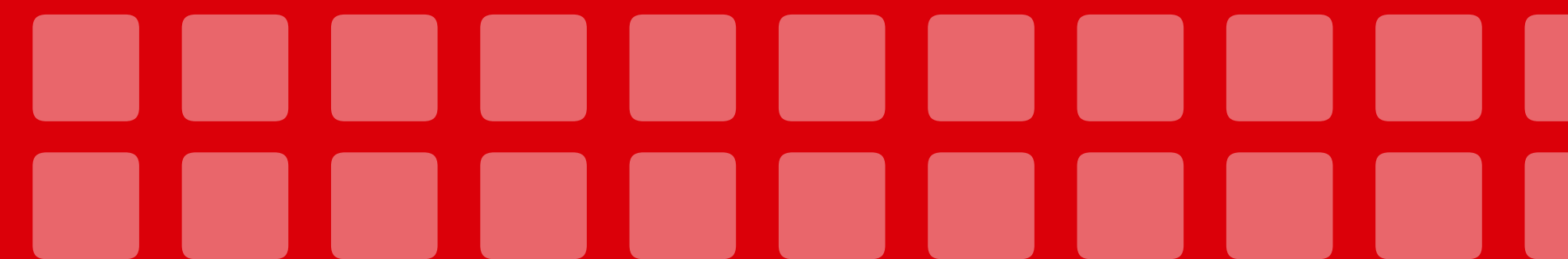


# WILL TECH SAVE US?



Hidde de Vries / 21 September 2023 / IAAP-EU WAD 3rd Birthday / Brussels

# HI, I'M HIDDE

developer relations + accessibility  
at NL Design System

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participant at Open UI CG / CSS WG

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hidde.blog

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**“WHY ISN'T  
ACCESSIBILITY  
EASIER?”**

*–a well intended web developer*

**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**

For users

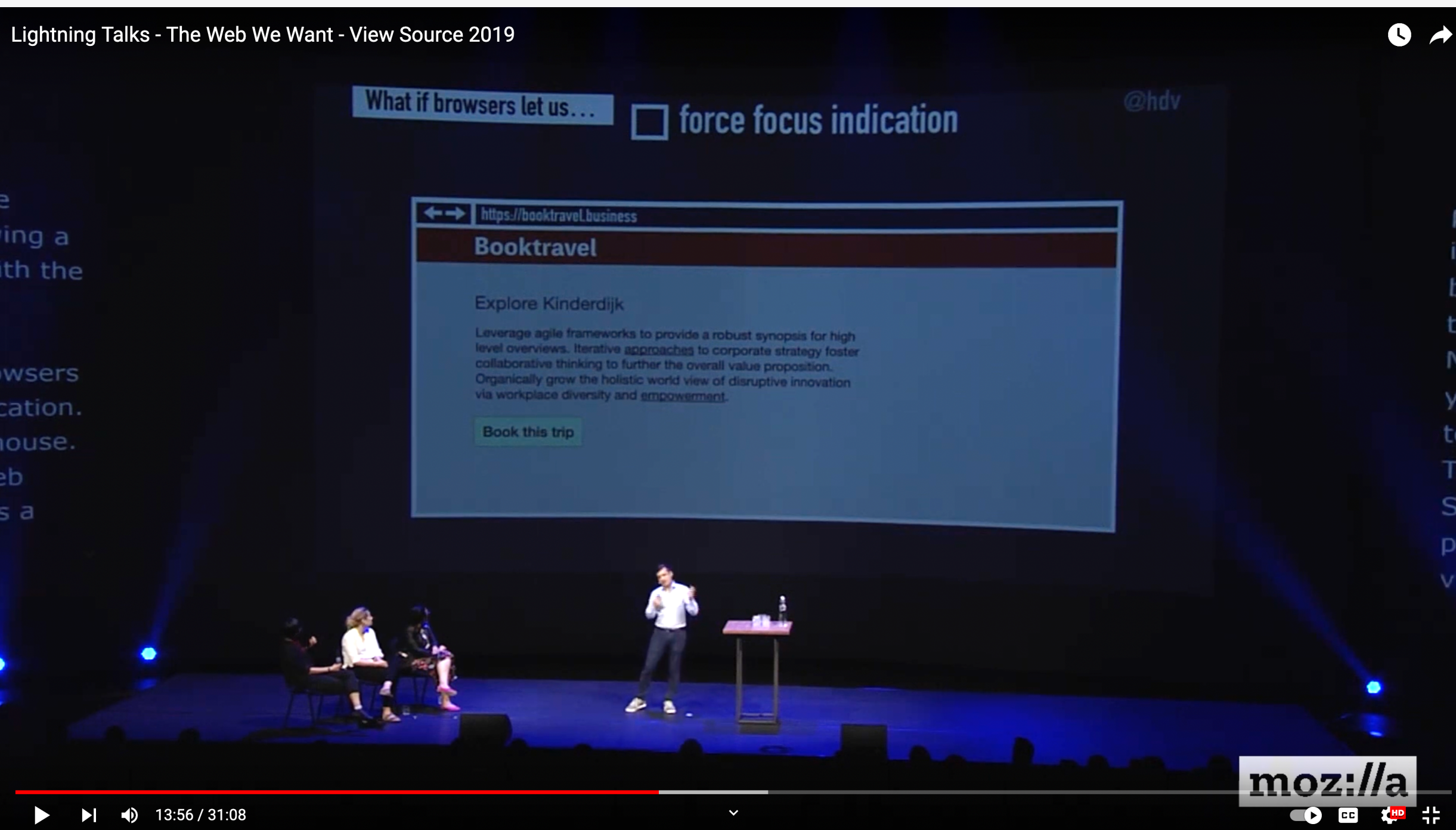
For content editors

For web developers

Loosely inspired by [w3.org/TR/design-principles/#priority-of-constituencies](https://www.w3.org/TR/design-principles/#priority-of-constituencies)

# CAN TECH HELP END USERS?

*as remediation*



# BROWSERS

Could fix a small subset of accessibility issues in content automatically for end users



Untruncate text



Force colour contrast



Force focus indication



Suppress autoplay of gifs and videos



# CAN TECH HELP CONTENT FOLK?

*as assistants*

It looks like you're writing a letter.

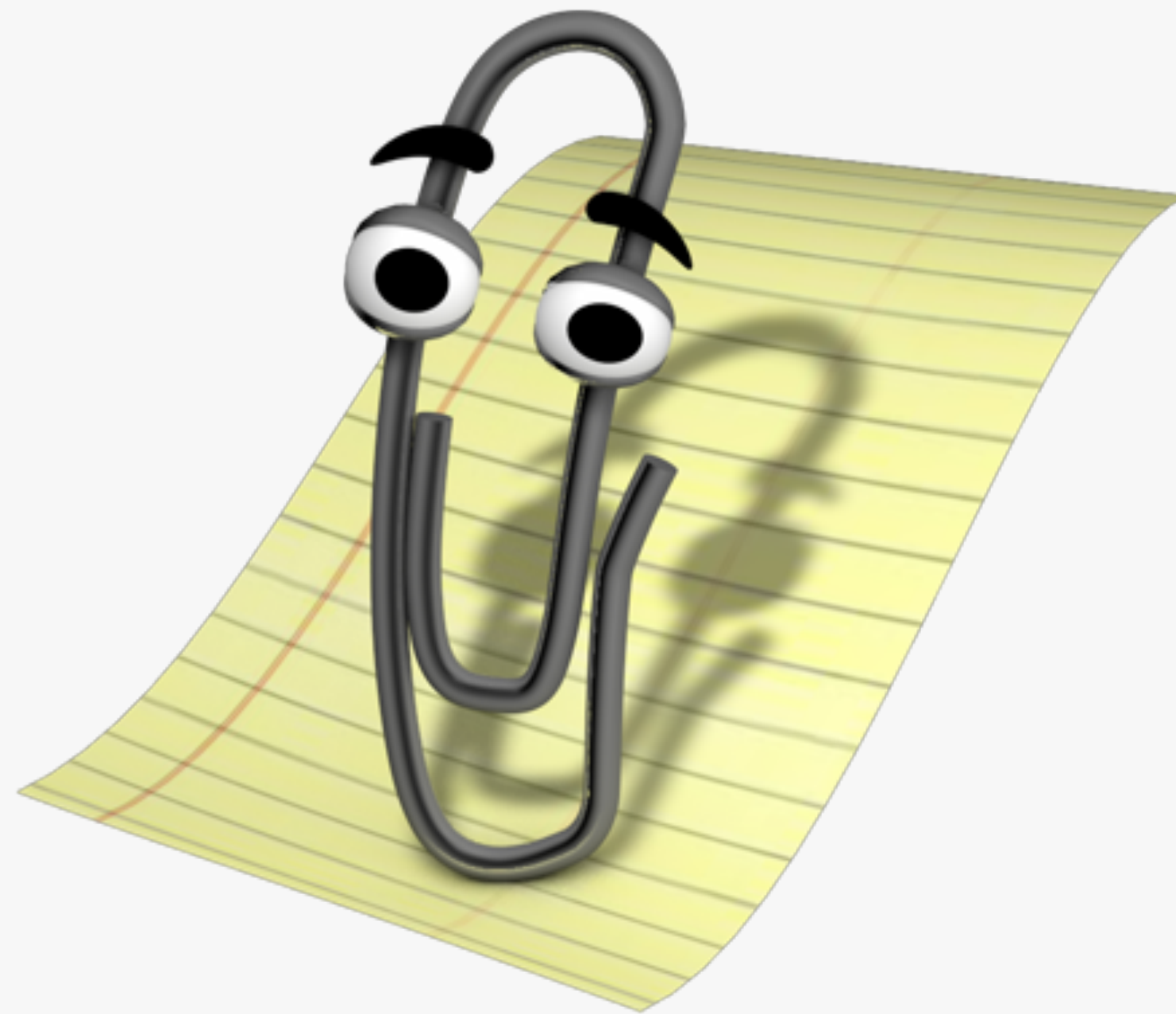
Would you like help?

- Get help with writing the letter
- Just type the letter without help
- Don't show me this tip again



# CMS

Could help with accessibility  
in the authoring process



# 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

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)

The image shows the WordPress Gutenberg editor interface. The main content area has a yellow background with the text "The power of the web is its universality" in a large, bold, black font. A dashed blue box highlights a portion of the top of the text area. The top toolbar includes icons for adding blocks, undo, redo, help, and a menu. The right sidebar contains the "Block" settings panel, which is currently open to the "Columns" block settings. The "Columns" settings include a "COLUMNS" slider set to 2, a "Stack on mobile" toggle that is turned on, and a "Color" section with radio buttons for "Text", "Background", and "Link". The "Typography" section is partially visible at the bottom of the sidebar.

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
- Bob

<https://github.com/hidde/porta11y>

Jun 15

53s

Publish

# MORE VALIDATIONS WHILE YOU CREATE CONTENT

- Do headings have hierarchy?
- Are links empty?
- Does link that only contains image have non-empty alternative?

...

### Geodesic cabin



Editor Web Preview Colorblind Text to speech



### Ended at

e.g. 2019-12-06 08:49

[Select](#)

### Main image



Upload

Select

Edit

Remove

### Geodesic cabin



Editor Web Preview Colorblind Text to speech



Select a filter:

Achromatopsia



[Our new portfolio](#)

[Archive](#)





# CAN TECH HELP DEVELOPERS?

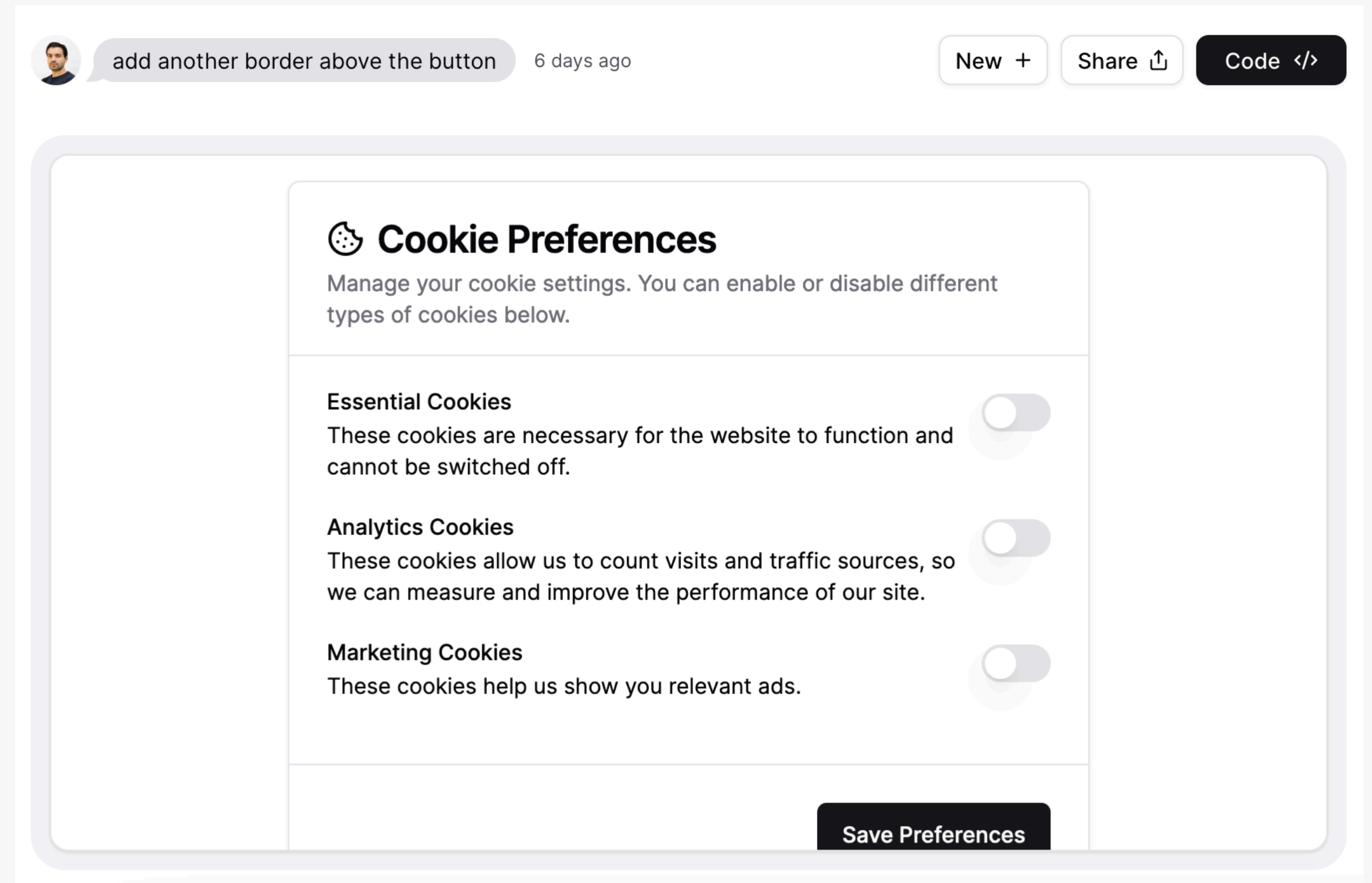
*magic is a risk*

“AI”

*very risky*

*Prompt-based front-end  
component generation*

*likely harmful*



**“AI”**

*Captions and transcripts*

# CAN TECH HELP DEVELOPERS?

*“built-in”*

# HTML

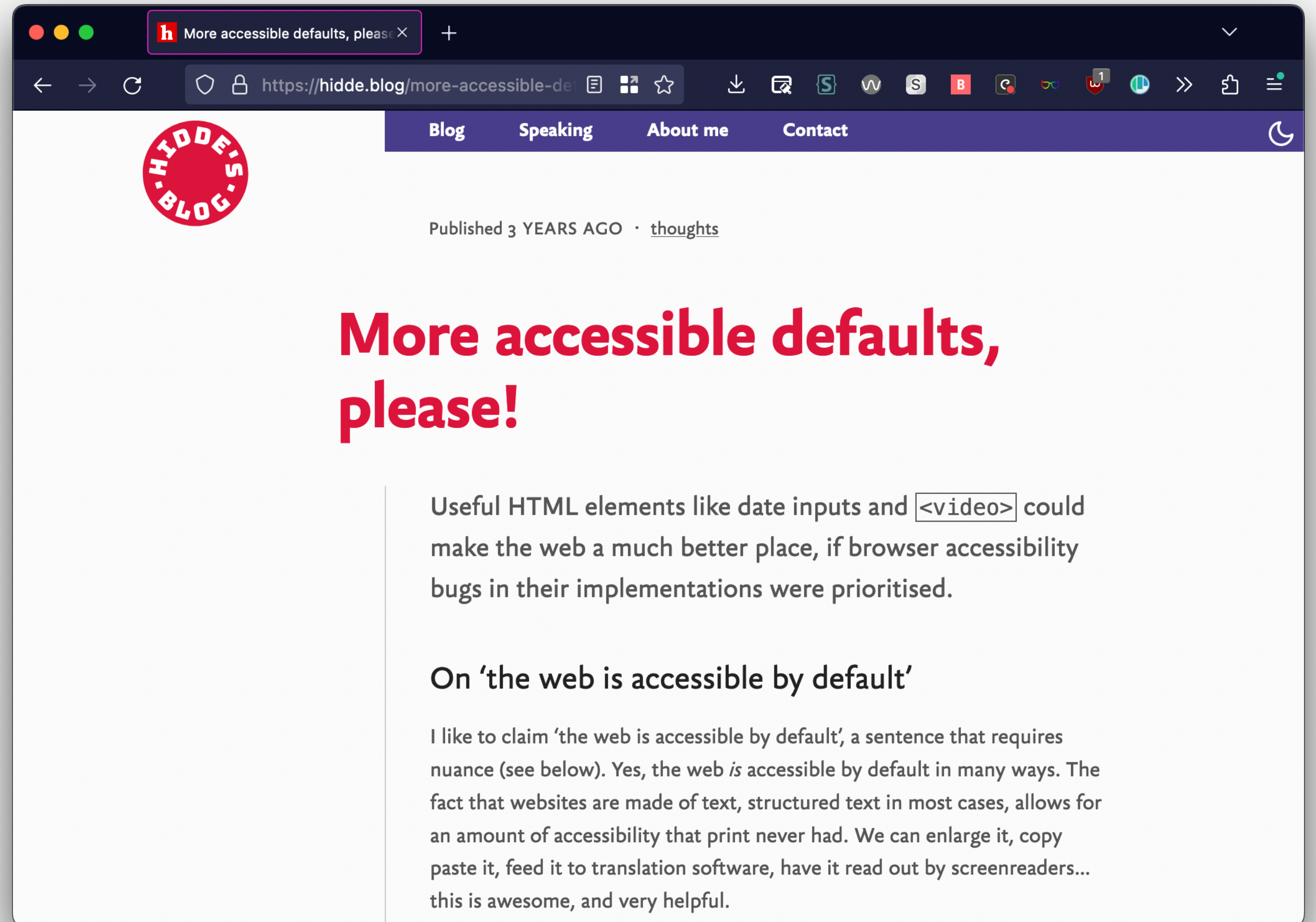
Could add new  
accessibility-by-default  
components



**Open UI**

# HTML

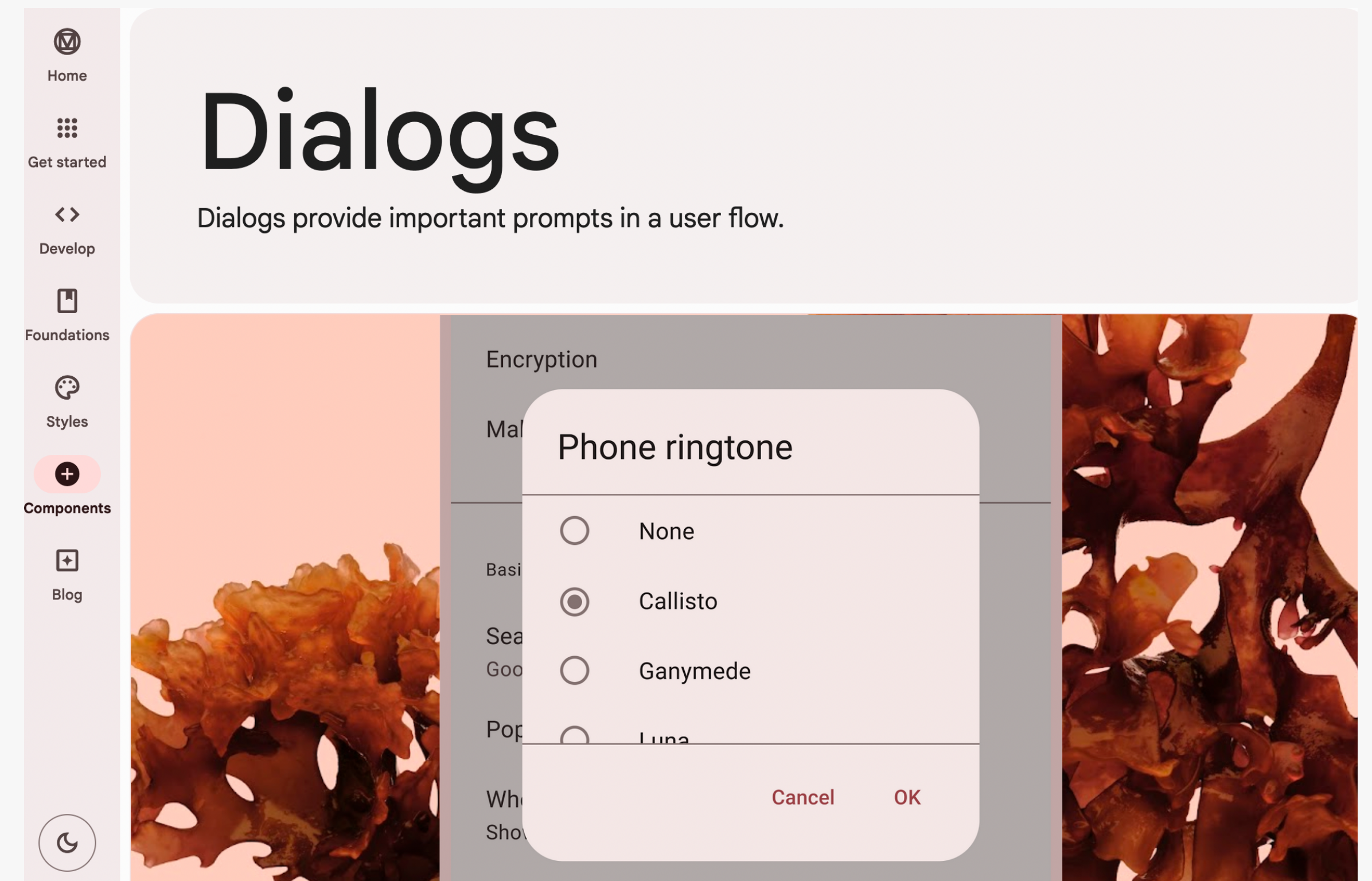
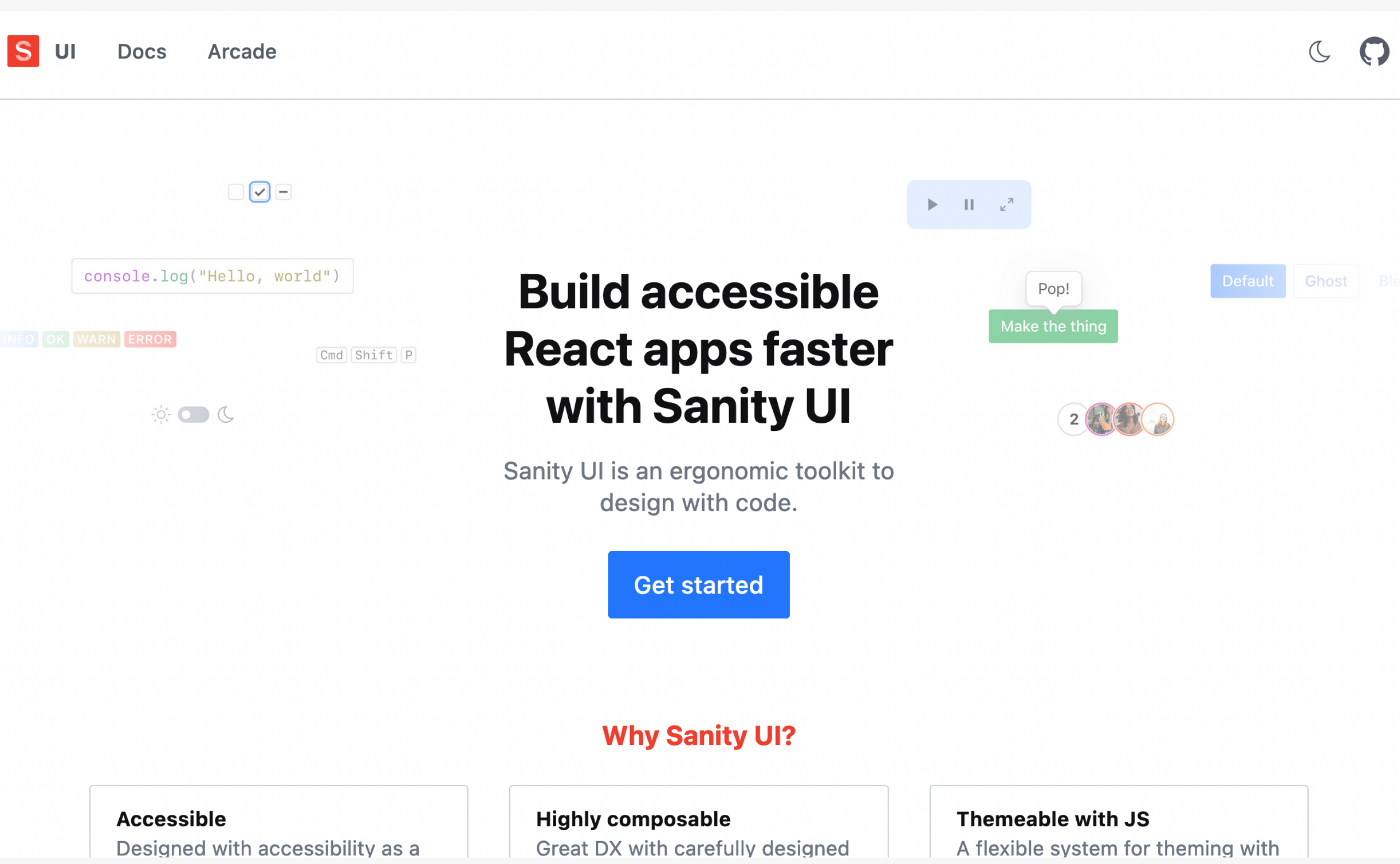
## Fix accessibility bugs in existing components



# DESIGN SYSTEMS

With components, we can make accessibility **reusable** and **repeatable**

Sanity UI, Material UI

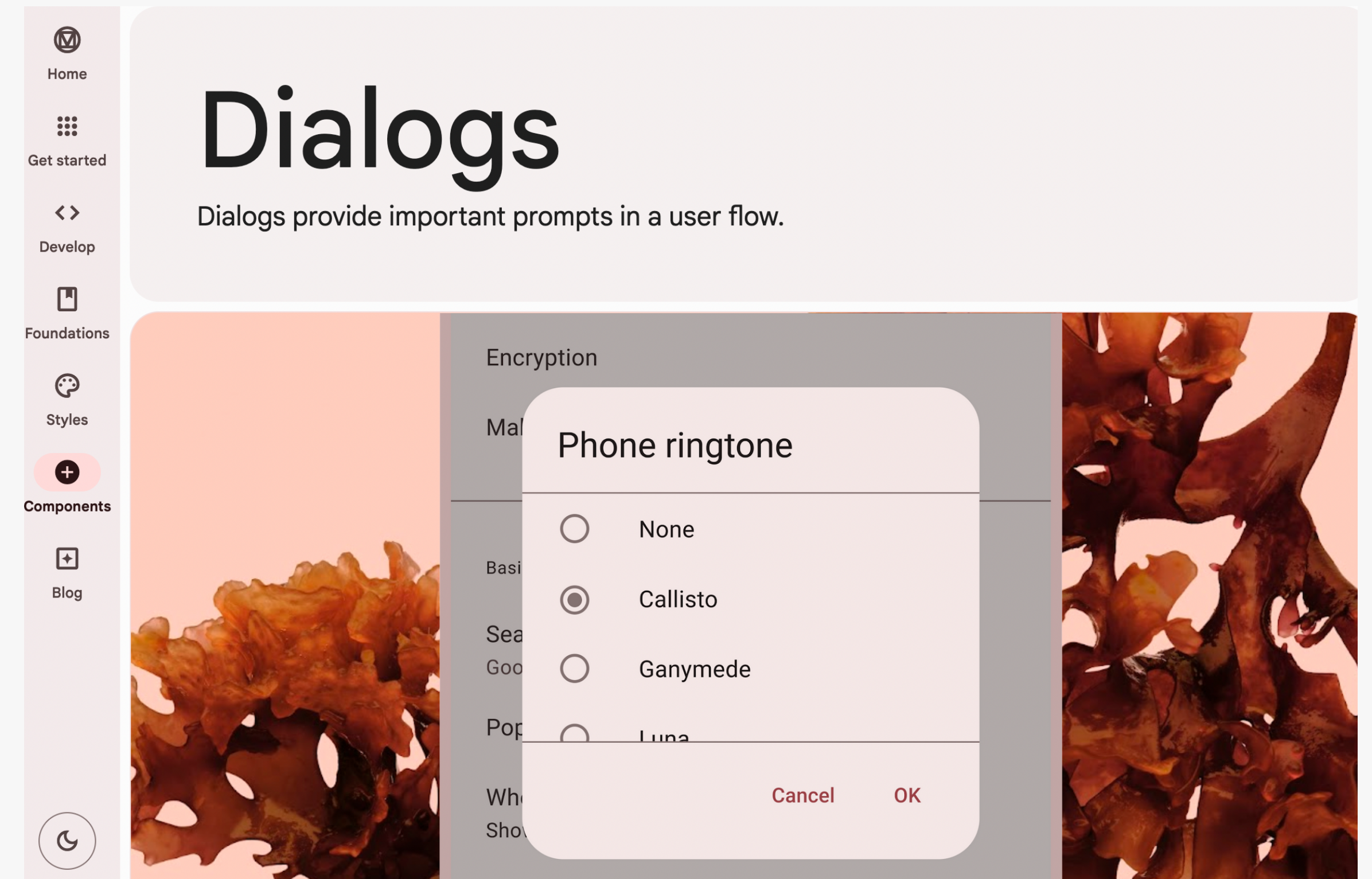
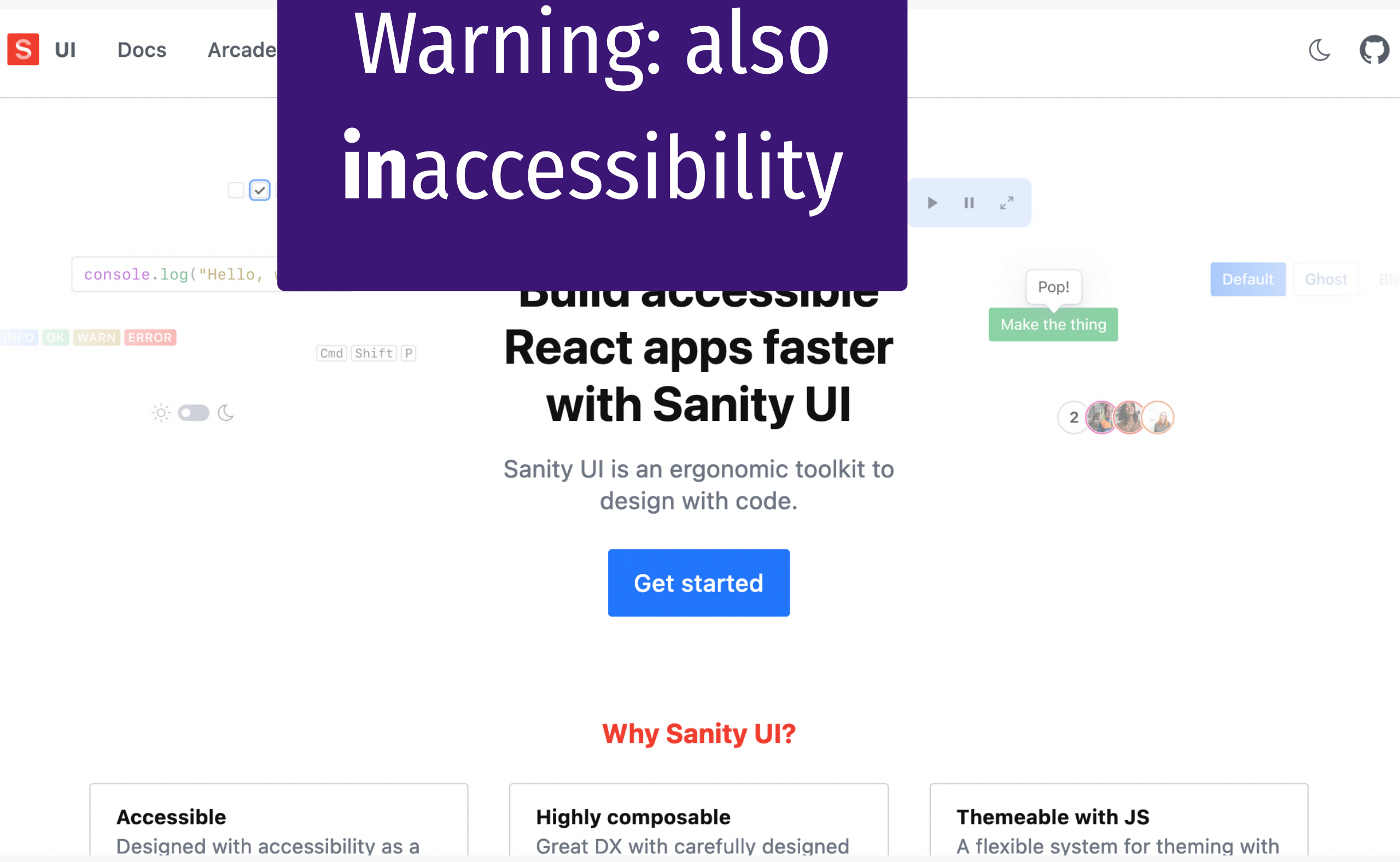


# DESIGN SYSTEMS

With components, we can make accessibility **reusable** and **repeatable**

Sanity UI, Material UI

Warning: also  
inaccessibility





# DESIGN SYSTEMS

With components, we can make accessibility **reusable** and **repeatable**

## DOCUMENT

Do's, don'ts, gotchas

The screenshot shows a design system documentation page for a 'Heading' component. On the left is a vertical navigation menu with items: Heading (highlighted), Inline, KBD, Label, Popover, Radio, Select, Spinner, Stack, Switch, Text, TextArea, TextInput, and Tooltip. The main content area is divided into two sections: 'Properties' and 'Accessibility considerations'. The 'Properties' section lists three properties: 'as?: React.ElementType | keyof JSX.IntrinsicElements', 'size?: number | number[]', and 'weight?: string'. The 'Accessibility considerations' section contains two paragraphs of text explaining the importance of using the 'as' property for navigation.

**Heading**

- Inline
- KBD
- Label
- Popover
- Radio
- Select
- Spinner
- Stack
- Switch
- Text
- TextArea
- TextInput
- Tooltip

### Properties [🔗](#)

- `as?: React.ElementType | keyof JSX.IntrinsicElements`
- `size?: number | number[]`
- `weight?: string`

### Accessibility considerations [🔗](#)

Many users of assistive technologies use headings as a way to navigate ("navigate by heading" functionality). Tools like screenreaders can display a list of headings, which is [a bit like a table of contents](#).

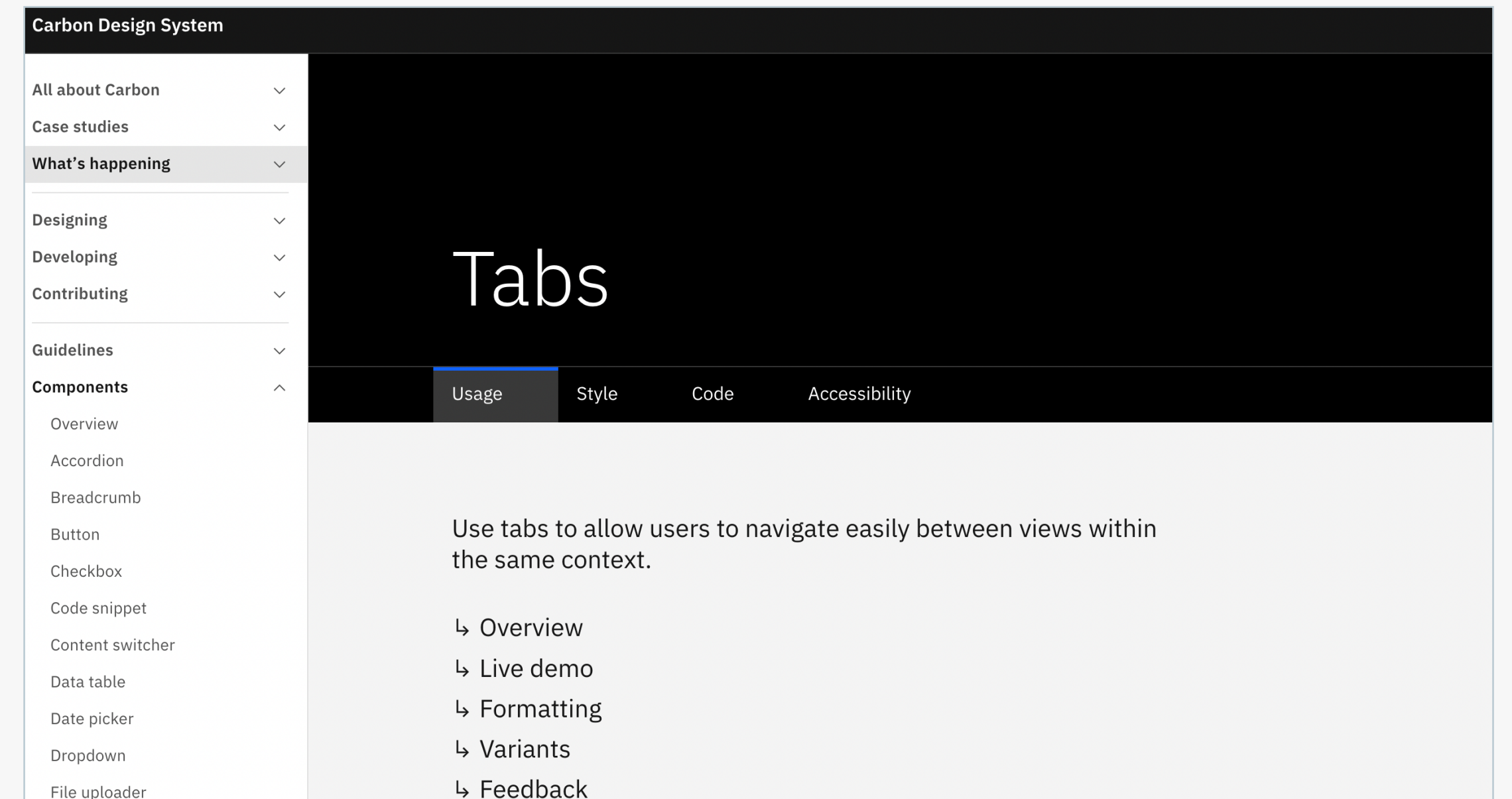
For this reason, use the `as` property with a level whenever your heading is something users might want to navigate to. This ensures your heading can be recognised as a heading.

# DESIGN SYSTEMS

With components, we can make accessibility **reusable** and **repeatable**

## COMPLEX COMPONENTS

For reuse in across front-end

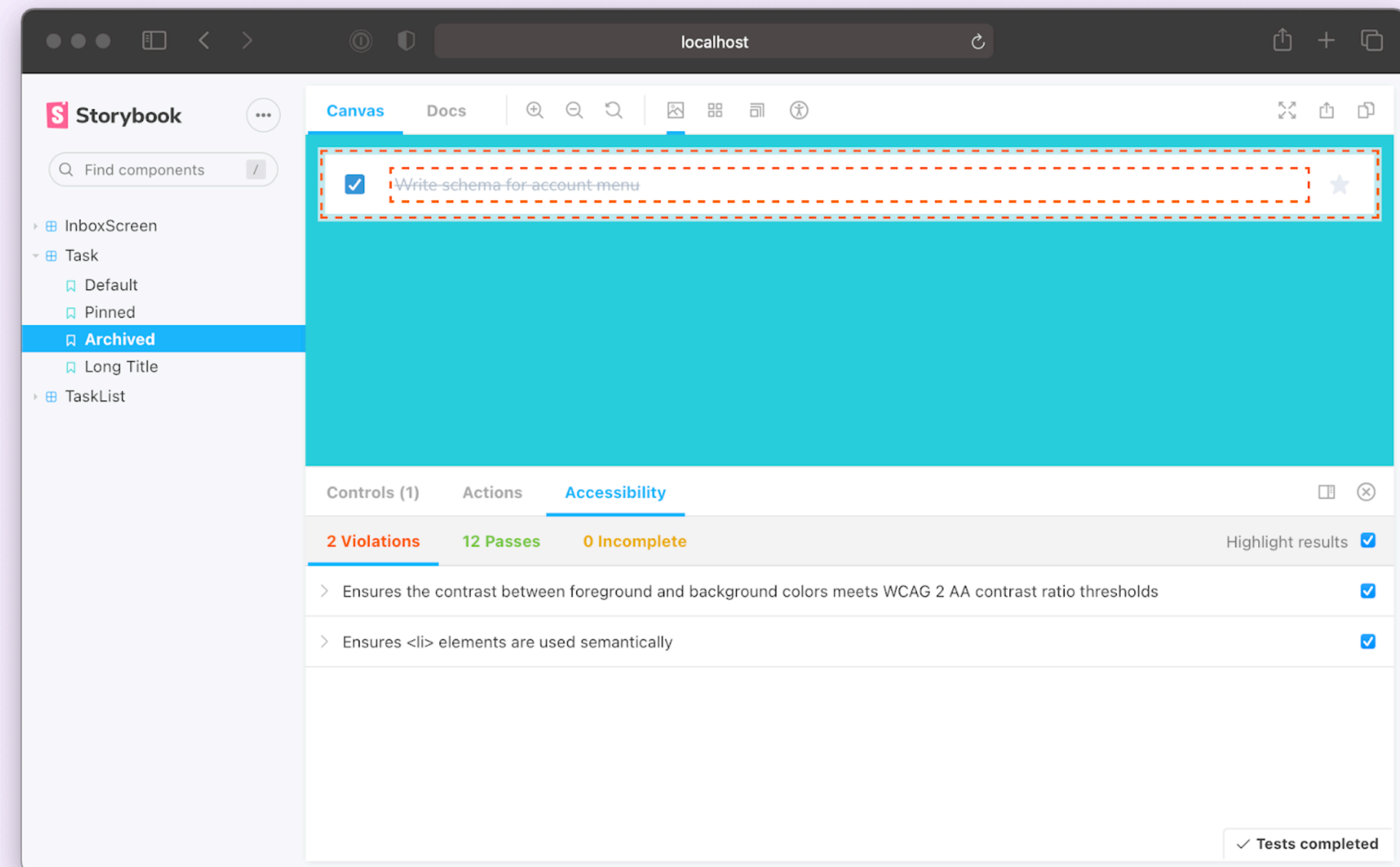


# DESIGN SYSTEMS

With components, we can make accessibility **reusable** and **repeatable**

## TESTS PER COMPONENT

With tools like Storybook



# DESIGN SYSTEMS

They can also contain guidelines and example templates

# CAN TECH HELP DEVELOPERS?

*as an assistant*

# AUTOMATED CHECKERS

They can also contain  
guidelines and example  
templates

# CONCLUSION

# CONCLUSION: THERE ARE WAYS TOOLS CAN HELP

- Design systems make (in)accessibility **reusable** and **repeatable**
- Browsers could **auto-remediate** more
- HTML could have more **accessible components built in**
- CMSes can be set up like **accessibility assistants**
- “AI” is great at recognising things, translation, captioning

## BUT...

- “AI” can't be trusted to generate accessible components



# THANKS!

- slides are on [talks.hiddedevries.nl](https://talks.hiddedevries.nl),  
will share on @hdv / @hdv@front-end.social