Foutmeldingen | NL Design Syst

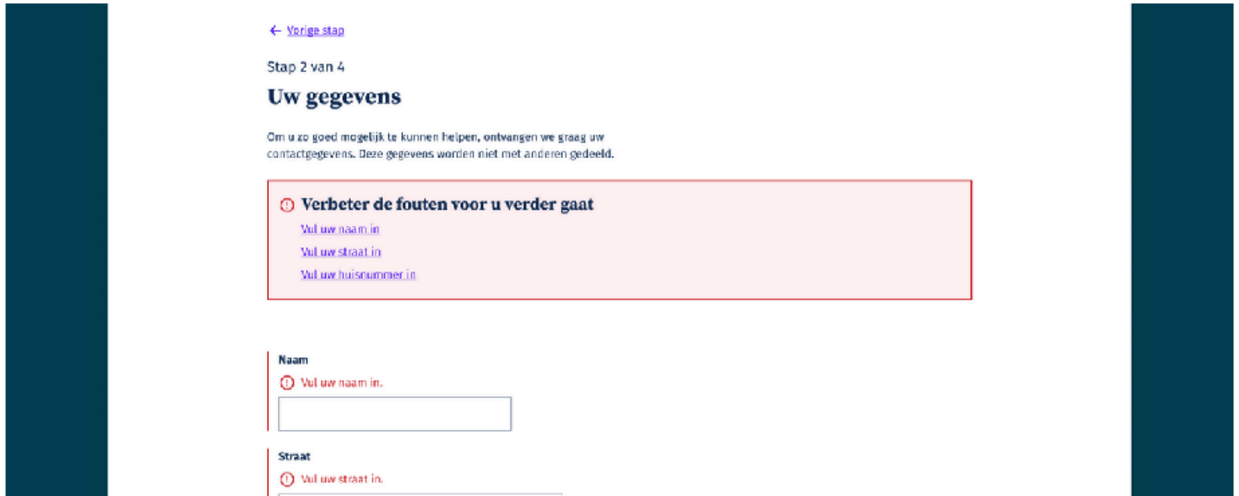
nldesignsystem.nl/voorbeelden/patronen/formulieren/foutmeldingen

NL Design System | Handboek | Richtlijnen | Componenten | Voorbeelden | Community | Project

- Startpunt
- Intropagina
- Inloggen
- Stapelen en uitlijnen
- Niet verplichte velden
- Foutmeldingen
- Uploaden
- Voortgang indicatie
- 'Volgende stap' actie

Foutmeldingen in een formulier

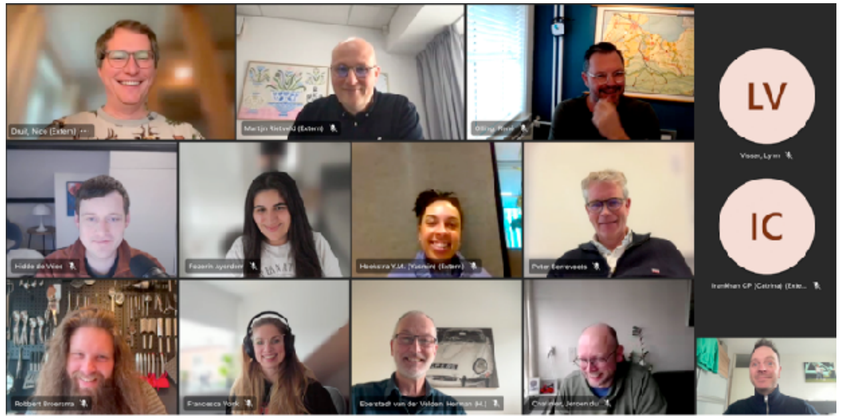
In een formulier kunnen foutmeldingen voorkomen. Hieronder verzamelen we informatie rondom dit patroon.



Inzichten uit onderzoek

Gerelateerde richtlijnen van het NL Design System

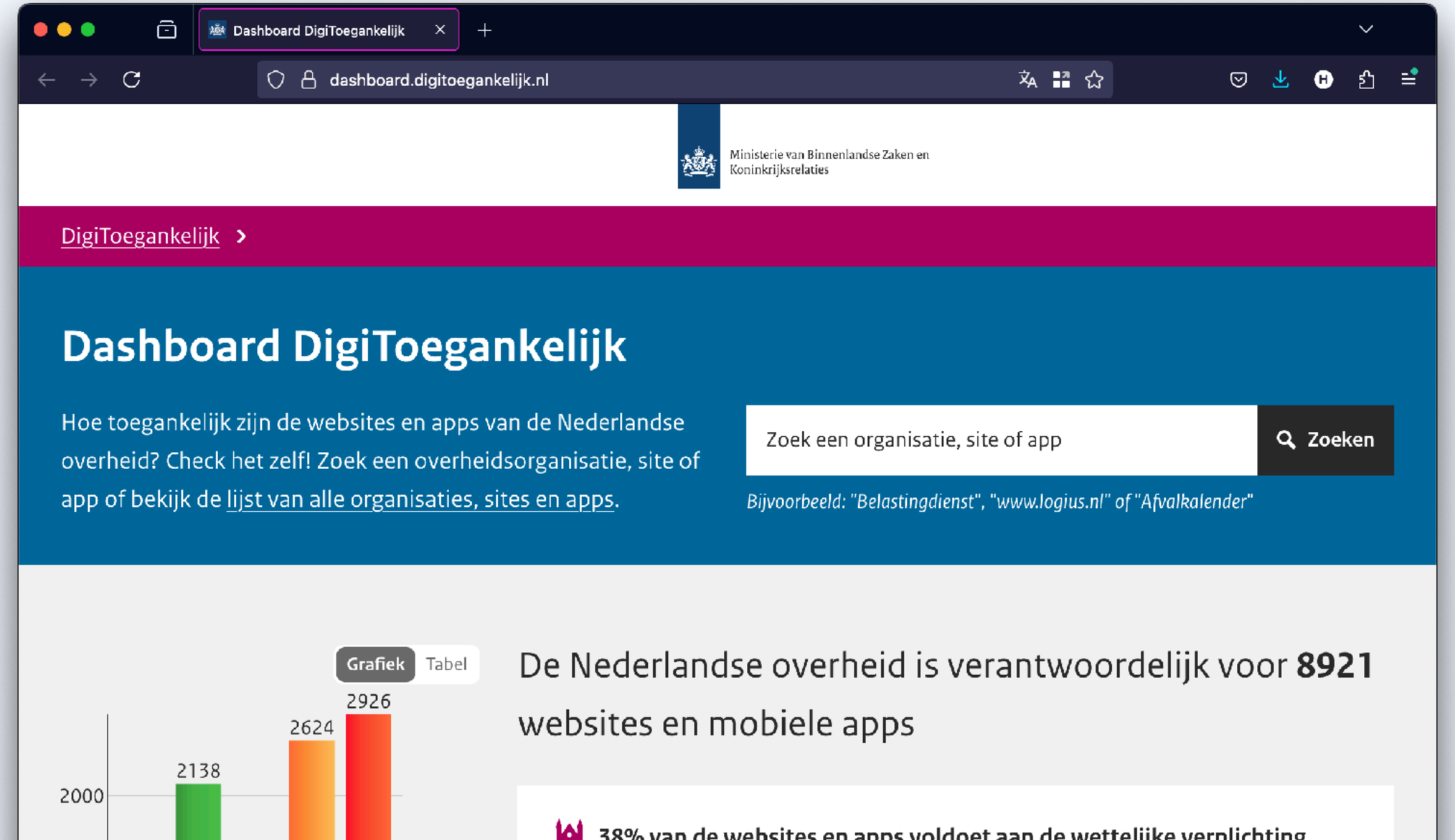
Accessibility audit reports as input for guidelines



Design Open Hour

Most reported issues as input for guidelines

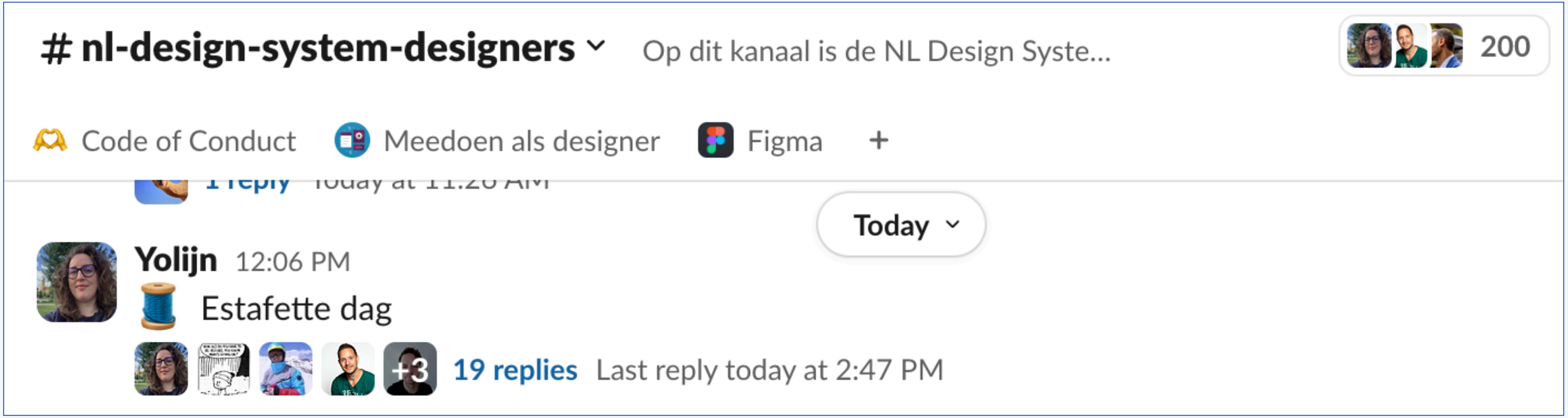
FUTURE



Make it open source

- More perspectives lead to better quality
- Easier to report issues
- Easier to steal
- Most effective against reinvention of wheels
- Instigates collaboration

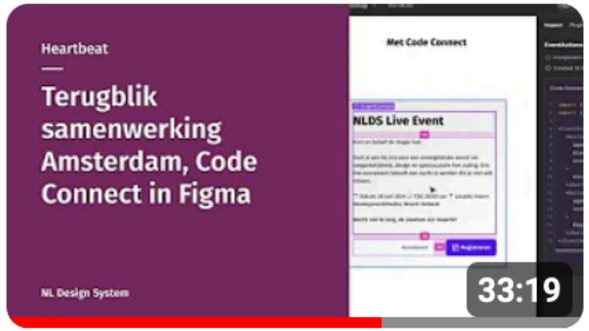
Work in the open



Threads in public channels so that people can peak (low-treshold)

Heartbeats 2024

Alles afspelen



Terugblik samenwerking Gemeente Amsterdam, Cod...

NL Design System

Michaëla Tan vertelt over samenwerking KWIV en NL...

NL Design System

Participatieprojecten in eigen huisstijl met Open Stad en ...

NL Design System

Tom Dekker van Acato vertelt over de NL Design System...

NL Design System

Public bi-weekly meetings that are also publised afterwards

Test with people and share the results

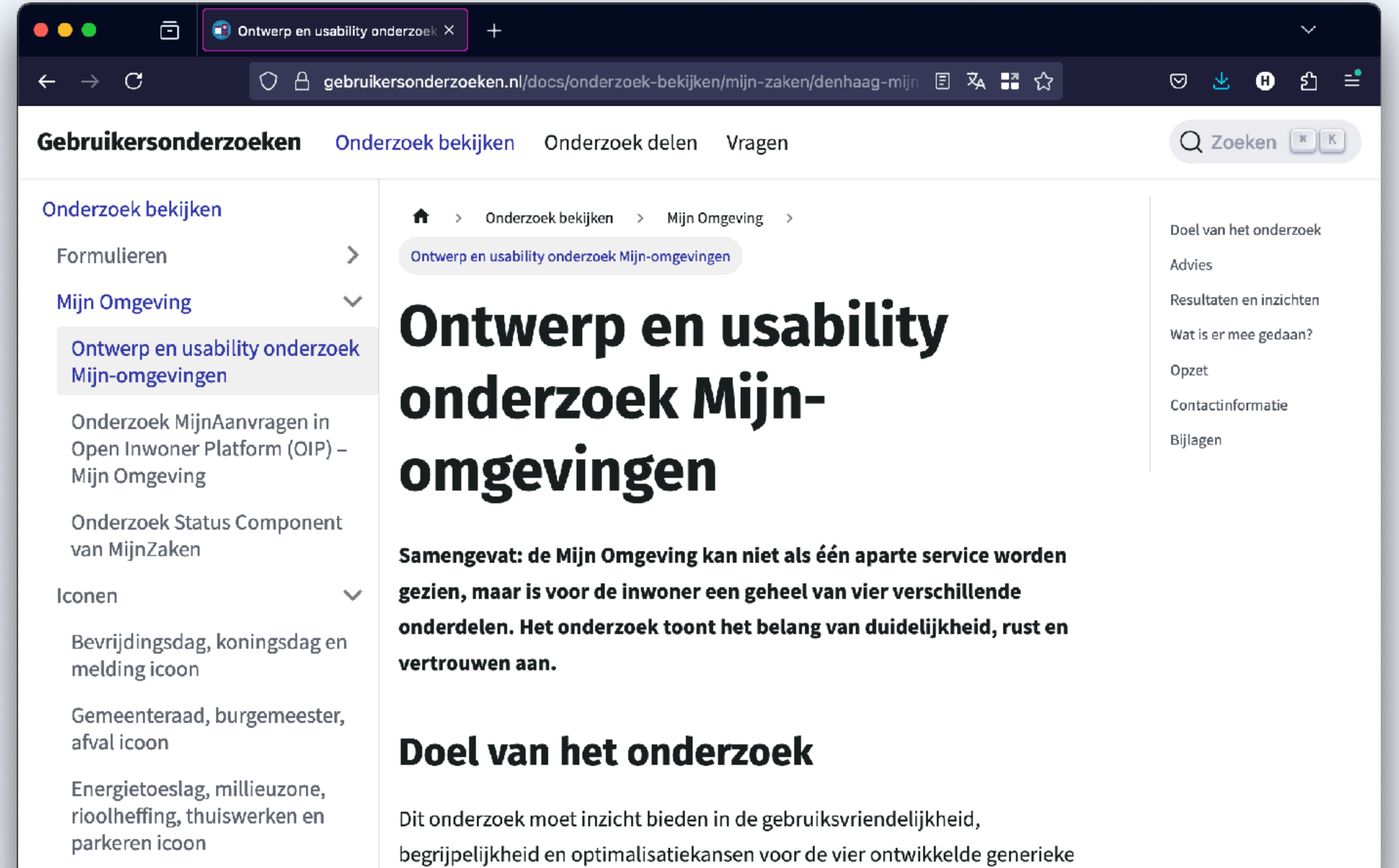
Test with people and share the results

Because accessibility is more than WCAG

Test with people and share the results

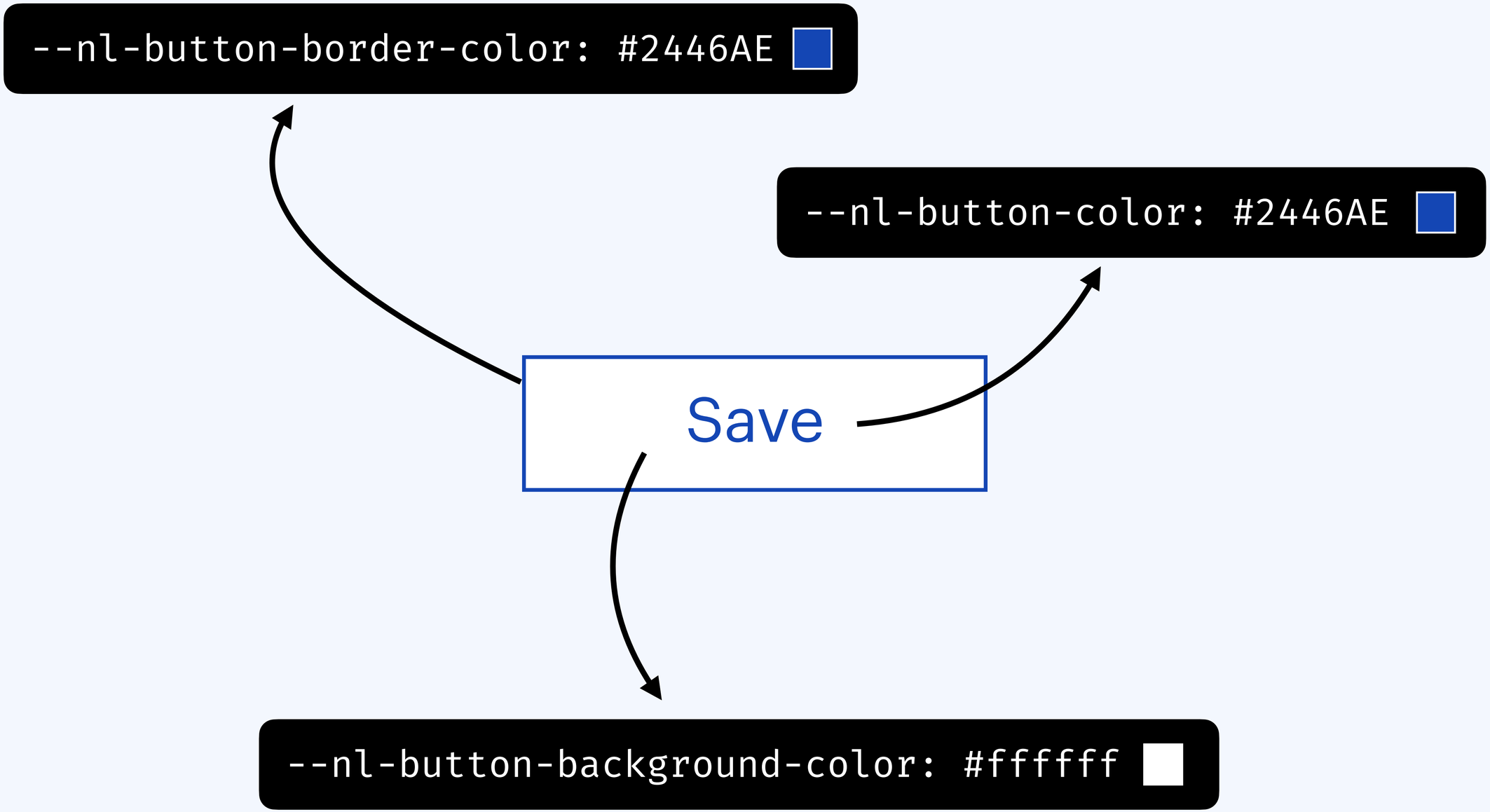
Because not everyone will test, your results likely have some use for others

gebruikersonderzoeken.nl



Open design decisions up for automated scrutiny

Save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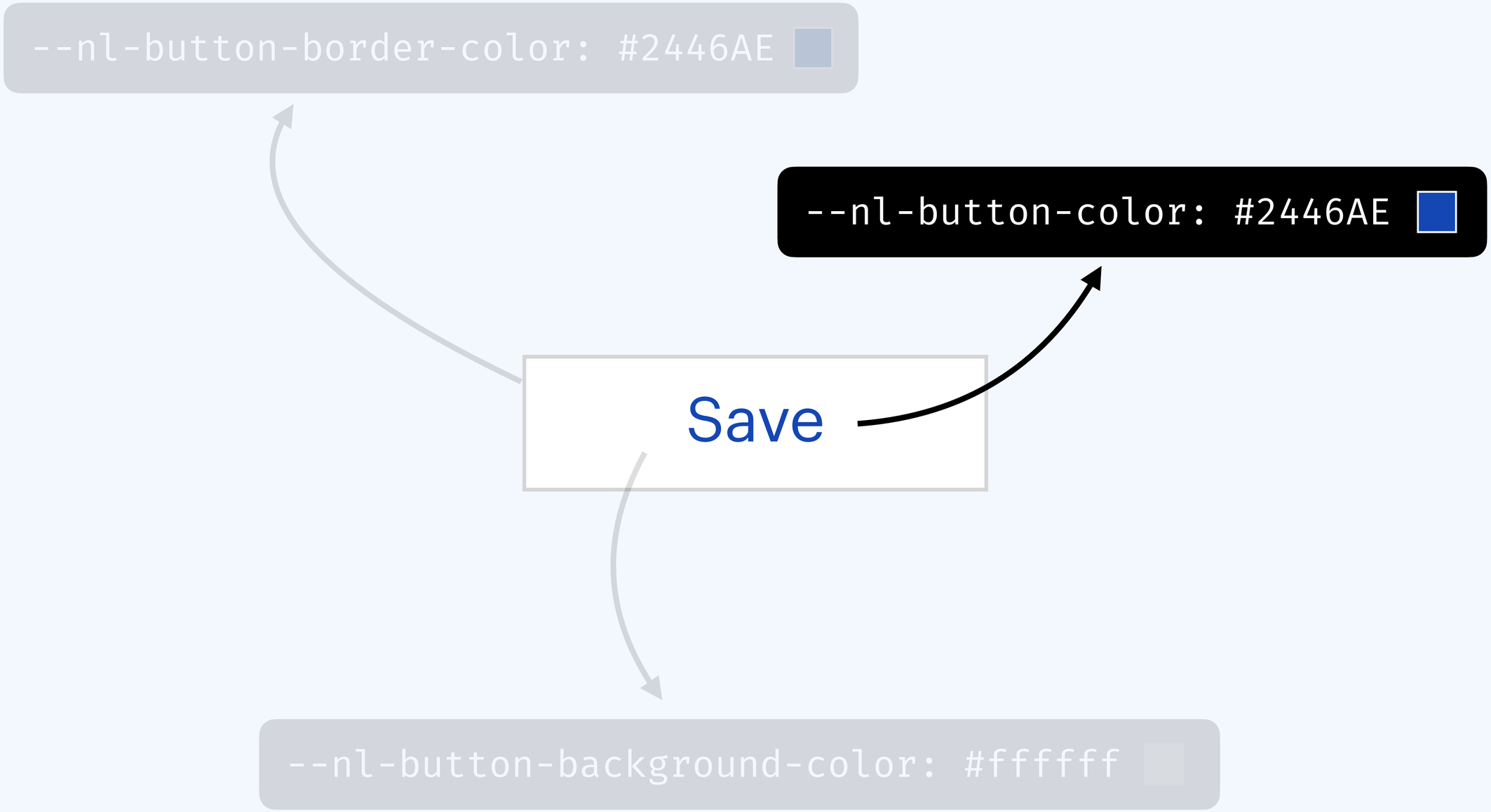
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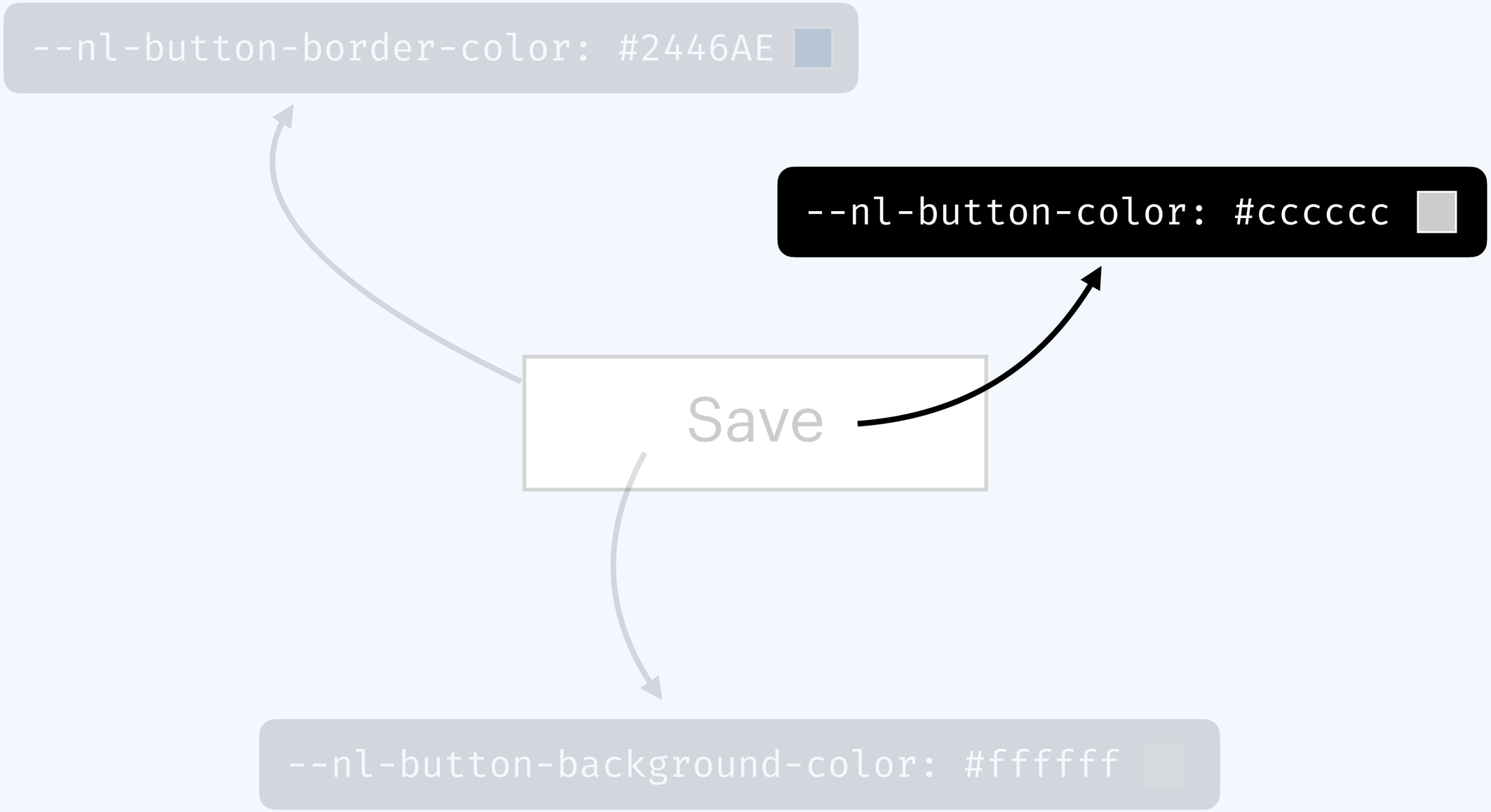
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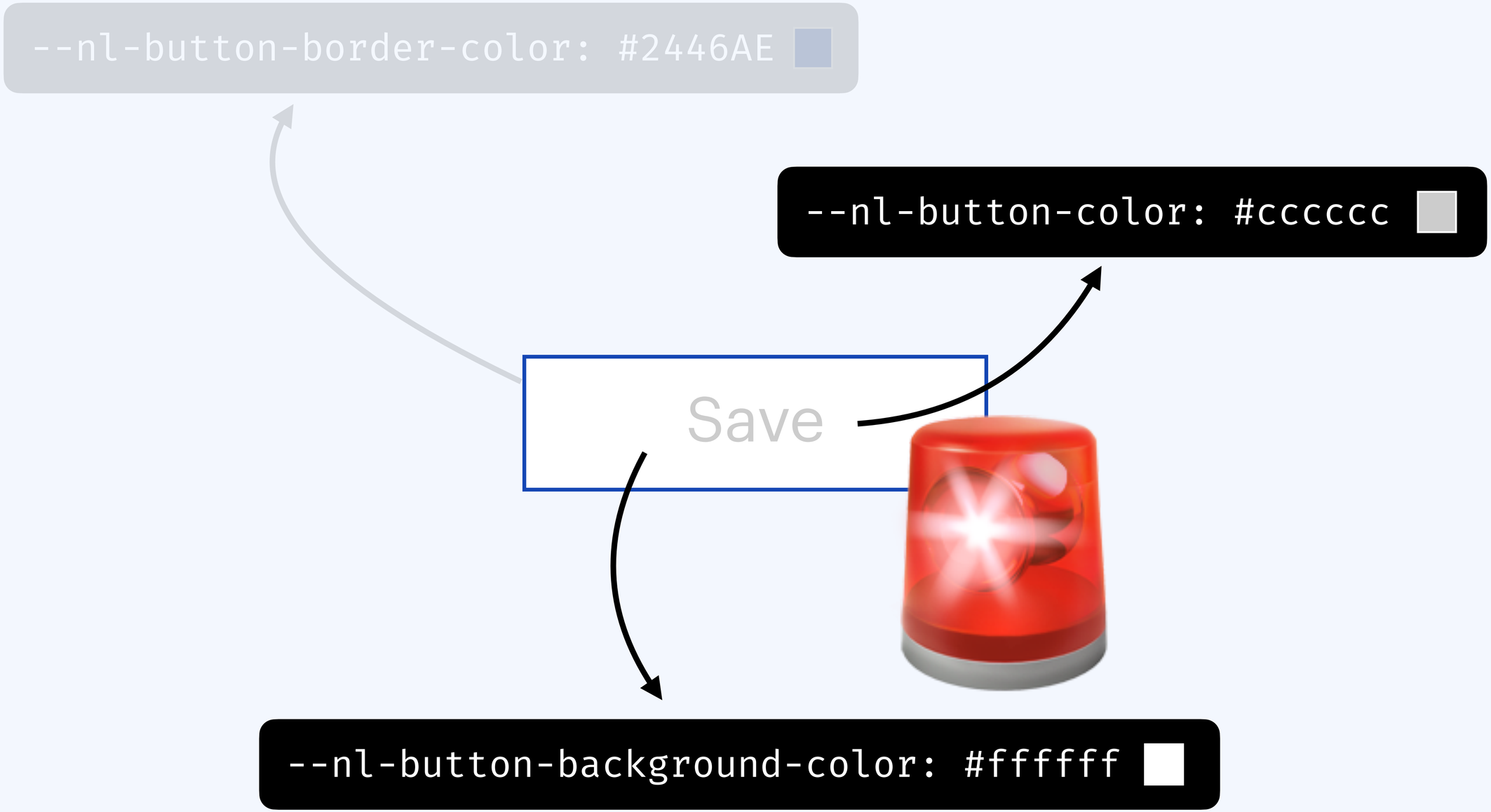
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Verify with process

Verify with process: GOV.UK

GOV.UK Service Manual

Search on GOV.UK

BETA Contact the Service Manual team if you have feedback, questions or suggestions.

Service manual > Service Standard

Service Standard

5. Make sure everyone can use the service

Give feedback about this page

Provide a service that everyone can use, including disabled people and people with other legally protected characteristics. And people who do not have access to the internet or lack the skills or confidence to use it.

Contents

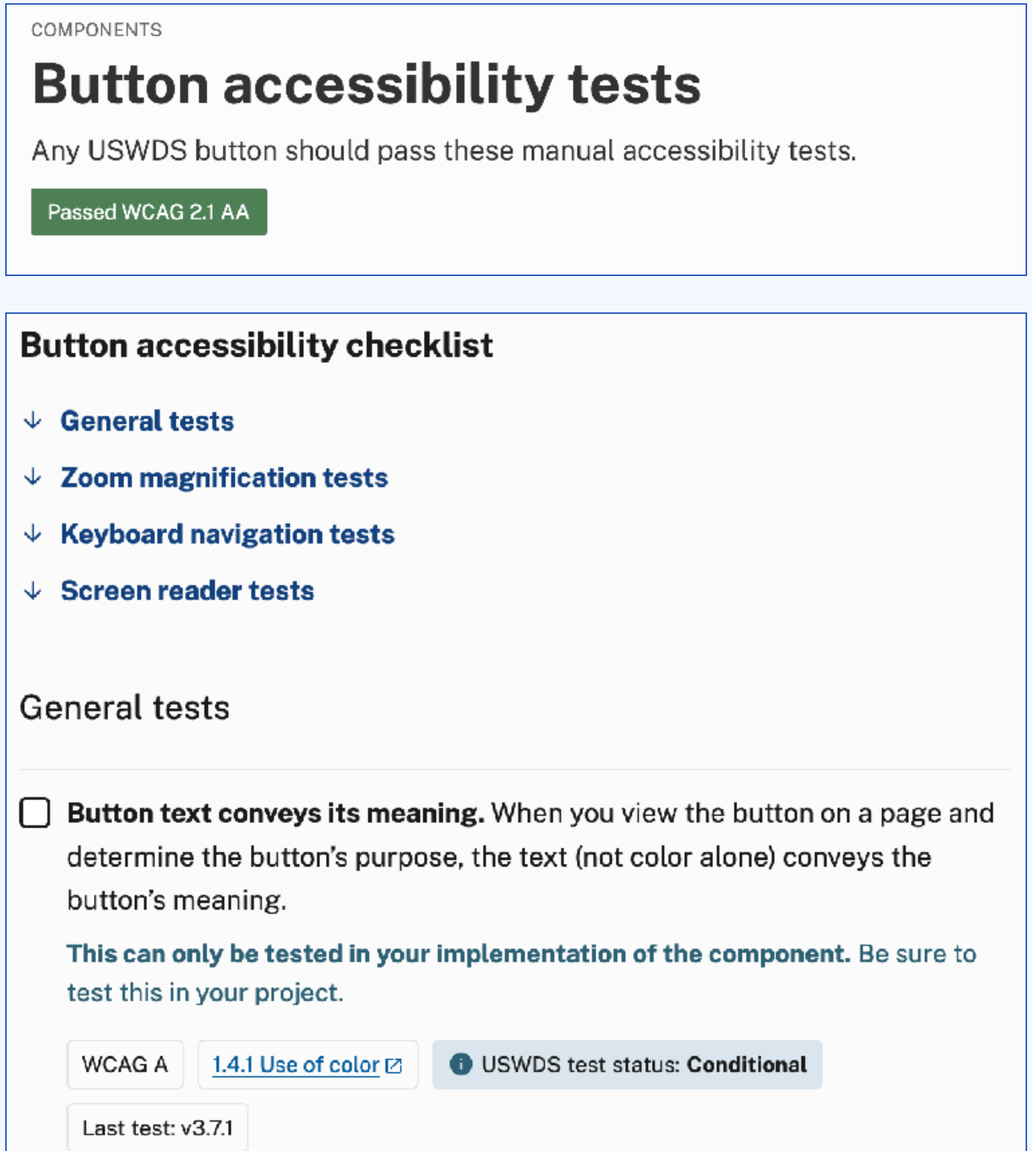
— Why it's important

Why it's important

Verify with process: NL Design System “Relay Model”

Do handover to consumers with test steps

Handover: USWDS



- Explain which tests you've done
- Explain what consumers of the components should test themselves

Make it concrete

Back guidance up with research

Make it open source

Work in the open

Test with users, share the tests

Test design tokens

Verify with process

Handover with test steps

Wrapping up

Built-in accessibility: blessing *and* curse

Re: in defense of websites...

- Hard to find good code examples
- Conformance vs guidance
- AT/browser support vs actual usability
- WCAG often can't tell you what to do (for reasons, but still)

“Built-in” accessibility

It's not trivial, not a one-off, not a quick “fix”.

It can be done.

It's worthwhile.

hidde.blog/slides

@hdv in most places

Thank you!

hidde.blog

@hdv@front-end.social

Slides: talks.hiddedevries.nl