

ACCESSIBILITY MAKES STRIDES: *The ADA and Related Standards Grow Up*

BY HENRIETTA VERMA

In 1988, the first version of the Americans with Disabilities Act (ADA) was introduced by Sen. Lowell Weicker and Rep. Tony Coelho in the 100th Congress. In 1990, a revised version of the Act passed the House, and it was signed into law by President George H.W. Bush on July 26 of that year (Disability.gov, n.d.). It was not the first legislation that sought to protect people with disabilities: Section 504 of the 1973 Rehabilitation Act banned discrimination on the basis of disability by recipients of Federal funds. Throughout the decades that followed, Section 504 was used to protect expected classes—students and employees, for example—as well as people with AIDS, a class that developed after the legislation was crafted. It wasn't enough, however, and after many challenges; lengthy protests, such as when disabled people blocked the passage of buses that were inaccessible to them; and testimony from people with disabilities who visited Congress, creating widespread protections.

There have been many additions and amendments to both Acts over the years—in the beginning, much change was necessary as the language used in the ADA, for example, was vague. A major problem was that employees and their employees who were disabled wondered what exactly was meant by a “qualified” disability. Enforcement guidelines also had to be added. Changes ensued, and the time for still more has come: upcoming modifications will be made to both Acts as technological advances have caused them to be out of step with user needs.

In anticipation of the revised legislation, on Thursday, June 9, 2016, the Center4Publishing Innovation hosted, at New York’s Carnegie Hall, a chance for publishers to learn about the upcoming changes at the Executive Briefing for Publishers on New Federal Accessibility Rules. The organizers promised a discussion of the pending updates and their impact on digital and web publishers, but the presentations also offered a broader overview of the state of accessibility and the challenges yet to be overcome.

The speakers, introduced by Jacklyn Smith Karceski, Executive Vice President, Global Strategy and Business Development, Amnet Systems, emphasized a positive picture: born-digital materials by their nature are already quite accessible to those with disabilities, they said, so that publishers are already doing a lot of the work necessary to make materials work for all readers. In another positive for the publishers in the room, the speakers noted that making materials accessible, rather than being an expensive burden, is a way to reach a lucrative market: there are 57 million people living with a disability in this country alone, and together they have \$3 trillion a year in disposable income (Amnet, n.d.).

David Capozzi,

Executive Director, U.S. Access Board

Keynote speaker David Capozzi leads the United States Access Board, “a Federal agency that promotes equality for people with disabilities through leadership in accessible design and the development of accessibility guidelines and standards for the built environment, transportation, communication, medical diagnostic equipment, and information technology” (United States Access Board, n.d.). Capozzi told the audience that today’s innovations show “unlimited possibilities but also unlimited means to frustrate people with disabilities.” DOS-based systems, he said, were enthusiastically embraced by blind users, who gained from them “unlimited access to the written word.” The increased accessibility was short-lived, however, as graphic user interfaces (GUIs) soon became the norm and completely excluded people who were visually impaired. Screenreaders that could work with GUIs later became available, said Capozzi, but in the meantime, fears grew that those with visual impairments would be shut out of the workplace.

Section 508 of the ADA, which guarantees equal access to technology and content at work, in educational institutions, and in every other aspect of daily life, made this technological disconnect less likely to happen to users, Capozzi said. The law requires the Access Board to create enforceable standards and to come up with a definition of “accessibility.” The Board’s ADA Accessibility Guidelines, published in December 2000, remain in force and apply to technology the Federal Government develops as well as to that it acquires from others; since the government is so large, its procurement rules comprise a significant force for change, noted Capozzi. Further, the government insists that both the technology it buys for employees and the technology it makes available for public use must adhere to the rules. The guidelines are also used by the Department of Justice and the Department of Transportation to create ADA-related standards for use outside government facilities.

Standards can change while related laws remain static, and in 2004, several organizations asked the Access Board to update their guidelines in order to harmonize with worldwide efforts and changing technology. In 2005, the European Commission issued a mandate for a related European standard. Also around that time, a Federal Commission on accessibility was formed; it included international bodies that worked on related issues. Capozzi

emphasized that those updates do not represent the last time there was Federal pressure for increased accessibility. Last year, he said, the Federal Government spent almost \$80 billion to advance technology, which included advances to accessibility—Federal websites are now more accessible, for example, and the government is working on making available real-time text, which can help hearing-impaired users of cell-phone texting systems. (With real-time text, text is visible to a recipient as it is typed, which could help a user who is deaf save valuable time when texting 911, to name just one advantage of the invention.) Consumer technology, noted Capozzi, has also made strides in recent years, with photocopiers, for example, becoming more accessible to users who are disabled. The speaker then discussed the newest legislation: in 2014, a new European accessibility standard was published. Final updated standards were expected in October, 2016, but as of December they have still not been released.

The new standard will cover the accessibility of all public-facing, Federally-created material, such as websites, social media, documents, forms, training materials, and surveys. When these rules come into effect, digital media that the Federal Government creates or purchases, and that is used by both Federal employees and by people with disabilities when accessing government resources, will need to be born accessible.

In answer to an audience question—“What about the rest of the world?”—Capozzi explained that some other countries are now developing procurement rules regarding accessibility, but the most mature effort is in Europe, which is why U.S. efforts seek to harmonize with European ones (an audience member from the World Wide Web Consortium volunteered that that organization is working with China and Japan on accessibility). There are some differences between U.S. and European efforts, however, said Capozzi. For example, Section 508 doesn't specifically address how to make materials or technology accessible to users with limited cognitive skills, and that is an area in which European standards are more advanced. Capozzi noted that the Access Board has examined how to address the needs of users with cognitive limitations and will cover that in the forthcoming final rule.

Eve Hill, **Deputy Assistant Attorney General for Civil Rights,** **U.S. Department of Justice**

The next scheduled speaker was Eve Hill, Deputy Assistant Attorney General for Civil Rights, U.S. Department of Justice. Hill was unable to attend, so her speech, on the “why” of accessibility as a civil rights matter, was instead read by Darrell Gunter, Chairman and CEO of Gunter Media Group and Chairman of the Board of the EIES (Electronic Information & Education Service) of New Jersey foundation.

The law requires all students at public and private institutions to have equal access to education, said Hill. In fact, she continued, not only classrooms and instructional materials must be made equally accessible, all institutional communications to students, their families, and other constituents—fans of the schools' sports teams, for example—must, too. Still, said Hill, problems persist, as “we as a society design our laws, our buildings, our websites, our books, our classes, etc., for the many, generally without thinking much about how they may operate to exclude the few.” One result noted by Hill is that only 12 percent of the learning-disabled population has a Bachelor's degree, compared to 30 percent of Americans generally.

In the past, approaches toward solving these challenges involved one-time accommodations and extra effort, said Hill, who noted that today's technology has created opportunities to have accessible materials created ahead of time and automatically instead of as-needed. This results in a greater level of equality, as students with disabilities don't have to request and wait for accommodations each time, many of which in the past were not provided or provided so late that the student couldn't keep up with the class. Even when translators or assistants were made available by schools, explained Hill, they didn't create the same access as non-disabled students enjoyed. An assistant might not have knowledge of a technical area of study, and they wouldn't accompany a student home to help with homework, for example, or to the laundry room so they could do their paper and chores at the same time. With regard to use of websites, she asked, what if a PWD [person with a disability/disabilities] is entering private information, or just wants to browse?

The ADA was designed to force this building of things in advance with no confrontation or begging needed, said Hill. “Theoretical access is not enough,” she said. “The disability community and the ADA are not satisfied with late, inferior, or special accessibility—even if it's discounted or free. They require access to the same information, the same technology, the same entertainment, the same books and class materials.” Since 2010, for example, schools are not allowed to use

e-readers that are not accessible. In addition, the Department of Justice has written to college presidents to remind them that use of non-accessible emerging technology, including in online courses, is not acceptable.

To the publishers present, Hill advised: “Build it in, check it, tell your customers about it. Ask contractors whether something is accessible. If the answer is no, move on. If yes, ask how they know.” Accessibility expectations must be part of the contract, she said, as well as part of employee and contractor performance evaluations. When you fix things, Hill continued, fix them permanently and immediately, inform others of the problem and the fix, and “brag about it.” All this, the lawyer insisted, will create a competitive edge for companies that make the effort. “Accessibility isn’t a barrier to innovation,” Hill said, “it is innovation. It helps you get your material in front of more people. Things must be accessible at the beta stage, if not before.”

Hill also advised the publishers present that educational institutions are looking to them for technological accessibility solutions to their paper-and-pencil content. Rather than OCR (optical character recognition, a process by which typed, handwritten, or printed text is “read” and converted into computer-readable text) textbooks and other materials themselves, “at every school, for every student with a disability, every semester,” they’re counting on publishers to provide content in accessible electronic formats. Schools know this content was probably born digital, so it only makes sense that they should not have to reinvent that digital wheel, Hill explained.

Finally, Hill discussed how the Department of Justice is addressing technology accessibility in its rulemaking. The department recently issued an Advance Notice of Proposed Rulemaking on ADA accessibility standards for websites (U.S. Department of Justice, 2012). In 2016 it also issued a Supplemental Advance Notice of Proposed Rulemaking on accessibility of state and local Web sites (U.S. Department of Justice, Civil Rights Division, 2016), including the websites and instructional technology of public educational institutions.

Judy Brewer,

Director, Web Accessibility Initiative at the World Wide Web Consortium (W3C)

Brewer discussed how her organization’s Web Content Accessibility Guidelines (WCAG) 2.0 (Web Accessibility Initiative, 2002), a product of the Web Accessibility Initiative (WAI) that she notes has been endorsed by the International Organization for Standardization (ISO), can help publishers comply with the Americans with Disabilities Act. Brewer also explained one reason why publishers should want to be in compliance: there are one billion people in the world with a significant disability. It’s a huge market, she said, adding that the need for accessible print and digital materials is internationally recognized: in the United Nations Convention on the Rights of Persons with Disabilities (United Nations Division for Social Policy and Development Disability, 2006), two articles address information accessibility.

Web accessibility, said Brewer, touches on cognitive, age-related, speech, motor, vision, hearing, and neurological disabilities, and she reminded the audience that some people live with more than one of these issues. “We must meet these needs across a proliferation of technologies,” commented Brewer, who noted that when the W3C was first established, ensuring that websites were accessible to PWD was a limited area of work. The organization found it an essential task, however, and started the WAI (Web Accessibility Initiative, 2016), which supports W3C’s “web for all” mission. (And in the past few years, W3C has been working on an update of HTML 5, which provides integrated accessibility support on all web-enabled devices.) As well as covering the accessibility of websites, WAI provides accessibility guidelines for web authoring tools—people with disabilities must be enabled to create web content like everyone else, emphasized Brewer.

WCAG 1.0 (World Wide Web Consortium, 1999) was released in 1999 and version 2.0 (World Wide Web Consortium, 2008) in 2008—updates to the second version are now being developed, with normative extensions forthcoming. WCAG 2.0 has various levels of abstraction: principles; guidelines; success criteria; techniques, examples, and benefits; quick reference, educational materials, and training (e.g., one-minute videos on why contrast matters); business case assistance; and information on accessible user interface components and implementation techniques. W3C is currently exploring approaches to accessibility testing, trying human-expert tests and procedures that are semi-automated or automated. The organization’s digital publishing accessibility task force and interest group is working with the International Digital Publishing Forum (IDPF, an organization that will soon merge with W3C); for example, IDPF’s EPUP3 standard is harmonized with W3C standards and WAI standards and guidelines, said Brewer. Also currently underway at the W3C are task forces on mobile accessibility, cognitive and learning disabilities (this is a heavy research area now, said Brewer), and low vision.

Robin Seaman,
Director of Content, Benetech

Benetech is a Silicon Valley not-for-profit organization that manages Bookshare, “the world’s largest online accessible library for individuals with qualifying print disabilities” (Benetech, 2016). The digital revolution, says Seaman, has impacted people with print disabilities more than anyone else, “especially readers of STEM materials since the release of EPUB 3.” The level of collaboration among related organizations is unprecedented, she says, noting that today, the Book Industry Study Group (BISG), the Association of American Publishers, IDPF, and others are working on guidelines and certification for materials that are accessible to people who cannot read standard print. There has been remarkable progress in short order, comments Seaman, in areas such as image description. The market is demanding accessibility, she says, “loudly in education but in libraries too. They are increasingly reaching out to Benetech, whereas before we had to contact people who were often incredulous or irritated to hear about accessibility.” Seaman emphasized that small steps help—“Even if as a publisher you only abandon PDFs,” she said, “it’s a step”—but that publishers must make more comprehensive changes in the long run. While the publishing industry has made progress, Seaman pointed toward some areas of print production that still have major issues—math texts, for example, often use images of equations, formulae, and other such material, and these are inaccessible, as are some educational assessments, including digitized multiple choice questions.

The technology that aids people with disabilities is also a boon to the 85 percent of the population that doesn’t have accessibility issues, said Seaman, reminding the audience of the widespread use of closed captioning in loud environments, and Siri, Apple’s digital assistant, which was developed as an accessibility aid. People with invisible disabilities are also a huge market. Because “there shouldn’t be a parallel world of accessible books,” Benetech is now working with publishers to create born-accessible materials, with the mission, says Seaman, of putting her organization out of business. Benetech has a research and development center called Diagram (Diagram Center, n.d.) that works on how to make content more accessible—for example, it has developed an image description tool, Poet, that can handle 180 image types. Benetech is also aligning with DAISY to fast-track a related certification project that is in the Alpha phase with key partners.

George Kerscher,
Senior Officer of Accessible Information at Recording for the Blind & Dyslexic (RFB&D) in the USA, Secretary General for the DAISY Consortium, Chairperson of the Board of Directors for the Open eBook Forum (OeBF), and Co-chair of the Steering Council of the Web Accessibility Initiative (WAI).

Kerscher explained that the DAISY consortium, a global partnership of print accessibility organizations, has most recently advocated for EPUB 3 as the best available tool for providing equal access to print materials for PWD, a focus that has led to DAISY being funded by a Google Impact Challenge grant. “Now, EPUBs, even commercially produced ones, are excellent in terms of accessibility right out of the box,” said Kerschner, a reader who is himself blind. Still, he explained, improvements are possible. EPUB 3.1, he noted, a proposed version of which was just released, aims to remove never-used features, to add features desired by publishers, and to tighten up the specification. It will create guidance that the publishing industry can rely upon for a long time to create solid, accessible content.

The update of EPUB 3, says Kerschner, uses WCAG 2.0 principles as a foundation. However, book publishing is different from creating material for the open web, and EPUB takes that into account, building upon the use of books that have long been optimized for accessibility—audiobooks and Braille titles are both mentioned in the specification, said Kerschner. The metadata outlined in Version 3.1 identifies accessibility features, such as the ability of a text to refresh with Braille, convert text to speech, and reflow text into a different font. Outside the work that is funded by the Google grant, DAISY is developing software, built on top of other organizations’ existing software that is used for HTML checking, that will be used in human and semi-automated testing. The product, says Kerschner, will be best able to say if a text is not accessible rather than if it is. All of this work will be summarized at inclusivepublishing.org, which at the moment hosts a link to the proposed new EPUB 3 specification (DAISY Consortium, 2016).

Bill Kasdorf,

VP and Principal Consultant, Apex Content and Media Solutions

Kasdorf introduced the then recently released BISG Quick Start Guide to Accessible Publishing (BISG, 2016), which, he explained, is designed to be an example of a truly accessible EPUB. “It aims to solve the deer in the headlights issue,” said Kasdorf. “People are really scared, but they don’t realize that if they’re making EPUBs, they’re already doing well.” He acknowledged, however, that there can be an awareness gap in organizations—all parts of an organization must be thinking of these issues—“you can’t wall it off in one department.” The BISG guide, Kasdorf noted, emphasizes that money can be made from accessible materials at the same time as they create value for users, because adding accessibility metadata using ONIX, schema.org, or Learning Registry makes content more discoverable. Along with business case reasons to make material accessible, the constantly updated guide also offers technical guidance—for example, it reminds readers not to present tables as images and to use page numbers when there is a print equivalent, “which allows nonsighted users to navigate to the page number the teacher says to everyone else.” BISG’s guidance also includes information on how to set up internal teams and processes and, importantly, defines what is “sufficiently accessible,” something that Kasdorf said that publishers often “get stuck on.”

Jonathan Thurston,

Head, Accessibility Product Management, Pearson

The final speaker took just a few minutes at the end of the packed schedule to describe accessibility initiatives at Pearson. The company embeds accessibility into workflows up front, which saves money as well as pleases customers, says Thurston. Employees must take internal accessibility training, too, and workflows and materials are audited against Section 508 of the Americans with Disabilities Act and level “AA” of the WCAG success criteria (World Wide Web Consortium, 2016). Finally, Thurston offered his company’s bottom line, an ultimatum that summed up the advice given over the course of the day: “Products that don’t align with the guidelines are not released.”

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