

Interviews on Conformance: a Silver research project

Abstract

This research project by the Silver Task Force of the W3C Accessibility Guidelines Working Group attempts to address balancing the difficult-to-test needs of people with disabilities with the desire to provide accessibility regulatory guidance. Additional questions addressed the scope, platforms, and improving the usability of accessibility guidelines. This research is being used to inform decisions on the next major version of accessibility guidelines that will be the successor to WCAG.

Conclusions of this research project include:

- A need for plain language in accessibility guidance.
- Preserve, but improve, testability of guidance with more flexible options including user testing.
- The levels of WCAG (A, AA, and AAA) are useful but should be improved. Testable needs to be decoupled from conforming to a specific level.
- There is no one answer to broadening the scope and platforms addressed. There are interesting ideas in the Conclusions section.
- Advice to assistive technology products should be included.
- A proposal to adapt the model of LEEDS¹ energy-efficient building certification program.
- Improve the usability of the accessibility guidelines themselves.
- Put user needs first.
- The concept of “accessibility supported” in WCAG conformance allows conformance to be claimed with inadequate assistive technology, particularly in non-native English speaking countries.

[Skip to the Conclusions section](#)

Introduction

The World Wide Web Consortium (W3C) is an international community that develops open standards to ensure the long-term growth of the Web². The Web Content Accessibility Guidelines (WCAG) 2.0³ are internationally accepted guidance for web accessibility published

¹ Leeds Energy-Efficient Building Certification Program <https://new.usgbc.org/leed#how-leed-works>

² The World Wide Web Consortium (W3C) <https://www.w3.org/>

³ Web Content Accessibility Guidelines (WCAG) 2.0 <https://www.w3.org/TR/WCAG20/>

by the W3C Web Accessibility Initiative (WAI). WAI produces strategies, guidelines, and resources to make the Web accessible to people with disabilities⁴.

WCAG 2.0 was published in 2008. While some parts of the the broader WCAG ecosystem (notably the Techniques and Understanding WCAG 2.0) have been regularly updated since 2008, the core guidelines and success criteria have not changed in almost a decade. During this time, the web has transitioned from a largely static collection of documents to dynamic web applications. An update to WCAG 2.0, WCAG 2.1⁵, is currently in process, but it is making incremental changes to WCAG, with a heavy emphasis on backward compatibility. One of the stated goals of WCAG 2.1 is that a website that passes WCAG 2.0 today will pass WCAG 2.1 with enhancements to meet the new success criteria. As a result, the ability to change the design of WCAG or the original success criteria is limited.

In parallel with WCAG 2.1, the Working Group began working on a 3.0 version which would have a broader mandate and would introduce a new design that would emphasize serving more disabilities, improving usability, and easier maintenance. The group proposed eighteen (18) months of research before creating a new design. Since it was apparent early on that the new design could (and should) look beyond a strict definition of “web content,” it would need a more accurate name than Web Content Accessibility Guidelines. The group working on the project took the name Silver⁶ to describe the project until an appropriate name was selected. In January of 2017, the W3C chartered the Accessibility Guidelines Working Group to create preliminary requirements for a future successor to WCAG and assigned that work to the Silver Task Force. In March 2017, the W3C Silver Community Group⁷ was formed to allow more contribution from outside the W3C membership.

Research questions

This interview project was conceived to gather facts and opinions from experts who have given considerable thought to accessibility standards conformance. The primary research question was:

How to make Silver more flexible in providing guidance for disability needs that are difficult to test, while preserving the ability for Silver to be used in a regulatory and policy setting?

Secondary research questions from the original list of research questions for Silver⁸:

⁴ W3C Web Accessibility Initiative <https://www.w3.org/WAI/>

⁵ <https://www.w3.org/TR/WCAG21/>

⁶ “Silver” comes from the chemical symbol for silver, Ag, which could also stand for Accessibility Guidelines.

⁷ Silver Community Group. <https://www.w3.org/community/silver/>

⁸ Silver high priority research questions:

https://www.w3.org/WAI/GL/task-forces/silver/wiki/Research_Projects#High_Priority_Research_Questions

- How well does the current conformance model for W3C Accessibility Guidelines serve accessibility for people with disabilities short-term and long-term?
- Where do we set the boundaries of what to cover in accessibility guidelines? (ex: things managed by platforms, assistive tech, etc.)
- What platforms should we include in the accessibility guidelines?
- What should be the scope of accessibility guidelines? (Web content, native, platforms, hardware, where do you stop?)

While these questions were not part of the original research questions identified for Silver in 2016, the issue of accessibility standards conformance has emerged as a key problem for Silver to solve.

Participants

The people selected for interviews represent both sides of the issue. We included a policy maker from a non-English native speaking country, two accessibility advocates, and a former member of the WCAG Working Group who worked on WCAG 2.0 in the mid 2000's. We also interviewed two lawyers with extensive accessibility expertise who requested to be interviewed together so they could pool their knowledge and discuss some of the questions in the interview. One of the two lawyers has experience with the US Department of Justice. All participants were given confidentiality to encourage open and free discussion. Quotations are given with permission.

Methodology

The Silver Task Force and Community Group developed a proposal for research conducted via interviews. 3 interview projects were initially proposed⁹, of which 2 were performed: one on legacy, and one on conformance. The two projects followed a similar methodology:

- Proposed interviewees were emailed a request for an interview, which included a copy of the consent for participation and the base set of interview questions¹⁰.
- An interview time was scheduled. All interviews on Conformance were conducted by Jeanne Spellman and Jan McSorley between January 31 to February 19 2018.
- Interviews were done by telephone, and were recorded with the interviewee's permission. Each call began by confirming that the person accepted the consent for participation that they were emailed.

⁹ Interview Project Plan

<https://docs.google.com/document/d/1lqhaBbgiSgUYbRwRyGTtpD8CB4GOLdyp81DS79vZs0/edit?usp=sharing>

¹⁰ Conformance Interview document for Participants

https://docs.google.com/document/d/1PgDkqYV0BOhBmke262pt_60o4NVRLskhdxOHtBH5Je4/edit?usp=sharing

- The base set of questions were asked in each interview. Generally, Spellman asked the questions and McSorley took notes. Follow-up questions were asked based on the answers, either clarifying, asking more detail or connecting the answer to other expertise of the interviewee. Follow-up questions were selected by the interviewer (usually Spellman, but when McSorley had greater expertise in an area, she asked the follow-up questions).
- A transcript of the recording was produced. The transcript and the notes from each session were used to create the insights of this paper.
- To preserve confidentiality of the participants in the small accessibility community, the comments have been heavily edited to remove identifying details.

Base set of Questions

These questions are from the Conformance Interview document for Participants¹¹ which was sent to every participant in the interview project:

- How well does the current conformance model for W3C Accessibility Guidelines serve accessibility for people with disabilities short-term and long-term?
- How can we improve on the conformance model?
 - o Tell me about what is needed (around conformance) to serve people with disabilities?
 - o Tell me about what is needed to serve policymaker needs?
 - o Tell me about what is needed to serve WCAG users (developers, designers, evaluators)?
- Where do we set the boundaries of what to cover in accessibility guidelines? (Web content, native, platforms, hardware, where do you stop?)
- What platforms should we include in the accessibility guidelines?

Conclusions

- **Plain Language:** While not a planned research question for this study, both advocates and legal/policy experts are in agreement that plain language should be a requirement of Silver. Plain language would be an advantage for ease of translation and adoption in non-English countries. Plain language will increase comprehension of guidelines by all regulators, developers and designers. Plain language can increase accessibility uptake globally.
- **Testability** remains important to both advocates and regulators. However, both groups agreed that greater flexibility is needed so that the difficult-to-test needs of people with disabilities can be included in guidance. One participant recommended decoupling testability and conformance so that conformance requirements do not restrict what

¹¹ Conformance Interview document for Participants
https://docs.google.com/document/d/1PgDkqYV0BOhBmke262pt_60o4NVRLskhdxOhtBH5Je4/edit?usp=sharing

guidance can be included in Silver. Both the advocates and lawyers agreed that user testing is important, and should be included in Silver. One participant proposed using more statistical analysis in Silver testing to help identify emerging accessibility barriers more quickly.

- **Levels:** There was general agreement that the concept of levels is valuable, but there were inconsistencies in the current conformance model of A, A, AAA. The original development of WCAG 2.0 did not have a linear relationship between the level of accessibility and the level of conformance because success criteria were assigned to a level in part because of their degree of testability. There needs to be a minimum baseline level, an aspirational level, and something in between that most people will adopt as a goal. One suggestion included making the importance of the page a determining factor in the assigned level. For example, a barrier on a login page or a Contact Us page should have a greater importance than missing alternative text.
- **Scope and Platforms:** There was no consensus among the participants on the recommended scope for Silver. Opinions ranged from only web to all software to hardware that delivers web content such as kiosks. Silver should be flexible enough to apply different guidance to different platforms. One advocate argued strongly that Silver needs to address professional software used in business and education because the lack of accessibility in prominent professional software can limit the career and employment opportunities of people with disabilities. There were multiple cautions that Silver must be careful not be prescriptive in developing requirements that will not transition to emerging hardware and technology innovation. Some interesting ideas included:
 - Developing a “SilverICT” document similar to the WCAG2ICT¹² developed in 2013;
 - Developing relationships with standards bodies working on hardware standards;
 - Email;
 - Internet of Things;
 - The scope must be broad, because when technologies are listed, the technologies not listed can argue they are exempt from accessibility regulation.
 - A chilling caution that if people with disabilities experience barriers in accessing “smart cities” of the future they will left behind and not counted in an artificial intelligence (AI) data-driven technology future.
- Include **advice to assistive technologies**. Some assistive technology developers do not know how to handle HTML semantics correctly; others do not meet basic benchmarks for usability by people with a disability, but are considered as meeting the “accessibility supported” requirement. This leaves a gap for people with some disabilities.
- **Grading system for conformance:** This proposal from the two lawyers deserves special notice. They recommended looking at the US and Canada LEEDS (Leadership

¹²Guidance on Applying WCAG 2.0 to Non-Web Information and Communications Technologies (WCAG2ICT) <https://www.w3.org/TR/wcag2ict/>

in Energy and Environmental Design) standards for green building certification as a model for Silver conformance and certification. They proposed a “bronze” level certification for meeting minimum Silver conformance (the equivalent of WCAG 2.0 AA), then a point system where organizations could increase their score up to a “platinum” level by steadily improving the usability for people with disabilities. The US Americans with Disabilities Act states says, “accessible to and usable by.” A minimum level would provide accessibility and higher levels would improve usability and user experience. This would encourage companies to move beyond minimum conformance and see accessibility as a competitive advantage.

- **Accessibility Supported** allows for assistive technology to be used to claim conformance even if the assistive technology is inadequate to meet the needs of users. International, non-native English speaking assistive technology vendors do not understand how to implement specifications correctly. Some mainstream assistive technology does not meet the needs of users with specific disabilities, but the mere existence of the assistive technology allows organizations to claim conformance regardless.
- **Improving the usability of Silver.** People need high level guidance and then an easy way to drill down to get the information they need. People like the ARIA Authoring Practices because they provide easy-to-find working HTML code that can be copy/pasted.
- **User needs first:** Both advocates commented that user needs should have a higher priority than regulation. One perception was that the AGWG's internal requirements for success criteria are not consistently applied and that the system can be "gamed" to block the adoption of success criteria without proving that they cannot be implemented or tested. Another perception was that when unintended negative consequences of past decisions are identified for people with disabilities, there seems to be reluctance to examine those consequences and fix the underlying problems.

Findings by individual

Interview #1

- Overall WCAG 2.0 is a well-developed guideline. It is helpful that it is also an ISO standard.
- There are problems with moving WCAG tests to assistive technologies that use other languages than those supported by NVDA and JAWS. The required behaviors of the assistive technologies are not specified in WCAG, which makes it difficult for non-English assistive technologies to understand what the correct behavior should be. Silver should write advice for assistive technology vendors. Assistive technologies should also meet standards that are appropriate for the disabilities they support.
- We need to encourage authors toward more support for learning disabilities and cognitive disabilities, but it is important that success criteria be testable.

- We need to have more information on the adoption of WCAG around the globe. I am always asked “what are people doing in other countries?”
- The readability of WCAG must be improved. It is very difficult for non-native English language speakers to understand WCAG. It is then difficult to convince lawmakers to include or support regulations that they cannot understand.
- The guidelines must be easy to understand. When people become interested in web accessibility and search for information online, they find WCAG. They look at WCAG and decide that Web Accessibility is too hard. Then they give up. In my country, the biggest barrier to improving accessibility is the difficulty in understanding WCAG success criteria.
- Silver should only focus on web technologies, otherwise it will become too complex. We could develop a “SilverICT” document, similar to WCAG2ICT to help people apply Silver more broadly in digital technologies.
- International users of accessibility standards need an accessibility supported database that includes test plans for non-English testers. Non-English assistive technologies need more information on expected behaviors of accessibility features of HTML and WAI-ARIA.

Interview #2

- The purpose for conformance is to give people a way to tell whether or not they followed the guidance.
- People assume there is a correlation between level of accessibility and conformance levels when there actually is not a linear relationship. Because success criteria had to fit into a framework of testability, that had an influence on what level a success criterion was assigned to.
- The importance of levels to accessibility is that WCAG Level A provided a baseline. Since most of the requirements in A can be easily tested, it has had impact and gave the world a minimum target to aim for.
- The original reason for the existing conformance model is that W3C needed to define conformance for their specs (Note: This is no longer a W3C requirement) and to show how organizations were meeting the requirements in a regulatory and legal setting.
- WCAG 2.0 had a goal that a person who thought their site met WCAG and an outside person who tested the site should have similar results because they passed the same tests. This restricts us from what can be included in the guidelines.
- Silver should not tie testability to conformance, because this restricts what disability needs can be addressed by Silver. We need to make sure that conformance isn't the reason we can't provide guidance.
- Silver needs a way for guidance to be described qualitatively without undue burden on authors for self-testing.
- Having an emphasis on using WCAG in law and policy restricts us from what we can offer for guidance. It also forces us to much longer timelines than the pace of technology

change requires. On the other hand, it has forced certain parties to pay attention that otherwise would not have, which has benefited people with disabilities.

- Silver should design a better way for people to avoid information overload. They should be able to get a high level overview that is easy to understand, then drill down for additional information based on their needs. When you only look at the success criteria or the Techniques you can't see the forest for the trees. The need for useful interpretive guidance is very high.
- The advantage of the ARIA Authoring Practices is that it is a technical standard that provides precise techniques: use this attribute with that attribute. It also provides best practice advice, which WCAG does not. People like the examples that have copy and pastable code. That's a helpful structure that would be useful for Silver.
- Scope of Silver: We should be very clear on the responsibilities of different levels of hardware/software/browser/content. Technologies need to provide features, and authors need to use them. There is little difference between native app and web app technologies -- the user needs are largely the same. We have to be careful not to make hardware requirements that are too prescriptive because they will be outdated too quickly. Perhaps what we need to do is create relationships with standards bodies working on hardware standards, or at least to comment on them.
- There is a long history of assistive technology going mainstream, so a structure that allows for that and has a flexible definition of assistive technology will be important.

Interview #3

- WCAG is oriented toward the importance of accessibility of elements. Providing alternative text is 1.1.1 -- a level A success criterion. A site may be missing some alternative text and still be quite accessible. On the other hand, when someone can't log on, they can't use a site at all, but WCAG doesn't have more important guidance for a complete barrier like that.
- Set up a roadmap for developers to build or fix a site. You have to prioritize accessibility guidance -- "do this first, this second, etc". People always ask consultants for that. WCAG does it by level A, but it would be more valuable to prioritize by high traffic or important tasks, like Contact Us pages. After that, the priority is the barrier it presents to the user.
- There are problems with the W3C working group methods. There is no requirement to act in good faith, so that large companies can pressure their representatives to vote against additional regulations or accessibility consultancies can vote items down that could require additional staff expertise.
- There are not consistent priorities in the group. There are many internal working group requirements to getting solutions to disability needs included in WCAG 2.1 (testability, implementability, backwards compatibility, future proof, technology neutral, etc.) that don't seem to have consistent priority. Some things will reach group consensus with one internal requirement and not another, but different success criteria will have the same failings and get different outcomes.

- Putting a proposed success criteria in a draft and then pulling it out had some bad unintended outcomes. People saw it in the draft and started building tests and tools. Then it was pulled out of the draft and people working on solutions had the rug pulled out under them. It will make them less likely to build tools based on a draft of the spec. That makes it harder to find implementations.
- The Requirements document first has to say that essential user needs will be met.
- Silver needs to codify ways to do cheap, essential user testing, so that the true barriers to accomplishing tasks can be identified.
- Scope: Silver needs to cover technology because the web is too narrow anymore. Alexa uses web content, but it isn't a web site. It needs to be usable by everyone. We need to include the Internet of Things before it becomes a barrier to people with disabilities.
- Smart cities are a particular danger for people with disabilities, because AI-oriented services will be including and measuring services based on the people participating. If people with disabilities can't participate, then their data will not be collected. It will be as if they didn't exist for all the AI oriented data and funding for projects.

Interview #4

- WCAG Working Group historically has not wanted to critically examine the unintended consequences of their past decisions. For example, they chose not to add new failure techniques, even as new technologies were developed for the web and there were new ways of failing. Developers are always going to push the envelope of technology, so there will always be new ideas that may break accessibility in ways that weren't apparent when WCAG was written.
- Accessibility Supported is considered a catch-all, that the author must make the site accessible. The reality is there are people who do not have accessibility support and they cannot get jobs. Test that an assistive technology works for people with disabilities before declaring it to be "accessibility supported."
- Commercial websites and ePub are platforms with very different needs. The web used to be text heavy. ePub still is text heavy. HTML5 changed the web so it became more inaccessible for some disabilities because it is now more interactive and video-oriented. Silver should be more conditional by the capabilities of the platform.
- Silver needs to support statistical analysis in testing. As browsers become smarter, they will be able to interpret author intent more and not rely as heavily on language semantics. How close the browser gets it right will determine how accessible it will be. We can determine how well the browser gets it right by statistical analysis. Statistical analysis should be used to inform "accessibility supported" so that Silver can identify new barriers as they occur, rather than waiting for an "expert" to identify where the accessibility problems occur.
- Even though I love Perceivable, Operable, Understandable, and Robust, it is wrong, because it is a hierarchy and means that you have to take all the universe of web content and fit it into one of those boxes. Accessibility requirements are not so easily

partitioned. The problem isn't the categories, it is that human tasks cannot be partitioned that way.

- We need to support developers, because we cannot break their ability to experiment with new languages and technologies. In order to do new things, they have to figure out how to use existing languages and tools in new ways. The first time they do it is a kludge, and after the 100th time, it is a technique. Silver needs an active process for new mechanism creation and integration with assistive technologies so the AT can recognize the mechanism.
- Every person with a disability has to learn to be a little bit of a programmer -- JAWS users need to learn to customize tasks, low vision users need to create user stylesheets, deaf users need to learn automated captioning tools. It is especially hard for people who develop disabilities later in life. They don't have a lifetime of developing ways to adapt their tools.
- Supporting different platforms is a big challenge because they serve different purposes. A mobile app on a smart watch is a very different interface than on a pro-size tablet. Silver needs to vary the advice by the platform. There needs to be a mapping of interface as a program moves from one hardware device to another.
- Silver needs to address email. Email is awful, it's just awful. There are no accessible clients.
- Silver needs to address the accessibility failings in professional user agents, because they are preventing smart people with disabilities from getting good jobs. Integrated Development Environments (IDE); CAD/CAM engineering programs; statistical packages for social science students such as SPSS and SAS; Mathematical Applications like Mathematica, MathLab, and Maple; business and finance tools like Bloomberg Terminal, and accounting software; etc. Professional platforms for doing specific, refined tasks are completely geared to optimizing efficiency for fully-abled users and the developers can't even conceive of including flexibility in that model.
- Stop focusing W3C efforts on new people to accessibility. Most people who are interested in accessibility are very competent as developers, designers, team leaders, executives or policy makers. They need intermediate and advanced documentation to support their high level of competence.
- Adjust the priorities. Meeting user needs is the central purpose of accessibility guidelines.

Interview #5

Note: The two lawyers wanted to be interviewed together so they could discuss some of the issues and compare experiences in court and with legal precedent. These notes are a summary of their discussion.

- A, AA, AAA serves well, although there is confusion that people don't realize that level AA really means A + AA. But it works, it works really well.
- There is a lot of discussion about what each thing means which makes it long to read.

- The functionality is really useful for legal purposes and provides flexibility that people claim to want.
- Testability is really important.
- I worry that a judge may someday decide to dive into WCAG and start questioning certain success criteria, or why a success criterion is classified in the level it is, but so far it hasn't happened.
- The law doesn't demand complexity of language from WCAG. I asked another accessibility lawyer about it, who agreed that complex language isn't necessary, or desirable.
- A grading system with minimum requirements and then advanced ratings for organizations that do more would be very helpful. Look at the LEED system for rating green building certification¹³. LEED uses 3rd party certification which would be helpful for improving the accuracy of VPATs. It gives you a basic minimum, but then you can go beyond it for competitive advantage or bragging rights.
- I would like to see W3C do 3rd party certification. You could build off the Trusted Tester as the certification method.
- It's important to stop treating the ADA as a compliance matter. In the education context, I tell clients to put accessibility in your HR department. ADA is a diversity and inclusion matter. It doesn't belong in the risk and legal department. It's an advantage to companies to have accessibility.
- One of the problems in the US is that people are going into the legal arenas with automated test reports saying you have a civil rights violation, which you may or may not have. Often times you don't, you just need to fix the code. Even if you have a civil rights violation, most of the time, you still just need to fix the code.
- "There's a way to think about it as just the ADA says, "accessible to and usable by". So, accessible is one thing. Maybe that's a minimum. Usable is you've done user testing so you know users can actually use it. And inclusive is another grade. Inclusive involves, "Did you involve actual users with disabilities? Do you use plain language? Is it accessible to people with cognitive disabilities? Did you use inclusive design?"
- The advantage of having three levels (or grades) is that people can feel like they are choosing the middle level. That is important. "The way compliance with a guideline becomes actually the basis for regulations and settlement agreements and legal opinions and even grants and contracts from the federal government for example, is there's one really base piece. There's at least one level that actually achieves pretty good compliance and there's one that people can say, 'I'm doing this because I'm super committed. Not because I have to.' You want to aim for the middle one because you want to be actually good enough for most people and achievable."
- From a legal viewpoint, when you start listing things, the things you don't list are even more left out. That is a danger of broadening the scope beyond web. LEEDS has certifications for different types of buildings, and you could follow that model, but

¹³ Wikipedia Leadership in Energy and Environmental Design
https://en.wikipedia.org/wiki/Leadership_in_Energy_and_Environmental_Design

technology is growing faster than we can keep up with guidelines for it. The overall concepts are largely the same, but the technical way that you comply differs by platform.