A11y: EAA, WCAG, WAI, ARIA, WTF? – it’s for the people stupid!

The web is already accessible – it's us as developers who are including barriers. Let's make the web accessible together.
About us

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THE WHITE HOUSE
WASHINGTON
April 4, 1997

Congratulations on the launch of the Web Accessibility Initiative – an effort to ensure that people with disabilities have access to the Internet's World Wide Web.

Bill Clinton

https://www.w3.org/Press/Clinton.html
Outline

1. Awareness
2. Implementation
3. QA & Testing
Accessibility affects everyone

Goals
- Include all people
- Reduce barriers to a minimum
- Don’t create new barriers

The web is already accessible, it’s us who build in the barriers.
## Types of limitations (selection / examples)

<table>
<thead>
<tr>
<th>type</th>
<th>permanent</th>
<th>temporary</th>
<th>situational</th>
</tr>
</thead>
<tbody>
<tr>
<td>controlling</td>
<td>only one arm</td>
<td>broken arm</td>
<td>parents with a child in their arms</td>
</tr>
<tr>
<td>seeing</td>
<td>blindness</td>
<td>eye surgery</td>
<td>distracted driver</td>
</tr>
<tr>
<td>hearing</td>
<td>deaf</td>
<td>ear infection</td>
<td>working on noisy machines</td>
</tr>
<tr>
<td>speaking</td>
<td>muteness</td>
<td>laryngitis</td>
<td>heavy accent</td>
</tr>
<tr>
<td>thinking</td>
<td>cognitive limitations</td>
<td>headache</td>
<td>distraction, fatigue</td>
</tr>
</tbody>
</table>
§ Legal Basis

European Accessibility Act – EAA
- EU directive 2019/882
- Digital Accessibility requirements for products and services
- Effective June 28, 2019
  - Implementation in national law varies

Other countries and regions:
https://www.w3.org/WAI/policies/ &
https://www.siteimprove.com/glossary/accessibility-laws/
W3C, WAI, WCAG

W3C
World Wide Web Consortium

WAI
Web Accessibility Initiative

WCAG
Web Content Accessibility Guidelines

published
Four Principles

1. Perceivable

2. Operable

3. Understandable

4. Robust
Conformance Levels

A can be used by every target group (without comfort requirements)

AA can be used by any target group

AAA offers a very comfortable use
How does a11y affect open source projects?

Inaccessible UI library used by almost every developer

NPM, GitHub, etc.

Project A
Project B
Project C
Project N
Example: DB UX Design System
Tech components: [https://db.de/db-ui#en](https://db.de/db-ui#en)
Implementation

How we can achieve a high degree of accessibility with little effort.
Semantic HTML

<section>
</section>

<div class="section">
</div>

I HEARD YOU LIKE DIVS
SO I PUT A DIV INSIDE A DIV INSIDE ANOTHER DIV INSIDE A RESPONSIVE TABLE

DIV TAGS
DIV TAGS EVERYWHERE
**Landmarks**

```
<header> ... </header>
<nav> ... </nav>
<aside> <main>
  <section>
    <article>...</article>
  </section>
</aside> <main>
<footer> ... </footer>
```

**OH HEY THERE**

**HAVE YOU HEARD OF LANDMARK?**
<h1> ... </h1>
<h2> ... </h2>
<h3> ... </h3>
<h4> ... </h4>
<h5> ... </h5>
<h6> ... </h6>
Buttons & Links

```html
<button type="button" onclick="...">
  Some Action
</button>

<a href="...">
  Go to next page!
</a>

<div class="button">
  ...
</div>
```
<input type="text" placeholder="Name" name="input-01" id="input-01" aria-describedby="hint">
<label for="input-01">Textlabel</label>
<p id="hint">Optional Description</p>
<input
  type="text"
  placeholder="SMS Token"
  name="input-01"
  id="input-01"
  aria-describedby="hint"
  inputmode="numeric"
  pattern="[0-9]*"
  autocomplete="one-time-code"/>
Call it "alt tag" one more time...

I DARE YOU!
Modal dialogs using `<dialog>`

The HTML element `<dialog>` provides us with everything for the barrier-free implementation of modal dialogs.
Autocompletion with `<datalist>`

Options:

- option 1
- option 2
- option value 3
- option label 3
- option value 4
- option label 4

Choose a number wisely.
ARIA: not THE solution for everything

Always prefer using semantic HTML!
- aria-required → required
- aria-hidden → hidden
- aria-label → *display visible text*
- aria-readonly → readonly
- `div[role=button]` → `<button>`

Useful ARIA attributes:
- aria-current
- aria-invalid
- aria-live
QA & Testing

How to test accessibility in applications easily.

YOU SHALL NOT PASS!
If your application isn't usable with a keyboard, it won't be usable with a screen reader either.
Chrome DevTools is a set of web developer tools built directly into the Google Chrome browser. DevTools can help you diagnose problems quickly, which ultimately helps you build better websites, faster.

https://developer.chrome.com/docs/devtools/accessibility/reference/
FOSDEM is a free event for software developers to meet, share ideas and collaborate. Every year, thousands of developers of free and open source software from all over the world gather at the event in Brussels.

NEWS

2022-12-08
Accepted stands for FOSDEM 2023
With great pleasure (and an apology for missing the deadline by seven days), we can announce the following projects will have a stand at FOSDEM 2023 (4 & 5th of February).

2022-11-13
Presentations - Call for Participation
We now invite proposals for presentations.

2022-11-07
Accepted developer rooms
We are pleased to announce the developer rooms that will be organized at FOSDEM 2023.

https://www.deque.com/axe/devtools/
It’s about the Human, stupid
Wouldn’t it be great to have a global database for accessibility violations like we have it for CVE’s, CWE’s and OWASP’s?
Thank you very much for your attention
Contact

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Image sources

- DB Logo, Pulse, Powerpoint presentation layout: Deutsche Bahn AG, Potsdamer Platz 2, 10785 Berlin
- Slide 3, Bill Clinton: https://freesvg.org/download/178261
- Slide 6, Meme: https://sheribyrnehaber.medium.com/accessibility-memes-2183f7fd24a5
- Slide 9, W3C Logo: https://commons.wikimedia.org/wiki/File:W3C_icon.svg
- Slide 10, memes:
  - https://giphy.com/gifs/retro-thumbs-up-XreQmk7ETCa0
  - https://giphy.com/gifs/dogs-puppy-confused-xT0xeu0y2Fcl9vDGiA
  - https://giphy.com/gifs/friday-close-customer-Adge9XUP3x9LO
  - https://giphy.com/gifs/angry-mad-door-10UHehECO98kAE
- Slide 12, graphic (modified): https://xkcd.com/2347
- Slide 13, GitHub logo: https://github.com/logos
- Slide 15, memes:
  - https://www.reddit.com/r/ProgrammerHumor/comments/ag7old/web_programmers_in_a_nutshell/
  - https://makeameme.org/meme/div-tags-div
  - http://www.quickmeme.com/meme/3rf8cb
- Slide 16, meme: https://imgflip.com/i/7aboaq
- Slide 18, meme: https://imgflip.com/i/7abnzb
- Slide 21, meme: https://www.bitcoininsider.org/article/51674/web-accessibility-buzzword-or-reality
- Slide 25, meme: https://imgflip.com/i/7abom9
- Slide 26, meme / background: https://uxplanet.org/disabled-buttons-in-user-interface-4dafda3e6fe7
- Slide 27, meme: https://giphy.com/gifs/computer-working-cat-LHZyiXOnHwDDy
- Slide 32, meme: https://dev.to/abbeyperini/accessibility-auditing-my-portfolio-site-part-6-254l