



6 WAYS

to make your site
more accessible

Hidde de Vries · 10.09.2020 · Full Stack Utrecht, online

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**The web is accessible
by default.**



6 WAYS

to make your site
more accessible

1

EXPOSE NAMES

alternate pointing devices



braille bars



screen magnifiers



screenreaders

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

(amongst others)

DOM tree



Accessibility tree

Roles, names, properties.

InspectorAccessibility>>

Turn Off Accessibility Features?

Role	Name
	(@mozilla)"
statictext:	""
list:	""
listitem:	"Twitter (@mozilla)"
link:	"Twitter (@mozilla)"
text leaf:	" "
listitem:	"Instagram (@mozilla)"
text leaf:	" "
section:	""
heading:	"Firefox"

Properties

name: "Twitter (@mozilla)"

role: "link"

actions: [...]

value: "https://twitter.com/mozilla"

DOMNode: a.twitter

description: ""

keyboardShortcut: ""

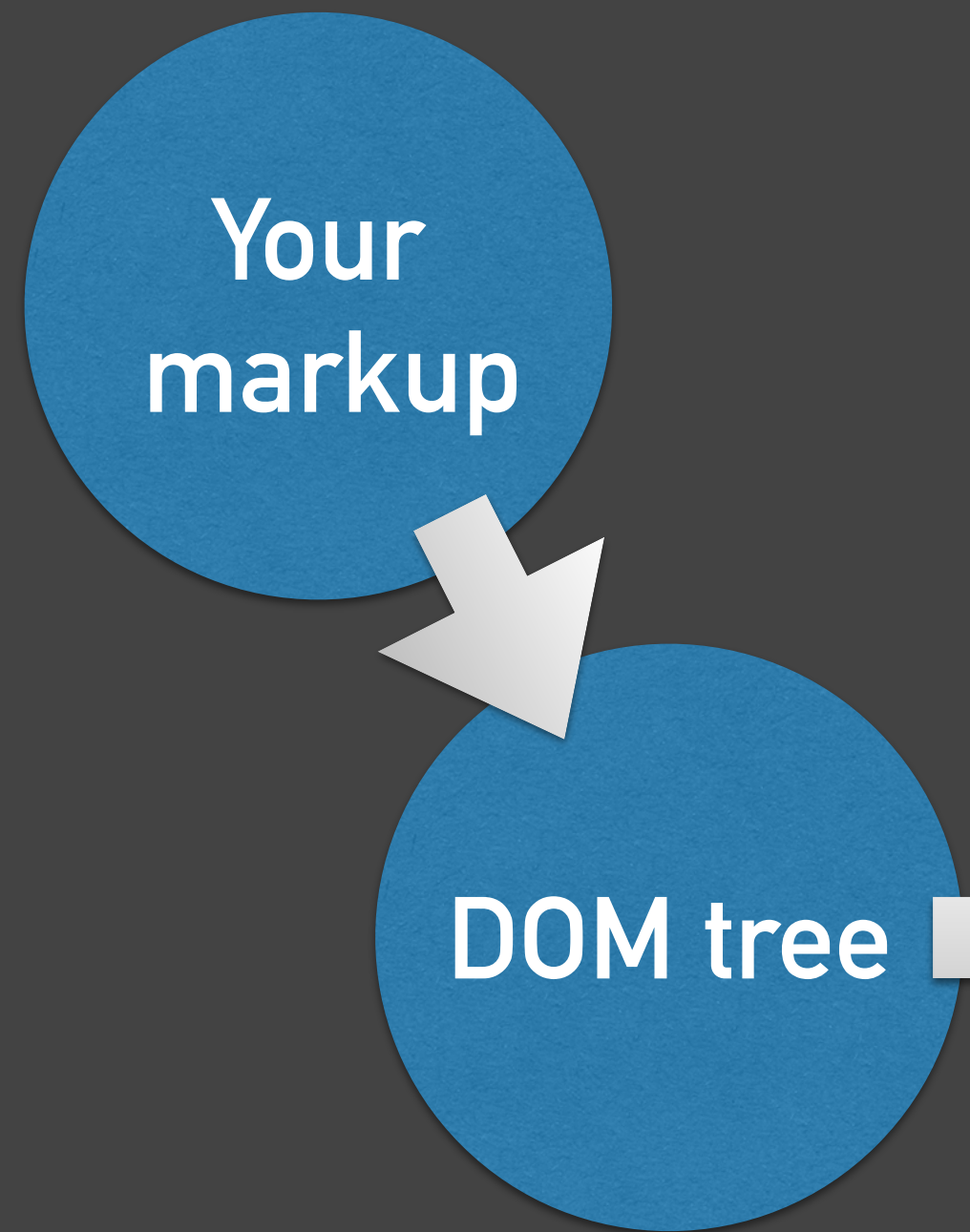
childCount: 2

indexInParent: 0

states: [...]

attributes: {...}

**The accessibility tree
is how your page gets
exposed to assistive tech**



Accessibility tree

The screenshot shows the Accessibility Inspector interface. The top bar includes "Inspector", "Accessibility", and a "Turn Off Accessibility Features" button. The main area displays the accessibility tree with a table of roles and names. The selected element is a link with the name "Twitter (@mozilla)". The properties panel on the right shows details for this element.

Role	Name
statictext	"(@mozilla)"
list	""
listitem	"Twitter (@mozilla)"
link	"Twitter (@mozilla)"
text leaf	" "
listitem	"Instagram (@mozilla)"
text leaf	" "
section	""
heading	"Firefox"

Properties for the selected link:

- name: "Twitter (@mozilla)"
- role: "link"
- actions: [...]
- value: "https://twitter.com/mozilla"
- DOMNode: a.twitter
- description: ""
- keyboardShortcut: ""
- childCount: 2
- indexInParent: 0
- states: [...]
- attributes: {...}

Platform APIs

Microsoft
Microsoft Active Accessibility
Microsoft User Interface
Automation
MSAA

Apple
Mac OS X Accessibility Protocol

THE LINUX FOUNDATION GNOME DEVELOPER
Linux/Unix Accessibility Toolkit
IAccessible2

AT

JAWS for Windows

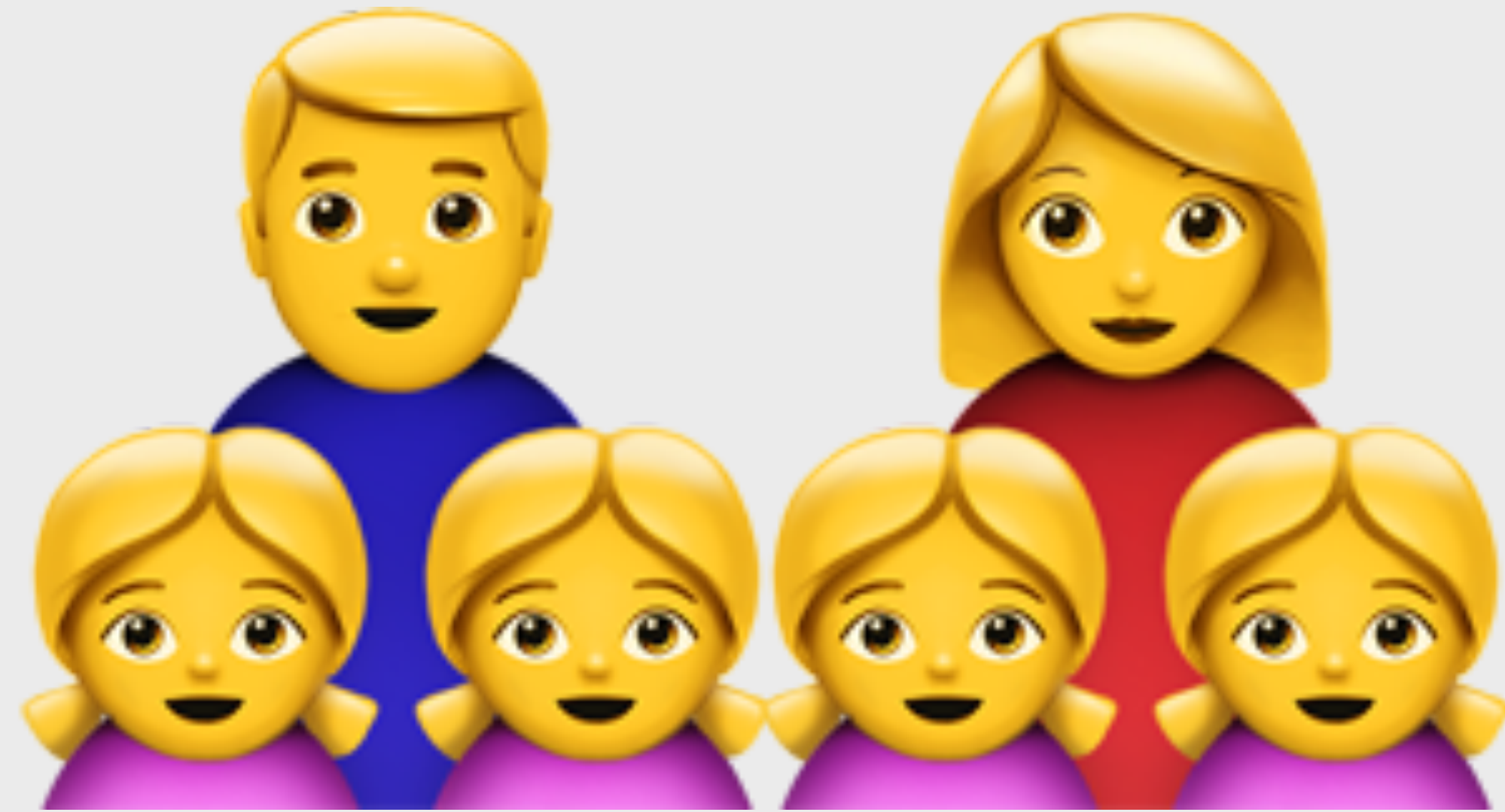
VoiceOver

NVDA

text-to-speech
screen magnifiers
alternate pointing devices



**Let's look
at naming**



Alice Alice Alice Alice

Leverage agile frameworks to provide a robust synopsis for high level overviews.

[READ MORE](#)

Organically grow the holistic world view of disruptive innovation via workplace diversity.

[READ MORE](#)

Iterative approaches to corporate strategy foster collaborative thinking to further the overall value proposition.

[READ MORE](#)

At the end of the day, going forward, a new normal that has evolved from generation X is on the runway

[READ MORE](#)

names a link

<a>

“

“24.4% of pages had links with ambiguous link text, such as ‘click here’, ‘more’, ‘continue’, etc”.

– WebAIM, *The WebAIM Million*

**Use unique link text
that makes sense
out of context**

names a form field

<label>

“

“59% of form inputs were not properly labeled.”

– WebAIM, *The WebAIM Million*

Personal details

Name:

Address:

City:

```
<div>Name</div>
```

```
<input type="text" id="name" />
```


Personal details

Name:

Address:

City:

```
<label for="name">Name</label>  
<input type="text" id="name" />
```

<caption>

vs

<legend>

labels a table

<caption>

vs

<legend>

*labels a group
of form fields*

Financial results 2018

Fixed assets	210,000
Current Assets	4,532
Creditors	23,003
Capital and reserves	50,500

```
<table>
  <caption>Financial results 2018</caption>
  <tbody>(...)</tbody>
</table>
```


Personal details

Name:

Address:

City:

```
<form>
  <fieldset>
    <legend>Personal details</legend> (...)
  </fieldset>
</form>
```

2

CHOOSE YOUR
MARKUP

<a>

vs

<button>

<a> *goes
somewhere*

VS

<button>

*does
something*

If your `href` is empty,
consider `<button>`

Save

```
<button type="button">Save</button>
```

Save

```
<button type="button">Save</button>
```

Included for FREE:

- * can tab to it
- * works with keyboard (ENTER)
- * is announced as 'button'
- * gets the correct cursor

When in doubt,
consult the spec
developers.whatwg.org



HTML: The Living Standard

Developer's Edition — Last Updated 18 September 2017

Search. Press 

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3

PROVIDE
STRUCTURE

**Give pages
unique <title>s**

“

[The <title>] is still the first guarantee or first confirmation that you've ended up on the page that you intended to reach.

– Léonie Watson, accessibility expert and screenreader user

h1
h2
h3
h4
h5
h6

**Headings are like
your table of contents
for assistive tech**

Assistive technology

From Wikipedia, the free encyclopedia
(Redirected from [Assistive technologies](#))

Assistive technology is an [umbrella term](#) that includes assistive, adaptive, and rehabilitative devices for [people with disabilities](#) while also including the process used in selecting, locating, and using them. People who have disabilities often have difficulty performing [activities of daily living](#) (ADLs) independently, or even with assistance. ADLs are self-care activities that include toileting, mobility (ambulation), eating, bathing, dressing and grooming.



aring aid

"reduce inst

Headings

1: Assistive technology

2: Contents

◆ 2: Adaptive Technology [edit]

2: Mobility impairments [edit]

3: Wheelchairs [edit]

3: Transfer devices [edit]

3: Walkers [edit]

3: Prosthesis [edit]

2: Visual impairments [edit]

3: Screen readers [edit]

3: Braille and braille embossers [edit]

3: Refreshable braille display [edit]

3: Desktop video magnifier [edit]

3: Screen magnification software [edit]

▼ 3: Large-print and tactile keyboards [edit]

4 [Personal emergency response systems](#)

5 [Accessibility software](#)

Have a sensible HTML structure

Trick: turn off the CSS



**SPECIFY
LANGUAGE**

```
<html lang="en">
```


Los Pollos Hermanos,
where something delicious
is always cooking.



```
<html lang="en">...  
  <p><span lang="es">Los Pollos Hermanos</span>,  
    where something delicious is always cooking.</p>  
...</html>
```

Linking to translations with hreflang

```
<h2>Other languages</h2>  
<ul>  
  <li><a href="/zh-TW" hreflang="zh-TW">Chinese</a></li>  
</ul>
```

Linking to translations with hreflang (2)

```
<h2>Other languages</h2>
<ul>
  <li><a href="/zh-TW" hreflang="zh-TW"
    lang="zh-TW">中文</a></li>
</ul>
```


5

TEXT ALTERNATIVES



Producten online bestellen | A

+

< > ↺ ☰

🔒

https://www.ah.nl/producten

ah

Q

Producten









Bonus

Allerhande box

Recepten

Winkels

A

<div></div> <div>Aardappel, groente, fruit</div>	<div></div> <div>Verse kant-en-klaar maaltijden, salades</div>	
<div></div> <div>Zuivel, eieren</div>	<div></div> <div>Bakkerij</div> <div>On</div>	
<div></div> <div>Wijn</div>	<div></div> <div>Bier, sterke drank, aperitieven</div> <div>Pasta</div>	
<div></div>	<div></div>	

**The web is
mostly text**

selectable

copy-pasteable

**The web is
mostly text**

enlargeable

Google Translate-able

**screenreader-
ready**

**Text lets us have a lot of
accessibility automatically**

**Make sure there's text
or (useful) text alternatives**



```

```



Google Accessibility ✓

@googleaccess

Follow



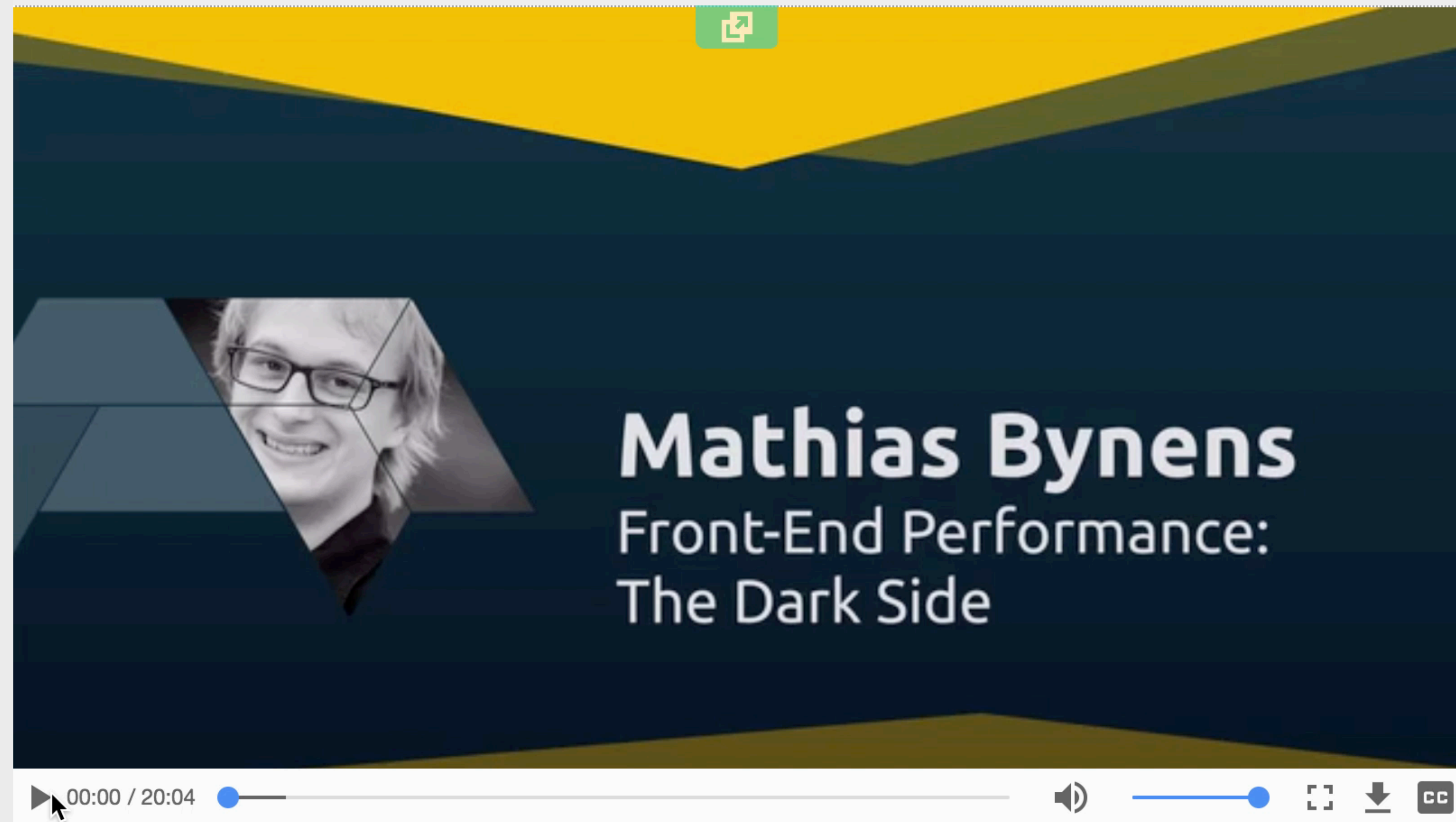
Coming later this year: Screen reader users can ask Chrome to get automatic image descriptions from Google when an image is missing alt text. Get a sneak preview now using Chrome Canary, just open the context menu! [#a11y](#) [#CSUNATC19](#)

10:35 AM - 14 Mar 2019

Transcripts
with **<audio>**
and **<video>**

Subtitles
with video
(**<track>** ftw)

Front-End Performance: The Dark Side by Mathias Bynens



This is the third talk in [a set of three talks on Technical Performance](#) delivered on April 1, 2016 at Fronteers Spring Conference in Amsterdam

- * [Watch high quality video on Vimeo](#)
- * [Download audio](#) (MP3, 23MB)

6

TEST WITH A
KEYBOARD

`<details>`

`<select>`

`<input>`

`<textarea>`

The interactive elements

`<a>`

`<button>`

People who don't use a mouse, use focus styles to see where they are

Leverage agile frameworks to provide a robust synopsis for high level overviews. Iterative approaches to corporate strategy foster collaborative thinking to further the overall value proposition. Organically grow the holistic world view of disruptive innovation via workplace diversity and empowerment.

Leverage agile frameworks to provide a robust synopsis for high level overviews. Iterative approaches to corporate strategy foster collaborative thinking to further the overall value proposition. Organically grow the holistic world view of disruptive innovation via workplace diversity and empowerment.

Bring to the table win-win survival strategies to ensure proactive domination. At the end of the day, going forward, a new normal that has evolved from generation X is on the runway heading towards a streamlined cloud solution. User generated content in real-time will have multiple touchpoints for offshoring.

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YOU WOULDN'T STEAL THEIR CURSOR

Laura Carvajal
@lc512k

LAURA
CARVAJAL

**Try if you can get to all
your links, buttons and
forms with a keyboard**

1

NAMES

4

LANGUAGE

2

MARKUP

5

TEXT ALTERNATIVES

3

STRUCTURE

6

KEYBOARD

THANKS FOR LISTENING!

Contact

hidde@hiddedevries.nl

Twitter

@hdv

Slides on Notist

<https://talks.hiddedevries.nl>