Edit New issue

Proposal: Evolution of Conformance Testing for Modern CSS Interoperability #649

Open

graphic-designer opened 2 weeks ago

Issue Proposal: Evolution of Conformance Testing for Modern CSS Interoperability

Transition from Static Analysis to Computed Accessibility Tree (AOM) Validation.

1. Summary

Good morning to the W3C Silver Team:

I observe a critical gap between static validation tools and the real-world rendering capabilities of 2026. A prime example is the use of **Container Style Queries** (`@container style(...)`). Although this API drastically improves the user experience, it currently results in "false negatives" in official validators. **I propose** that WCAG 3 prioritizes the rendered outcome and the **Accessibility Tree (AOM)** over the static syntax of the source code.

2. User Needs

- **Real Adaptability:** Users (all genders) with low vision or cognitive disabilities depend on interfaces that react not only to the Viewport but to specific style conditions of the container to maintain legibility and visual comfort.
- **Dynamic Interoperability:** Users (all genders) of assistive technologies need the browser to process modern standards that guarantee elastic behavior without information loss—a task that style queries facilitate natively.

3. The Problem

I believe that current auditing tools penalize innovation, creating a **forced technical regression**. By flagging properties like `@container style` as "errors," developers are pushed to avoid more accessible solutions just to obtain a "green pass" from obsolete validators.

This directly contravenes the spirit of the **EN 301 549** standard:

1. **Technological Neutrality:** The standard requires accessible results and protects the evolution of the "State of the Art." Penalizing modern Baseline 2026 standards hinders this evolution.
2. **Observable Results:** Accessibility should be defined by the perception and operability experienced by users (all genders), not by the reading capacity of an outdated syntactic validator.
3. **Robustness:** Forcing the use of legacy techniques reduces the resilience of products in current user agents.

4. My Proposed Change

I suggest that WCAG 3 Conformance Methods include:

- **Outcome-Based Validation:** If a property like *Container Style Queries* produces a verified accessible result in the Accessibility Tree, it must be considered compliant.
- **Runtime Focus:** Conformance should be measured in the final state perceived by users (all genders).

- **Heuristic Updates:** Reference validation engines must evolve so they do not become a barrier to real-world accessibility.

5. Ethical Dilemma

Currently, I face a decision that I find inconsistent:

- If one wishes to display the **standard's logos**, the code is forced to be regressive.
- If one chooses the **ethical path** and uses `container styles` for a real 60fps improvement, the system punishes the project with a "false negative."

From my point of view, it makes no sense for certification to penalize the actual application of modern accessibility.

6. Impact

- **For Development:** Eliminates the fear of using clean, modern, and efficient code.
- **For Users (all genders):** Guarantees much more resilient, elastic, and personalized interfaces according to their real viewing preferences.

Best regards,
Ignacio Llorente Fernández de la Reguera
@graphic-designer

hidde 2 weeks ago — Member

Hey, it looks like you've written your post with AI, which makes it hard for me to understand what *you* want, intend or suggest. Would you be able to explain it in your own words?

graphic-designer 2 weeks ago — Author

I apologize if the previous formatting felt impersonal; my goal was to provide a structured and clear proposal for the group.

In my own words: The core of my proposal is a critique of the current "static validation" model.

As a Technologist, I am seeing a growing gap: modern CSS APIs (like Container Style Queries) are being used today to create highly accessible, high-performance interfaces (60fps) for users (all genders). However, because the official W3C validator engines are not updated to the 'Baseline' of modern browsers, they flag this valid, accessible code as an error.

My point is simple: If WCAG 3 continues to validate code syntax instead of the Computed Accessibility Tree (AOM), we are forcing a "technical regression". We are forcing developers to choose between an official "pass" label and the actual best experience for the user.

I am suggesting that WCAG 3 should focus on observable outcomes in the browser, not on whether a legacy validator understands the latest CSS properties.

hidde 2 weeks ago — Member

Ah ok, thanks! In that case, I don't think there is an issue.

Neither in WCAG 2, nor in WCAG 3 is validator output relevant for conformance. The concept of 'accessibility supported' in WCAG 2 makes it such that new CSS can be a way to meet an SC as long as it is supported by browsers your users use. Evaluating SCs is done based on what's rendered (AOM or not), the syntax is irrelevant. WCAG 3 *is* focused on outcomes.

graphic-designer 2 weeks ago — Author

I appreciate the clarification, but I respectfully disagree that there isn't an issue.

While it may be true in theory that validator output is irrelevant for formal conformance, in practice, the industry relies heavily on these tools for automated auditing and procurement.

If official W3C tools flag modern, accessible CSS as an "error", it creates a "compliance friction" that discourages developers from using high-performance APIs. We are effectively penalizing innovation.

If WCAG 3 is truly focused on outcomes, shouldn't the official testing methodologies explicitly shift away from syntax-parsing and move towards AOM-based validation? Otherwise, we are leaving the definition of "conformant" to outdated tools, regardless of what the standard says on paper.

hidde 2 weeks ago — Member

Where do testing methodologies suggest syntax parsing or disallow looking at the DOM or AOM?

I think you probably want to file an issue with the validator you're using.

graphic-designer 2 weeks ago — Author

The issue isn't with a specific validator, but with the ACT Rules (Accessibility Conformance Testing) that govern them. As long as official W3C testing methodologies focus on CSS selectors or code syntax rather than AOM states, tool developers will continue to follow that lead.

WCAG 3 is the perfect opportunity for the W3C to stop being "agnostic" about how testing is implemented and explicitly lead the shift toward AOM-based validation. If the standard doesn't mandate looking at the rendered outcome, we are stuck with the status quo.

hollsk 2 weeks ago

In that case, does this issue belong with the ACT taskforce instead?

hidde 2 weeks ago — Member

Maybe… even then, the ACT rules don't add requirements to what WCAG requires.

I don't think it makes sense to 'shift to AOM'. The AOM is just one piece of information you could rely on for testing WCAG, but there are many SCs where the AOM isn't relevant, and there could be cases where something might look good in the AOM of one browser but not in another, or where the right info in an AOM does not result in a good UX for the user if they use AT that doesn't implement the relevant feature.

graphic-designer 2 weeks ago — Author

@hollsk @hidde Respectfully, I believe this belongs here in WCAG 3 because it's a strategic, high-level decision.
While implementation details involve the ACT taskforce, the shift toward outcome-based conformance is a core pillar of WCAG 3. If the standard doesn't mandate prioritizing the Computed Accessibility Tree (AOM) over static syntax, we are delegating a structural problem to a subgroup.

I agree that the AOM isn't a silver bullet for every SC, but it is the only way to validate modern, dynamic CSS like Container Style Queries. My point isn't to rely only on AOM, but to ensure WCAG 3 explicitly leads the shift toward rendered outcomes.

The current "agnostic" stance essentially means a "green pass" is valid even if the experience is broken, while an accessible experience is flagged as a "failure" just because the syntax is new. The lack of perfect browser interoperability is precisely why we need the W3C to set a clear direction, rather than leaving the definition of "conformant" to outdated string-parsing tools.

 **adampage** added Conformance 2 weeks ago

graphic-designer 2 weeks ago Author

I would like to share a final observation regarding the "Compliance Gap" for WCAG 3.

Currently, stable features like **@container** (widely supported since 2023 and now part of Baseline April 2026) are still flagged as "Errors" by official validation tools. This creates a significant hurdle for developers in Europe under EN 301 549 [2], as we must ensure our code is both modern and officially conformant to maintain the "Presumption of Conformity".

My goal is to highlight how a shift toward outcome-based validation (AOM) in WCAG 3 is essential to align our standards with the actual "State of the Art" of the web[1]. I believe this strategic alignment is a great opportunity for the community to ensure that WCAG 3 remains robust and legally sound in regulated markets[3].

Thank you for considering this perspective and for the work you are doing on the new standard!

Best,
Ignacio Llorente Fernández de la Reguera
@graphic-designer

References supporting this requirement:

[1] Directive (EU) 2019/882, Annex I (Accessibility requirements):
https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32019L0882#anx_I
Legal requirements for "personalization of the interface and visual health autonomy".

[2] EN 301 549 (Standard for ICT products and services):
https://www.etsi.org/deliver/etsi_en/301500_301599/301549/03.02.01_60/en_301549v030201p.pdf
Focuses on the "Presumption of Conformity" and observable outcomes, which is why aligning validation tools with modern rendering is crucial for legal safety in the EU.

[3] W3C UAAG 2.0, Success Criterion 1.4.1 (Text Configuration):
https://www.w3.org/TR/UAAG20/#sc_141
Technical regulations on font size configuration, which modern CSS APIs support natively.

hidde 2 weeks ago Member

It fundamentally isn't true that the presumption of conformity of EN 301 549 has any relationship whatsoever with validation tools.

Anyone can use modern CSS and if it is supported it can be used to meet WCAG 2, including conformance claims, or, in the future, WCAG 3*

** its conformance model is in progress, there are no indications currently that the group is leaning towards relying on validators for conformance in the way you describe*

graphic-designer 2 weeks ago Author

Hi @hidde, thank you for the clarification. However, there is a gap between the theoretical framework and the practical enforcement of EN 301 549.

In real-world audits (especially for public sector bodies in the EU), automated validation tools are the first line of defense. When an official tool flags a "false negative" due to outdated syntax rules, the burden of proof shifts to the developer. This creates legal uncertainty and discourages the use of "State of the Art" CSS.

If WCAG 3 aims to be truly outcome-based, the conformance model should ensure that our testing tools don't penalize accessible, modern implementations. Conformity shouldn't just be a claim on paper; it needs to be verifiable without friction.

TestPartners 2 weeks ago

> In real-world audits (especially for public sector bodies in the EU), automated validation tools are the first line of defense.

You're making a sweeping assumption here. I'm sure some testers do that, but no one at my company does, and I would argue that no one should. All our testing is done by inspection of the source code (including the accessibility tree) and the user interface. We only use automated testing tools as a safety net after the testing has been done properly.

Also, my view is that the results from a testing tool or an assistive technology should never be reported without first verifying the issue manually by code inspection.

This approach is dependent on testers being able to read and understand the code, which I regard as essential. Ours all can, but most can't, which is why most WCAG audits are highly inaccurate. Automated testing tools and AI are not going to solve this issue, at least not in the next couple of decades, so testers are simply going to have to acquire the coding skills that most currently don't have.

graphic-designer 2 weeks ago Author

Hi @TestPartners, I completely agree with your high standards. Manual code inspection and AOM verification are indeed the gold standard for any serious audit.

However, you've hit the nail on the head: as you mentioned, "most WCAG audits are highly inaccurate" precisely because many testers rely heavily on automated tools as their primary source of truth. My concern isn't for elite auditors who can interpret the source, but for the systemic friction created when official W3C tools flag false negatives.

When a public sector body receives an automated report showing "Errors", the burden of proof falls on the developer to explain why the official validator is wrong. This is the "Compliance Gap" I'm referring to: we shouldn't force developers to choose between modern, accessible APIs and a 'clean' (but outdated) automated report.

If we want to bridge that "accuracy gap" you mentioned, shouldn't our official tools reflect the "State of the Art" (Baseline 2026) instead of 2018 logic? A tool that lies to a non-expert auditor is a barrier to progress.

4 remaining items

Load more

TestPartners 2 weeks ago

I would not be in favour of more conformance levels either, but what you are proposing simply won't achieve what you want because testing tools will never be able to do an accurate WCAG audit. The specific change you are asking for sounds achievable, but it would only improve the accuracy of testing tools from perhaps 25% to 26%.

I can only see two ways to get accurate WCAG audit results. One is to relax the standards so an unskilled tester can use tools to do the audit, which would be a very bad solution. The other is to properly train a huge number of skilled testers, which is never going to happen. There are no good solutions, and there is no reason why there should be any.

graphic-designer 2 weeks ago — Author

Thank you **@TestPartners** for your response and for sharing your perspective on this. It is always great to exchange views on such a complex topic.

No one working seriously in this field expects an algorithm to replace the judgment of evaluators. Your argument that improving accuracy from 25% to 26% is useless ignores how software development works. We are not looking for a machine to dictate verdicts, but rather for tools that clear the ground. If an automated tool removes 30% of absurd and repetitive errors, it buys me time to do what the machine cannot do, which is to analyze the experience of actual users.

You say that training a massive number of expert professionals will never happen. That is assuming that breaking down digital barriers must be the exclusive domain of hyper-specialized gurus. The real problem is not the lack of ability of developers, but the lack of interest and priority from politics, society, and business. We do not need millions of elite auditors. We need professionals to adopt inclusive design as a basic habit, such as using semantic HTML.

If the market and laws start demanding accessible code as a mandatory quality standard, that massive training will happen out of pure job necessity.

Any complex problem in technology has a solution if there is a genuine commitment from those who design, develop, and consume the product. Technology and standards are not going to fix the problem on their own. The true ally here is empathy toward the user. When there is a real will to include all people, resources are found, people learn, and things improve.

Reducing the debate to the idea that machines are useless and humans are not going to train is creating an insurmountable problem so as not to have to solve it. It is the perfect excuse to assume that the digital environment should continue to marginalize millions of citizens because designing well is just too much trouble.

hidde 2 weeks ago — Member

Could we all stay on topic?

@graphic-designer what do you propose we change in WCAG 3? (besides the things we've discussed that aren't within WCAG 3's remit)

graphic-designer 2 weeks ago — Author

Hi **@hidde**, you are right. My apologies to the group for the detour; the debate with **@TestPartners** was interesting but we should focus on the draft.

As stated in my initial post and the document provided, my proposal for WCAG 3 is to explicitly transition toward outcome-based validation (AOM) for complex CSS features (like Container Style Queries).

Specifically, I propose that WCAG 3 conformance should not rely on static syntax validation but on the rendered accessibility tree. If a "State of the Art" technique (Baseline 2026) produces the required accessible outcome in the browser, it should be considered conformant, regardless of whether legacy automated tools recognize the syntax.

This change ensures that WCAG 3 remains technologically neutral and future-proof. Thank you for bringing us back to the core proposal!

graphic-designer 2 weeks ago — Author

To provide a visual reference regarding the "consistency issues" we are discussing: here is the evidence of how official validators currently flag "Baseline 2023" features (such as "**@container**") as errors.

As I previously proposed in #642, WCAG 3 must bridge this "gap". Consistency should not only exist in the wording of the guidelines but also in the technical tools that enforce them. If we truly seek a "future-proof" standard, our validators cannot remain stuck in the past while professionals implement modern, accessible solutions. This technical regression undermines the "legal certainty" and the "integrity" of the standard itself.

EXAMPLE. @container style(--tema: oscuro) { .card { background: #1A1A1A; color: white; } }

Ratio 17.40:1, *Nivel* AAA

NU HTML

Use the Message Filtering button below to hide/show particular messages, and to see total counts of errors and warnings.

Message Filtering

1. **Error** **CSS: Unrecognized at-rule** @container
From line 5, column 8; to line 5, column 17
e>↩<style>@container </sty

Document checking completed.

Used the HTML parser.
Total execution time 1 milliseconds.

VALIDATOR W3C

Disculpas! Hemos encontrado las siguientes errores (1)

URI : TextArea	
1	Lo lamentamos, la regla-arroba @container no está implementada.

graphic-designer last week — Author

Hi, **@hidde** and **@hollsk**.
I would appreciate your comments on the image and the proposal.

Sincerely.

hollsk last week

Hello! To be honest, I'm struggling a little to understand the request in the context of this working group, which has a narrow remit. It seems to me that your main issue is that some of the W3C's general validation tools need updating to incorporate a new CSS rule. Do I have that right?

If yes, the WAI in general isn't responsible for the validators, and the WCAG 3 subgroup is entirely focused on defining WCAG 3 as a set of practical outcomes for real users.

The W3C validators, as I understand, aren't specific to accessibility, and aren't able to cause a page to fail WCAG, especially now that 4.1.1 Parsing has been removed. Since 4.1.1 was removed from WCAG 2.1, this would seem to me to be the last remnant inside WCAG that suggests that kind of static analysis, and to my knowledge there's no proposal to reinstate it as a success measure for WCAG 3, as it's no longer technically relevant to assistive tech. The Nu HTML checker also directly addresses conformance in its about documentation:

> The Nu Html Checker should not be used as a means to attempt to unilaterally enforce pass/fail conformance of documents to any particular specifications; it is intended solely as a checker, not as a pass/fail certification mechanism.

Have I misunderstood what you're asking for?

graphic-designer last week — Author

Hi **@hollsk**, I appreciate your clarification, but we must be honest about the implications of what you are saying. Whether the validator is maintained by "volunteers" or is a "separate project" is irrelevant to the core issue: "Governance and Legal Certainty".

The W3C is a "single brand" to the international community. If the WCAG 3 defines a standard that its own official validation tools flag as an "error" when using modern, accessible APIs (Baseline 2023-2026), you are creating a "technical and financial trap" for developers and public institutions.

In the European Union, where compliance is a legal requirement, an "official error" in a W3C validator translates into "legal risk" and the "misuse of public funds". Compliance cannot be demanded while offering tools that penalize innovation and "user autonomy" ("rem"/"oklch").

The image I provided is not just a "bug report"; it is evidence of a "systemic failure" in the synchronization of your standards. If the AGWG cannot ensure that W3C tools validate what you yourselves define as "accessible", who is assuming the "civil responsibility" for this lack of technical integrity?

alastc 4 days ago — Contributor

Proposed **draft** response:

The topic raised is not relevant to WCAG3 and will be closed.

WCAG3 does not rely on, or even encourage validators to be used for conforming to the standard, so any references to legal requirements are not relevant.

An issue could be raised on the validator if it hasn't been updated to recognize modern CSS, but this is barely related to accessibility, and is not required by WCAG.

alastc self-assigned this 4 days ago

alastc added Management: Resp... 4 days ago

jasper-247 2 days ago

How do you handle edge cases where PII is embedded in unstructured or ambiguous text?

graphic-designer yesterday — Author

Before this thread is closed, I wish to place on the official record my formal disagreement with the statement that modern CSS interoperability and validator conformance are "barely related to accessibility". This stance ignores the fundamental evolution of the web and contradicts the **European Directive 2019/882**.

Please be advised that the **W3C CEO**, the **COO** and the **LEGAL**, **Open Web Advocacy (OWA)**, and the **Digital Rights Observatory (SEDIA/ODD)** have been formally notified of the procedural handling of this debate, as documented in the permanent integrity record.

Permanent Integrity Record. https://graphic-designer.github.io/WCAG3-Issue649

Closing this discussion administratively does not resolve the technical gap. Integrity is an institutional requirement, not a management label.

hidde yesterday · edited by hidde Edits Member

> In the European Union, where compliance is a legal requirement, an "official error" in a W3C validator translates into "legal risk" and the "misuse of public funds".

This is not true, as has been pointed out a couple of times now.

> Compliance cannot be demanded while offering tools that penalize innovation and "user autonomy" ("rem"/"oklch").

This is also not true. Neither innovation nor user autonomy are penalised in any way by WCAG 2 or the WCAG 3 draft.

I would recommend taking it up with your local regulator or governmental implementor of the European Directives (EAA/WAD), if they do enforce it this way there seem to be interpretation issues on their side.

JAWS-test 37 minutes ago

@graphic-designer: Two weeks ago, @hidde wrote here: If there is a problem with a validator, open a ticket there (e.g. https://validator.w3.org/feedback.html). The validators should work correctly, even if their results do not affect the WCAG.

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Use Markdown to format your comment

Paste, drop, or click to add files

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alastc

Labels

Conformance Management: Response only

Type

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No projects

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None yet

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No branches or pull requests

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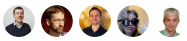 +3

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