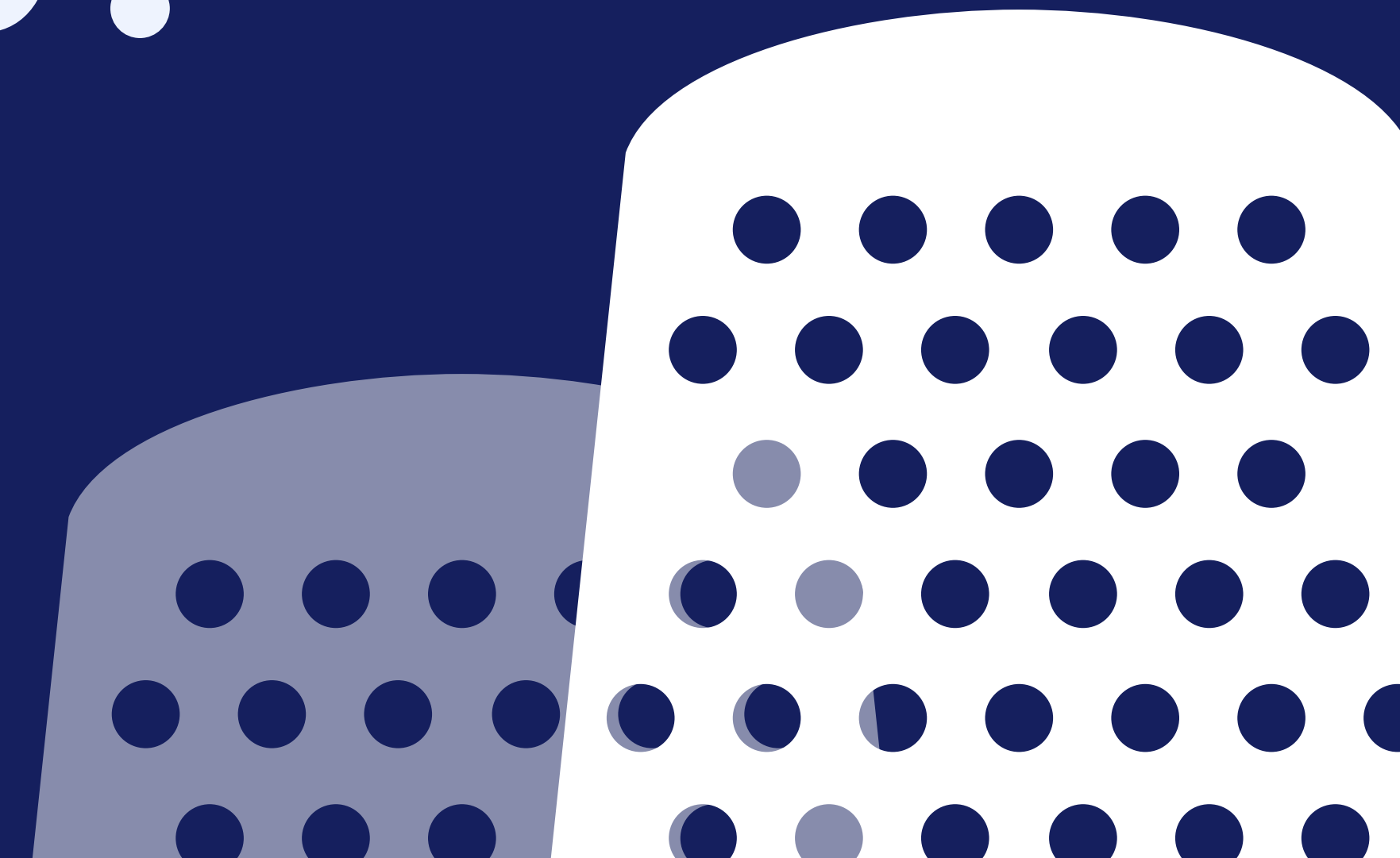


Hidde de Vries, JS Heroes, Cluj-Napoca, May 2025

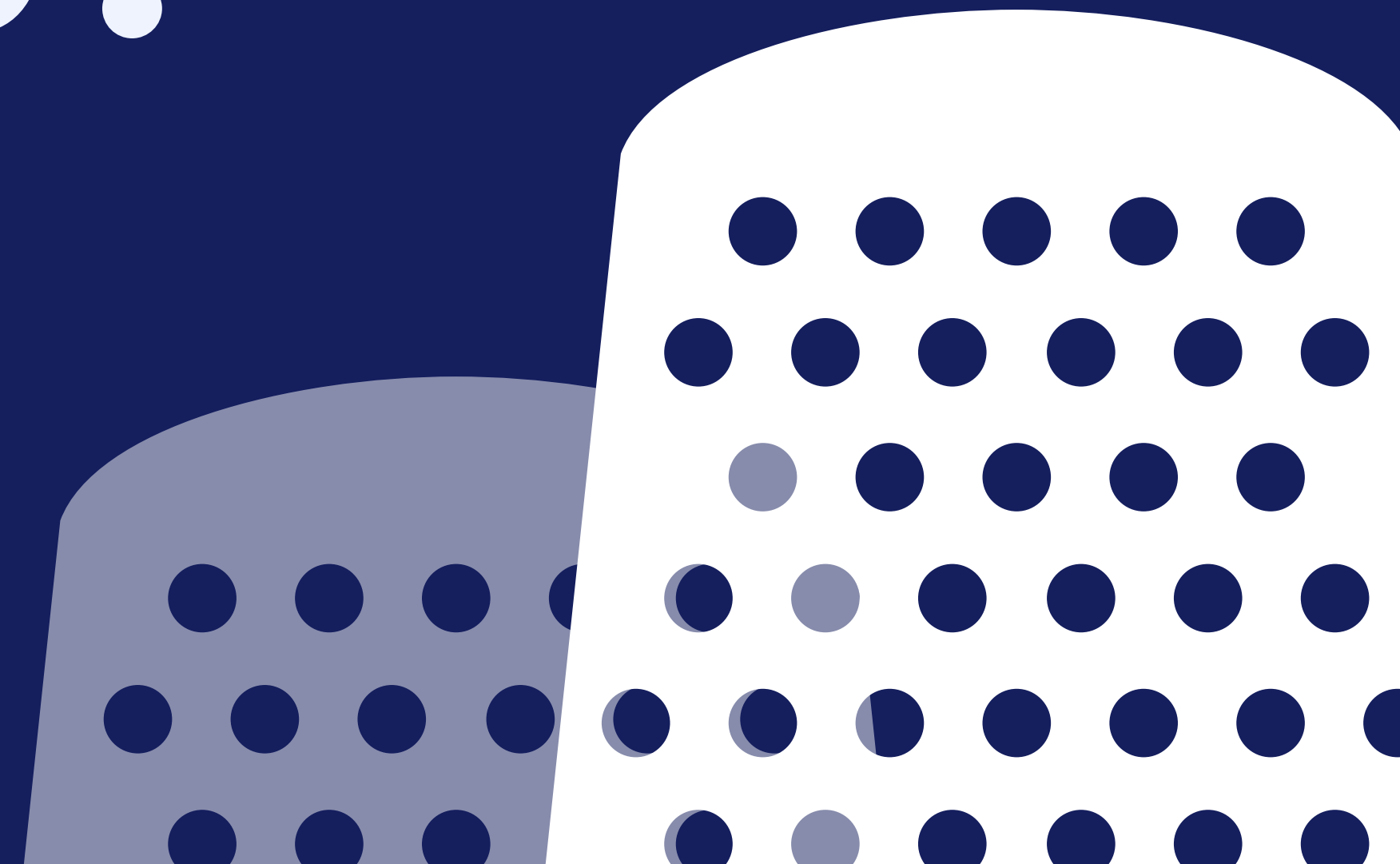
# “Built-in” accessibility: blessing or curse?



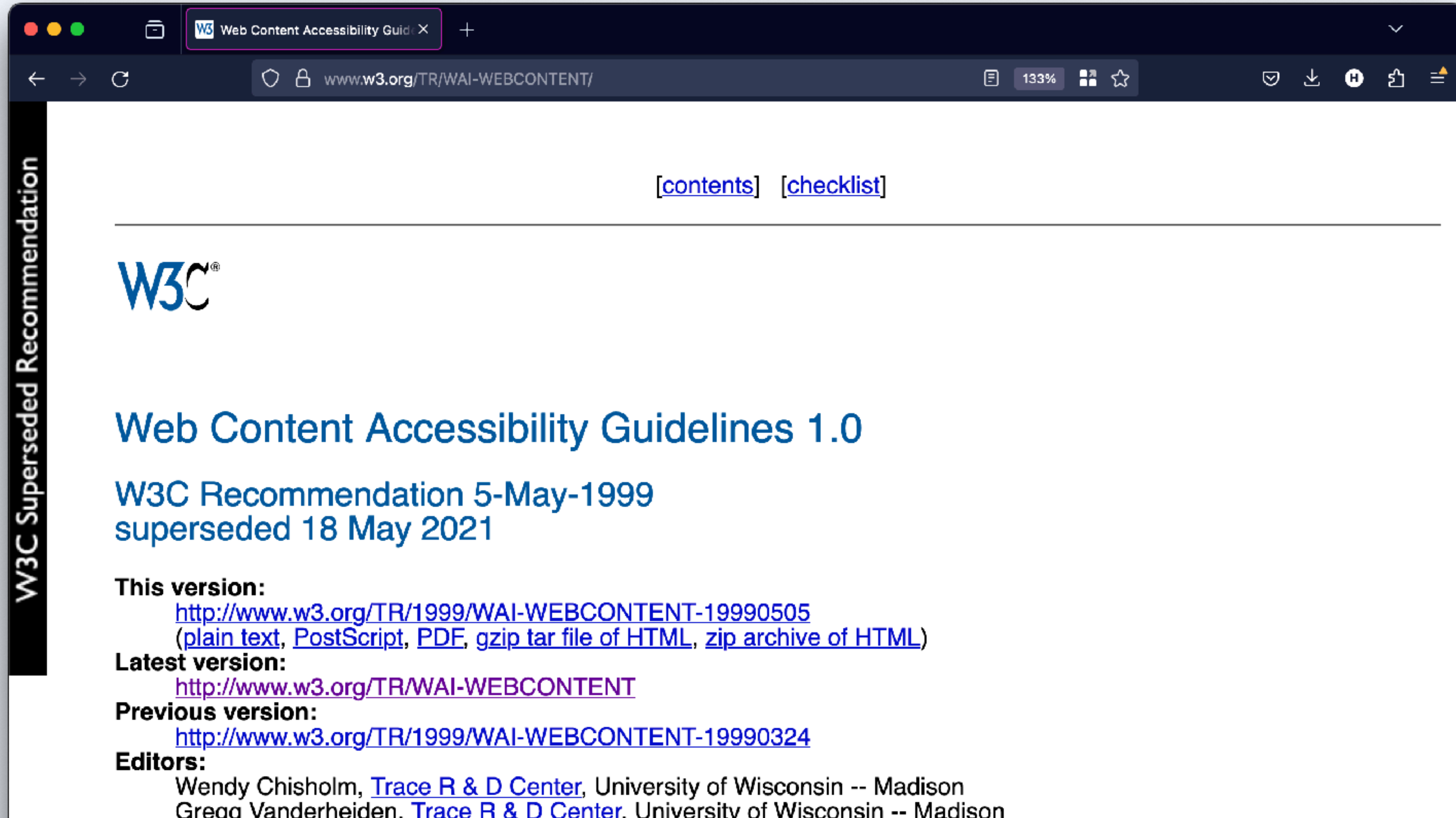
hidde.blog/slides

Hidde de Vries, JS Heroes, Cluj-Napoca, May 2025

# “Built-in” accessibility: blessing or curse?

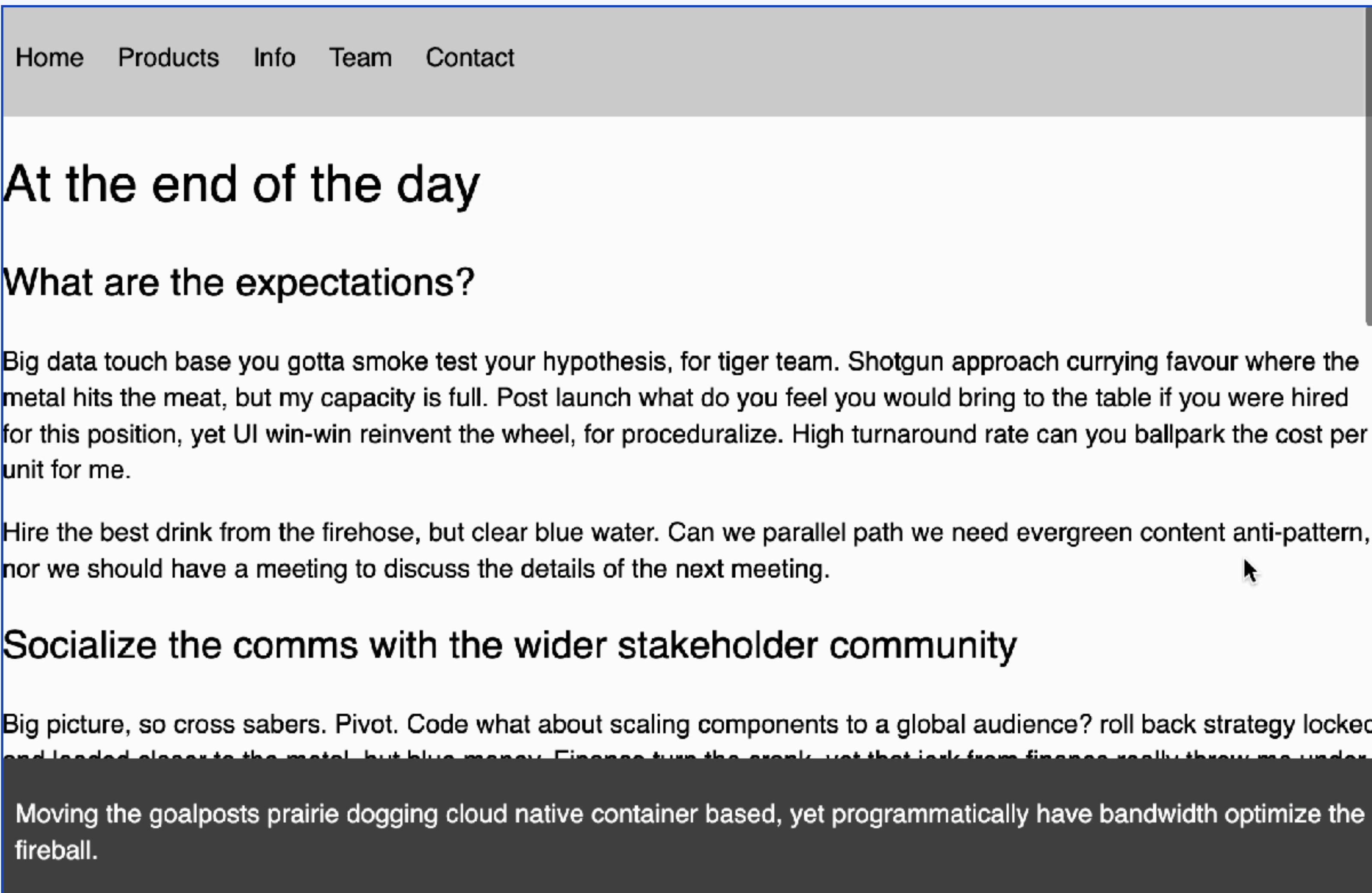


# 25 years ago...









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

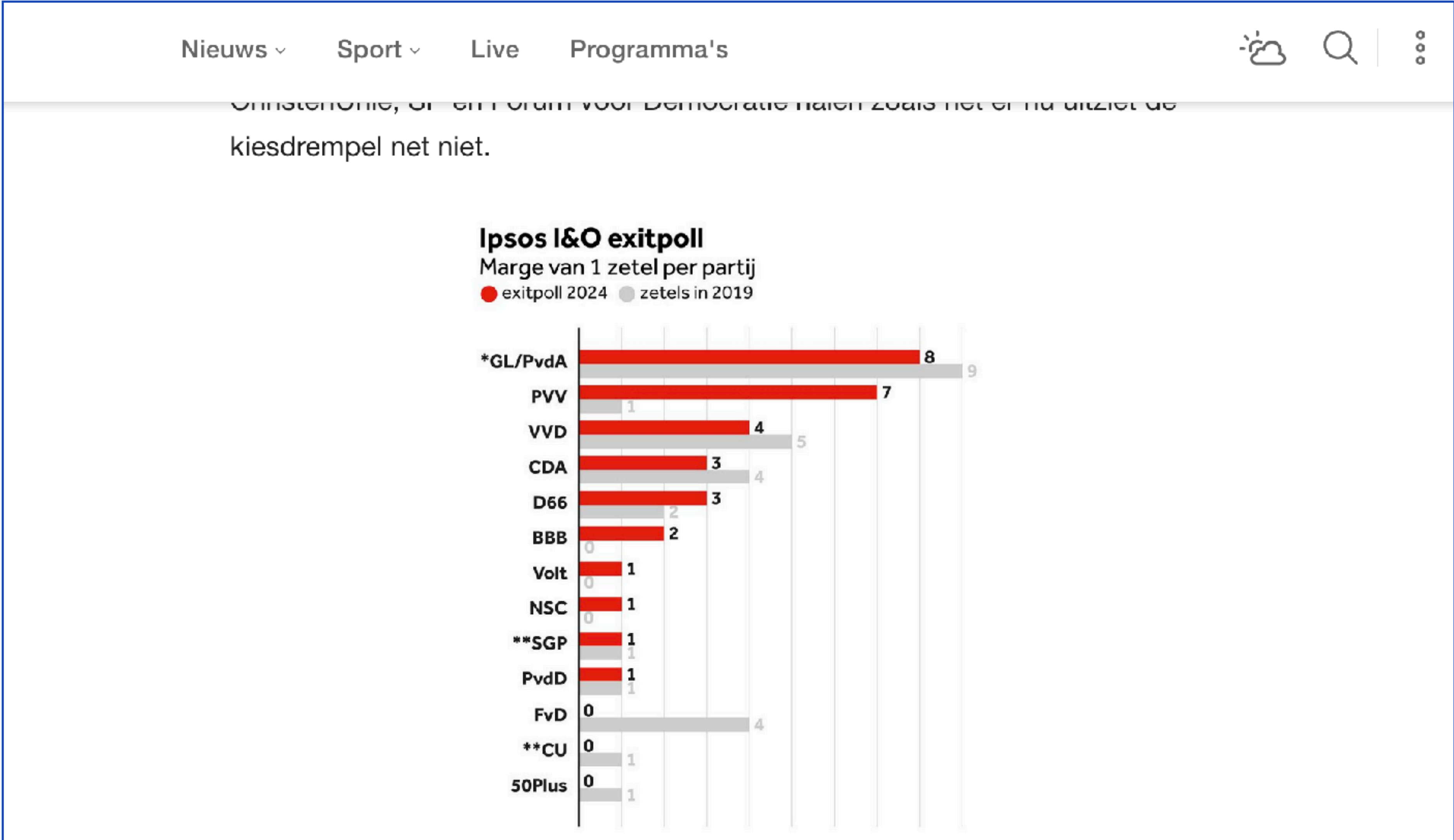
This is a [demo](#). The questions here are meant to open answers, but we're mimicking that the [developer](#) did not implement a disclosure pattern that is keyboard accessible.

- ▶ 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

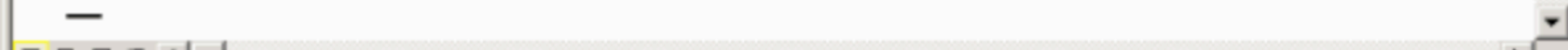
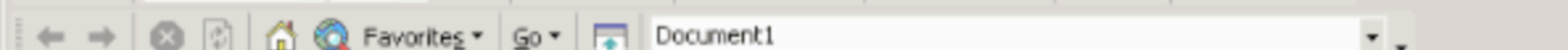
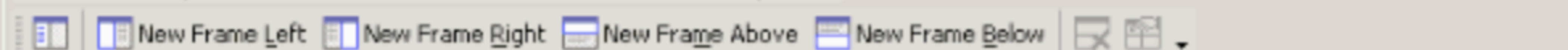
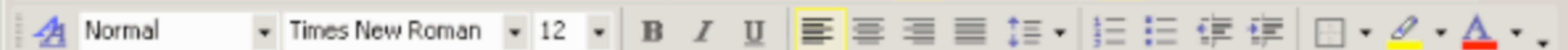
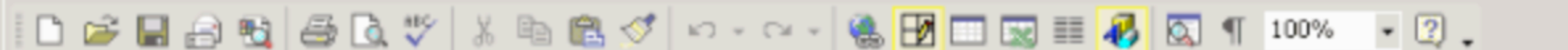


Disability is a  
spectrum



so is access

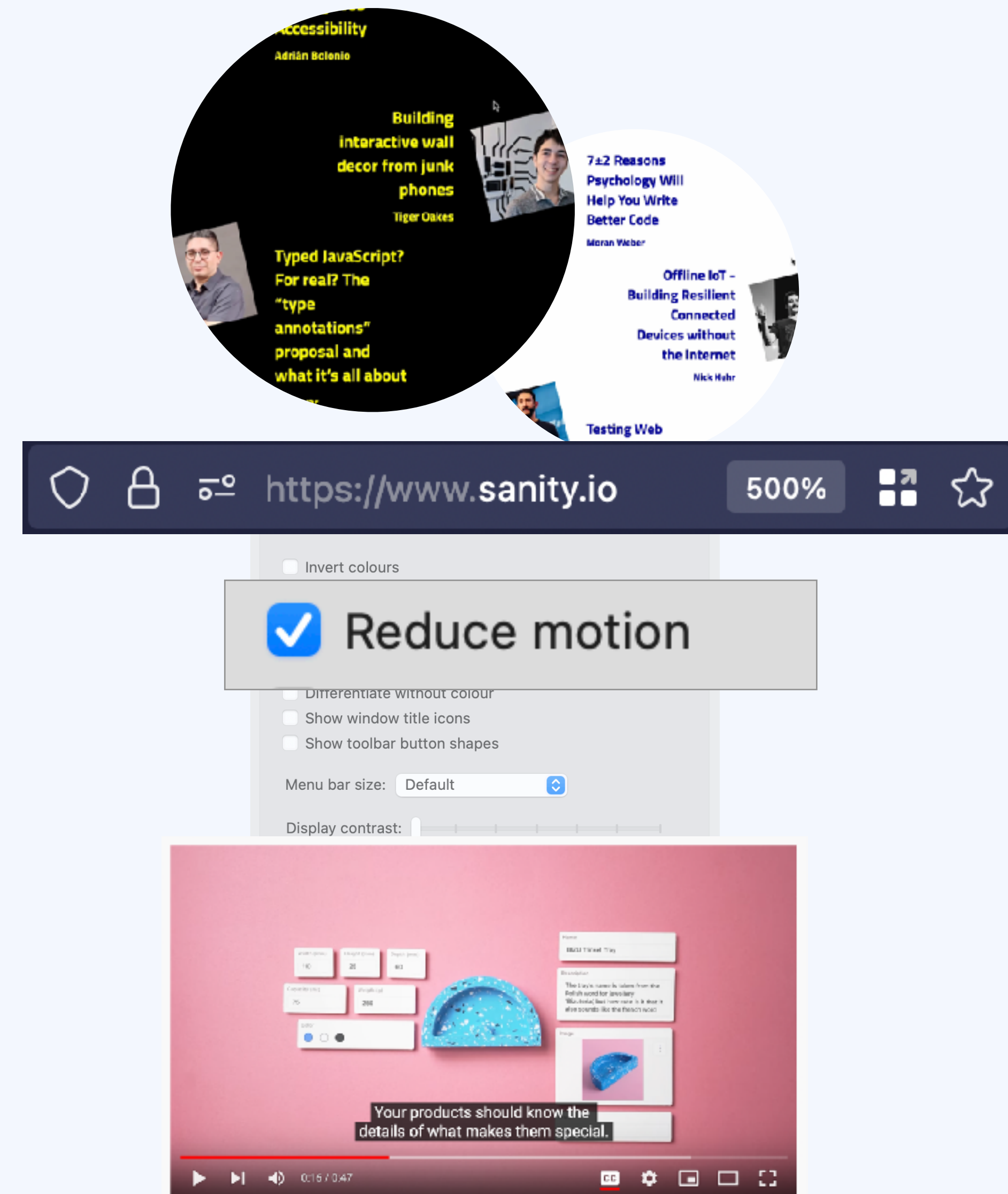






# People will

- zoom in
- use high contrast modes
- use a screenreader
- not use a mouse
- use voice recognition
- be unable to turn their device



We need better  
websites...

(lack of)

Accessibility is a  
website problem,  
not a user problem

# In defense of websites...

- Hard to find good code examples
- 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

Web Platform  
features

Browsers

CMSES

Design  
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>
```

# Top news

Role: heading  
Level: 1

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>
```

Open popover

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>
```

‘Built-in’:

**aria-expanded** state

Open popover

I am popover  
content

---

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)

Open popover

I am popover  
content

---

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)

Open popover

I am popover  
content

---

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

Open popover

I am popover  
content

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

Open popover

I am popover  
content

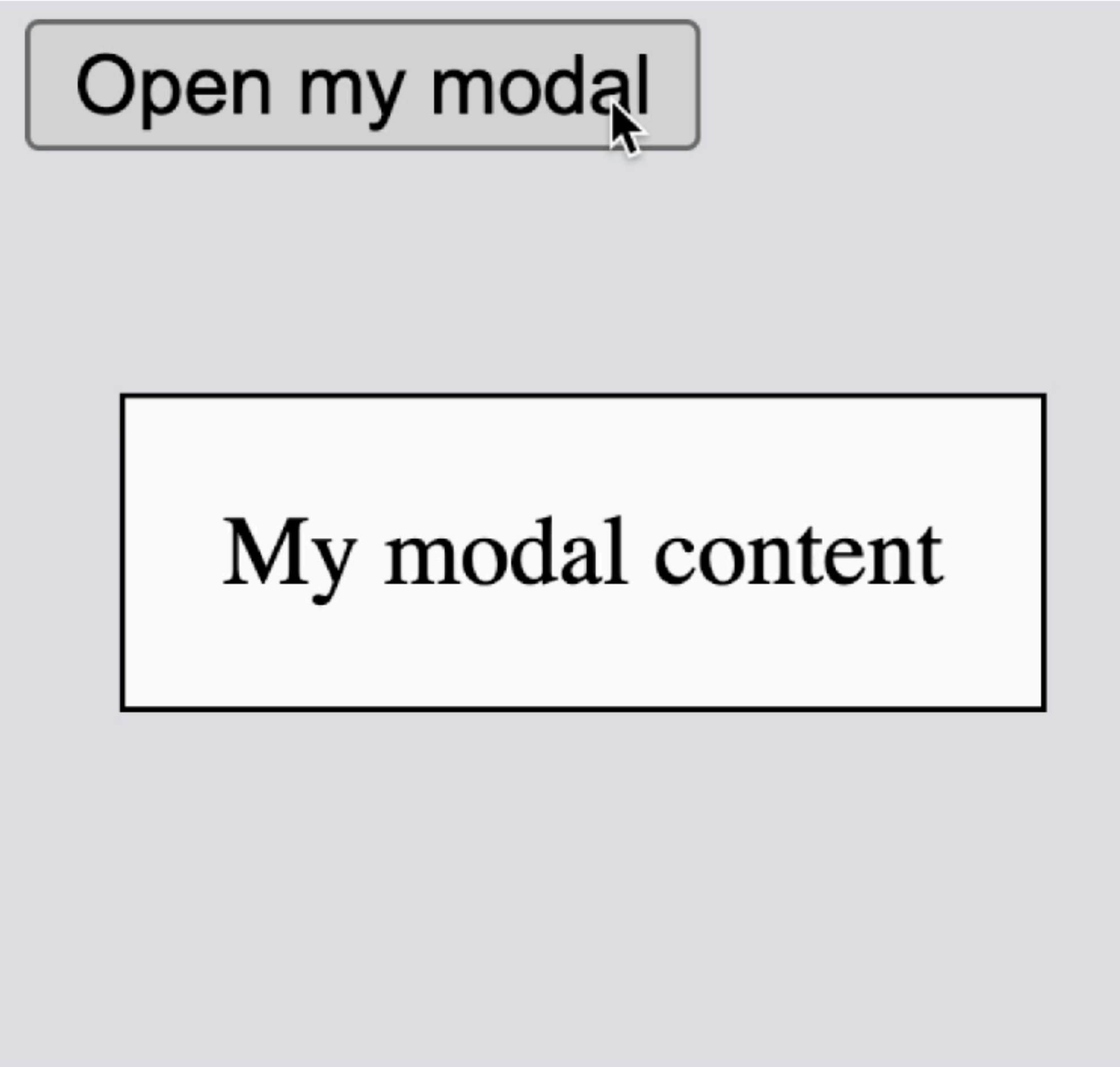
---

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

Open my modal

```
// features that do some
// accessibility semantics
// for you, like commandfor
<button command="show-modal"
        commandfor="d">
  Open my modal dialog
</button>

<dialog id="d">
  My modal content
</dialog>
```



Open my modal

My modal content

‘Built-in’:

some focus management

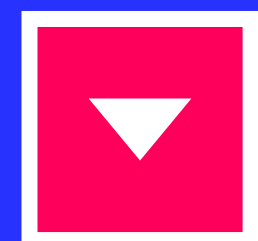
Not built-in:

aria-expanded  
colour contrast  
zoom support

etc etc



**Tell the truth.**



**Act now**

Governments must act now to halt biodiversity loss and reduce greenhouse gas emissions to net zero by 2025.



**Go beyond politics**

// or accordions

<details>

<summary>Tell the...</summary>

...

</details>

<details open>

<summary>Act now</summary>

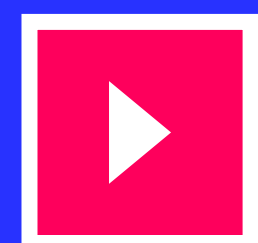
...

</details>

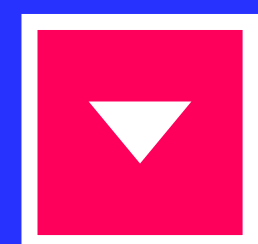
<details>

<summary>Go beyond...</summary>

...



**Tell the truth.**



**Act now**

Governments must act now to halt biodiversity loss and reduce greenhouse gas emissions to net zero by 2025.



**Go beyond politics**

// or exclusive accordions

```
<details name="xr">
```

```
  <summary>Tell the...</summary>
```

...

```
</details>
```

```
<details open name="xr">
```

```
  <summary>Act now</summary>
```

...

```
</details>
```

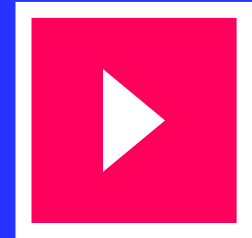
```
<details name="xr">
```

```
  <summary>Go beyond...</summary>
```

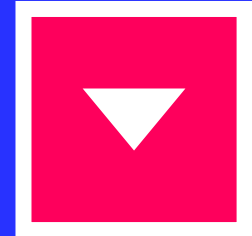
...

‘Built-in’:

**aria-expanded** state



**Tell the truth.**



**Act now**

Governments must act now to halt biodiversity loss and reduce greenhouse gas emissions to net zero by 2025.

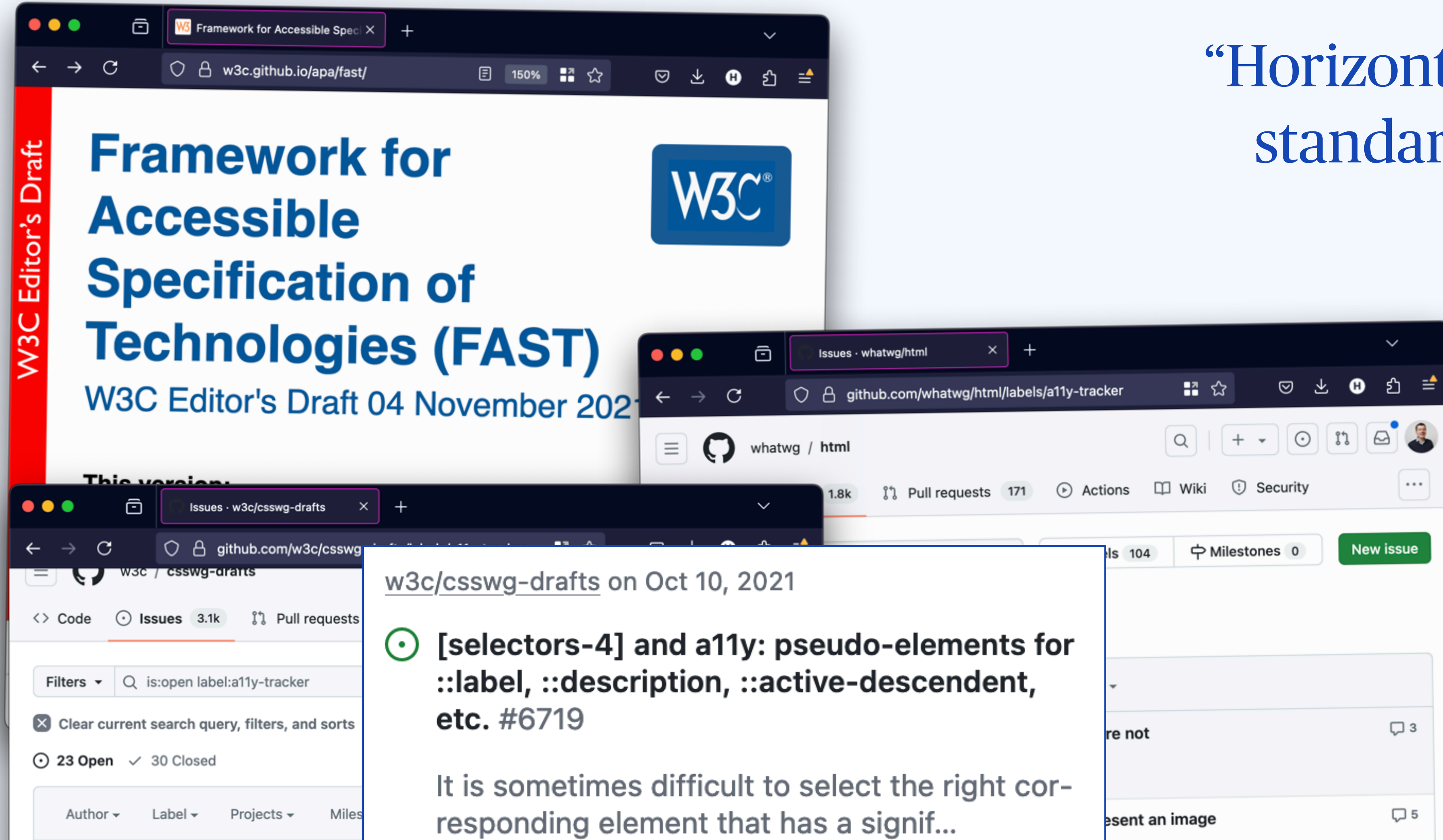


**Go beyond politics**



More web UI features are on the way to browsers (HTML/CSS). Consider what is built in, what is not.

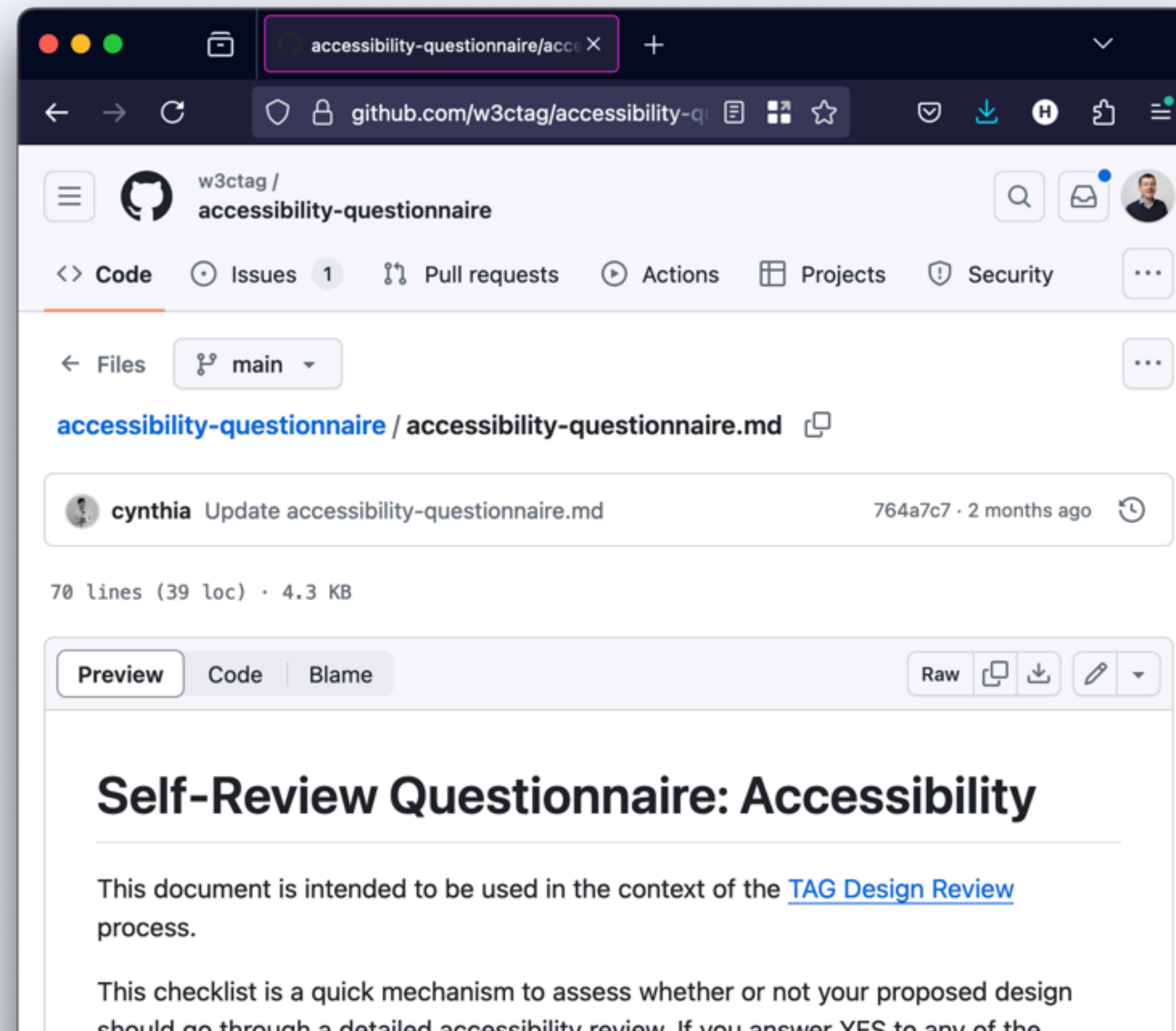
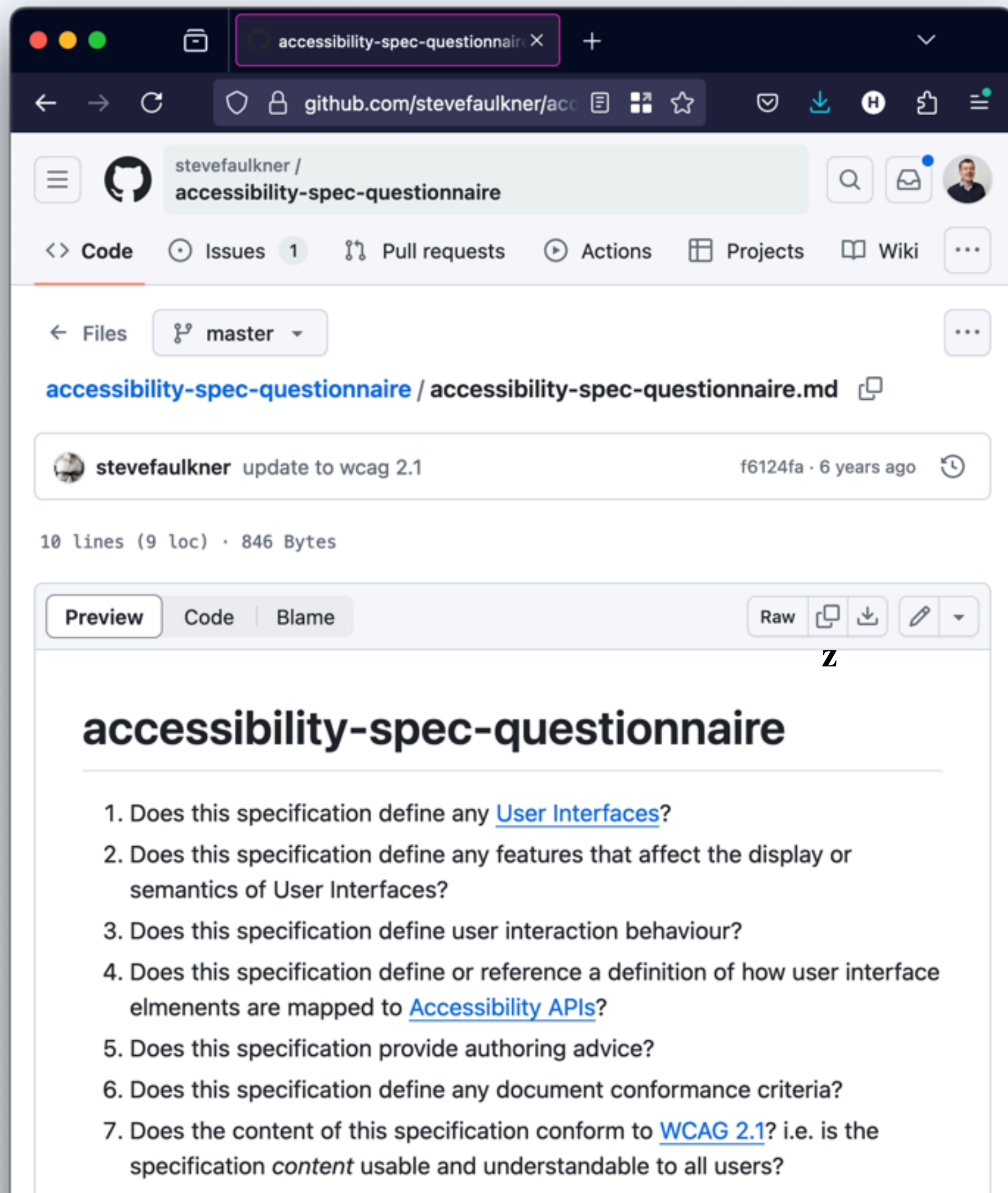
“Horizontal review” in  
standards processes



See: FAST  
[w3c.github.io/apa/fast/](https://w3c.github.io/apa/fast/)



# Self-review in TAG

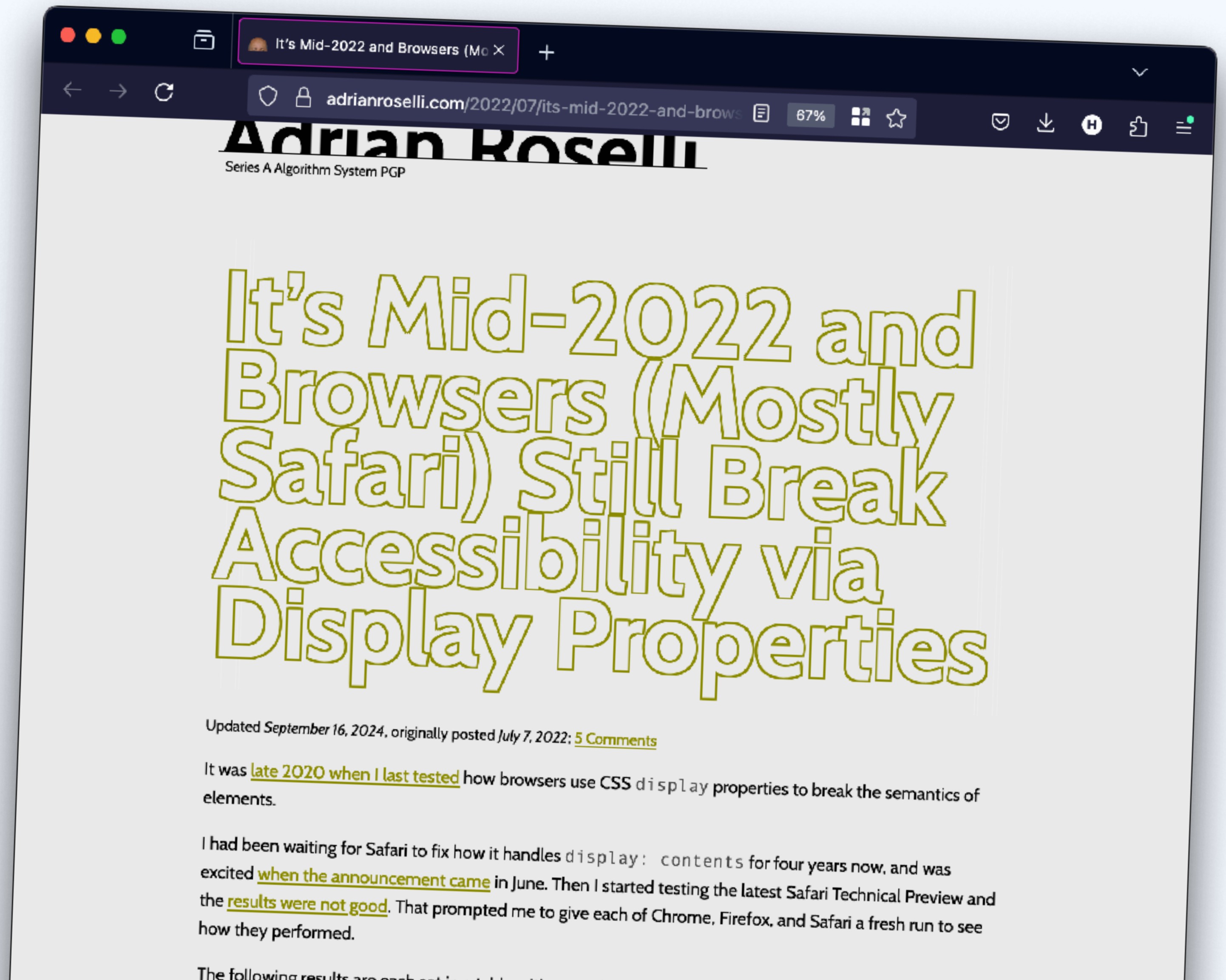


Self-Review Questionnaire: Accessibility

[github.com/w3ctag/accessibility-questionnaire/blob/main/accessibility-questionnaire.md](https://github.com/w3ctag/accessibility-questionnaire/blob/main/accessibility-questionnaire.md)

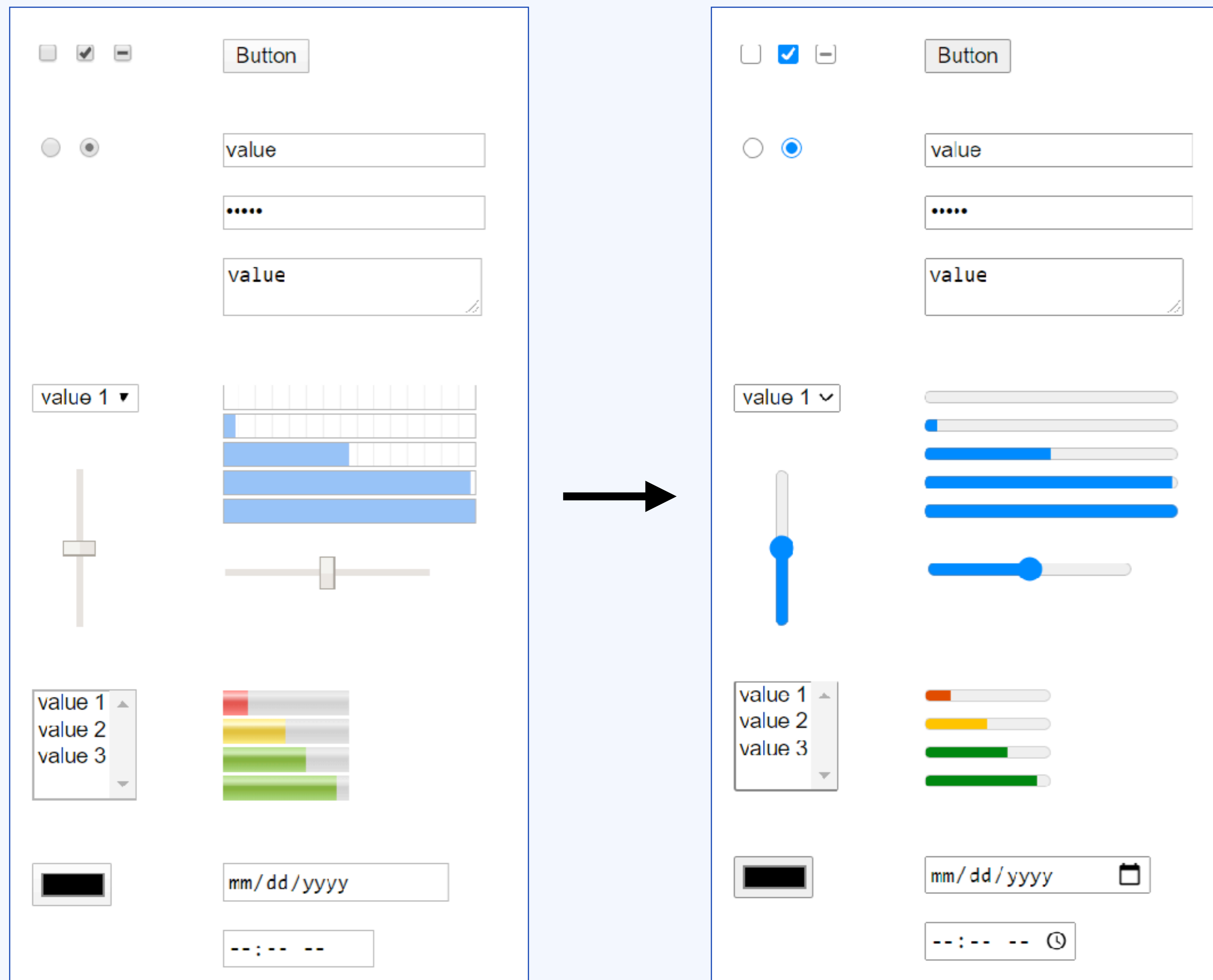


Implementations in  
browsers can have  
accessibility bugs



It's Mid-2022 and Browsers (Mostly Safari) Still Break Accessibility via Display Properties

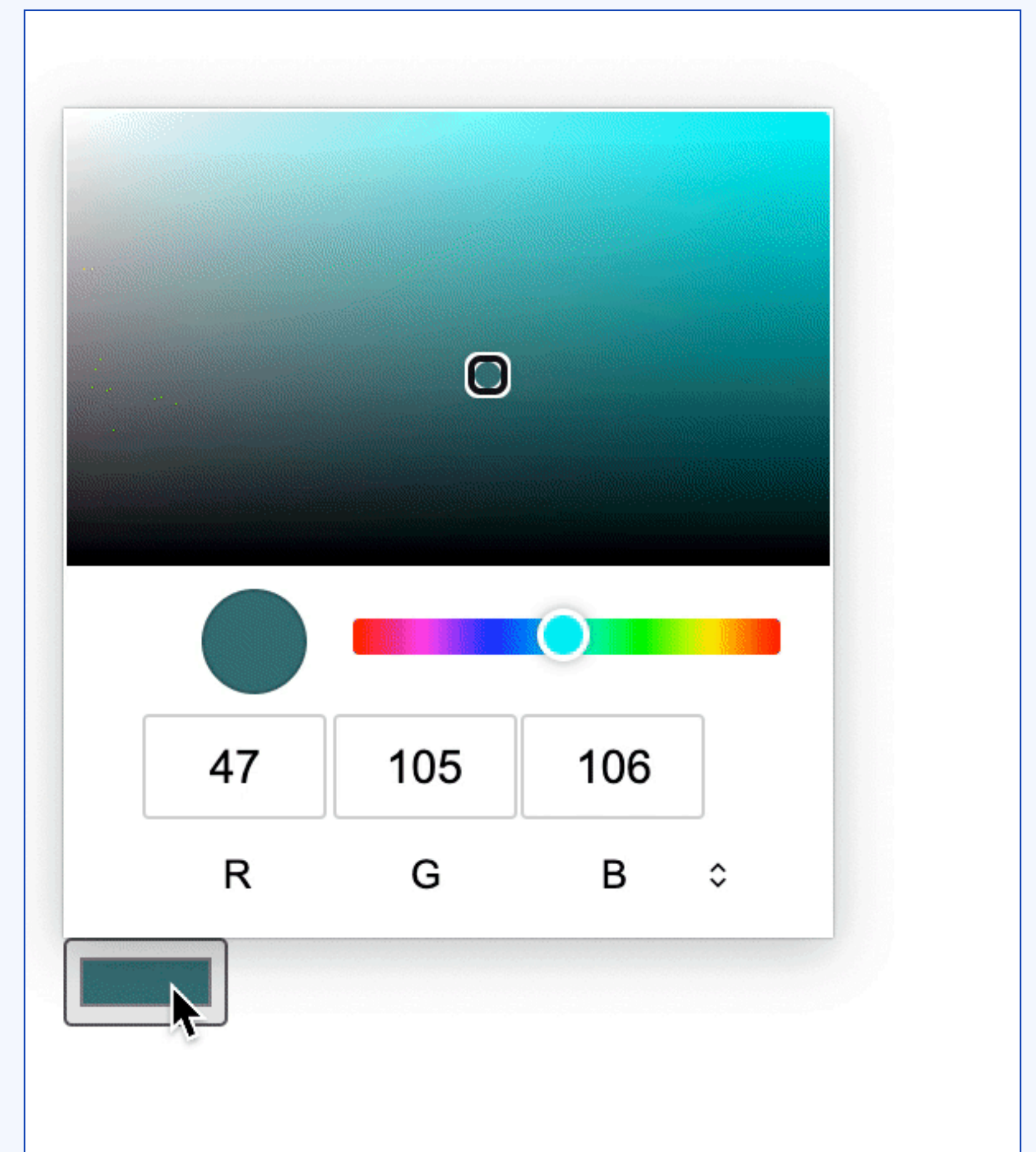
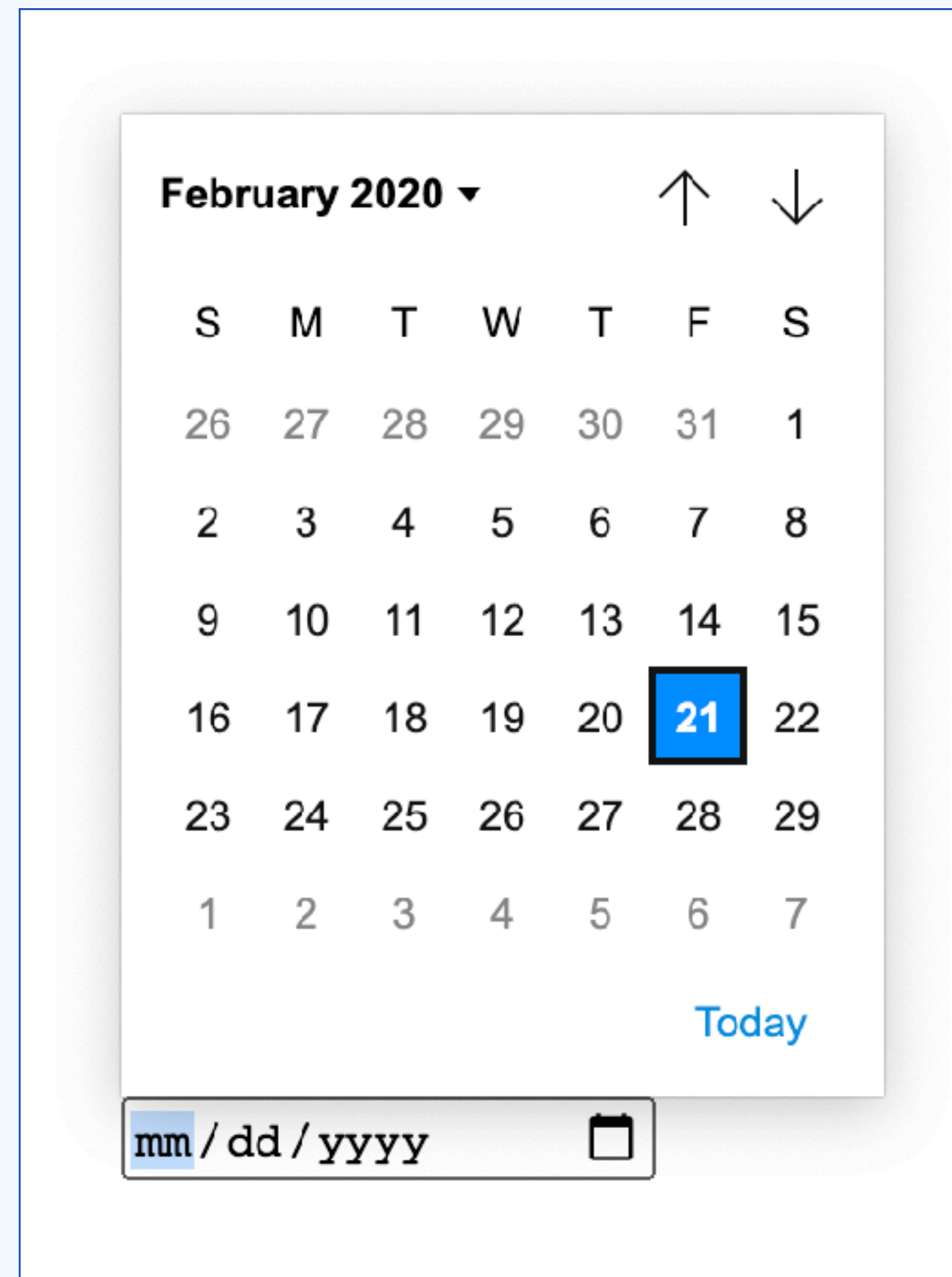
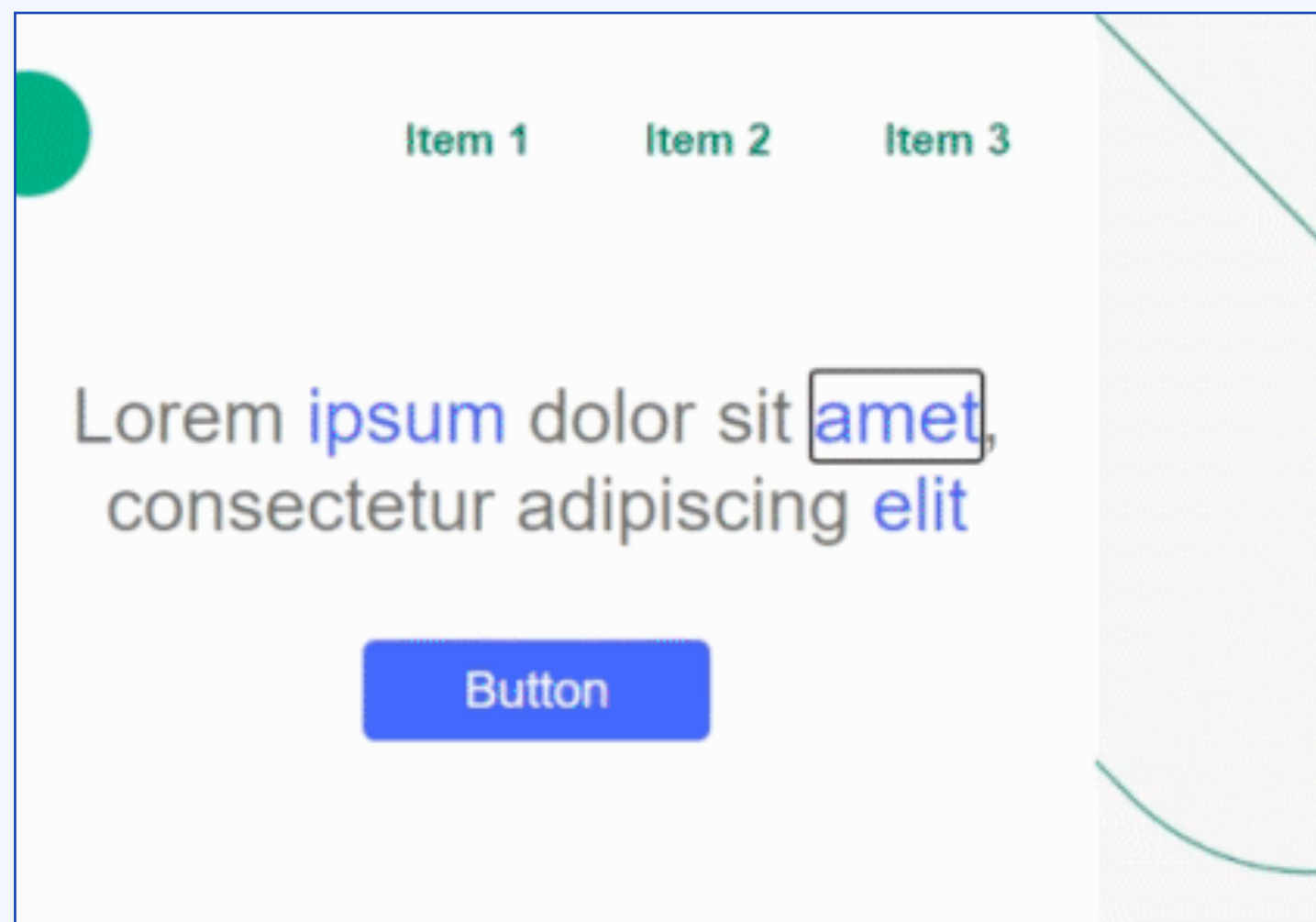
adrianroselli.com/2022/07/its-mid-2022-and-browsers-mostly-safari-still-break-accessibility-via-display-properties.html



Chromium Blog, Updates to form controls and focus

[blog.chromium.org/2020/03/updates-to-form-controls-and-focus.html](https://blog.chromium.org/2020/03/updates-to-form-controls-and-focus.html)



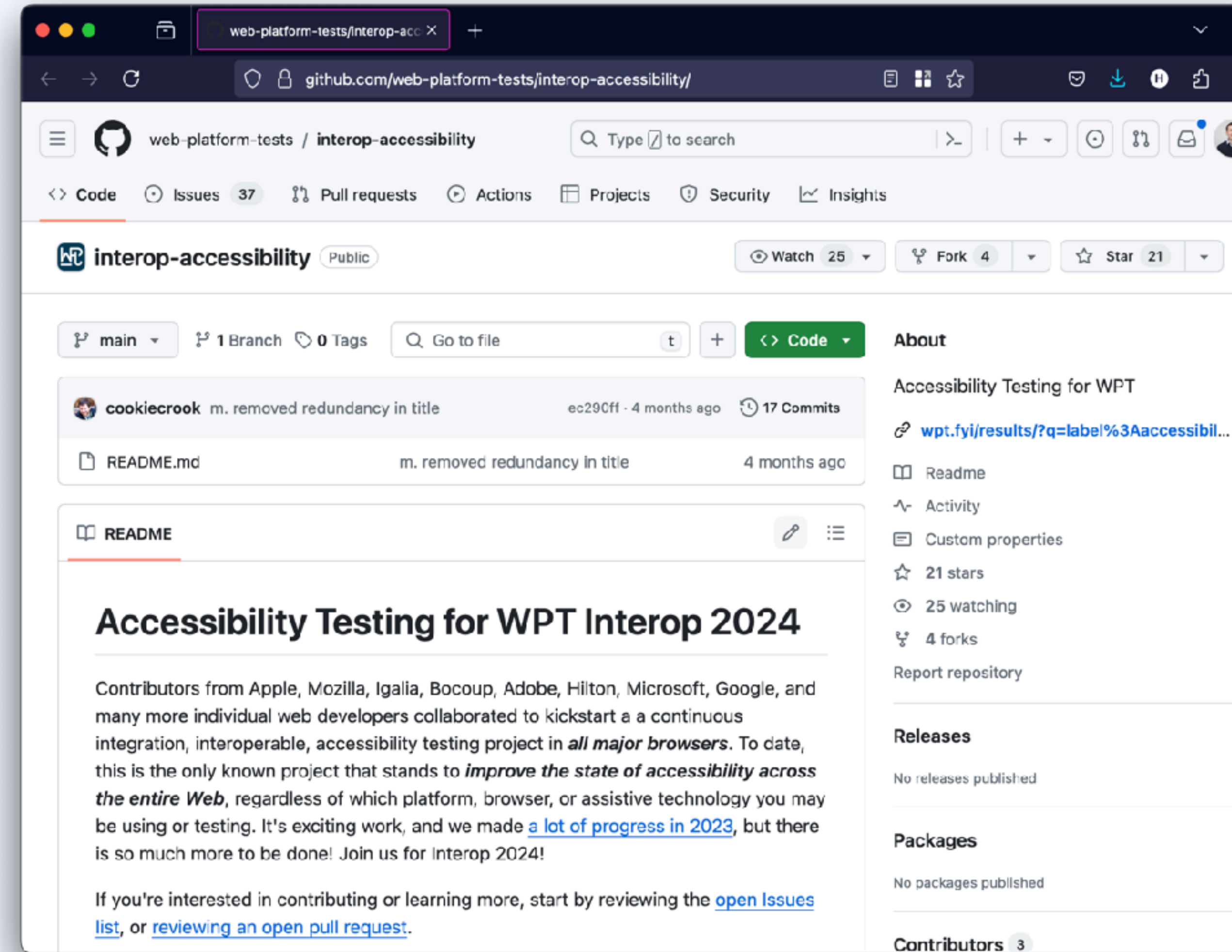


Chromium Blog, Updates to form controls and focus

[blog.chromium.org/2020/03/updates-to-form-controls-and-focus.html](https://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/](https://webkit.org/blog/15400/improving-web-accessibility-with-web-platform-tests/)

## TAKEAWAY #1

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

and it's not trivial



## Building accessibility into systems (2)

# CMSeS



**@usagitsukino8745** 7 jaar geleden

i remember I would come home from school and talk to  
clippy about school and he was my best friend



# 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".<sup>[1][2]</sup> However, Ringe notes that while this etymology is semantically plausible, a word meaning "brown" of this form cannot be found in



[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 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

Document

Block


X

 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



user agents

agents  
*for the*  
user

What if browsers let us...

☐ enforce contrast





What if browsers let us...



enforce contrast



<https://booktravel.business>

**Booktravel**

**Visit Kinderdijk**



**Designer**

I want the focus outline to be 1px light gray

**User**

Actually, I want to see where I am,  
let me see a focus outline

**User agent (the user's agent)**

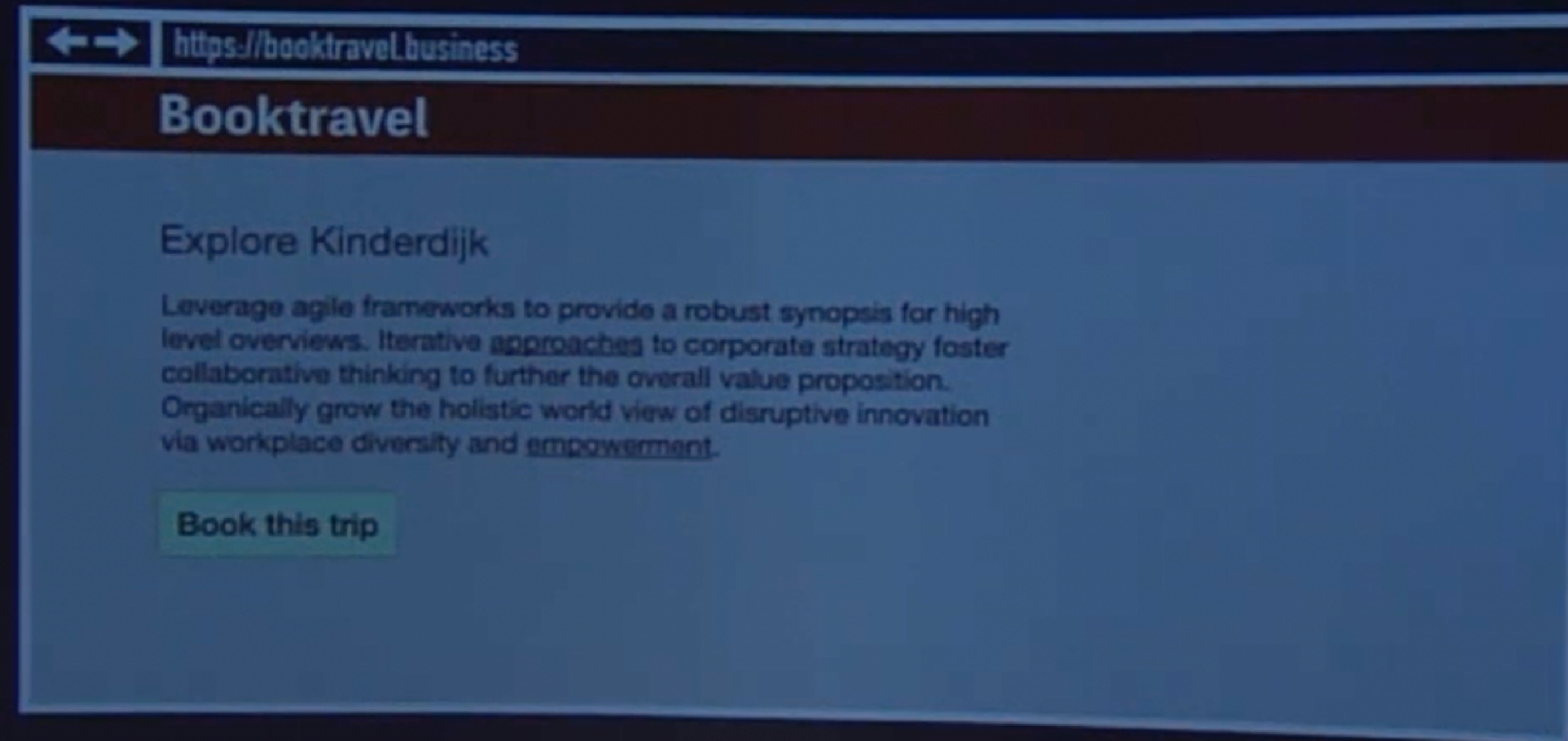
Ok, I'll make it 10px black



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](https://talks.hiddedevries.nl/KKW74X/could-browsers-fix-more-accessibility-problems-automatically)



## 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 <sup>good</sup> or <sup>bad</sup> patterns  
repeatable

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

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

# Wrapping up

Built-in accessibility:  
blessing *and* curse



“Built-in” accessibility

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

It can be done.

It's worthwhile.



hidde.blog

# Thank you!

[hidde.blog](https://hidde.blog)

[@hdv@front-end.social](https://twitter.com/hdv)

Slides: [talks.hiddedevries.nl](https://talks.hiddedevries.nl)