



6 *ways* to make your site more accessible

Hidde de Vries · 12.04.2019 · WordCamp, Rotterdam

moz://a



Den Haag

Hi, I'm Hidde.

Front-end developer.
Accessibility nerd.



**It's cheaper online:
the web is accessible
by default.**

A close-up portrait of Tim Berners-Lee, a middle-aged man with light brown hair, looking directly at the camera with a neutral expression. He is wearing a dark blue collared shirt. The background is a plain, light-colored wall.

Tim Berners-Lee
Web Developer

World Wide Web Consortium Launches International Program Office for Web Accessibility Initiative

Government, Industry, Research and Disability Organizations Join Forces to Promote Accessibility of the Web

For immediate release

WASHINGTON, DC, USA -- October 22, 1997 -- The [World Wide Web Consortium \(W3C\)](#) today announced the launch of the International Program Office (IPO) for the [Web Accessibility Initiative \(WAI\)](#).

"The power of the Web is in its universality. Access by everyone regardless of disability is an essential aspect," said Tim Berners-Lee, W3C Director and inventor of the World Wide Web.

The International Program Office is sponsored by a partnership of government, industry, research, and disability organizations. Endorsed by the White House, the IPO is funded by the National Science Foundation, the Department of Education's National Institute on Disability and Rehabilitation Research, the European Commission's TIDE Programme, and W3C industry members. Industry sponsors include IBM/Lotus Development Corporation, Microsoft Corporation, NCR, and Riverland Holding. In addition, research and disability organizations on several continents participate in the IPO.

"The National Science Foundation recognizes the importance computers can play in removing barriers," said Gary Strong, Program Director for Interactive Systems at the National Science Foundation. "Systems developed to aid people with disabilities may help able-bodied people too. Research into speech recognition and synthesis, automatic translation software, alternative interfaces with computers, and new approaches to representing, transmitting and storing information can have countless applications. Such information technology can help move the 'information age' beyond the 'information overload age' to a future where useful information is accessible to all."

October 22, 1997

W3C announces program office for the Web Accessibility Initiative



6 ways

**to make your site
more accessible**

1 Expose names

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: ""

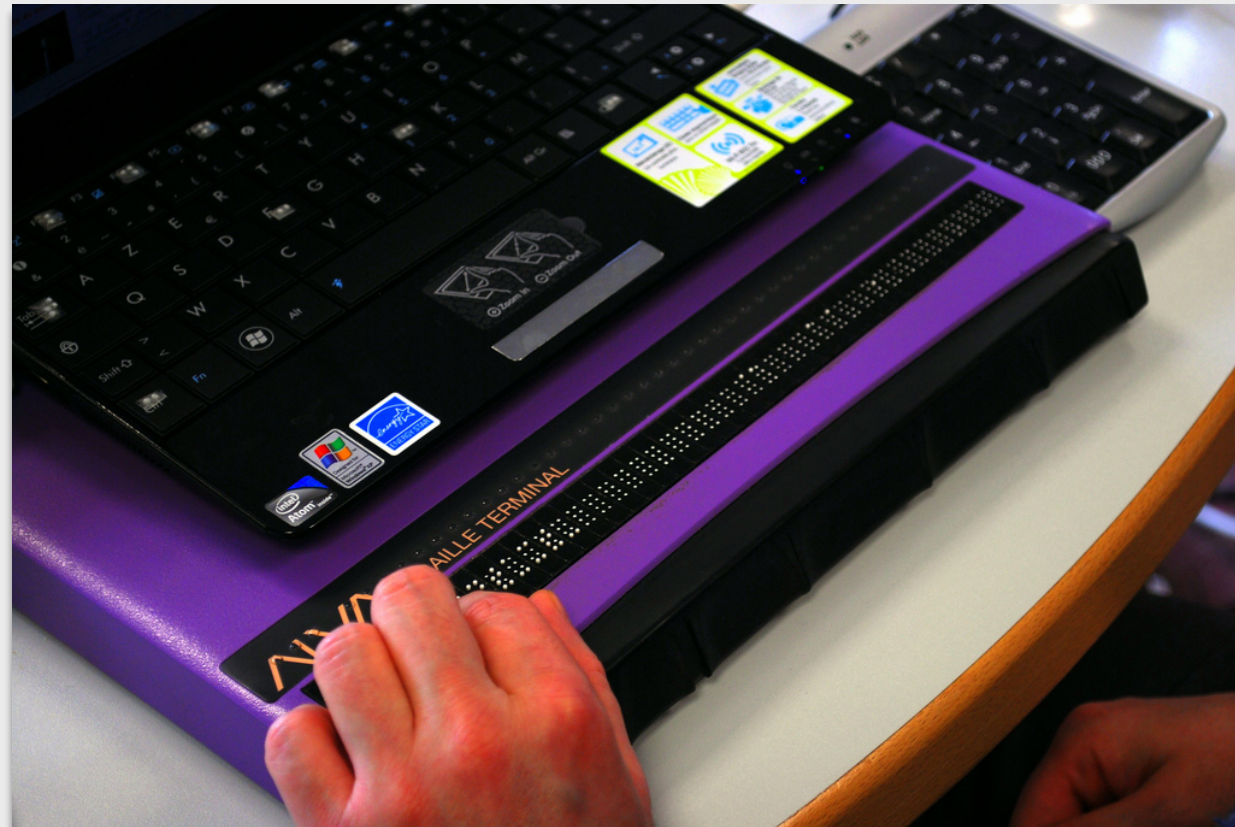
childCount: 2

indexInParent: 0

states: [...]

attributes: {...}

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



braille bars

screen magnifiers

alternate pointing devices

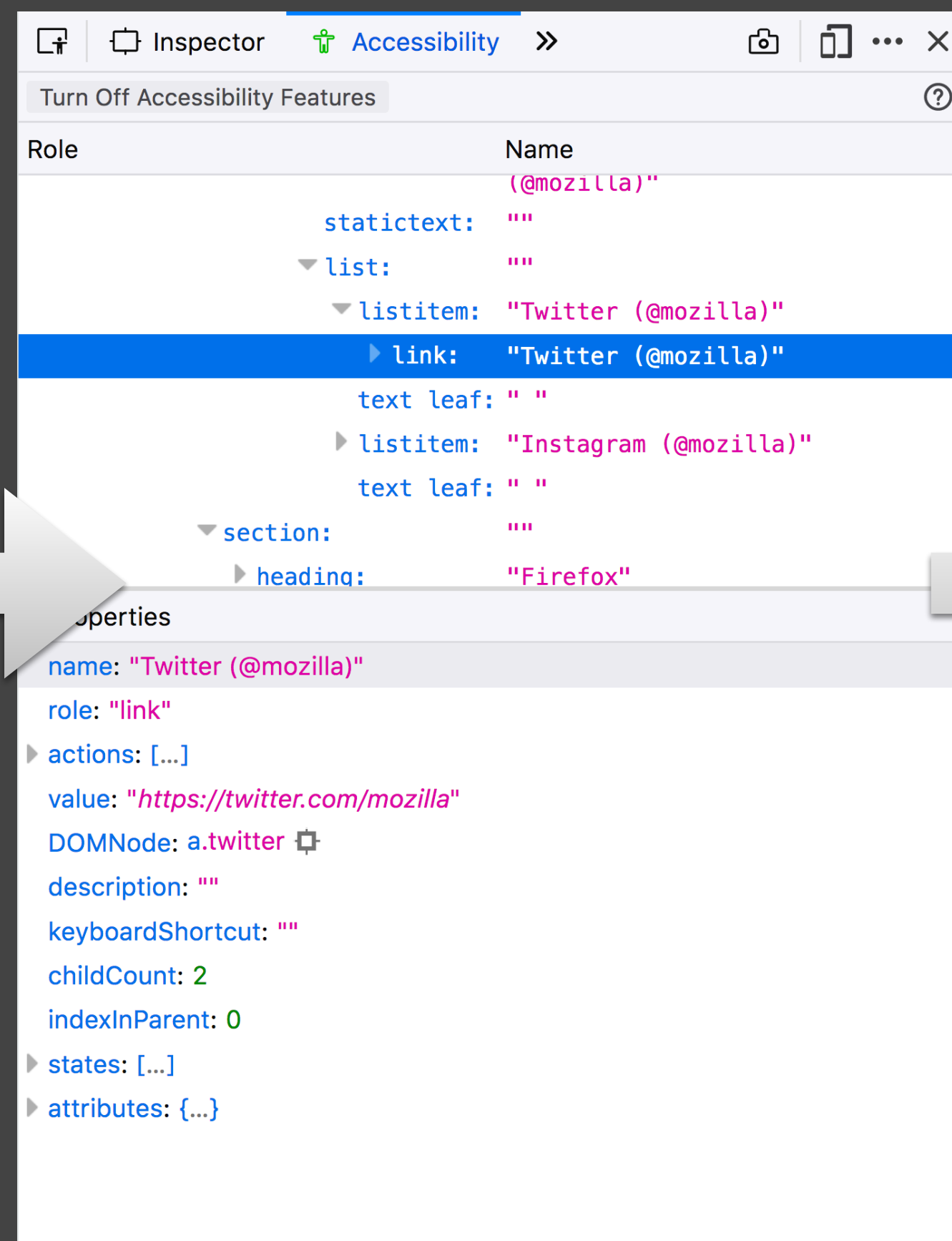


screenreaders

Your
markup

DOM tree

Accessibility tree



Platform APIs



Microsoft Active Accessibility
Microsoft User Interface
Automation
MSAA

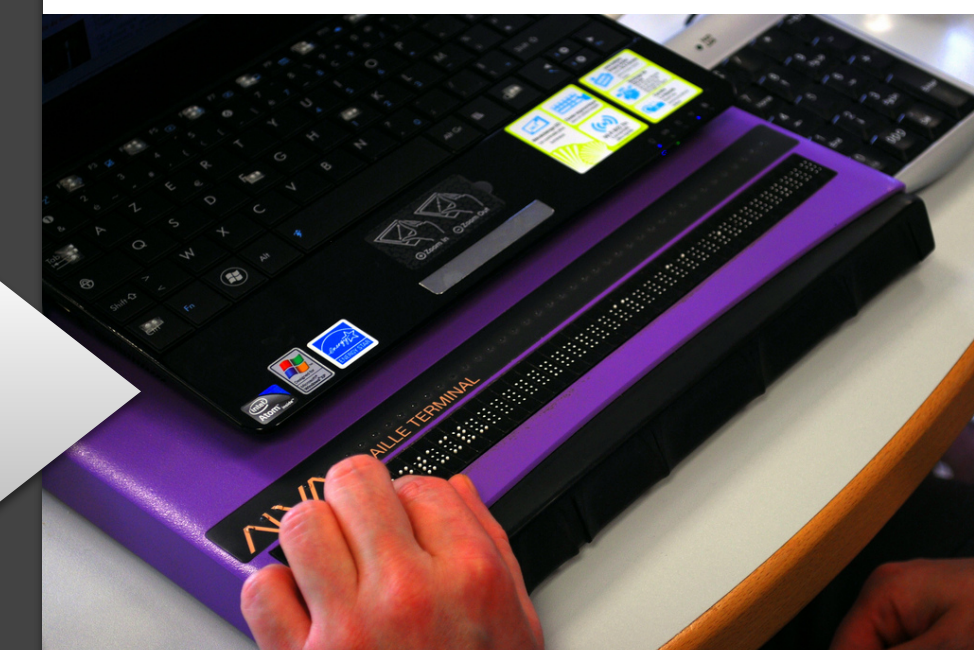


Mac OS X Accessibility Protocol



Linux/Unix Accessibility Toolkit
IAccessible2

AT



text-to-speech
screen magnifiers
alternate pointing devices

Role

What kind of thing is it?

Name

How should we refer to it?

State/properties

What else should we know?

Accessibility tree

In Firefox Dev Tools,
Accessibility Panel

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: [...]

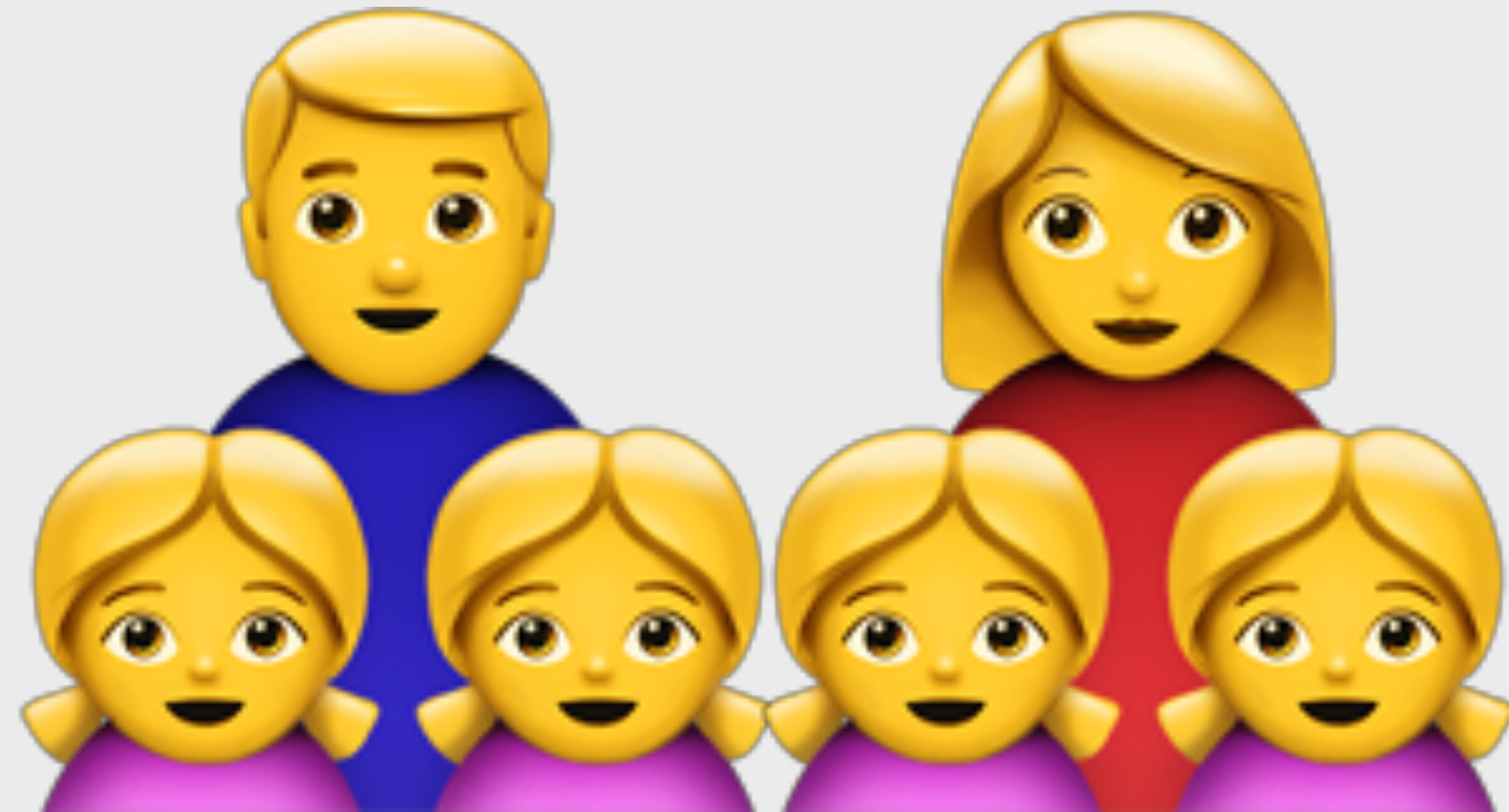
attributes: {...}



Let's look at
naming things

names a link

<a>



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](#)

“

“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*



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 

TABLE OF CONTENTS

- 1 [Introduction](#)
 - 1.1 [Is this HTML5?](#)
 - 1.2 [Background](#)
 - 1.3 [Audience](#)
 - 1.4 [Scope](#)
 - 1.5 [History](#)
 - 1.6 [Design notes](#)
 - 1.7 [HTML vs XML syntax](#)
 - 1.8 [Structure of this specification](#)
 - 1.9 [Privacy concerns](#)
 - 1.10 [A quick introduction to HTML](#)
 - 1.11 [Conformance requirements for authors](#)
 - 1.12 [Suggested reading](#)

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="nl">

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

🔍

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**



```

```

BIJLAGEDETAILS



img_8841.jpg

7 april 2019

2 MB

4032 bij 3024 pixels

[Afbeelding bewerken](#)

[Permanent verwijderen](#)

URL

Titel

IMG_8841

Onderschrift

Alt-tekst

Omschrijving





Google Accessibility ✓

@googleaccess

Follow



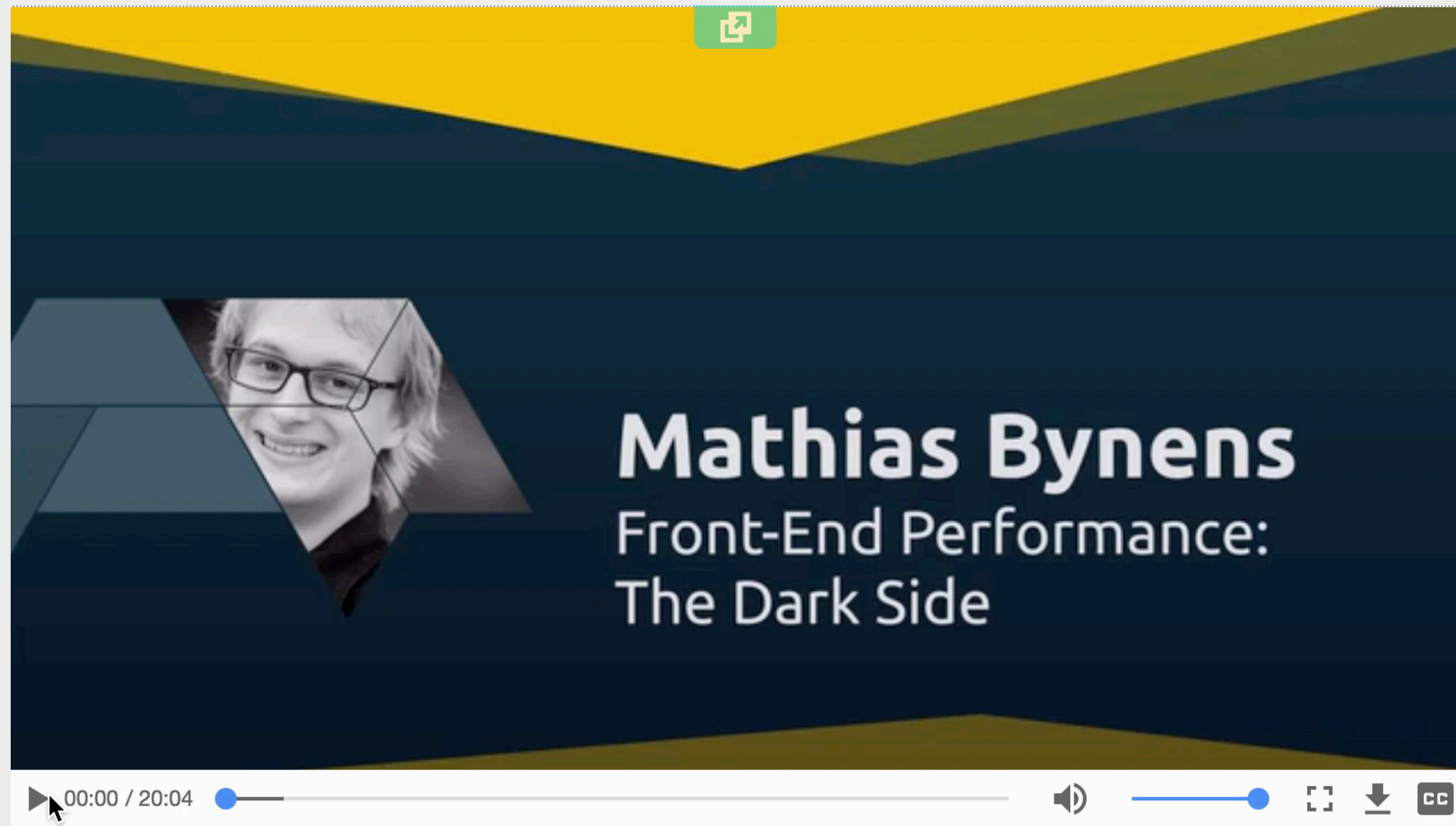
Coming later this year: Screen reader users can ask Chrome to get automatic image descriptions from Google when an image is missing alt text. Get a sneak preview now using Chrome Canary, just open the context menu! [#a11y](#) [#CSUNATC19](#)

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

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.

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.

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.

`<details>`

`<select>`

`<input>`

`<textarea>`

The interactive elements

`<a>`

`<button>`



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>