



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.

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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>

1. Awareness

2. Implementation

3. QA & Testing



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)



type	permanent	temporary	situational
controlling	only one arm	broken arm	parents with a child in their arms
seeing	blindness	eye surgery	distracted driver
hearing	deaf	ear infection	working on noisy machines
speaking	muteness	laryngitis	heavy accent
thinking	cognitive limitations	headache	distraction, fatigue

§ 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[®]

World Wide Web
Consortium

WAI
Web
Accessibility
Initiative

published



WCAG
Web Content
Accessibility
Guidelines

Four Principles



1. Perceivable



2. Operable



3. Understandable



4. Robust



Conformance Levels

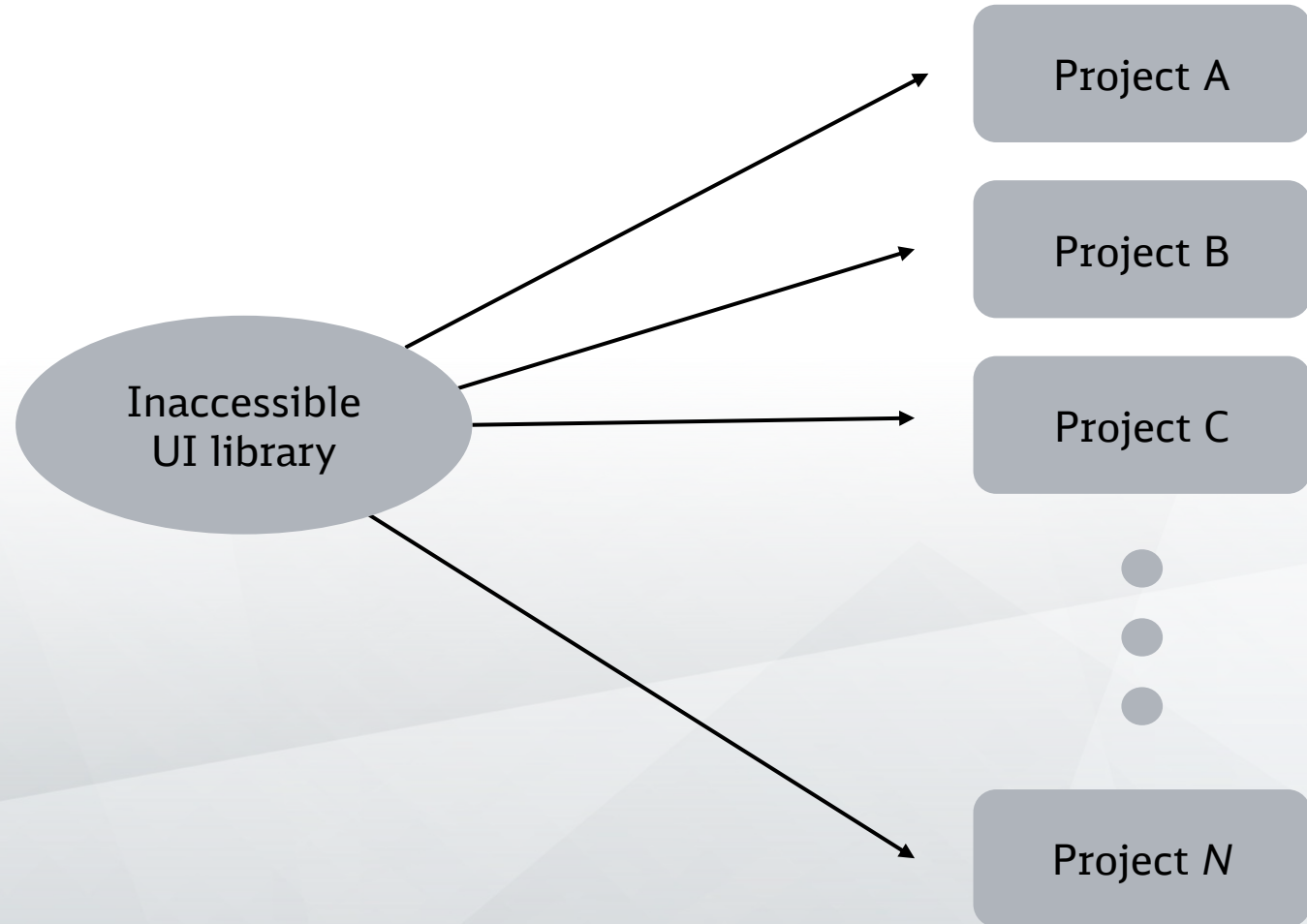
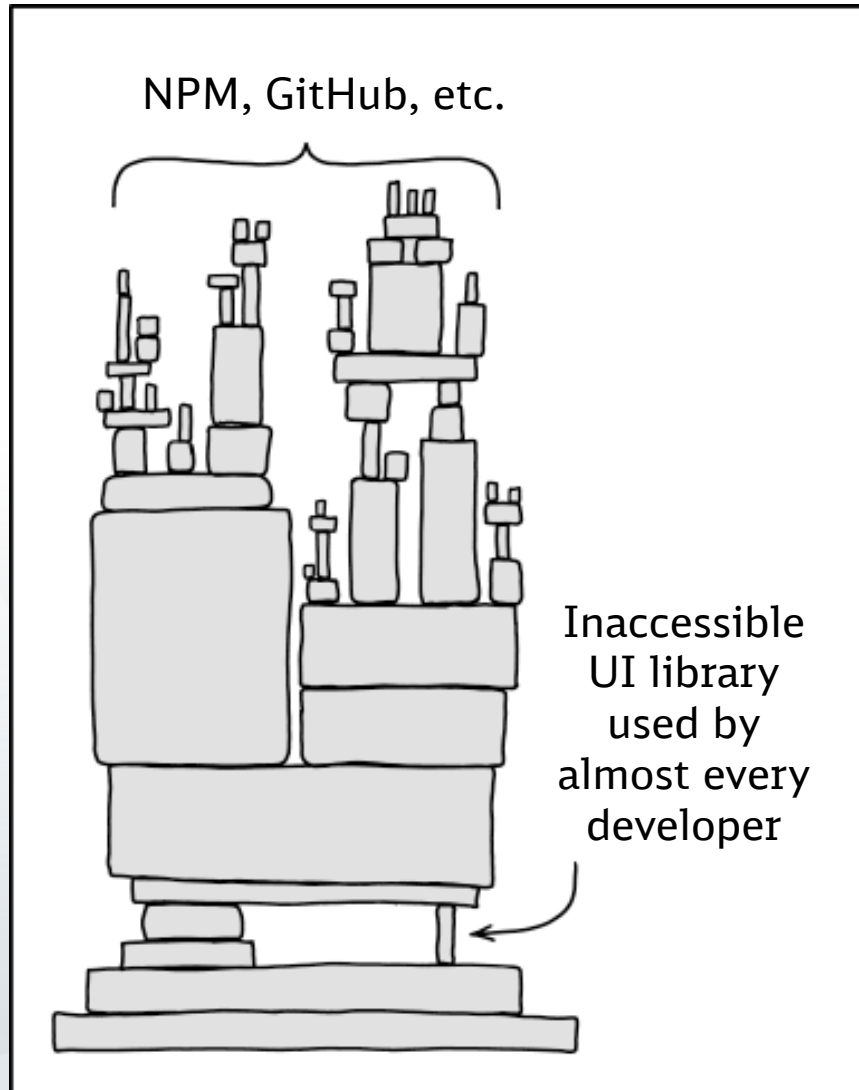


A can be used by every target group (**without comfort requirements**)

AA can be used by **any target group**

AAA offers a very **comfortable use**

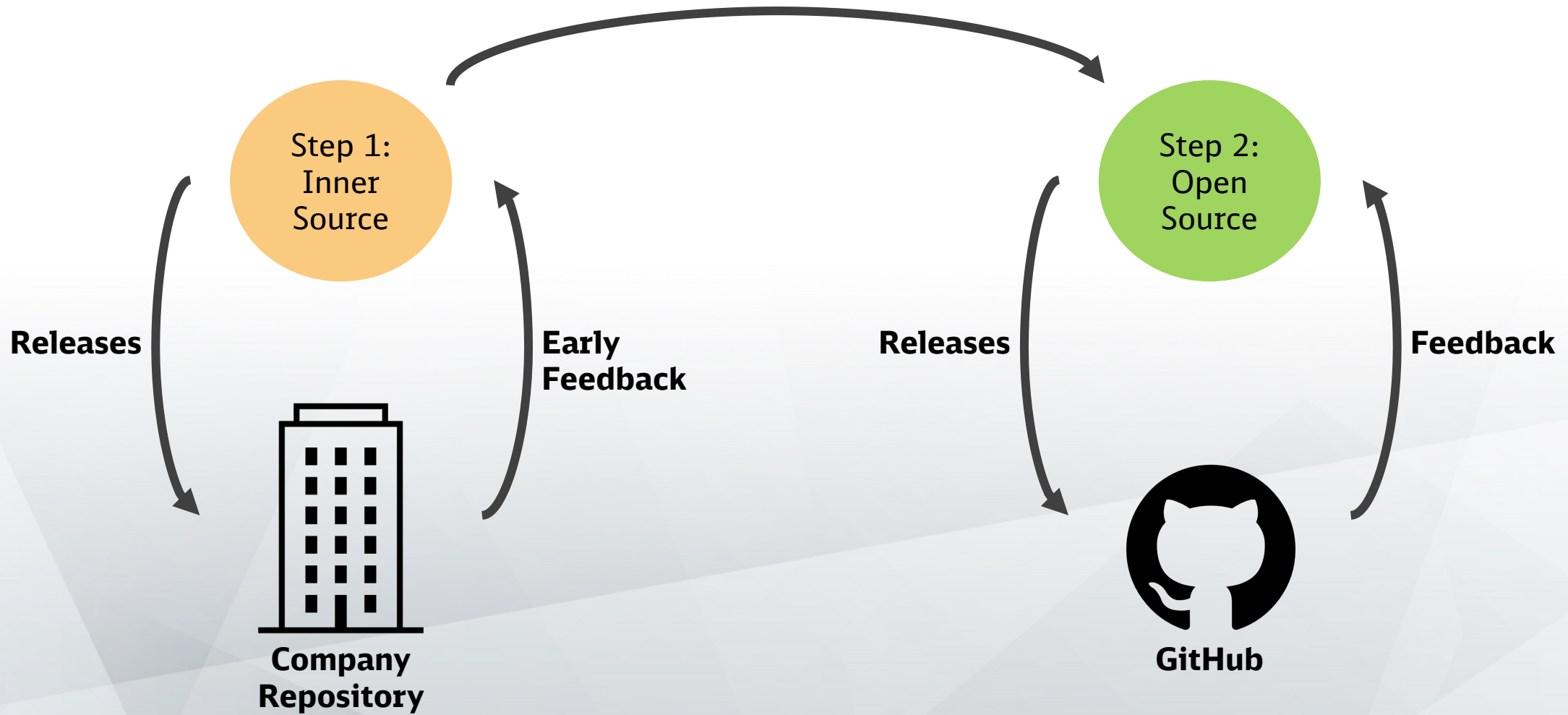
How does a11y affect open source projects?



Example: DB UX Design System



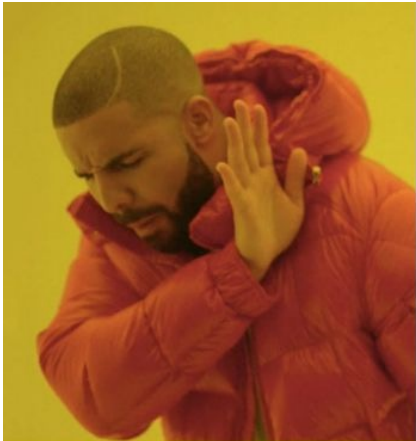
Tech components: <https://db.de/db-ui#en>



Implementation

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

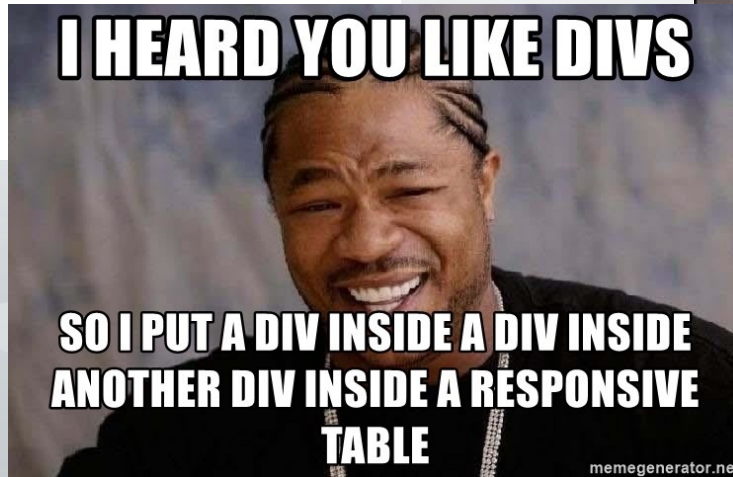
Semantic HTML



```
<section>  
</section>
```



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



Landmarks



```
<header> ... </header>
```

```
<nav> ... </nav>
```

```
<aside>      <main>
```

```
    <section>
```

```
...
```

```
    <article>...</article>
```

```
    </section>
```

```
</aside>    </main>
```

```
<footer> ... </footer>
```



`<h1> ... </h1>`

`<h2> ... </h2>`

`<h3> ... </h3>`

`<h4> ... </h4>`

`<h5> ... </h5>`

`<h6> ... </h6>`

Buttons & Links

```
<button type="button"  
        onclick="...">
```

Some Action

```
</button>
```

```
<a href="...">
```

Go to next page!

```
</a>
```

```
<del>div class="button">
```

...

```
</del>
```



JAKE-CLARK.TUMBLR

```
<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>
```



Project name
DB UI

Optional description

More markups for form fields (examples)



```
<input
  type="text"
  placeholder="SMS Token"
  name="input-01"
  id="input-01"
  aria-describedby="hint"
  inputmode="numeric"
  pattern="[0-9]*"
  autocomplete="one-time-code" />
```

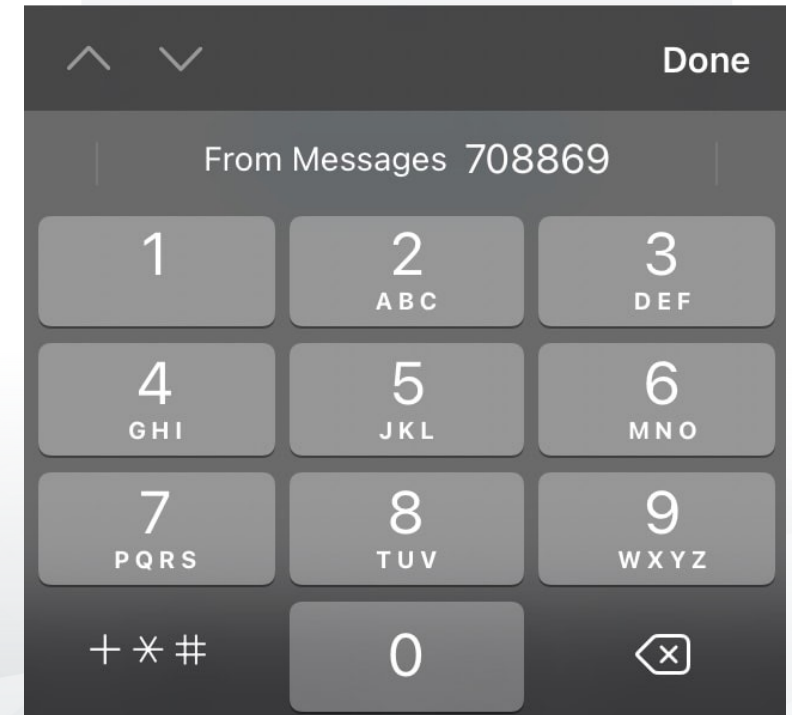


Image alt Attribute

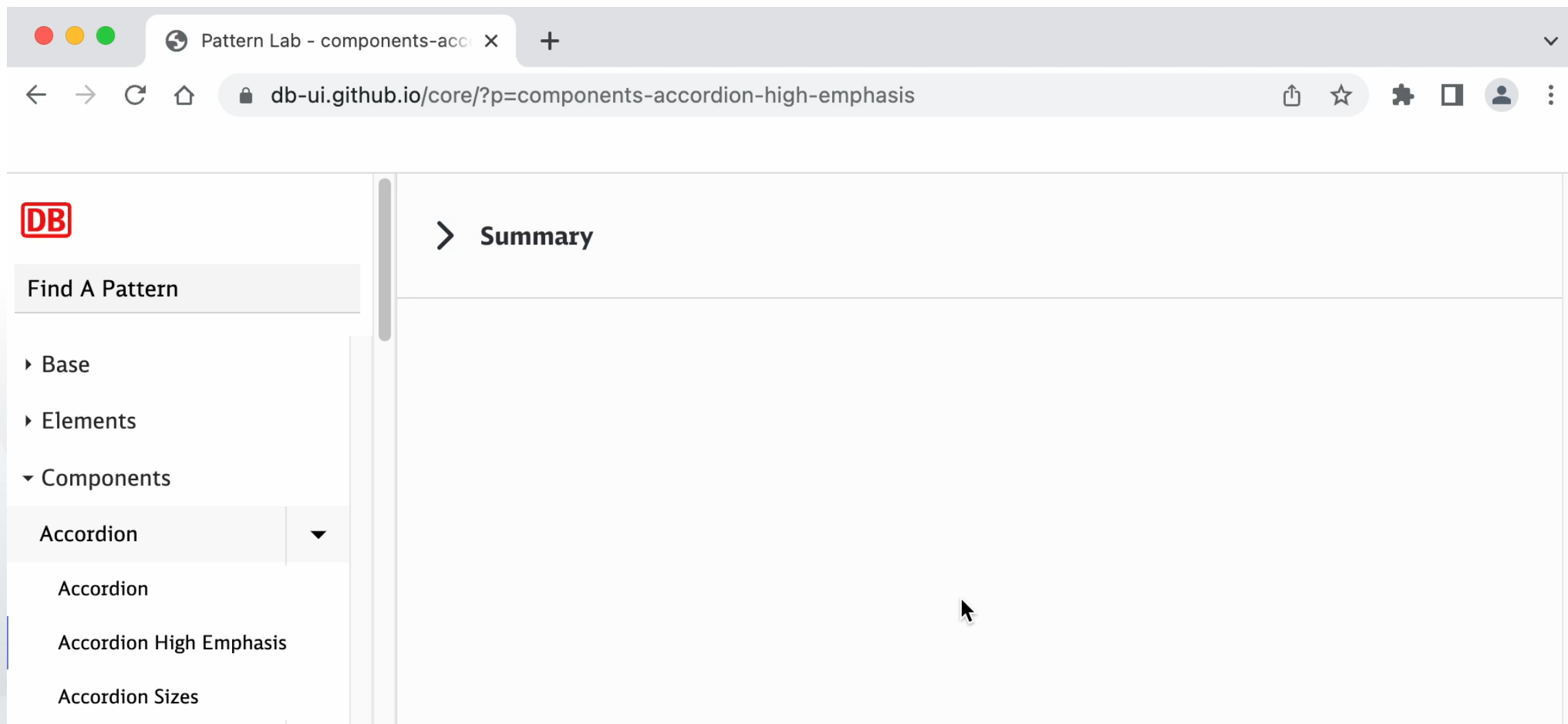


Modal dialogs

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

next

Collapsible <details><summary>



Autocompletion with `<datalist>`



Options:

Input type

Whom yo
Email add

Input type

Choose a number wisely

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

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

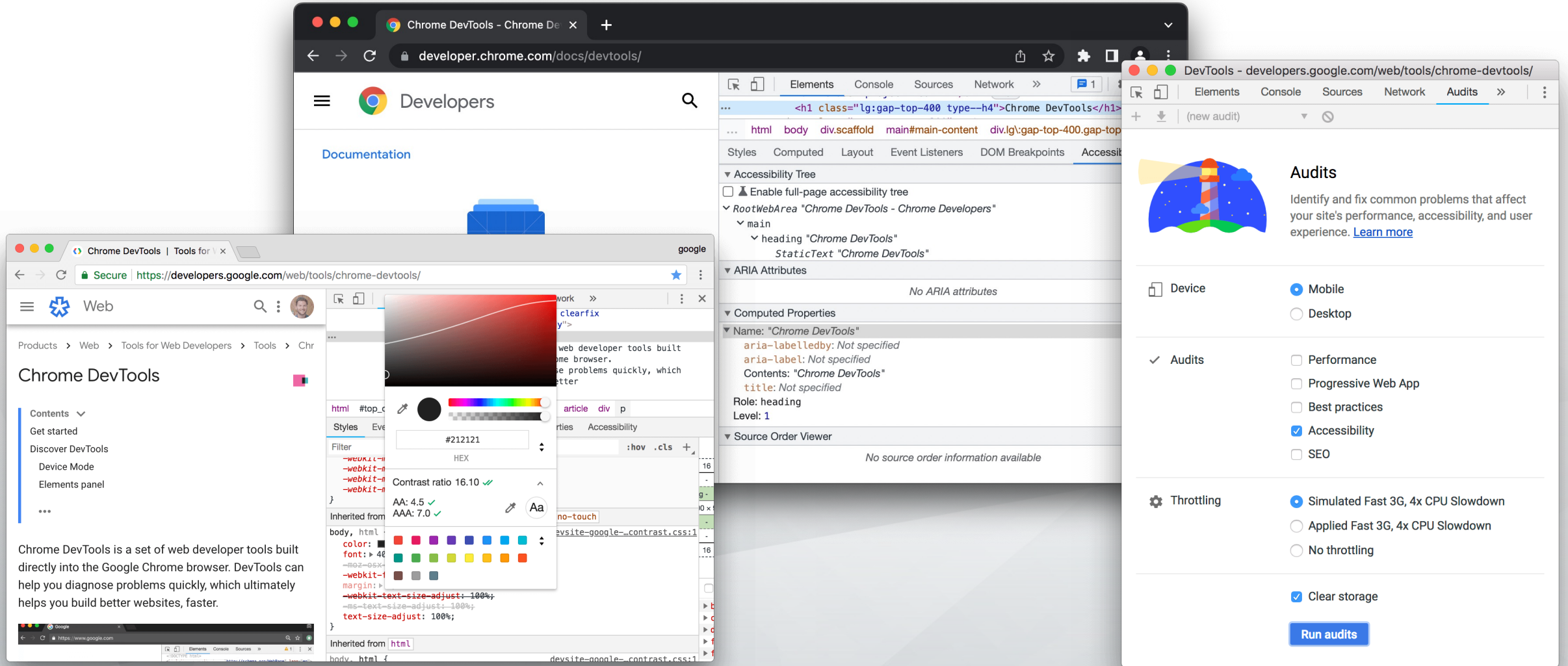
How to test accessibility in applications easily.

YOU SHALL NOT PASS!

If your application isn't usable with a keyboard, it won't be usable with a screen reader either.



Chrome Developer Tools



<https://developer.chrome.com/docs/devtools/accessibility/reference/>

Visual Studio Code > Linters > Web Accessibility

Web Accessibility

Max van der Schee | 29,655 installs | ★★★★★ (4) | Free

Audit Web Accessibility issues in Visual Studio Code

[Install](#) [Trouble installing?](#)

[Overview](#) [Version History](#) [Q & A](#) [Rating & Review](#)

Web Accessibility Extension - Visual Studio Code

license MIT GitHub installs 29.6K

So I heard you wanted to write more accessible code? Well, you came to the right Extension!

This extension is here to help you get feedback on what parts need some more attention for it to be accessible, this is just the basics and doesn't cover all the rules but will help with making your project accessible.

Features

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <meta charset="utf-8" />
5   <meta http-equiv="X-UA-Compatible" content="IE=edge">
6   <meta name="viewport" content="width=device-width, initial-scale=1">
7   <link rel="stylesheet" type="text/css" media="screen" href="main.css" />
8   <script src="main.js"></script>
9 </head>
10 <body>
```

[License](#)
[Changelog](#)
[Download Extension](#)

Project Details

- [mvdsc/axe-core](#)
- 2 Pull Requests
- Last Commit: 8 months ago
- 13 Open Issues

FOSDEM'23

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Brussels / 4 & 5 February 2023 [schedule](#)

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). [read more ...](#)

2022-11-13
Presentations - Call for Participation
We now invite proposals for presentations. [read more ...](#)

2022-11-07
Accepted developer rooms
We are pleased to announce the developer rooms that will be organised at FOSDEM 2023. [read more ...](#)

axe DevTools
axe-core 4.5.2

[Sign up](#) / [Sign in](#) [start new scan](#)

Overview

Test Name [SAVE TEST](#)

Test URL [RE-RUN SCAN](#)

<https://fostdem.org/2023/>

TOTAL ISSUES	AUTOMATIC ISSUES.....	35
	GUIDED ISSUES.....	0
	Critical.....	1
	Serious.....	34
	Moderate.....	0
	Minor.....	0

Best Practices: [OFF](#) [WCAG 2.1 AA](#) [Download](#)

Issues: Total Issues **35**

- [Elements must have sufficient color contrast](#) 34
- [Form elements must have labels](#) 1

<https://www.deque.com/axe/devtools/>

It's about the Human, stupid



Wouldn't it be great to have a **global database** for all 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://sheribyrenehaber.medium.com/accessibility-memes-2183f7fd24a5>
- Slide 8, Meme: <https://devblogs.microsoft.com/startups/how-does-accessibility-fit-into-an-mvp/>
- Slide 9, W3C Logo: https://commons.wikimedia.org/wiki/File:W3C_icon.svg
- Slide 10, memes:
 - <https://giphy.com/gifs/retro-thumbs-up-XreQmk7ETCak0>
 - <https://giphy.com/gifs/dogs-puppy-confused-xT0xeuOy2Fc19vDGiA>
 - <https://giphy.com/gifs/friday-close-customer-Adqe9XUP3x9LO>
 - <https://giphy.com/gifs/angry-mad-door-10UHehEC098kAE>
- 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://levelup.gitconnected.com/getting-in-the-habit-of-writing-semantic-html-c7e507606385>
 - <https://makeameme.org/meme/div-tags-div>
 - <http://www.quickmeme.com/meme/3rf8cb>
- Slide 16, meme: <https://imgflip.com/i/7aboag>
- 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 30, „human“ graphic: <https://commons.wikimedia.org/wiki/File:Accessibility.svg>
- Slide 32, meme: <https://dev.to/abbeyperini/accessibility-auditing-my-portfolio-site-part-6-2541>