



HOW POPOVERS ARE ABOUT TO BECOME A WHOLE LOT EASIER TO BUILD

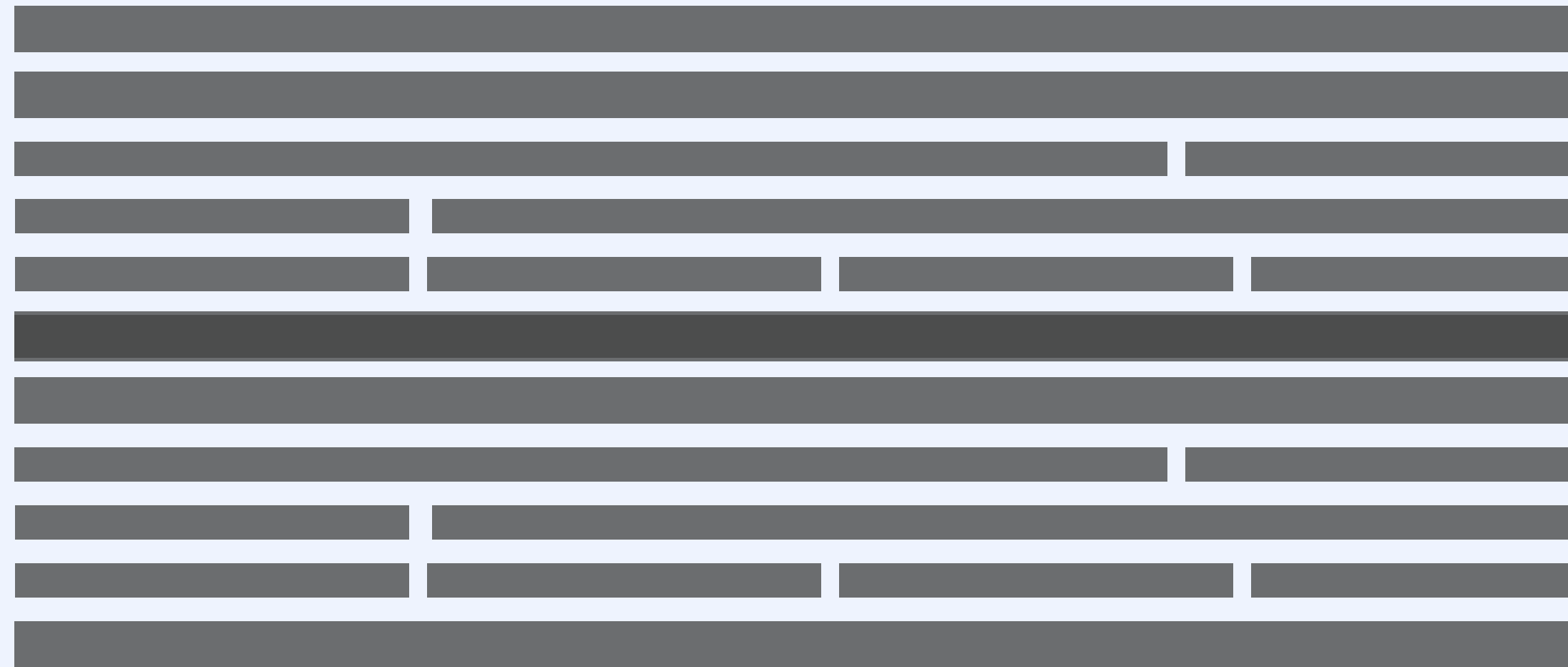
Hidde de Vries
1 September 2023
Front Conference, Zurich



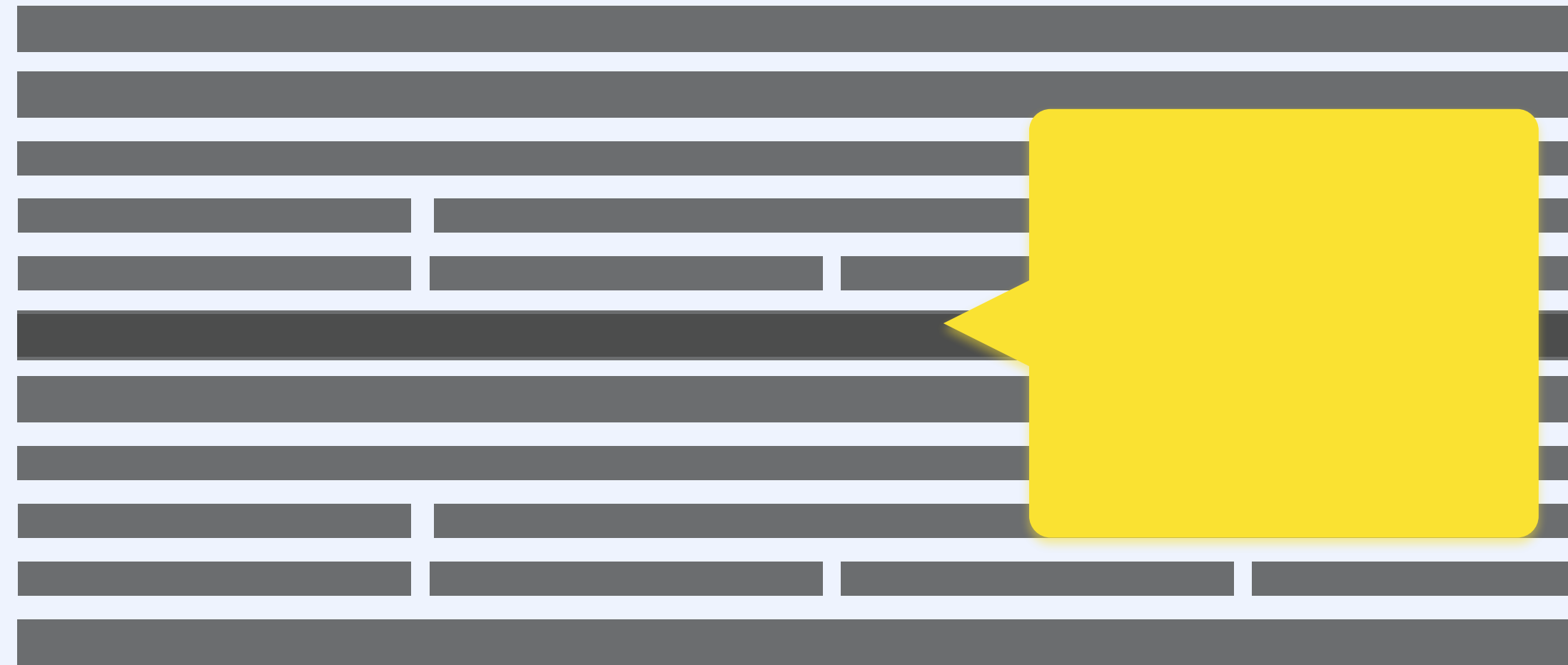
**MODAL MISCHIEF &
DIALOG
DILEMMAS**

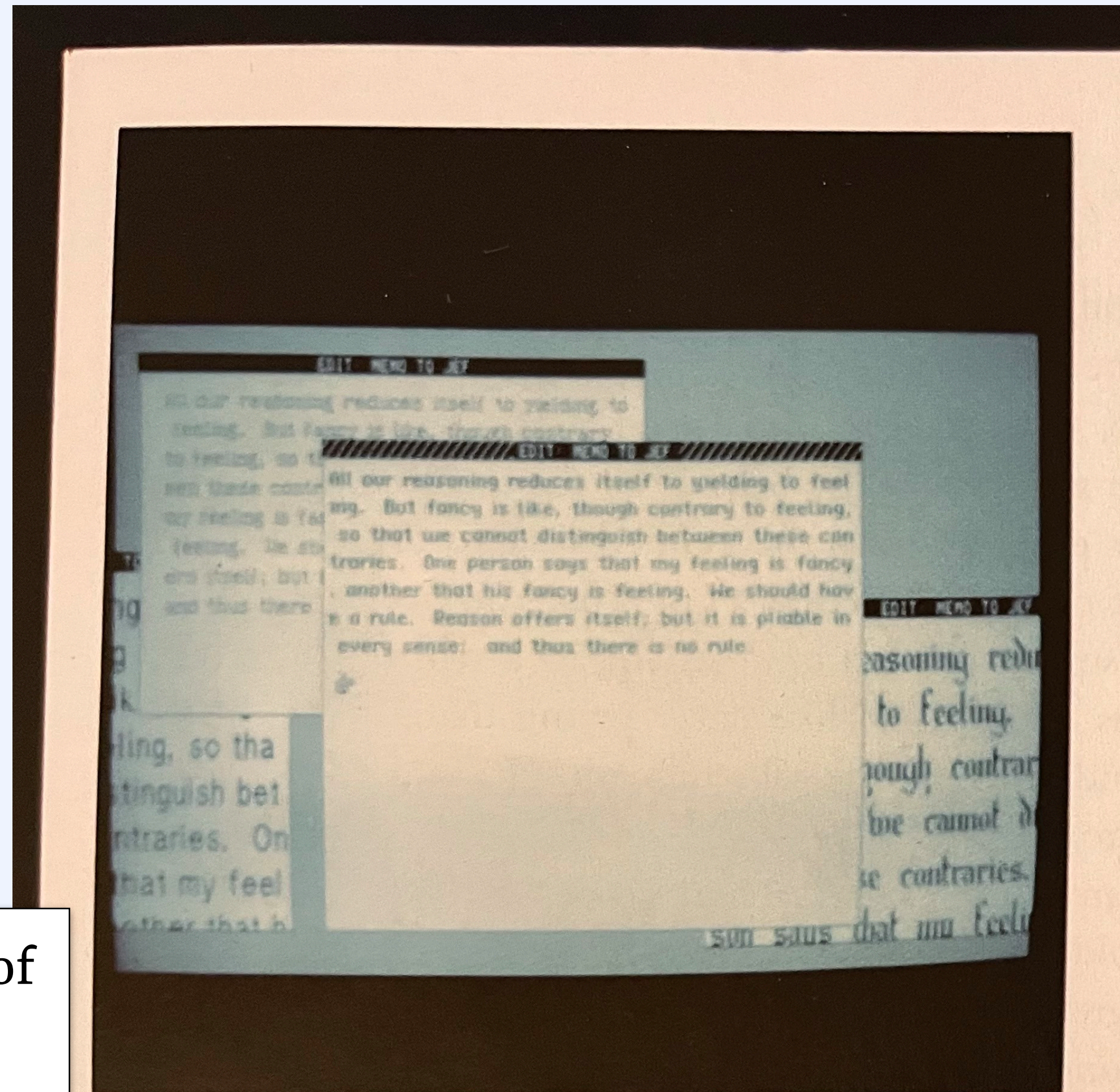
Hidde de Vries
1 September 2023
Front Conference, Zurich

In the beginning,
content was linear...

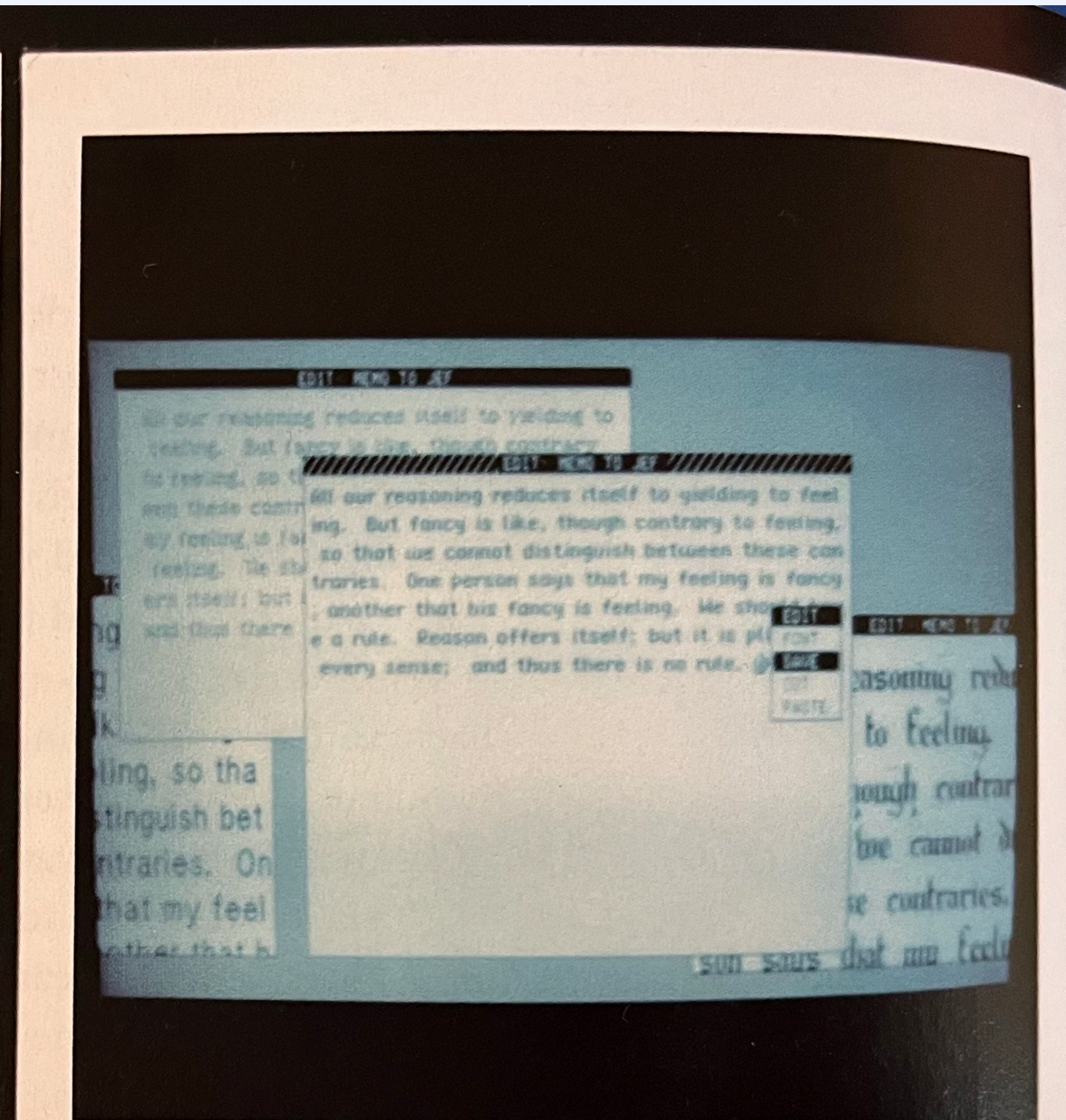


Today, it can overlap
in all sorts of ways





windows



mouse
& pop-up menu

Polaroids of development of overlapping window management

Photos: Bill Atkinson ("Mr User Interface" at Apple'), from: *Designing interactions* by Bill Moggridge, 93.

WE USE TOO
MANY DAMN
MODALS.

LET'S JUST NOT.

HELP



THE BAD NEWS

MODALS ARE THE CRUTCH OF THE INARTICULATE DE-
SIGNER AND DEVELOPER.

<dialog>

HTML element · wide browser support · (as of recently) good accessibility support

popover

New attribute / API in HTML · supported in Chrome stable / Safari Tech Preview / Firefox (🚩)

<dialog>

UI considerations

HTML element with
support and (as of recently) good
accessibility support

Semantics

Positioning

popover

New attribute / API in HTML, v1 supported in
Chrome stable, coming to other browsers too

HI, I'M HIDDE

developer relations + accessibility
at NL Design System

participant at Open UI CG

hidde.blog

**LIKE &
SUBSCRIBE**



Jim the virtue of respecting nature and Earth. As a scientist, Mr Lovelock went on to develop Gaia theory, the idea that Earth is a single, complex, self-regulating system. Though initially rejected by life scientists, it became the main way many people conceive of the planet.

Listen to this story. Enjoy more audio and podcasts on [iOS](#) or [Android](#).



That is just one of his many contributions. He has also looked for life on other planets and discovered methane in the atmosphere in the 1970s, which was a major discovery. His nomination to Britain's Royal Society was for his work in chemistry and physics—all because of his work on Gaia theory (it is named after Gaia).

Listen to this story ×

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OK

Lovelock honed a method to find and quantified CFCs in the atmosphere on the harmful chemicals. He spent a lot of time and hours of work in biology, chemistry and physics, a theory for which he is best-known (Earth).

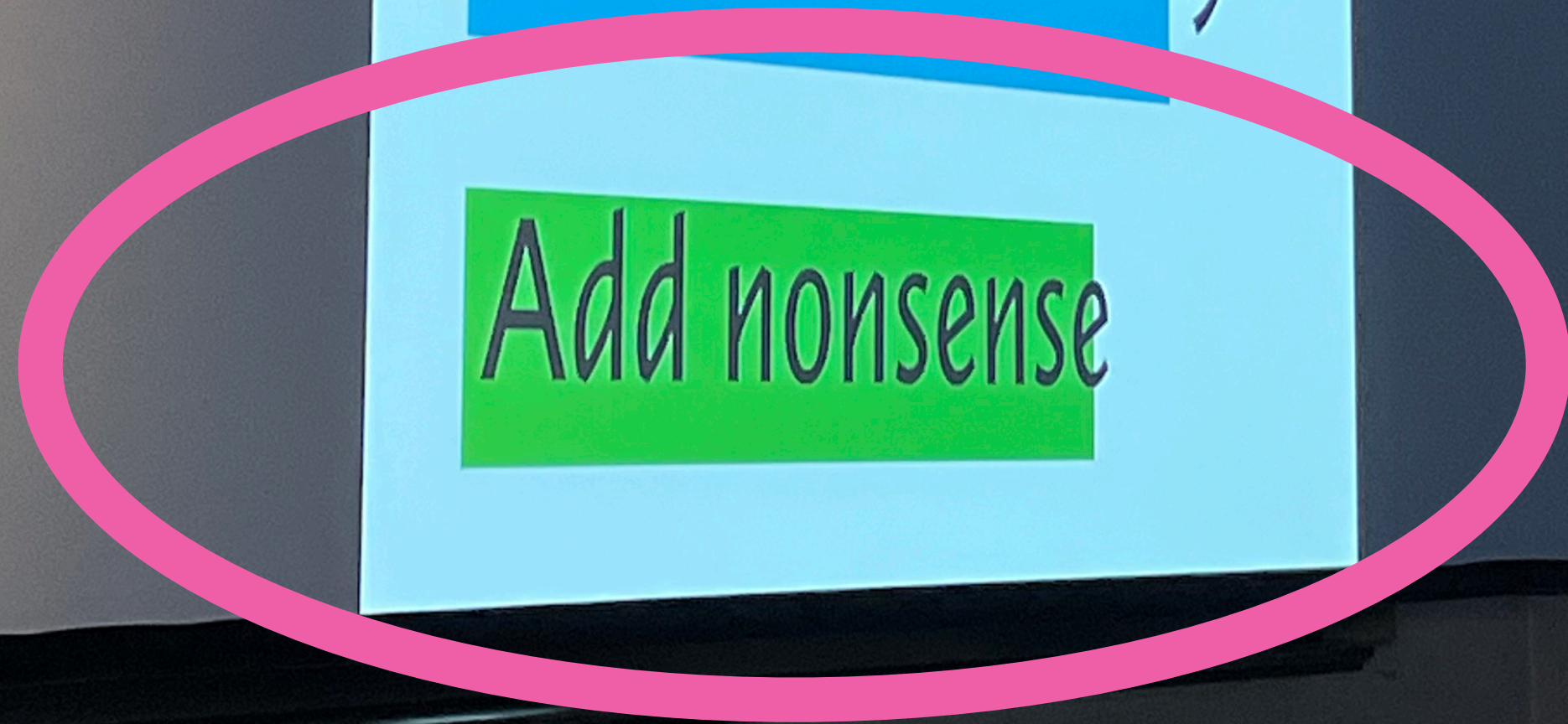
To coincide with his 100th birthday, he has published a slim book on artificial intelligence (AI), written with Bryan Appleyard, a journalist. It is mind-stretching stuff.

Study situation

Ignore conventions

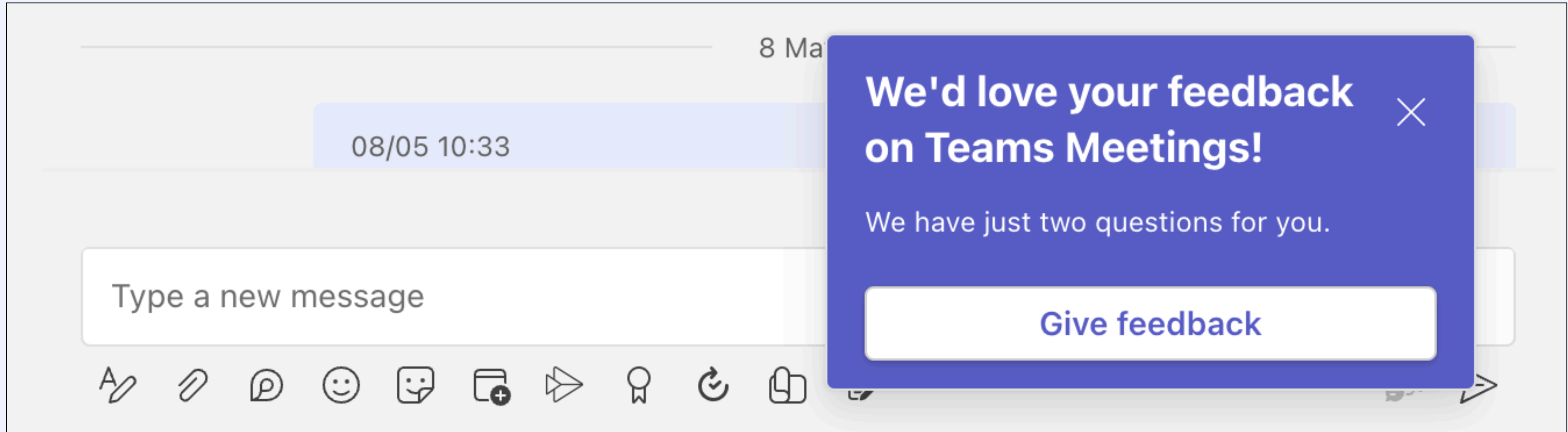
Prioritise identity

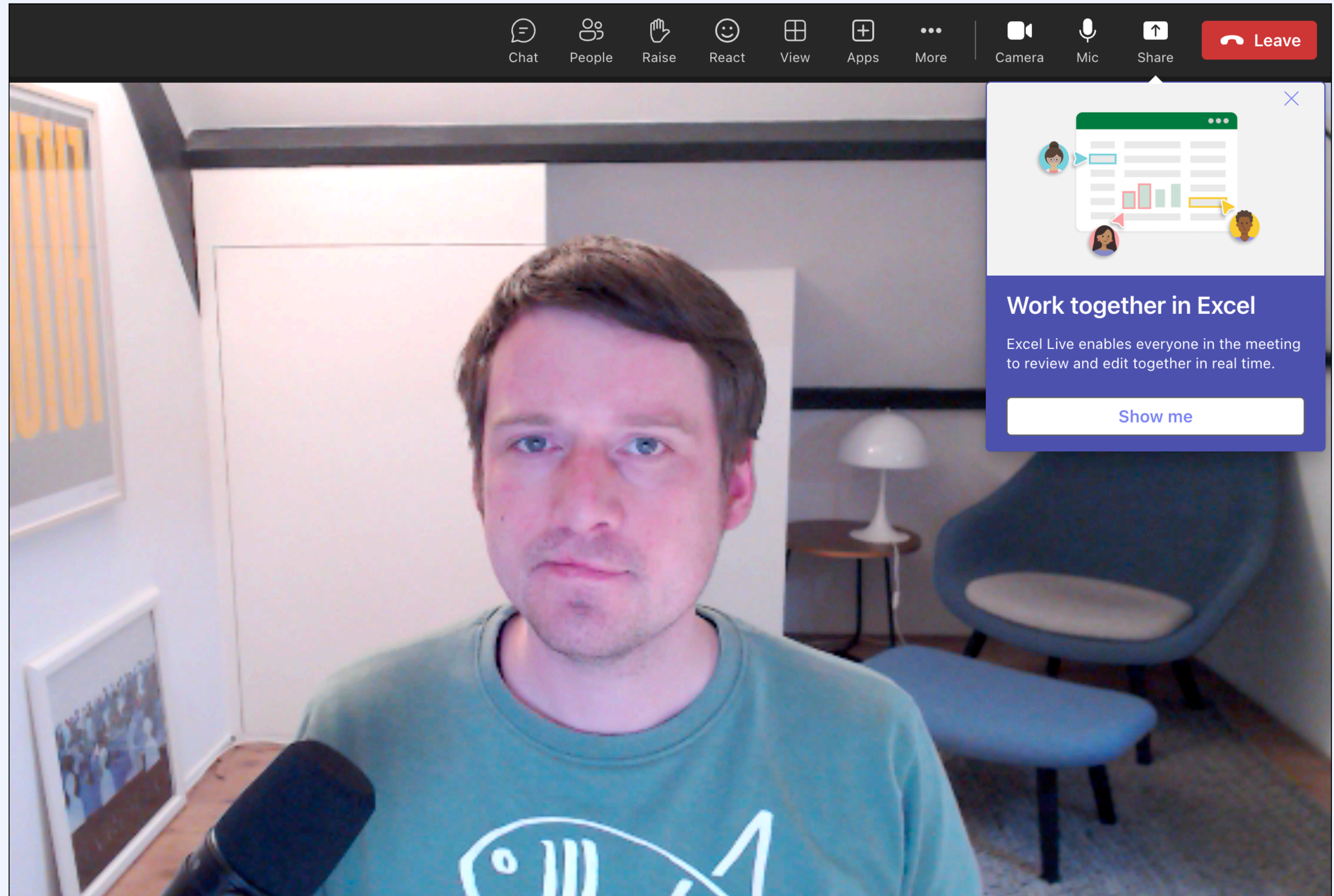
Add nonsense



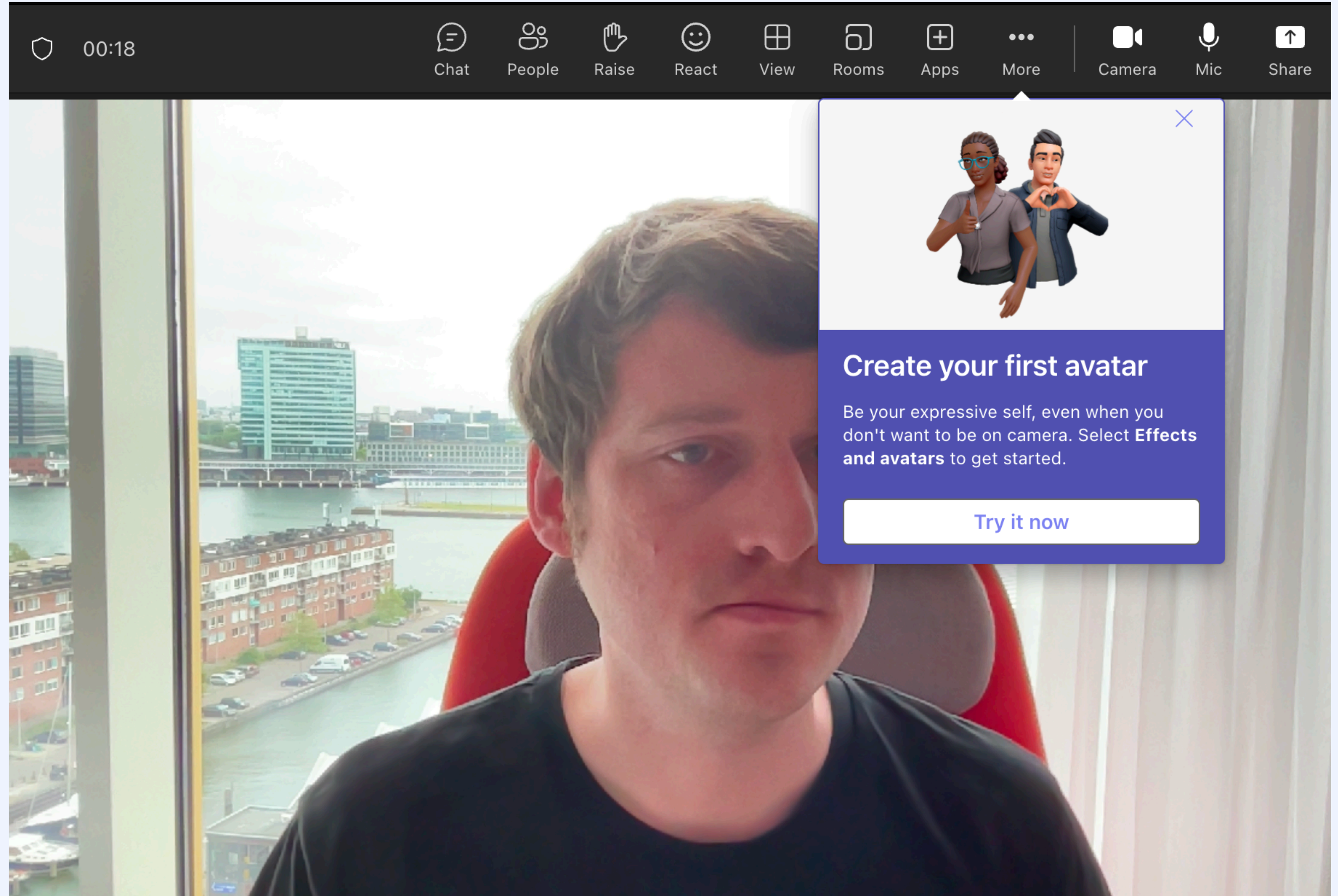
Teams: a timed popover to ask for feedback

@hdv@front-end.social



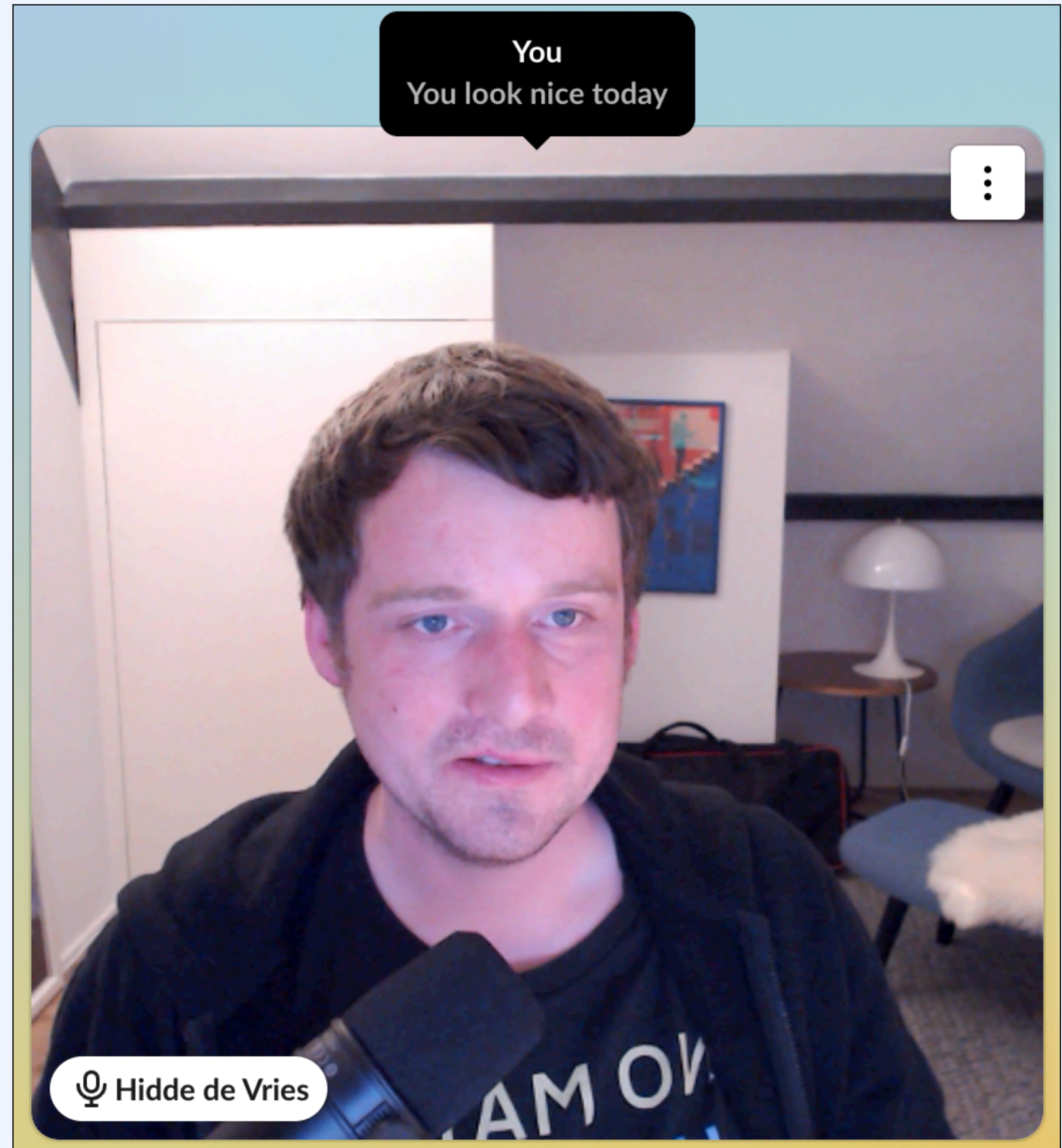


Teams: a popover to teach about an Excel integration



Teams: a popover to urge me to be my expressive self

Slack Huddles: a popover to tell the user they look nice today



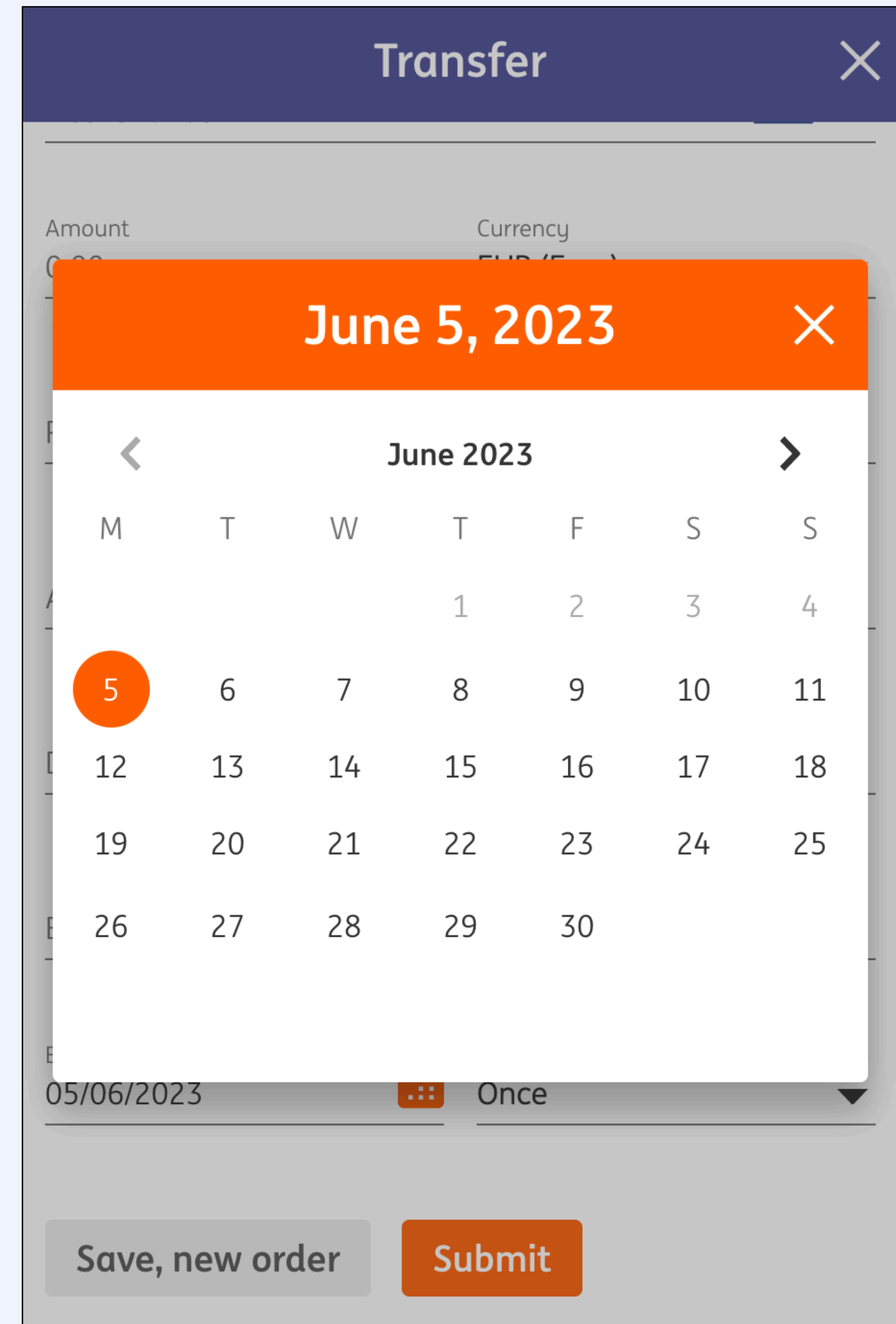
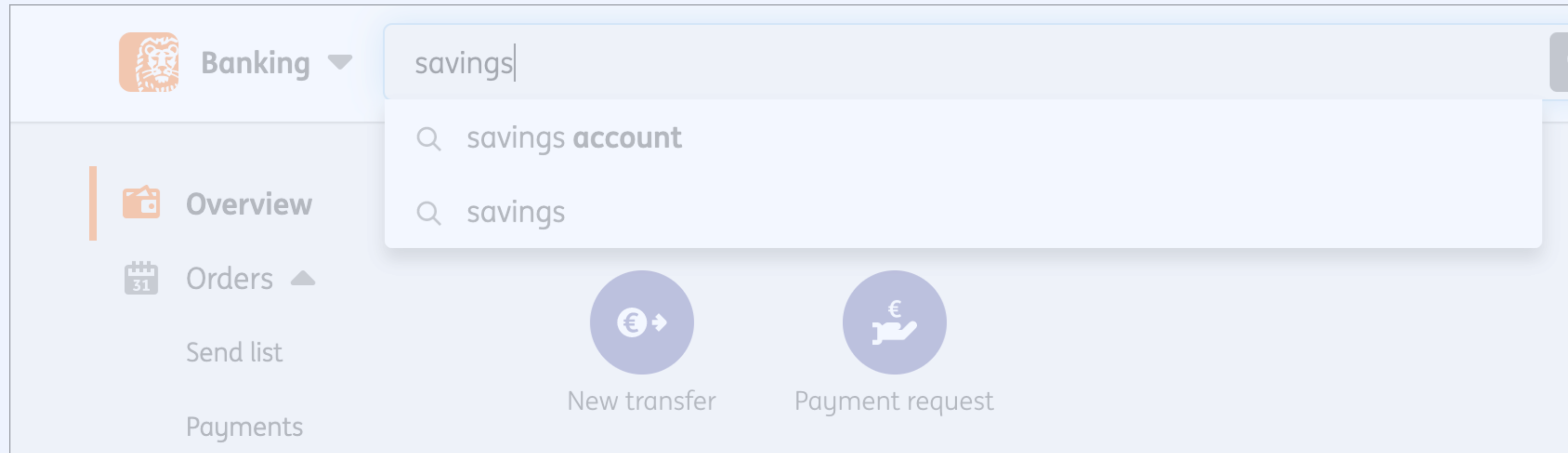
Online banking: a popover to autocomplete search query

@hdv@front-end.social

The screenshot displays a banking application interface. At the top left, there is a logo of a lion's head next to the word "Banking" with a dropdown arrow. A search bar is positioned to the right of the logo, containing the text "savings|". A search button with a magnifying glass icon and the text "Search" is located to the right of the search bar. In the top right corner, there is a "Help" button with a question mark icon, a user profile section for "Hr H de Vries" with a dropdown arrow, and a "Log out" button. Below the search bar, a white popover menu is open, showing two search results: "savings account" and "savings", each preceded by a magnifying glass icon. On the left side of the interface, there is a vertical navigation menu with items: "Overview" (with a house icon), "Orders" (with a calendar icon showing "31"), "Send list", and "Payments". At the bottom of the interface, there are two circular buttons: "New transfer" (with a Euro symbol and an arrow) and "Payment request" (with a Euro symbol and a hand icon). On the right side, below the search bar, there is a "Change view" button with an eye icon.

Online banking: a popover to autocomplete search query

@hdv@front-end.social



Online banking: a popover to select a transfer date

DIALOG

What is it

Additional window to
your main window.

a.k.a. “descendant window” or
“subwindow”

DIALOG

What is it

Usually contains an **action** or **task** for the user, sometimes has **critical information**

DIALOG

What is it

‘a “conversation”
between the system
and the user’

DIALOG

*What is it
(typically)*

- Do you want to continue, *yes or no*
- If you want to open a new file, what shall we do with your current file?
- How do you want to crop this image, where is the hot spot?

<DIALOG>

What is it

HTML element to
build dialogs

```
<dialog>... </dialog>
```

<DIALOG>

*Open/close
with script*

```
// show as modal  
element.showModal();
```

```
// show as non-modal  
element.show();
```

```
// dialog element  
<dialog>...</dialog>
```

comes with role,
modal setting, close-
on-Esc etc


```
// dialog element  
<dialog>...</dialog>
```

just the
semantics, no
behaviour

```
// an element with  
// dialog semantics  
<div role="dialog">... </div>
```

```
// dialog element  
<dialog>...</dialog>
```

```
// an element with  
// dialog semantics  
<div role="dialog">... </div>
```

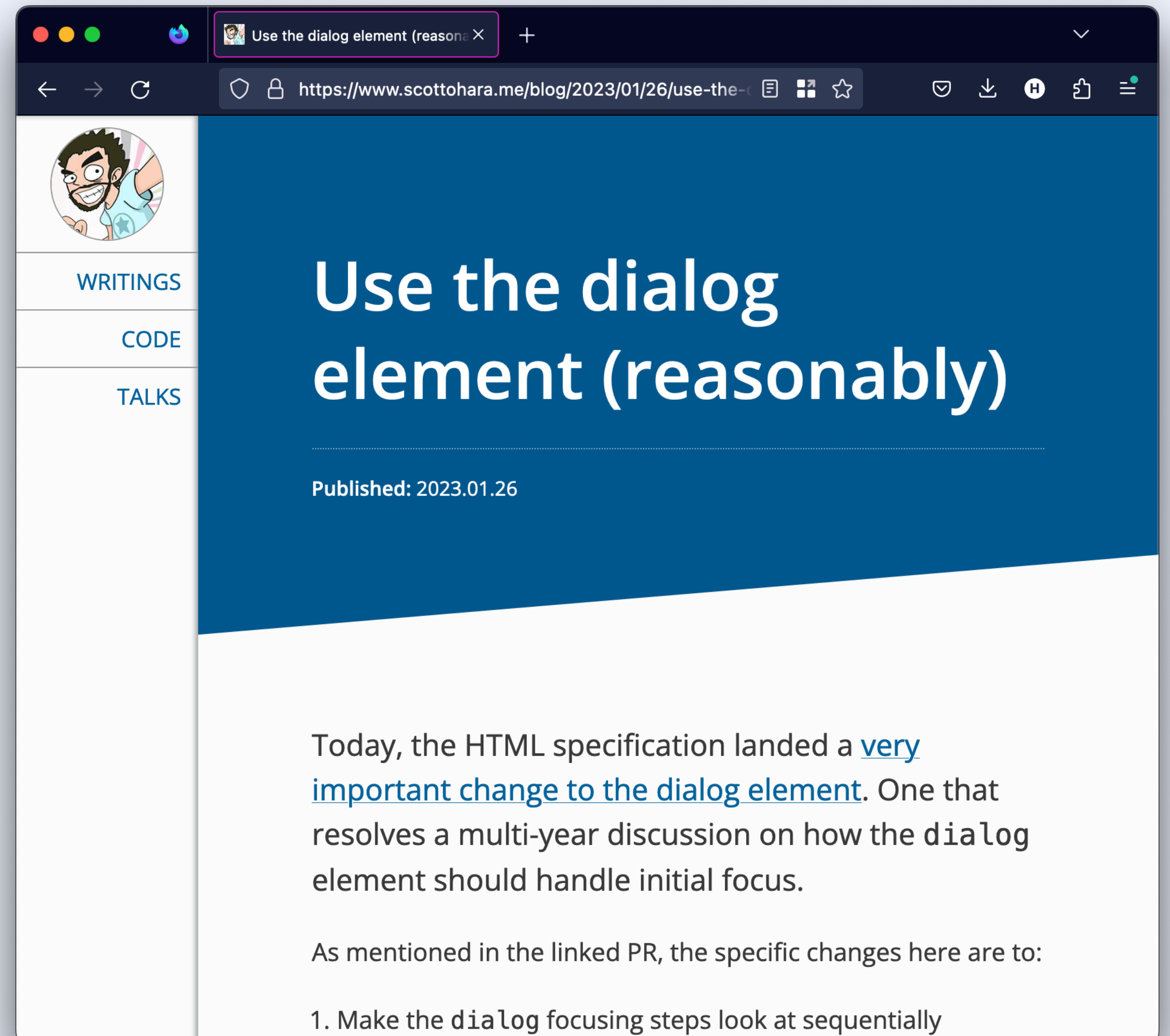
“dialog” just the word

CURRENT STATUS: <DIALOG>



scottohara.me/blog/2023/01/26/use-the-dialog-element.html

MORE ON USING <DIALOG> ACCESSIBLY



POPOVER

What is it

a floating piece of UI
with **supplemental** or
contextual content

“non-modal dialog”

“transient content”

[POPOVER]

What is it

an attribute that adds
a set of behaviours to
any element

```
<div popover>... </div>
```

light dismiss

keyboard

top layer presence

auto-closure of other popovers

behaviours

(depending on mode)



[POPOVER]
What is it

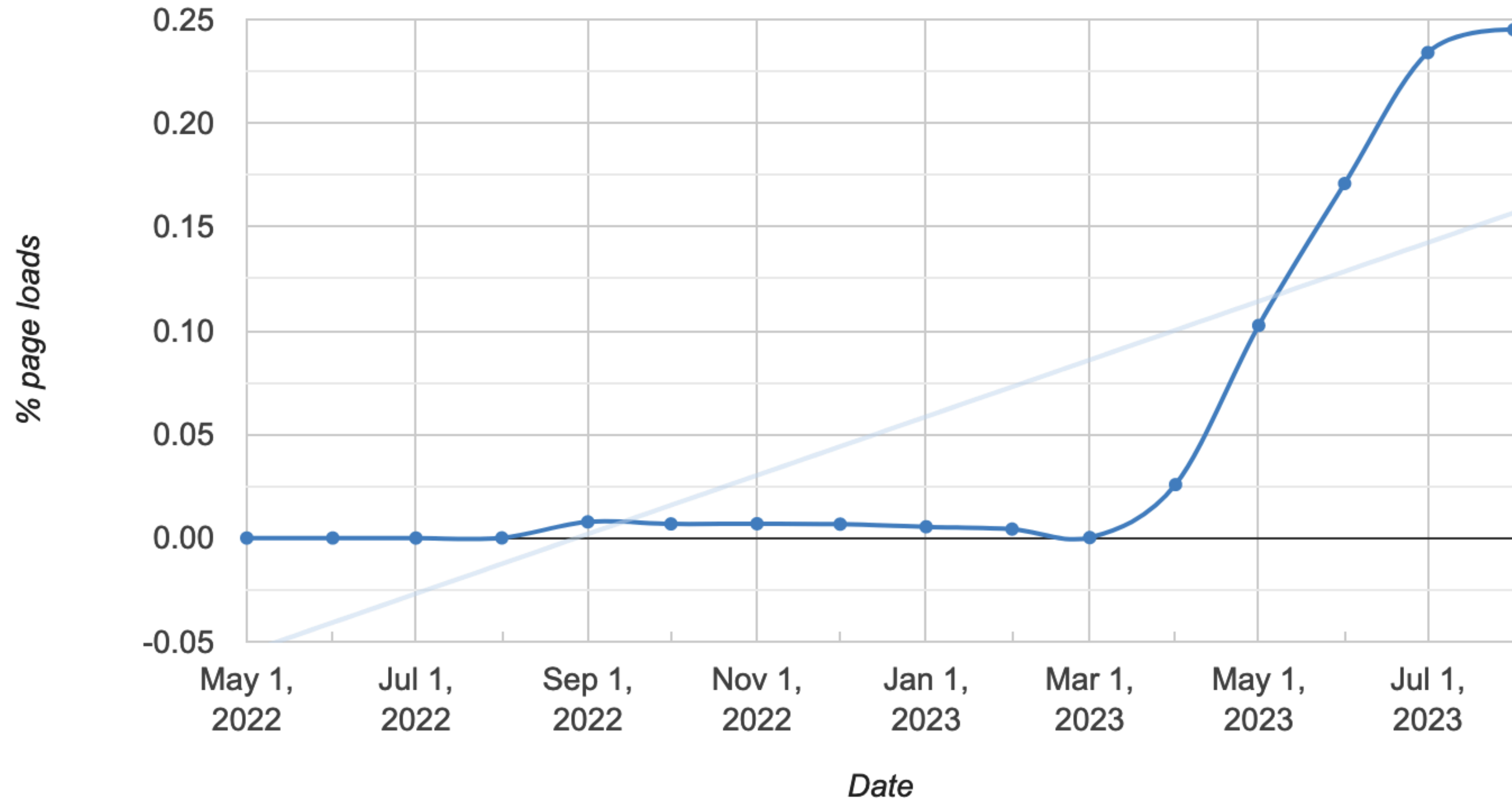
```
<div popover>... </div>
```

[POPOVER]

What is it

For elements that are:

- on top of other page content
- not always visible (ephemeral, short-lived)
- usually displayed one at a time

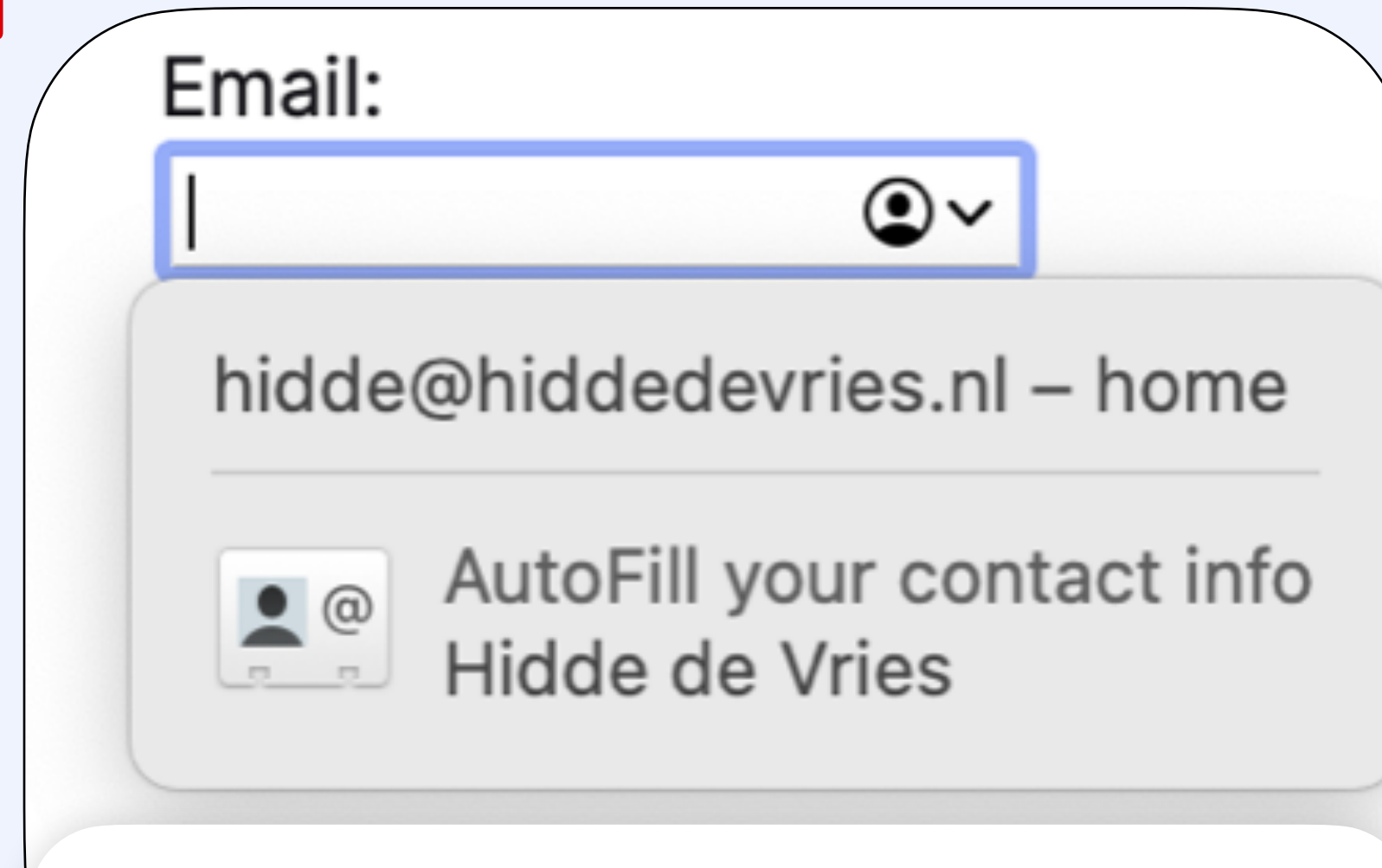


[POPOVER]

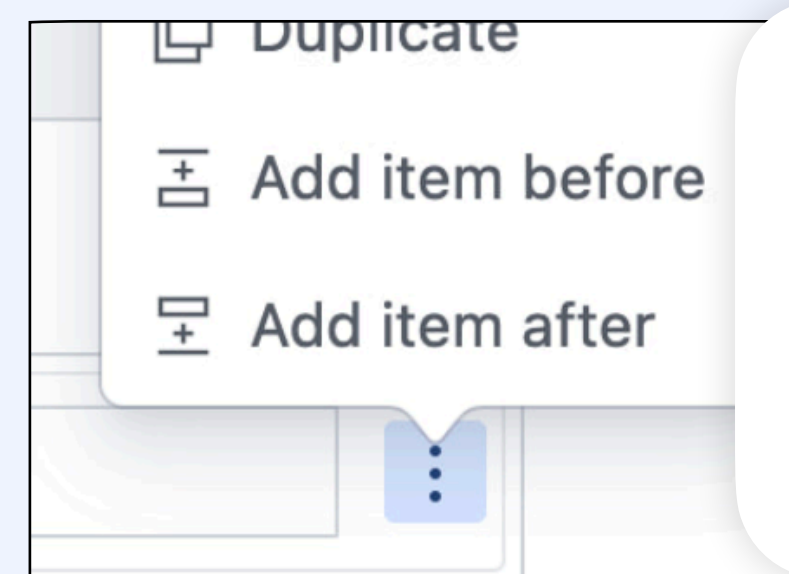
Use cases



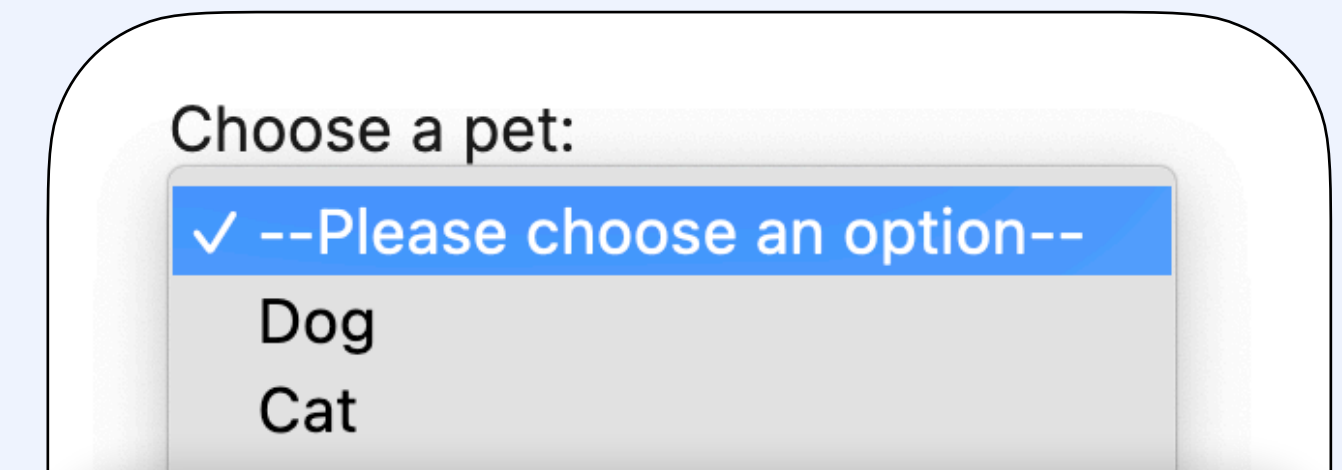
content
pickers



form element
suggestions

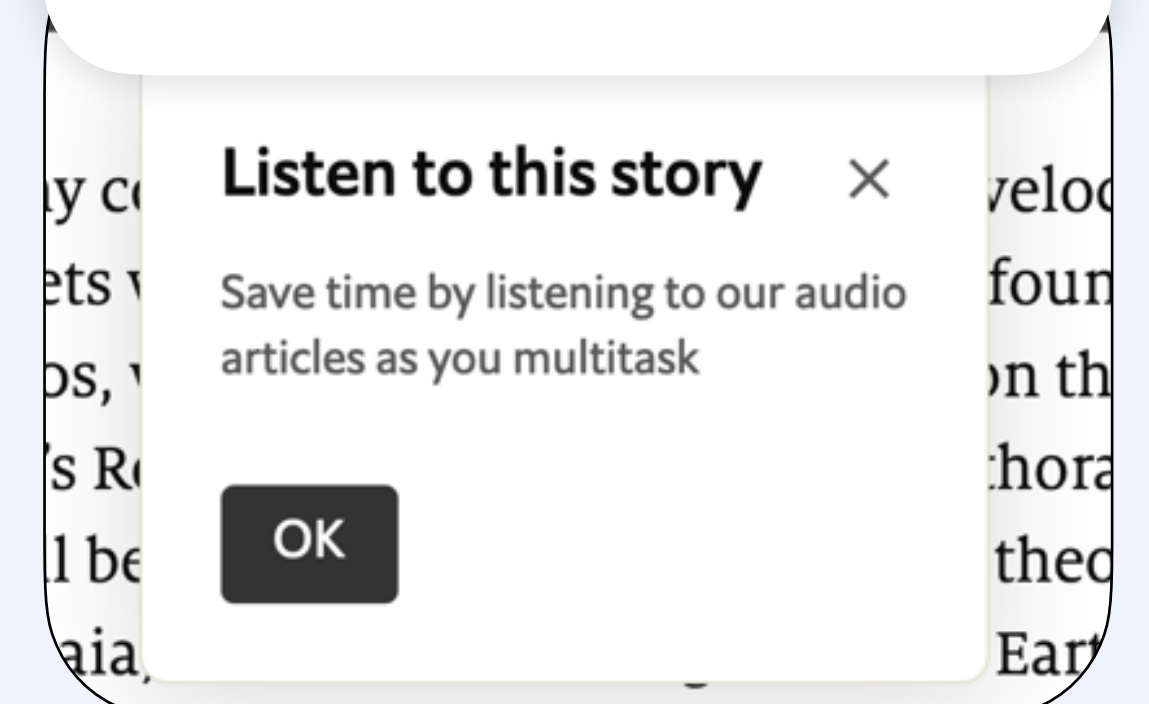


action
menus



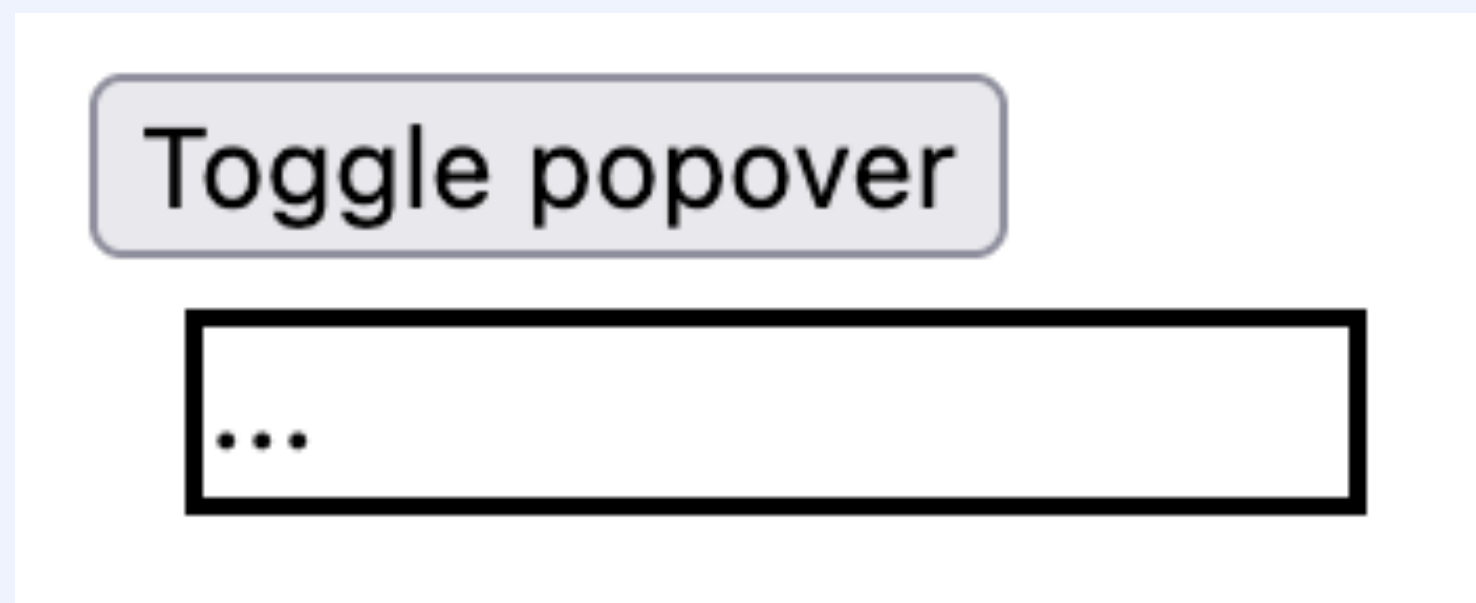
<select>'s
listbox

teaching
UI



[POPOVER]

*No JavaScript
required*

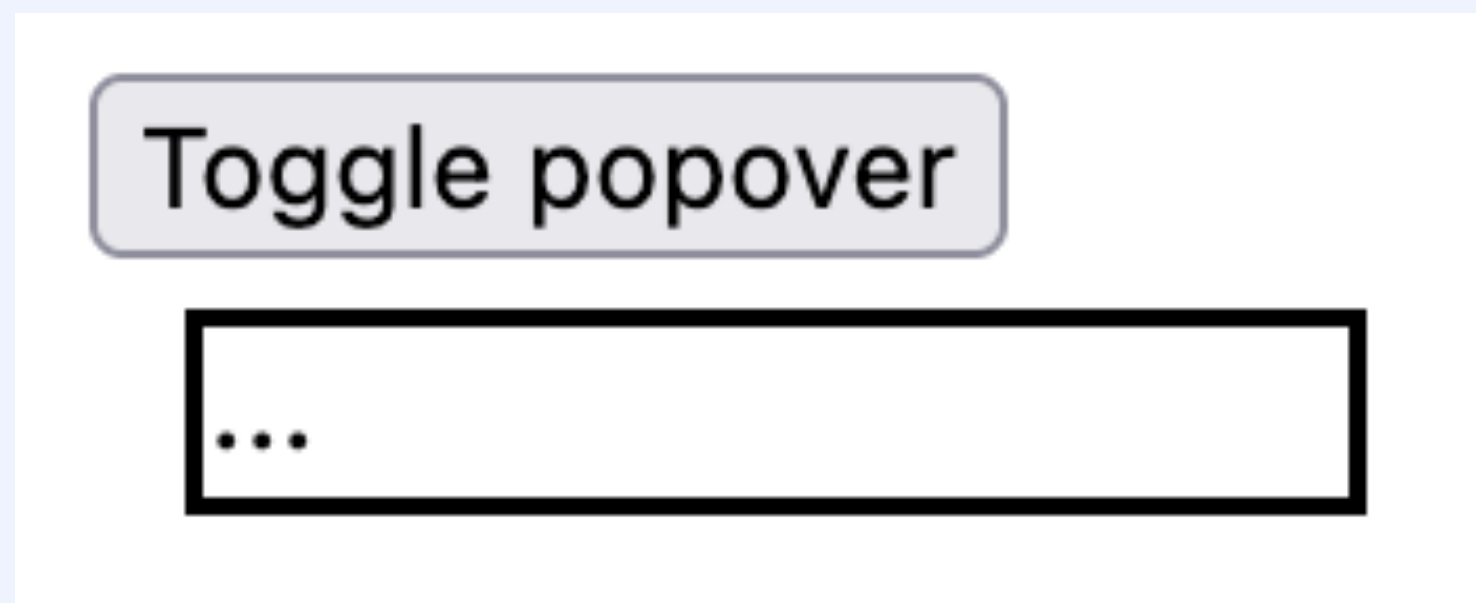


```
<button>  
  Toggle popover  
</button>
```

```
<div>  
  ...  
</div>
```

[POPOVER]

*No JavaScript
required*



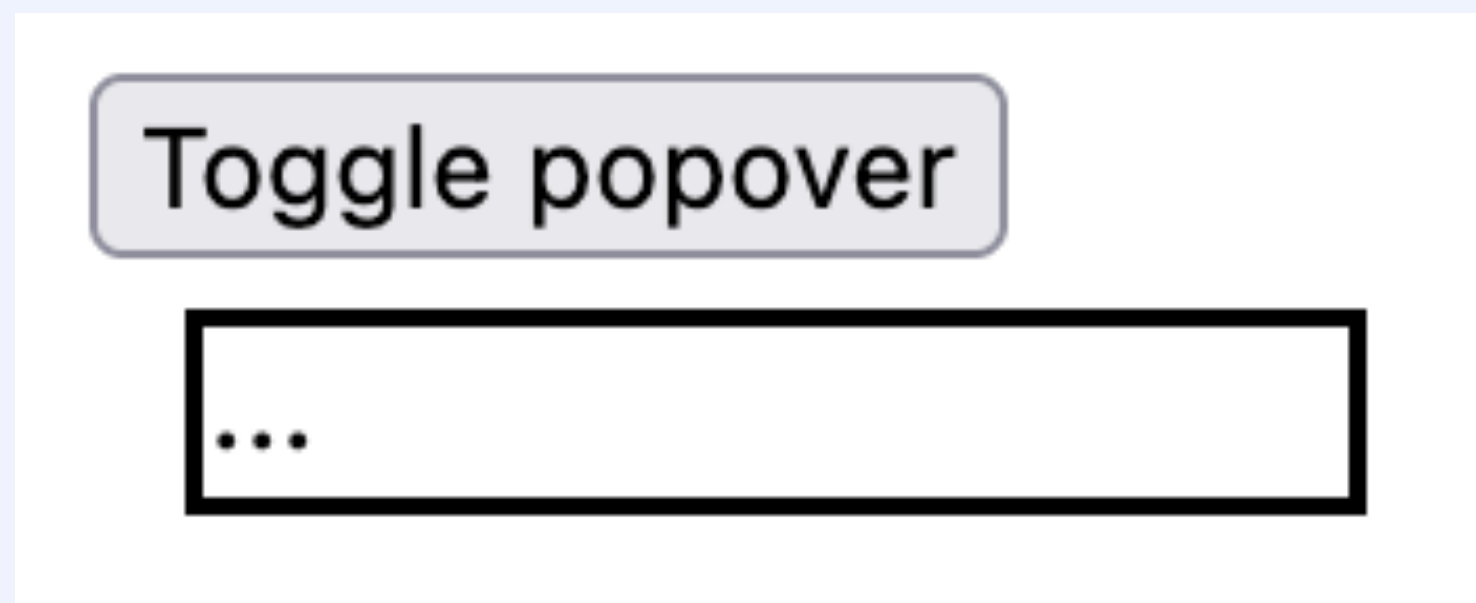
```
<button>  
  Toggle popover  
</button>
```

```
<div popover>  
  ...  
</div>
```

make it a
popover

[POPOVER]

*No JavaScript
required*



```
<button>  
  Toggle popover  
</button>
```

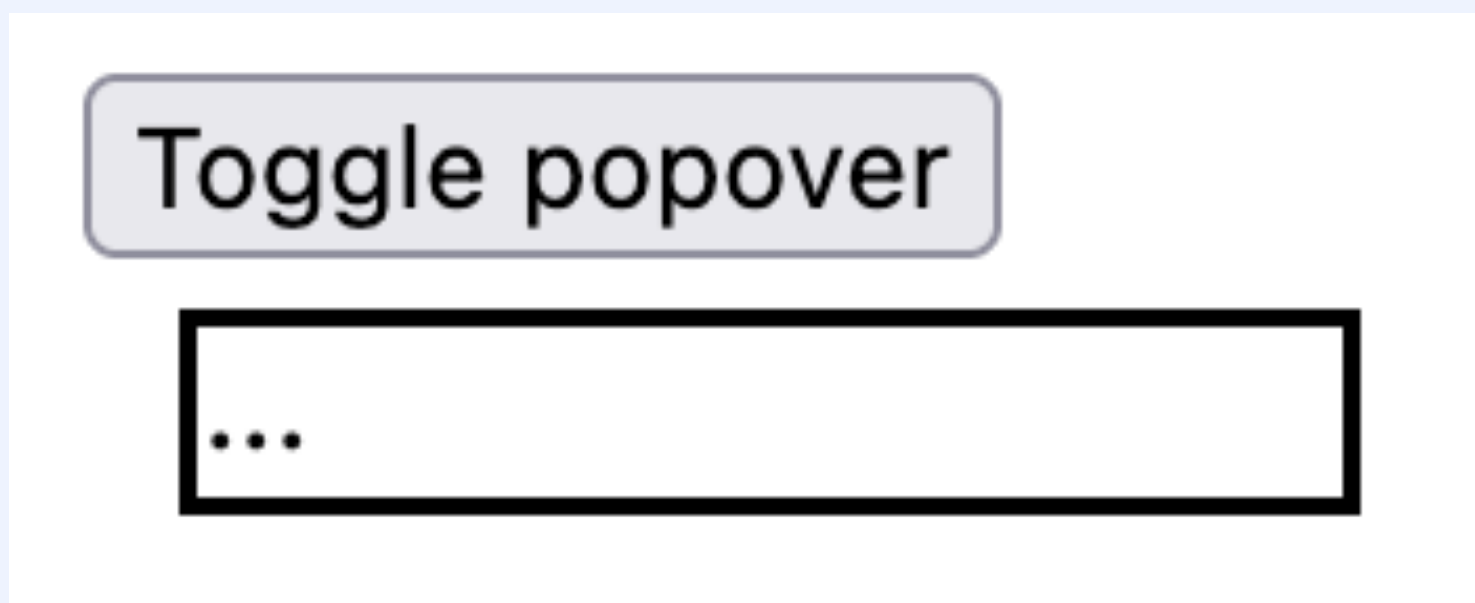
```
<div popover id="p">
```

```
  ...  
</div>
```

add a
unique ID

[POPOVER]

*No JavaScript
required*



point button to ID

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

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

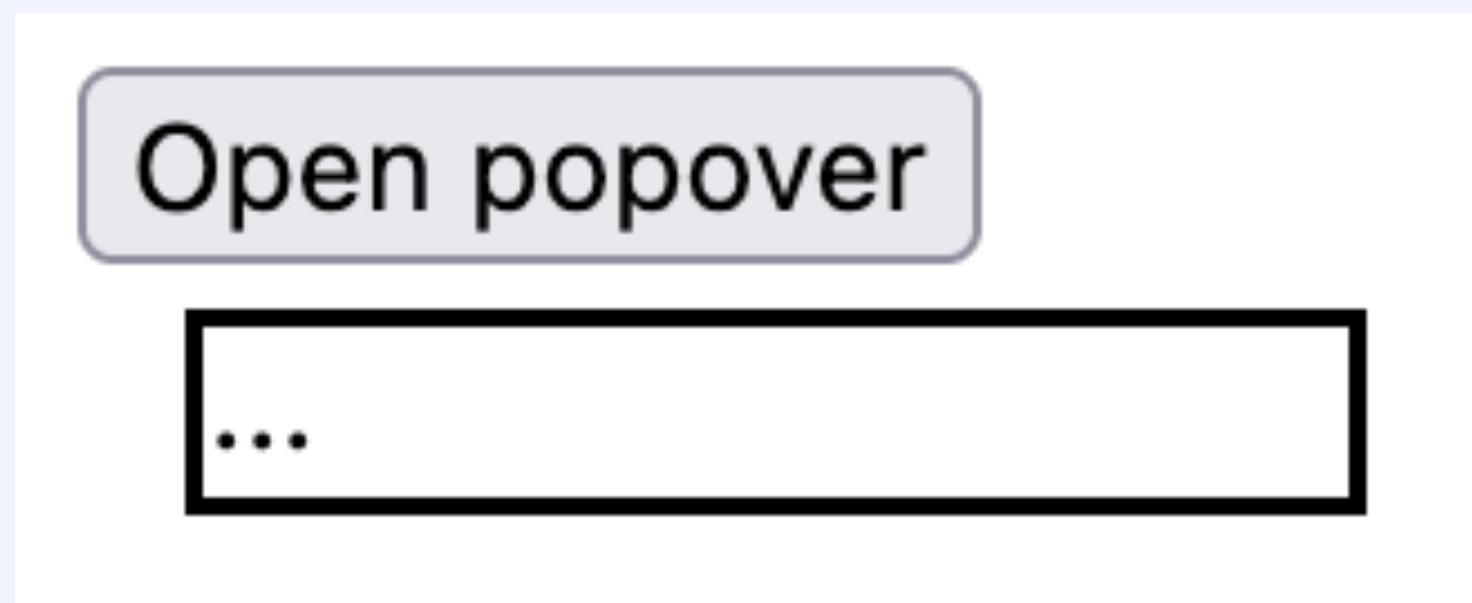
OPENING DIALOGS (AND MORE) WITHOUT JS

github.com/whatwg/html/issues/9625

The screenshot shows a web browser window displaying a GitHub issue page. The browser's address bar shows the URL `https://github.com/whatwg/html/issues/9625`. The page header includes the repository name 'whatwg / html' and a search bar. Below the header, there are navigation tabs for 'Code', 'Issues' (with a '1.7k' badge), 'Pull requests' (with a '156' badge), 'Actions', 'Wiki', 'Security', and 'Insights'. The main content area features the issue title '[Proposal] Invoker Buttons - allowing popover/dialog and more to be invoked without JS #9625' and a 'New issue' button. Below the title, it indicates the issue is 'Open' and was opened by 'keithamus' last week with 14 comments. A comment from 'keithamus' is visible, discussing the proposal for new attributes to open dialogs and popovers without JavaScript. The comment text includes: 'Following on from #3567 and #9456 where we tried to specify a way to open dialogs without JavaScript, @nt1m and @smaug---- raised concerns that the attribute was not extensible. I've taken the feedback, and instead I'm proposing a new set of attributes that allow for opening dialogs and popovers, and also allow for extensibility for other interactions. I'll quote the summary: Adding `invokertarget` and `invokeraction` attributes to `<button>` and `<input type="button">` / `<input type="reset">` elements would allow'. On the right side of the page, there are sections for 'Assignees' (No one assigned) and 'Labels' (accessibility, addition/proposal, needs implementer interest, topic: dialog, topic: events, topic: forms, topic: popover).

[POPOVER]

*Can open, close
or toggle*



```
<button popovertarget="p"  
  popovertargetaction="show">  
  Open popover  
</button>
```

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


[POPOVER]

Has auto and manual modes

```
// Closes other popovers  
// when opened; has  
// light dismiss.  
<div popover="auto">  
  ...  
</div>
```

[POPOVER]

Has auto and manual modes

```
// Closes other popovers  
// when opened; has  
// light dismiss.
```

```
<div popover="auto">  
  ...  
</div>
```

```
// No closing of others,  
// no light dismiss
```

```
<div popover="manual">  
  ...  
</div>
```

[POPOVER]

*Open/close
with script*

```
// show as popover  
element.showPopover();
```

CURRENT STATUS: POPOVER ATTRIBUTE/API



in Chrome >114

Tech Preview >167,
Safari 17 (fall 2023)

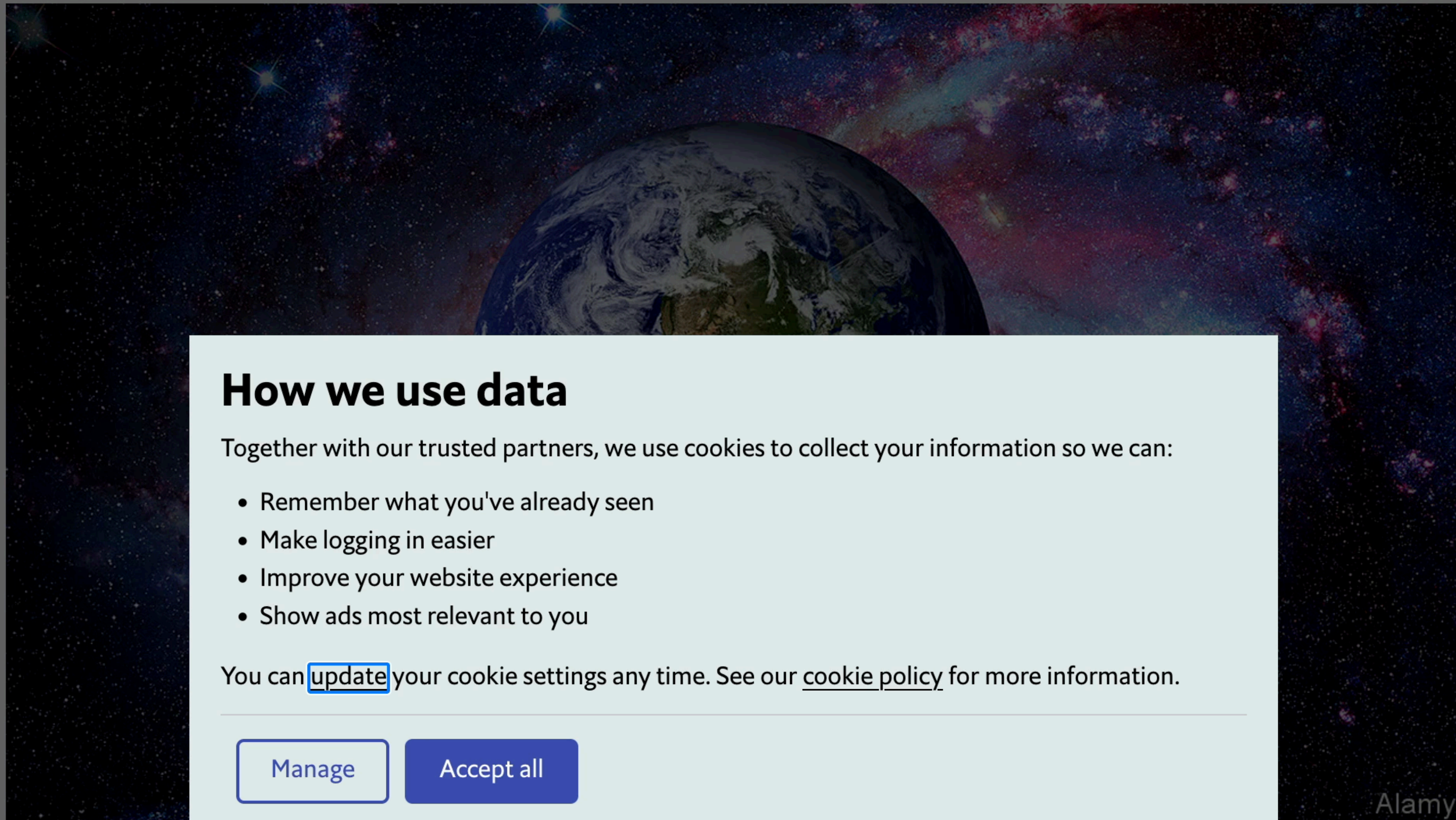
Firefox > 114

`dom.element.popover.enabled`



**HOW ARE
THESE PATTERNS
DIFFERENT?**

MODAL VS **NON-MODAL**



How we use data

Together with our trusted partners, we use cookies to collect your information so we can:

- Remember what you've already seen
- Make logging in easier
- Improve your website experience
- Show ads most relevant to you

You can [update](#) your cookie settings any time. See our [cookie policy](#) for more information.

Manage

Accept all

Jul 25th 2019

Share

Novacene: The Coming Age of Hyperintelligence. By James Lovelock with Bryan Appleyard. *The MIT Press*; 160 pages; \$22.95. Allen Lane; £14.99.



MijnOverheid

H.A. de Vries

[Uitloggen](#)

- Home
- Berichtenbox
- Lopende zaken
- Identiteit
- Financiën
- Werk
- Gezondheid**
- Wonen
- Vervoer

Wilt u uw sessie verlengen?

Uw sessie is mogelijk verlopen. Als u te lang niks hebt gedaan, wordt u uit veiligheidsoverwegingen uitgelogd.

Kies "Ja" om uw sessie te verlengen, mogelijk moet u dan opnieuw inloggen.

[Uitloggen](#)

[Ja, verlengen](#)

n na uw overlijden wel of niet

[Ga naar Donorregister](#)


Mijn PGB

A “game over” screen

@hdv@front-end.social



GAME OVER

Press 
to try again

ARDS “flexible schedule” have an attract
pandemic workplace full of motivated v
uctive and family-friendly way, and of
alented employees. But flexibility is in
ding on the type of job someone is in,

story. Enjoy more audio and podcasts on [iOS](#) or

a blue-collar worker in an industry that operates in shifts, for example,

Save


Share


Give


Share



 Copy link

 Share on Facebook

 Share on Twitter

 Share on WhatsApp


 Share on LinkedIn



Image description

Pieter pot website with various Fritz kola beverages on sale

Dismiss

ALT

pie
top

Nog gemakkelijker
verpakkingsvrij winkelen?

Main image



REPLACE

 Upload

 Browse

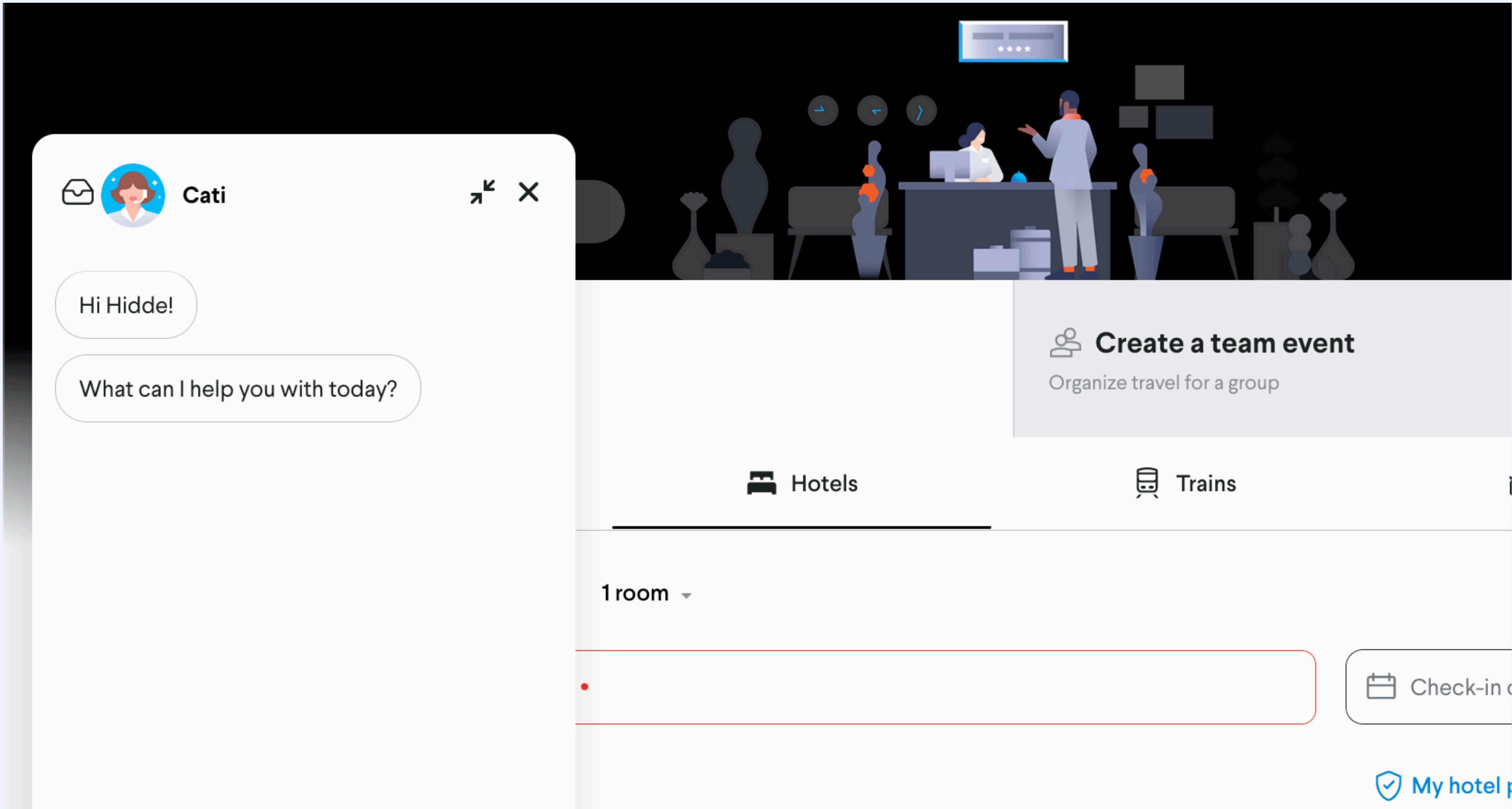
 Download original file

 Copy URL

 Clear field

Alternative text

What's on this picture?



Making an element *modal* is a drastic measure, the user can do nothing else. Use it sparingly!

MODAL VS **NON-MODAL**

LIGHT DISMISS VS **EXPLICIT DISMISS**

Latest Tweets

Retweets



Everyone ▾

Explicit dismiss example

 Everyone can reply



Tweet

Font chooser: light dismiss

@hdv@front-end.social



Light dismiss example



File Edit View Insert Format Tools Extensions Help



Share



Navigation and formatting toolbar with icons for undo, redo, print, spell check, zoom (100%), title, font (Arial), font size (26), bold, italic, underline, text color, link, insert, image, list, indent, and a pencil icon.



Main editing area with a vertical ruler on the left (1-4), a hamburger menu icon in the top-left corner, and the text "Light dismiss" centered in the document. A text cursor is positioned at the end of the text.

MODAL VS **NON-MODAL**

LIGHT DISMISS VS **EXPLICIT DISMISS**

Z-INDEX VS **TOP LAYER**

With z-index, you
can stack elements
on top of each other.

The element that
is first in the DOM
is painted first,
each subsequent
element on top of
the previous and

With z-index, you can stack elements on top of each other.

The element that is first in the DOM is painted first, each subsequent element on top of the previous and

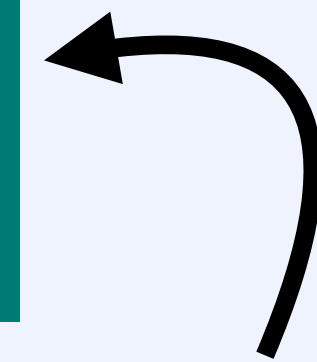
```
z-index: 1;
```

A diagram illustrating the relationship between DOM order and z-index. At the bottom, a black box contains the CSS code 'z-index: 1;'. A curved arrow points from this code box up to a maroon text box above it. The text box contains the text: 'The element that is first in the DOM is painted first, each subsequent element on top of the previous and'.

With z-index, you can stack elements on top of each other.

The element that is first in the DOM is painted first, each subsequent element on top of the previous and

The element that is first in the DOM is painted first, each subsequent element on top of the previous and



```
z-index: 2;
```

The *top layer* is above everything else, its own layer above the main document

drafts.csswg.org/css-position-4/#top-layer

The element that is first in the DOM is painted first, each subsequent element on top of the previous and

The element that is first in the DOM is painted first, each subsequent element on top of the previous and

The *top layer* is above everything else, its own layer above the main document

drafts.csswg.org/css-position-4/#top-layer



Layered based on order of top layer addition, not z-index

drafts.csswg.org/css-position-4/#top-layer

The element that
is first in the DOM
is painted first,
each subsequent
element on top of
the previous and

The element that
is first in the DOM
is painted first,
each subsequent
element on top of
the previous and

top layer, top
layer, top layer,
top layer, top
layer, top layer

Layered based on order of top layer addition, not z-index

drafts.csswg.org/css-position-4/#top-layer

The element that
is first in the DOM
is painted first,

each subsequent
element on top
of the previous one

top layer, top
layer, top layer,
top layer, top
layer

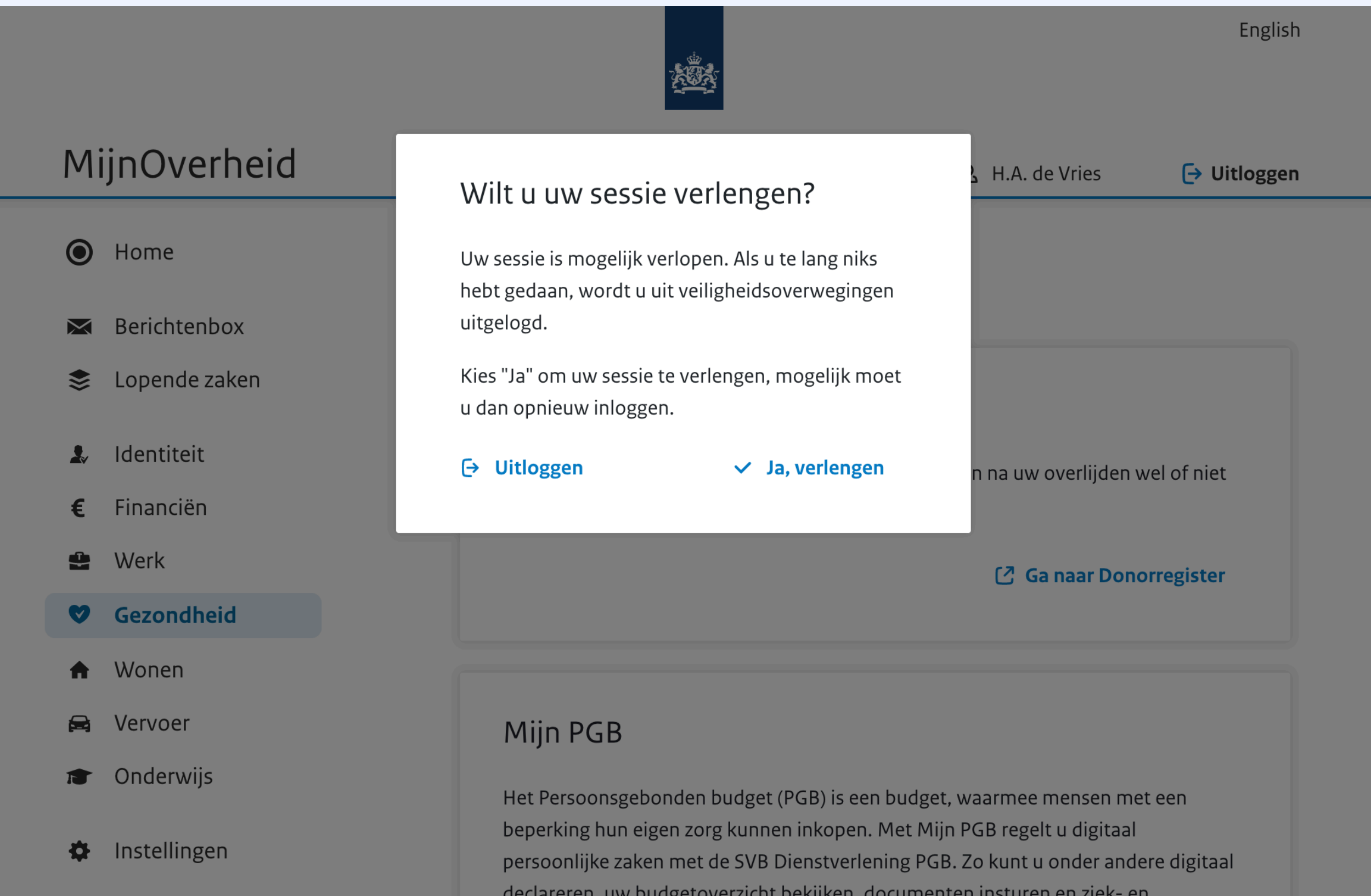
also top layer,
also top layer,
also top layer,
also top layer,

MODAL VS **NON-MODAL**

LIGHT DISMISS VS **EXPLICIT DISMISS**

Z-INDEX VS **TOP LAYER**

BACKDROP



Sometimes elements
have a backdrop.

Top layer elements
have a built-in
styleable backdrop
(`::backdrop`)

MODAL VS **NON-MODAL**

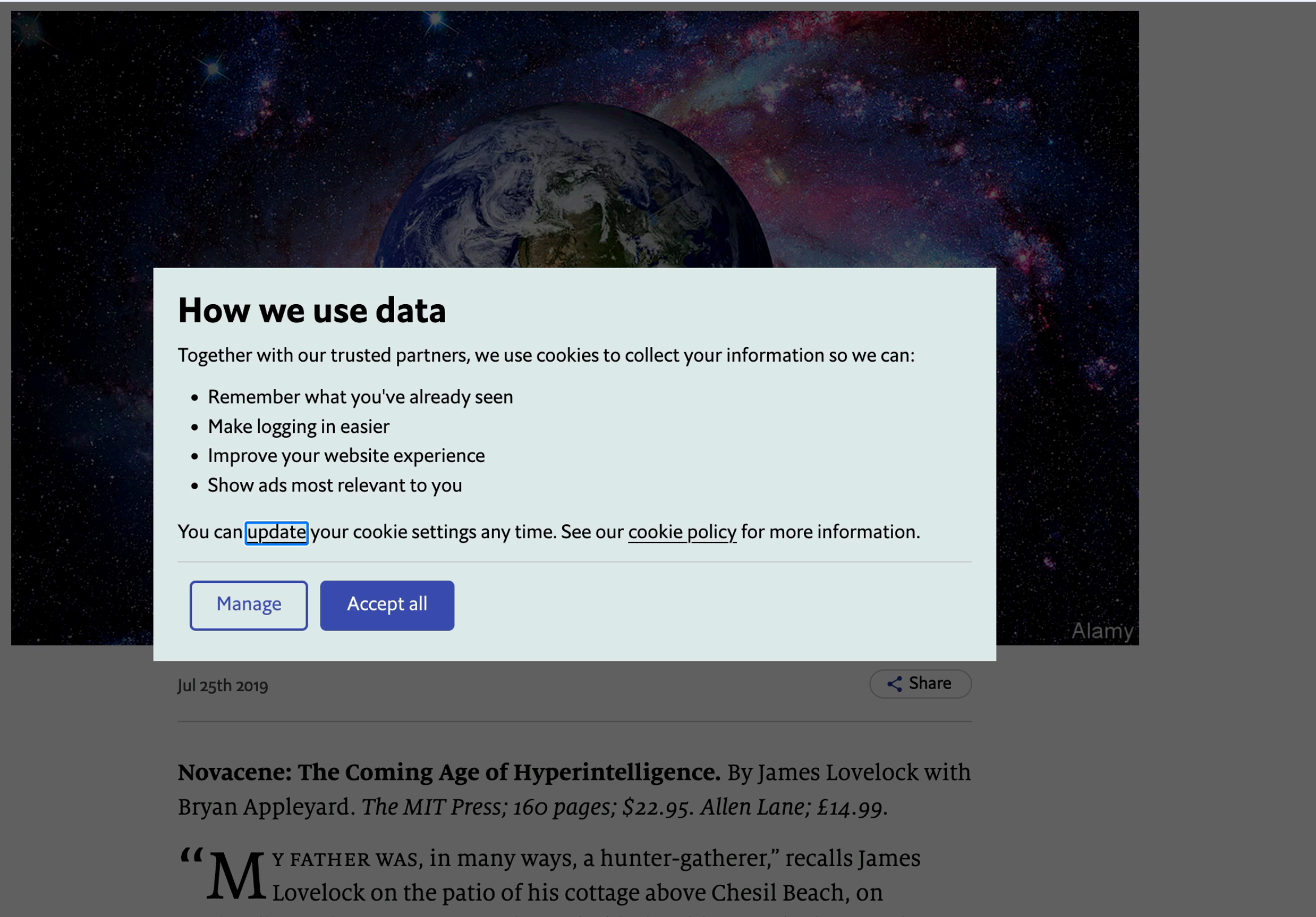
LIGHT DISMISS VS **EXPLICIT DISMISS**

Z-INDEX VS **TOP LAYER**

BACKDROP

KEYBOARD FOCUS TRAP

KEYBOARD FOCUS TRAP



Sometimes you want to prevent users from exiting a component with their Tab key.

This is *always* temporary.

MODAL VS **NON-MODAL**

LIGHT DISMISS VS **EXPLICIT DISMISS**

Z-INDEX VS **TOP LAYER**

BACKDROP

KEYBOARD FOCUS TRAP

MODAL VS NON-MODAL

`<dialog>` with
`showModal()`

VS

`<dialog>`
with `show()`

popover

BACKDROP

KEYBOARD FOCUS TRAP

MODAL VS NON-MODAL

LIGHT DISMISS VS EXPLICIT DISMISS

popover="auto"

popover="manual"

any <dialog>

BACKDROP

KEYBOARD FOCUS TRAP

MODAL VS NON-MODAL

popover

<dialog>
with show()

VS

<dialog> with
showModal()

DISMISS

Z-INDEX VS TOP LAYER

BACKDROP

KEYBOARD FOCUS TRAP

MODAL VS NO

browser provided
w/ `::backdrop`

LIGHT DISMISS VS EX

popover

consider if modal
<dialog> not better

Z-INDEX VS TO

<dialog> with
`showModal()`

BACKDROP

KEYBOARD FOCUS TRAP

MODAL VS NO

browser provided
w/ `::backdrop`

LIGHT DISMISS VS EX

popover

consider if modal
<dialog> not better

Z-INDEX VS TO

<dialog> with
`showModal()`

BACKDROP

KEYBOARD FOCUS TRAP

MODAL VS NON-MODAL

LIGHT DISMISS VS EXPLICIT DISMISS

Z-INDEX VS TOP

browser provided

BACKGROUND

`<dialog>` with
`showModal()`


KEYBOARD FOCUS TRAP

SEMANTICS

“What is this thing?”

— philosophers





“What is this thing in
this page/app?”

—web developers

```
<h1>
```

heading



heading

GOV.UK Performance **BETA**
Services data Web traffic data Get a dashboard About Prototypes Blog

Performance > Services data

Services data

114 services

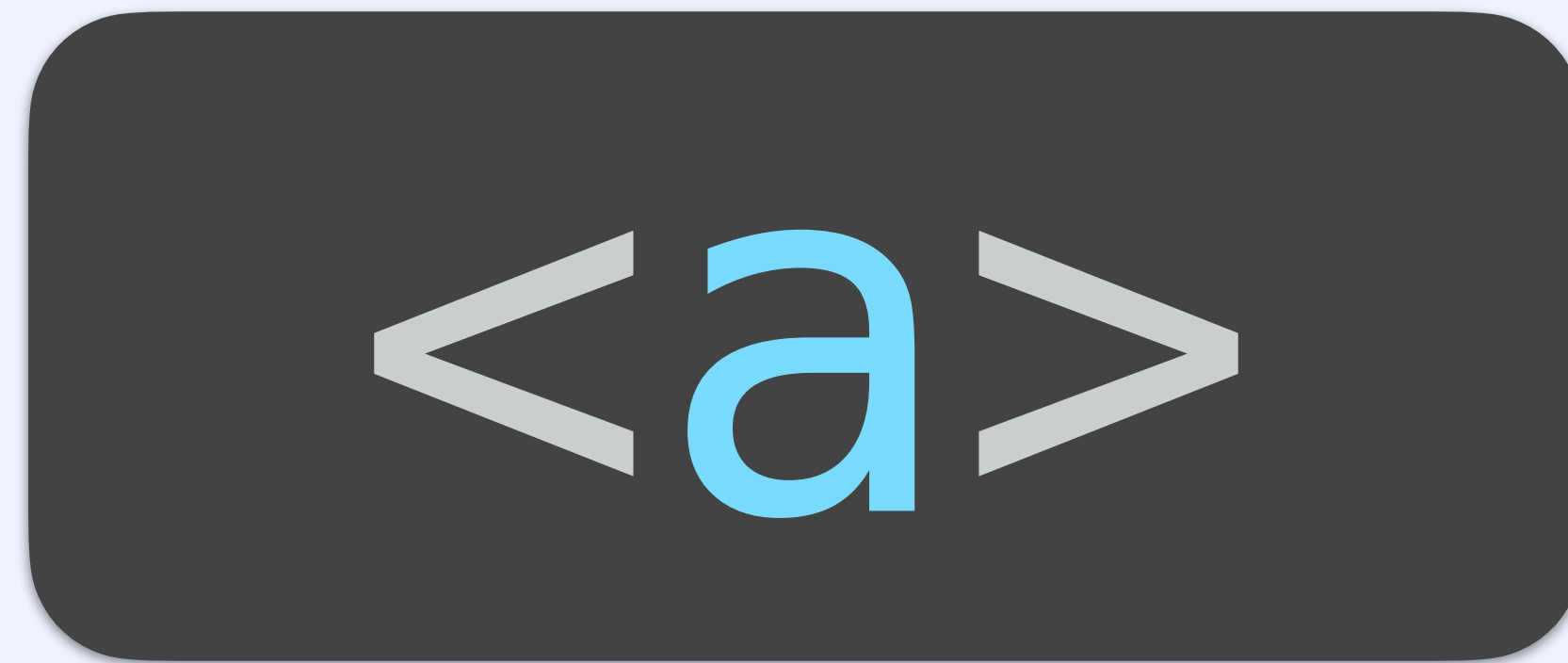
Transactions per year
1.56bn
total for [94 services out of 114](#)

Digital take-up
90.2%
weighted average for [70 services out of 114](#)

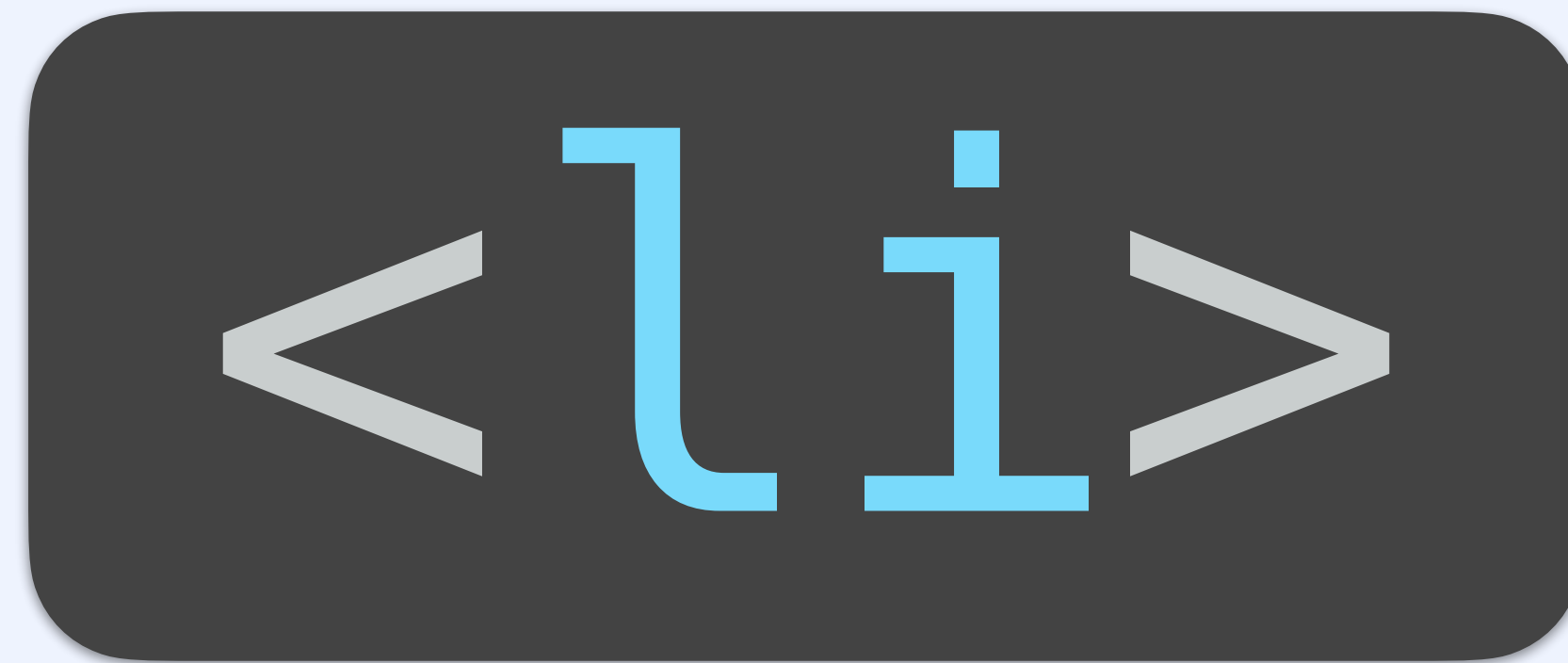
Headings

- 1: Services data
- 2: Number of services
- 2: Filter services by keyword or department
- 2: Totals and averages for filtered services
- 3: Transactions per year
- 3: Annual cost
- 3: Cost per transaction
- 3: Digital take-up
- 3: User satisfaction
- 3: Completion rate
- 2: List of services
- 2: Services and information
- 2: Departments and policy
- 2: Support links

weighted average for [9 services out of 114](#) weighted average for [9 services out of 114](#)



link



list item

<dialog>

dialog

```
<div>
```

[no role]

```
<div role="link">
```

link

```
<div popover>
```

[no role]

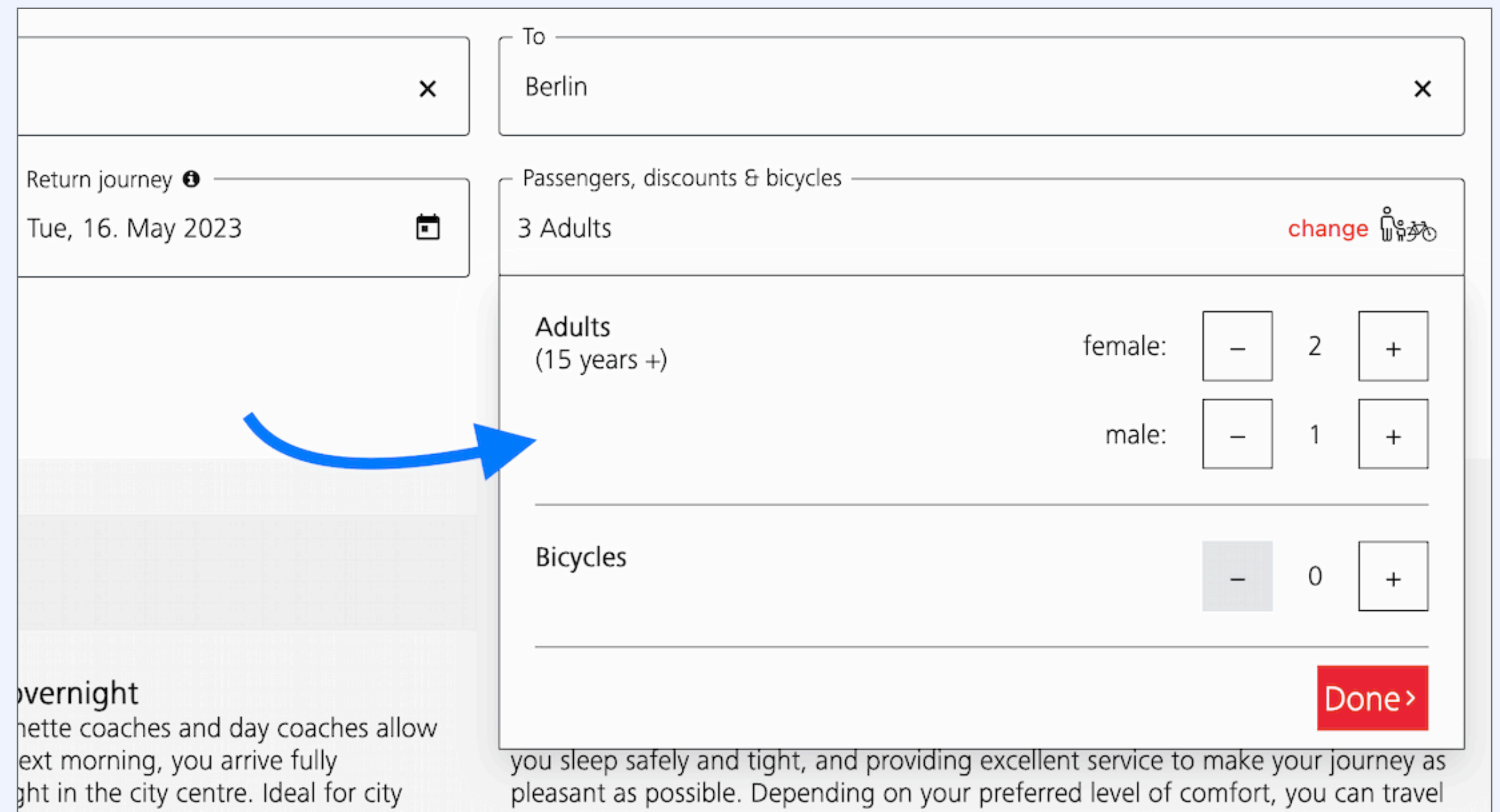
The popover attribute adds
behaviour, not semantics

(you choose a role based on the situation)

For components that are like a smaller window / subwindow on top of the main page

DIALOGS

`<dialog>` or
`role="dialog"`



The image shows a screenshot of a travel booking interface. A dialog box is open, displaying various options for a journey. The dialog has a title bar with a close button (x). The main content area is divided into several sections:

- To:** Berlin (with a close button x)
- Return journey:** Tue, 16. May 2023 (with a calendar icon)
- Passengers, discounts & bicycles:** 3 Adults (with a "change" link and icons for passengers and bicycles)
- Adults (15 years +):** female: 2 (with - and + buttons), male: 1 (with - and + buttons)
- Bicycles:** 0 (with - and + buttons)
- Done >** (a red button)

A blue arrow points from the left side of the dialog to the "Adults" section. The background of the main page is partially visible, showing a grid and some text about "overnight" travel.

For components that are like a smaller window / subwindow on top of the main page

Listen to this story. Enjoy more audio and podcasts on [iOS](#) or [Android](#).



That is just one of his many contributions to the search for life on other planets. In 1970, he discovered the atmosphere in the 1970s, and his nomination to Britain's Royal Society for chemistry and physics—all because of his work on Gaia (it is named after Gaia,

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OK

Lockwood honed a method to find and quantify CFCs in the atmosphere. His work on the harmful chemicals. A decade of work in biology, and the theory for which he is best-known (Earth).



Discover

Travel information

Customer service

Business Agents site In het Nederlands

Search

Log in

Disruptions and maintenance (9)



✓ **Number 1 in the Netherlands**
Compare European train journeys

✓ **Great deals**
No hidden costs

✓ **24/7 NS service**
Reliable and personal

This summer to France?

Book Thalys and TGV

Our holiday tips



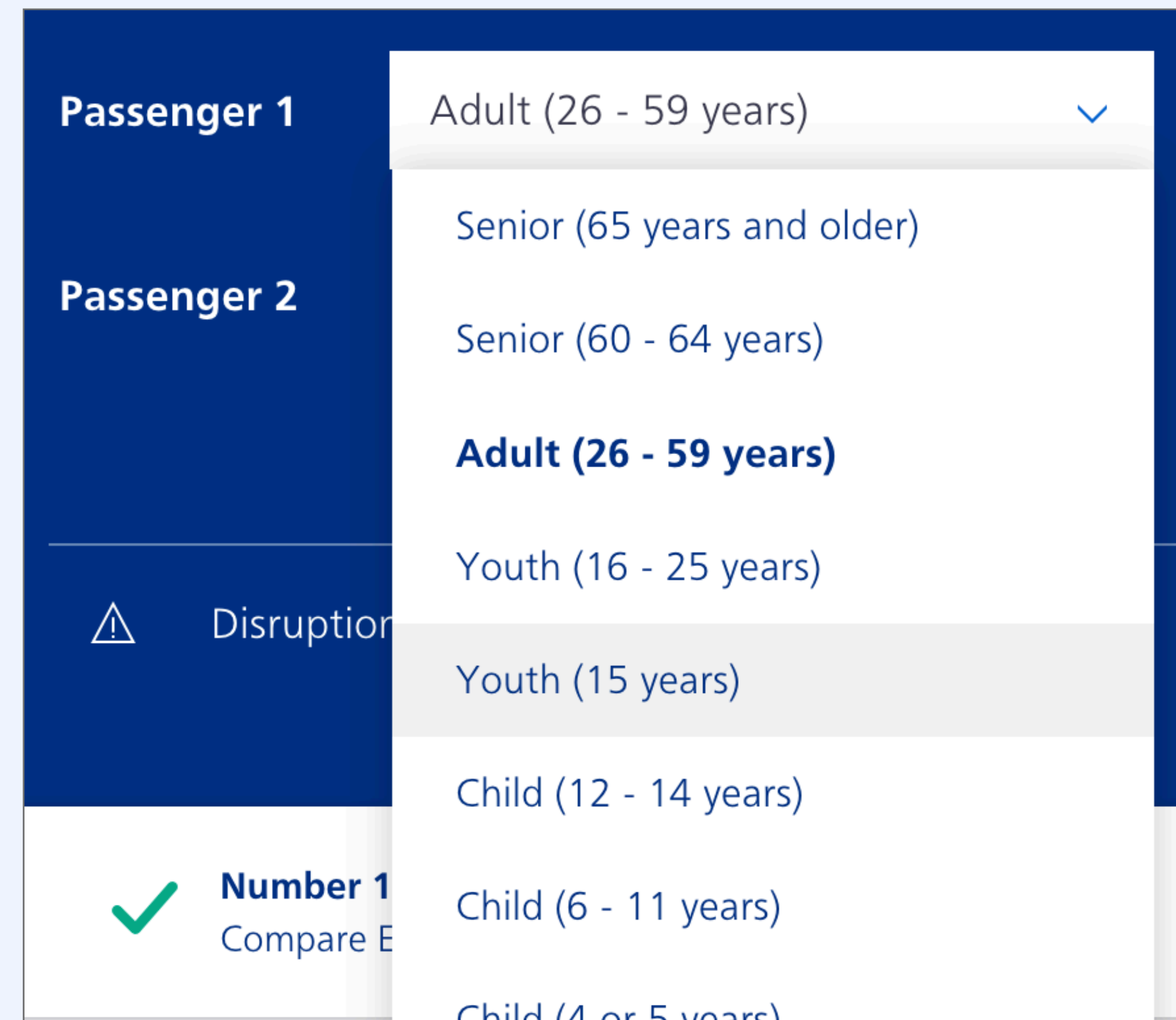
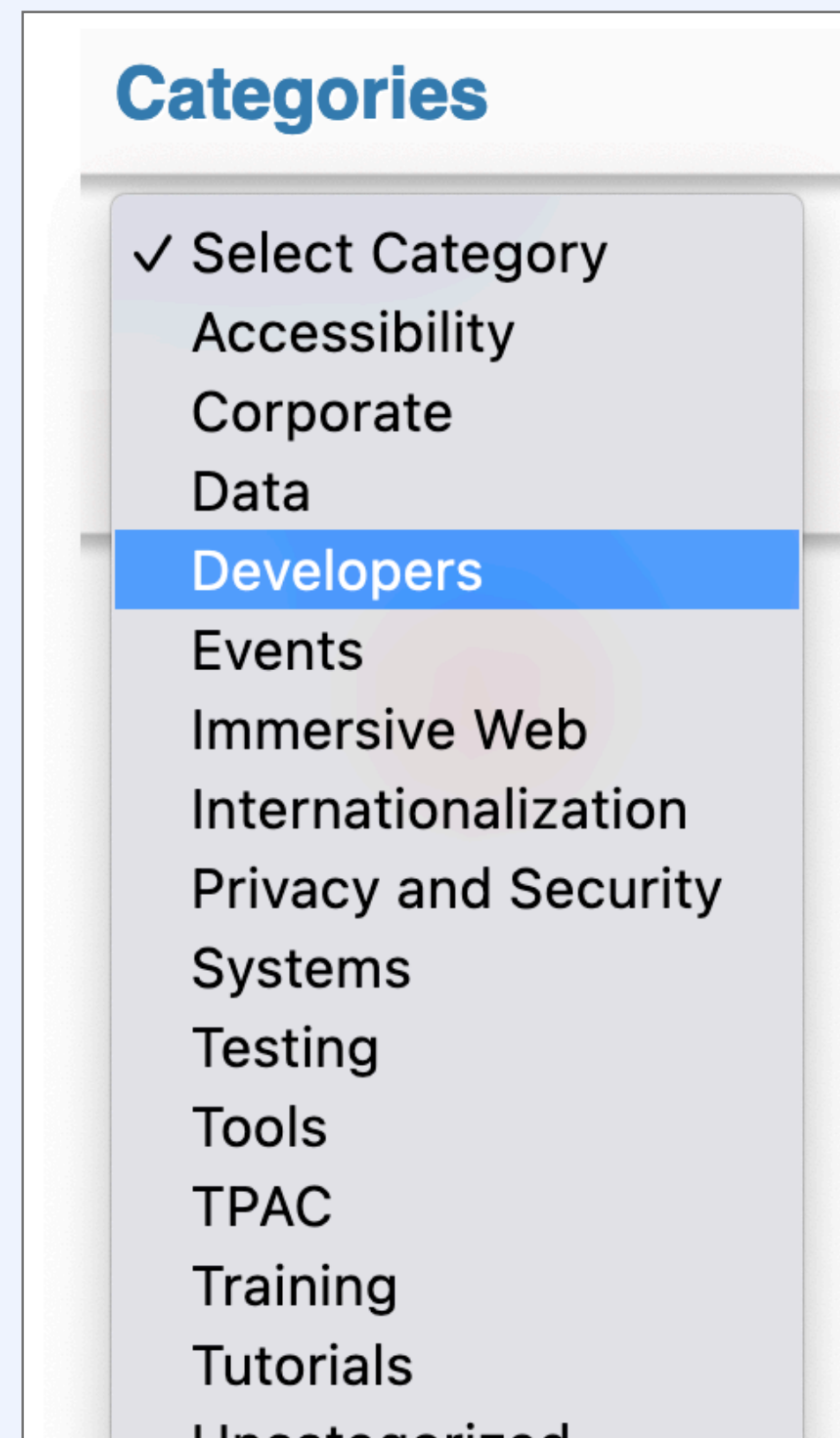
Top destinations



For components that let the user choose from a list, the listbox wraps the choices

LISTBOX

`role="listbox"`



Transfer



Country of the bank of the recipient

Netherlands



Amount

1,337.00

Currency

EUR (Euro)

USD (United States dollar)

PLN (Polish zloty)

CHF (Swiss franc)

SEK (Swedish krona)

Recipient's name



LISTBOX

role="listbox"

LISTBOX

role="listbox"

Hyde's concerts & books

Manage contents

- Book
- Concert

listbox

Search: je|

Artist + Add filter Clear filters

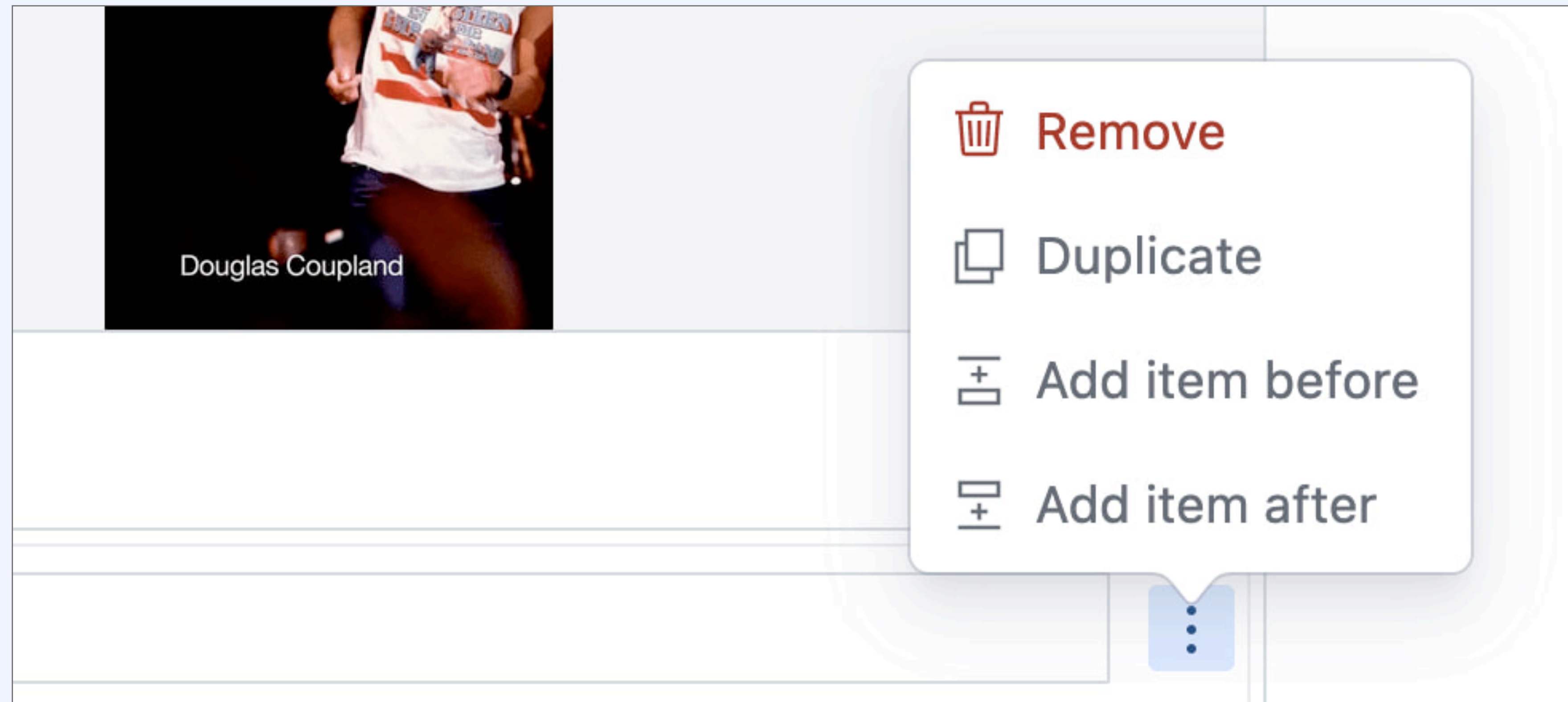
Best match

Jeff Mills	ARTIST
Jeff Neve	ARTIST
De Jeugd van Tegenwoordig	ARTIST
Oscar Jerome	ARTIST

For components that offer the user a list of choices that are actions (like in an application).

MENUS

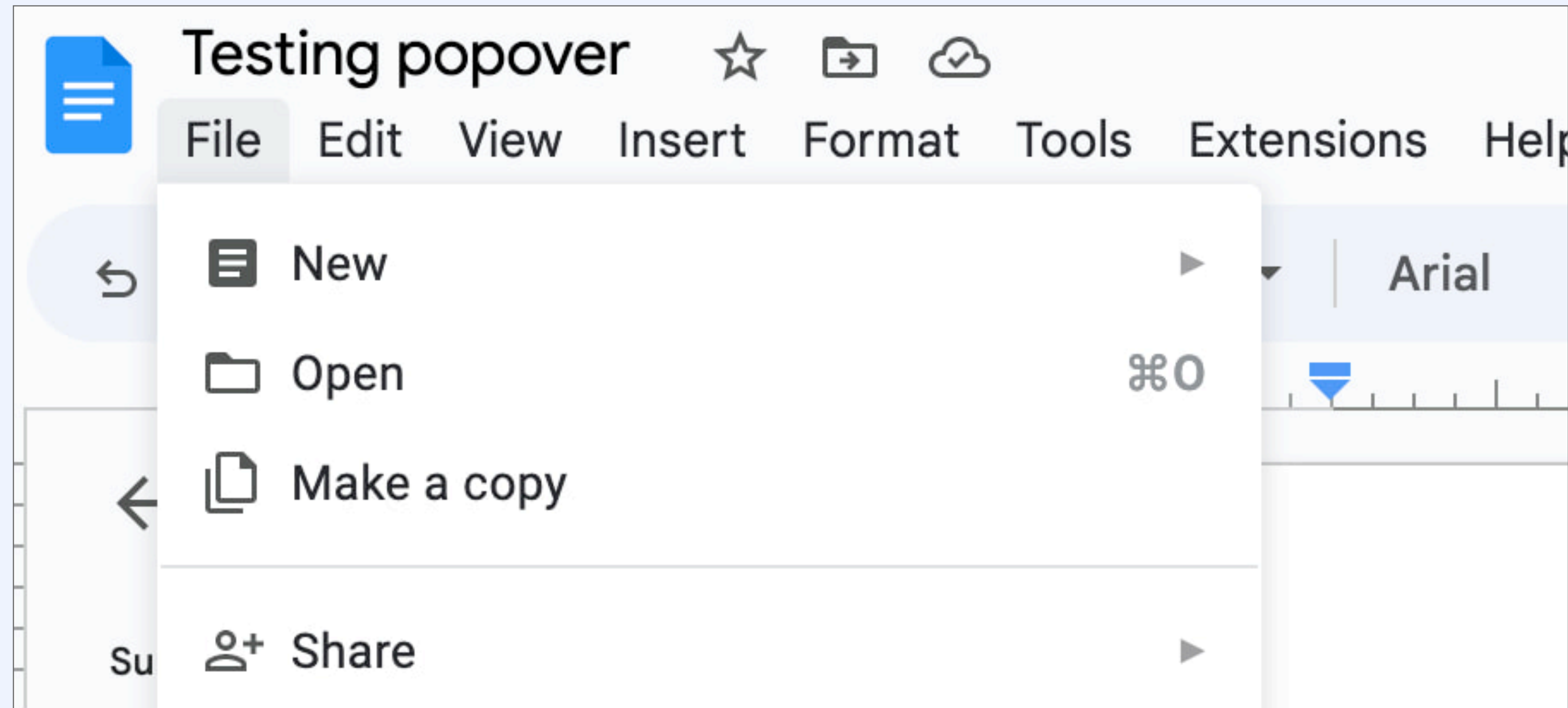
`role="menu"`



For components that offer the user a list of choices that are actions (like in an application).

MENUS

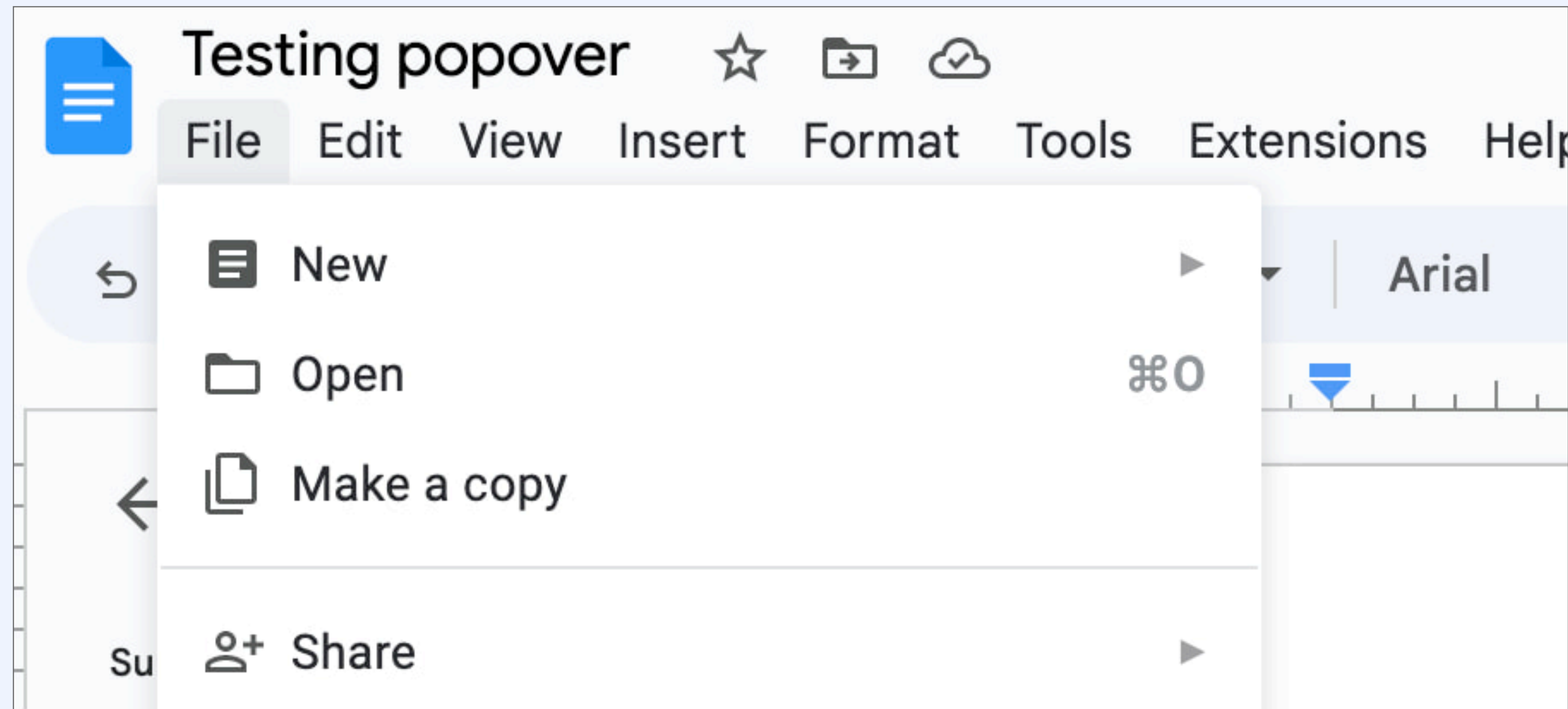
`role="menu"`



For components that offer the user a list of choices that are actions (like in an *application*).

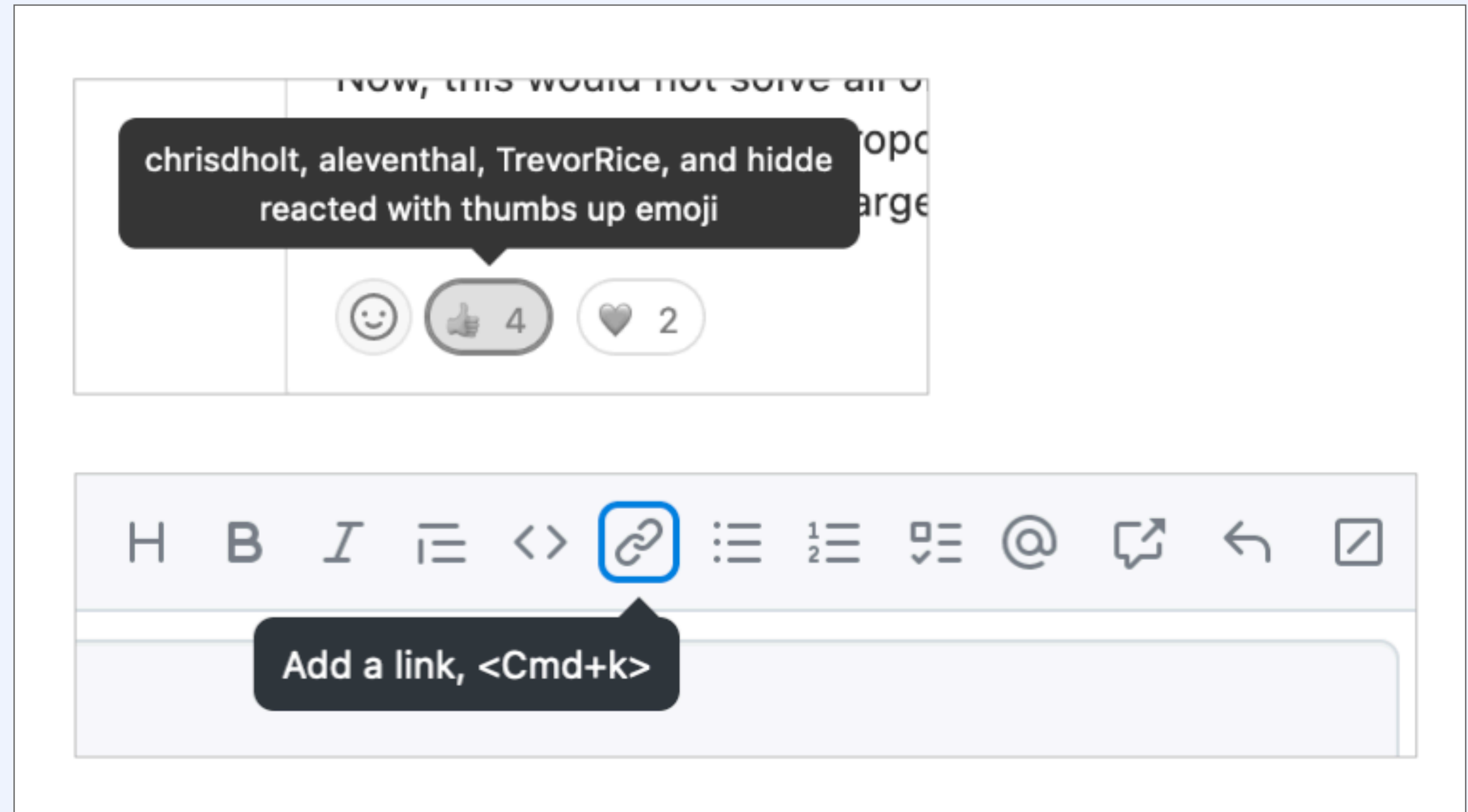
MENUS

`role="menu"`



Plain text suggestions

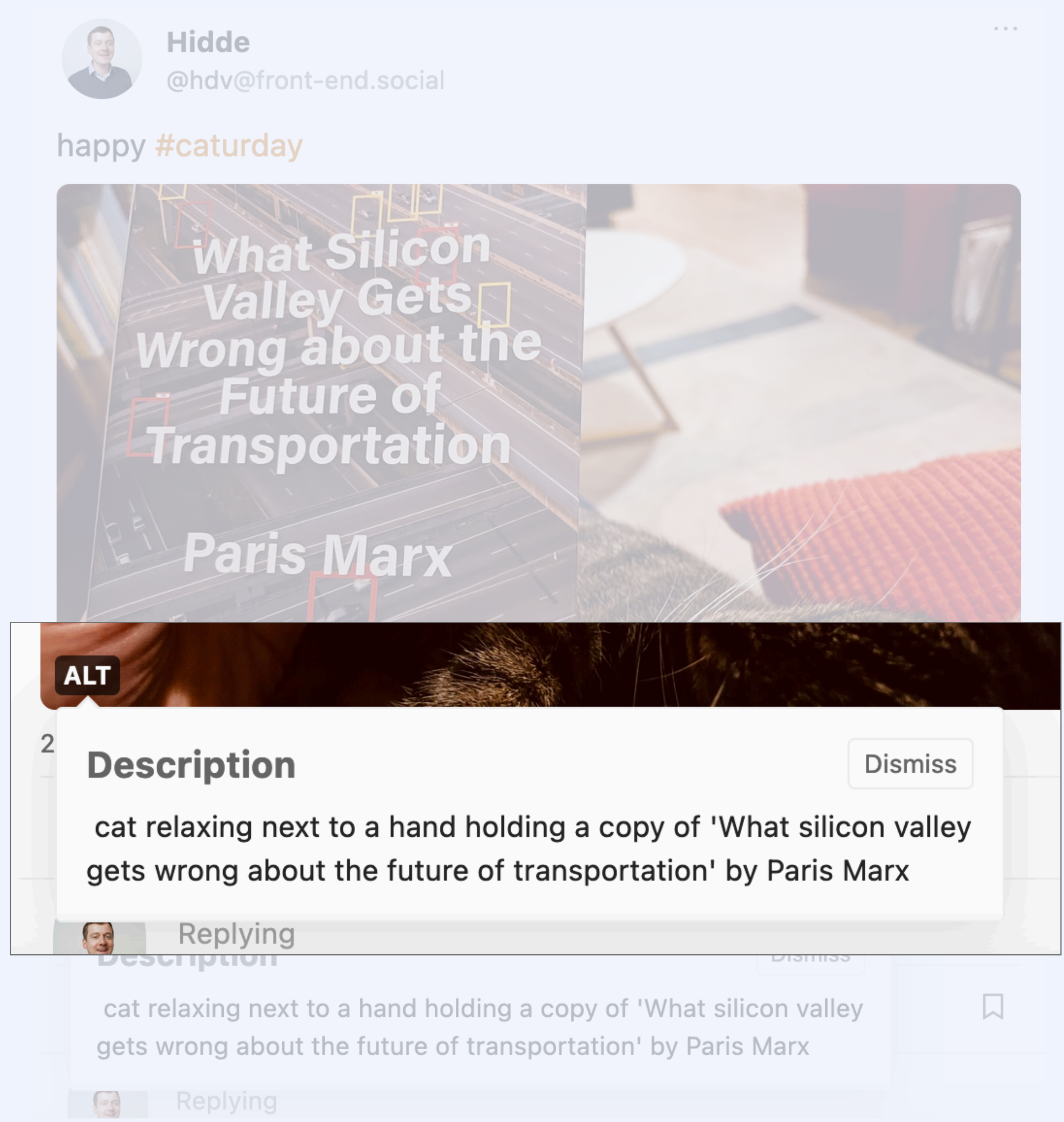
TOOLTIPS
role="tooltip"



TOOLTIPS

`role="dialog"`

More than plain text, maybe better as toggletips



DIALOGS

`<dialog>` or
`role="dialog"`

MENUS

`role="menu"`

TOOLTIPS

`role="tooltip"`
`role="dialog"`

SEMANTICS

`<dialog>`

dialog (implicit)

`popover`

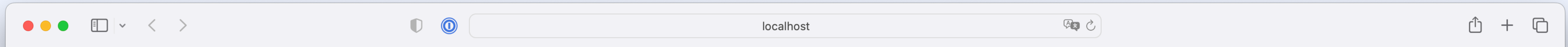
it depends. You choose an apt role,
could be **dialog**, **listbox**, **menu** or **tooltip**

POSITIONING

`<dialog>` `popover`
with `showModal()`

Both are *centered*
by default

log.hidde.blog



(Work in progress) [Home](#)



Froukje in Zwolle
★★★★

on 2023-05-05 at Park de Wezenlanden •
Bevrijdingsfestival in Zwolle



Spinvis in Woerden
★★★★★

on 2023-04-15 at Het Klooster



EELS in Amsterdam
★★★★★

on 2023-04-07 at AFAS Live



Sef & het El Salvador Ensemble in Rotterdam
★★★★★

on 2023-03-10 at Lantaren Venster



Roosbeef in Groningen
★★★★★

on 2023-03-05 at Vera



Pink Floyd Project in Leeuwarden
UNRATED

on 2022-12-17 at
Neushoorn



Oscar Jerome in Rotterdam
★★★★

on 2022-12-07 at BIRD



The Bad Plus in Rotterdam
★★★★

on 2022-11-13 at
Lantaren Venster



Gurdjieff Ensemble in Amsterdam
★★★

on 2022-11-04 at
Muziekgebouw aan 't IJ



Robert Glasper in Antwerp
★★★

on 2022-08-29 at De Roma



Kassa Overall in Rotterdam
★★★★★



Gregory Porter in Rotterdam
★★★

on 2022-07-08 at Ahoy •
North Sea Jazz 2022



Gary Bartz & Maisha in Rotterdam
★★★★

on 2022-07-08 at Ahoy • North Sea Jazz 2022 in
Rotterdam



Lianne in Rotterdam



(Work in progress) [Home](#)

Froukje in Zwolle
★★★★★

on 2023-05-05 at Park de Wezenlanden •
Bevrijdingsfestival in Zwolle



Spinvis in Woerden
★★★★★

on 2023-04-15 at Het Klooster



EELS in Amsterdam
★★★★★

on 2023-04-07 at AFAS Live



Sef & het El Salvador Ensemble in Rotterdam
★★★★

on 2023-03-10 at Lantaren Venster



Roosbeef in Groningen
★★★★★

Pink Floyd Project in Leeuwarden
UNRATED

on 2022-12-17 at Neushoorn

```
// concert-list.njk
```

```
<ol>
```

```
  {% for concert in concerts %}
```

```
    <li>
```

```
      ...
```

```
    </li>
```

```
  {% endfor %}
```

```
</ol>
```



(Work in progress) [Home](#)

Froukje in Zwolle
★★★★★
on 2023-05-05 at Park de Wezenlanden •
Bevrijdingsfestival in Zwolle

Spinvis in Woerden
★★★★★
on 2023-04-15 at Het Klooster

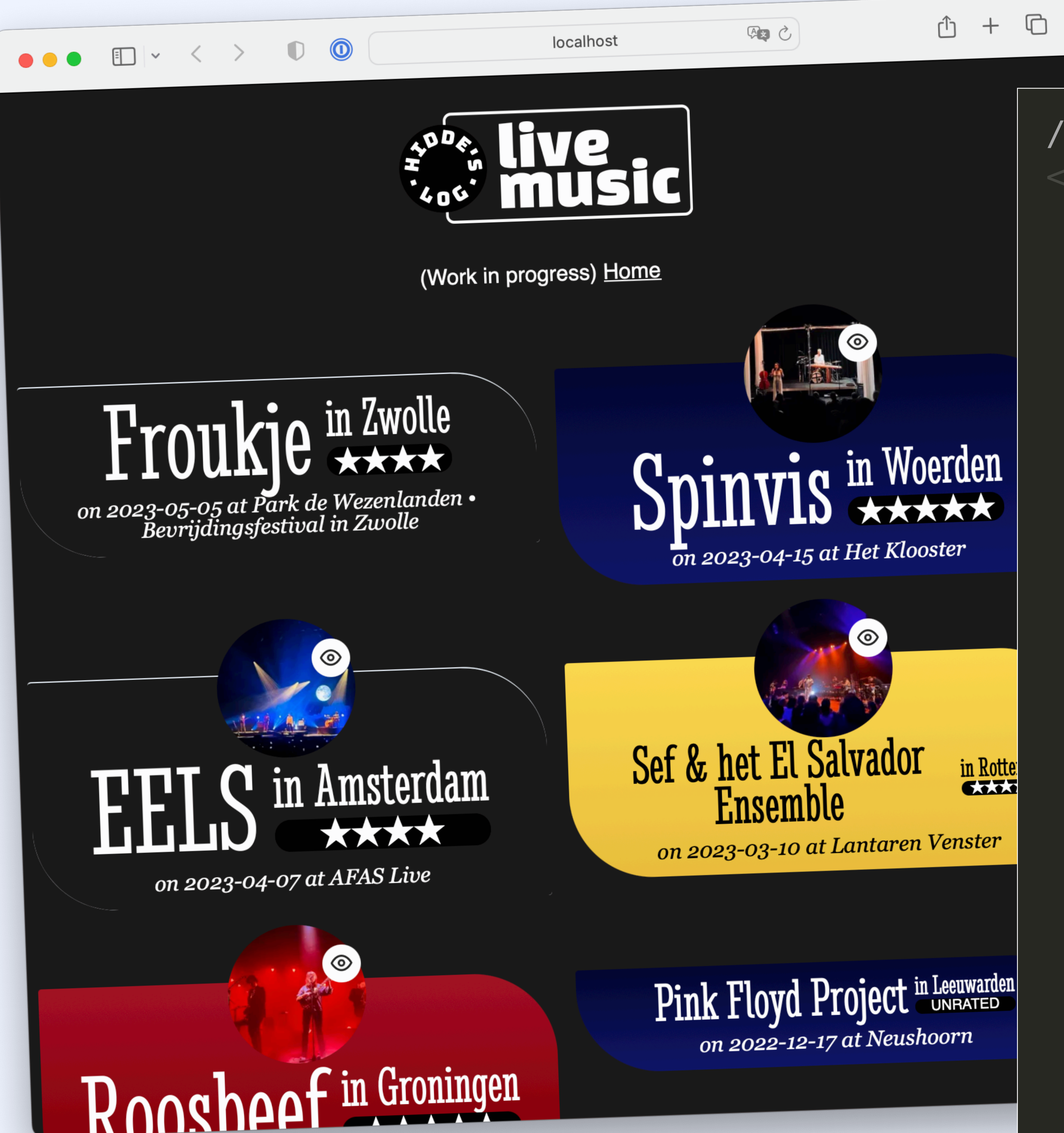
EELS in Amsterdam
★★★★★
on 2023-04-07 at AFAS Live

Sef & het El Salvador Ensemble in Rotterdam
★★★★★
on 2023-03-10 at Lantaren Venster

Roosbeef in Groningen
★★★★★

Pink Floyd Project in Leeuwarden
UNRATED
on 2022-12-17 at Neushoorn

```
// concert-list.njk
<ol>
  {% for concert in concerts %}
  <li>
    ...
    {% if concert.images %}
    <button
      type="button"
      data-dialogtarget="{{ dialogID }}"
      aria-label="Details for {{ concert.info }}"
      <svg aria-hidden="true" focusable="false">...</svg>
    </button>
    {% endif %}
  </li>
  {% endfor %}
</ol>
```



```
// concert-list.njk
<ol>
  {% for concert in concerts %}
  <li>
    ...
    {% if concert.images %}
    <button
      type="button"
      data-dialogtarget="{{ dialogID }}"
      aria-label="Details for {{ concert.info }}"
      <svg aria-hidden="true" focusable="false">...</svg>
    </button>
    <dialog id="{{ dialogID }}"
      aria-label="Details for {{ concert.info }}">
      <button
        type="button"
        data-dialogclose="{{ dialogID }}"
        aria-label="Close">
          <svg aria-hidden="true" focusable="false">..
        </button>
      ...
    </dialog>
    {% endif %}
  </li>
  {% endfor %}
</ol>
```



(Work in progress) [Home](#)

Froukje in Zwolle ★★★★★
on 2023-05-05 at Park de Wezenlanden •
Bevrijdingsfestival in Zwolle

Spinvis in Woerden ★★★★★
on 2023-04-15 at Het Klooster

EELS in Amsterdam ★★★★★
on 2023-04-07 at AFAS Live

Sef & het El Salvador Ensemble in Rotterdam ★★★★★
on 2023-03-10 at Lantaren Venster

Roosbeef in Groningen

Pink Floyd Project in Leeuwarden UNRATED
on 2022-12-17 at Neushoorn

```
// concert-list.js
const dialogOpeners =
  document.querySelectorAll('[data-dialogtarget]');
```



(Work in progress) [Home](#)

Froukje in Zwolle
★★★★

on 2023-05-05 at Park de Wezenlanden •
Bevrijdingsfestival in Zwolle

Spinvis in Woerden
★★★★★

on 2023-04-15 at Het Klooster

EELS in Amsterdam
★★★★

on 2023-04-07 at AFAS Live

Sef & het El Salvador Ensemble in Rotterdam
★★★★

on 2023-03-10 at Lantaren Venster

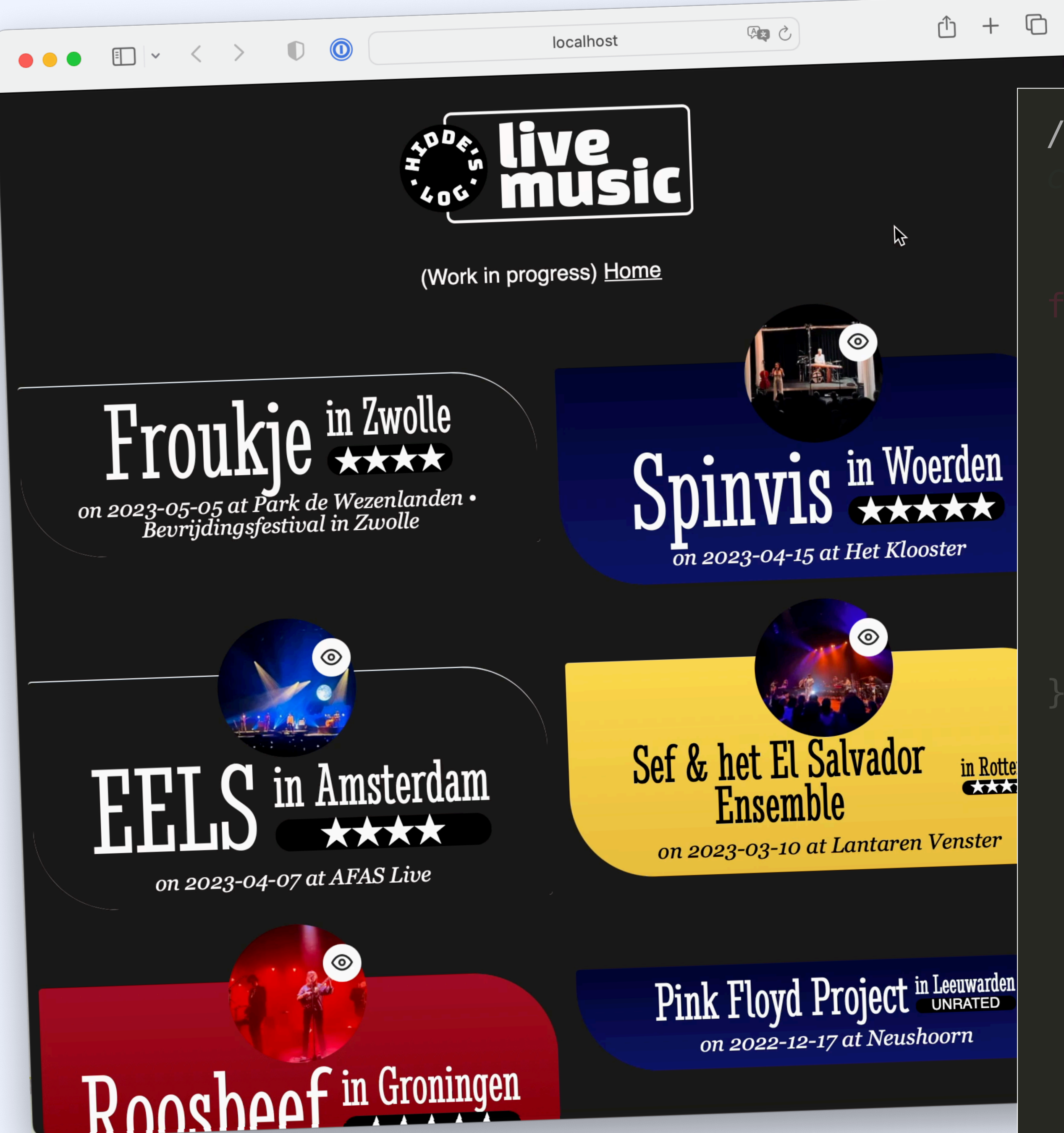
Roosbeef in Groningen
★★★★

Pink Floyd Project in Leeuwarden
UNRATED

on 2022-12-17 at Neushoorn

```
// concert-list.js
const dialogOpeners =
  document.querySelectorAll('[data-dialogtarget]');

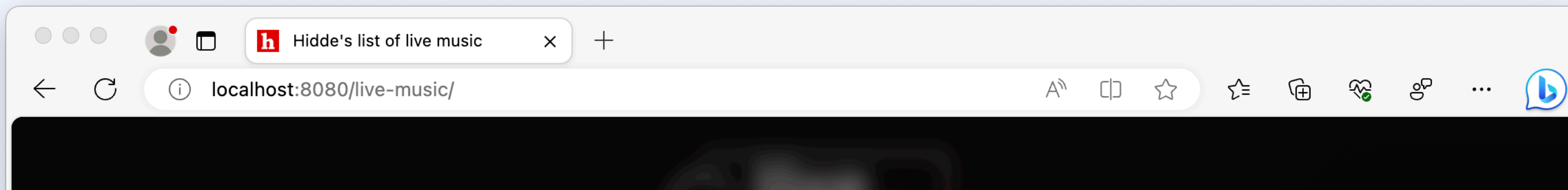
for (let i = 0; i < dialogOpeners.length; i++) {
  const opener = dialogOpeners[i];
  const correspondingDialog =
    document.querySelector(
      `#${opener.getAttribute('data-dialogtarget')}`);
}
```



```
// concert-list.js
const dialogOpeners =
  document.querySelectorAll('[data-dialogtarget]');

for (let i = 0; i < dialogOpeners.length; i++) {
  const opener = dialogOpeners[i];
  const correspondingDialog =
    document.querySelector(
      `#${opener.getAttribute('data-dialogtarget')}`);

  opener.addEventListener('click', function() {
    correspondingDialog.showModal();
  });
}
```



ROBERT GLASPER IN MENLO PARK



DevTools - localhost:8080/live-music/

Welcome </> Elements

```
......</img>...<strong class="concert-list__concert longname ">...</strong> flex<br><span class="concert-list__concert-meta2">on 2022-02-25 at The Guild Theatre</span><br><button class="concert-list__dialog-opener" data-dialogtarget="dialog-2022-02-25-1410" aria-label="Open" type="button">...</button><br><dialog id="dialog-2022-02-25-1410" style="padding: 0;" open> top-layer (1) == $0<br>  <div style="padding: 1em;"><br>    <button type="button" data-dialogclose="dialog-2022-02-25-1410" aria-label="Close">...</button><br>    <h1> Robert Glasper in Menlo Park </h1><br>     al piano and talking into a microphone, his MC, a bass player and a drummer" lazyload="true"<br>  </div><br>  ::backdrop<br></dialog><br></li><br><li class="concert-list__item">...</li> flex<br><li class="concert-list__item">...</li> flex<br>html body ol.concert-list li.concert-list__item dialog#dialog-2022-02-25-1410</pre>

Styles Computed Layout Event Listeners DOM Breakpoints Properties Accessibility



Filter :hov .cls +

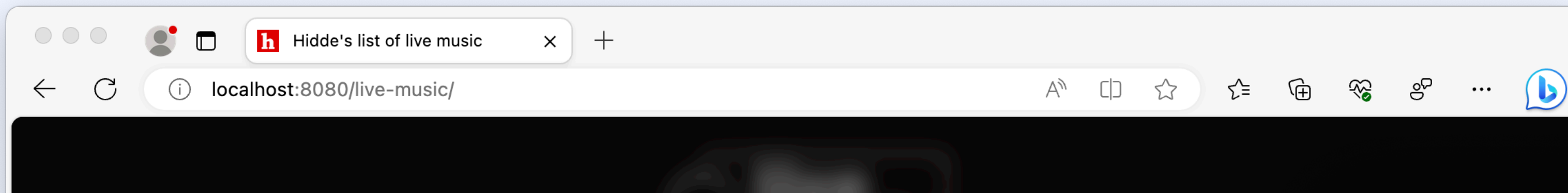


```
dialog:modal {
 position: fixed;
 inset-block-start: 0px;
 inset-block-end: 0px;
 max-width: calc((100% - 6px) - 2em);
 max-height: calc((100% - 6px) - 2em);
 user-select: text;
 visibility: visible;
 overlay: auto !important;
 overflow: auto;
}

dialog[open] {
 display: block;
}

dialog {
 display: none;
}
```


```

DevTools - localhost:8080/live-music/

Welcome </> Elements

```
...
"concert-list_img">
  <strong class="concert-list_concert longname ">...</strong> flex
  <span class="concert-list_concert-meta2">on 2022-02-25 at The Guild Theatre</span>
  <button class="concert-list_dialog-opener" data-dialogtarget="dialog-2022-02-25-1410" aria-label="open">
  <dialog id="dialog-2022-02-25-1410" style="padding: 0;" open> top-layer (1) == $0
    <div style="padding: 1em;">
      <button type="button">
      <h1> Robert
      
      al piano ar
    </div>
    ::backdrop
  </dialog>
</li>
<li class="concert-list_concert">...</li> flex
<li class="concert-list_item">...</li> flex
html body ol.concert-list li.concert-list_item dialog#dialog-2022-02-25-1410
```

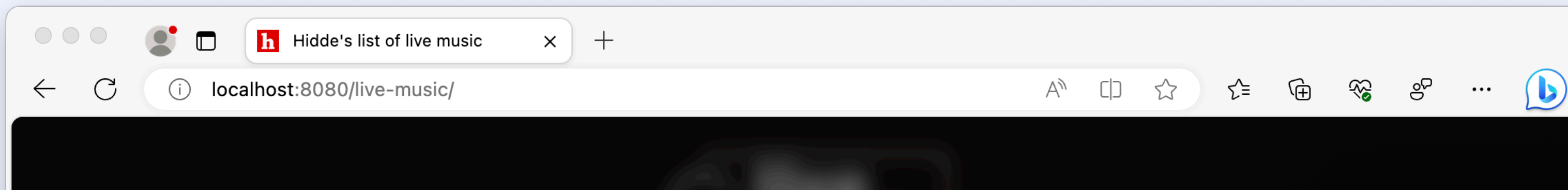
Styles Computed Layout Event Listeners DOM Breakpoints Properties Accessibility

Filter :hov .cls +

```
dialog:modal {
  position: fixed;
  inset-block-start: 0px;
  inset-block-end: 0px;
  max-width: calc((100% - 6px) - 2em);
  max-height: calc((100% - 6px) - 2em);
  user-select: text;
  visibility: visible;
  overlay: auto !important;
  overflow: auto;
}

dialog[open] {
  display: block;
}

dialog {
  display: none;
}
```



ROBERT GLASPER IN MENLO PARK



DevTools - localhost:8080/live-music/

Welcome </> Elements

```
<div style="padding: 1em;">  
  <button type="button" data-dialogclose="dialog-2022-02-25-1410" aria-label="Close">... </button>  
  <h1> Robert G  
    
  al piano and  
</div>  
  ::backdrop  
</dialog>  
</li>  
<li class="concert">  
<li class="concert">
```

html body ol.conce

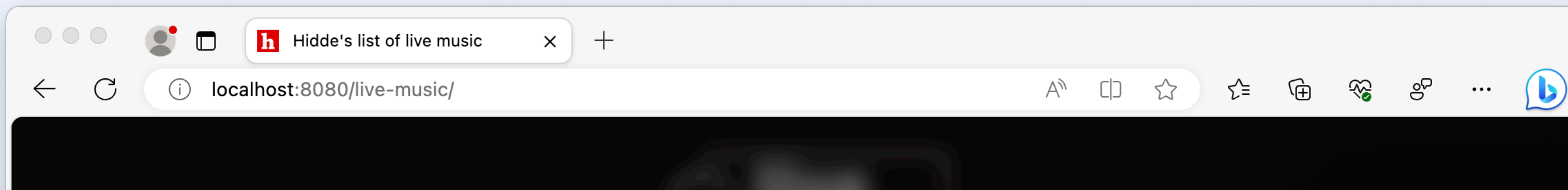
Styles Computed Layout Event Listeners DOM Breakpoints Properties Accessibility

Filter :hov .cls +

```
dialog:modal {  
  position: fixed;  
  inset-block-start: 0px;  
  inset-block-end: 0px;  
  max-width: calc((100% - 6px) - 2em);  
  max-height: calc((100% - 6px) - 2em);  
  user-select: text;  
  visibility: visible;  
  overlay: auto !important;  
  overflow: auto;  
}
```

```
dialog[open] {  
  display: block;  
}
```

```
dialog {  
  display: none;  
}
```



ROBERT GLASPER IN MENLO PARK

A photograph of a live music performance. The stage is lit with blue and purple lights. A keyboardist is on the left, a guitarist in the center, and a drummer on the right. An audience is visible in the foreground.

DevTools - localhost:8080/live-music/

Elements

```
<strong class="concert-list__concert longname ">...</strong> flex
  <span class="concert-list__concert-meta2">on 2022-02-25 at The Guild Theatre</span>
  <button class="concert-list__dialog-opener" data-dialogtarget="dialog-2022-02-25-1410">
  <dialog id="dialog-2022-02-25-1410" style="padding: 0;" open> top-layer (1)
    <div style="padding: 1em;">
      <button type="button" data-dialogclose="dialog-2022-02-25-1410" aria-label="Close">
      <h1> Robert Glasper in Menlo Park </h1>
      
    </dialog>
  </li>
  <li class="concert-list__item">...</li> flex
```

html body ol.concert-list li.concert-list__item dialog#dialog-2022-02-25-1410 ::backdrop

Styles Computed Layout Event Listeners DOM Breakpoints Properties

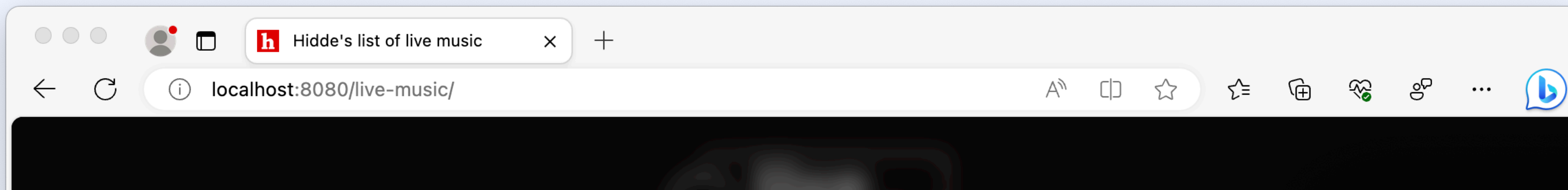
Accessibility

Filter :hov .cls + [[(index):52

```
dialog::backdrop {
  background: ▶ rgba(0,0,0,0.6);
  backdrop-filter: blur(.5em);
  overflow: ▶ hidden;
}
```

dialog::backdrop { user agent stylesheet

```
position: fixed;
overlay: auto !important;
inset: ▶ 0px;
background: ▶ rgba(0, 0, 0, 0.1);
```




ROBERT GLASPER IN MENLO PARK



```
DevTools - localhost:8080/live-music/  
Elements  
▶ <strong class="concert-list__concert longname ">... </strong> flex  
  <span class="concert-list__concert-meta2">on 2022-02-25 at The Guild Theatre</span>  
  ▶ <button class="concert-list__dialog-opener" data-dialogtarget="dialog-2022-02-25-1410">  
  ▼ <dialog id="dialog-2022-02-25-1410" style="padding: 0;" open> top-layer (1)  
    ▼ <div style="padding: 1em;">  
      ▶ <button type="button" data-dialogclose="dialog-2022-02-25-1410" aria-label="Close">  
        <h1> Robert Glasper in Menlo Park </h1>  
          
        al piano and talking into a microphone, his MC, a bass player and a drummer" lazy  
    </div>
```

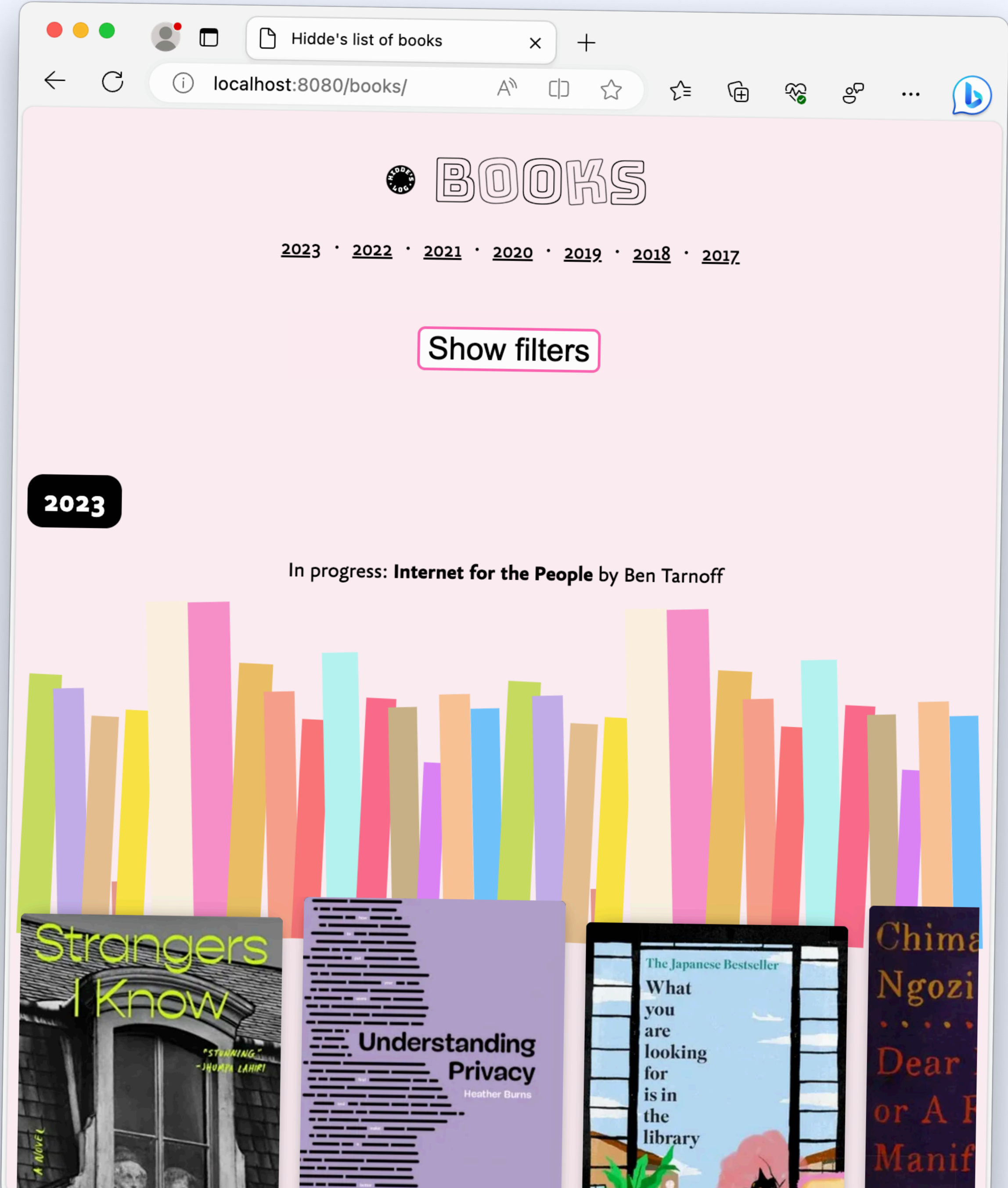
```
dialog::backdrop {  
  background: ▶ rgba(0,0,0,0.6);  
  backdrop-filter: blur(.5em);  
  overflow: ▶ hidden;  
}
```

```
dialog::backdrop {  
  background: ▶ rgba(0,0,0,0.6);  
  backdrop-filter: blur(.5em);  
  overflow: ▶ hidden;  
}  
  
dialog::backdrop {  
  position: fixed;  
  overlay: auto !important;  
  inset: ▶ 0px;  
  background: ▶ rgba(0, 0, 0, 0.1);  
}
```

`<dialog>`  `showModal()` `popover`

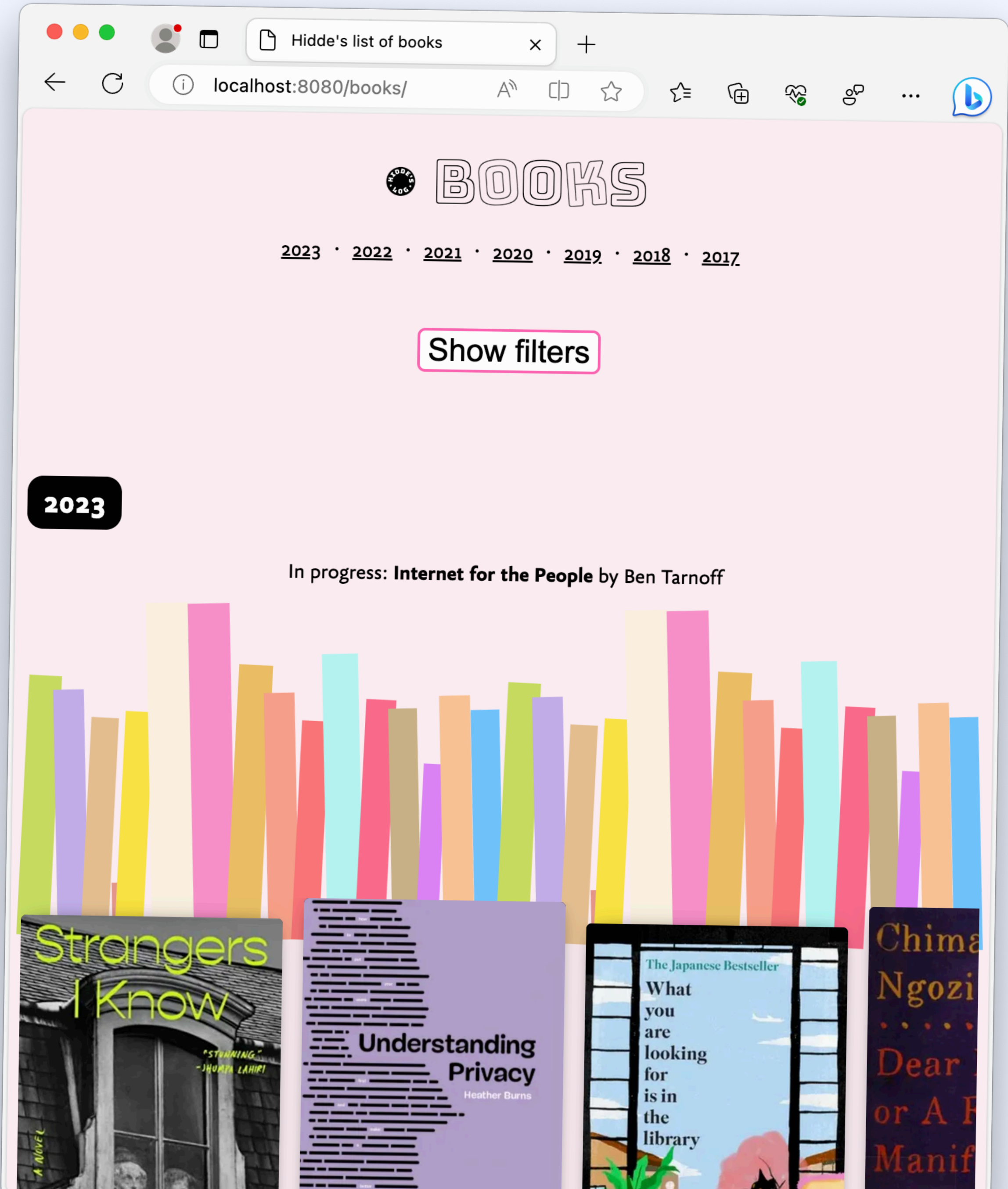
Both are *centered*
by default

```
// book-list.njk
...
<button type="button" popovertarget="filters">
  Toggle filters
</button>
...
```



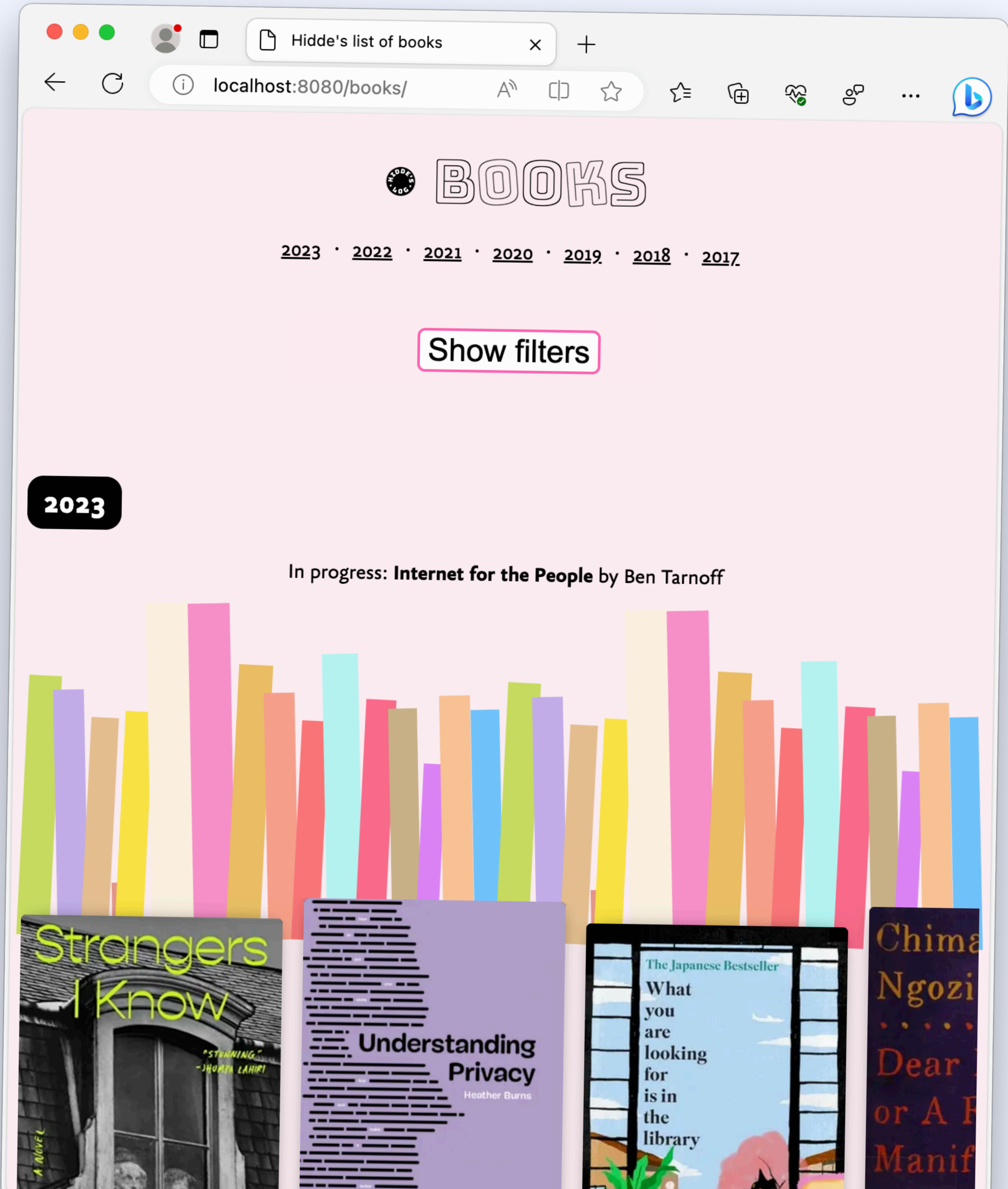
```
// book-list.njk
...
<button type="button" popovertarget="filters">
  Toggle filters
</button>

<div popover role="menu" id="filters">
  <button type="button">
    Show only Dutch authors
  </button>
  <button type="button">
    Show only books with blue covers
  </button>
  <button type="button">
    Show only books rated > 3 stars
  </button>
</div>
...
```



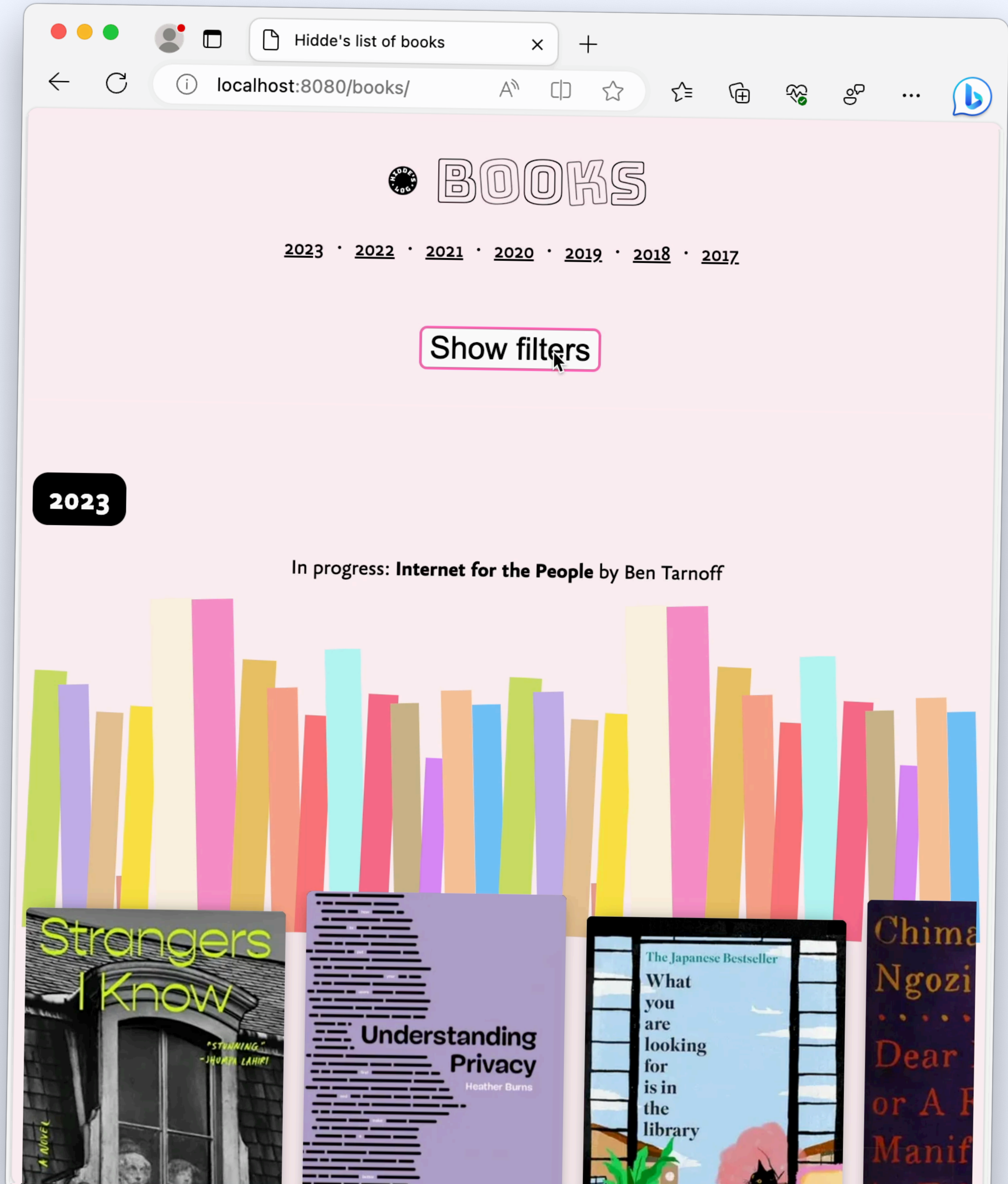
```
// book-list.njk
...
<button type="button" popovertarget="filters">
  Show filters
</button>

<div popover role="menu" id="filters">
  <button type="button" role="menuitem"
    autofocus>
    Show only Dutch authors
  </button>
  <button type="button" role="menuitem"
    tabindex="-1">
    Show only books with blue covers
  </button>
  <button type="button" role="menuitem"
    tabindex="-1">
    Show only books rated > 3 stars
  </button>
</div>
...
```



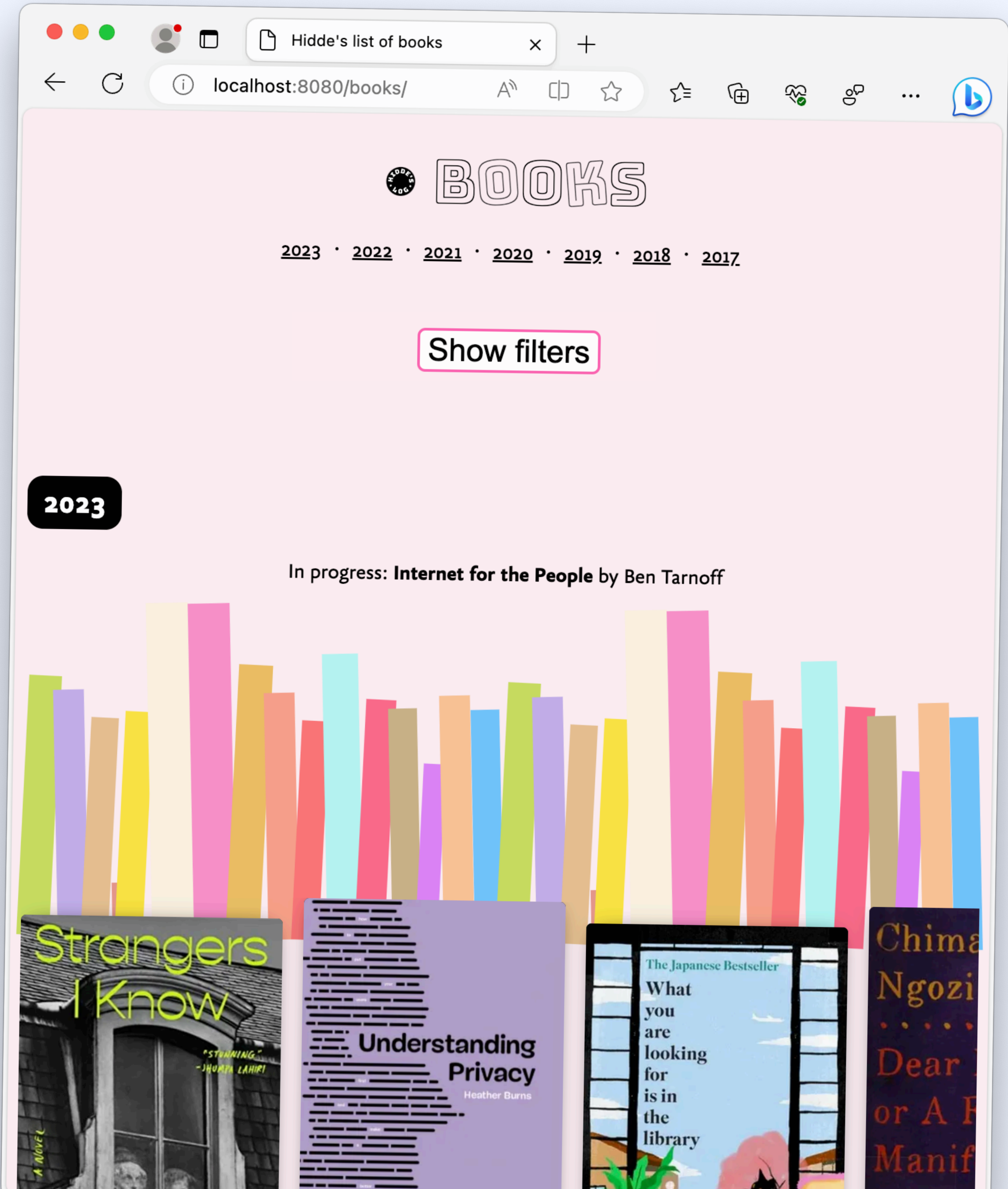

```
// book-list.njk
...
<button type="button" popovertarget="filters">
  Show filters
</button>

<div popover role="menu" id="filters">
  <button type="button" role="menuitem"
    autofocus>
    Show only Dutch authors
  </button>
  <button type="button" role="menuitem"
    tabindex="-1">
    Show only books with blue covers
  </button>
  <button type="button" role="menuitem"
    tabindex="-1">
    Show only books rated > 3 stars
  </button>
</div>
...
```



```
// book-list.njk
...
<button type="button" popovertarget="filters">
  Show filters
</button>

<div popover role="menu" id="filters">
  <button type="button" role="menuitem"
    autofocus>
    Show only Dutch authors
  </button>
  <button type="button" role="menuitem"
    tabindex="-1">
    Show only books with blue covers
  </button>
  <button type="button" role="menuitem"
    tabindex="-1">
    Show only books rated > 3 stars
  </button>
</div>
...
```



```
Elements
  <style> ... </style>
  <button type="button" popovertarget="filters"> Show filters </button>
  <div popover role="menu" id="filters"> ... </div>
  </div>

html body div div#filters

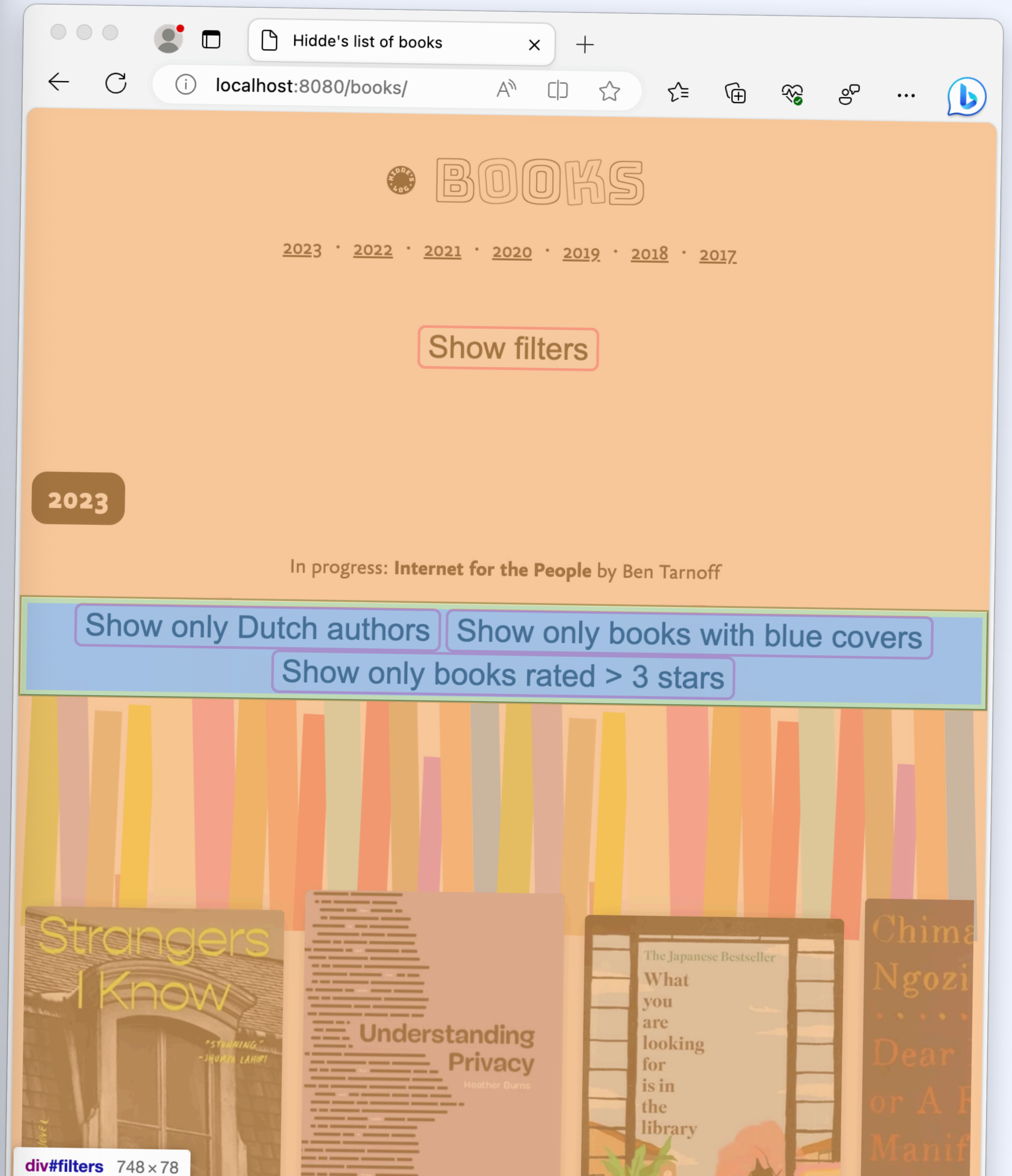
Styles Computed Layout Event Listeners DOM Breakpoints
Filter :hov .cls



element.style {
}

[popover]:popover-open:not(dialog) {
  overlay: auto !important;
}

[popover] {
  position: fixed;
  width: fit-content;
  height: fit-content;
  color: canvastext;
  background-color: canvas;
  inset: 0px;
  margin: auto;
  border-width: initial;
  border-style: solid;
  border-color: initial;
  border-image: initial;
  padding: 0.25em;
  overflow: auto;
}
```

@hdv@front-end.social



`<dialog>`  `showModal()` `popover` 

Both are *centered*
by default

POPOVER POSITIONING

Option 1: calculate (yourself or with a library)

```
// book-list.njk
...
<script type="module">
  import { computePosition } from 'https://cdn.jsdelivr.net/npm/@floating-ui/dom@1.2.9/+esm';
</script>
...

```

POPOVER POSITIONING

Option 1: calculate (yourself or with a library)

```
// book-list.njk
...
<script type="module">
  import { computePosition } from 'https://cdn.jsdelivr.net/npm/@floating-ui/dom@1.2.9/+esm';

  const popover = document.querySelector('[popover]');

</script>
...

```

POPOVER POSITIONING

Option 1: calculate (yourself or with a library)

```
// book-list.njk
...
<script type="module">
  import { computePosition } from 'https://cdn.jsdelivr.net/npm/@floating-ui/dom@1.2.9/+esm';

  const popover = document.querySelector('[popover]');

  popover.addEventListener('toggle', function(e) {

  });
</script>
...
```

POPOVER POSITIONING

Option 1: calculate (yourself or with a library)

```
// book-list.njk
...
<script type="module">
  import { computePosition } from 'https://cdn.jsdelivr.net/npm/@floating-ui/dom@1.2.9/+esm';

  const popover = document.querySelector('[popover]');

  popover.addEventListener('toggle', function(e) {
    const invoker = document.querySelector(`[popovertarget="${popover.getAttribute('id')}"]`);

  });
</script>
...

```


POPOVER POSITIONING

Option 1: calculate (yourself or with a library)

```
// book-list.njk
...
<script type="module">
  import { computePosition } from 'https://cdn.jsdelivr.net/npm/@floating-ui/dom@1.2.9/+esm';

  const popover = document.querySelector('[popover]');

  popover.addEventListener('toggle', function(e) {
    const invoker = document.querySelector(`[popovertarget="${popover.getAttribute('id')}"]`);

    if (e.newState === 'open') {

    }
  });
</script>
...
```

POPOVER POSITIONING

Option 1: calculate (yourself or with a library)

```
// book-list.njk
...
<script type="module">
  import { computePosition } from 'https://cdn.jsdelivr.net/npm/@floating-ui/dom@1.2.9/+esm';

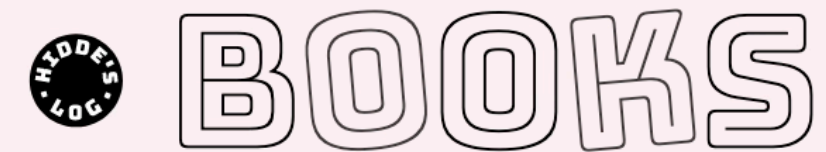
  const popover = document.querySelector('[popover]');

  popover.addEventListener('toggle', function(e) {
    const invoker = document.querySelector(`[popovertarget="${popover.getAttribute('id')}"]`);

    if (e.newState === 'open') {
      computePosition(invoker, popover).then(({x, y}) => {
        Object.assign(popover.style, {
          left: `${x}px`,
          top: `${y}px`,
        });
      });
    }
  });
</script>
```

POPOVER POSITIONING

Option 1: calculate (yourself or with a library)



[2023](#) · [2022](#) · [2021](#) · [2020](#) · [2019](#) · [2018](#) · [2017](#)

Show filters

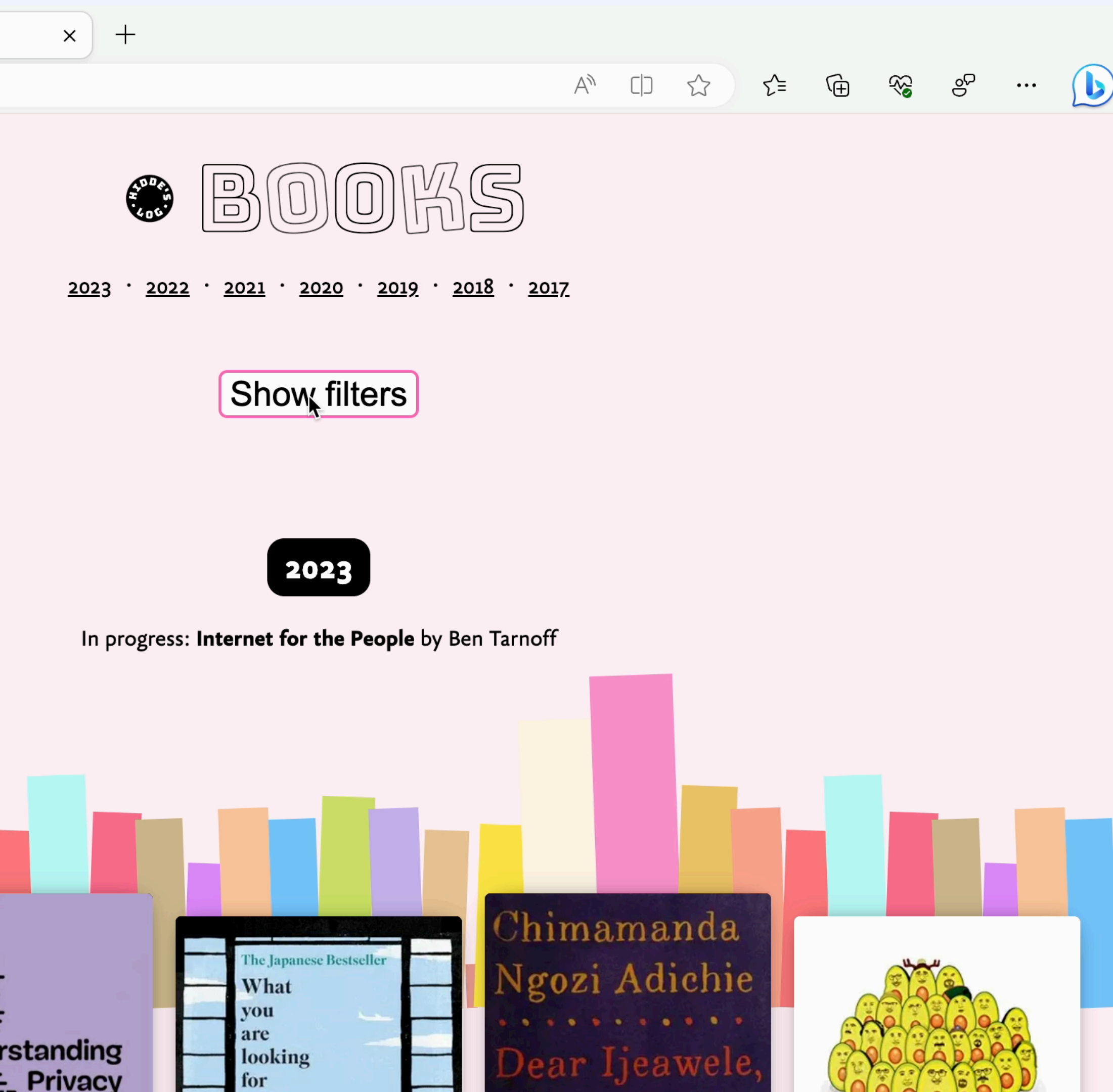
2023

In progress: **Internet for the People** by Ben Tarnoff



POPOVER POSITIONING

Option 1: calculate (yourself or with a library)

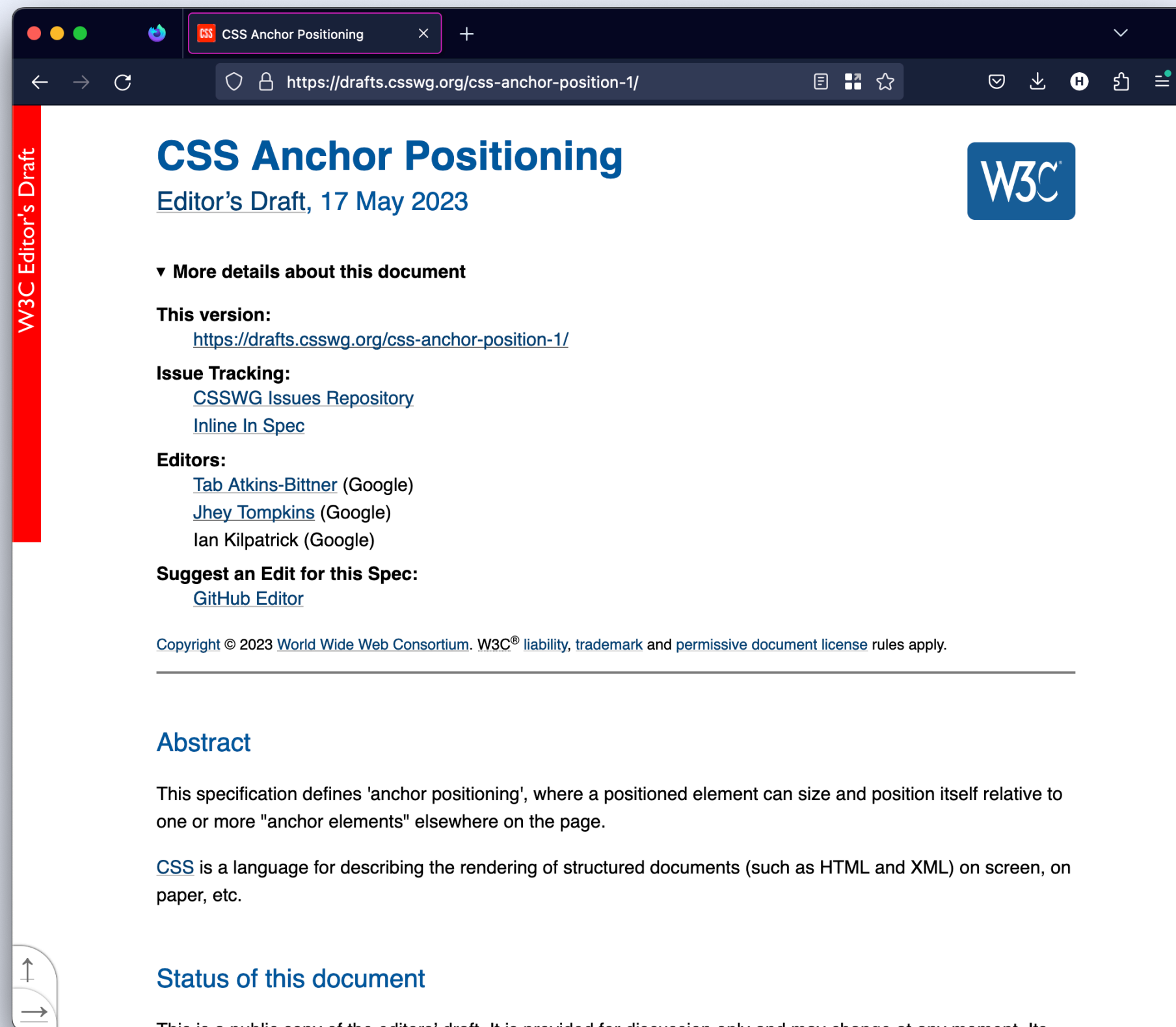


```
DevTools - localhost:8080/books/
Elements
<div popover role="menu" id="filters" style
  <button type="button">Show only Dutch auth
  <button type="button">Show only books with
  <button type="button">Show only books rate
html body div div#filters
Styles Computed Layout Event Listeners
Filter :hov .cls +
[popover] {
  position: fixed;
  width: fit-content;
  height: fit-content;
  color: canvastext;
  background-color: canvas;
  inset: 0px;
  margin: auto;
  border-width: initial;
  border-style: solid;
  border-color: initial;
  border-image: initial;
  padding: 0.25em;
  overflow: auto;
}
div {
  user agent styl
```

I did have to override the UA default for the popover's **margin** and **position**

POPOVER POSITIONING

Option 2: anchor positioning



drafts.csswg.org/css-anchor-position-1



kizu.dev/anchor-positioning-experiments/

WRAPPING UP

<dialog>

UI considerations

HTML element with
support and (as of recently) good
accessibility support

Semantics

Positioning

popover

New attribute / API in HTML, v1 supported in
Chrome stable, coming to other browsers too

**THANK
YOU!**

Questions

@hdv on most platforms

Slides/resources

talks.hiddedevries.nl

Thanks

Scott O'Hara, Adrian Roselli, Jhey Tompkins