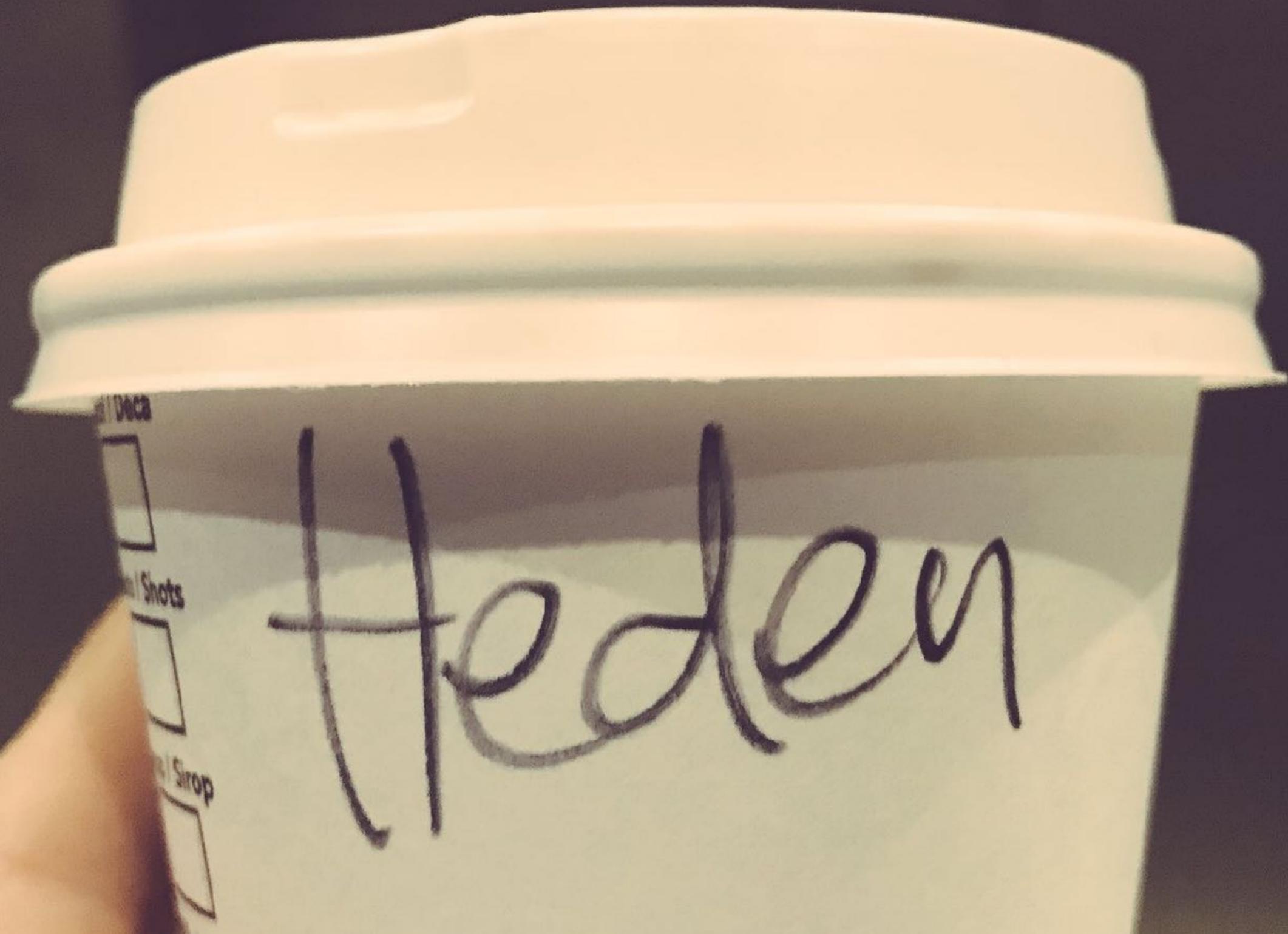


Hiding content

Hidde de Vries / @hdv / Fronteers Jam Session, Amsterdam / 05-10-2017

My name is Hidde



Hedden

Deca

Shots

Siroop

Hiding content

**This is actually an
accessibility talk**

Tactile paving



Elevator



Colour



Language

THE OXFORD

ENGLISH

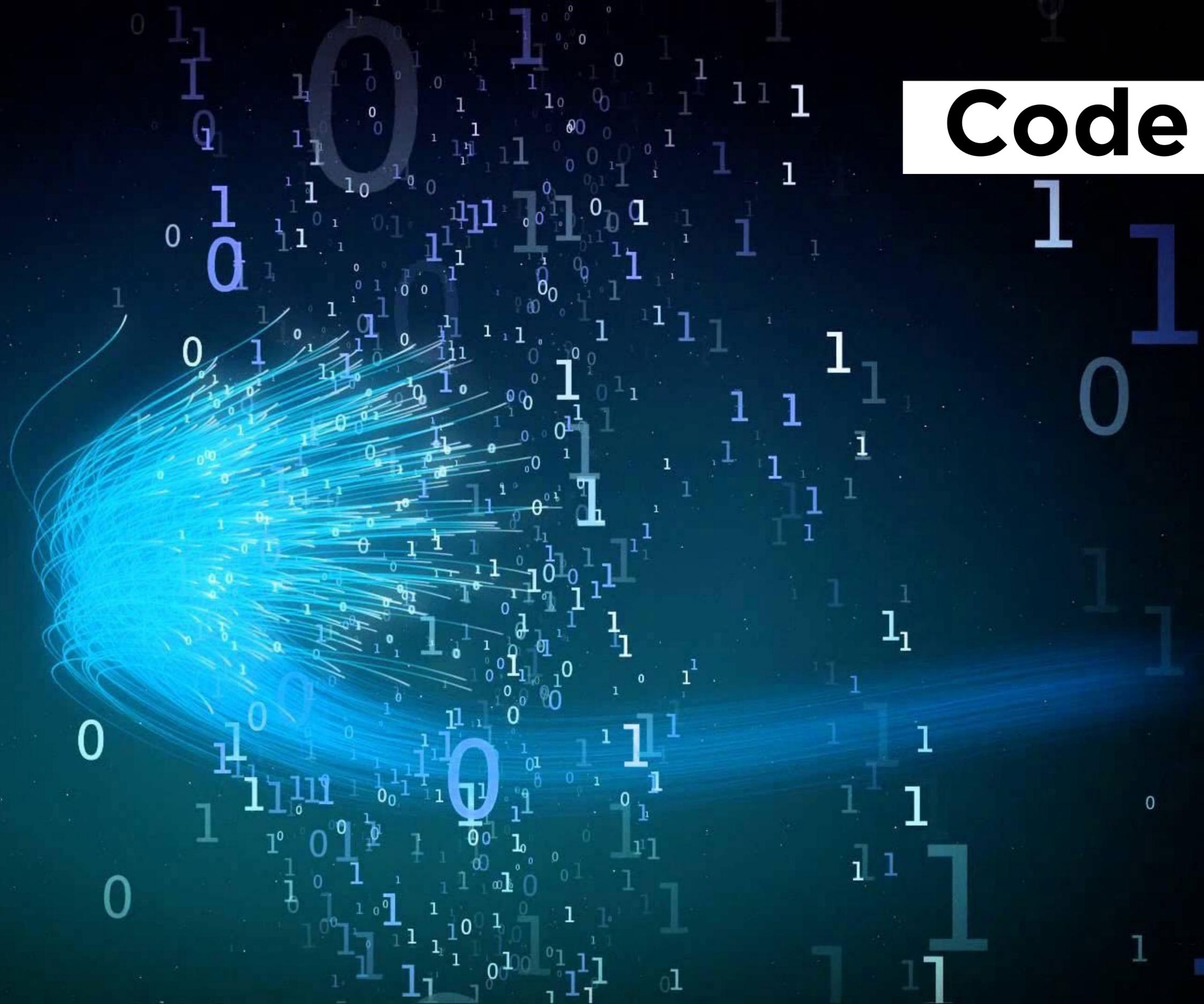
DICTIONARY

THE OXFORD

ENGLISH

DICTIONARY

Code



When you send your
markup to the browser,
it generates two trees

(amongst others)

DOM tree

```
Elements Console Sources Network >> 6 X
```

```
[endif]-->
<!--[if IE 8]><html class="no-js lt-ie10 lt-ie9" lang="nl"><![endif]-->
<!--[if (gt IE 8) & (!IEMobile)]><html class="no-js lt-ie10 ie9-desktop"
lang="nl"><![endif]-->
<!--[if (gt IE 8) & (IEMobile)]><html class="no-js lt-ie10 ie9-mobile"
lang="nl"><![endif]-->
<!--[if !IE]><!-->
<html class="js applicationcache audio canvas hashchange history postmessage
no-touchevents video cssanimations backgroundsize bgsizcover borderradius
boxsizing csscalc csscolumns csscolumns-width csscolumns-span csscolumns-fill
csscolumns-gap csscolumns-rule csscolumns-rulecolor csscolumns-rulestyle
csscolumns-rulewidth csscolumns-breakbefore csscolumns-breakafter csscolumns-
breakinside flexbox flexboxlegacy fontface cssgradients rgba csstransforms
csstransitions localStorage" lang="nl">
  ▶ #shadow-root (open)
    <!--<![endif]-->
    ▶ <head>...</head>
    ▼ <body class="homepage cookiewall" data-comscore="{\"name\":
\"track.click.homepage\"}" style="position: relative; margin-top: 474px;\">
      ▶ <div id="npo_cc_notification" style="top: -474px;\">...</div>
      ▶ <header id="nav" class="nav-wrapper">...</header>
      ▼ <main id="content" role="main">
        ::before
        ... ▼ <section id="topstories" class="js-topstories js-topstories-
interactive" data-comscore="{\"nos_origin\":\"topstory\"}"> == $0
          | <h2 class="vh">Topstories</h2>
          | ▶ <div class="topstories_wrapper topstories-twostories">...</div>
          | </section>
          ▶ <div id="main">...</div>
          ▶ <section id="most_viewed_videos">...</section>
          ▶ <section id="editors_picks">...</section>
          ▶ <section id="nieuws_in_beeld">...</section>
          ▶ <section id="websites">...</section>
          ▶ <section id="categories">...</section>
          ::after
        </main>
html body main#content section#topstories.js-topstories.js-topstories-interactive
```

Accessibility tree

```
... ><a href="/nieuws/" class="nav__category js-event-click js-news js-dashboard-trigger" data-js-dashboard-target="nieuws" data-comscore="{\"nos_menu\":\"nieuws\"}>...</a> == $0
▶<a href="#menu-nieuws" title class="nav__expand no-js-hidden js-submenu-toggle js-event-click" data-comscore="{\"nos_menu_nieuws\":\"mobile_toggle\"}>...</a>
▶<div id="menu-nieuws" class="subnav nav__item_hover">...
</div>
</li>
▶<li id="nav-sport" class="nav__item nav__item--hover js-menu-item">...</li>
▶<li id="nav-uitzendingen" class="nav__item nav__item--hover js-menu-item">...</li>
```

... #menu #nav-nieuws a.nav__category.js-event-click.js-news.js-dashboard-trigger

Styles Event Listeners DOM Breakpoints Properties Accessibility Accessibility Properties

▼ Accessibility Tree

▼ WebArea "NOS.nl - Nieuws, Sport en Evenementen | Nederlandse Omroep Stichting"

▼ Unknown

▼ banner

▼ navigation

▼ list

▼ listitem "Nieuws Overzicht □ Binnenland Buitenland Regio Politiek Economie Konin

▼ link "Nieuws"

text "Nieuws"

▼ ARIA Attributes

No ARIA attributes

▼ Computed Properties

▼ Name: "Nieuws"

aria-labelledby: Not specified

aria-label: Not specified

Contents: "Nieuws "

title: Not specified

Role: **Link**

role = alert

role = link

role = button

role = checkbox

role = tab

role = radio

role = dialog

role = progressbar

role = slider

role = tooltip

Roles

hidden

open

expanded

checked

pressed

selected

hidden

open

expanded

checked

States

skip to content

“open menu”

“first name”

“table of contents”

“about us”

“show more”

“click here”

“go to next photo”

“skip to content”

“open menu”

Labels

People use AT, assistive technologies.

**Examples: braille terminals, screenreaders
speech input software, alternate input devices**



Accessibility tree

Platform APIs

Your markup

DOM tree

```
Elements Console Sources Application >> 2 X
```

```
<ul id="menu" class="nav_list clearfix">
  ::before
  <li id="nav-nieuws" class="nav_item nav_item--hover js-menu-item">
    <a href="/nieuws/" class="nav_category js-event-click js-news js-dashboard-trigger" data-js-dashboard-target="nieuws" data-comscore="{\"nos_menu\":\"nieuws\"}>...</a> == $0
    <a href="#menu-nieuws" title class="nav_expand no-js-hidden js-submenu-toggle js-event-click" data-comscore="{\"nos_menu_nieuws\":\"mobile_toggle\"}>...</a>
    <div id="menu-nieuws" class="subnav nav_item_hover">...
  </li>
  <li id="nav-sport" class="nav_item nav_item--hover js-menu-item">...</li>
  <li id="nav-uitzendingen" class="nav_item nav_item--hover js-menu-item">...</li>
... #menu #nav-nieuws a.nav_category.js-event-click.js-news.js-dashboard-trigger
```

Styles Event Listeners DOM Breakpoints Properties Accessibility Accessibility Properties

```
▼ Accessibility Tree
WebArea "NOS.nl - Nieuws, Sport en Evenementen | Nederlandse Omroep Stichting"
  ▼ Unknown
  banner
    navigation
      list
        listitem "Nieuws Overzicht □ Binnenland Buitenland Regio Politiek Economie Konin
          link "Nieuws"
            text "Nieuws"
```

```
▼ ARIA Attributes
No ARIA attributes
```

```
▼ Computed Properties
Name: "Nieuws"
aria-labelledby: Not specified
aria-label: Not specified
Contents: "Nieuws "
title: Not specified
Role: link
```



 Microsoft

Microsoft Active Accessibility
Microsoft User Interface Automation
MSAA



Mac OS X Accessibility Protocol

 THE LINUX FOUNDATION  GNOME DEVELOPER

Linux/Unix Accessibility Toolkit
IAccessible2



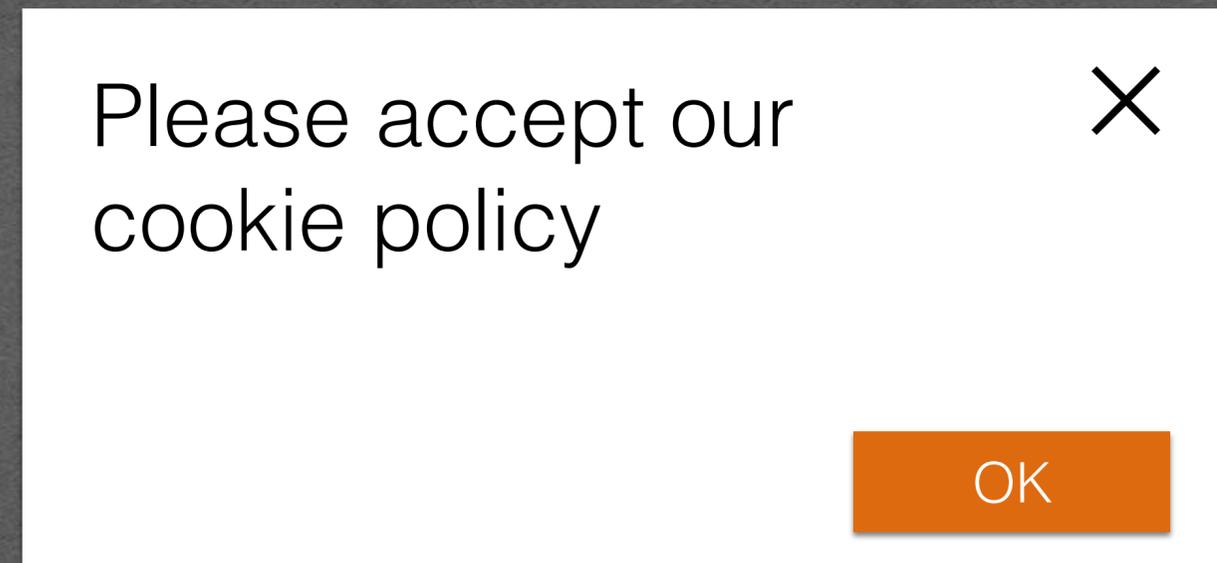
Hiding content

Hiding from screen

“visually hidden”

EXAMPLE

Icon button



```
1 <button type="button">Close</button>
```

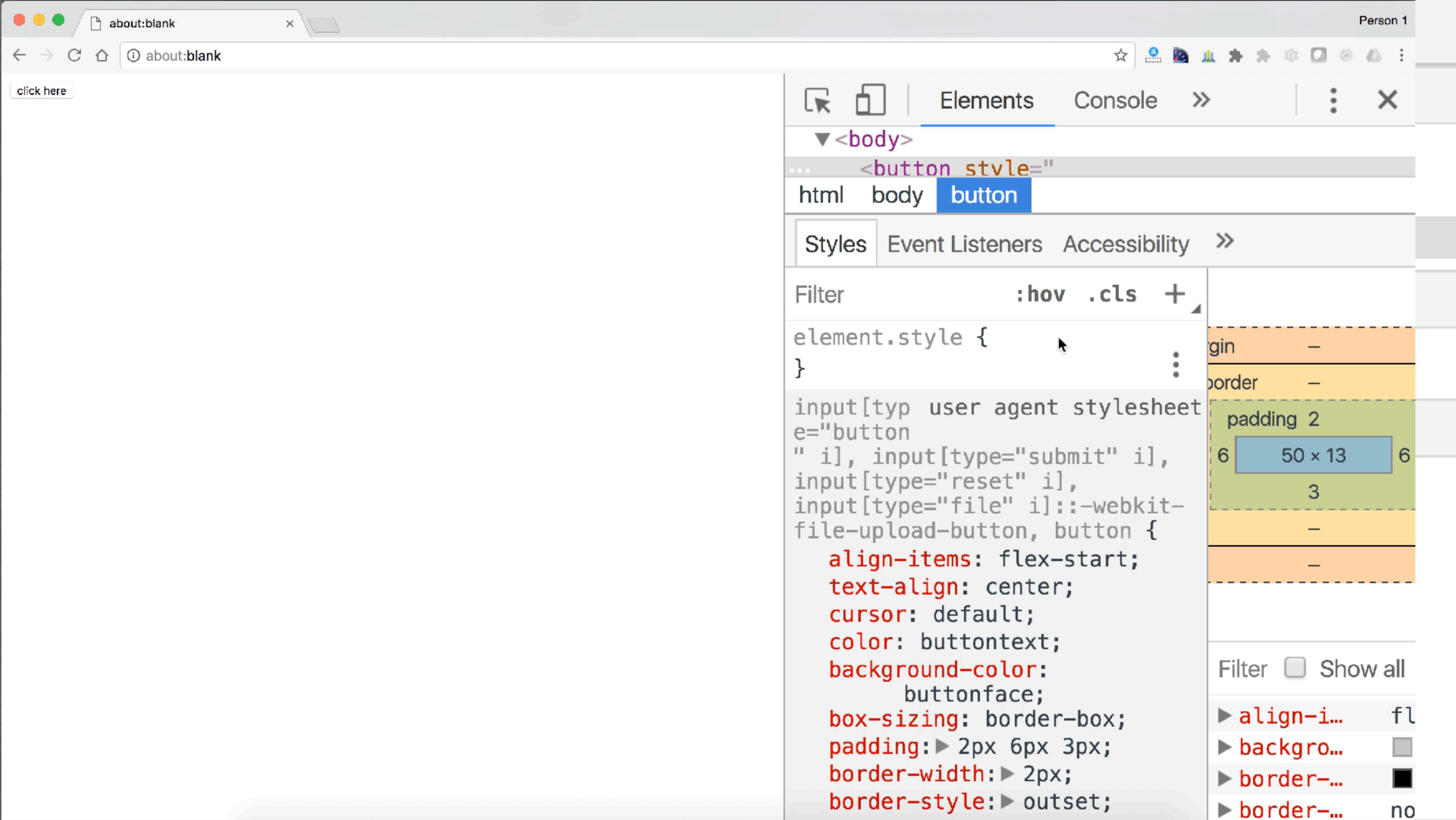
EXAMPLE

Required indicator

First name *

```
1 <span class="required">required</span>
```

```
position: absolute;  
left: -9999em;
```



Hiding from AT

EXAMPLE

A decorative icon



Cars

EXAMPLE

Repeating text that hinders AT users

We opened a new office

With the great opening party that took place yesterday, it is now official: our new office in Utrecht is open!

[Read more](#)

We'll be at the trade show

The trade show is taking place next week and we will be presenting interesting new stuff. Visit our booth!

[Read more](#)

Our company won a prize

We are very proud to announce that we were nominated for an amazing prize and that we have actually won it, too.

[Read more](#)

EXAMPLE

Repeating text
that hinders AT users

Read more

Read more

Read more

aria-hidden

```
<div aria-hidden></div>
```

If you find you have to
use `aria-hidden`, this may
indicate there's something
wrong with the page

EXAMPLE

Repeating text that hinders AT users

We opened a new office

With the great opening party that took place yesterday, it is now official: our new office in Utrecht is open!

[Read more](#)

We'll be at the trade show

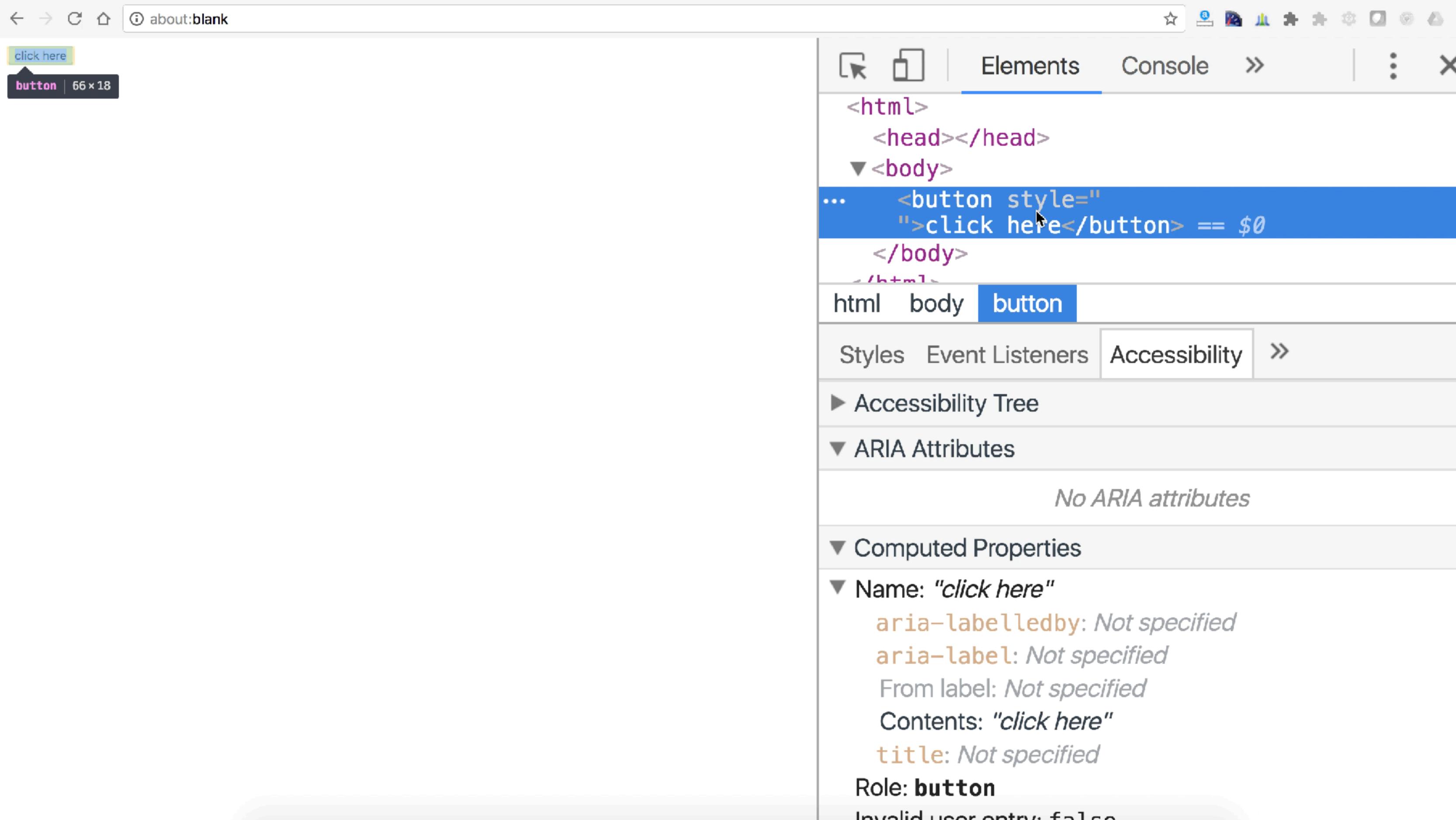
The trade show is taking place next week and we will be presenting interesting new stuff. Visit our booth!

[Read more](#)

Our company won a prize

We are very proud to announce that we were nominated for an amazing prize and that we have actually won it, too.

[Read more](#)



click here

button 66 x 18

Elements

Console

```
<html>
  <head></head>
  <body>
    <button style="">click here</button>
  </body>
</html>
```

html body button

Styles Event Listeners Accessibility

Accessibility Tree

ARIA Attributes

No ARIA attributes

Computed Properties

Name: "click here"

aria-labelledby: Not specified

aria-label: Not specified

From label: Not specified

Contents: "click here"

title: Not specified

Role: button

Invalid user entry: false

Hiding from everything

EXAMPLE

A modal panel that is not currently shown

Perhaps the most heavily-repeated pattern in JavaScript-based page manipulation is showing and hiding content. Tabbed interfaces. Collapsible elements. Accordion widgets. It crops up nearly everywhere. In and of itself, this pattern is not a problem. People realize how important the hiding mechanism is to your content and screen reader users. JavaScript-based fully control when you begin working with animation libraries like jQuery or Scriptaculous, the hiding mechanism is typically dictated by the library, leaving you little control over the accessibility of your

Are you sure?

NO

YES

EXAMPLE

A tab control that
is closed

1. Personal details



2. Your application



3. Agreement



4. Summary



```
display: none;
```

hidden

```
<div hidden></div>
```

hidden attribute - LS

Netherlands 97.85%
Global 97.19%

The `hidden` attribute may be applied to any element, and effectively hides elements similar to `display: none` in CSS.

Current aligned Usage relative Date relative Show all

IE	Edge *	Firefox	Chrome	Safari	Opera	iOS Safari *	Opera Mini *	Android Browser *	Chrome for Android	Samsung Internet
		45	49			9.2				
		52	57	9.1	43	9.3				
	14	53	58	10	44	10.2				4
11	15	54	59	10.1	45	10.3	all	56	59	5
	16	55	60	11	46	11				
		56	61	TP	47					
		57	62							

Notes Known issues (0) Resources (2) Feedback

The hidden state can be easily overridden with a CSS `display` property set to anything other than `none`.

Not exposed by a11y tree

Not rendered

Invisible to text search

click here

```
<body>
  <button style>click here</button> == $0
html body button
```

Filter :hov .cls +

```
element.style {
}
input[type=user agent stylesheet="button" i], input[type="submit" i],
input[type="reset" i],
input[type="file" i]::-webkit-file-upload-button, button {
  align-items: flex-start;
  text-align: center;
  cursor: default;
  color: buttontext;
  background-color: buttonface;
  box-sizing: border-box;
  padding: 2px 6px 3px;
  border-width: 2px;
  border-style: outset;
```

margin -

border -

padding 2

6 50 x 13

3

Filter Show a

- align-i...
- backgro...
- border-...
- border-...

Inert

inert

<https://github.com/WICG/inert>

<https://html.spec.whatwg.org/multipage/interaction.html#inert>

Makes the element and
its entire subtree *inert*:
visible, but unusable

No pointer events.

No focus.

Invisible to text search.

Impossible to select.

EXAMPLE

Rest of the page while modal is open

(“<dialog> without <dialog>” – [Hixie](#))

Perhaps the most heavily-repeated pattern in JavaScript-based page manipulation is showing and hiding content. Tabbed interfaces. Collapsible elements. Accordion widgets. It crops up nearly everywhere. In and of itself, this pattern is not a problem. People realize how problematic this mechanism is for your content and screen readers. JavaScript-based fully control the page when you begin working with animation libraries like jQuery or Scriptaculous, the hiding mechanism is typically dictated by the library, leaving you little control over the accessibility of your

Are you sure?

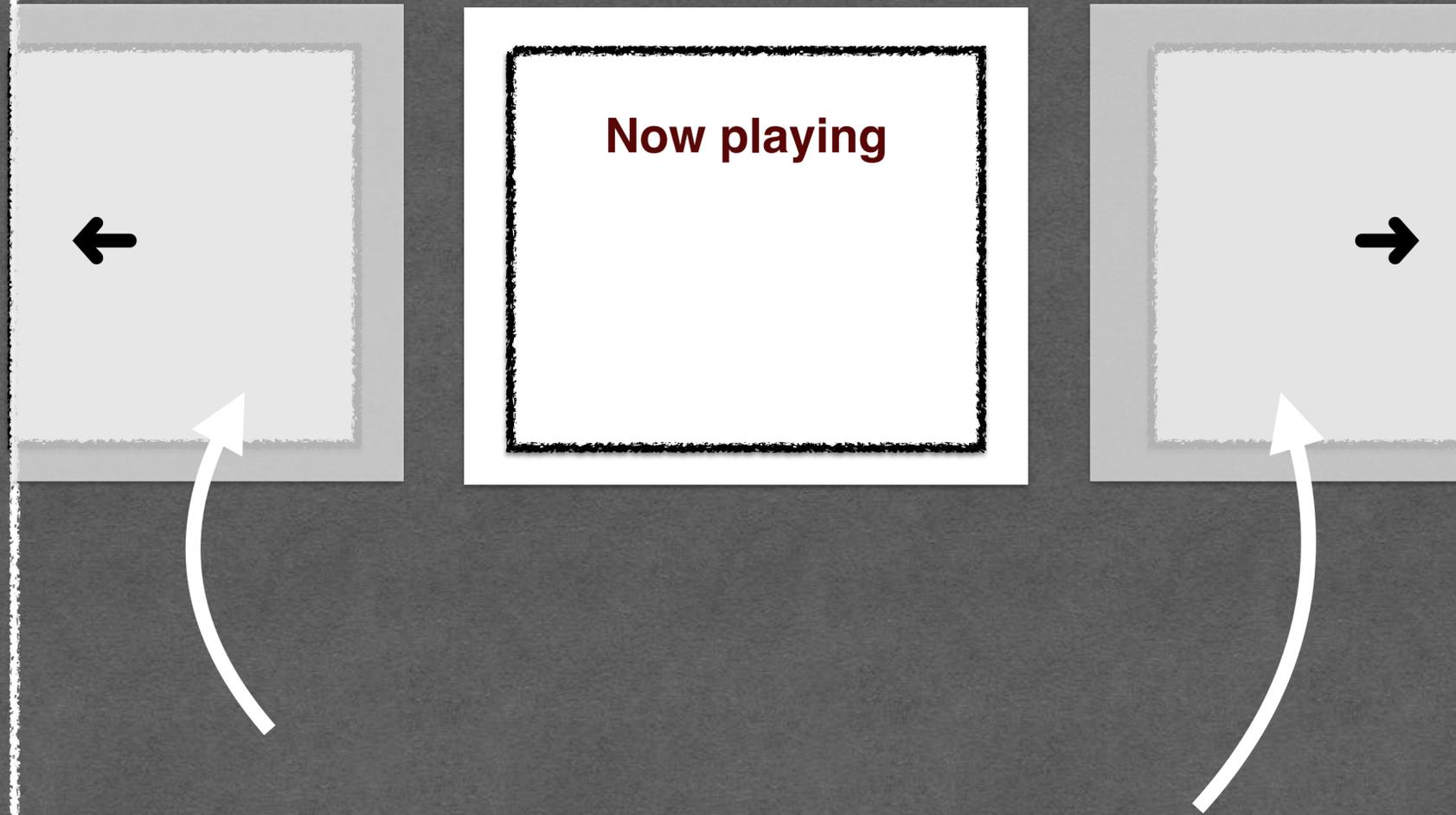
NO

YES



EXAMPLE

Non current carousel items



EXAMPLE

‘Shipping address’
section when ‘Same
as billing address’ is
checked

Billing address

Street *

Postal code *

City *

Shipping address



Same as billing address

Street *

Postal code *

City *

Hiding content

From screen

From AT

From everything

Inert

Accessible to:

✓ AT users

✗ sighted users

Accessible to:

✗ AT users

✓ sighted users

Accessible to:

✗ AT users

✗ sighted users

**Visible,
but not
usable**

* Note that there are a lot of different ATs, and they are not all for users with sight impairments

Further reading

<http://www.scotthara.me/blog/2017/04/14/inclusively-hidden.html>

<https://github.com/alice/inert>

<https://allyjs.io/tutorials/hiding-elements.html>

<https://hiddevries.nl/en/blog/2017-04-11-on-hiding-content>

<https://www.w3.org/TR/html-aam-1.0/>

Thanks for listening.

Tweet/email any questions/comments!

@hdv / hidde@hiddedevries.nl

