

Improving the web developer experience one feature at a time

Patrick Brosset – FOSDEM 2026

Hello everyone.

It's great to be here, and I'm very honored to open this Browser and Web Platform track with my talk.

It's not just about the code.

Let's talk data!

As front-end developers, building for the web, we rely on open-source software a lot.

Much of the engines of the browsers we build for are open-source projects.

The very frameworks and libraries we rely on for our sites and apps are also very often open-source.

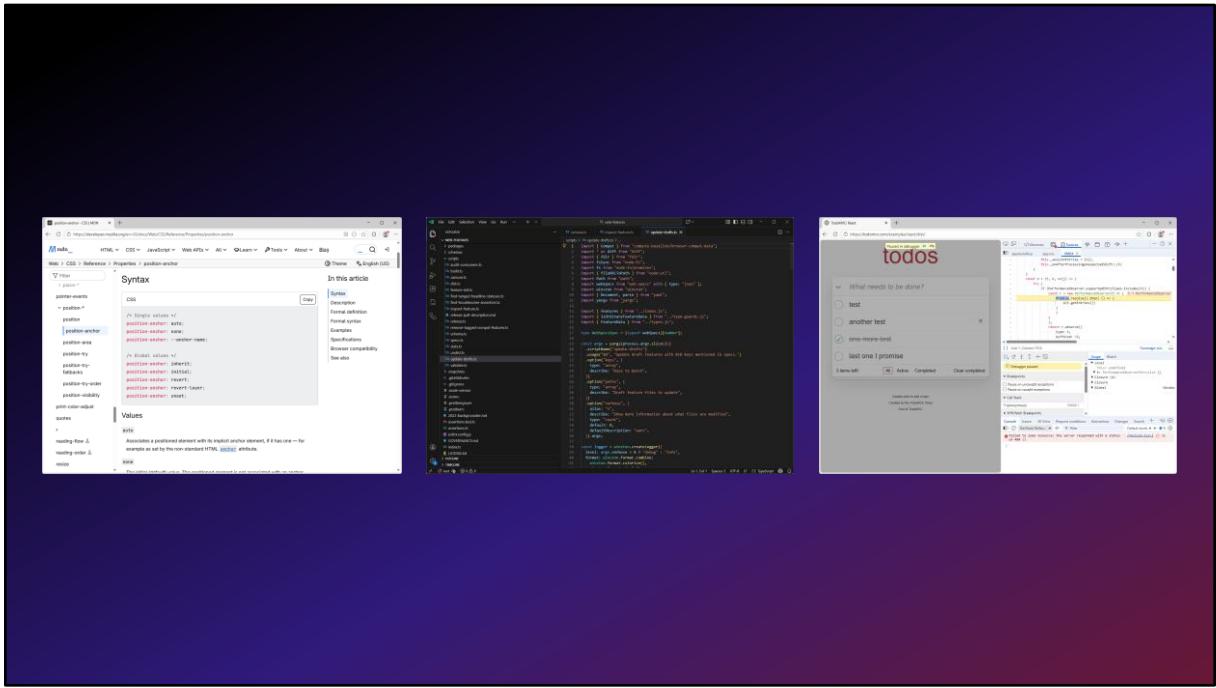
This entire conference is proof that this is a thriving ecosystem.

But it's not only about the code.

Code is not what I'm here to talk about.

There are two things web devs, and browser engineers too, rely on a lot that's not code: docs and data.

So let's talk about data.



Think about a typical day as a web developer.

Obviously, you write code. But you also depend on tools to write and debug that code,

and on documentation to even know how to write it in the first place.

Both take data to be as useful as possible.

Both depend on massive amounts of data, to give you the best environment for you to learn, write, and debug.

These tools and docs, they need an understanding of what you're doing and the features you're using, in order to help you get things done.

MDN position-anchor - CSS | MDN

developer.mozilla.org/en-US/docs/Web/CSS/Reference/Properties/position-anchor#browser_compatibility

MDN Web Docs

HTML CSS JavaScript Web APIs All Learn Tools About Blog

Theme English (US)

Web > CSS > Reference > Properties > position-anchor

BROWSER COMPATIBILITY

Report problems with this compatibility data • View data on GitHub

Filter

	Chrome	Edge	Firefox	Opera	Safari	Chrome Android	Firefox for Android	Opera Android	Safari on iOS	Samsung Internet	WebView Android	WebView on iOS
position-anchor	✓ 125	✓ 125	✓ 147	✓ 111	✓ 26	✓ 125	✓ 147	✓ 83	✓ 26	✓ 27	✓ 125	✓ 26
auto value	○ 125	○ 125	○ 147	○ 111	○ 26	○ 125	○ 147	○ 83	○ 26	○ 27	○ 125	○ 26
none value ▲	▲ 144	▲ 144	▲ 147	✗ No	✗ No	✗ 144	✗ 147	✗ No	✗ No	✗ No	✗ 144	✗ No

Tip: you can click/tap on a cell for more information.

✓ Full support ○ Partial support

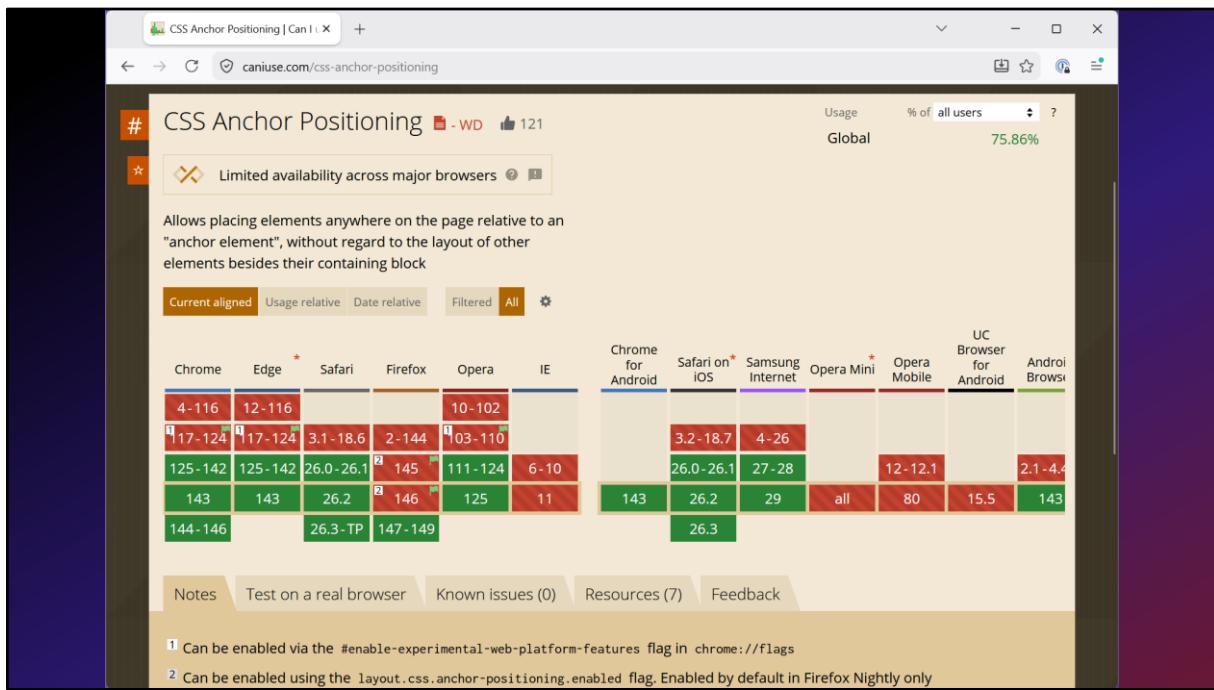
▲ In development. Supported in a pre-release version. ✗ No support

▲ Non-standard. Check cross-browser support before using.

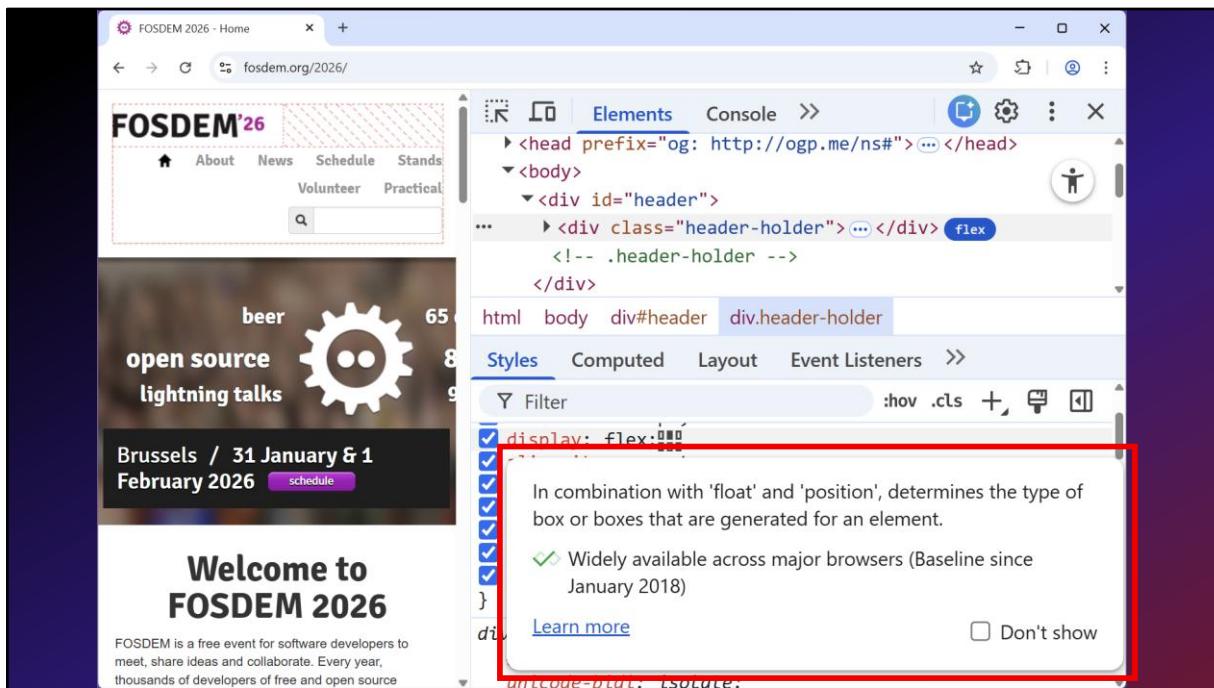
In this article

- Syntax
- Description
- Formal definition
- Formal syntax
- Examples
- Specifications
- Browser compatibility
- See also

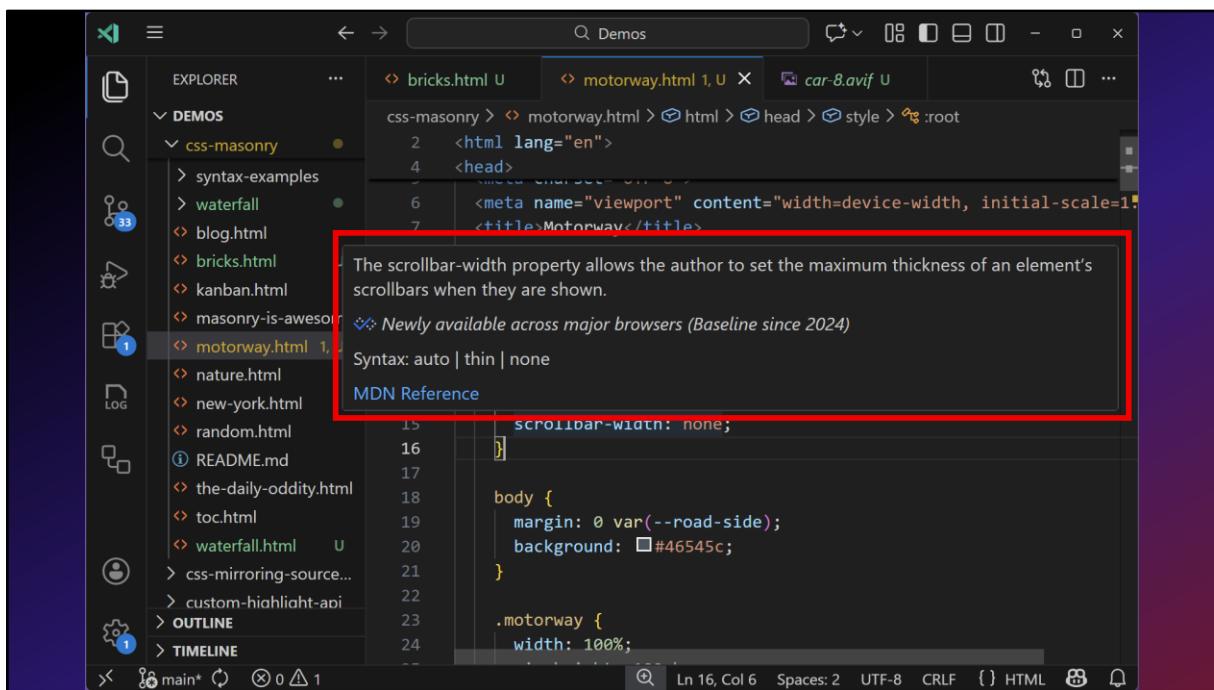
Familiar with this?



And this?



What about docs/compat tooltips in browser DevTools?



The screenshot shows a code editor interface with a dark theme. The left sidebar contains a file tree with various HTML files under a 'DEMONS' category. The main editor area shows a snippet of HTML and CSS. A red box highlights a tooltip for the 'scrollbar-width' property in the CSS code. The tooltip contains the following text:

The scrollbar-width property allows the author to set the maximum thickness of an element's scrollbars when they are shown.
Newly available across major browsers (Baseline since 2024)
Syntax: auto | thin | none
MDN Reference

The CSS code in the editor is as follows:

```
2   <html lang="en">
4     <head>
6       <meta name="viewport" content="width=device-width, initial-scale=1">
7         <title>Motorway</title>
15
16   body {
17     margin: 0 var(--road-side);
18     background: #46545c;
19   }
20
21   .motorway {
22     width: 100%;
```

And hover cards in your editor or IDEs?

All these examples rely, in some way, on open-source data which you benefit from every day as a web developer
and without which much of your work would be a lot harder.

Document: execCommand()
method

Deprecated: This feature is no longer recommended. Though some browsers might still support it, it may have already been removed from the web standards, may be in the process of being dropped, or may only be kept for compatibility purposes. Avoid using it, and update existing code if possible; see the compatibility table at the bottom of this page to guide your decision. Be aware that this feature may cease to work at any time.

Note: Although the `execCommand()` method is deprecated, there are still some valid use cases that do not yet have viable alternatives. For example, unlike direct DOM manipulation, modifications performed by

Allows placing elements anywhere on the page relative to an 'anchor element', without regard to the layout of other elements besides their containing block

Current aligned Usage relative Date relative Filter

Browser for Firefox 146

Support info Not supported by default, but can be enabled

Notes Implemented in Firefox 8.0.0.77

Can be enabled using the `experimental-web-platform-features` flag in chrome://flags

Can be enabled using the `layout.css.anchor-positioning.enabled` flag. Enabled by default in Firefox Nightly only

Notes Test on a real browser Known issues

MDN Web API: CSSViewTransitionRule

Browser compatibility

See bug 388854

These were kind of obvious examples, here are more subtle ones which might still have a big impact on web devs experience:

Knowing that a feature is deprecated, or currently behind a flag, or blocked by a particular bug are all pieces of data that can come in very useful in the life of a web developer.

Imagine docs without up to date browser compatibility data, or deprecated warnings.

Imagine CI or linter tools that don't know how to check if the features you use work in your target browsers.

Up-to-date, high-quality data is critical infrastructure for the web industry

If you think about it, up to date web data is a critical infrastructure of the web industry which, as developers, we don't really think about.

browser-compat-data (BCD)

Let's look at one of the critical data sources, probably the most important: BCD, or browser-compat-data.

It's the data behind all the compatibility tables on MDN but also on many of the caniuse.com pages.
It's used by VS Code, ESLint, babel, Bun, and many others.

BCD in numbers

Users

- 90,000 users on GitHub
- 1,000,000 downloads/week on NPM

Contributors

- 1000 contributors
- 20,000+ GitHub pull requests

Data

- 20,000 *keys*
- (semi-) automatically tracking all browser beta releases
- 500 package releases

- Used by 90,000 people, according to GitHub
- Downloaded 1,000,000 times per week, according to NPM
- More than 1000 contributors on GitHub
- 20,000 commits.
- 20,000 “keys”, where each key corresponds to one tiny specific aspect of a web technology, like a single css property, or a single JS method parameter, etc.
- Almost 500 releases
- Semi-automatically tracking browser beta releases, for the most up to date data.

So, a very active project.

Main contributors



Most active contributors being:

- Open Web Docs, a vendor-neutral initiative to ensure the long-term health of web platform docs and data.
- MDN team. BCD is under the MDN org on GitHub.
- A few individuals at browser vendor companies, super helpful as they often know best as to which versions a given feature is supported in.
- A bunch of extremely helpful external contributors.

Using BCD

1. Install the dependency

```
npm install @mdn/browser-compat-data
```

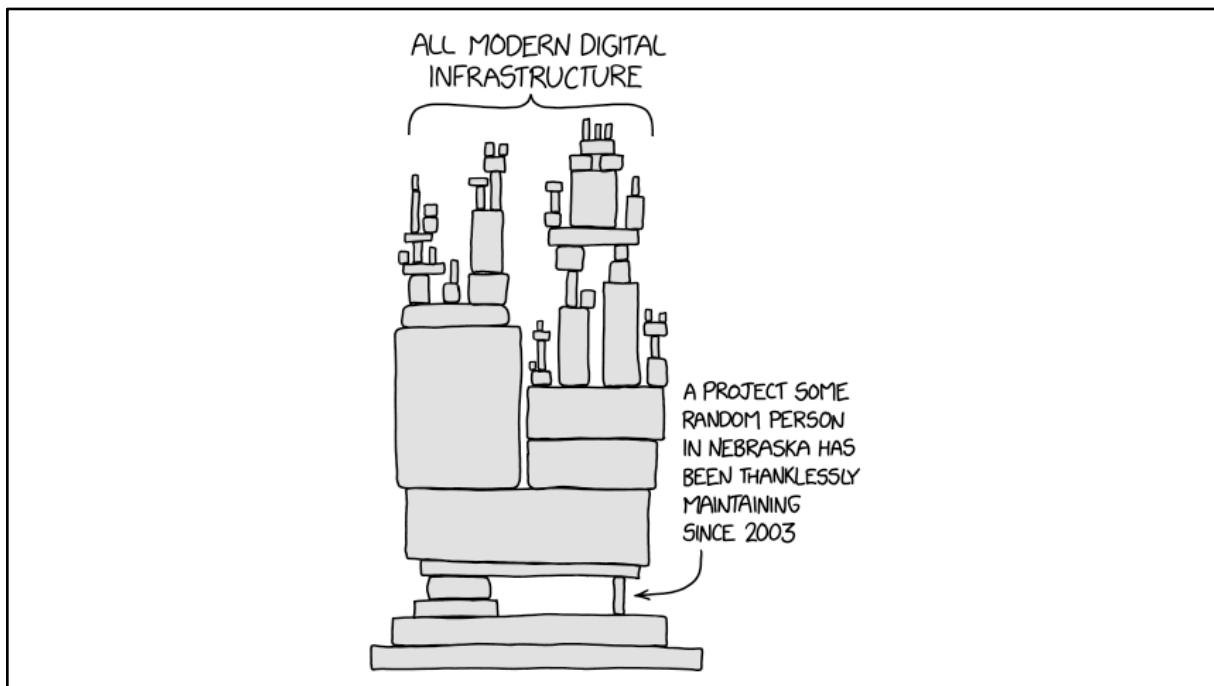
2. Import the data in your project

```
import bcd from '@mdn/browser-compat-data' with { type: 'json' };
```

3. Use the data!

```
const support = bcd.css.properties.background.__compat;
```

Super easy to use too.



Intermission

Open-source projects need funding to last, remain relevant, secure, etc. There's a whole track about this at this very conference.

It's very simple: if work is needed, then someone must do that work and get paid for it.

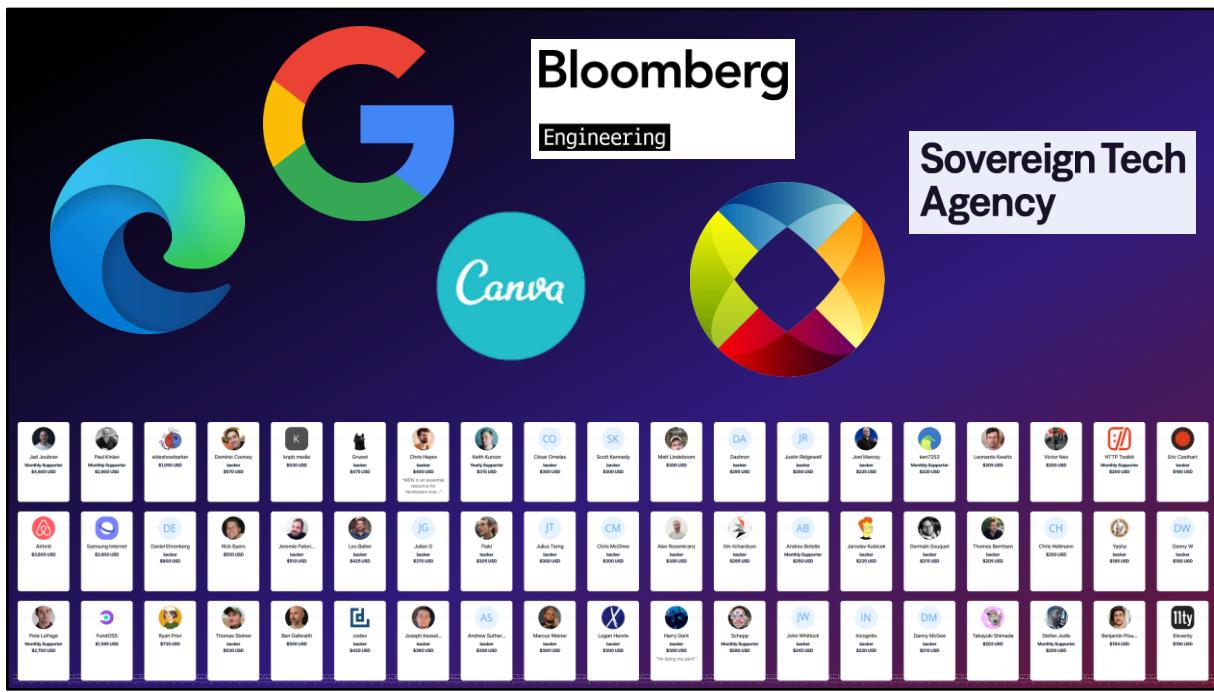
Funding remains one of the biggest challenges, and something these projects constantly have in mind, and need to prioritize, sometimes instead of doing technical work for the project.

So, big shoutout to all the sponsors and maintainers of BCD and other similar projects.

For BCD, Mozilla employs a few engineers to help maintain the data and its infrastructure, but it wouldn't be possible without outside help too.

Open Web Docs, which I also mentioned before, does a lot of the work that's needed.

Very active with updating data, reviewing PRs, but also maintaining and running a tool that updates BCD based on latest browser beta releases.



OWD is (or has been) funded by these companies, and a lot of individual donors via opencollective and github.



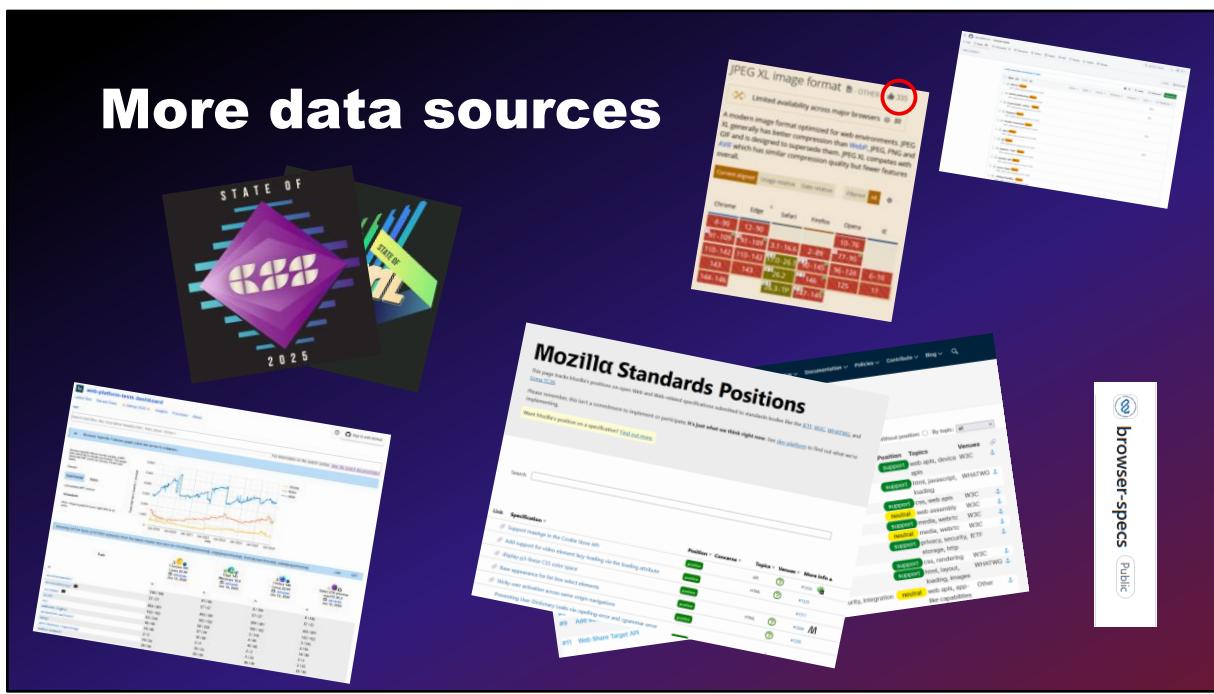
Donate now!



Sponsor!

If you want to help make a difference, you can donate to OWD.
Or, even better, convince your company to become a sponsor.

More data sources



And there are more data sources out there, which benefit web developers, sometimes indirectly.

Some of which browser companies make extensive use of, to prioritize their work.

- State of CSS/JS/HTML surveys useful for prioritization.

Results are accessible as JSON on the repo, which can then be queried via GraphQL.

- Developer signals repo.

Very new. Starting to get integrated into various places, such as caniuse.com. Allows us to capture use cases from developers about features which aren't yet interoperable.

- Browser specs.

Helps with tracking the status of specs, ...

- Standards positions.

Makes it easy for developers and other browser vendors understand the positions of Mozilla and Apple on various features, and whether they are likely

- to ever become interoperable in their current state. Available as JSON data too.
- WPT test results
 - Allow us to track the implementation quality of features in browsers.

So there's a lot of useful web-related data sources we can use to eventually make the web platform a better place.

It'd be nice if they were all interconnected though. More on that next.

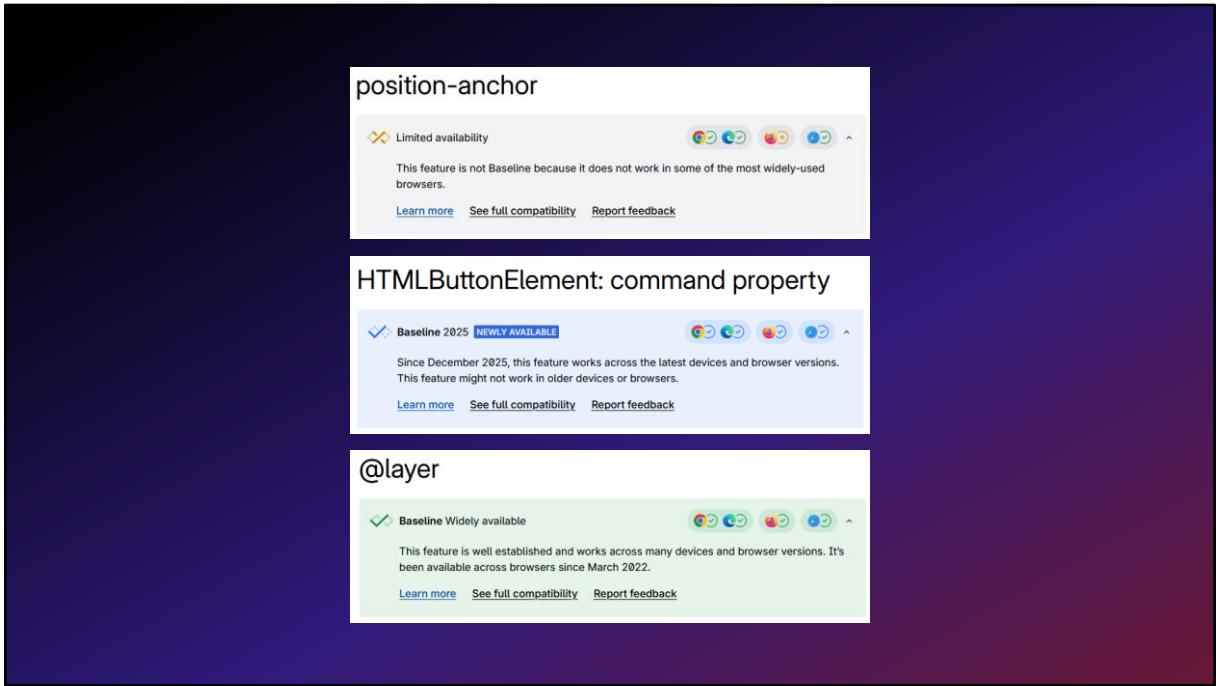


Powered by web-features

Let's talk about one more web data-related open source project: web-features

It's unlikely that you've heard about it
But you might have heard about Baseline.

Baseline is this simplified status for features of the web platform
It gives you some sense of a feature's availability across browsers.



For example, Anchor Positioning is not Baseline, because it's not yet supported across all of the browsers that Baseline considers.

Invoker commands is Baseline Newly Available, because it's now supported in all browsers that Baseline considers, but it's not been very long yet.

Finally, CSS layers is Baseline Widely Available, because it's been supported in all browsers that Baseline consider for long enough that's considered much more stable and safer to use.

It doesn't replace careful testing and consideration of your specific use case, but it makes certain decisions faster.

1100 features, and counting ...

So, Baseline is made possible by the web-features project.
But what is web-features exactly?

Web-features is a repository that lists all features of the web.
BCD already does this, but at a level that is extremely granular.
BCD wants to know about each and every attribute, property, event, parameter, and each and every little option.
Web-features doesn't need this. Instead, it wants to track features at a level high enough to be useful.

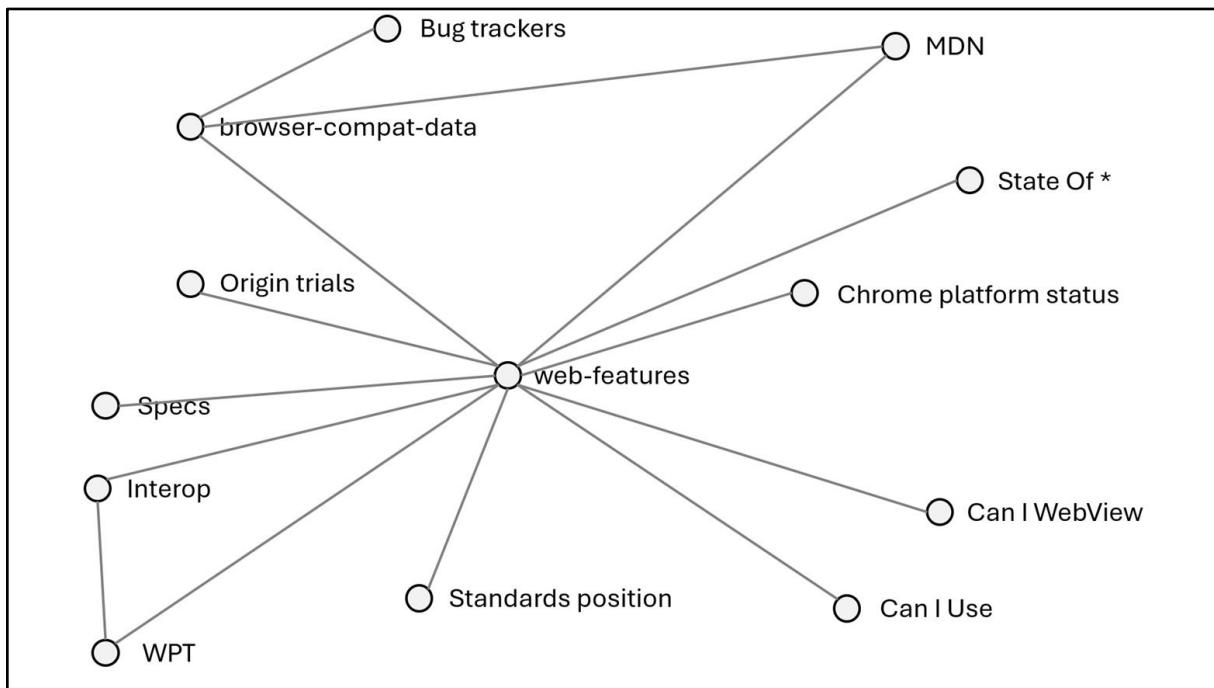
If most developers think of, say, view transitions as one feature, then there should be a feature named view transitions in the repo.

The great thing about that isn't the amount of data that comes with each feature.

Because it's mostly just name, description, spec, and the compat data that supports Baseline.

The great thing is that each feature is identified by a unique ID we can use to link to other things.

Now we have a catalog for all the features of the web platform.

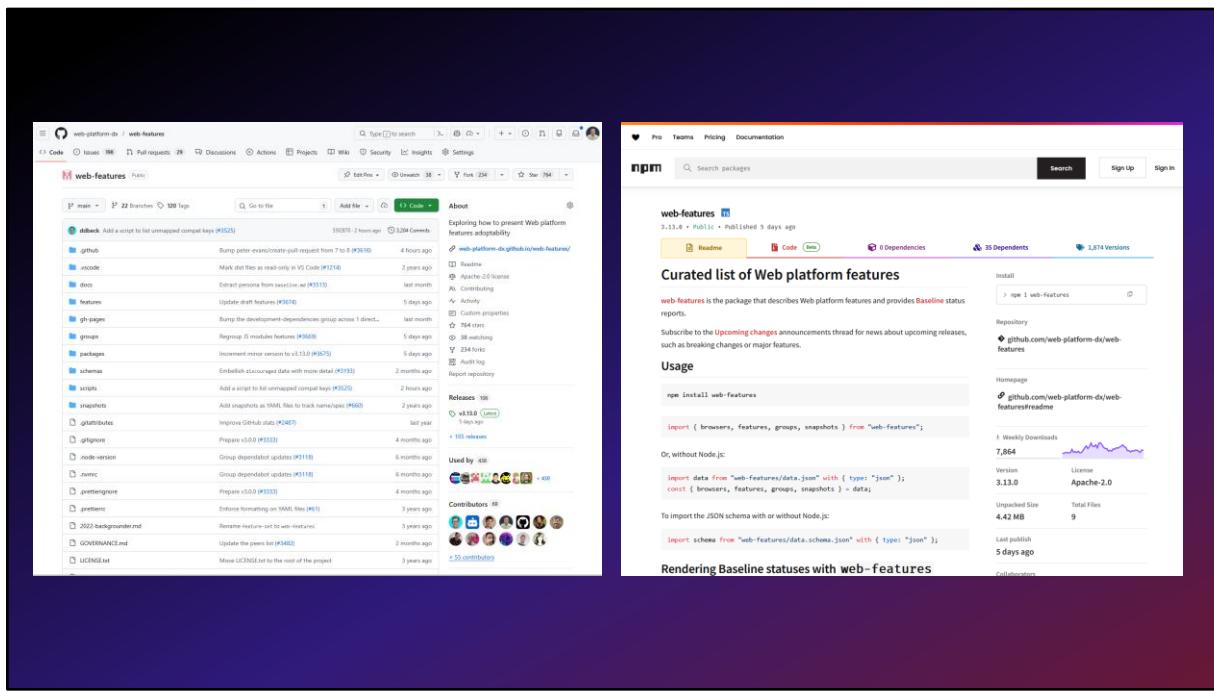


And this allows us to interconnect the other things I mentioned before!

By using web-features IDs, we can connect to docs, Web Platform Test results, State of CSS/JS/HTML survey results, standards positions, developer signals, browser bugs, caniuse pages, specifications, Etc.

The data can be seen as a reference data source for the entire web platform, a hub that connects all other data sources together.

And our goal with the project, through consistent communication about features, is to make it easier for all web devs to understand the web platform, find information about it, make decisions, and be confident about it.



The project lives on GitHub.

Owned by the WebDX community group at W3C, which I co-chair, and which you're more than welcome to join.

70 contributors.

Used by 400 people.

230 forks.

Apache 2.0 license.

With at least 1 release per week to always make sure the compat data is up to date.

Can be used as a dependency via NPM. Or download the JSON data directly from GitHub.

Produced more than 100 releases so far.

Easy to use too.

Using web-features

1. Install the dependency

```
npm install web-features
```

2. Import the data in your project

```
import { features } from 'web-features';
```

3. Use the data!

```
const data = features.popover;
```

Usage example.

Like BCD, very simple.

NPM is the simplest, but can only download the JSON from the github release.

The command and commandor attributes for the <button> HTML element dispatch an action to an element when the button is invoked (by click or keystroke), as a declarative alternative to addEventListener() calls or onclick attribute handlers.

Status	Browser support	Surveys	Developer signals
Baseline Newly Available (since 2025-12-12) This feature is expected to reach Baseline Widely Available status on: 2028-06-12	Chrome 135 Released on 2025-04-01 Chrome Android 135 Released on 2025-04-01 Edge 135 Released on 2025-04-04 Firefox 144 Released on 2025-10-14 Firefox for Android 144 Released on 2025-10-14 Safari 26.2 Released on 2025-12-12 Safari on iOS 26.2 Released on 2025-12-12	State of HTML 2025 > usage > html interoperability features features only State of HTML 2025 > usage > html interoperability features State of HTML 2025 > interactivity > interactivity pain points limitations 1 State of HTML 2025 > interactivity > interactivity pain points Interop issues 1 State of HTML 2025 > interactivity > interactivity pain points features State of HTML 2025 > interactivity > interactivity pain points State of HTML 2025 > interactivity > interactivity features State of HTML 2025 > features > all features	Votes: 93 If you want this feature to be available in all browsers, vote for it by adding a thumbs up reaction (👍) to this GitHub issue, and leave a comment with more information.

[View as JSON](#) | [Edit this feature](#) | [Report an issue](#) | Web-features entry: [source](#), [dist](#)

I talked about interconnecting data before, and here is an illustration of this.

On the WebDX group, we also maintain a site called the web platform features explore, which lists all our features + connected data sources.

Here it shows the entry for the invoker commands feature.

And you can see how it not only shows the feature's name, description and baseline status, but other connected data sources too:

- Mdn docs
- Spec
- Surveys which mention the feature
- Developer signals upvotes

Web platform features explorer

Release notes Explore features About Search

Scroll-driven animations

The `animation-timeline`, `scroll-timeline`, and `view-timeline` CSS properties advance animations based on the user's scroll position.

Status	Browser support	Surveys	Usage
Limited availability	<ul style="list-style-type: none"> Chrome 115 Released on 2023-07-18 Chrome Android 115 Released on 2023-07-21 Edge 115 Released on 2023-07-21 Firefox ✖ See bugzilla#1676779 <small>Vendor position : positive</small> Firefox for Android ✖ See bugzilla#1676779 <small>Vendor position : positive</small> Safari 26 Released on 2025-09-15 Safari on iOS 26 Released on 2025-09-15 <p>Baseline availability blocked since September 2025 by Firefox (4 months)</p>	<ul style="list-style-type: none"> State of HTML 2025 > usage > html interoperability features features only State of HTML 2025 > usage > html interoperability features State of HTML 2024 > usage > html interoperability features State of CSS 2025 > usage > gamechanger feature State of CSS 2025 > usage > favorite new features State of CSS 2025 > usage > css missing features State of CSS 2025 > usage > css interoperability features State of CSS 2025 > usage > css general pain points State of CSS 2025 > reading list > reading list State of CSS 2025 > layout > layout pain points State of CSS 2025 > interactions > interactions pain points State of CSS 2025 > features > all features State of CSS 2024 > usage > css interoperability features State of CSS 2024 > reading list > reading list State of CSS 2024 > features > all features 	<p>According to Chrome Platform Status</p> <p>~3.109% of page loads. More data at chromestatus.com.</p> <p>Web Platform Tests (WPT)</p> <p>View the latest WPT test results for this feature</p> <p>Developer signals</p> <p>Votes: 11</p> <p>If you want this feature to be available in all browsers, vote for it by adding a thumbs up reaction (👍) to this GitHub issue, and leave a comment with more information.</p>

[View as JSON](#) | [Edit this feature](#) | [Report an issue](#) | [Web-features entry: source, dist](#)

Another good example that shows scroll-driven animations with:

- Links to browser bugs
- Links to vendor standard positions
- Usage metrics from chromestatus.com
- WPT test result link

Who uses web-features?

- MDN
- caniuse.com
- caniwebview.com
- VS Code
- JetBrains IntelliJ-based IDEs
- DevTools
- RUMVision
- RUM Archive Insights
- ESLint CSS plugin
- StyleLint Baseline plugin
- browserslist
- webstastus.dev
- Web platform features explorer
- ...



Now let's look at where the web-features data is used today.

The first and most important consumers now are MDN and caniuse.com, which use the data to display Baseline banners.

But many other tools have started to use web-features data now too:
VSCode, WebStorm, browser DevTools.

There's an ESLint Baseline rule too.

Dashboards too:

explorer (feature pages, release notes)
webstatus (with wpt results)

And more coming all the time.

The image shows two side-by-side screenshots. On the left is a 'Web features finder' interface with a sidebar of categories like UI, layout and page structure, Forms and user input, Text, content and editing, Graphics, animation and visual effects, Media (Audio, Video, Image), Files, storage and persistence, Networking and communication, Security, privacy and permissions, Progressive Web App (PWA) capabilities, Performance and workers, and JavaScript language and syntax. The main area is divided into sections: Networking and communication (Use async programming patterns, Work with streams, Handle URLs and patterns, Configure network security, Use HTTP protocols and compression), Features (CORS, Content Security Policy (CSP), HTTP Strict Transport Security (HSTS), Local network access, and HTTP authentication), and a CORS section. On the right is a screenshot of a social media post by Stuart Robson (@sturobson.com) with the title 'Baseline Countdown'. The post includes a link to a web page showing a list of CSS and Web Platform features with their availability status (Newly available, Now available, Widely available) and browser compatibility (e.g., chrome, edge, firefox, safari, safari iOS) across different versions.

And you can build your own thing with the data too!

On the left is an example of a feature finder idea I had the other day and started to hack on.

It lets you navigate through the web platform, organized by web dev activities, like networking, or file handling, etc., and then find the features you can use to implement your tasks.

On the right is someone on social network who shared they were working on a Baseline countdown web page,

To show the time remaining before a feature reaches the Baseline Widely Available stage.

Keeping track of changes

Knowing what's ok to use

So why is this useful again?

Some of the most frustrating pain points which developers share through surveys and other feedback channels beside the lack of interoperability is keeping track of the rapid pace of changes, and knowing what can be used in production safely.

Baseline helps with the latter, practically, by giving a simplified status in prominent places such as editors and docs.

Dashboard sites and other tools built with web-features, can help with the former.

Release notes



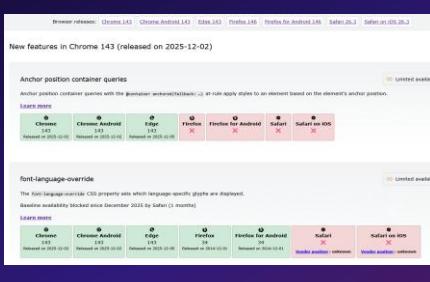
What's Baseline in December 2025
← previous month next month →

- Needs baseline
- `document.cookiePathAndName()`: The `document.cookiePath` and `document.cookieName` methods are introduced to a `Document` node and an `Object` writer that reads the given cookie.
- `EventListener`: The event and `EventTarget` performance entries are now the `Event` and `EventTarget` objects, respectively. This is a breaking change for scripts that include `on` or `remove` properties. They're now used to create instances of `Event` (MP) or `EventTarget` (MP).
- `Math.fround`: The `fround()` web `CSS` declaration uses the browser default font for the output.
- `MediaList.add()`: The `length` and `item` attributes for the `MediaList` interface are now `length` and `itemIndex` (MP). `itemIndex` is a `Document` reference to the `MediaItem` object in the `MediaList`.
- `LargeImageContentableAttribute` (LCA): The `largeImageContentable` object performance entry and its `get` and `set` methods are now taken from the largest image in the `Image` object's `largeImageContent` property (MP). `largeImageContent` is now a `LargeImageContent` object (MP).
- `Media`: The `display` `CSS` property now has the value for a group of rules.
- `RGBColorValue`: The `color` `CSS` property sets the color of the `color` track and `color` `Media`.
- `woff2`: The `woff2` event fires when an `element` or `document` has finished loading.

RSS feed



Browser releases



Browser releases: Chrome,L13 | Chrome Android,L13 | Edge,L13 | Firefox,L13 | Safari,20,2 | Safari on iOS,20,2

New features in Chrome 143 (released on 2025-12-02)

Anchor position container queries (Limited availability)

Anchor position container query with the pseudoclass `anchorContainer` (MP) so that `apply` styles to an element based on the element's anchor position.

Learn more

Browser	Version	Android	Edge	Firefox	Opera	Safari	Safari iOS
Chrome	143	143	143	143	143	143	143
Chrome Android	143	143	143	143	143	143	143
Edge	143	143	143	143	143	143	143
Firefox	143	143	143	143	143	143	143
Opera	143	143	143	143	143	143	143
Safari	143	143	143	143	143	143	143
Safari iOS	143	143	143	143	143	143	143

font-language-override (Limited availability)

The `font-language-override` CSS property sets which language-specific glyphs are displayed.

Alternative availability blocked since December 2025 by Safari (2 months)

Learn more

Browser	Version	Android	Edge	Firefox	Opera	Safari	Safari iOS
Chrome	143	143	143	143	143	143	143
Chrome Android	143	143	143	143	143	143	143
Edge	143	143	143	143	143	143	143
Firefox	143	143	143	143	143	143	143
Opera	143	143	143	143	143	143	143
Safari	143	143	143	143	143	143	143
Safari iOS	143	143	143	143	143	143	143

Taking the example of the web features explorer website I mentioned before,

We're experimenting with release notes across browsers.
But also individual browser releases.
And RSS feeds so you can keep track at your own pace, in your own RSS client.

So these are the types of things we can do with the data.
I'm hopeful that the web community can innovate in this area and gradually make it more and more enjoyable to work with the web platform.

What's not covered (yet)

Alright, so web-features is great!

But like with any in-progress project, there's always more to do.

So, let's look at what the project doesn't cover today yet.

Assistive technology support is not included yet.

But ...

Assistive technology support is one of the most important ones.

The Baseline status that web-features computes is based on BCD. BCD does care about bugs in browsers that may prevent a web feature from being accessibility supported.

So that's a start.

But we don't have data about how features work across the matrix of browsers + OS + assistive technologies. So, that part is missing from Baseline.

We're working together with Lola Odelola, who's actually here today and giving a talk later.

Lola is working on a project called ACD, Accessibility Compat Data, which eventually should get us in a position to think about what it means to include accessibility considerations in Baseline.

Progressive enhancement, polyfills, fallbacks.

But, Baseline is not YES/NO

Progressive enhancement is another pretty important one.

Because a feature doesn't have a Baseline status doesn't mean you can't use it.

You could very successfully use it as a progressive enhancement, or with a fallback or a polyfill.

So, never think of Baseline as a YES/NO status.

Think of it as a YES/Maybe YES.

Nothing replaces careful consideration of your specific audience and use case.

Also, we've been discussing about linking web-features to polyfills and other useful resources,

so that dashboards and tools can start giving you more actionable information than just a thing isn't Baseline.

Partial support, form factor-specific features, etc.

Web features sometimes take years to appear in browsers, and even when they do, it takes even more years for them to mature enough to be complete and fully interoperable across all browsers.

That means that it's common for features to be partially implemented for a while.

On the web-features repo, we don't yet have a way to deal with this. A feature is either supported by a browser, or it's not.

That's because the Baseline status we compute is simple by design. The more nuance we add to it, such as partial support, or support for mobile-only features, etc. makes Baseline more complicated.

We wish to retain Baseline's simple status, but over time add more of the nuance in the underlying data. This way, the sites and tools that consume the data can keep on showing the nice and simple Baseline banner,

But also add interesting notes about special cases.



Let's continue to be responsible web developers!

So, it's important to continue being a responsible web developer especially these days where vibe coding is a thing.

Baseline is a tool for making some quicker decisions, it's not a substitute for actual engineering.

- **Data is critical infrastructure for the web**
- **Funding is always needed**
- **Have fun with web-features**
- **Join WebDX**

And with that I'll leave you with a few things to keep in mind:

- BCD and web-features are two very important data sources for web developers, even if you don't realize it.
- They take funding to work on. If your company invests or relies on the web, consider helping out. Talk to me.
- Play with web-features and let us know if you build something useful.
- Join the WebDX CG, we're a welcoming bunch of folks who want to make the web a better place.



🙏 **Thank you!**

Find me at → <https://patrickbrosset.com> ←

Thank you!