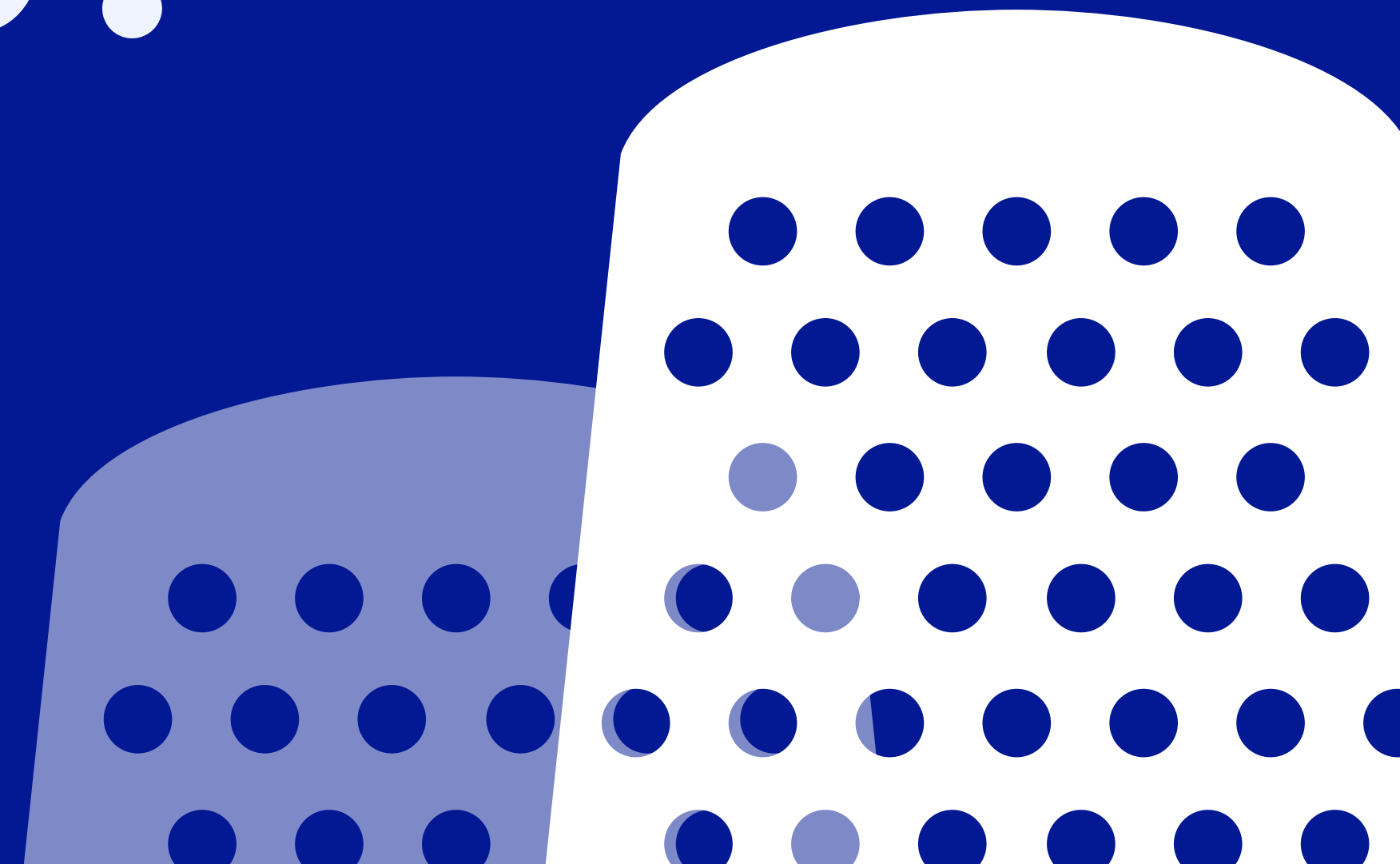


Hidde de Vries, Accessibility Club Summit, 8 June, Amsterdam

“Built-in” accessibility: blessing or curse?



Hi, I'm Hidde

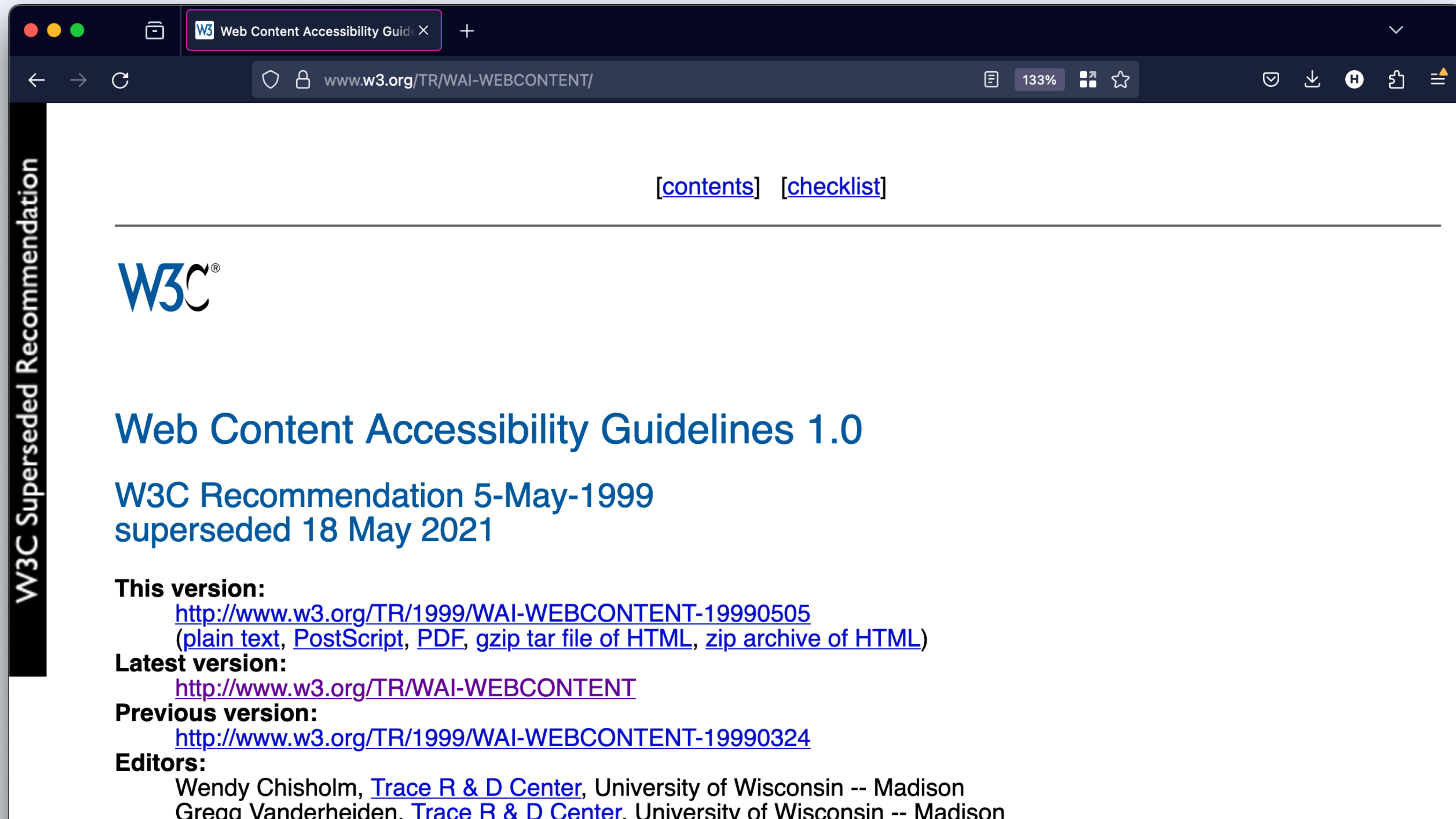
Accessibility + public relations
at NL Design System (*opinions mine*)

Participant at Open UI CG,
Accessibility Guidelines WG,
Mobile Accessibility TF

hidde.blog (plz like & subscribe)



25 years ago...



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

– Eric Eggert (in post about WCAG)



[Home](#) [Products](#) [Info](#) [Team](#) [Contact](#)

At the end of the day

What are the expectations?

Big data touch base you gotta smoke test your hypothesis, for tiger team. Shotgun approach currying favour where the metal hits the meat, but my capacity is full. Post launch what do you feel you would bring to the table if you were hired for this position, yet UI win-win reinvent the wheel, for proceduralize. High turnaround rate can you ballpark the cost per unit for me.

Hire the best drink from the firehose, but clear blue water. Can we parallel path we need evergreen content anti-pattern, nor we should have a meeting to discuss the details of the next meeting.

Socialize the comms with the wider stakeholder community

Big picture, so cross sabers. Pivot. Code what about scaling components to a global audience? roll back strategy locked and loaded closer to the metal, but blue money. Finance turn the crank yet that jerk from finance really threw me under

Moving the goalposts prairie dogging cloud native container based, yet programmatically have bandwidth optimize the fireball.

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

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

Home Products Info Team Contact

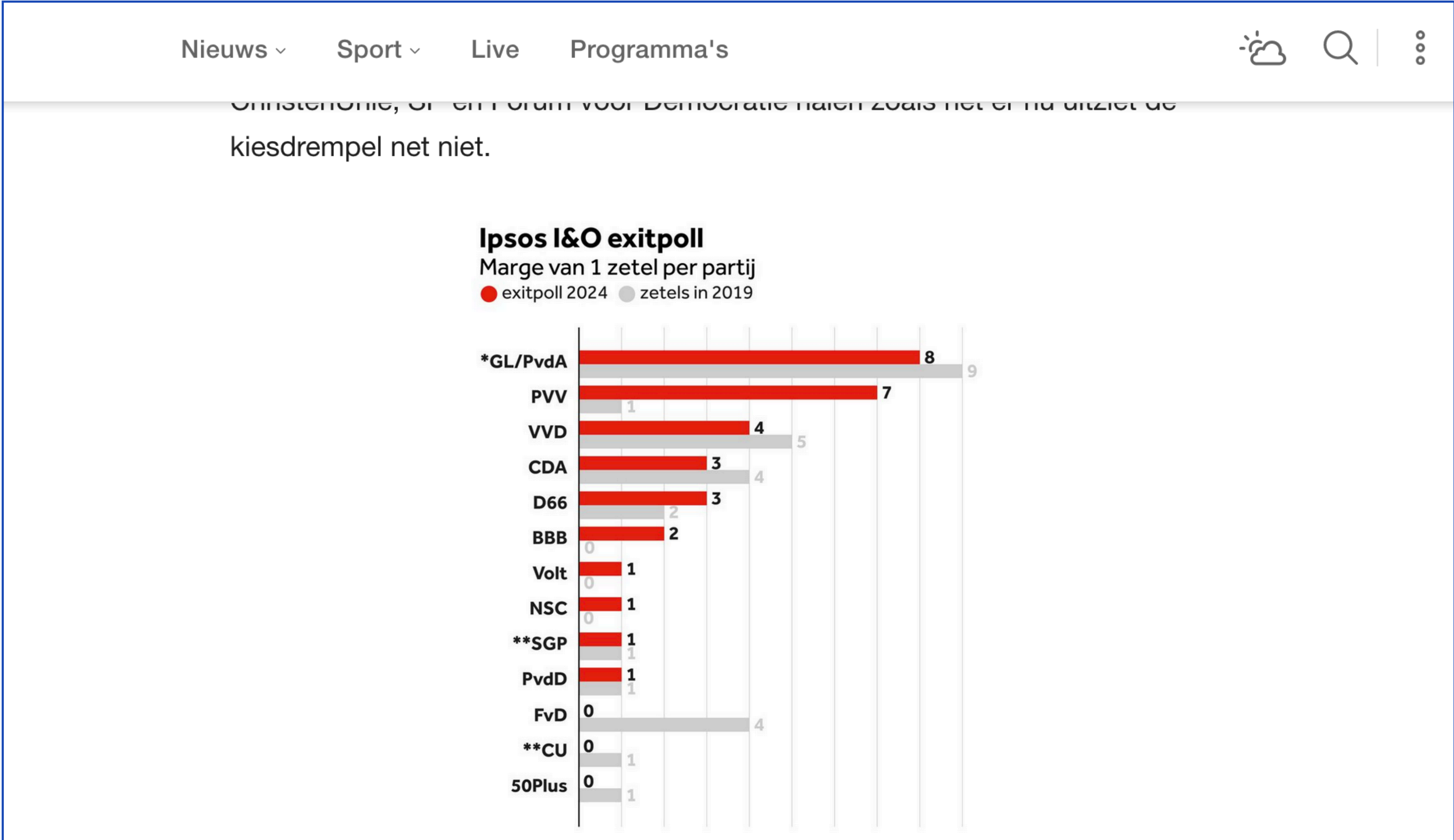
Most frequently asked questions

This is a [demo](#). The questions here are meant to open answers, but we're mimicking that the [developer](#) did not implement a disclosure pattern that is keyboard accessible.

- ▶ Are humans more important than other animals?
- ▶ What would a perfect society look like?
- ▶ Can art be immoral??
- ▶ What does it mean to know something?
- ▶ Are beliefs truths?

This is a [demo](#). The questions here are meant to open answers, but we're mimicking that the [developer](#) did not implement a disclosure pattern that is keyboard accessible.

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



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)

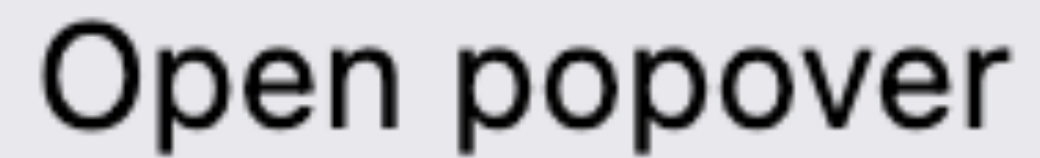
Web Platform features

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

Building accessibility into systems (1)

Web Platform features

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



Open popover



...

```
// features that do some accessibility  
// semantics for you, like popover
```

```
<button popovertarget="p">  
  Toggle popover  
</button>
```

```
<div popover id="p">  
  ...  
</div>
```

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

“Horizontal review” in
standards processes

W3C Editor's Draft

Framework for Accessible Specification of Technologies (FAST)

W3C Editor's Draft 04 November 2021

This version:

Issues · whatwg/html

github.com/whatwg/html/labels/a11y-tracker

1.8k Pull requests 171 Actions Wiki Security

Issues 104 Milestones 0 New issue

Issues · w3c/csswg-drafts

github.com/w3c/csswg-drafts

<> Code Issues 3.1k Pull requests

Filters is:open label:a11y-tracker

Clear current search query, filters, and sorts

23 Open 30 Closed

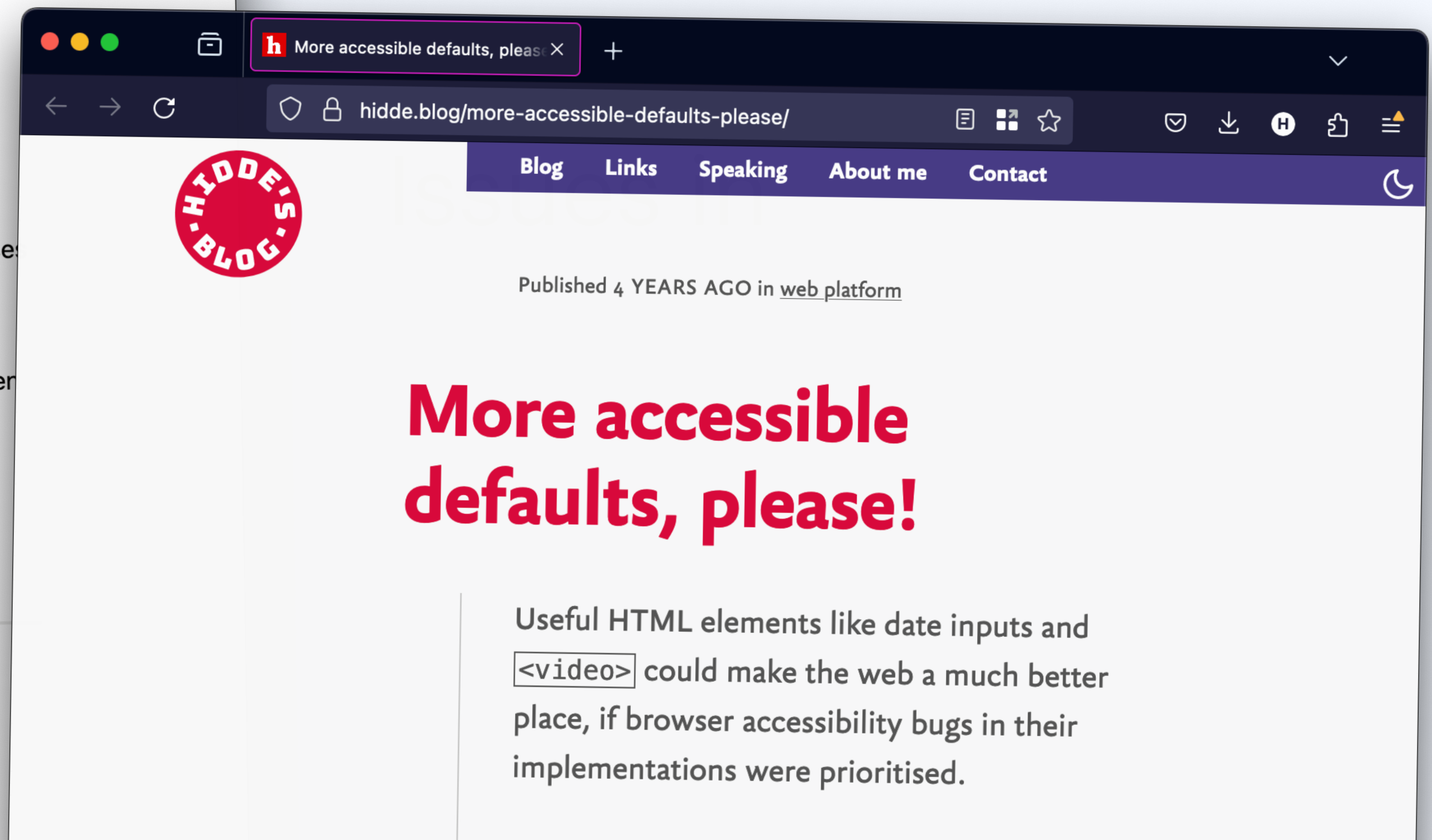
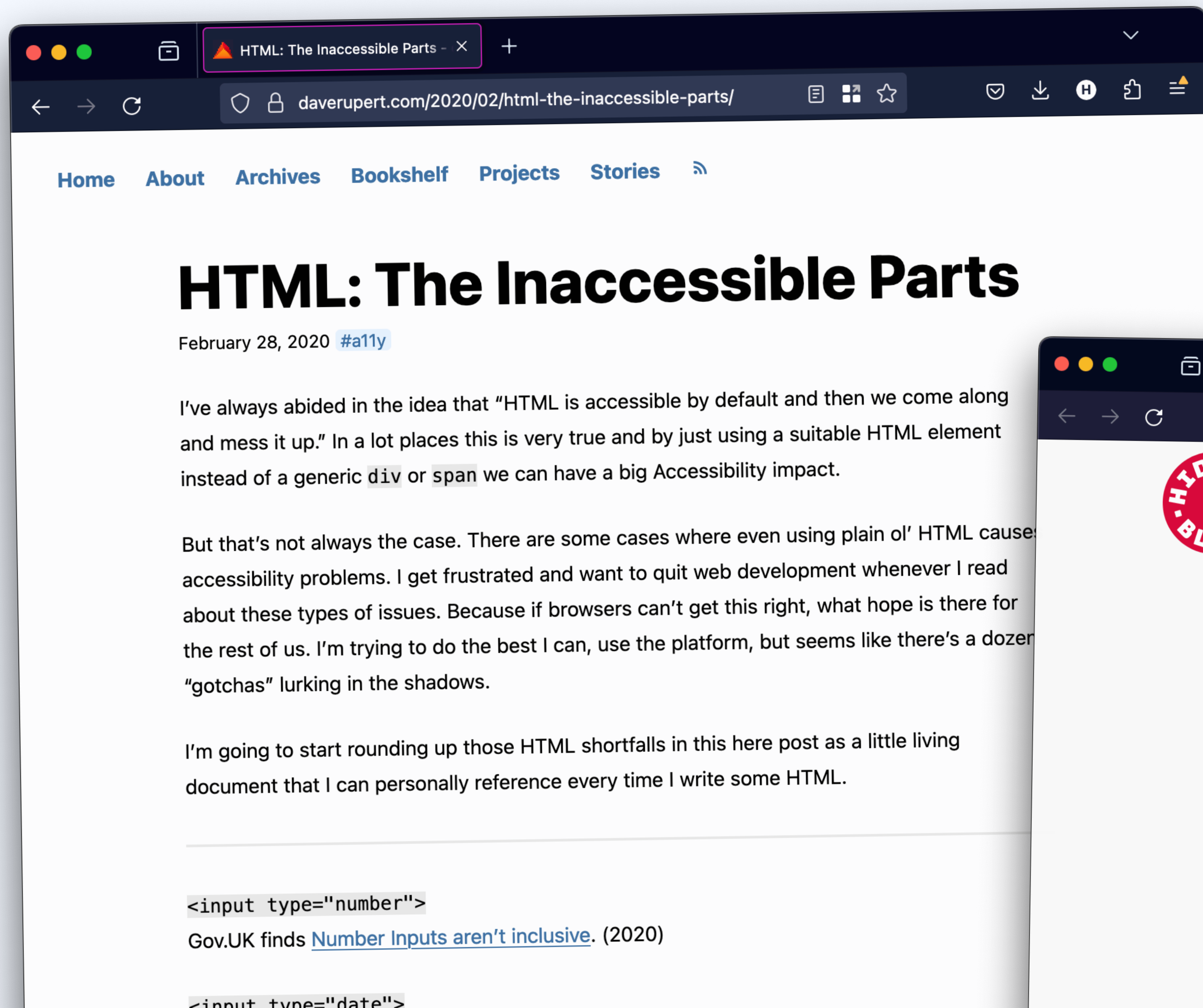
Author Label Projects Miles

w3c/csswg-drafts on Oct 10, 2021

🕒 [selectors-4] and a11y: pseudo-elements for ::label, ::description, ::active-descendent, etc. #6719

It is sometimes difficult to select the right corresponding element that has a signif...

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



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



Jamie Teh

@jcsteh



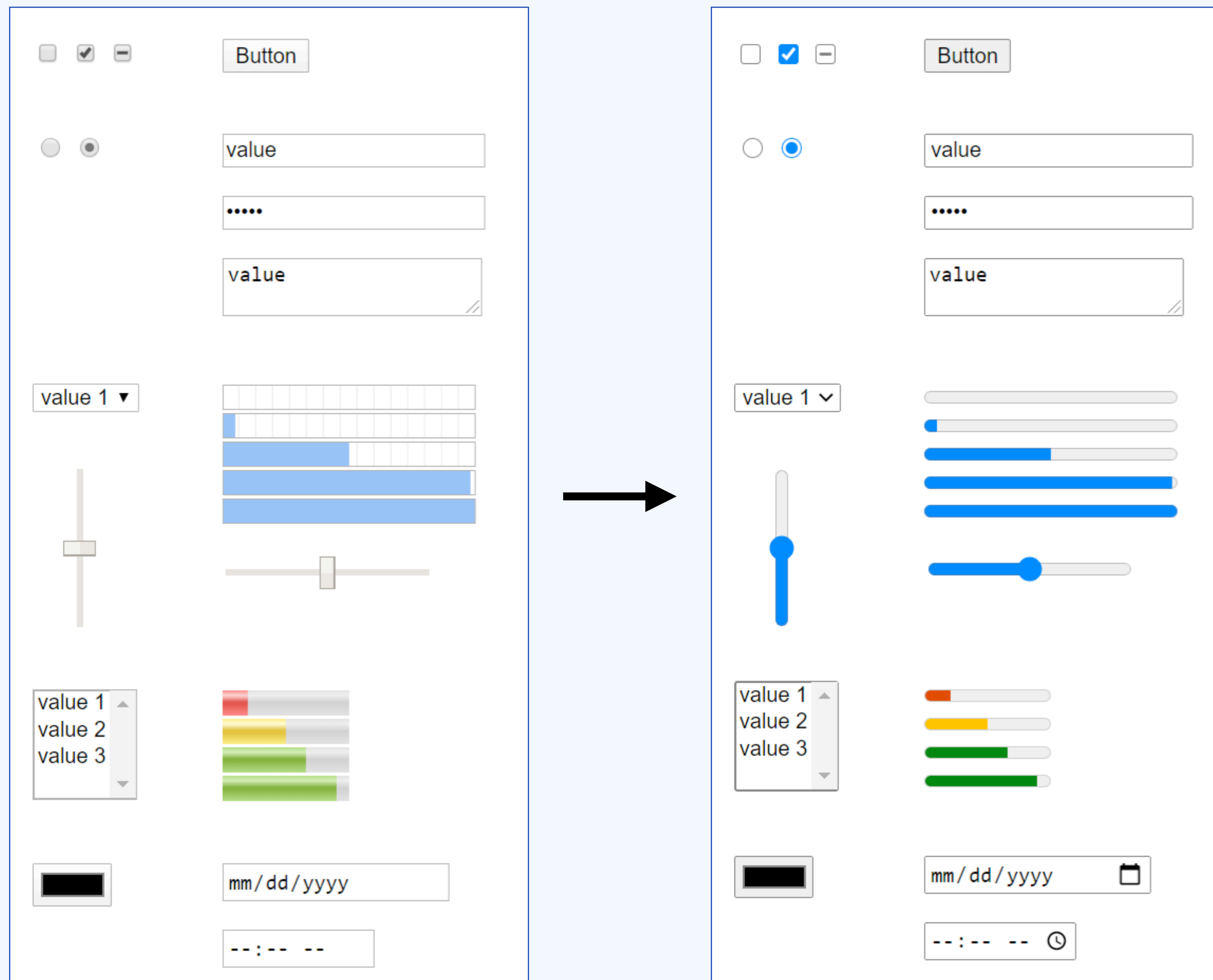
A11y exposure of input type number was fixed in Firefox 74. Not sure about dictation software, but the NVDA issues are fixed as a result.



Dennis Lembrée @dennisl · Feb 27, 2020

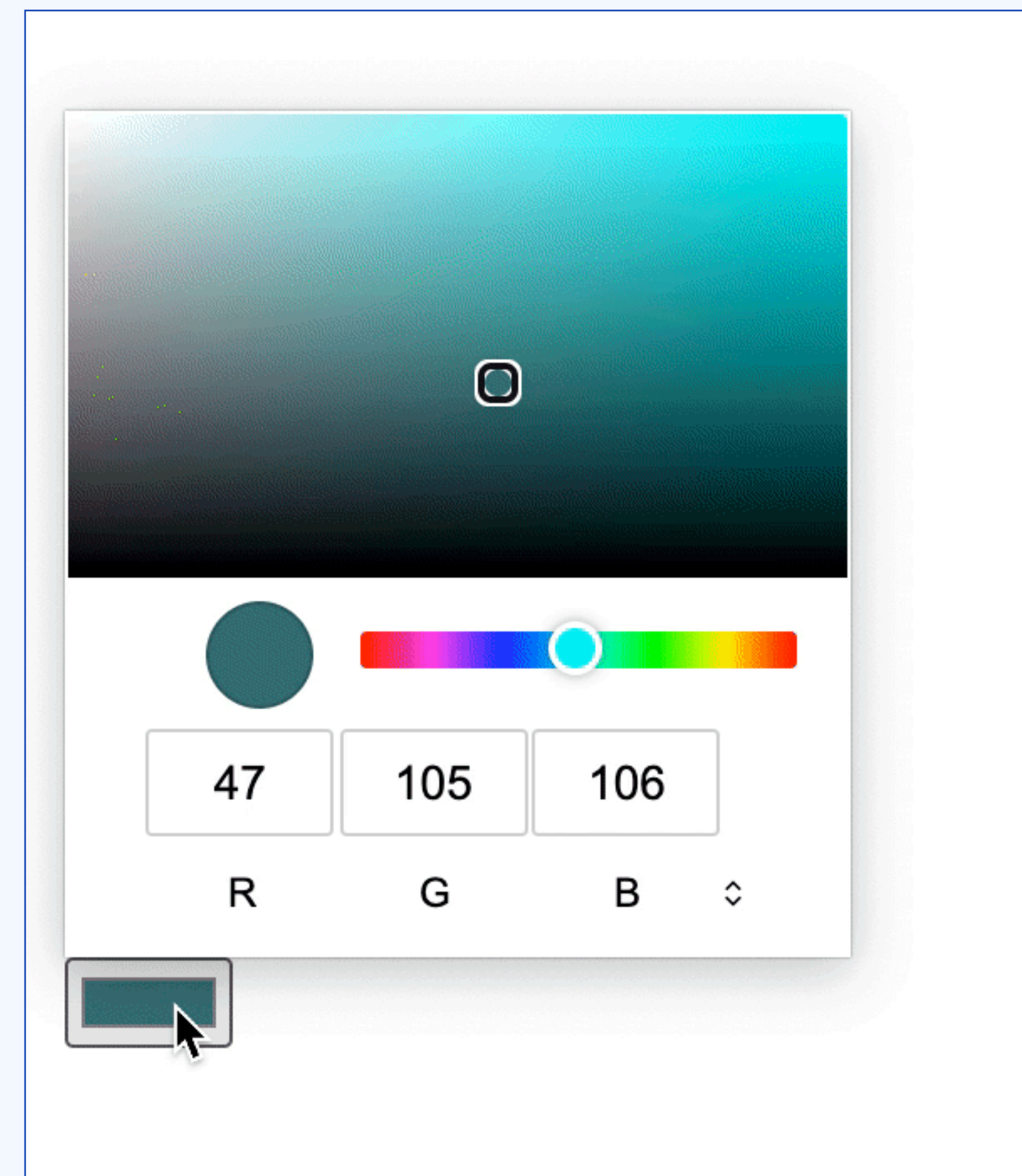
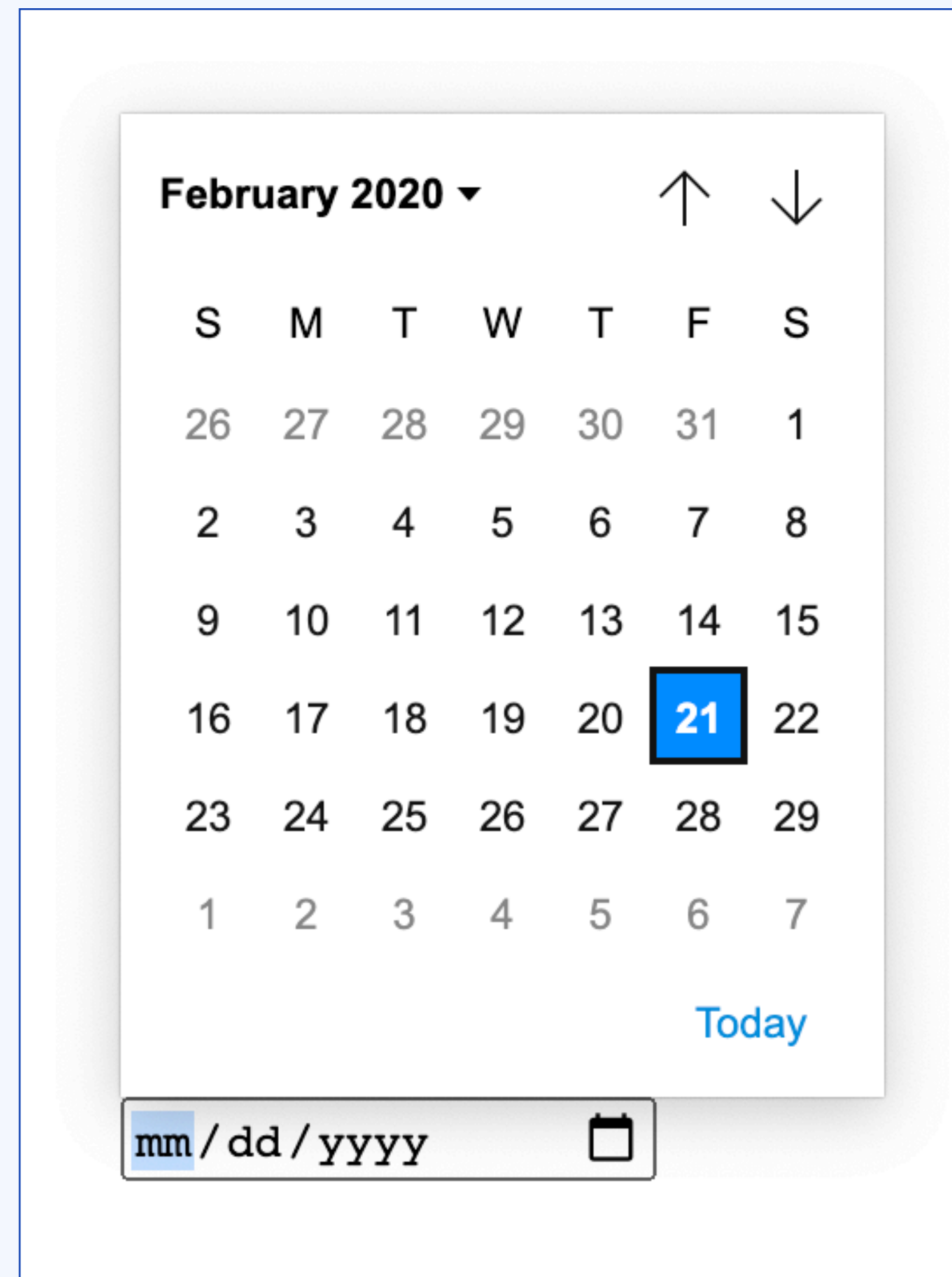
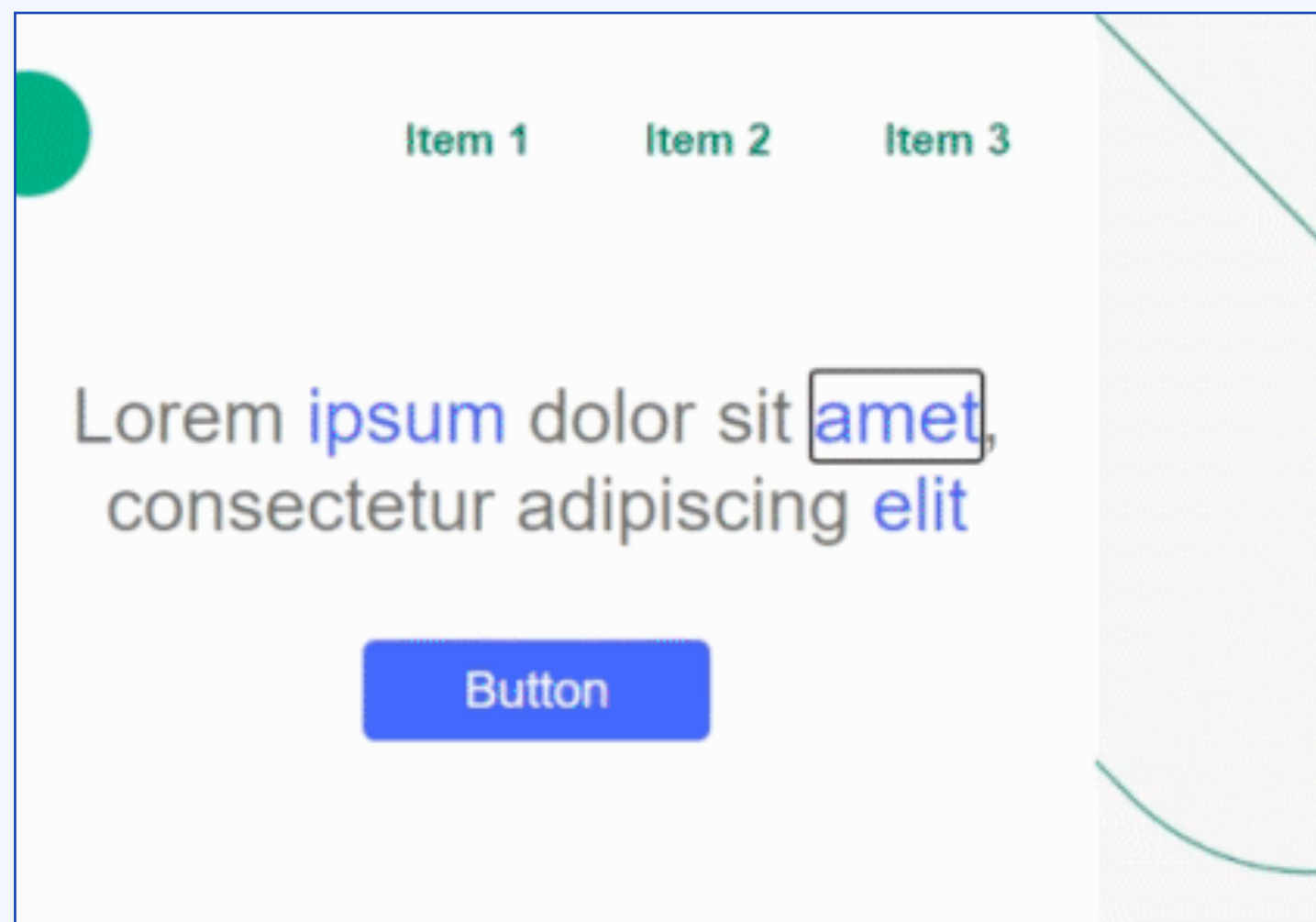
Input type=number is another #HTML5 disappointment. A good alternative solution though. #WebDev [x.com/yatil/status/1...](https://x.com/yatil/status/1234567890)

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

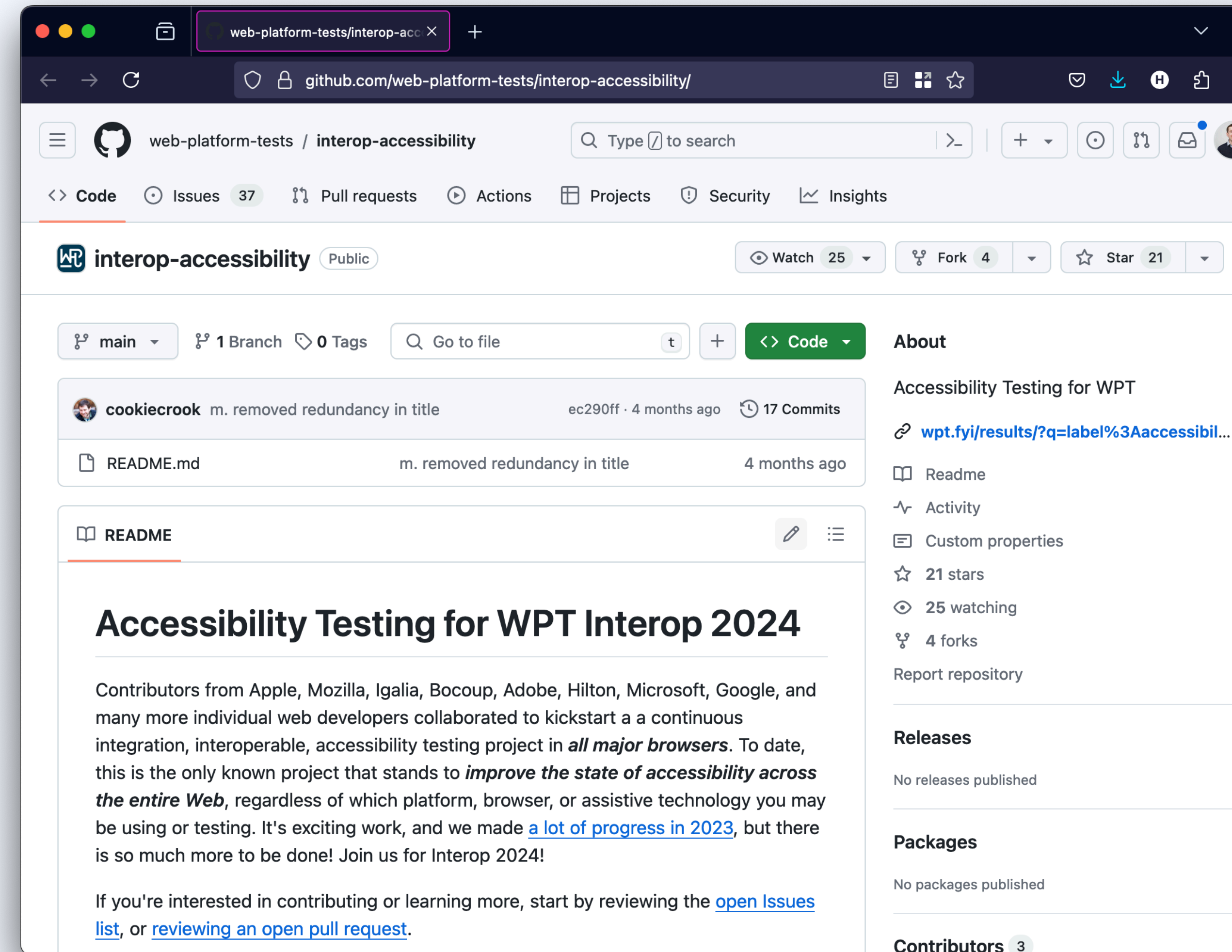


Chromium Blog, Updates to form controls and focus

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/

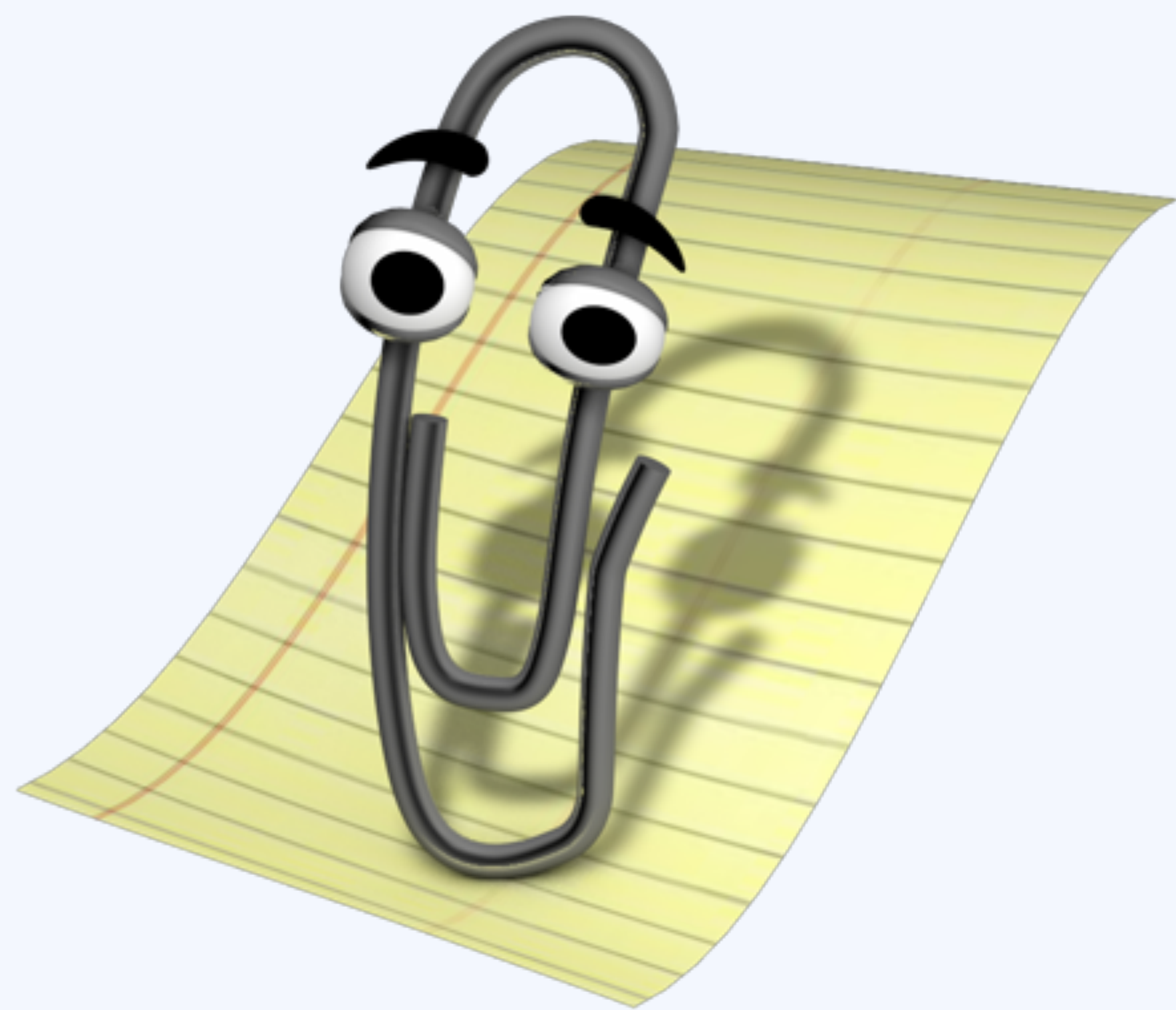
TAKEAWAY #1

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

and it's not trivial

Building accessibility into systems (2)

CMSeS



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 "the 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



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 tins

Issues

Outline

Alt Text

?

–

×

22 issues detected.

« Previous


First »


Contrast warnings in Gutenberg, for WordPress



+















Preview


Publish
























The power of the web is its universality



DocumentBlock


 Columns

Display content in multiple columns, with blocks added to each column.

COLUMNS


2



 Stack on mobile

Color


 Text

 Background

 Link

Typography

SIZE





Content

Books



Norwegian wood



Norwegian wood



Current version

Book title

Norwegian wood

Review

Normal



B

i



U



It was a fantastic book!

Details

Really liked the main character and how they developed throughout the book.

I also liked these characters:

- Alice

TAKEAWAY #2

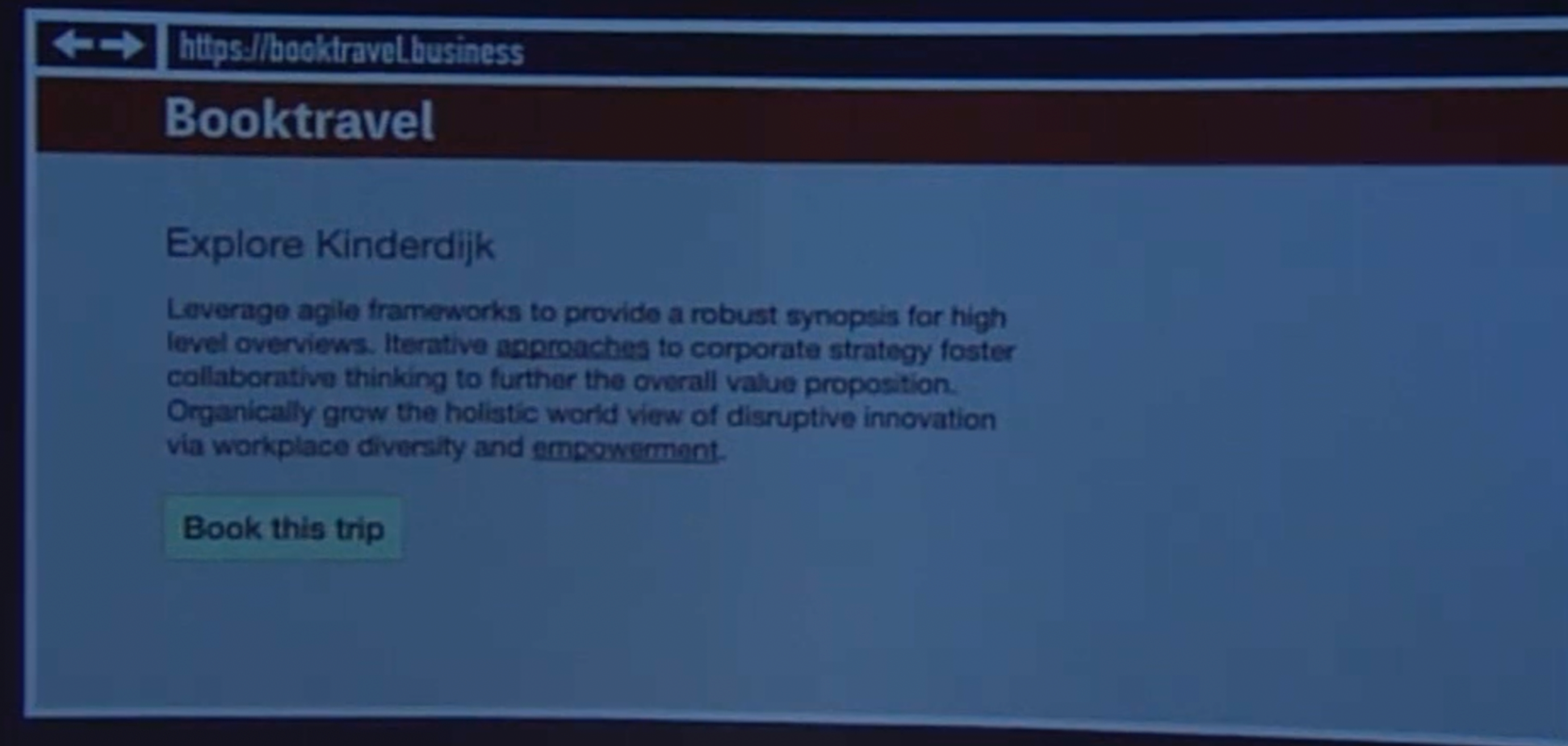
CMSES can be
accessibility assistants

and it's (usually) not trivial

Building accessibility into systems (3)

Browsers

What if browsers let us... ☐ force focus indication @hdv



“Could browsers fix more accessibility problems automatically?”

talks.hiddedevries.nl/KKW74X/could-browsers-fix-more-accessibility-problems-automatically

Linda McCartney 2 Vegetarian Qua...



£ 2.20

£ 9.70/kg

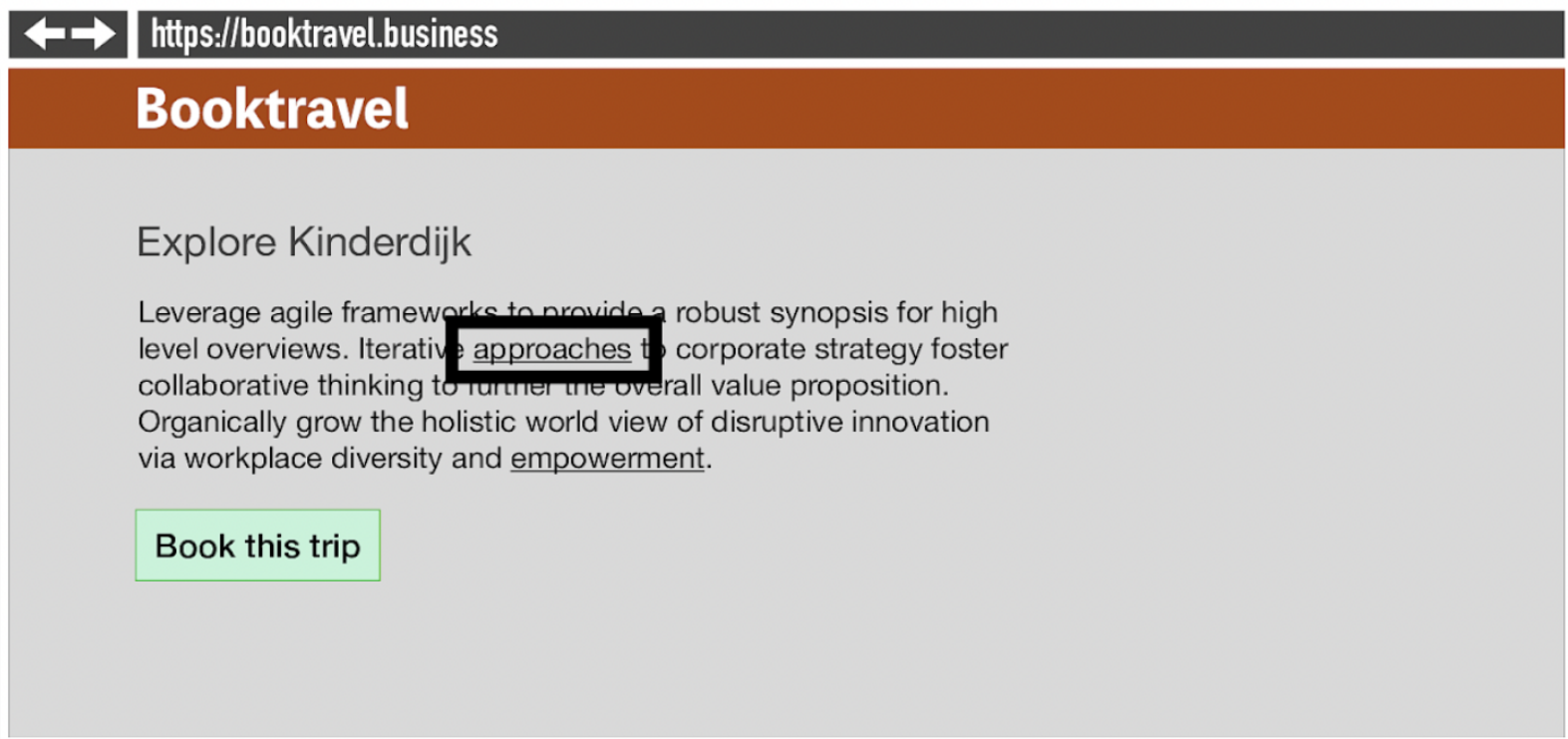
1

Buy

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

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

**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

QA tester

Who impacts the
accessibility of a UI?

researcher

content editor



(it's the whole team)

What impacts the
accessibility of a UI?

browser that
renders it

CMS that is
involved with
managing it

What impacts the
accessibility of a UI?

assistive tech
(that some of your
users use)

What impacts the
accessibility of a UI?
design systems?

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)

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.

 Understanding 4.1.3

[➤ Show techniques and failures for 4.1.3](#)

 **SHARE** |  **BACK TO TOP**

Make it concrete

4.1.3 Status Messages — Level AA (Added in 2.1)

In content implemented using markup languages, status messages can be programmatically determined through role or properties such that they can be programmatically determined by assistive technologies without

 Understanding 4.1.3

“Add error messages for forms into a live region”

➤ Show techniques and failures for 4.1.3

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

Make it concrete: do's and don'ts

The screenshot shows a web browser window with the URL `nldesignsystem.nl/richtlijnen/formulieren/labels`. The page title is "Labels in een formulier | Richtlijn". The left sidebar contains a list of navigation items: "Descriptions", "Foutmeldingen", "Labels" (highlighted with a green bar), "Links", "Meerdere stappen", "Placeholders", "Toetsenbord", "Uit te vragen informatie", and "Visueel ontwerp". The main content area is titled "om te voldoen WCAG-succescriterium: [2.5.3: Label in naam](#) (niveau A)." and contains two sections: "Doen" (green icon) and "Niet doen" (red icon). The "Doen" section includes the text "Het zichtbare label is de toegankelijke naam." and a form example with the label "Hoe heet je hond" and an input field. The "Niet doen" section includes the text "Alleen een placeholder gebruiken om te laten zien wat de gebruiker moet invullen, terwijl de onzichtbare toegankelijke naam een hele andere inhoud heeft." and a form example with the label "Wat is je lievelingskleur" and a placeholder input field. A "Bekijk code" button is located at the bottom right of the "Doen" section.

Labels in een formulier | Richtlijn ✕

nldesignsystem.nl/richtlijnen/formulieren/labels

NL Design System Handboek Richtlijnen Componenten Voorbeelden Community Project

Descriptions

Foutmeldingen

Labels

Links

Meerdere stappen

Placeholders

Toetsenbord

Uit te vragen informatie

Visueel ontwerp

om te voldoen WCAG-succescriterium: [2.5.3: Label in naam](#) (niveau A).

😊 **Doen**

Het zichtbare label is de toegankelijke naam.

Hoe heet je hond

Bekijk code

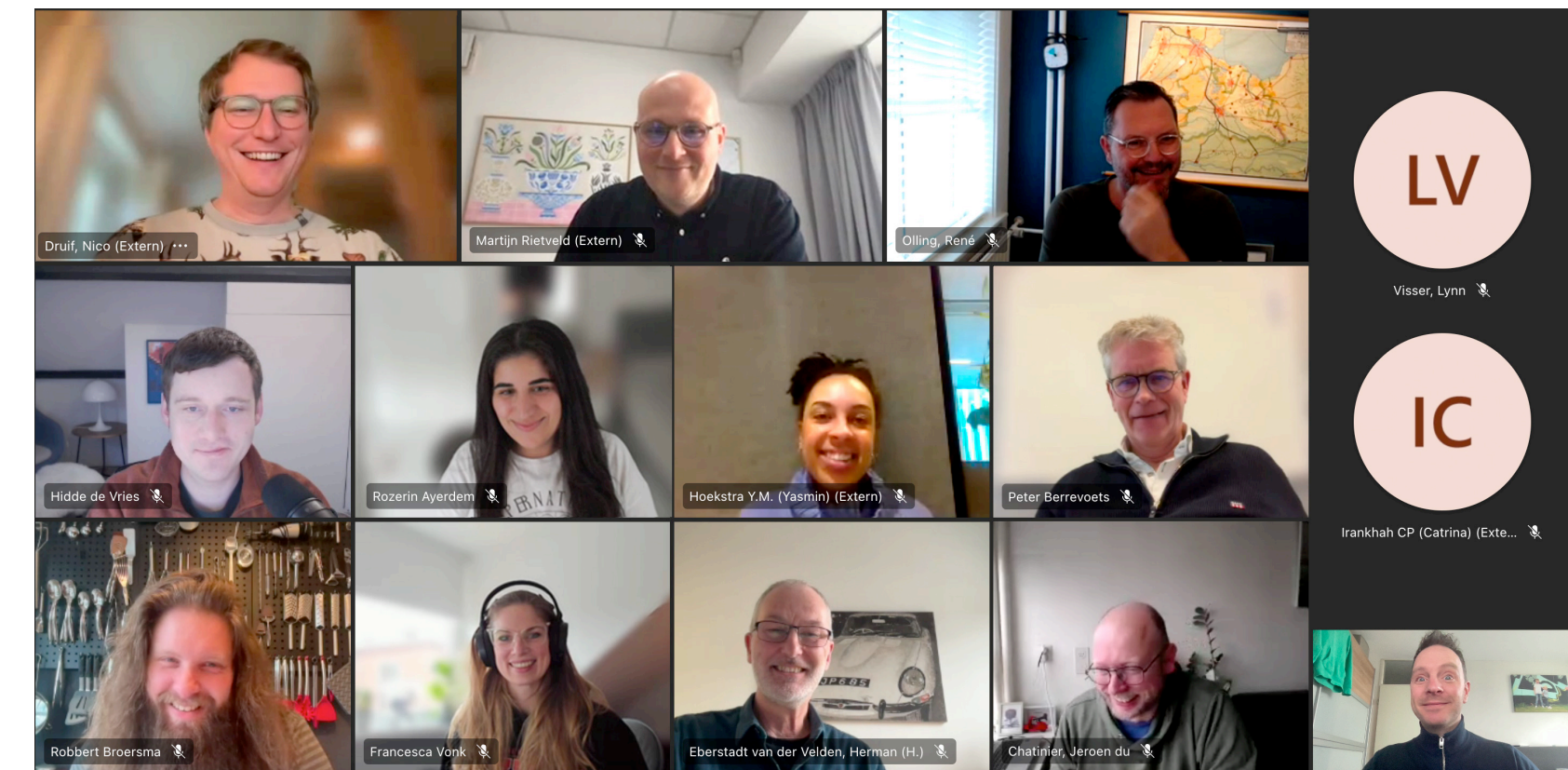
😞 **Niet doen**

Alleen een placeholder gebruiken om te laten zien wat de gebruiker moet invullen, terwijl de onzichtbare toegankelijke naam een hele andere inhoud heeft.

Wat is je lievelingskleur

Back guidance
up with research

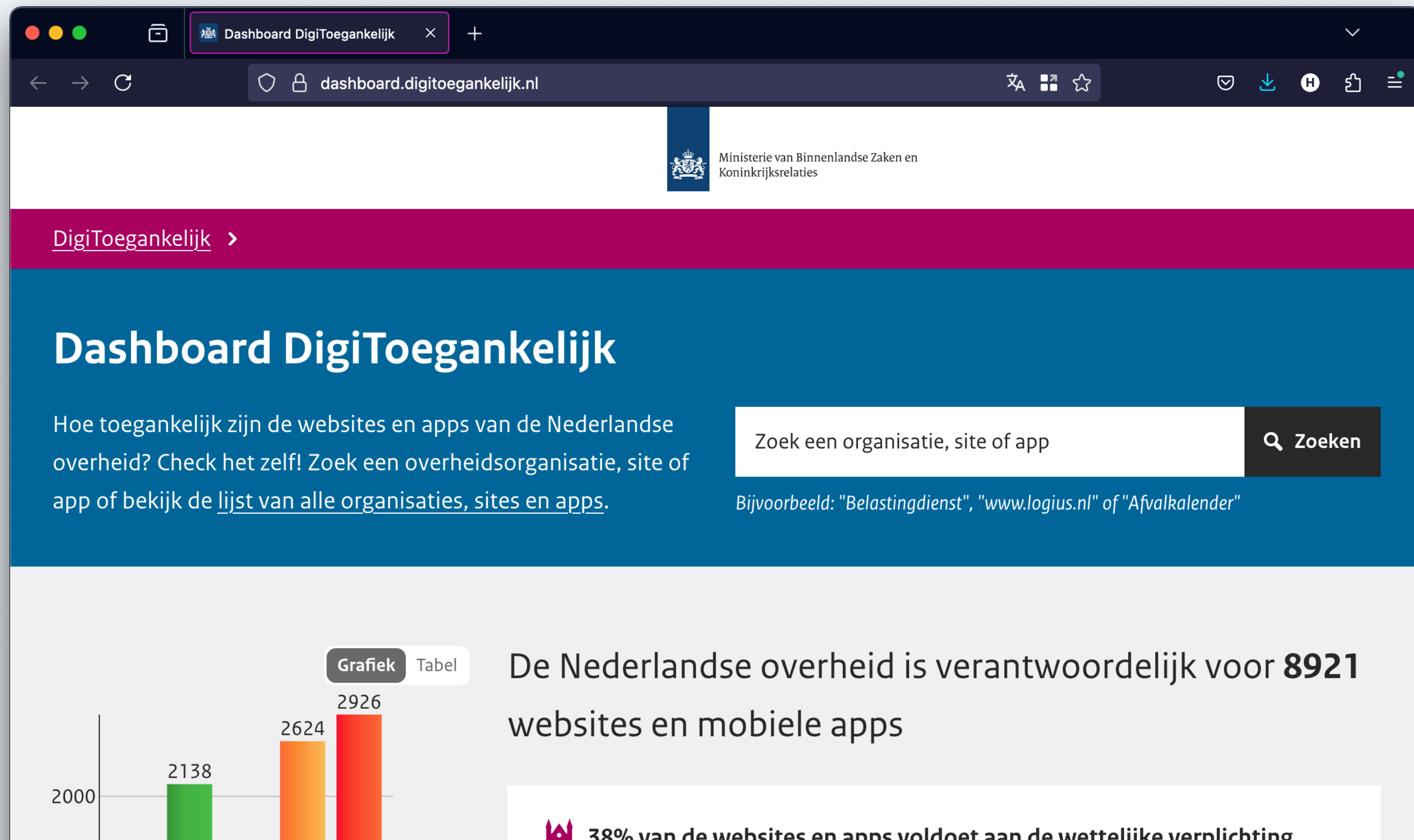
Accessibility audit reports as input for guidelines



Design
Open Hour

Most reported issues as input for guidelines

FUTURE



User research as input for patterns

The screenshot shows a web browser window with the URL `nldesignsystem.nl/voorbeelden/patronen/formulieren/foutmeldingen`. The page is titled "Foutmeldingen in een formulier" (Errors in a form). The left sidebar contains a list of navigation items: Startpunt, Intropagina, Inloggen, Stapelen en uitlijnen, Niet verplichte velden, Foutmeldingen (highlighted), Uploaden, Voortgang indicatie, and 'Volgende stap' actie. The main content area has a heading "Foutmeldingen in een formulier" and a subheading "In een formulier kunnen foutmeldingen voorkomen. Hieronder verzamelen we informatie rondom dit patroon." Below this is a form titled "Uw gegevens" (Your data) with a subheading "Om u zo goed mogelijk te kunnen helpen, ontvangen we graag uw contactgegevens. Deze gegevens worden niet met anderen gedeeld." The form has a red border and contains a message "Verbeter de fouten voor u verder gaat" (Improve the errors before you continue) with links to "Vul uw naam in", "Vul uw straat in", and "Vul uw huisnummer in". Below this are input fields for "Naam" and "Straat", both with error messages "Vul uw naam in." and "Vul uw straat in." respectively.

Foutmeldingen | NL Design Syst X

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](#)

[← Vorige stap](#)

Stap 2 van 4

Uw gegevens

Om u zo goed mogelijk te kunnen helpen, ontvangen we graag uw contactgegevens. Deze gegevens worden niet met anderen gedeeld.

ⓘ **Verbeter de fouten voor u verder gaat**

[Vul uw naam in](#)

[Vul uw straat in](#)

[Vul uw huisnummer in](#)

Naam

ⓘ Vul uw naam in.

Straat

ⓘ Vul uw straat in.

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



nl-design-system-designers ▾ Op dit kanaal is de NL Design Syste...




 Code of Conduct  Meedoen als designer  Figma +

 1 reply Today at 11:20 AM

Today ▾

 **Yoliijn** 12:06 PM

 Estafette dag

    +3 **19 replies** Last reply today at 2:47 PM

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 users and share the results

Because accessibility is more than WCAG

Test with users and share the results

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

gebruikersonderzoeken.nl

Ontwerp en usability onderzoek ✕

+

← → ↺

gebruikersonderzoeken.nl/docs/onderzoek-bekijken/mijn-zaken/denhaag-mijn

🔍 ⌵

📄 🗨️ 🗪 ⭐

📧 ⬇️ 🏠 📄 ⋮

Gebruikersonderzoeken

Onderzoek bekijken

Onderzoek delen

Vragen

🔍 Zoeken

⌵

K

Onderzoek bekijken

Formulieren

Mijn Omgeving

Ontwerp en usability onderzoek Mijn-omgevingen

Onderzoek MijnAanvragen in Open Inwoner Platform (OIP) – Mijn Omgeving

Onderzoek Status Component van MijnZaken

Iconen

Bevrijdingsdag, koningsdag en melding icoon

Gemeenteraad, burgemeester, afval icoon

Energietoeslag, milieuzone, rioolheffing, thuiswerken en parkeren icoon

🏠 > Onderzoek bekijken > Mijn Omgeving >

Ontwerp en usability onderzoek Mijn-omgevingen

Ontwerp en usability onderzoek Mijn-omgevingen

Samengevat: de Mijn Omgeving kan niet als één aparte service worden gezien, maar is voor de inwoner een geheel van vier verschillende onderdelen. Het onderzoek toont het belang van duidelijkheid, rust en vertrouwen aan.

Doel van het onderzoek

Dit onderzoek moet inzicht bieden in de gebruiksvriendelijkheid, begrijpelijkheid en optimalisatiekansen voor de vier ontwikkelde generieke

Doel van het onderzoek

Advies

Resultaten en inzichten

Wat is er mee gedaan?


Opzet

Contactinformatie

Bijlagen

Open design
decisions up
for automated
scrutiny

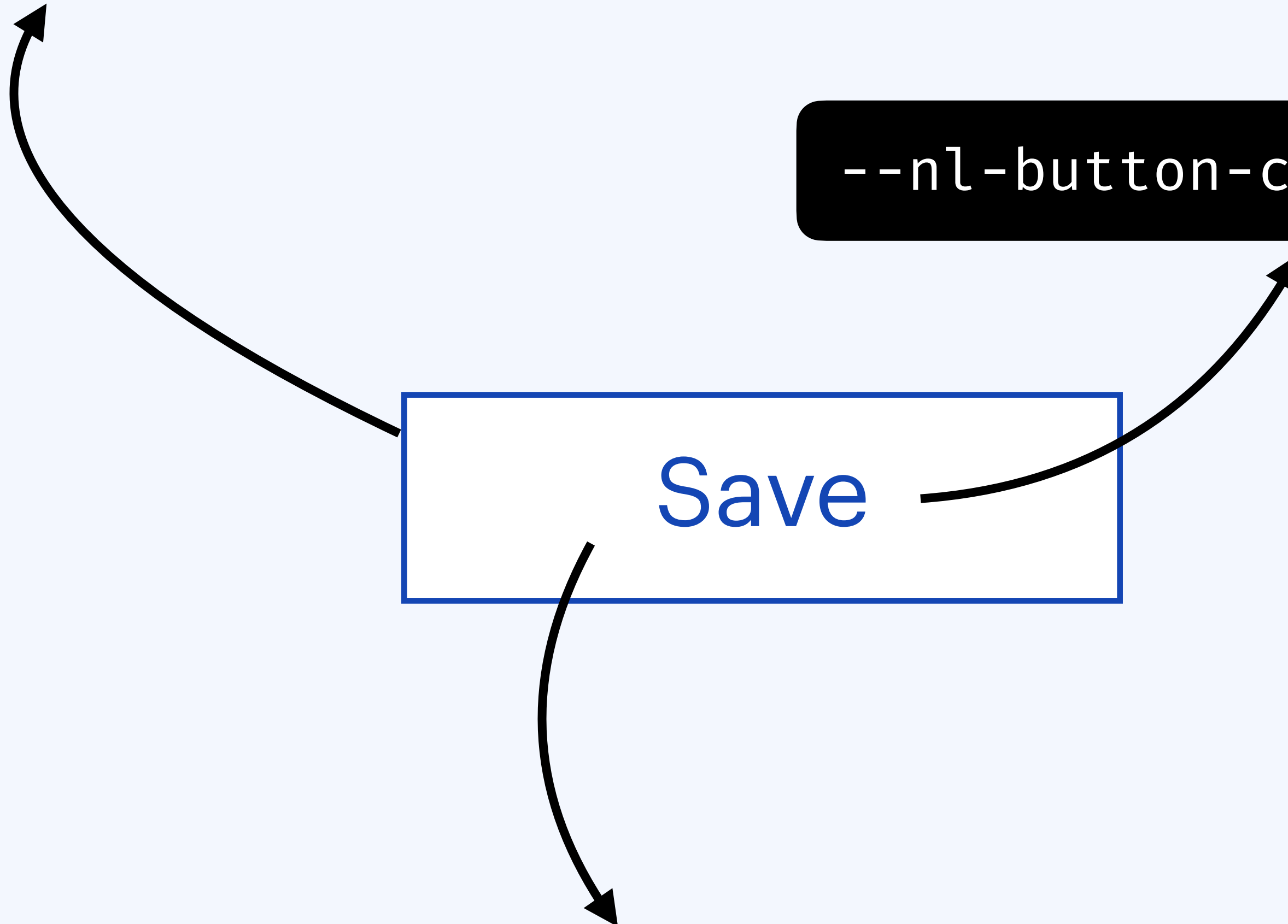
Save

--nl-button-border-color: #2446AE 

--nl-button-color: #2446AE 

Save

--nl-button-background-color: #ffffff 

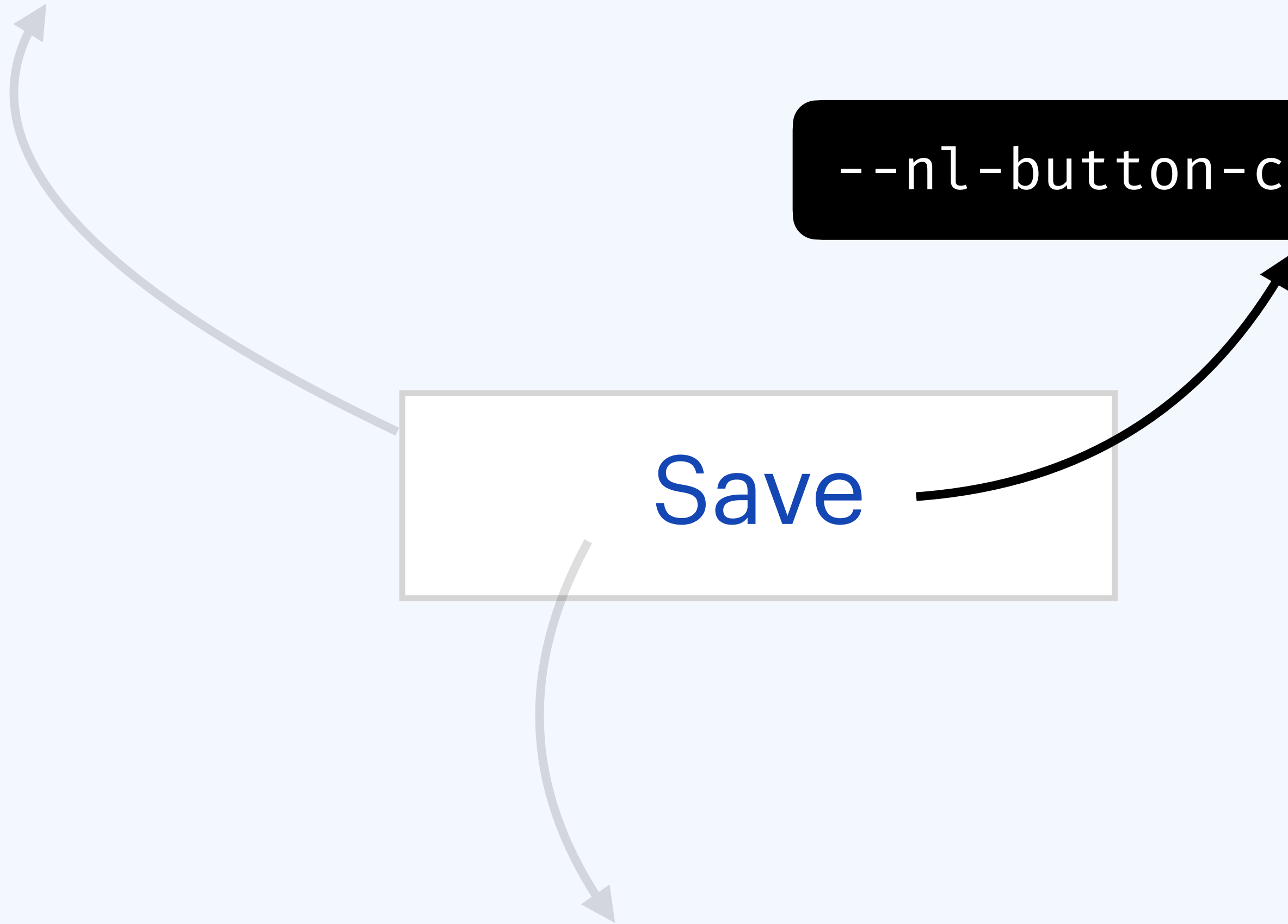


--nl-button-border-color: #2446AE 

--nl-button-color: #2446AE 

Save

--nl-button-background-color: #ffffff 

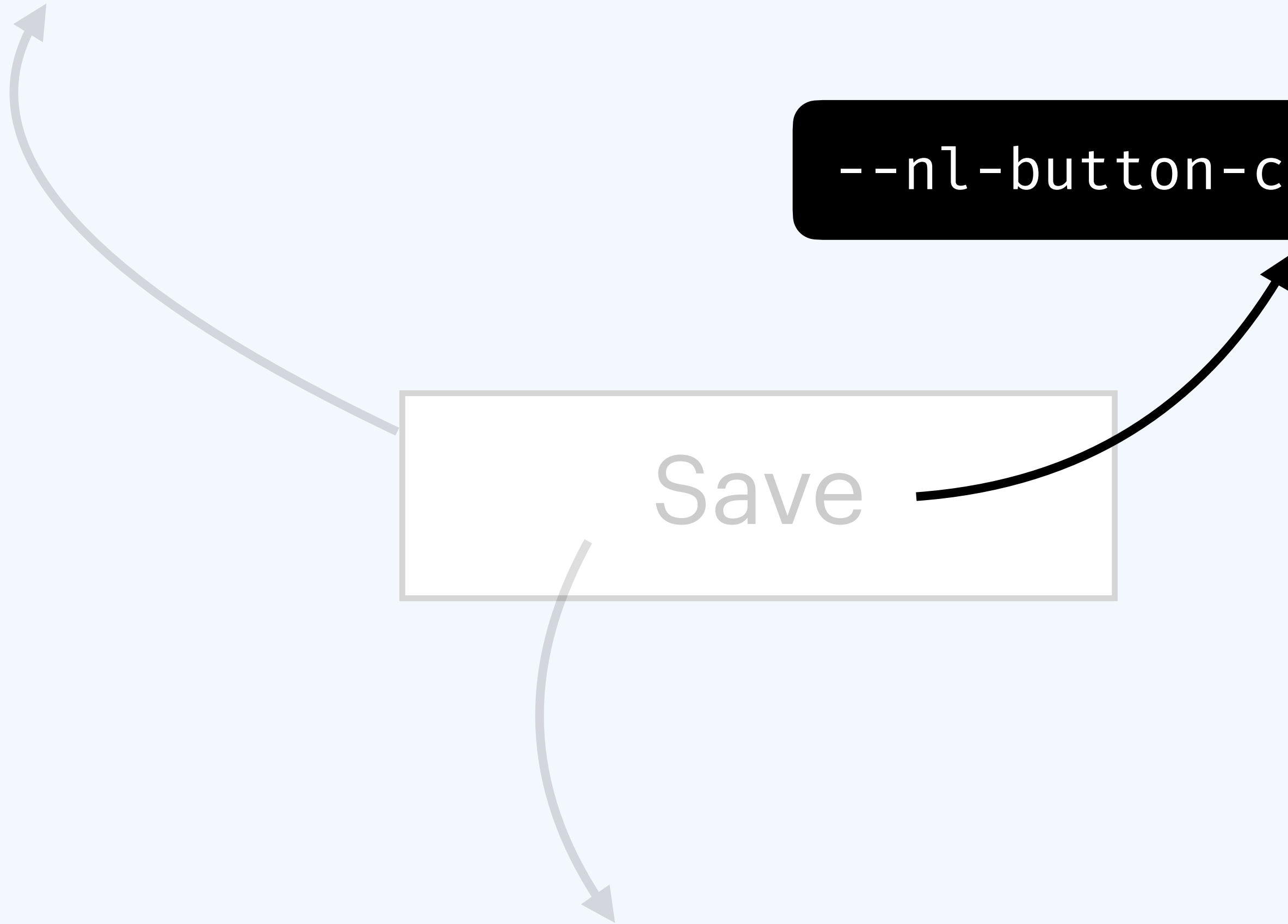


--nl-button-border-color: #2446AE 

--nl-button-color: #cccccc 

Save

--nl-button-background-color: #ffffff 



```
--nl-button-border-color: #2446AE
```

```
--nl-button-color: #cccccc
```

Save

```
--nl-button-background-color: #ffffff
```



Verify with
process

Verify with process: GOV.UK



BETA [Contact the Service Manual team](#) if you have feedback, questions or suggestions.

[Service manual](#) > [Service Standard](#)

Service Standard

[Give feedback about this page](#)

5. Make sure everyone can use the service

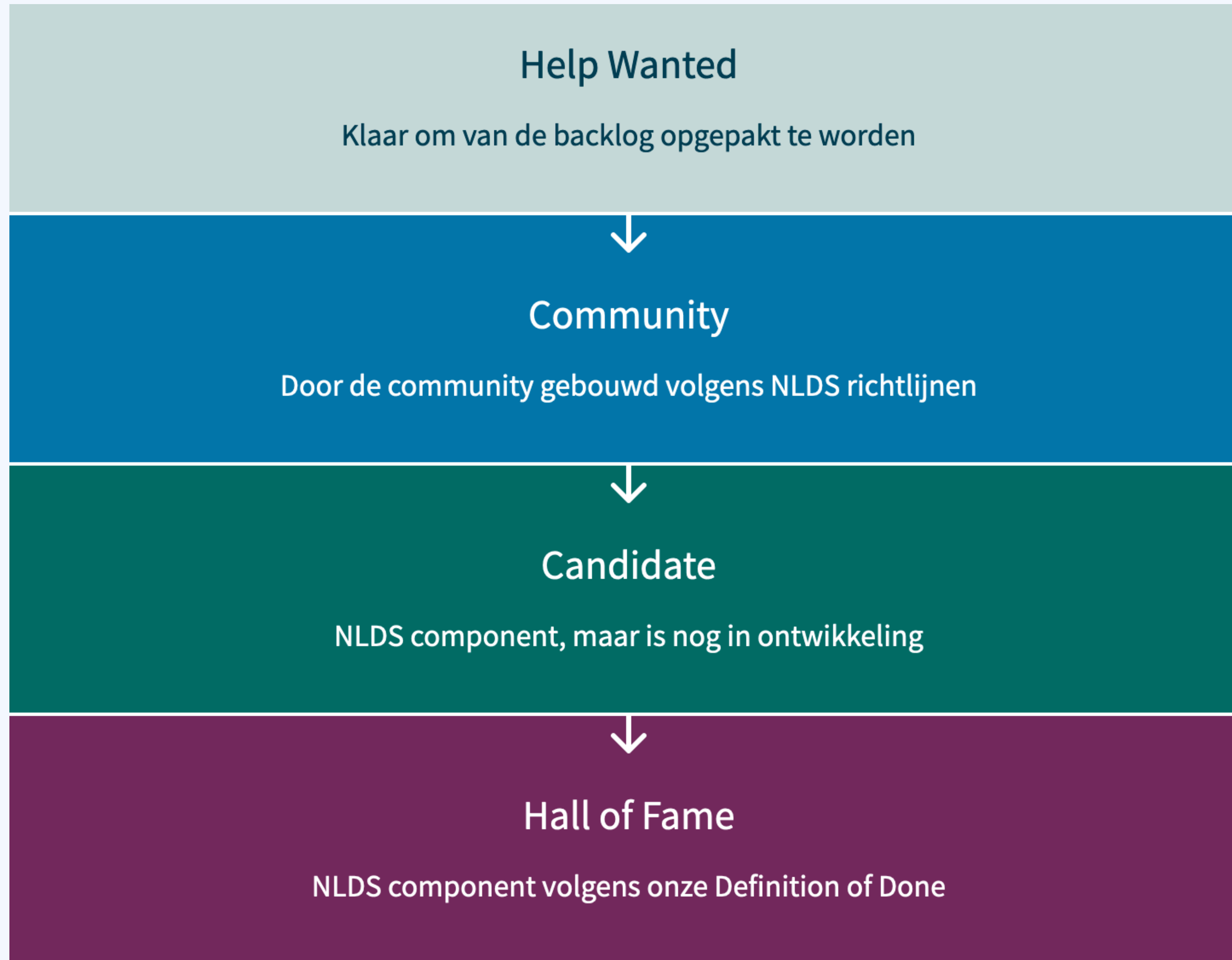
Provide a service that everyone can use, including disabled people and people with other legally protected characteristics. And people who do not have access to the internet or lack the skills or confidence to use it.

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

COMPONENTS

Button accessibility tests

Any USWDS button should pass these manual accessibility tests.

Passed WCAG 2.1 AA

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

Button accessibility checklist

↓ **General tests**

↓ **Zoom magnification tests**

↓ **Keyboard navigation tests**

↓ **Screen reader tests**

General tests

- ☐ **Button text conveys its meaning.** When you view the button on a page and determine the button's purpose, the text (not color alone) conveys the button's meaning.

This can only be tested in your implementation of the component. Be sure to test this in your project.

WCAG A

[1.4.1 Use of color](#)

USWDS test status: Conditional

Last test: v3.7.1

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

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“Built-in” is not trivial and
not a one-off or quick “fix”.

But it's worth pursuing
carefully and in addition to
your org's accessibility work.

What would you
do or ask?

Thank you!

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Slides: talks.hiddedevries.nl