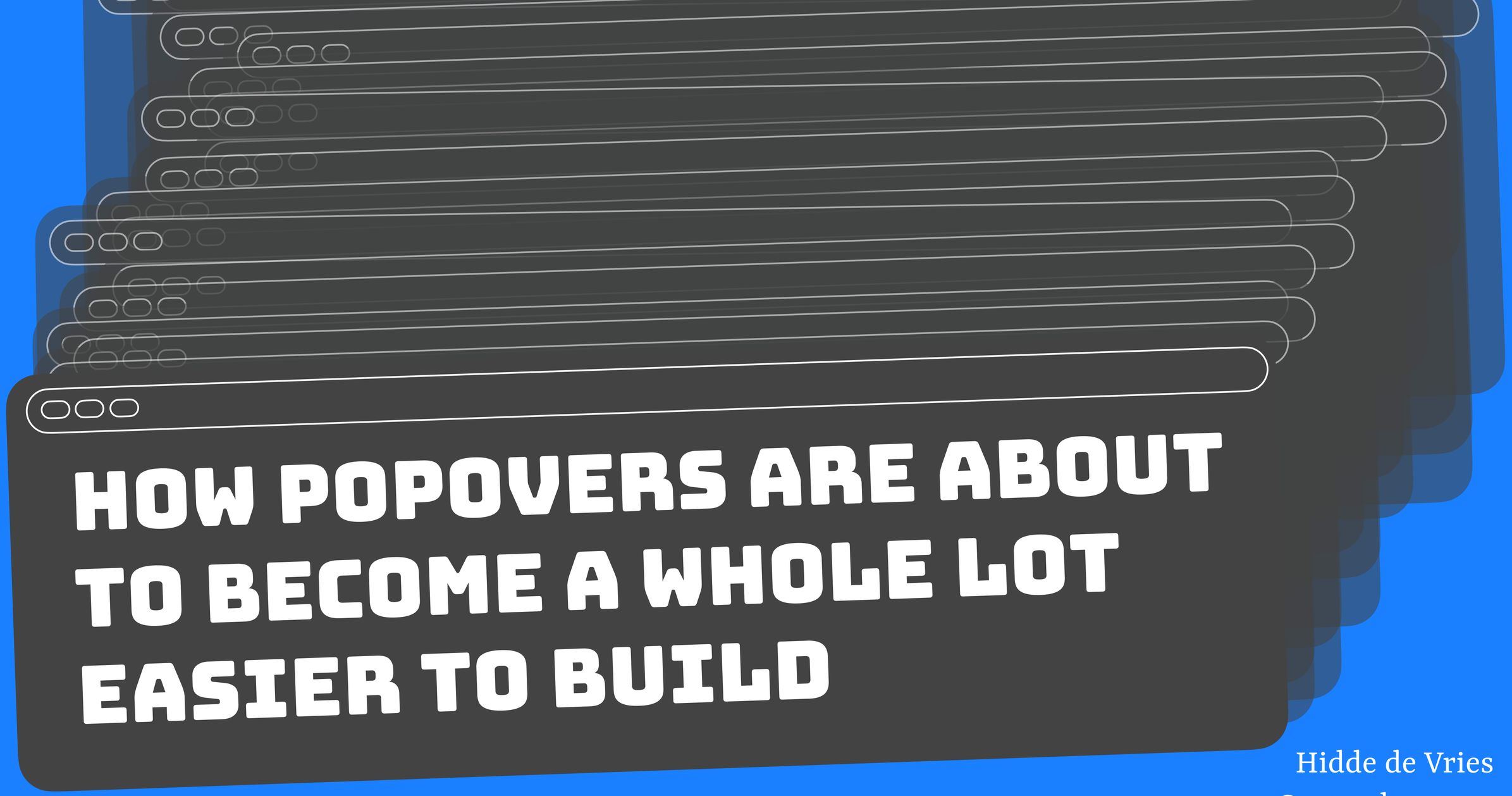


How popovers are about to become a whole lot easier to build

Hidde de Vries

15 September 2023

HalfStack, Vienna

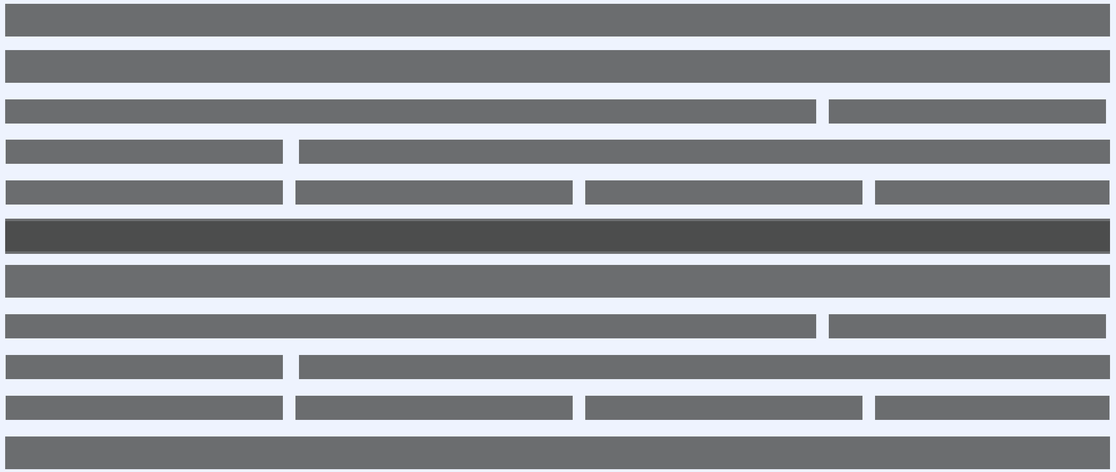




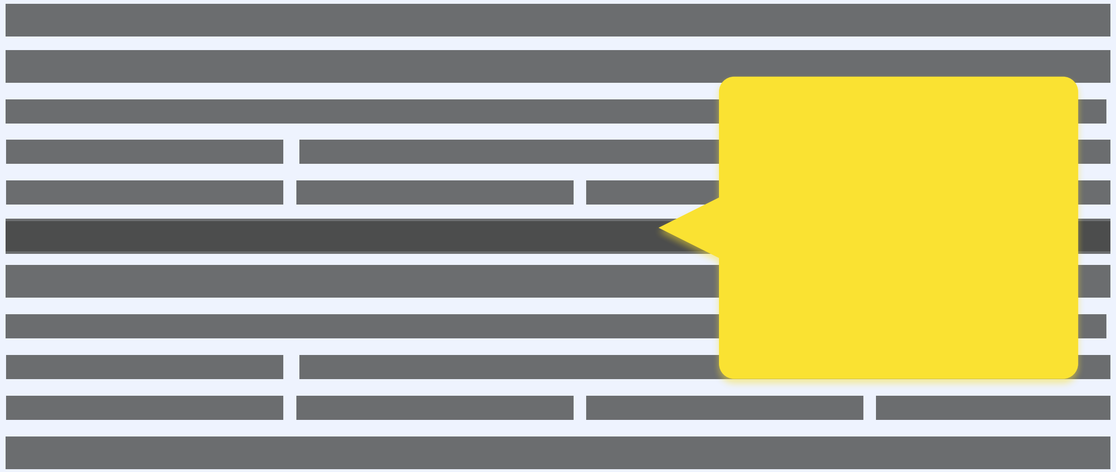

- Popovers can be real tricky


- Oh, that custardy inside.

In the beginning, content was linear…



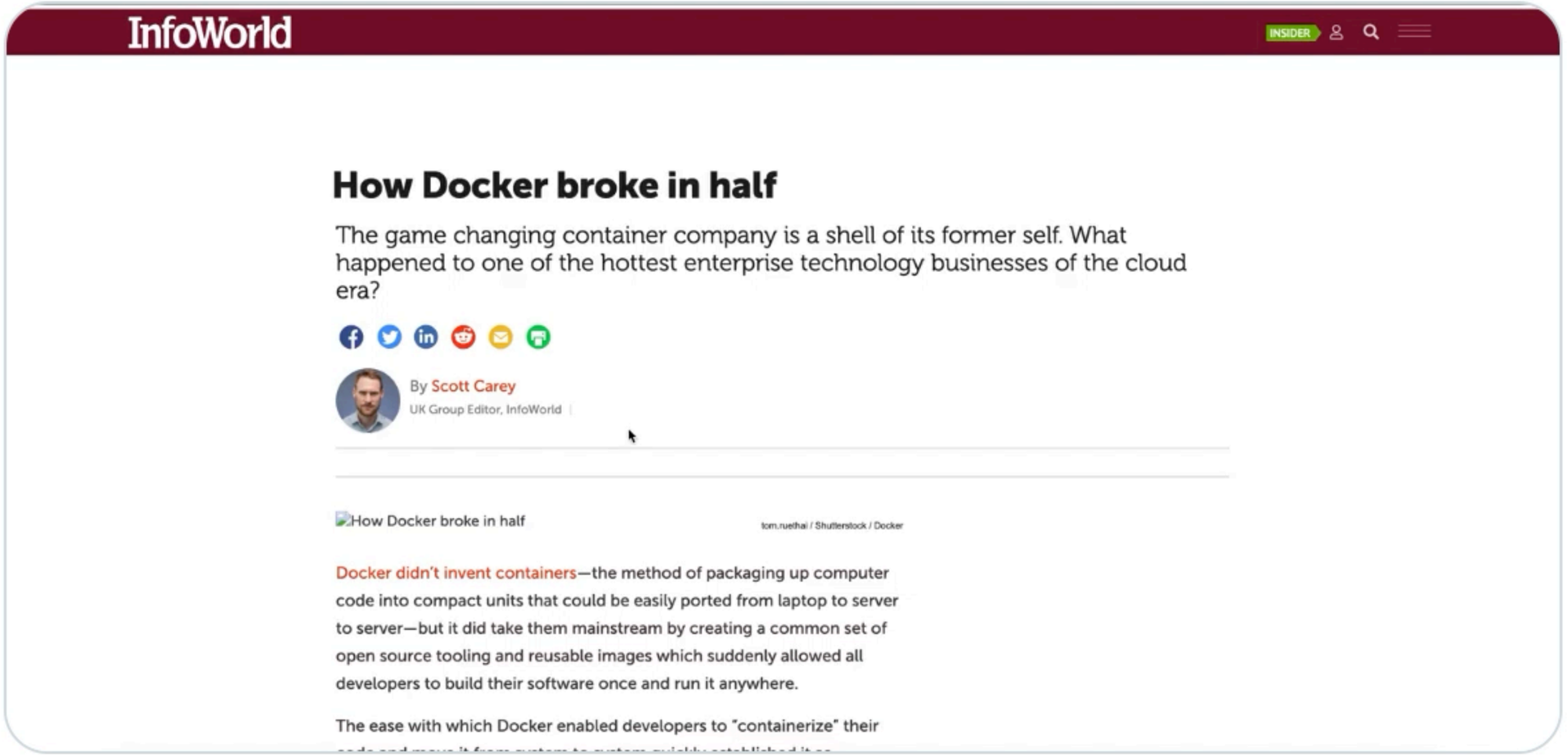
Today, it can overlap in all sorts of ways



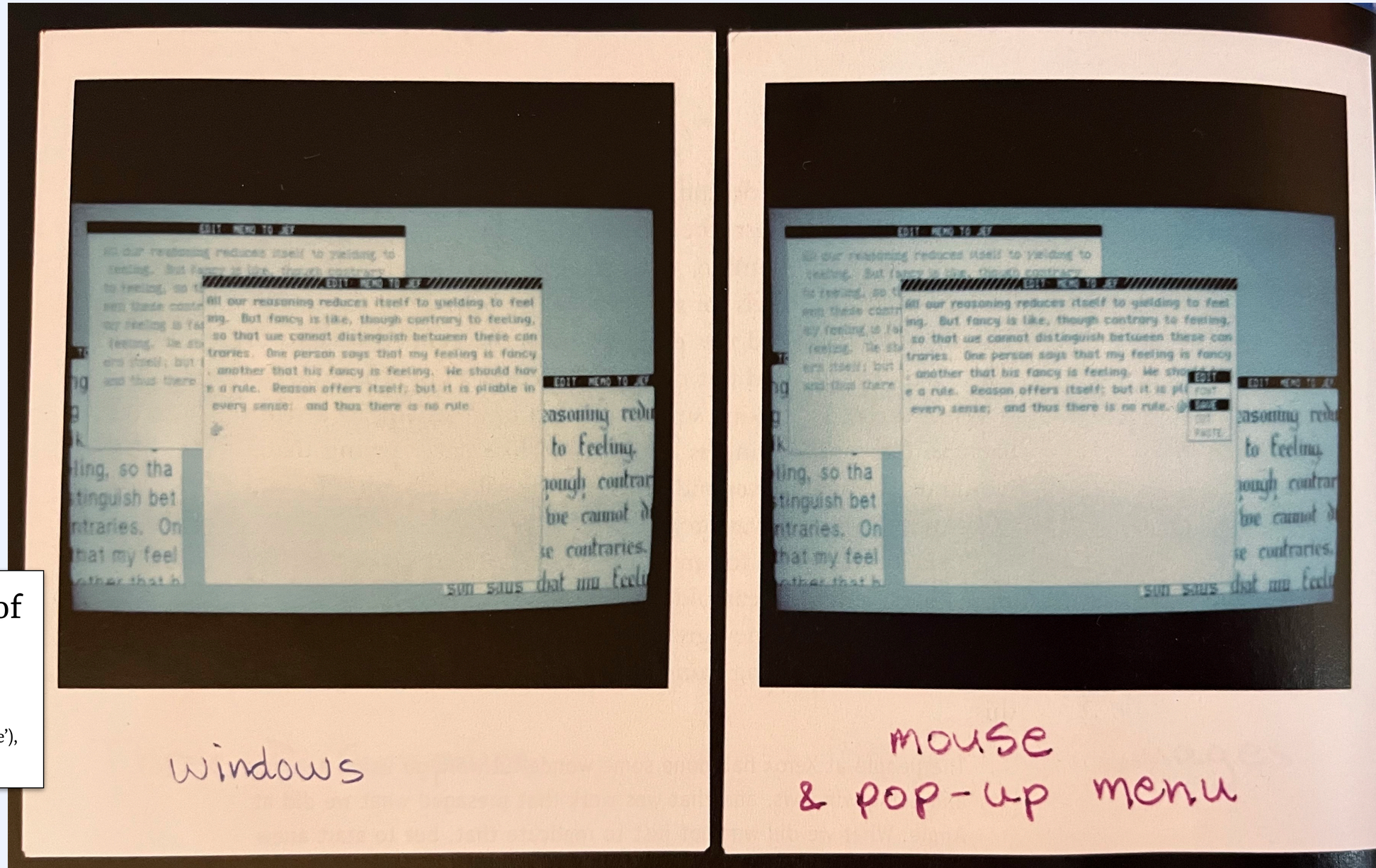


Andrej Karpathy
@karpathy

Browsing the web, 2021



6:47 AM · Sep 9, 2021 · Twitter Web App



Polaroids of development of overlapping window management

Photos: Bill Atkinson (“‘Mr User Interface” at Apple’), from: *Designing interactions* by Bill Moggridge, 93.

MODALZMODALZMODALZ.COM

WE USE TOO MANY DAMN MODALS.

LET'S JUST NOT.

HELP



THE BAD NEWS

MODALS ARE THE CRUTCH OF THE INARTICULATE DESIGNER 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>

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

UI considerations

Semantics

Positioning

popover

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

@hdv@front-end.social

HI, I'M HIDDE

developer relations + accessibility
at NL Design System

---

participant at Open UI CG

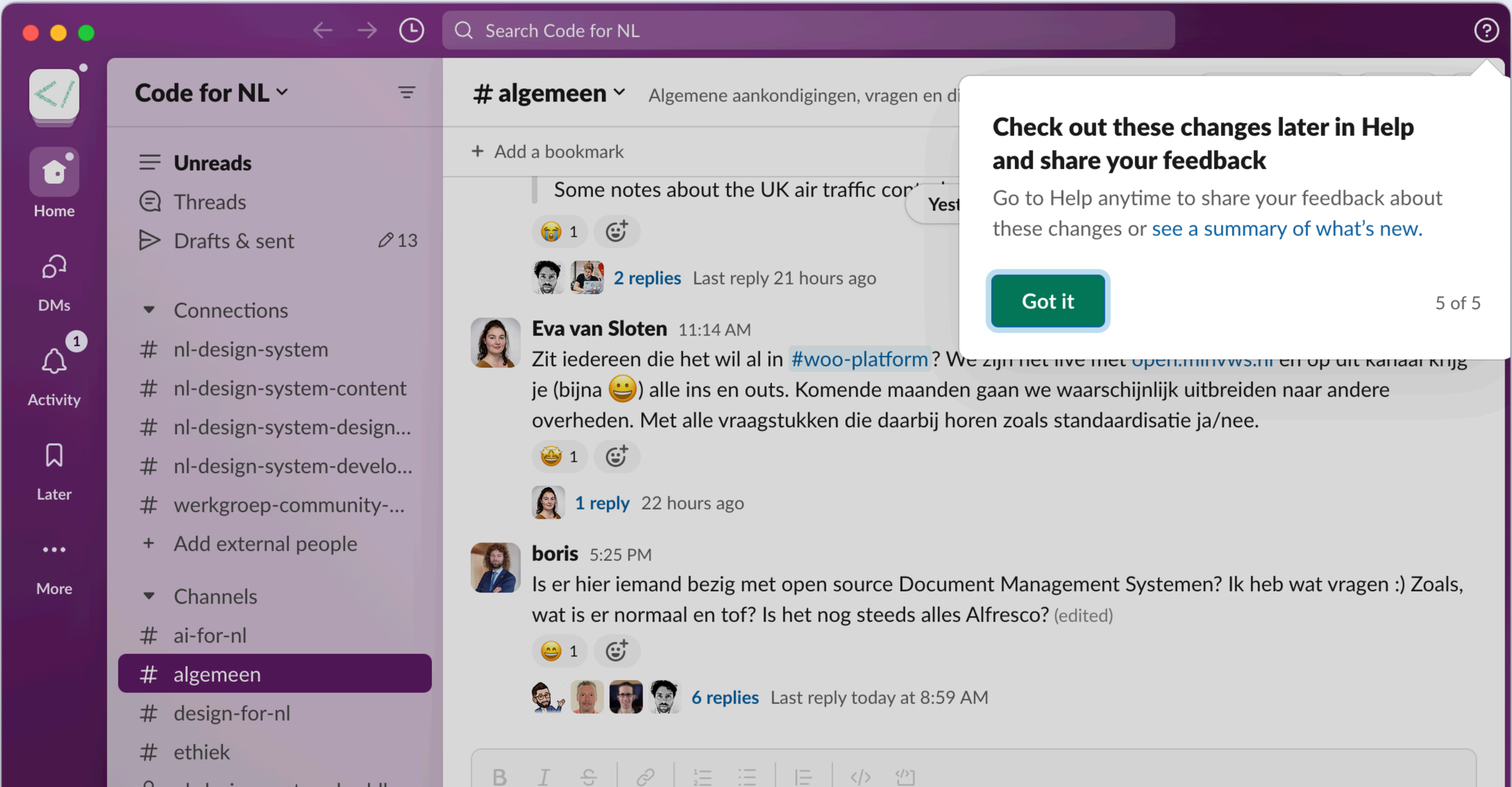
---

hidde.blog LIKE & SUBSCRIBE



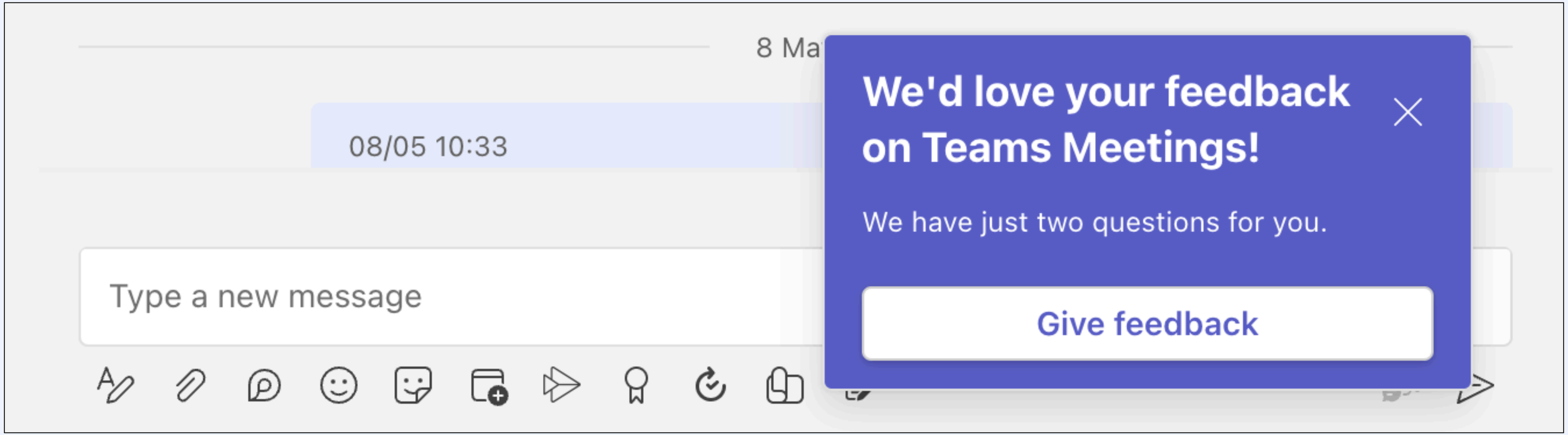
Slack: a popover to teach how the redesigned UI works

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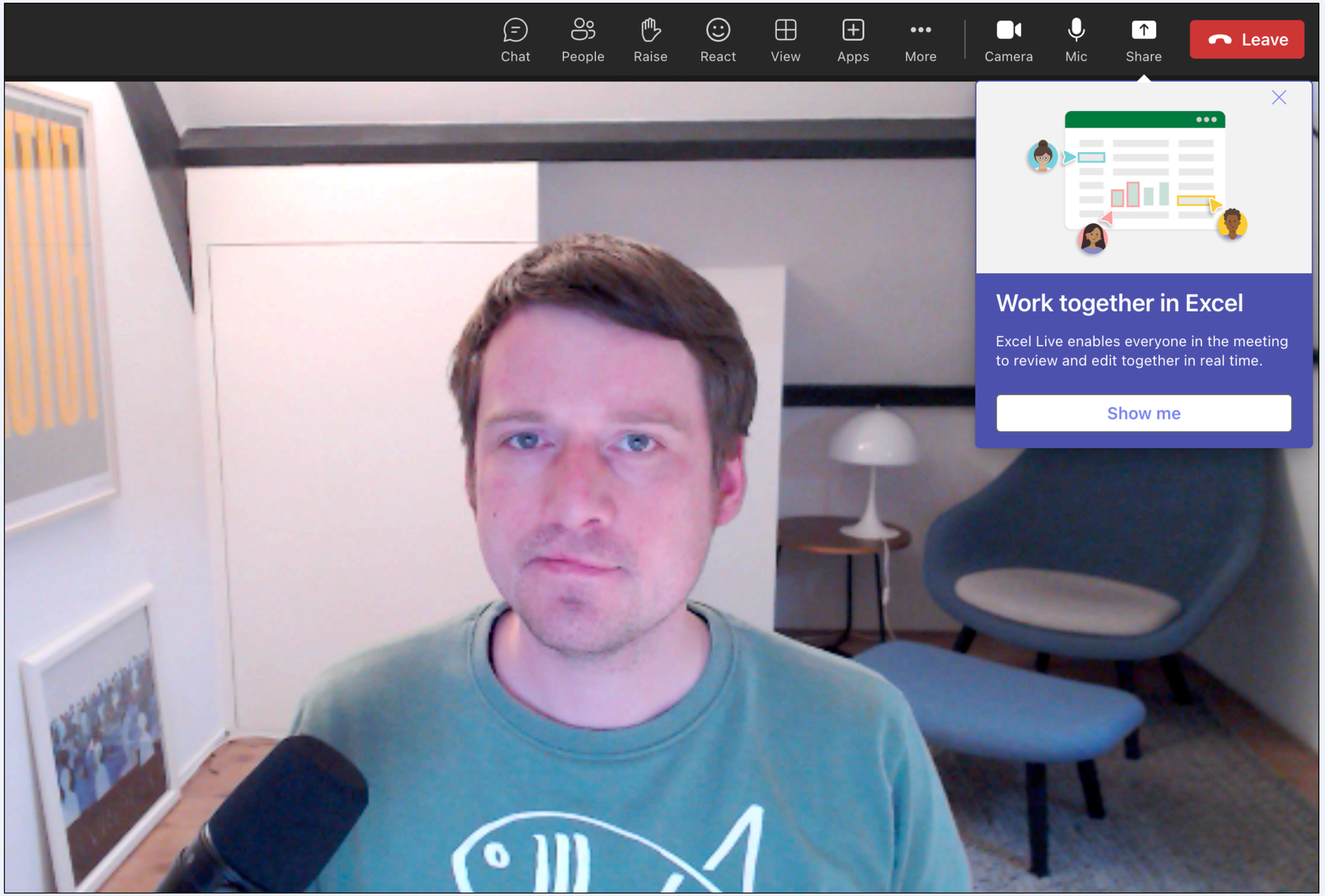


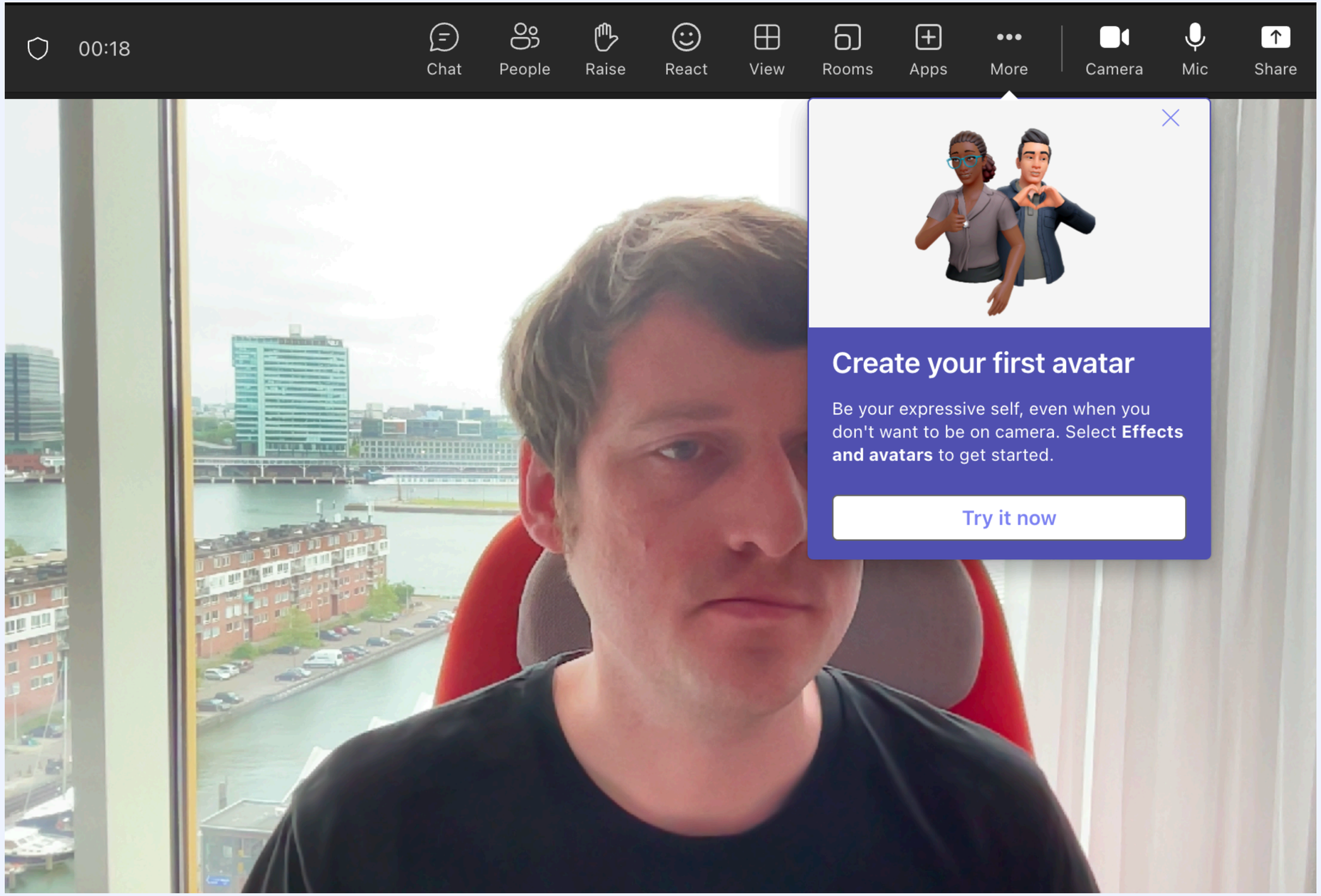
Teams: a timed popover to ask for feedback

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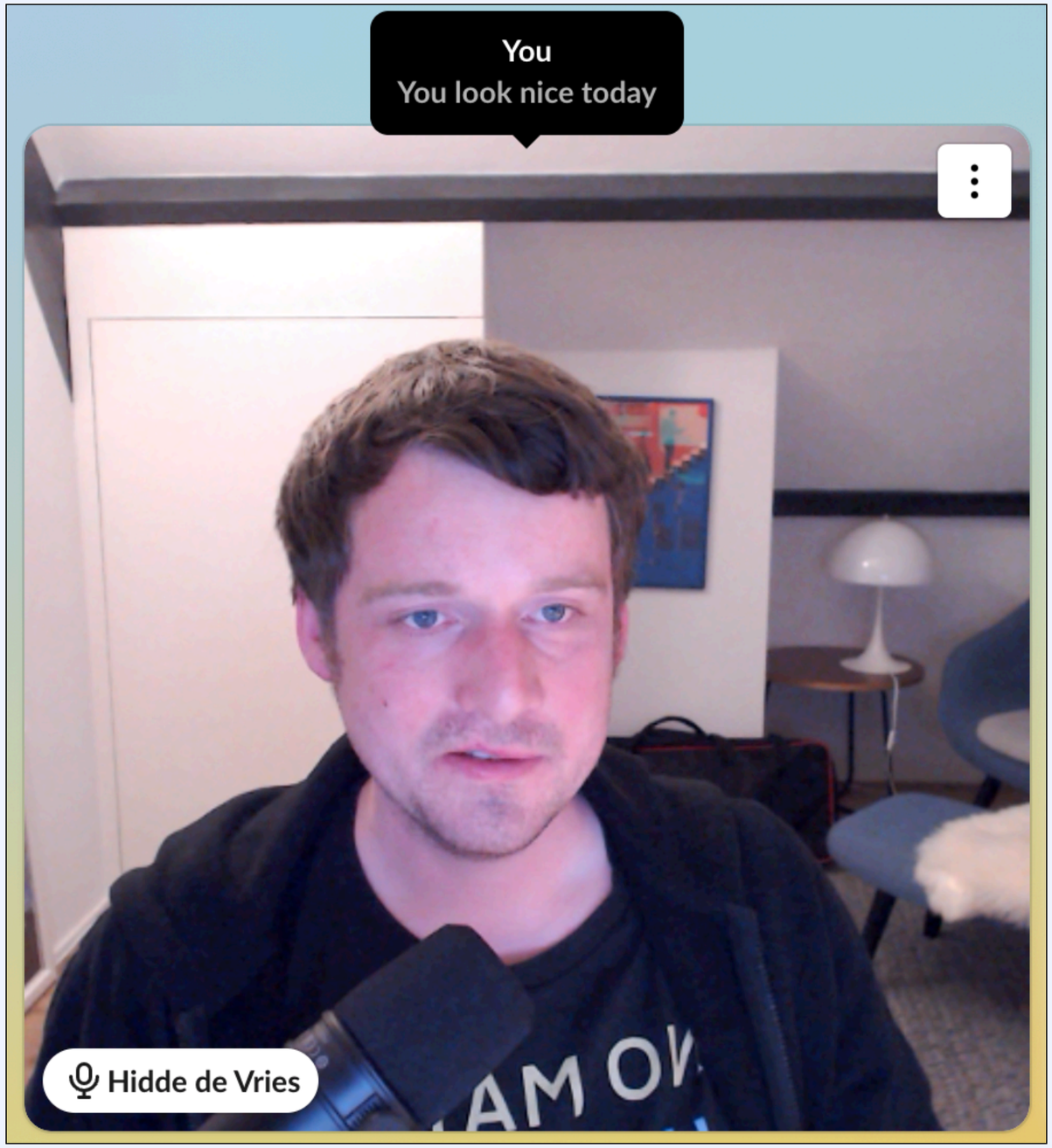
Teams: a popover to teach about an Excel integration





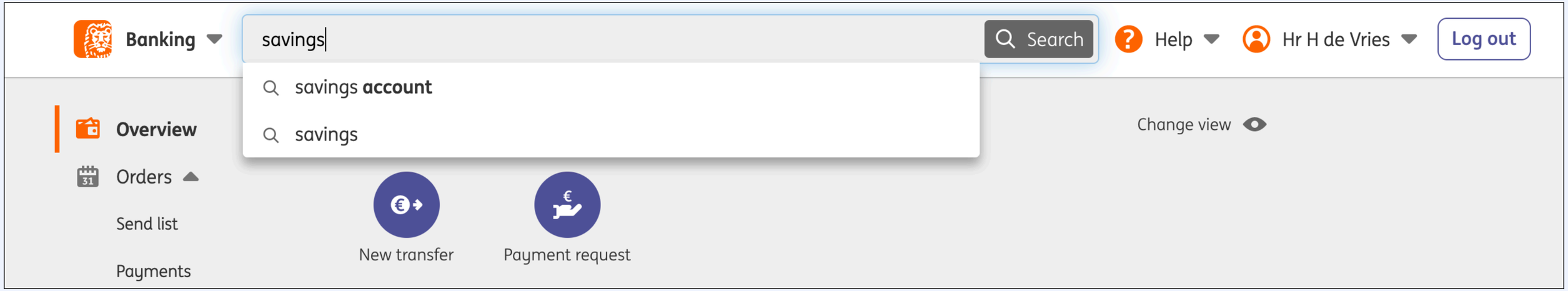
Teams: a popover to urge me to be my expressive self

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



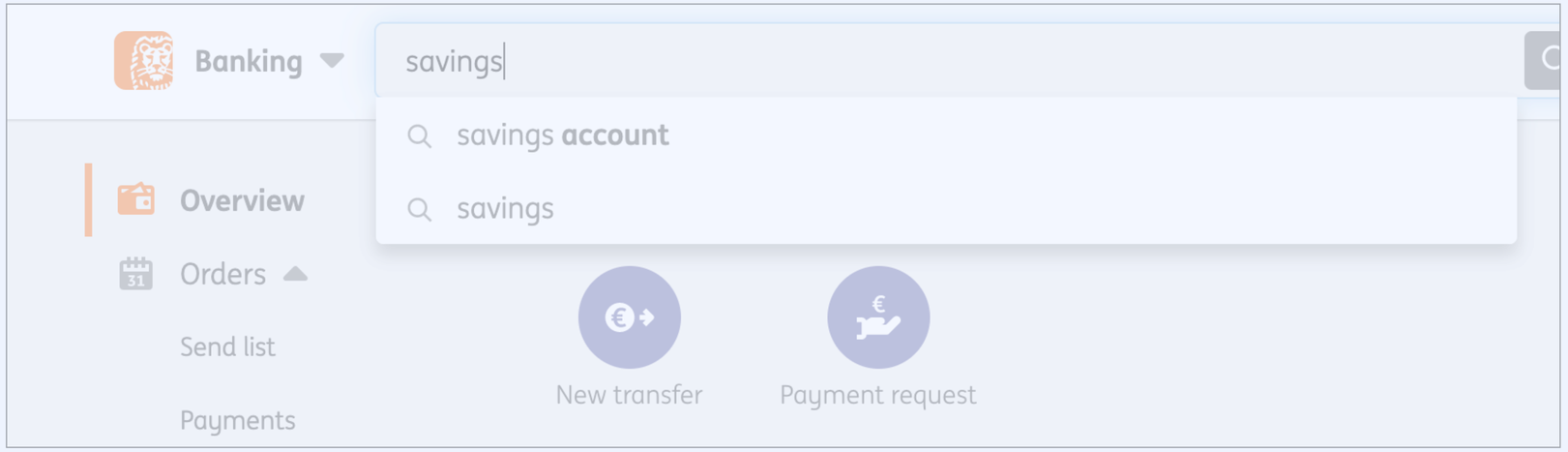
Online banking: a popover to autocomplete search query

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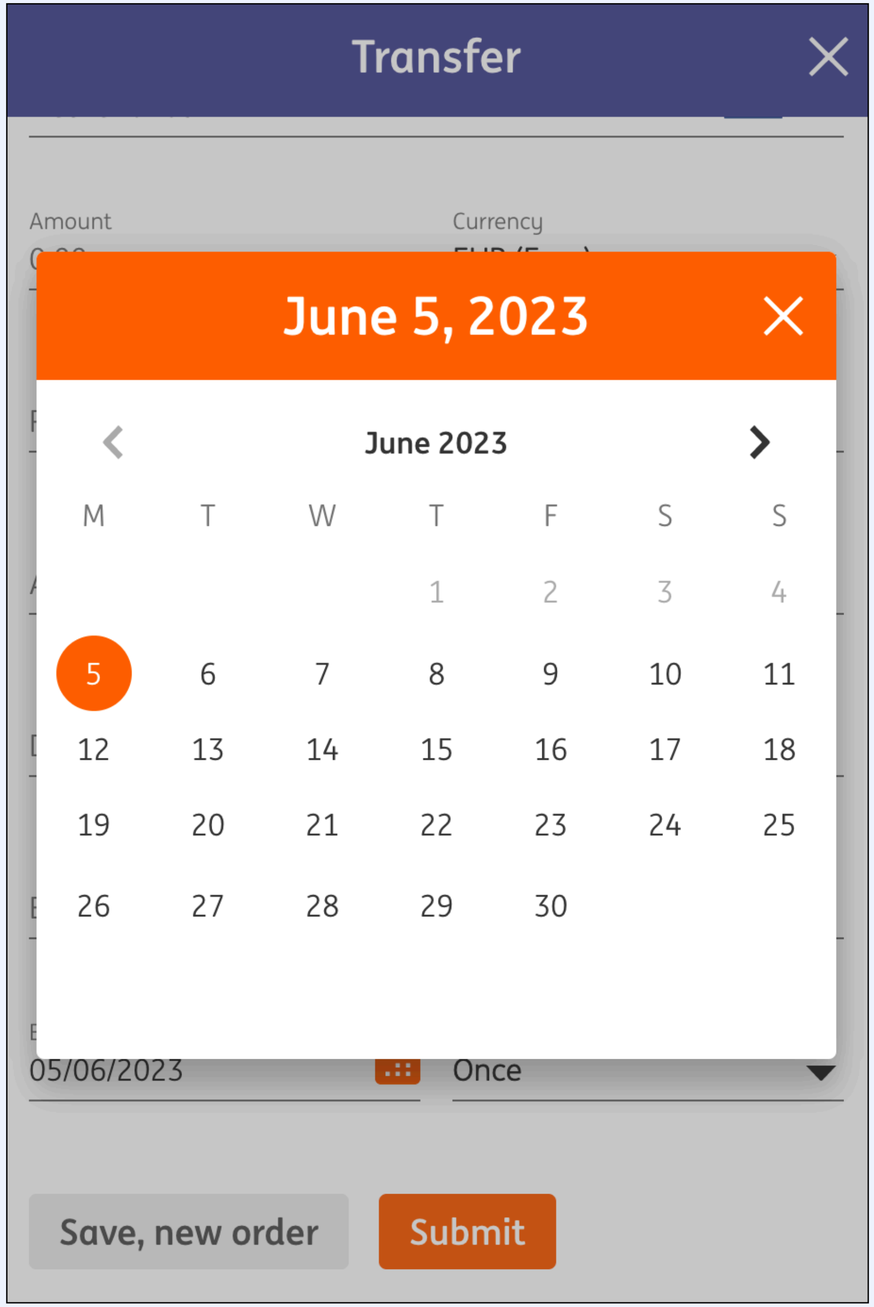


Online banking: a popover to autocomplete search query

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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’

https://carbondesignsystem.com/patterns/dialog-pattern/

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>
```

html.spec.whatwg.org/dev/interactive-elements.html#the-dialog-element

<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

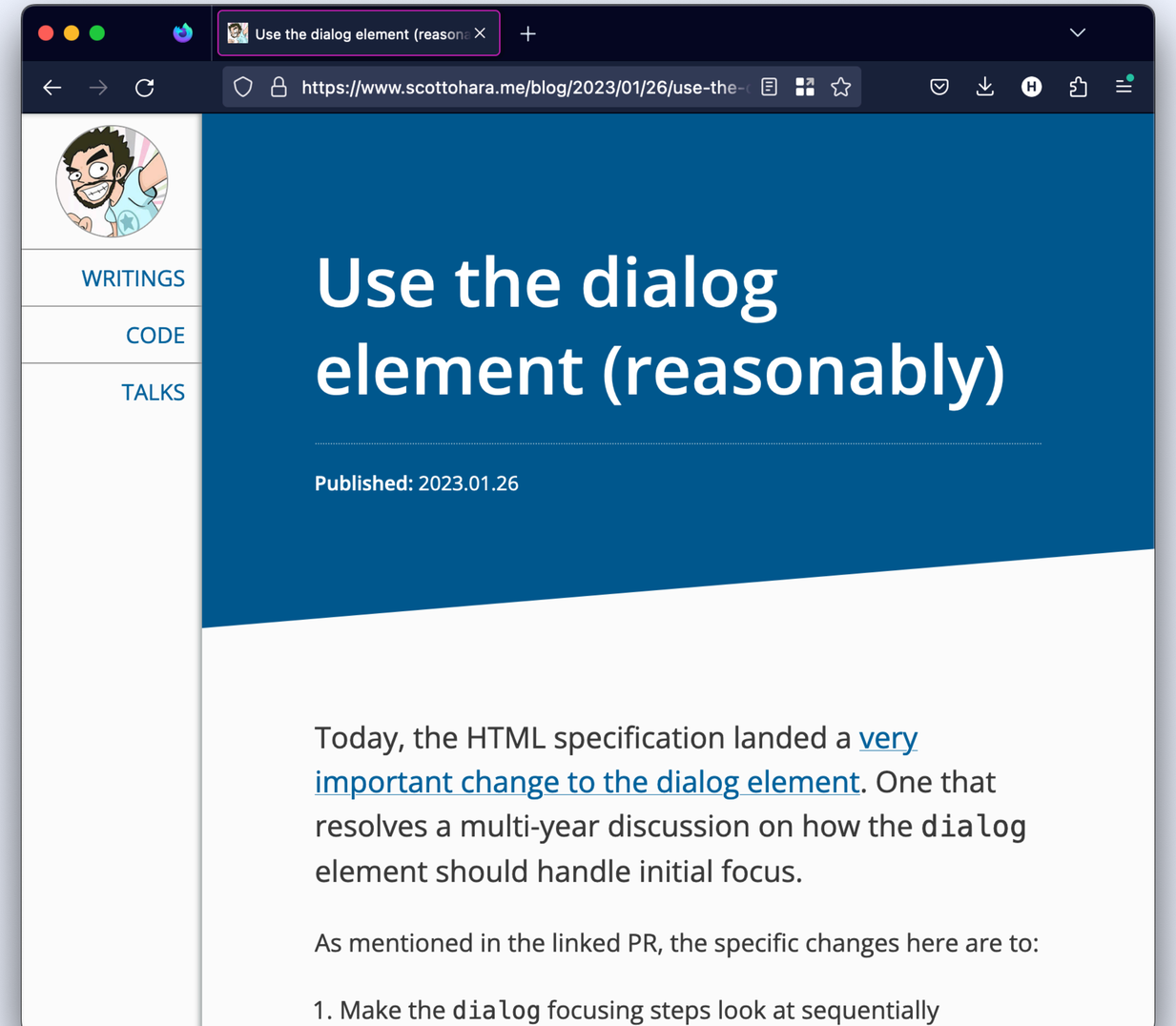
CURRENT STATUS: <DIALOG>






`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”

“supplemental” from Dell DS, “contextual” + “non-modal dialog” from Lightning DS, “transient content” from Spectrum

[POPOVER]

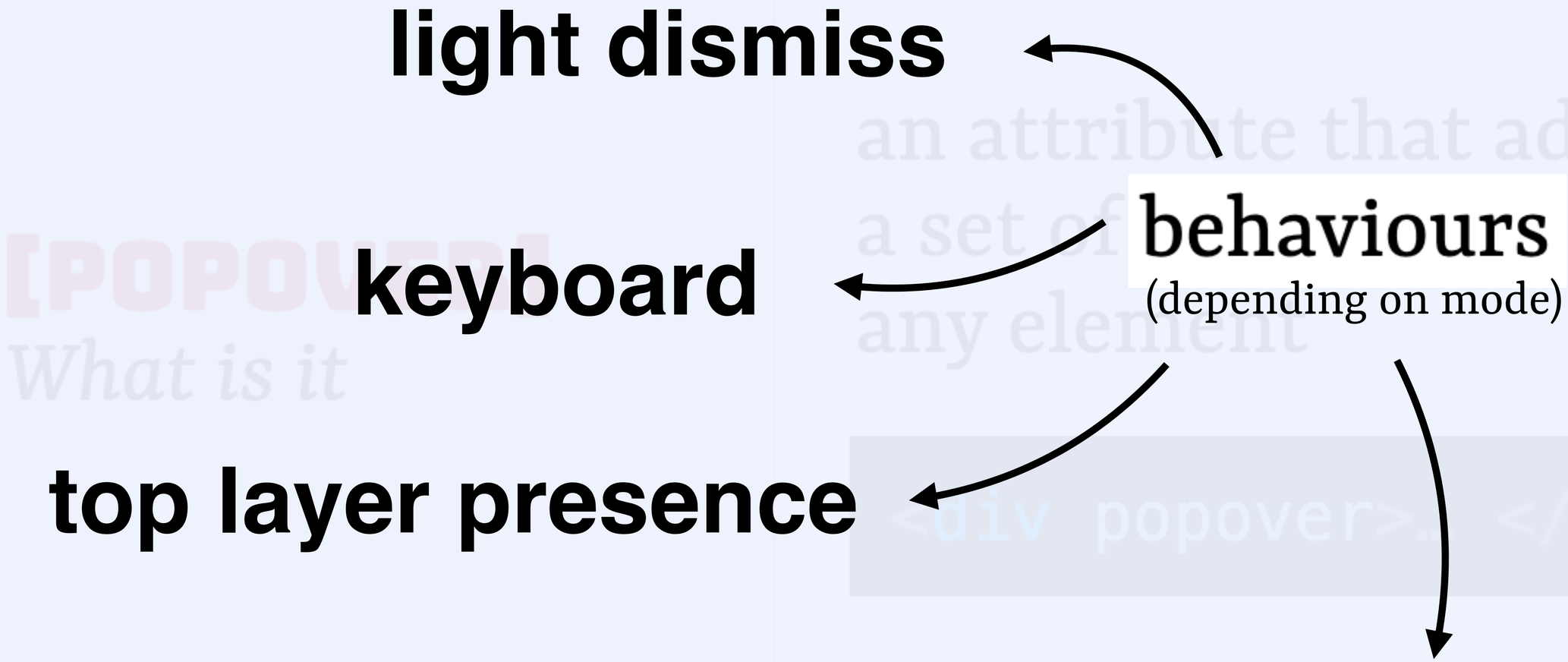
What is it

an attribute that adds a set of behaviours to any element

```
<div popover>… </div>
```

html.spec.whatwg.org/dev/popover.html#the-popover-attribute

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[POPOVER]
What is it
an attribute that adds
a set of
to
any element
<div popover>…
html.spec.whatwg.org/dev/popover.html#the-popover-attribute

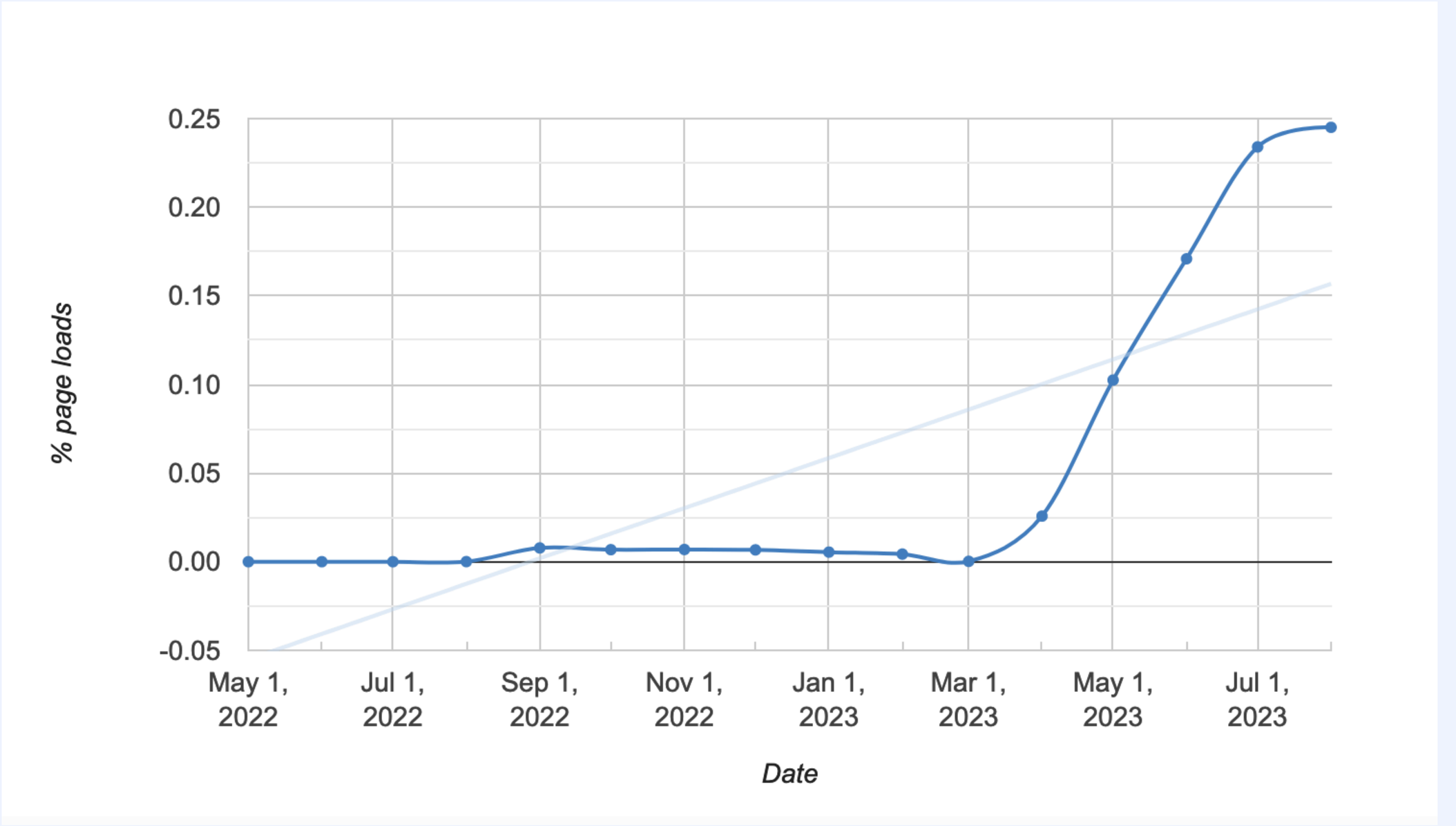
[popover]

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

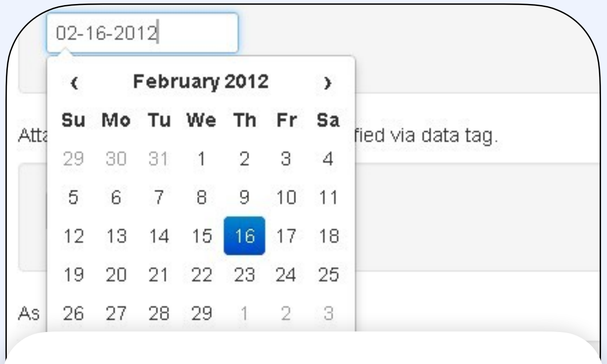
`html.spec.whatwg.org/dev/popover.html#the-popover-attribute`



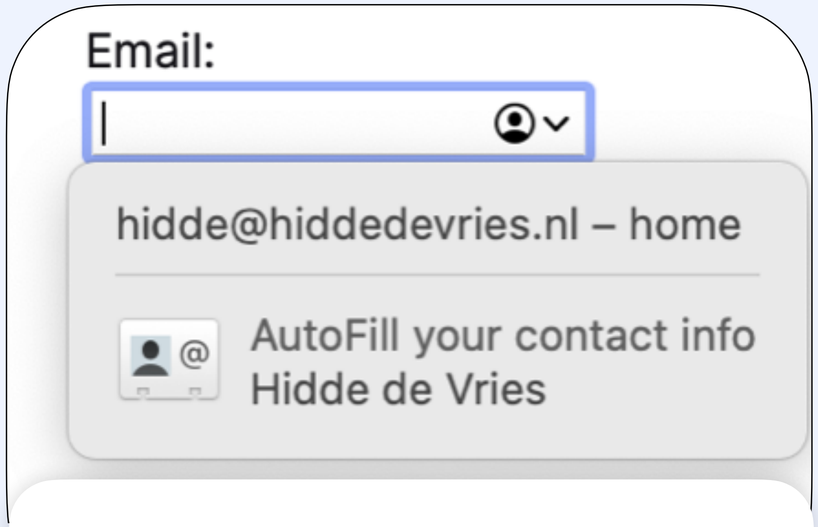
https://chromestatus.com/metrics/feature/timeline/popularity/4191

[POPOVER]

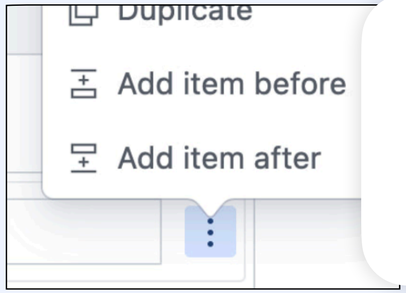
Use cases



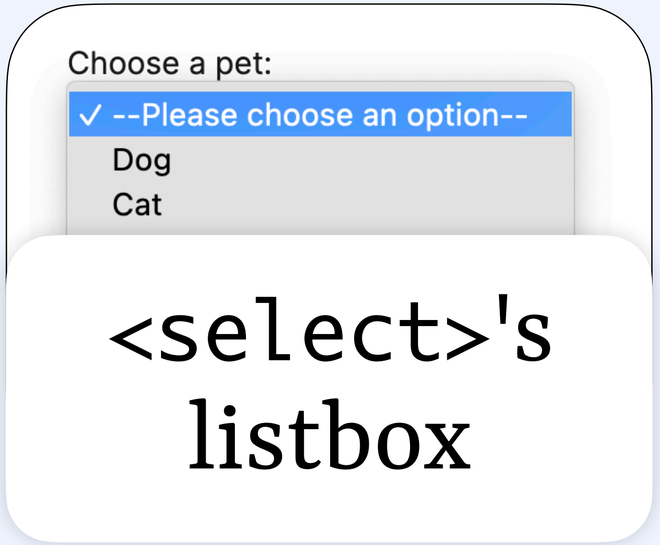
content pickers



form element suggestions

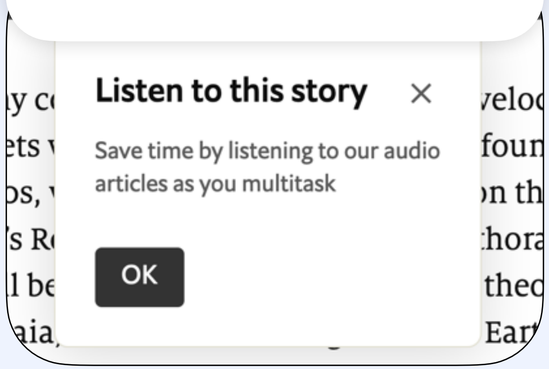


action menus



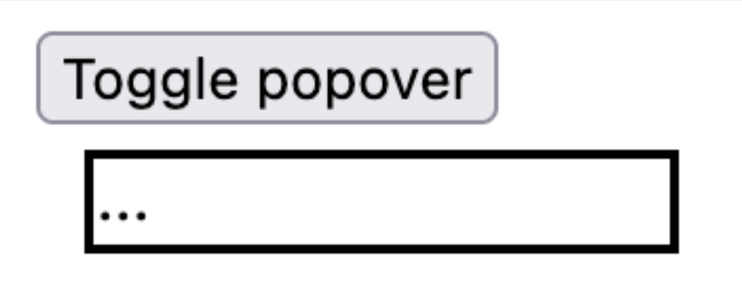
<select>'s listbox

teaching UI



[POPOVER]

No JavaScript required

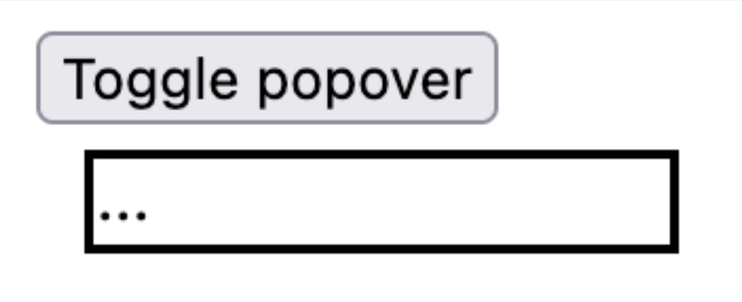



```
<button>
  Toggle popover
</button>

<div>
  …
</div>
```

[POPOVER]

No JavaScript required



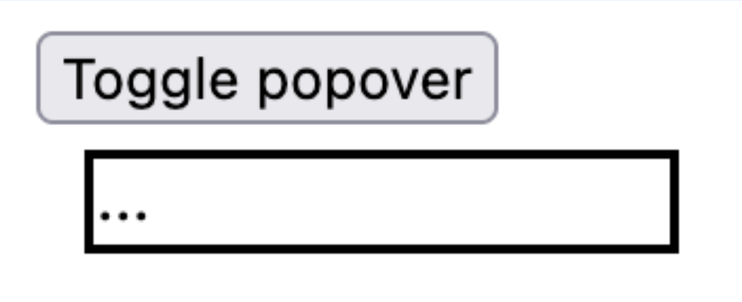

```
<button>
  Toggle popover
</button>

<div popover>
  …
</div>
```

make it a popover

[POPOVER]

No JavaScript required



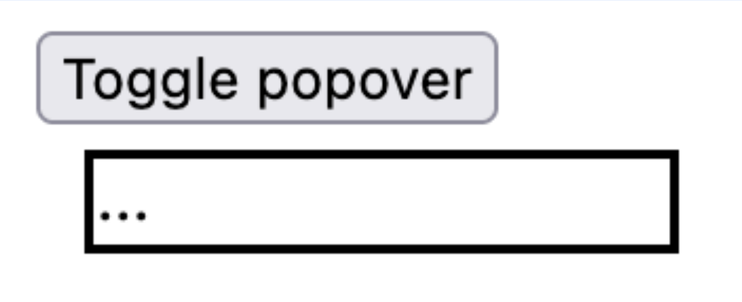

```
<button>
  Toggle popover
</button>

<div popover id="p">
  …
</div>
```

add a unique ID

[POPOVER]

No JavaScript required



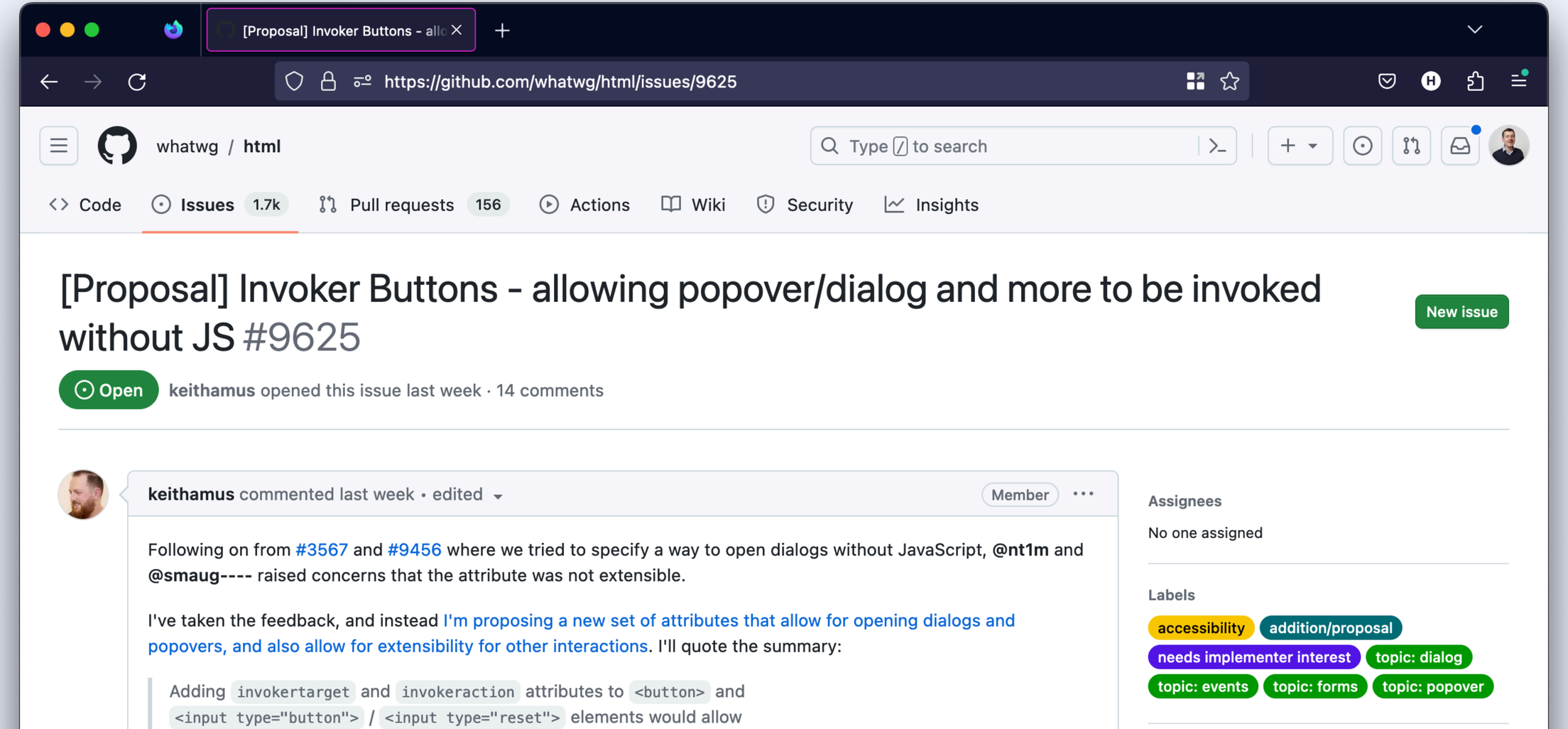
point button to ID

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

<div popover id="p">
  …
</div>
```

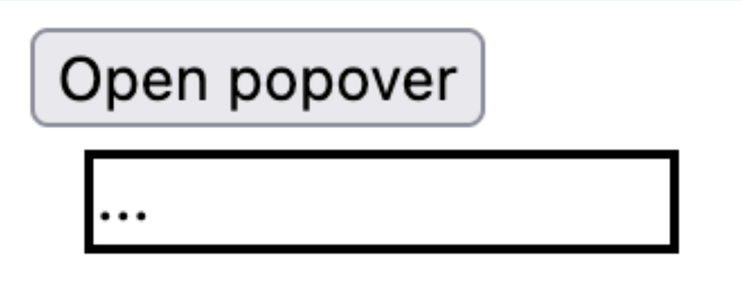
OPENING DIALOGS (AND MORE) WITHOUT JS

github.com/whatwg/html/issues/9625



[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>
```

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[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



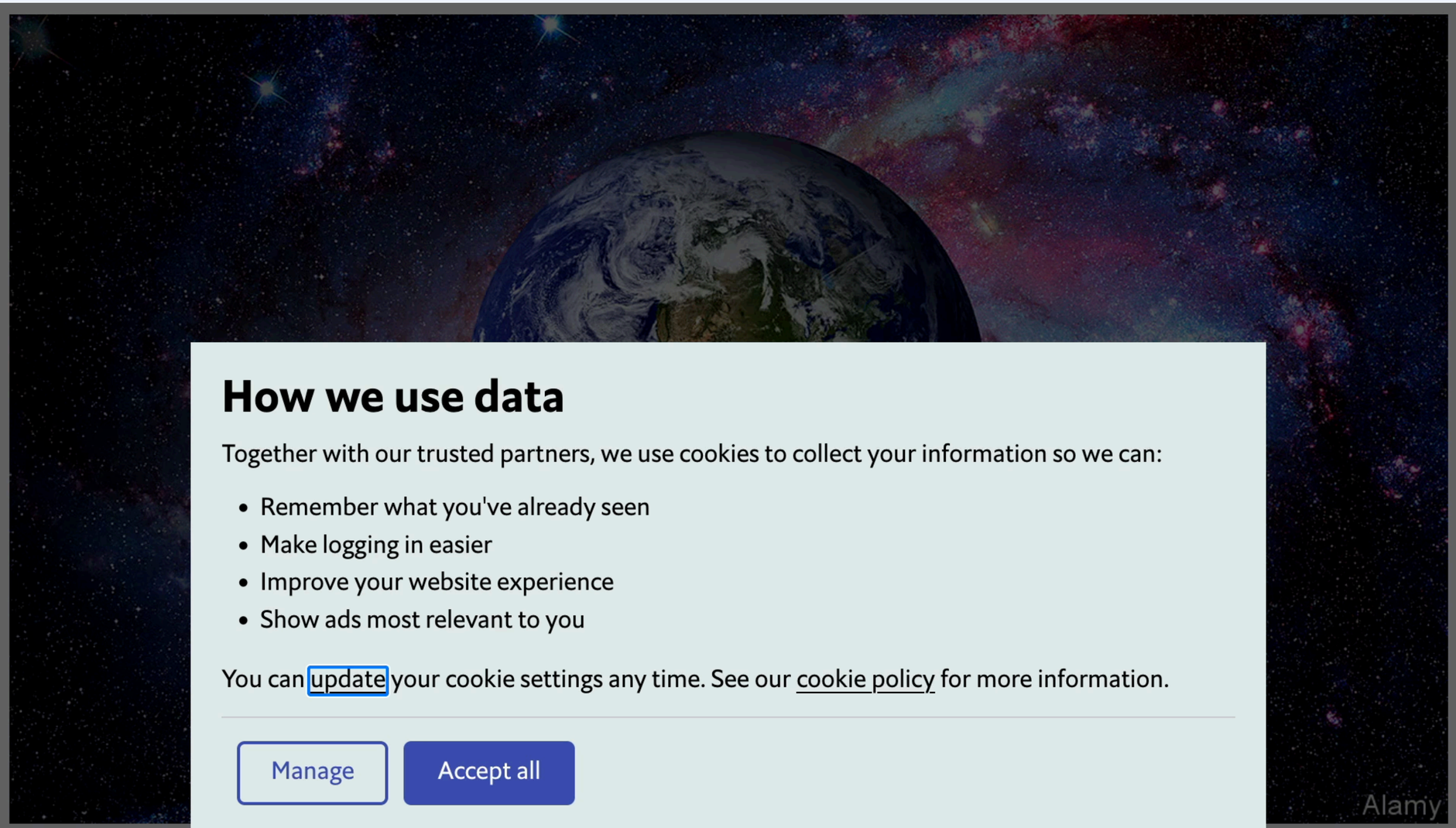
`dom.element.popover.enabled`



HOW ARE THESE PATTERNS DIFFERENT?

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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

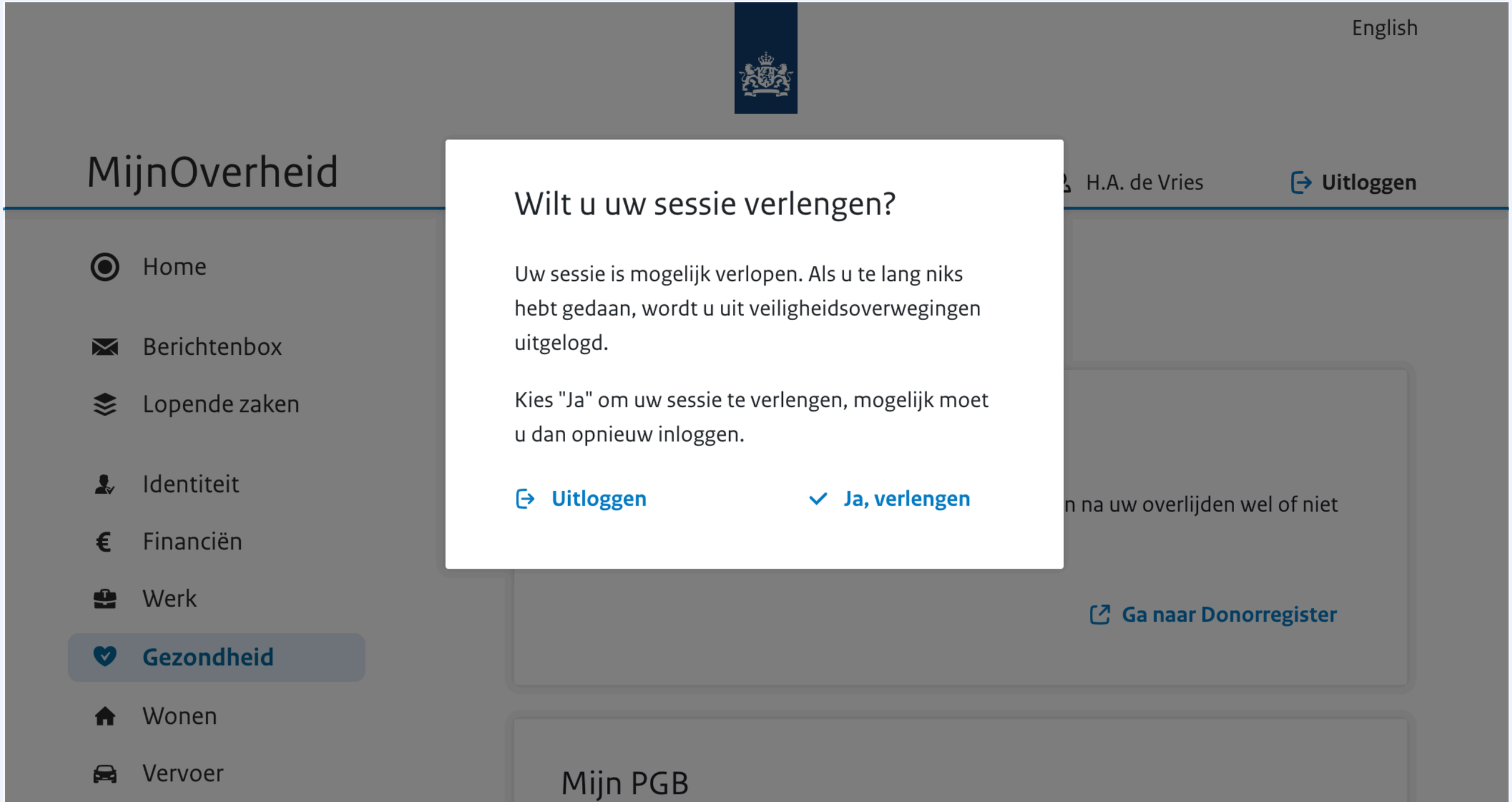
Jul 25th 2019

Share

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

Dutch government: a modal to extend the DigiD session

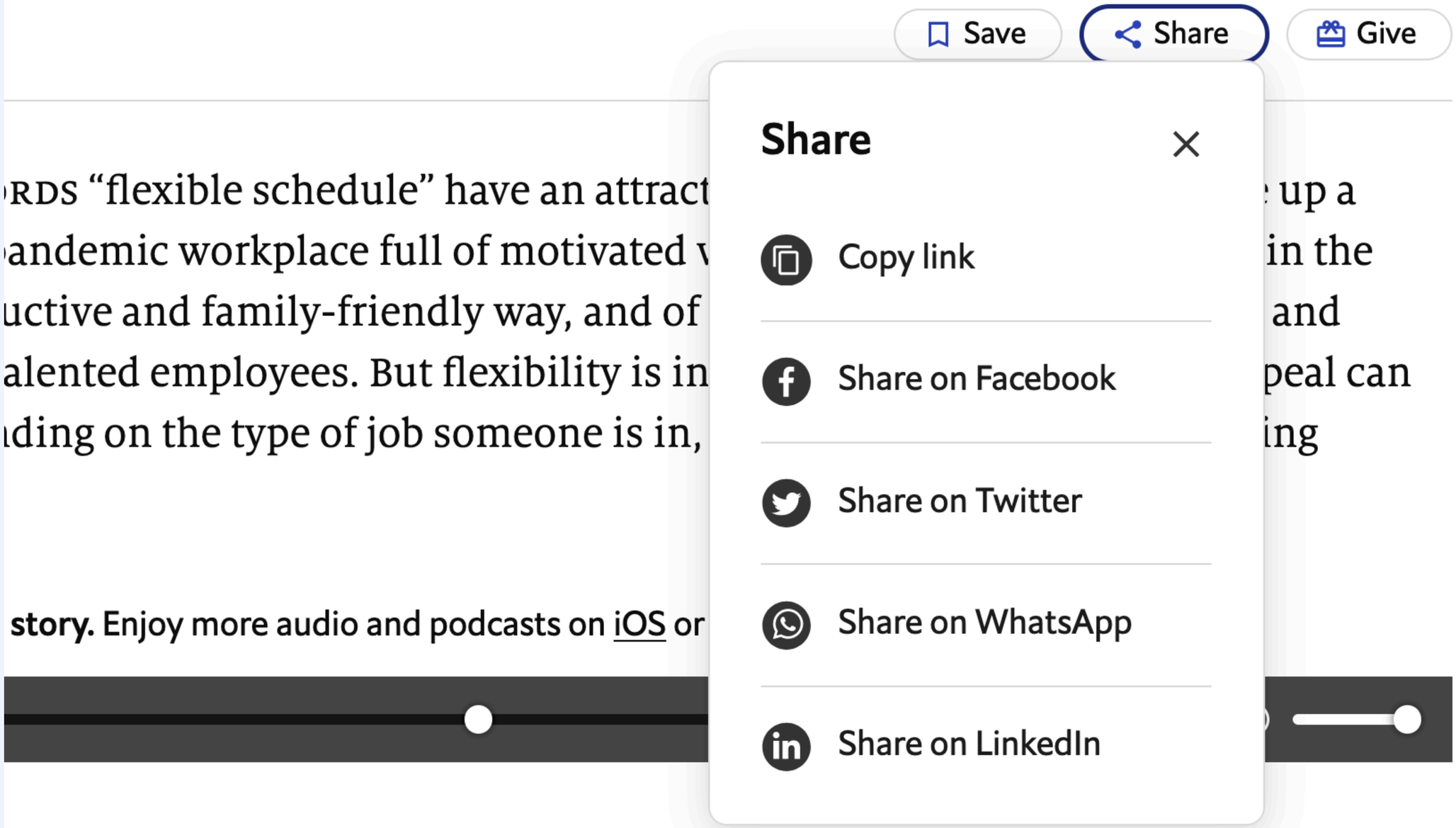
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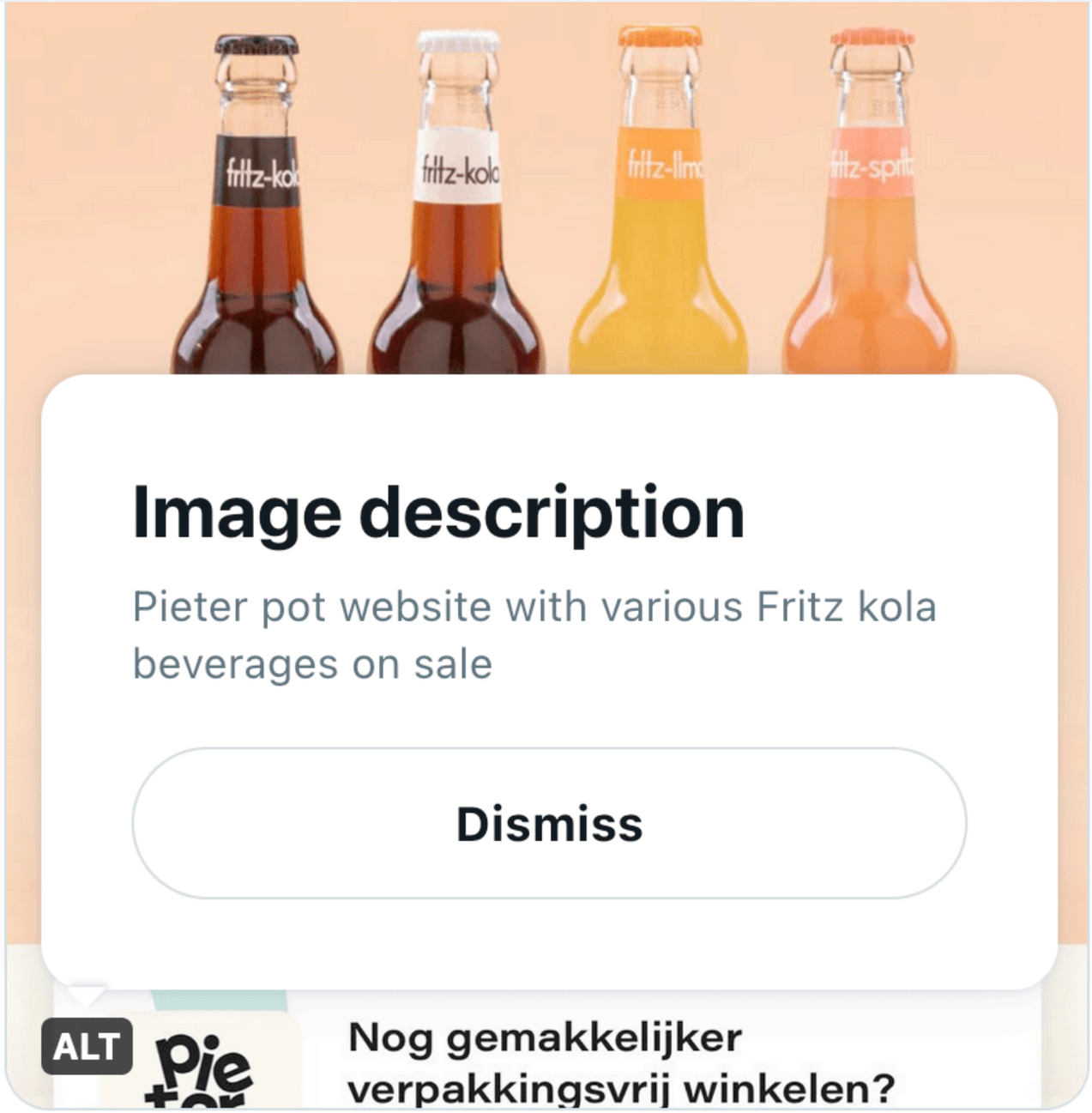


A “game over” screen

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Save
Share
Give
Share
Copy link
Share on Facebook
Share on Twitter
Share on WhatsApp
Share on LinkedIn
RDS "flexible schedule" have an attract
up a
andemic workplace full of motivated v
in the
uctive and family-friendly way, and of
and
alented employees. But flexibility is in
peal can
ding on the type of job someone is in,
ing
story. Enjoy more audio and podcasts on iOS or
blue-collar worker in an industry that operates in shifts, for example,


fritz-kola
fritz-kola
fritz-limo
fritz-spritz
Image description
Pieter pot website with various Fritz kola beverages on sale
Dismiss
ALT
Nog gemakkelijker verpakkingsvrij winkelen?

Main image

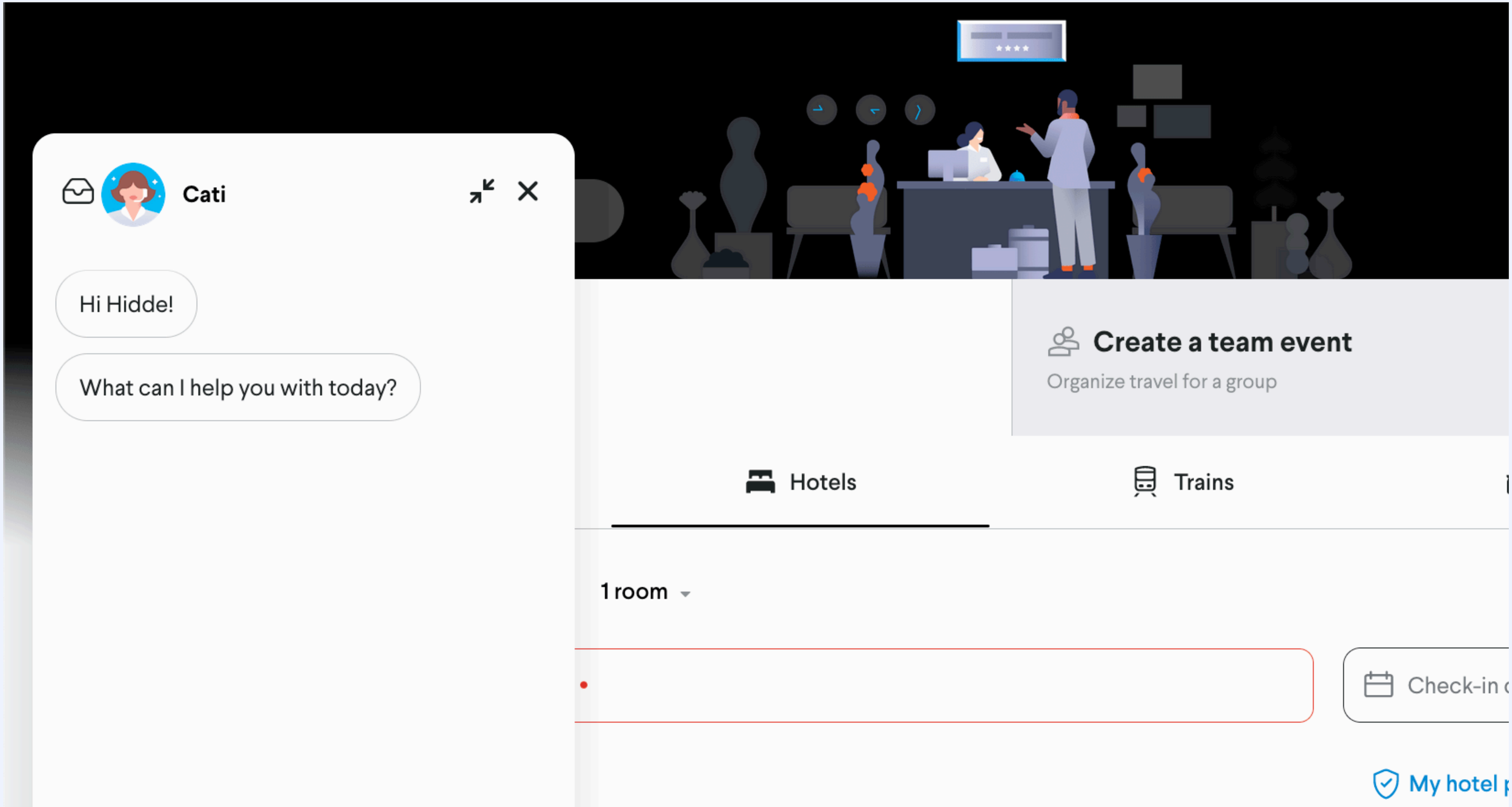


Alternative text

What's on this picture?

Booking website: a non-modal chat widget

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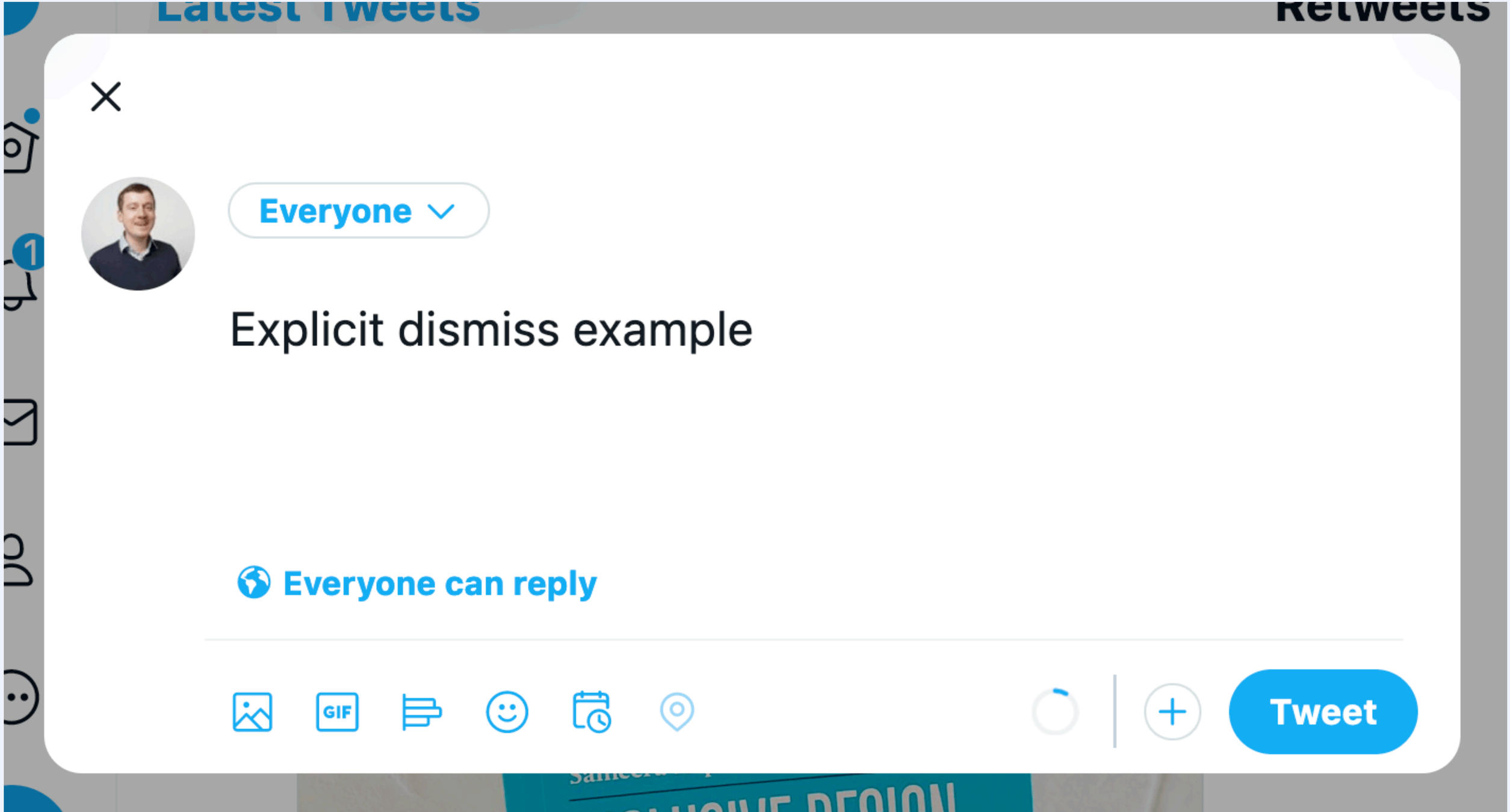


Making an element *modal* is a drastic measure, the user can do nothing else. Use it sparingly!

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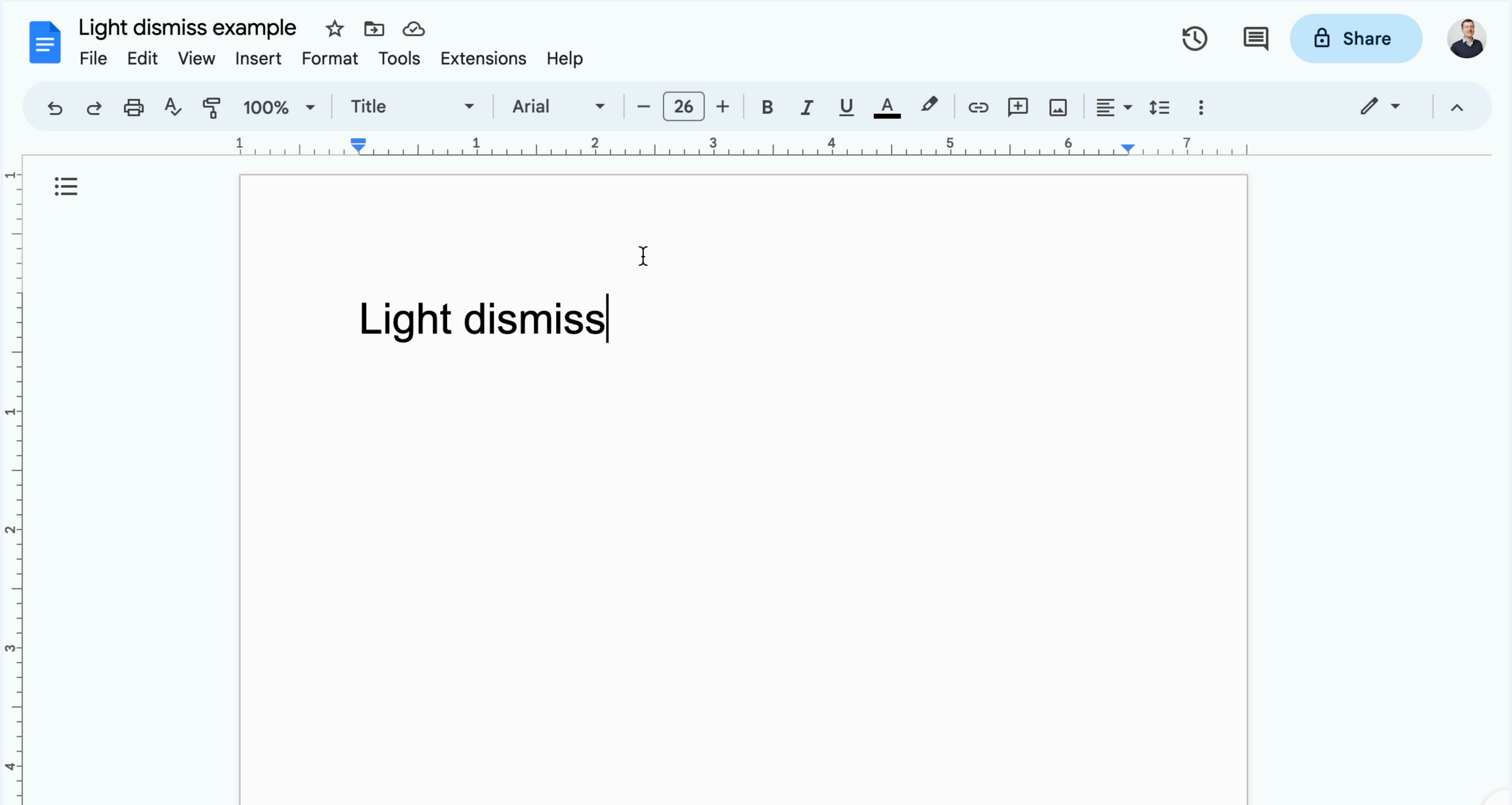
MODAL vs NON-MODAL

LIGHT DISMISS vs EXPLICIT DISMISS


Latest Tweets
Retweets
Everyone
Explicit dismiss example
Everyone can reply
GIF
Tweet

Font chooser: light dismiss

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MODAL vs NON-MODAL

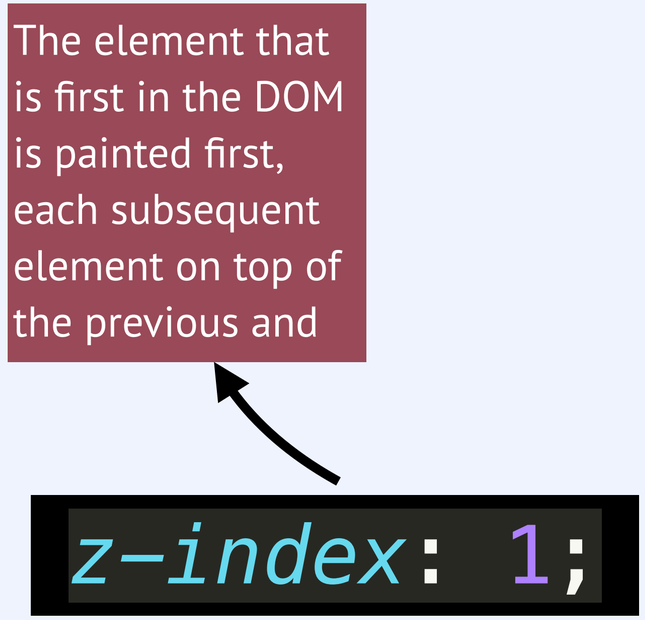
LIGHT DISMISS vs EXPLICIT DISMISS

Z-INDEX vs TOP LAYER

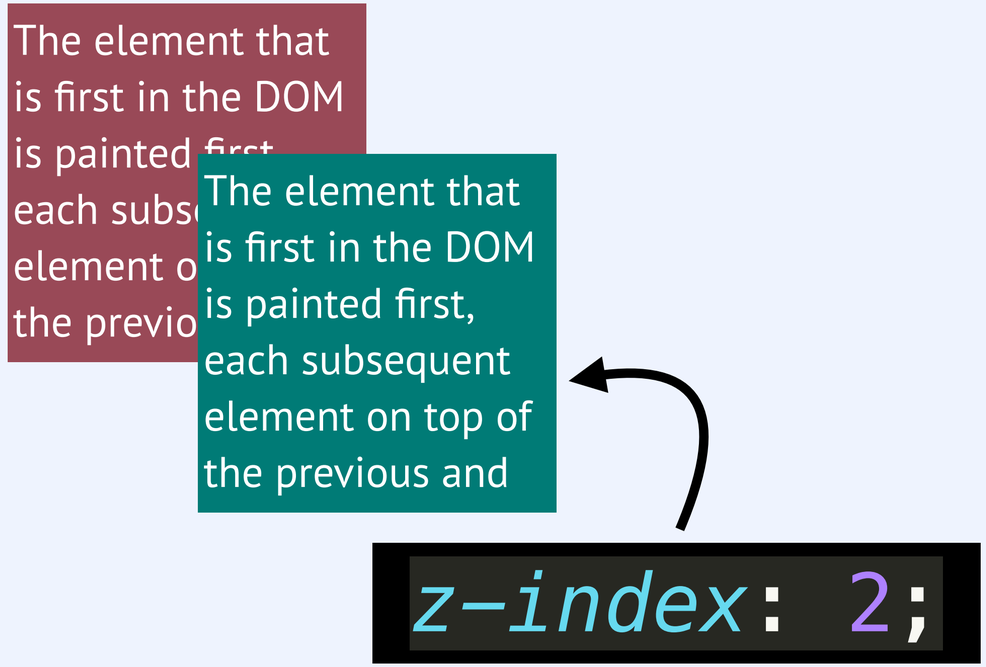
With z-index, you can stack elements on top of each other.

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.

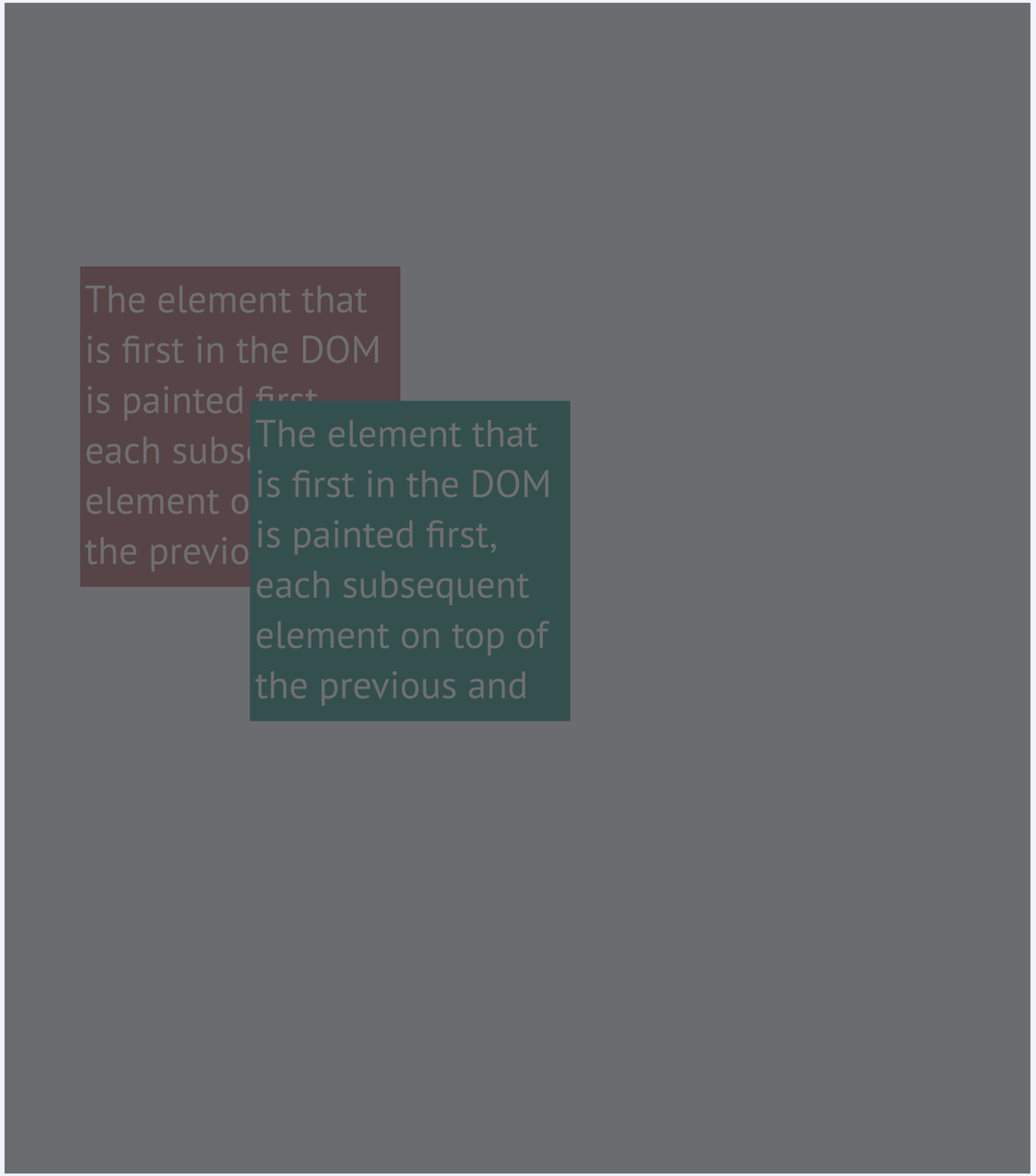


With z-index, you can stack elements on top of each other.



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

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



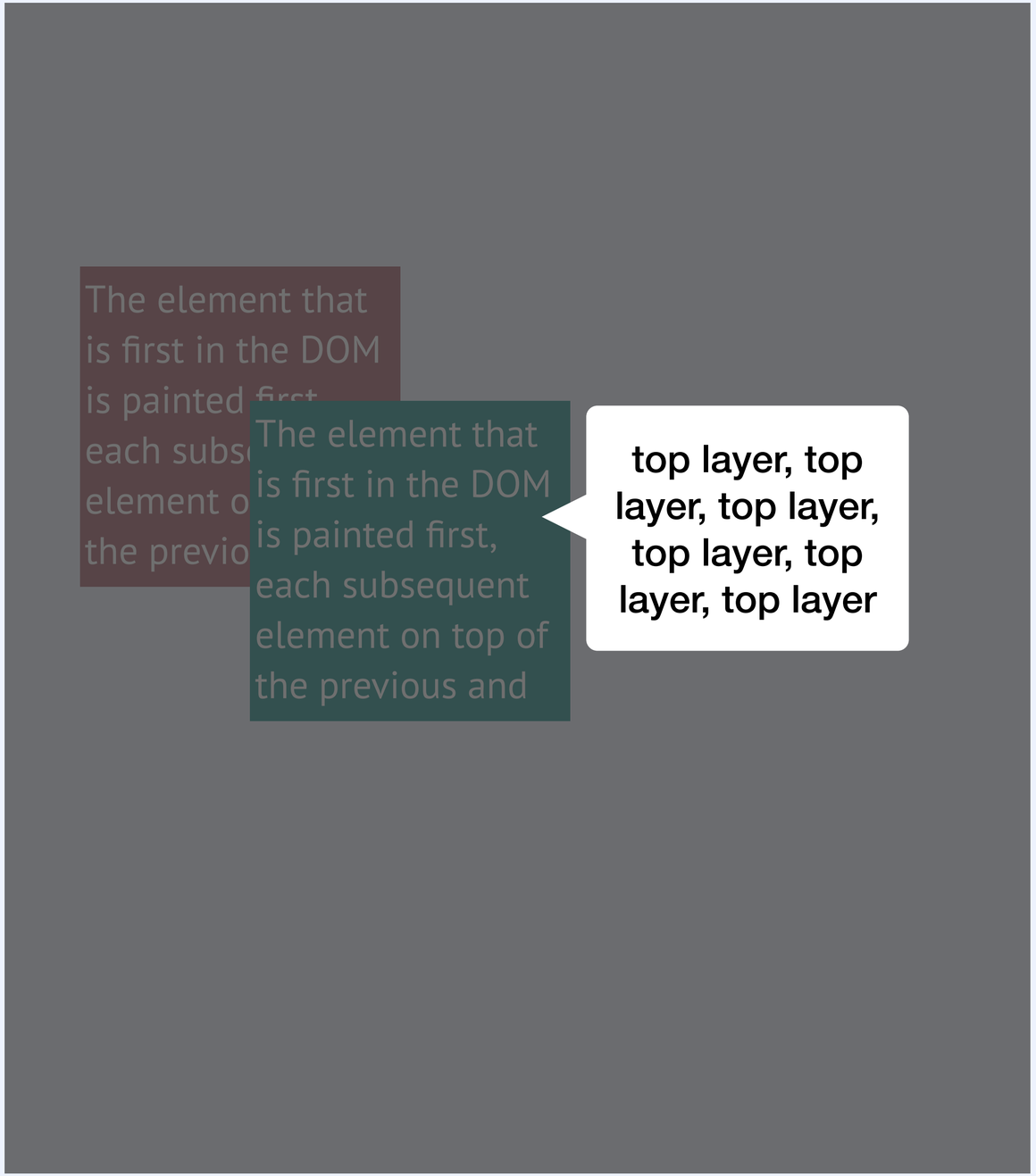
The *top layer* is above everything else, its own layer above the main document

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



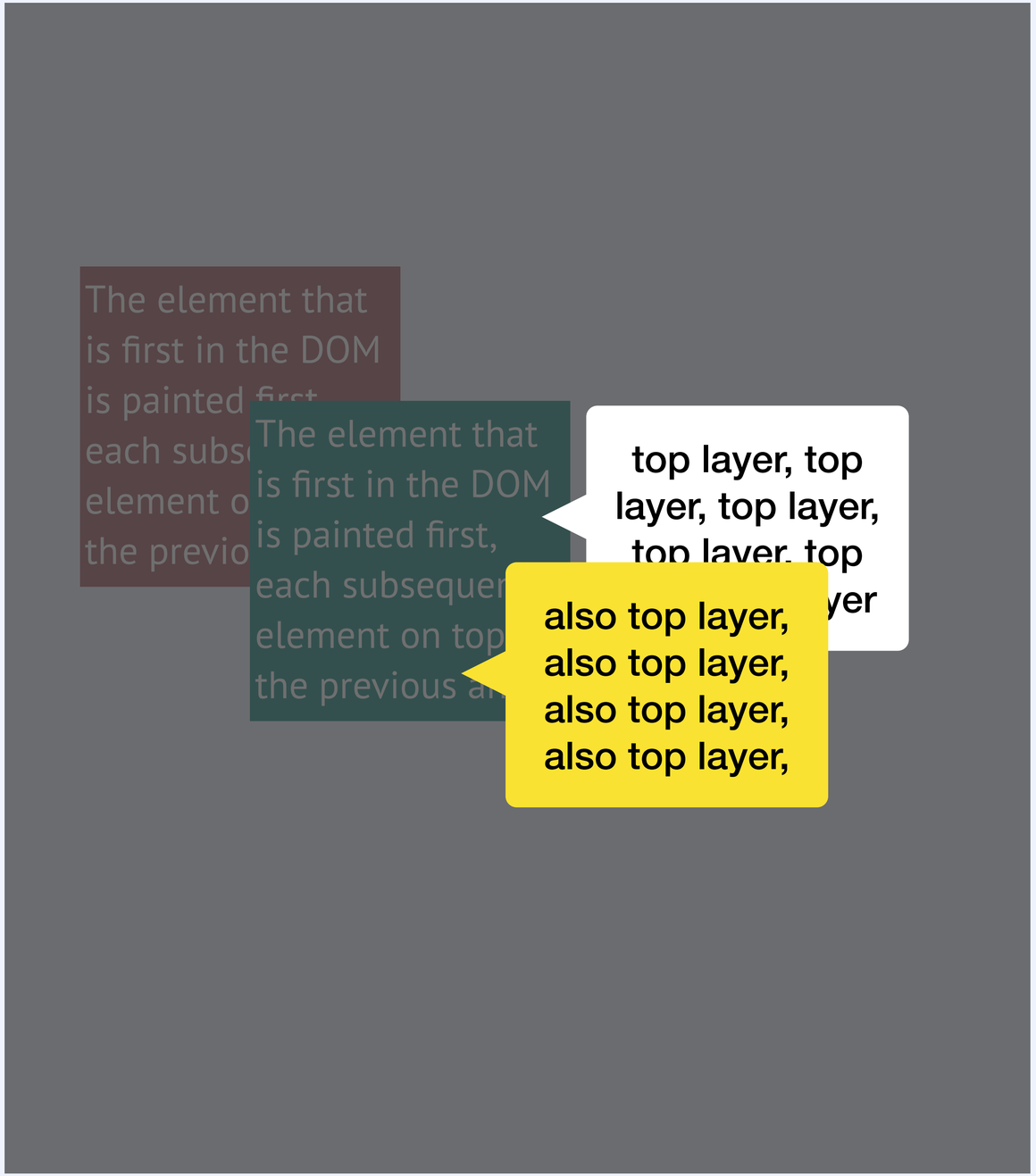
Layered based on order of top layer addition, not z-index

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



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

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



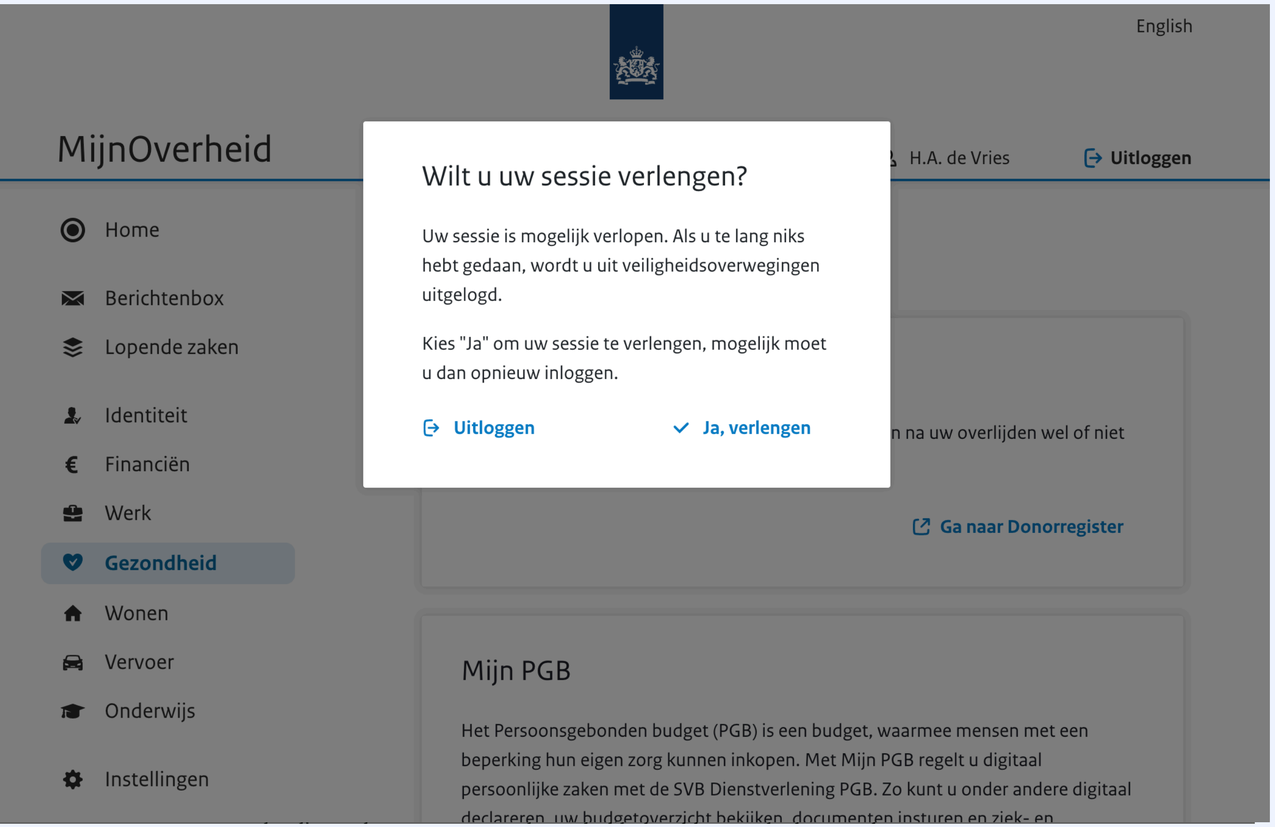
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MODAL vs NON-MODAL

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`)

`fullscreen.spec.whatwg.org/#::backdrop-pseudo-element`

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MODAL vs NON-MODAL

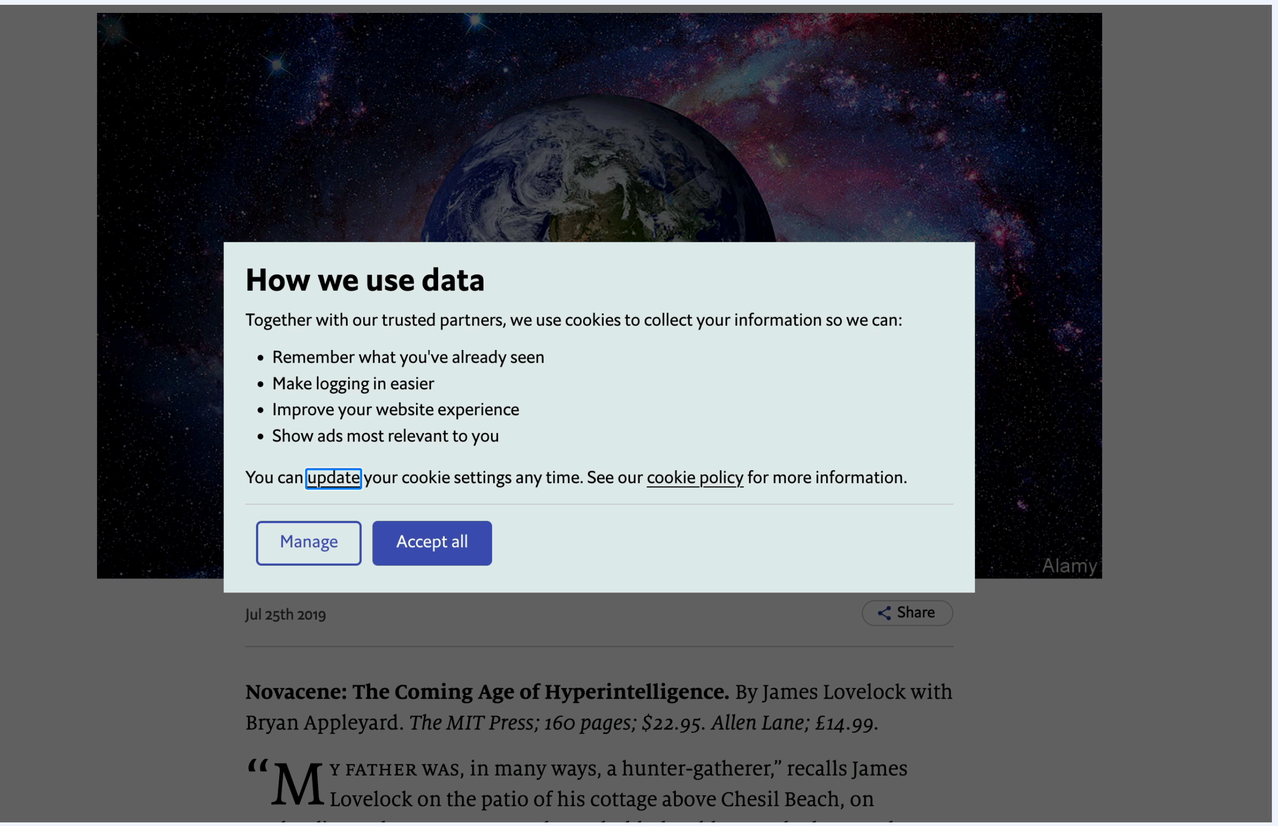
LIGHT DISMISS vs EXPLICIT DISMISS

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.

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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()

LI SS vs EX MISS

Z-INDEX vs TO

popover

BACKDROP

KEYBOARD FOCUS TRAP

MODAL vs NON-MODAL

LIGHT DISMISS vs EXPLICIT DISMISS

popover="auto"

popover="manual"

vs TOP LAYER

any <dialog>

BACKDROP

KEYBOARD FOCUS TRAP

MODAL vs NO

popover

LIG S vs EX SMISS

<dialog>
with show()

<dialog> with
showModal()

Z-INDEX vs TOP LAYER

BACKDROP

KEYBOARD FOCUS TRAP

MODAL vs NO

LIGHT DISMISS vs EX

Z-INDEX vs TO

browser provided
w/ ::backdrop

popover

consider if modal <dialog> not better

<dialog> with showModal()

BACKDROP

KEYBOARD FOCUS TRAP

MODAL vs NO

LIGHT DISMISS vs EX

Z-INDEX vs TO

browser provided
w/ ::backdrop

popover

consider if modal <dialog> not better

<dialog> with showModal()

BACKDROP

KEYBOARD FOCUS TRAP

MODAL vs NON-MODAL

LIGHT DISMISS vs EXPLICIT DISMISS

Z-INDEX vs TO

BACKDR

browser provided

<dialog> with showModal()

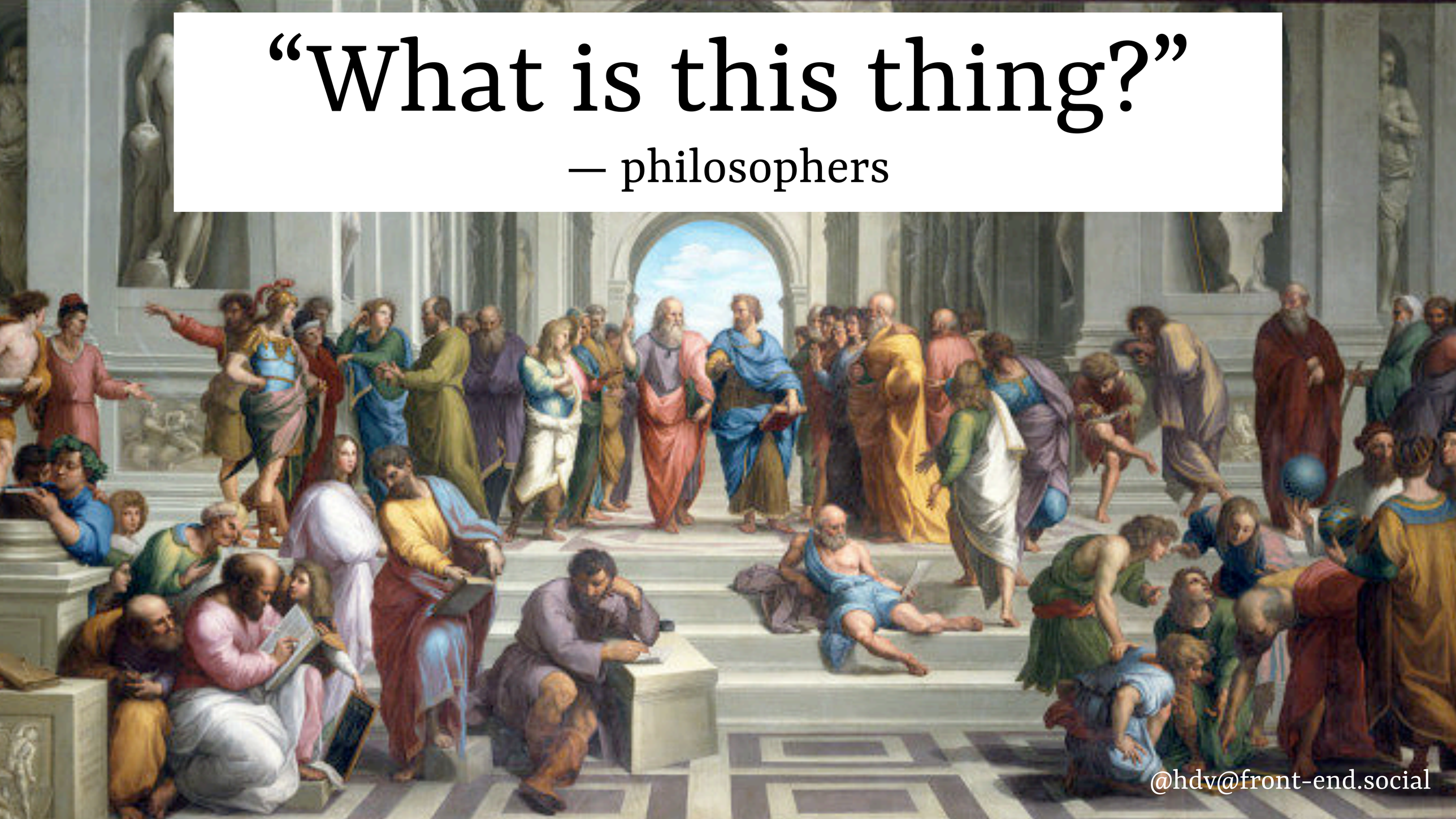
KEYBOARD FOCUS TRAP

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SEMANTICS

“What is this thing?”

— philosophers



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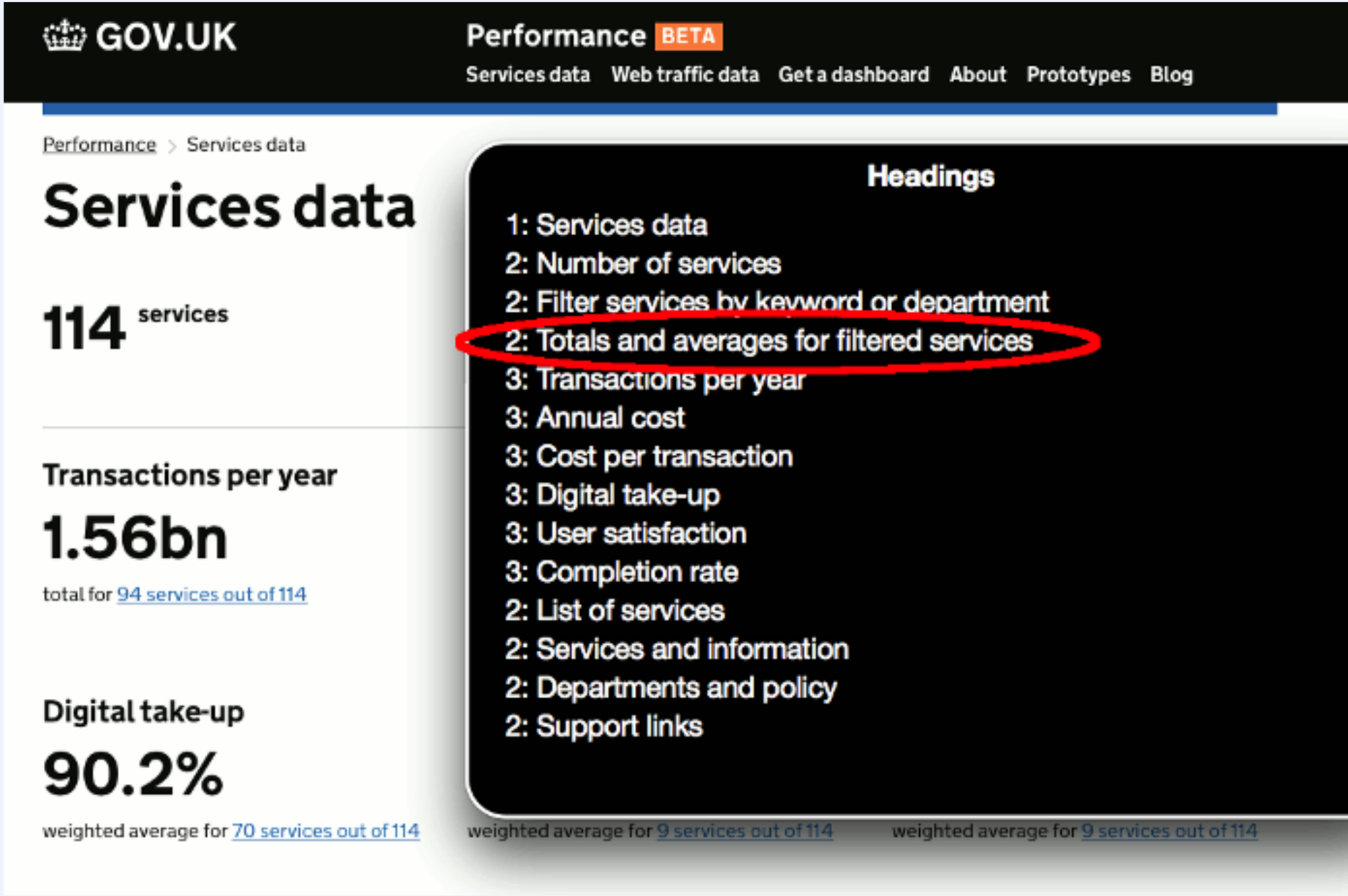

“What is this thing in this page/app?”
—web developers
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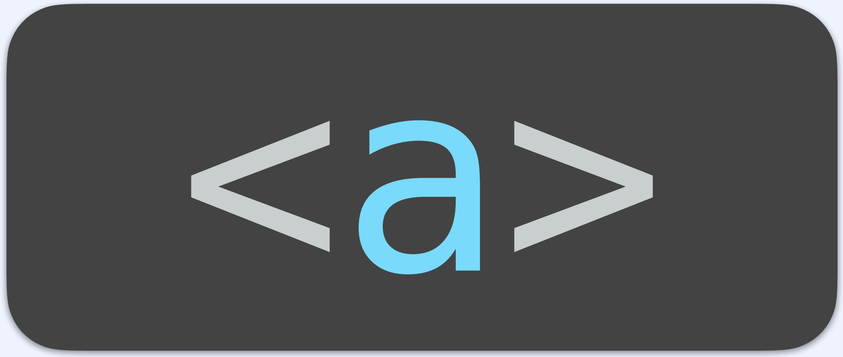


heading

`<h1>`

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
weighted average for 9 services out of 114
weighted average for 9 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



link



list item



dialog



[no role]

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

link

```
<div popover>
```

[no role]

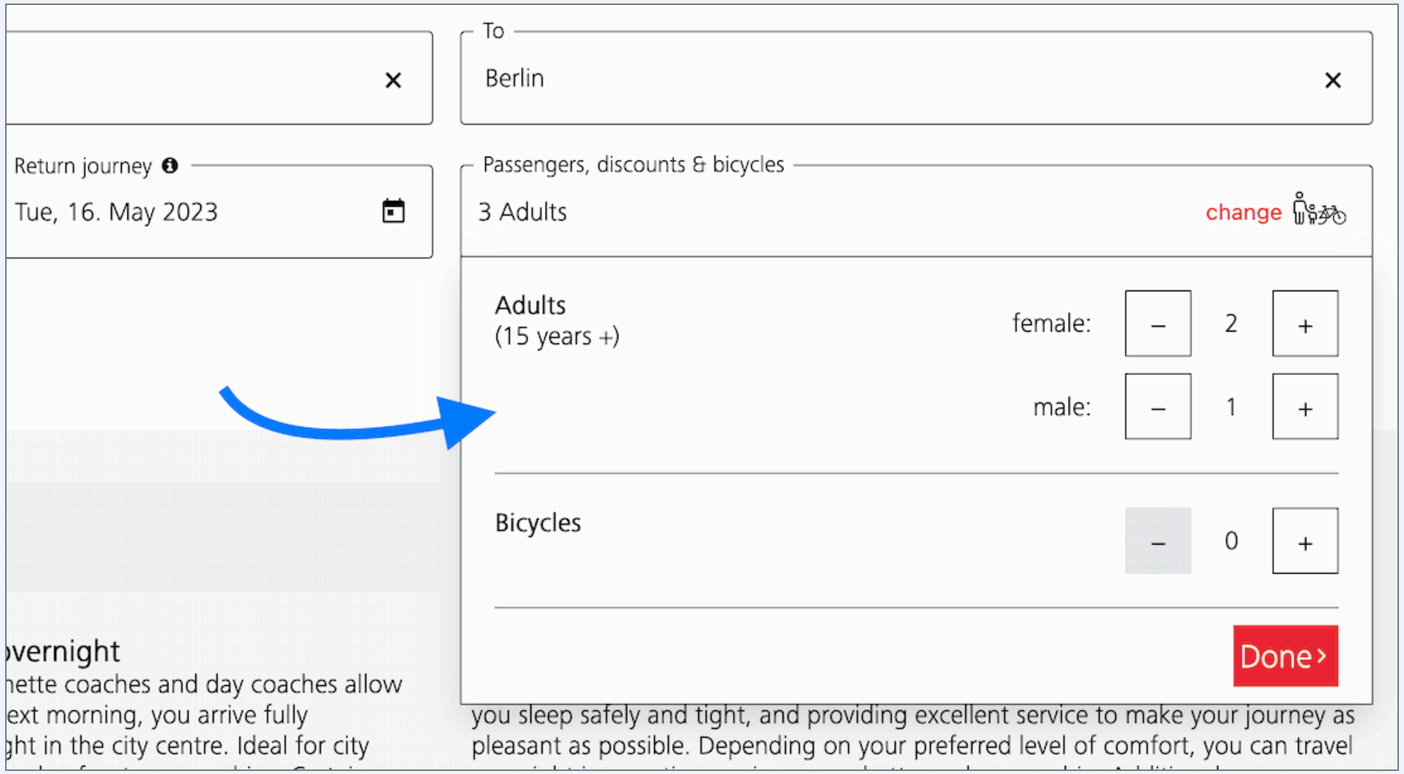
The popover attribute adds *behaviour*, not *semantics*

(you choose a role based on the situation)

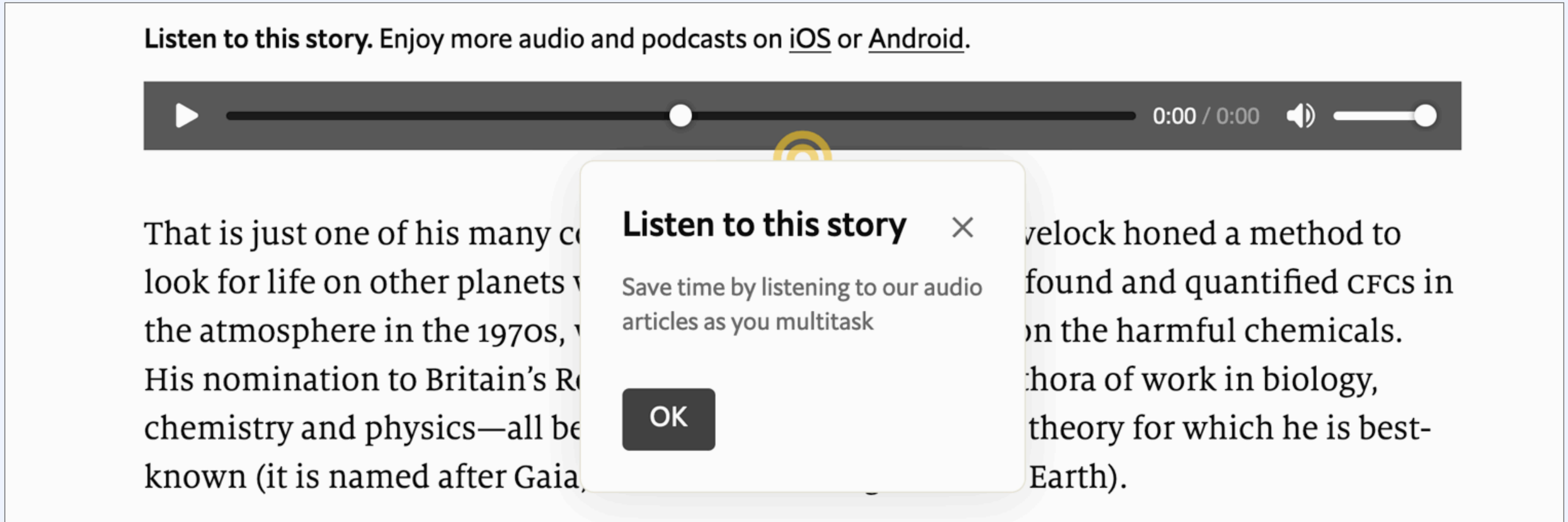
DIALOGS

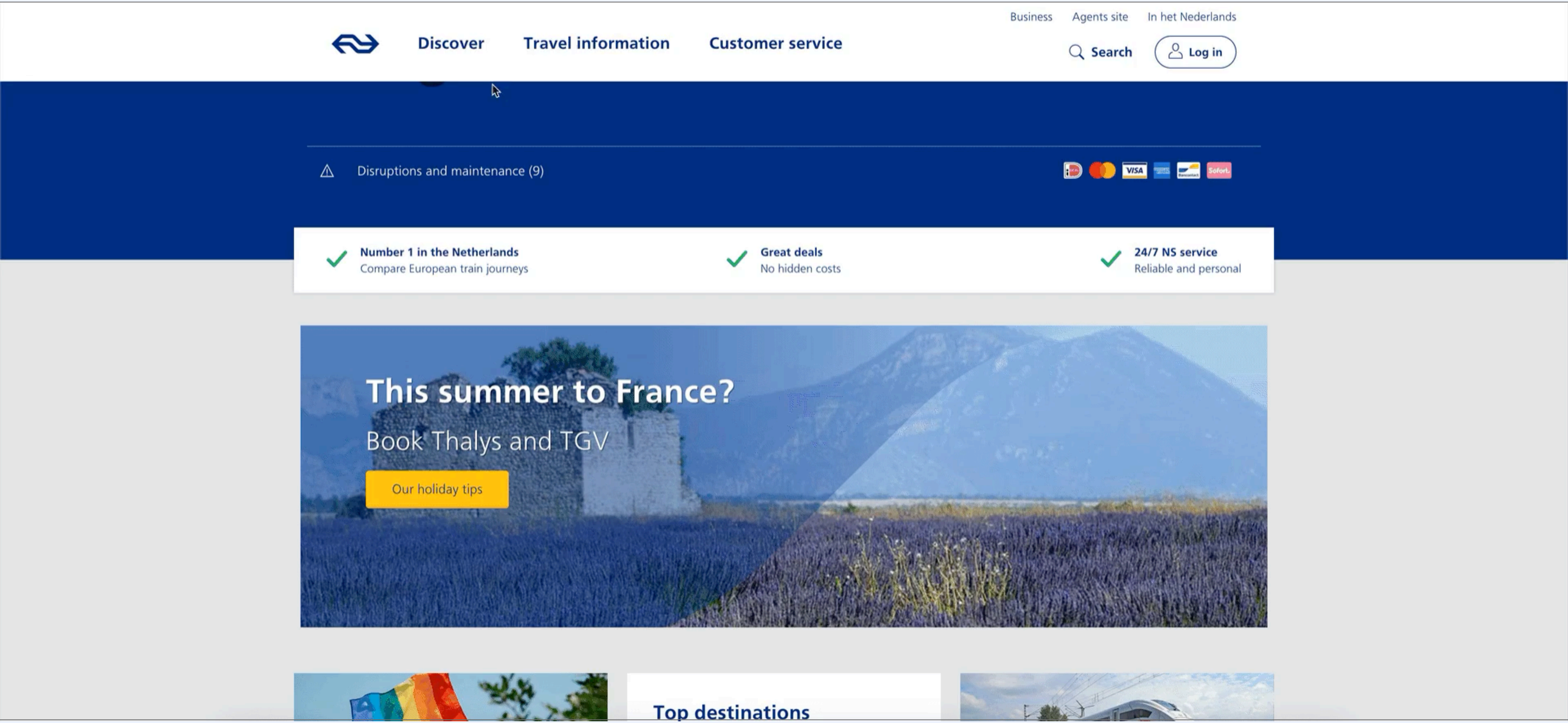
`<dialog>` or `role="dialog"`

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



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

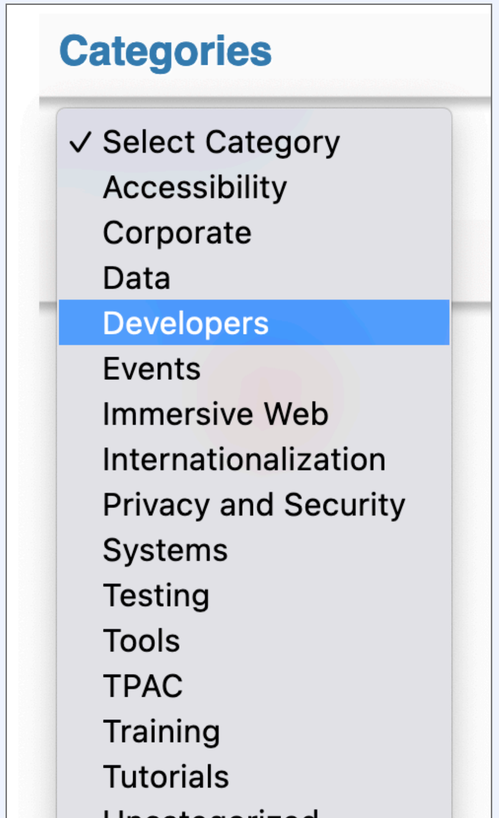


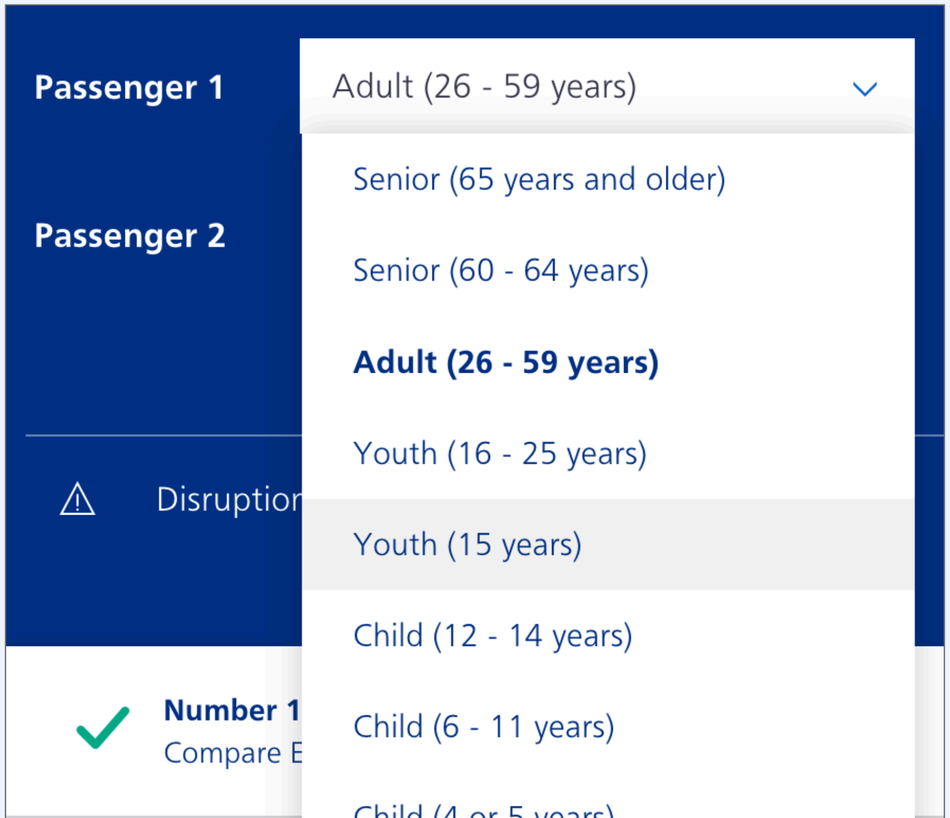

Business
Agents site
In het Nederlands
Discover
Travel information
Customer service
Search
Log in
Disruptions and maintenance (9)
Number 1 in the Netherlands
Compare European train journeys
Great deals
No hidden costs
24/7 NS service
Reliable and personal
This summer to France?
Book Thalys and TGV
Our holiday tips
Top destinations

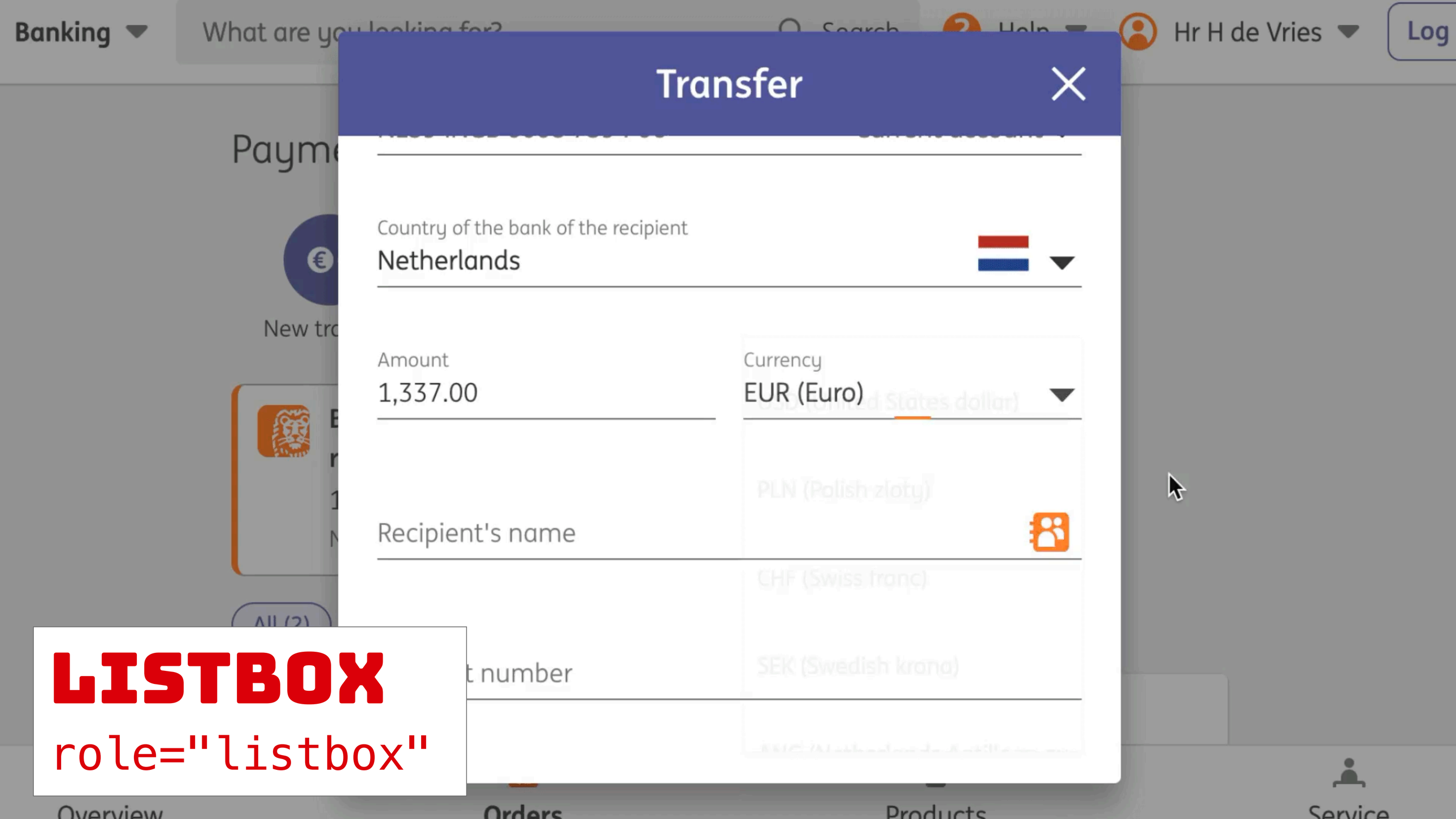
LISTBOX

`role="listbox"`

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

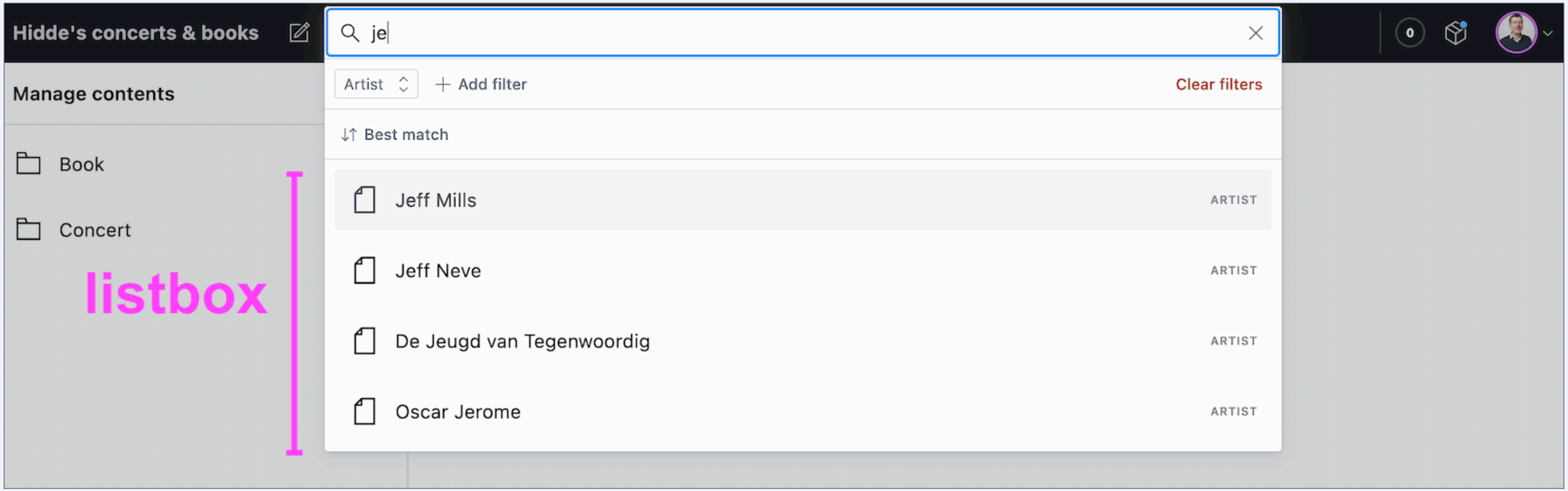





Banking
Hr H de Vries
Log
Transfer
Country of the bank of the recipient
Netherlands
Amount
1,337.00
Currency
EUR (Euro)
Recipient's name
LISTBOX
role="listbox"

LISTBOX

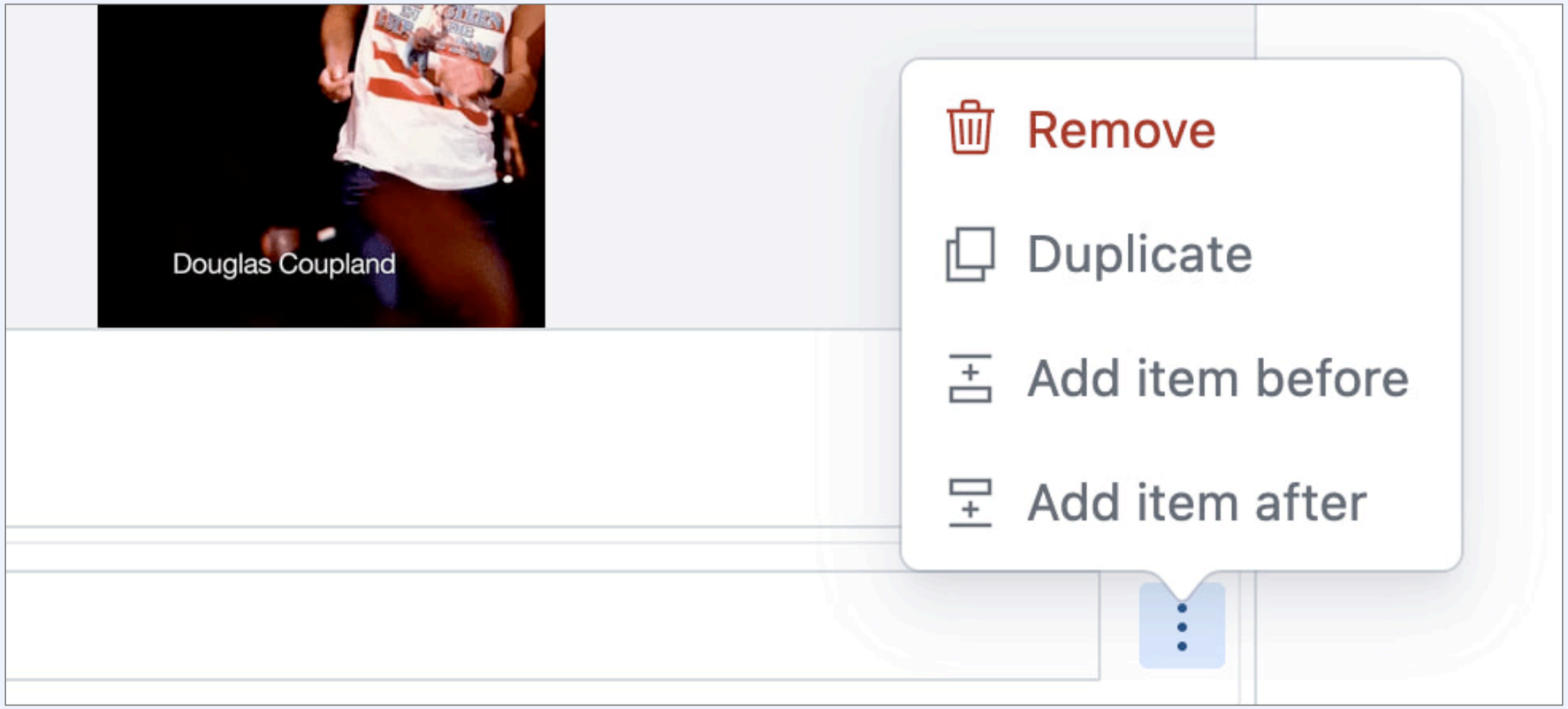
`role="listbox"`



MENUS

`role="menu"`

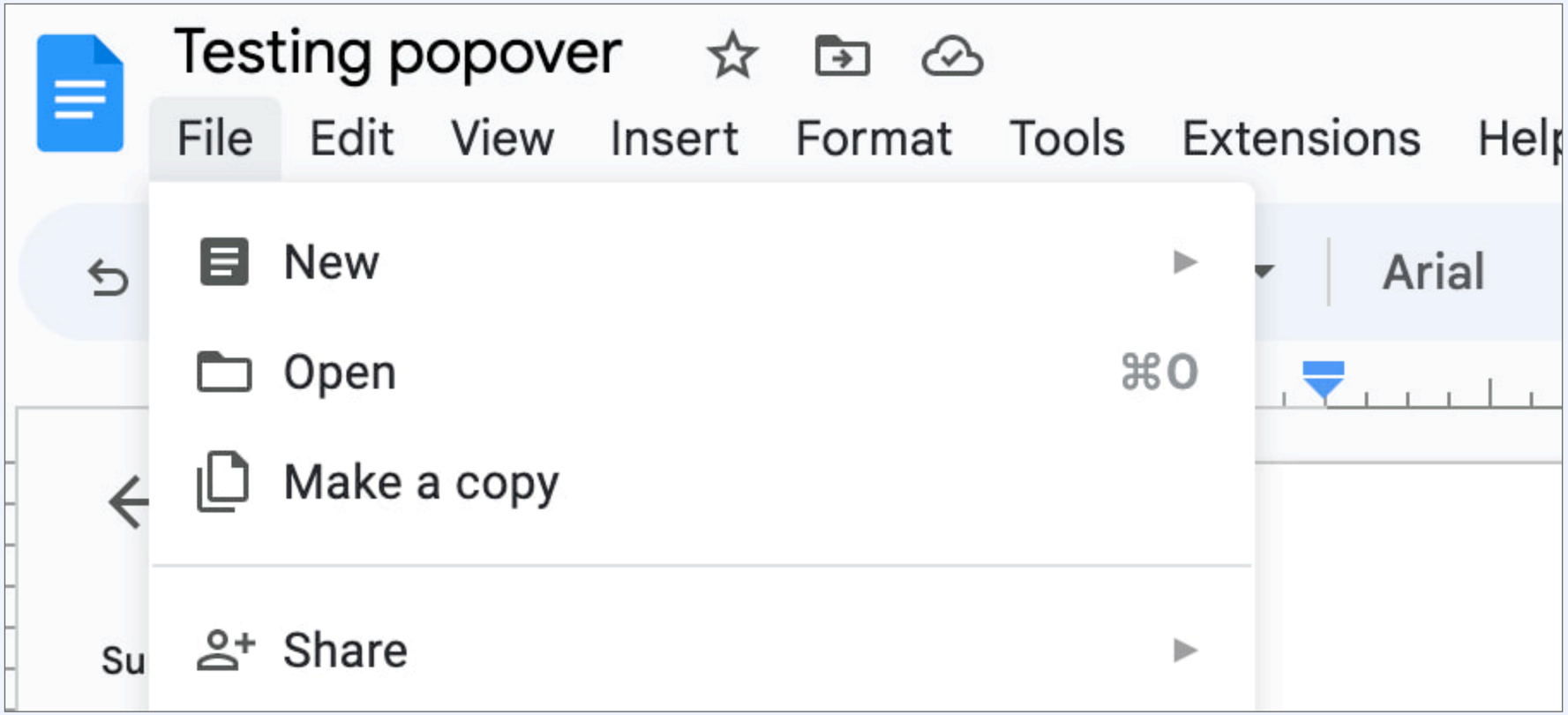
For components that offer the user a list of choices that are actions (like in an application).



MENUS

`role="menu"`

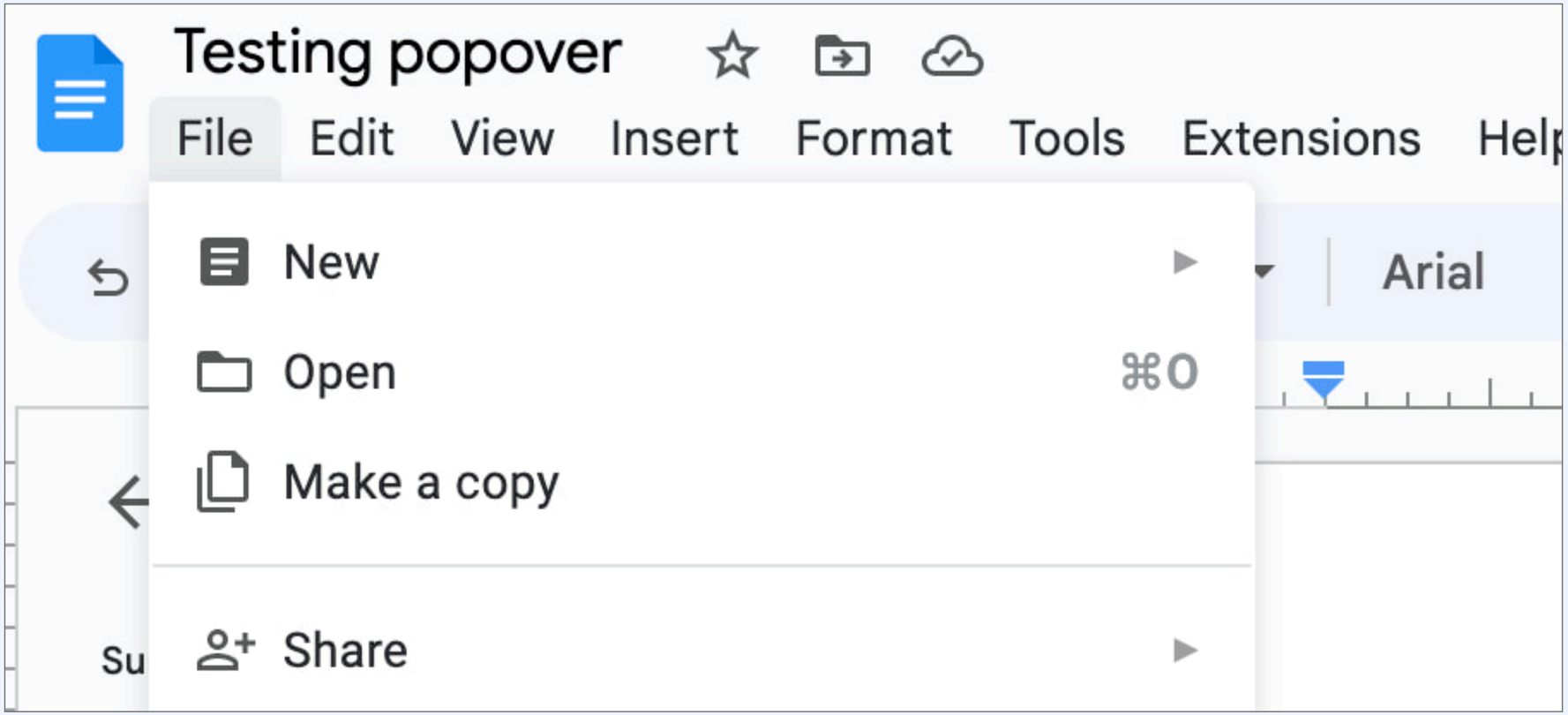
For components that offer the user a list of choices that are actions (like in an application).



MENUS

`role="menu"`

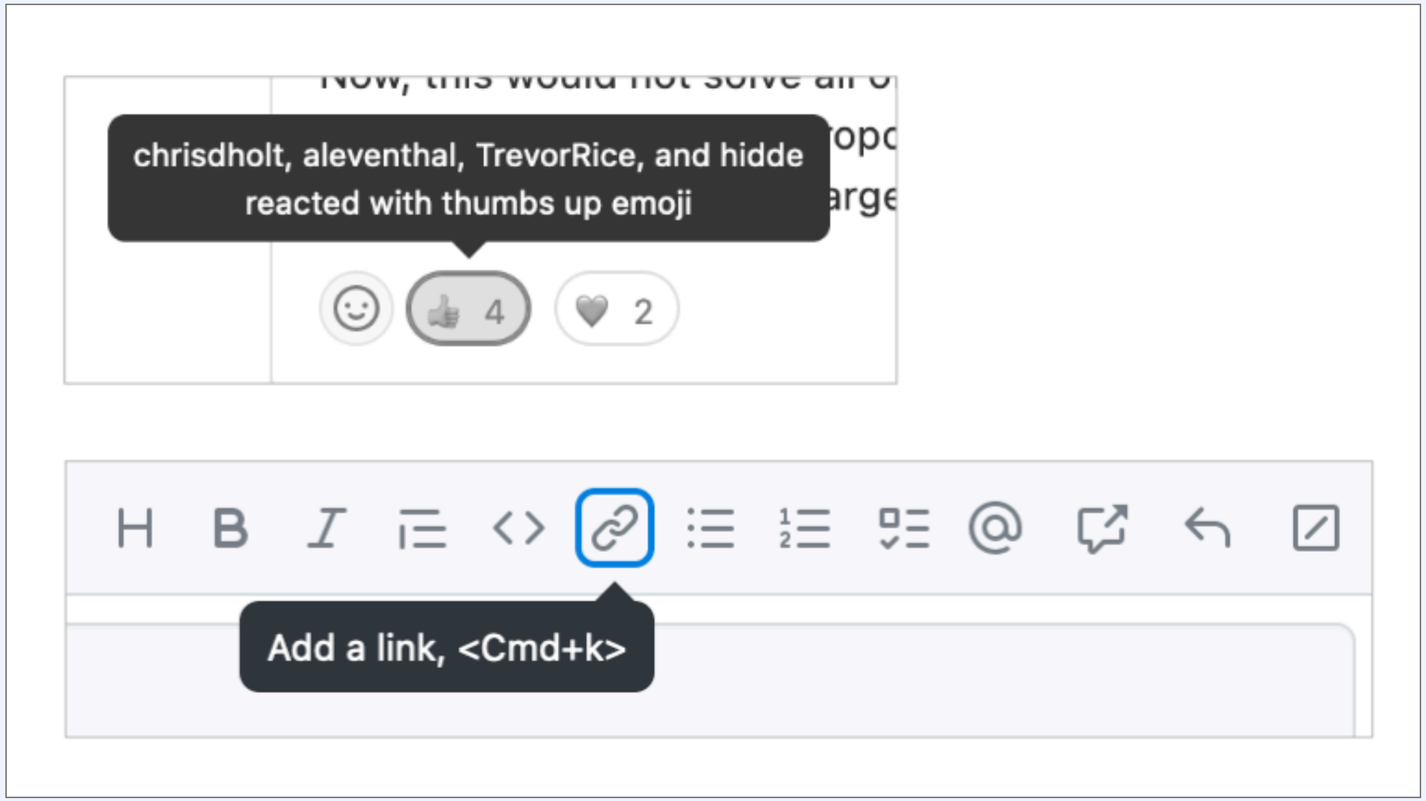
For components that offer the user a list of choices that are actions (like in an *application*).



TOOLTIPS

role="tooltip"

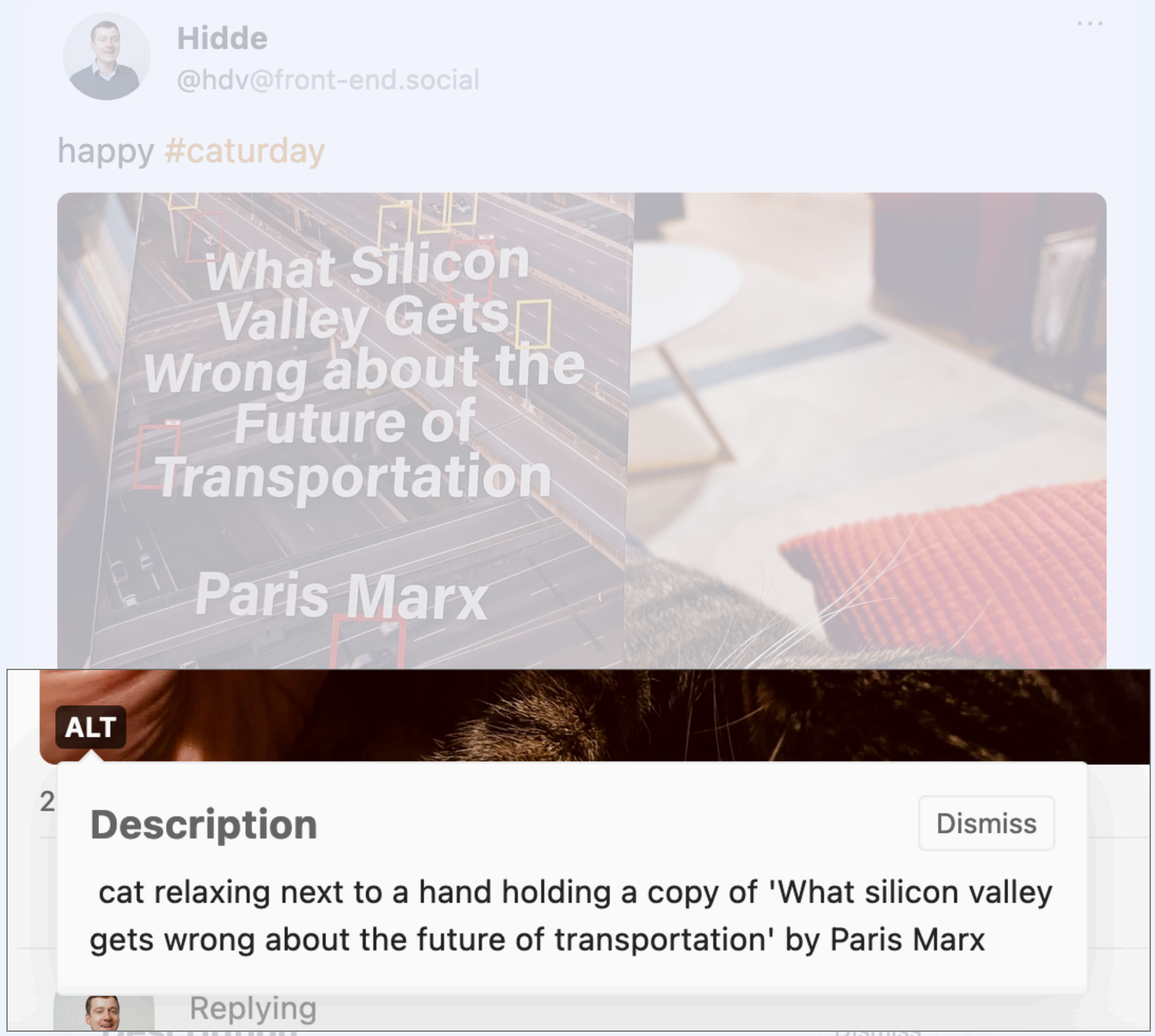
Plain text suggestions



TOOLTIPS

`role="dialog"`

More than plain text, maybe better as toggletips



DIALOGS

<dialog> or
role="dialog"

TOOLTIPS

role="tooltip"

role="dialog"

MENUS

role="menu"

SEMANTICS

`<dialog>`	dialog (implicit)
`popover`	it depends. You choose an apt role, could be **dialog**, **listbox**, **menu** or **tooltip**

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POSITIONING

`<dialog>` with `showModal()`

`popover`

Both are *centered*
by default

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log.hidde.blog

localhost

HIDDE'S LOG · live music

(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

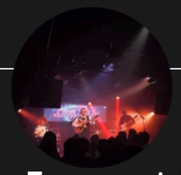


Roosbeef in Groningen ★★★★★

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



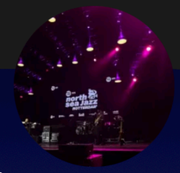
Kassa Overall in Rotterdam ★★★★★

Gregory Porter in Rotterdam ★★★

on 2022-07-08 at Ahoy

Gary Bartz & Maisha in Rotterdam ★★★★

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



Lianne La in Rotterdam

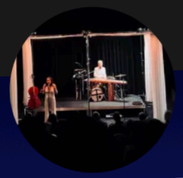
localhost

HIDDE'S LOG · live music

(Work in progress) Home

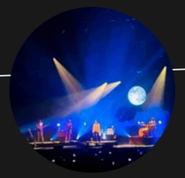
Froukje in Zwolle ★★★★

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 Rotte ★★★

on 2023-03-10 at Lantaren Venster

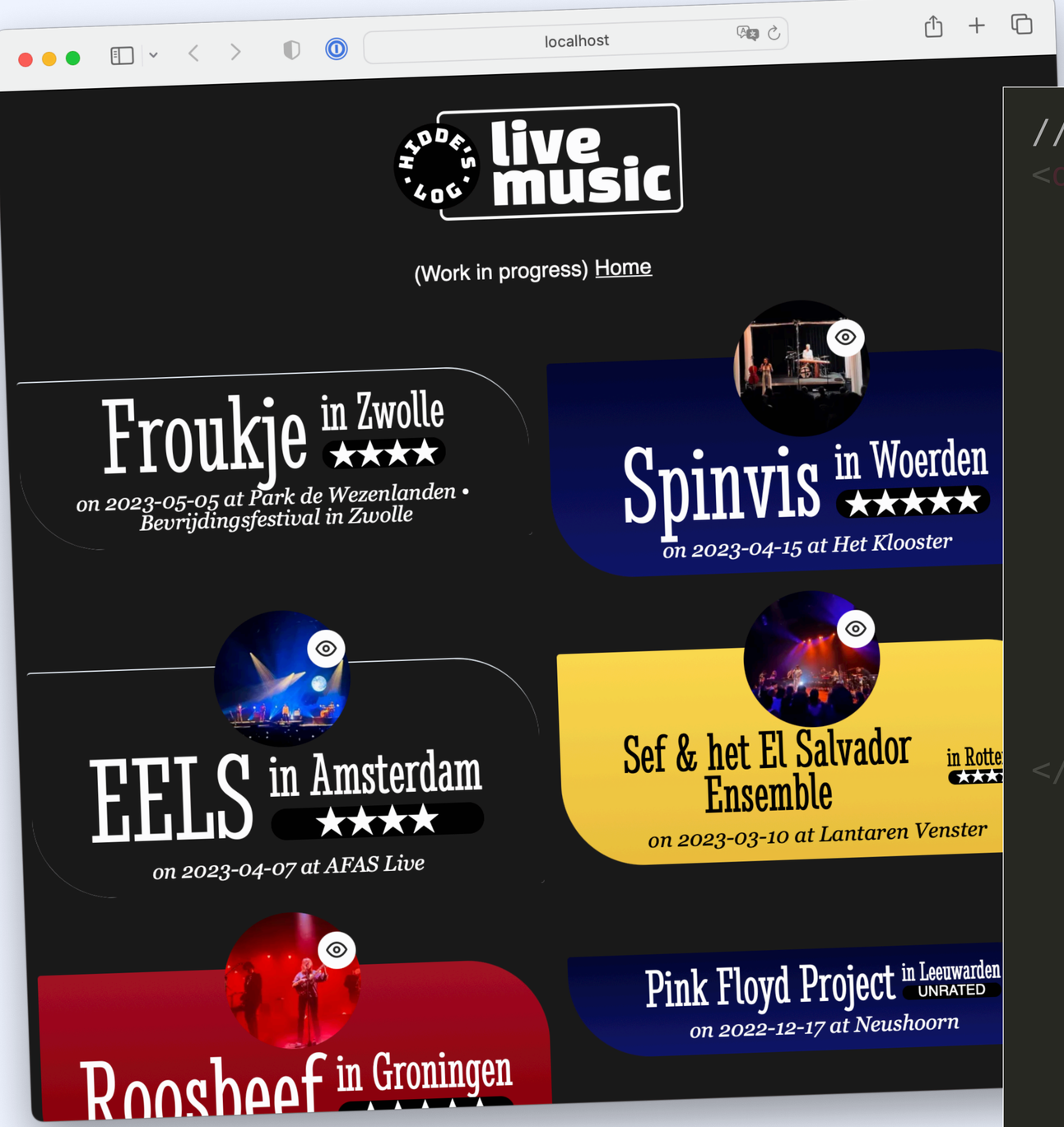


Roosbeef in Groningen ★★★★

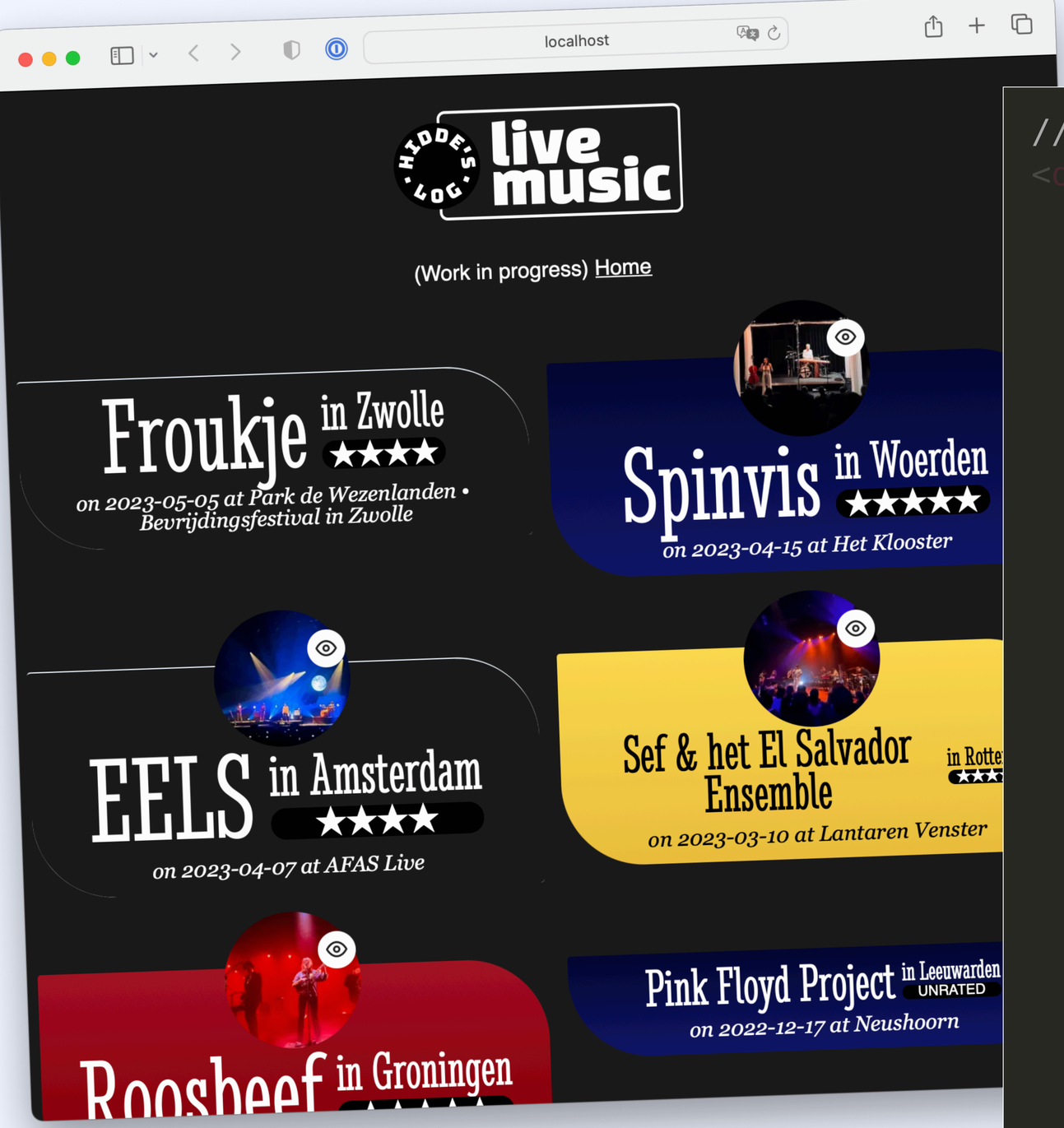
Pink Floyd Project in Leeuwarden UNRATED

on 2022-12-17 at Neushoorn

```njk
// concert-list.njk
<ol>
  {% for concert in concerts %}
  <li>
    ...
  </li>
  {% endfor %}
</ol>
```




```njk
// 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>
```

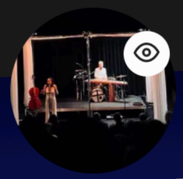



```njk
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<ol>
  {% for concert in concerts %}
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    ...
    {% if concert.images %}
    <button
      type="button"
      data-dialogtarget="{{ dialogID }}"
      aria-label="Details for {{ concert.info }}"
     <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>
```

localhost

Hidde's Log · live music

(Work in progress) Home

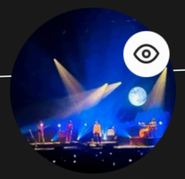


Froukje in Zwolle ★★★★

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

Spinvis in Woerden ★★★★★

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EELS in Amsterdam ★★★★

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Sef & het El Salvador Ensemble in Rotte ★★★

on 2023-03-10 at Lantaren Venster



Roosbeef in Groningen

Pink Floyd Project in Leeuwarden UNRATED

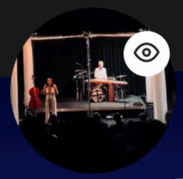
on 2022-12-17 at Neushoorn

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

localhost

HIDDE'S LOG · live music

(Work in progress) Home

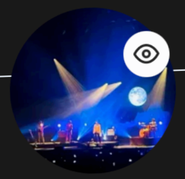


Froukje in Zwolle ★★★★

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

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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')}`);
}
```

localhost

HIDDE'S LOG · live music

(Work in progress) Home



Froukje in Zwolle ★★★★

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

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on 2023-04-15 at Het Klooster



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

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

Hidde's list of live music

localhost:8080/live-music/

ROBERT GLASPER IN MENLO PARK



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-la
<dialog id="dialog-2022-02-25-1410" style="padding: 0;" open> top-layer (1) == $0
  <div style="padding: 1em;">
    <button type="button" data-dialogclose="dialog-2022-02-25-1410" aria-label="Close"> … </bu
    <h1> Robert Glasper in Menlo Park </h1>
    <img src="https://cdn.sanity.io/images/e86znw0z/production/959d750…-2306x1293.jpg?w=900&au
    al piano and talking into a microphone, his MC, a bass player and a drummer" lazyload="tru
  </div>
  ::backdrop
 </dialog>
</li>
<li class="concert-list__item"> … </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 {                                              user agent stylesheet
  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] {                                              user agent stylesheet
  display: block;
}
dialog {                                                    user agent stylesheet
  display: none;
```

Hidde's list of live music

localhost:8080/live-music/

ROBERT GLASPER IN MENLO PARK



DevTools - localhost:8080/live-music/

Welcome | Elements

```
"concert-list__img">
<strong class="concert-list__concert longname ">…</strong> flex
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<dialog id="dialog-2022-02-25-1410" style="padding: 0;" open> top-layer (1) == $0
<div style="padding: 1em;">
<button ty
<h1> Robert
<img src="h
al piano ar
</div>
::backdrop
</dialog>
</li>
<li class="conce
<li class="concert-list__item">…</li> flex
```

target="dialog-2022-02-25-141

open> top-layer (1) == $0

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 {                                          user agent stylesheet
  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] {                                          user agent stylesheet
  display: block;
}
dialog {                                                user agent stylesheet
  display: none;
```

Hidde's list of live music

localhost:8080/live-music/

ROBERT GLASPER IN MENLO PARK



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-la
<dialog id="dialog-2022-02-25-1410" style="padding: 0;" open> top-layer (1) == $0
<div style="padding: 1em;">
<button type="button" data-dialogclose="dialog-2022-02-25-1410" aria-label="Close"> ... </bu
<h1> Robert G
<img src="htt
2306x1293.jpg?w=900&au
al piano and
drummer" lazyload="tru
</div>
::backdrop
</dialog>
</li>
<li class="concert
<li class="concert
```

```
</div>
::backdrop
</dialog>
```

html body ol.conce

Styles | Computed | Layout | Event Listeners | DOM Breakpoints | Properties | Accessibility

Filter :hov .cls

```
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  overlay: auto !important;
  overflow: auto;
}
dialog[open] {                                          user agent stylesheet
  display: block;
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```

Hidde's list of live music

localhost:8080/live-music/

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-2022-02-25-141
<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>
<img src="https://cdn.sanity.io/images/e86znw0z/production/959d750…-2306x1293.jpg
al piano and talking into a microphone, his MC, a bass player and a drummer" lazy
</div>
::backdrop == $0
</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

```
dialog::backdrop {                                              (index):52
  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);
```

Hidde's list of live music

localhost:8080/live-music/

ROBERT GLASPER IN MENLO PARK



DevTools - localhost:8080/live-music/

Elements

```
<strong class="concert-list__concert longname "> … </strong> flex
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</div>
```

```
dialog::backdrop {
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ackdrop

```
dialog::backdrop {                                              (index):52
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}
```

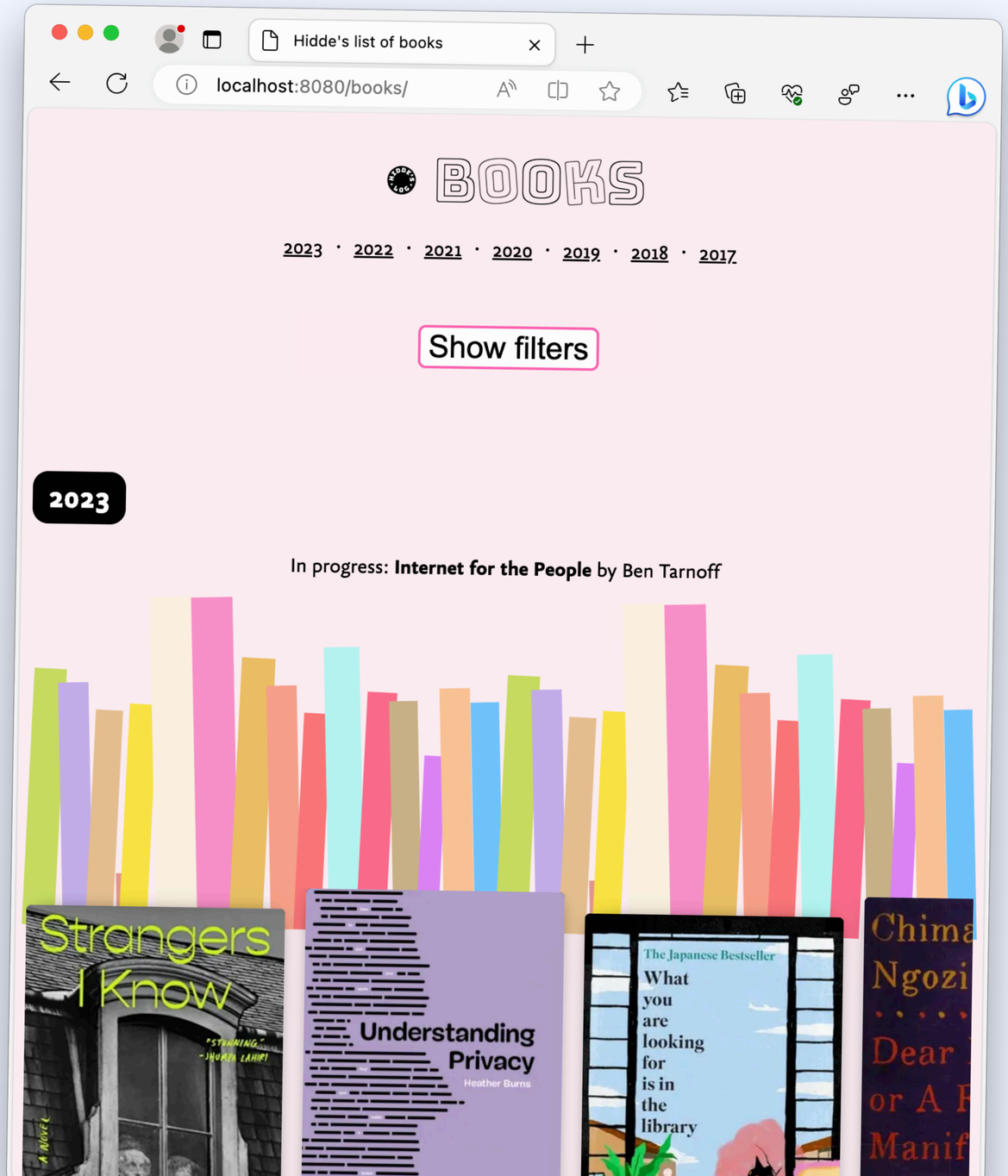
<dialog>

✅ showModal()

popover

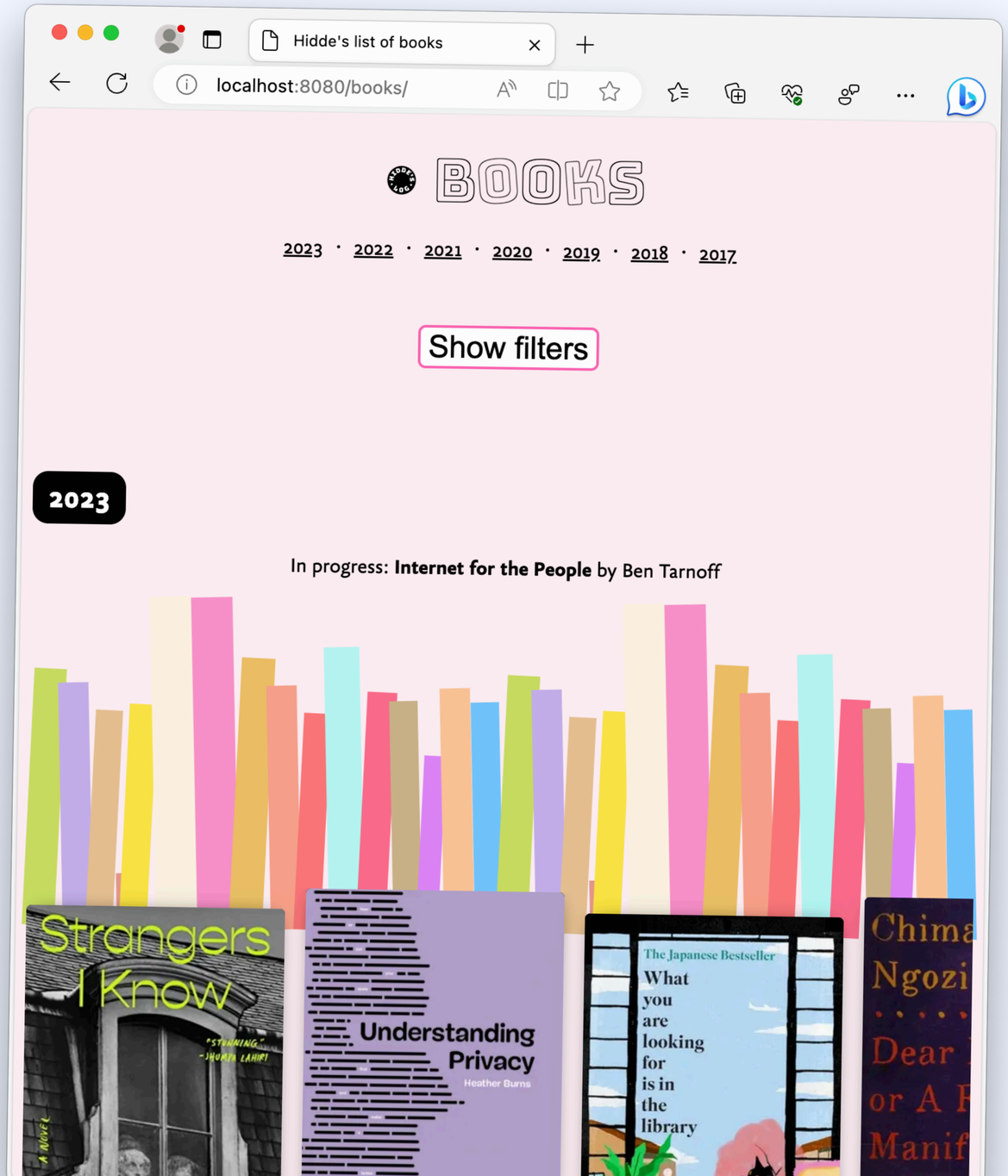
Both are *centered* by default

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



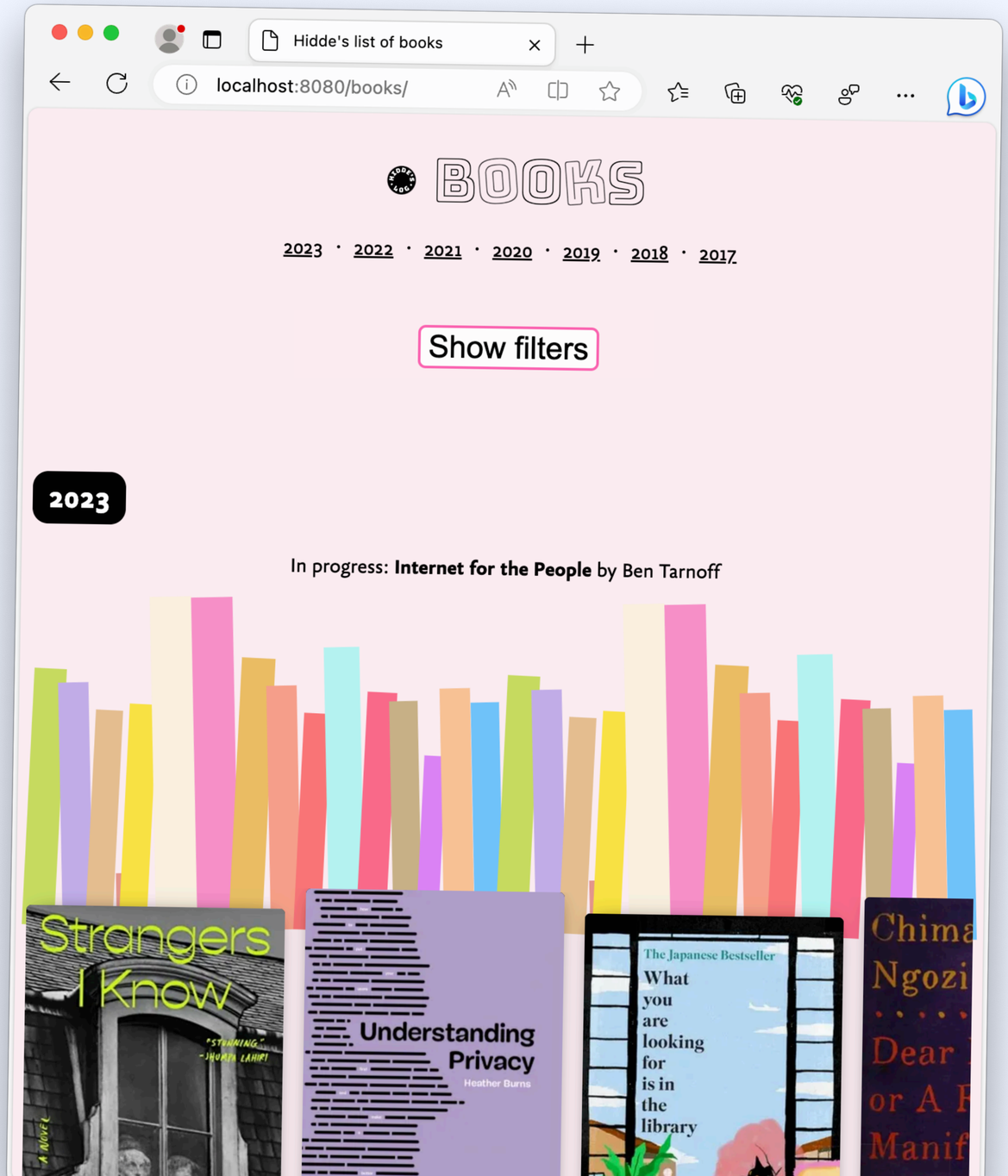
```
// book-list.njk
…
<button type="button" popovertarget="filters">
  Toggle filters
</button>

<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>
…
```



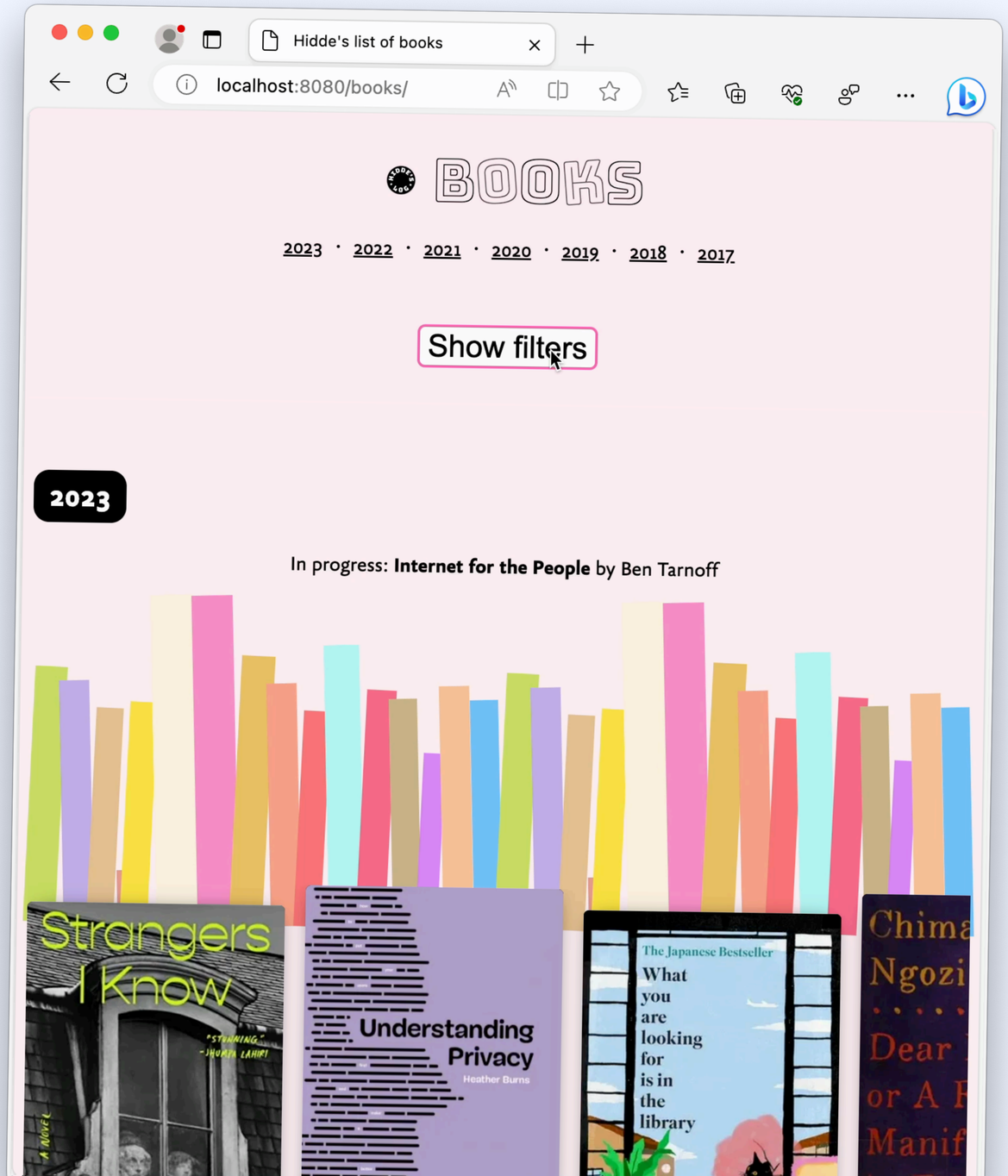
```
// book-list.njk
…
<button type="button" popovertarget="filters">
  Show filters
</button>

<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>
…
```



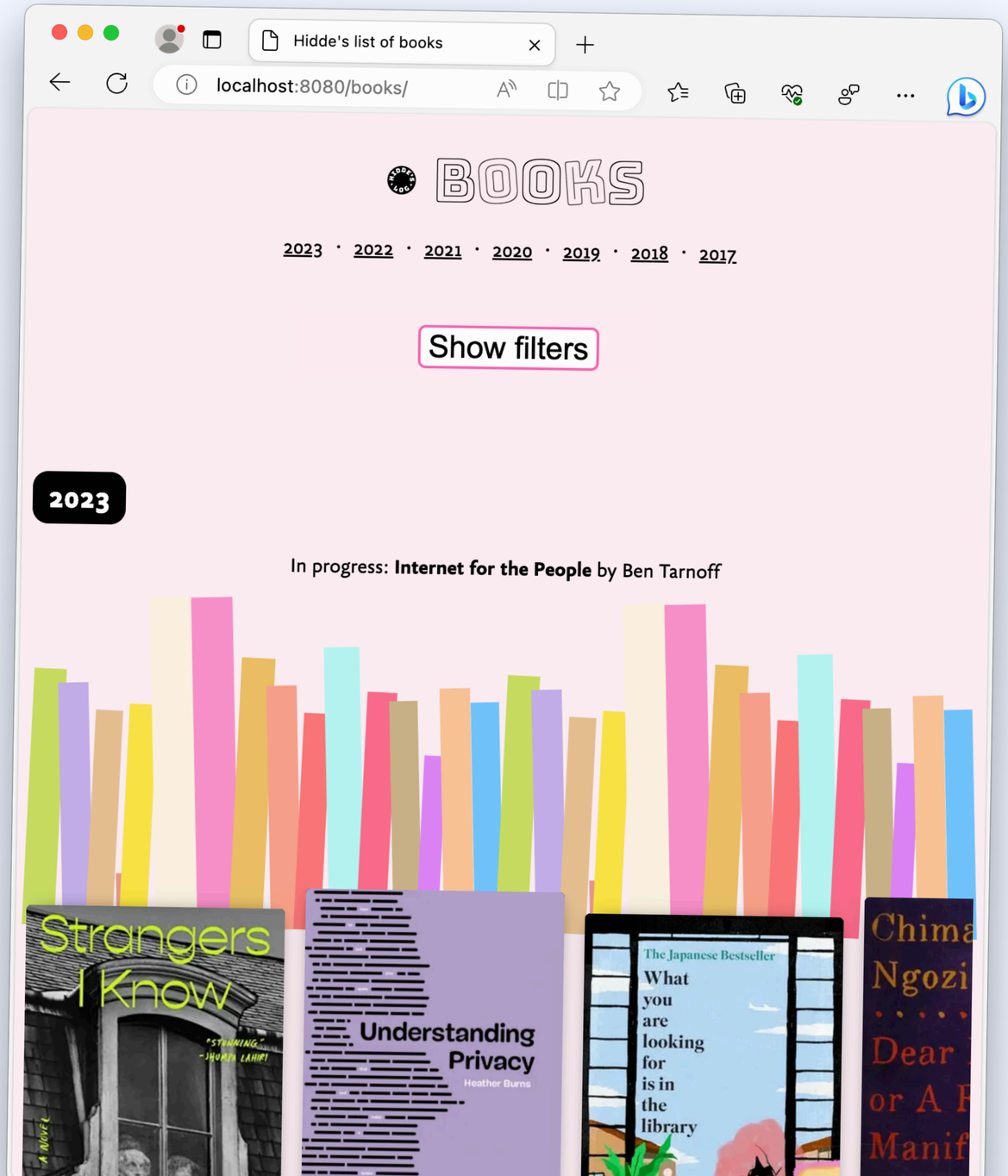
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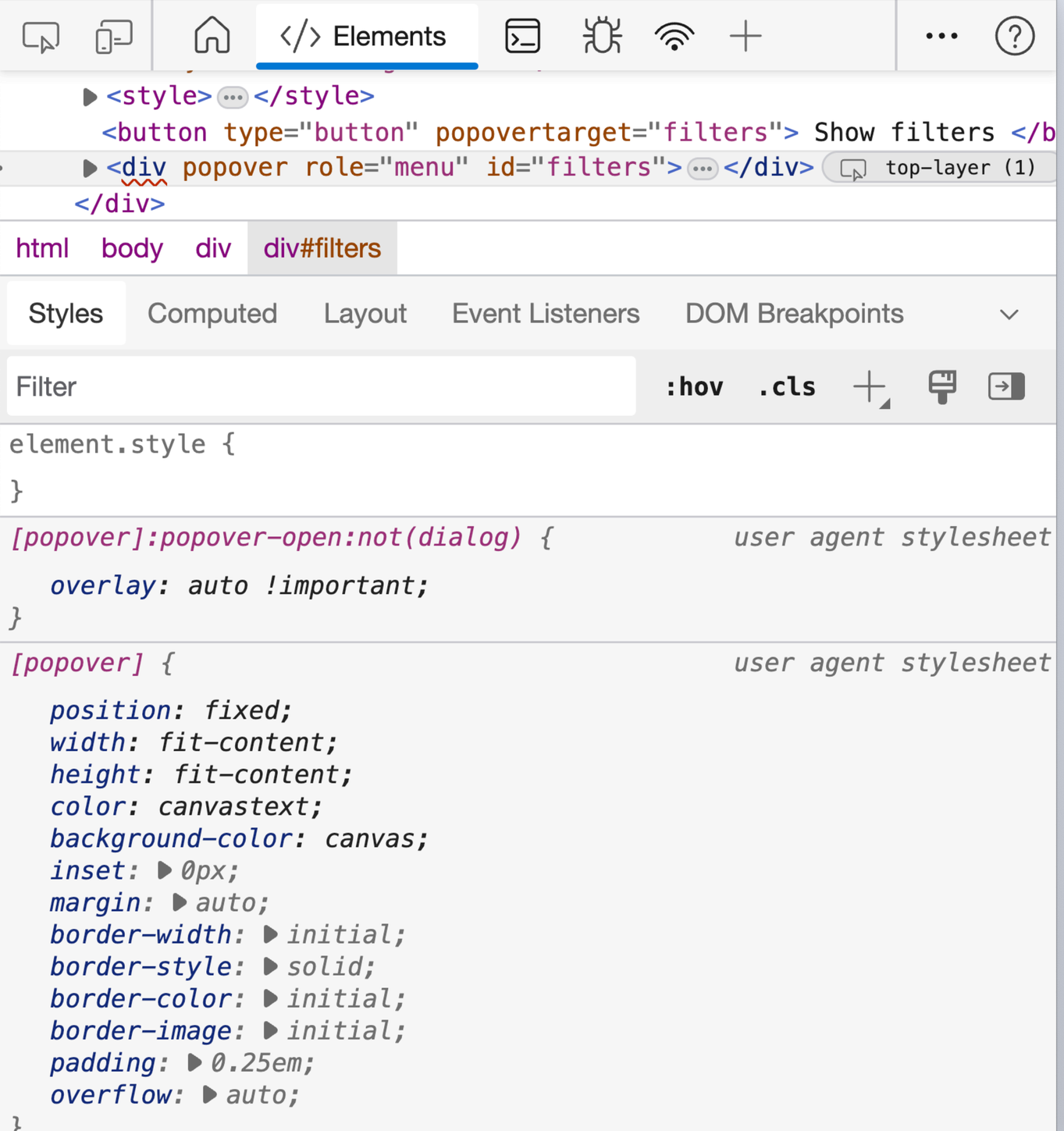
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  </button>
</div>
…
```



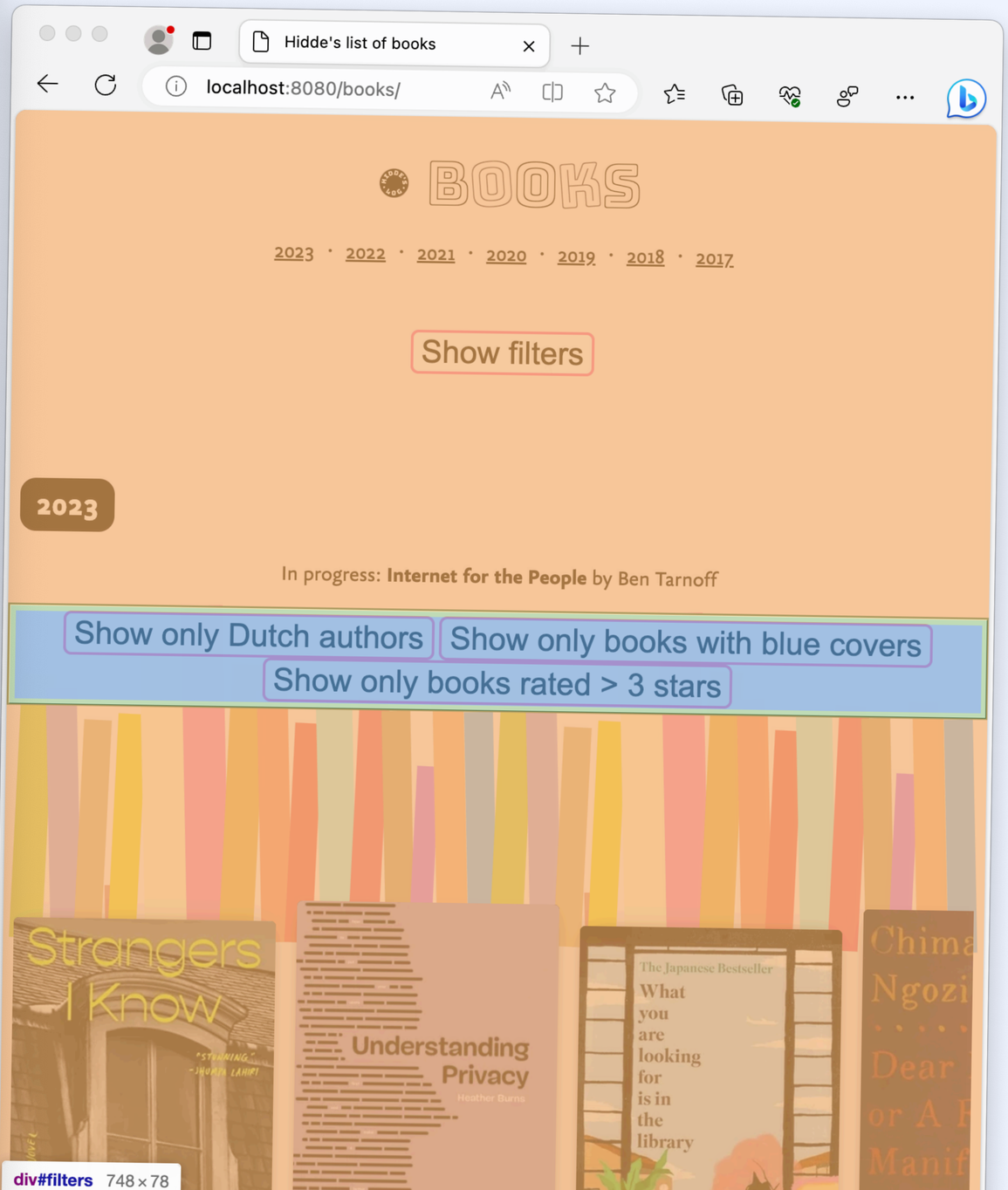
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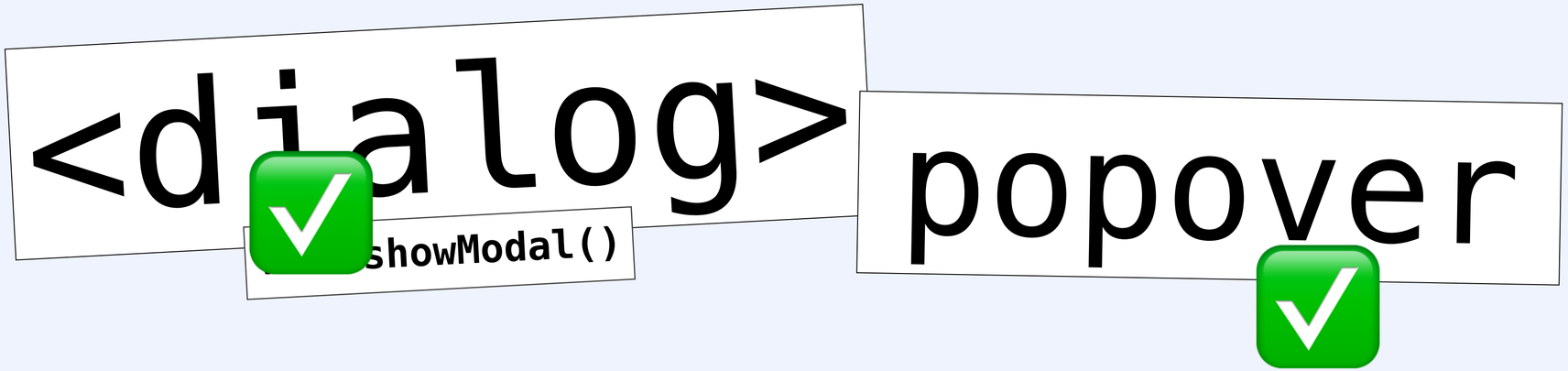
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    tabindex="-1">
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  </button>
</div>
…
```




Elements
<style> </style>
<button type="button" popovertarget="filters"> Show filters </b
<div popover role="menu" id="filters">
top-layer (1)

html body div div#filters
Styles Computed Layout Event Listeners DOM Breakpoints
Filter
:hov .cls
element.style {
}
[popover]:popover-open:not(dialog) {
user agent stylesheet
overlay: auto !important;
}
[popover] {
user agent stylesheet
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;


Hidde's list of books
localhost:8080/books/
BOOKS
2023 · 2022 · 2021 · 2020 · 2019 · 2018 · 2017
Show filters
2023
In progress: Internet for the People by Ben Tarnoff
Show only Dutch authors
Show only books with blue covers
Show only books rated > 3 stars
Strangers I Know
Understanding Privacy
Heather Burns
The Japanese Bestseller
What you are looking for is in the library
Chima Ngozi
Dear
Manif
div#filters 748 × 78



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

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// 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>

…
```

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

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

  });
</script>

…
```

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<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)

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<script type="module">
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  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>
```

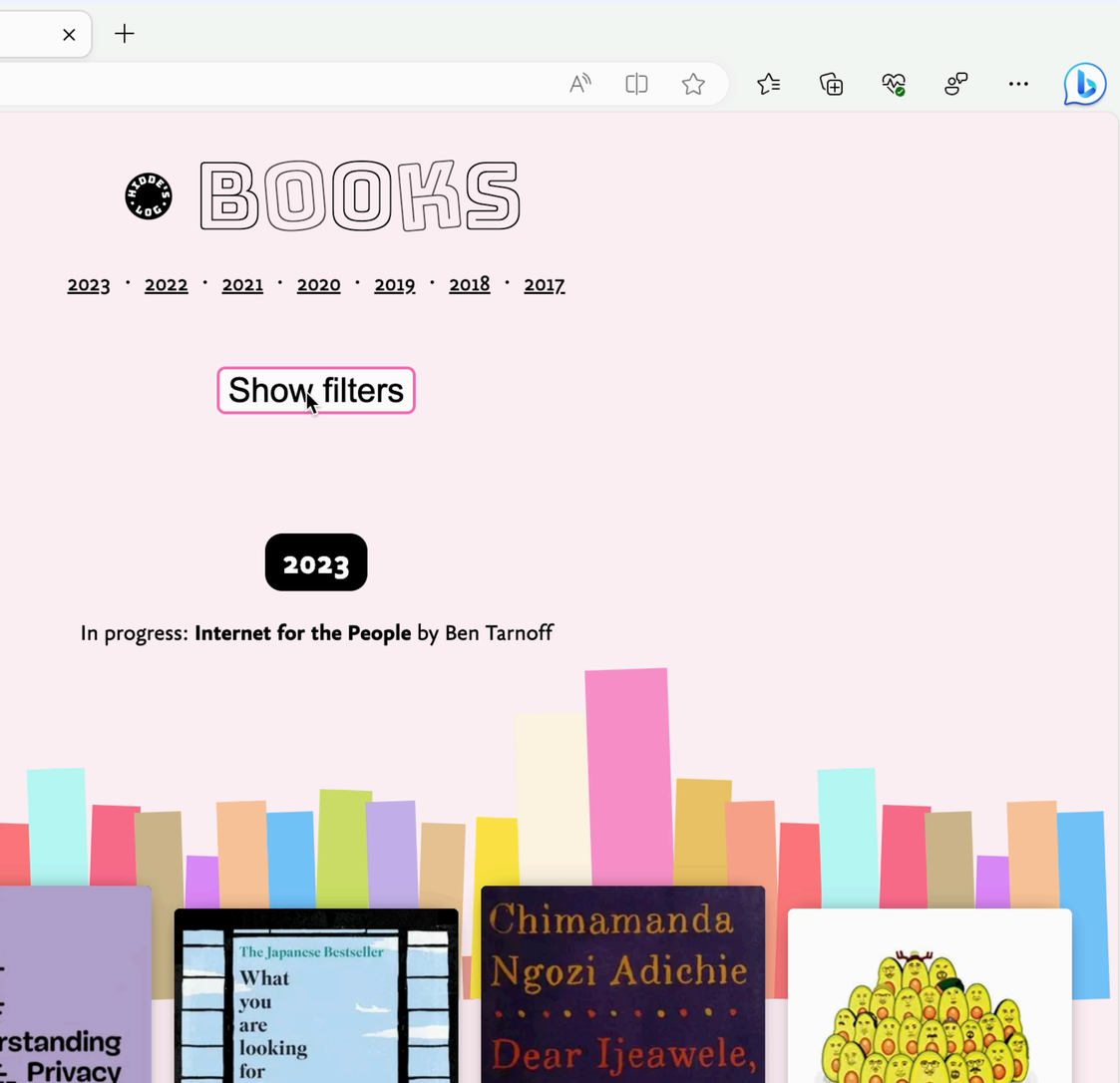
POPOVER POSITIONING

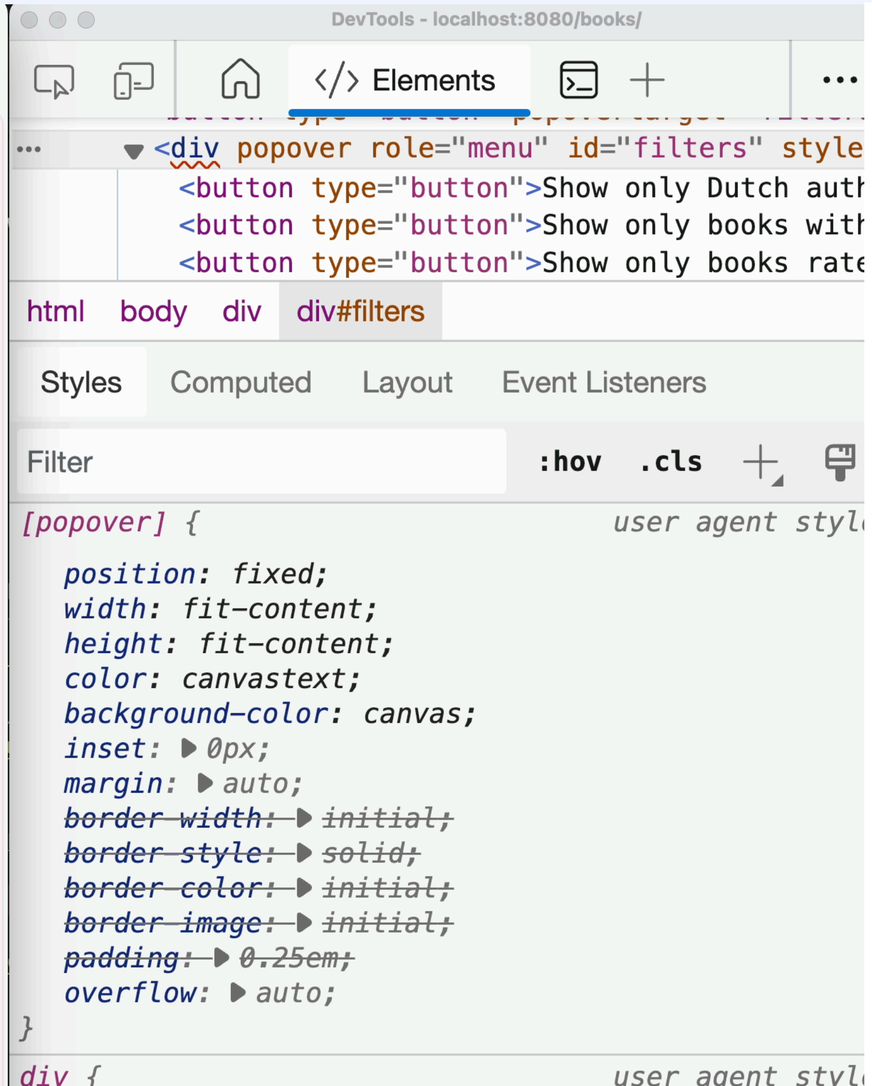
Option 1: calculate (yourself or with a library)



POPOVER POSITIONING

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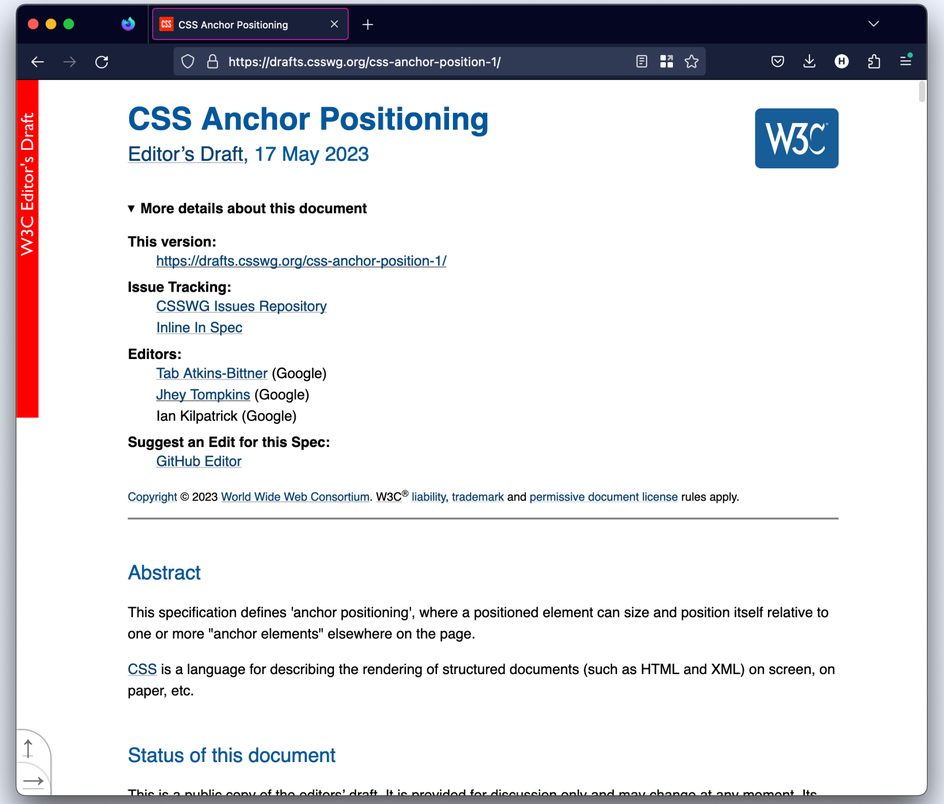




*I did have to override the UA default for the popover's **margin** and **position***

POPOVER POSITIONING

Option 2: anchor positioning



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



kizu.dev/anchor-positioning-experiments/

WRAPPING UP

<dialog>

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

UI considerations

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