



**AUTHORSHIP &
ACCESSIBILITY
IN THE DIGITAL AGE**



**AUTHORS
ALLIANCE**

**BERKELEY CENTER FOR
LAW & TECHNOLOGY**



**Silicon
Flatirons**

Authorship and Accessibility in the Digital Age:

An Authors Alliance, Silicon Flatirons, and Berkeley Center for Law & Technology Roundtable Report*

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To encourage a frank and open discussion, the roundtable was governed by the Chatham House Rule. Accordingly, all points in this report are unattributed. Furthermore, while authors have sought to accurately reflect the discussion at the roundtable, *the report does not necessarily reflect the viewpoints or opinions of individual participants or their organizations.*

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I. Introduction

The Internet has opened up the opportunity for creators to reach worldwide audiences. Authors can transmit digital creations in a matter of seconds by simply uploading an article or ebook, sharing a video, or posting a blog entry.¹ However, authors can reach an even wider audience if their digital creations are accessible to those with disabilities.

The United Nations Convention on the Rights of Persons with Disabilities (CRPD) defines people with disabilities as “those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others.”² Today, nearly half a billion people worldwide are deaf or hard of hearing, while an estimated 253 million people are blind or visually impaired.³ In the U.S., nearly 5% of the population has an intellectual or cognitive disability.⁴ The CRPD preamble rejects a traditional medical model of disability in favor of a human-rights-based conception, noting that “disability results from the interaction between persons with impairments and attitudinal and environmental barriers that hinders their full and effective participation in society on an equal basis with others.”⁵ This model recognizes six domains— cognition, mobility, self-care, getting along, life activities, and participation—and emphasizes societal and environmental barriers that should be addressed to improve access.⁶

Inaccessible digital content is one of those barriers. Over the past decade, significant strides have been made toward making digital content more accessible. The proliferation of authoring tools with accessibility features, technical standards, legal and regulatory requirements, institutional practices, and increased education and awareness have increased the accessibility of digital creations.⁷

Notwithstanding this progress, the prevalence of inaccessible digital content continues to be problematic for people with disabilities. Content distributors such as Hulu, Netflix, and Amazon have been at the center of lawsuits over accessibility issues.⁸ Universities have similarly struggled to offer content in accessible formats. In August 2016, the Department of Justice (DOJ) found that the University of California, Berkeley was in violation of Title II of the Americans with Disabilities Act (ADA) because the University’s public legacy library, which included over 20,000 publications on the university’s YouTube channel and iTunes U platform, failed to meet the ADA’s accessibility requirements.⁹ The UC Berkeley case is just one of many; other universities face similar lawsuits.¹⁰

These examples have drawn attention to the problems that arise when content is not made accessible at the outset:

- People with disabilities are denied the opportunity to access content on equal terms;
- Authors have difficulty sharing their works with people with disabilities; and
- Content distributors face the costs of retroactively making works accessible.

While discussion has focused on the responsibility of content distributors and public accommodations in making works accessible, little attention has been directed at the role authors and authoring tools play in digital accessibility. Many authoring tools lack or do not fully support relevant accessibility features, and authors may be unfamiliar with their use. Moreover, many authoring tools are not fully accessible themselves, hindering the ability of disabled authors to participate in creative ecosystems.

Against this backdrop, Authors Alliance, the Silicon Flatirons Center, and the Berkeley Center for Law and Technology co-hosted a roundtable to examine the roles that authors and technologists can play in ensuring that the knowledge and creativity contained in digital works is accessible to people with disabilities. These organizations share an interest in ensuring that the exchange of ideas and culture afforded by the Internet is open to all. Authors Alliance and its members worry that gaps in digital accessibility may obstruct the objective of reaching readers because they mean that authors' works may not be accessible to all readers, and because authors' works may be taken offline if they fail to meet accessibility requirements. Silicon Flatirons is committed to serving as a forum for developing ideas about how evolving technology, law, and policy can serve the public interest, including through its affiliated Samuelson-Glushko Technology Law & Policy Clinic, which regularly advocates for accessible technology through initiatives in telecommunications, intellectual property, and related areas. The Berkeley Center for Law and Technology supports conversations about the role of authoring tools in enhancing accessibility online as a part of its broader mission to support the optimal use of technology to advance the public good.

The roundtable brought together content creators, technologists, attorneys, academics, and advocates to discuss some of the opportunities for and barriers to the creation of accessible digital content. The roundtable was organized into a three-part discussion:

1. **Authorship and Accessibility.** Participants reflected on the relationship between authors and accessibility, discussing authors', educators', and technologists' interests—both ethical and legal—in making works accessible. During this session, participants further discussed the consequences of inaccessibility for authors, technologists, educators, and people with disabilities.

2. **Accessibility in Authoring Tools.** Participants discussed the technologies that can enable authors to create and distribute their works in accessible formats. During this session, participants focused on the critical role that technologists have in developing and marketing authoring tools that facilitate accessibility; the tools that are currently available to authors and educational institutions to make works accessible; and the gaps that exist in authoring tools that technologists have the opportunity to fill.
3. **Looking Ahead.** Participants reflected on the conversations from the day, identifying and synthesizing the issues that most inhibit authorship and accessibility.

This report compiles insights from that roundtable, identifying some of the issues that encumber authorship and accessibility in the digital age and opportunities to address those issues. As a threshold matter, this report recognizes that these barriers exist in a certain social context. One of the main inhibitors to authorship and accessibility is the lack of awareness among many authors of the need to make their works accessible at the outset of creation. Against that backdrop, the aim of this report is modest. Although it contemplates solutions to improve the accessibility of content, its broader purpose is to spur more conversations among content creators, technologists, academics, and lawmakers to consider ways to cultivate an environment where accessibility is intrinsic to the content creation process.

First, the report considers the legal framework that governs questions about authorship and accessibility, which animated much of the discussion at the roundtable. It also provides an overview of existing technical authoring tools that can improve the accessibility of digital creations. Second, the report reviews the discussions from the roundtable that centered on obstacles to accessibility—namely, authors’ lack of awareness of accessibility needs and flaws in existing technical authoring tools—and shares initial suggestions raised by roundtable participants to address these issues.

II. Background

Legal and factual issues necessarily informed the roundtable discussion. This section outlines the legal framework under which authorship and accessibility operates today and provides an introduction to some of the existing technical tools available to authors to make works more accessible.

A. The Legal Framework in the United States

At the roundtable, participants noted that authors at the content creation stage are largely insulated from legal exposure for not making content accessible. However, the legal framework is relevant to authors because when authors fail to make content accessible, there is an adverse ripple effect that becomes increasingly pronounced as the inaccessible content moves through the market. Distributors of that content, for example, may have legal obligations to retroactively make content accessible. Distributors may also choose to take down content—or not carry it in the first place. And perhaps counterintuitively, existing laws can hinder third parties who do not hold the copyright in content from retroactively making it accessible to people with disabilities.

This section outlines some of the relevant U.S. laws that govern the relationship between accessibility and content creation, distribution, and consumption online: the Americans with Disabilities Act (ADA), communications laws, and the Copyright Act. This section also addresses the limitations of these laws in ensuring the accessibility of digital content.

1. Americans with Disabilities Act

Many of the laws accommodating people with disabilities have evolved against the backdrop of the 1990 Americans with Disabilities Act (ADA), a civil rights law that prohibits discrimination based on disability.¹¹ For the purposes of the roundtable discussion, the ADA is relevant because, while it does not impose an affirmative obligation on authors or technologists to make their works accessible, it does impose accessibility requirements on public accommodations that perform those works.¹²

Under Title II and Title III of the ADA, places of public accommodation include businesses that are generally open to the public, as well as government programs and services.¹³ Educational institutions are covered entities particularly relevant to authors because they are required to make their programs and activities accessible to people with disabilities.¹⁴ Accordingly, if teachers or professors use creative content in the learning environment, they are required to offer that content in an accessible form. When authors fail to make their works accessible at the point of creation, content distributors, such as educational institutions, may be legally obligated to retroactively make the work available in an accessible format.

One of the most dynamic discussions among disability rights activists, content creators, and technologists—and one that came up at the roundtable—is whether web sites (or the Internet more generally) should be considered places of public accommodation under Title III of the ADA.¹⁵ The Internet did not exist in the form it does today when Congress enacted the ADA.¹⁶

The Department of Justice (DOJ) has recognized that the importance of the Internet as a space to disseminate information and offer services, programs, and activities to the public has increased exponentially.¹⁷ However, while the DOJ has become increasingly aware of the need to make websites accessible and has published standards for website accessibility, efforts to clarify the application of Title III to the web have been suspended under Attorney General Jeff Sessions.¹⁸

2. Communications Law and Accessibility

The 21st Century Communications and Video Accessibility Act (CVAA) of 2010 authorizes the Federal Communications Commission (FCC) to update accessibility provisions in the Communications Act of 1934 and the Television Decoder Circuitry Act to make modern communications and video programming more accessible to people with disabilities.¹⁹ Title I of the CVAA addresses the accessibility of various digital technologies, while Title II authorizes the FCC to issue rules that make it easier for people with disabilities to access video content on television and on the Internet, generally through the provision of captions and video description.²⁰ Captions and video descriptions are accessibility tools that are critical for individuals with visual or auditory disabilities to access video content: Closed captioning displays the audio portion of a motion picture as text on a screen and video description is an audio-narration of the key visual elements in a motion picture.

Since the enactment of the CVAA, the FCC has proposed and adopted several rules to improve accessibility to video content.²¹ Among other initiatives, the FCC has promulgated rules to require the provision of captions for Internet Protocol-delivered content, address the accessibility of video playback devices, and increase the amount of video described programming available on top-rated broadcast and non-broadcast networks.²² The FCC has likewise promulgated rules to improve the quality of captions, which increases accessibility for people who are deaf or hard of hearing.²³

However, the FCC rules, which focus primarily on video and real-time communications technology, do not provide a comprehensive solution for making digital works of authorship accessible. For example, the FCC rules require that broadcast television stations and multichannel video programming distributor (MVPD) systems need only provide 87.5 hours of described programming per calendar quarter.²⁴ Additionally, the video description rules do not apply to programming delivered over the Internet, such as via streaming services or optical media formats like Blu-ray and DVD.²⁵

3. Copyright Act

The U.S. Copyright Act identifies and protects the rights of copyright holders as well as setting out limitations and exceptions to those rights.²⁶ Copyright law is particularly relevant to efforts by third parties to add accessible features to content in which they do not hold the copyright. Although content should be “born accessible”—with accessibility features added during the creation of the work by an author, publisher, or other distribution entities—the enormous volume of existing inaccessible content that requires remediation to become accessible leaves third-party accessibility efforts as a critical part of the discussion.

During the roundtable, two specific sections of the Copyright Act were raised: 1) the anti-circumvention prohibitions in Section 1201 of the Digital Millennium Copyright Act (DMCA); and 2) the fair use doctrine.

The DMCA governs digital content with specific prohibitions on circumventing technological protection measures (TPMs) that copyright holders and content creators use to control access to copyright.²⁷ The fair use doctrine permits some uses of copyrighted material without having to acquire permission from the copyright holder.²⁸ While courts have established that reconfiguring works into formats that are accessible for people with disabilities is a fair use,²⁹ the DMCA may still impose liability in some cases.³⁰ Specifically, when content consumers must break technological measures on digital content to make that content accessible—e.g., adding text-to-speech functions in e-readers or adding closed captions or audio descriptions to video content protected by digital rights management—they may be at risk of incurring legal liability unless they are eligible for an exemption under Section 1201 promulgated by the Copyright Office.³¹

Against that legal backdrop, content creators who fail to make their works accessible at the outset may unwittingly expose those who try to make works accessible after the fact to some risk of copyright liability. Likewise, institutions subject to the ADA and other disability laws might invoke copyright law as a justification to avoid making content accessible.

Following the roundtable, participants also highlighted the role of the Chafee Amendment, which allows authorized entities in the U.S. to convert books into accessible formats for blind and visually impaired readers,³² and the counterpart Marrakesh Treaty, which extends Chafee-like protections globally and also addresses the cross-border importation and exportation of accessible copies of books.³³ However, Chafee and Marrakesh do not cover many types of authored content, including video, or address the accessibility of distribution systems and authoring tools.

B. Existing Technical Authoring Tools that Improve Accessibility

Notwithstanding the minimal legal incentives in place for authors to make their works accessible, an array of technical authoring tools is available that enable authors to improve the accessibility of digitally created works. Authoring tools like Microsoft Word (Word), Google Docs, WordPress, Adobe Acrobat, and video services such as YouTube give authors the ability to make their works more accessible.³⁴ Common authoring tools include headers and tagging for navigation, alt-text for descriptions, accessibility checkers, and methods for adding captions and audio description.³⁵

The proper use of authoring tools is important for assistive technologies such as screen-readers and text-to-speech software that interact with digital documents. For example, PDFs are more easily navigable by assistive technology through the use of tagging. For a PDF to be considered accessible, it must be tagged to provide a logical structure that a screen reader can interpret.³⁶ These tags show the intended reading order of content and page elements such as headings. Tags that can be added to a PDF to make it more accessible might include heading, paragraph, figure, list, table, or hyperlink tags.³⁷ Tagged headers, for example, are navigational aids that allow the user to easily flip through PDFs to relevant sections.

In addition, many authoring tools also allow authors to provide alt-text descriptions for non-text content such as pictures, graphics, and hyperlinks.³⁸ Alternative text is extremely important for assistive technologies because it allows devices such as screen-readers to describe and interpret images or graphs for the visually impaired.³⁹ Word has the ability to add in alternative text for images, graphics, shapes, charts, hyperlinks, and more.⁴⁰ Other authoring tools like Adobe Acrobat and WordPress also allow authors to provide alternative text for non-text content.⁴¹

Many authoring tools also have accessibility checkers, which are similar to spell check in that they monitor the document for areas of improvement for accessibility. For example, Microsoft has an accessibility checker that will report on accessibility issues in Word documents and PowerPoint presentations and indicate how to fix these issues.⁴² Like Word, Adobe Acrobat has an accessibility checker tool that allows the author to find points in the PDF where there are errors in accessibility, such as inappropriate heading nesting or untagged elements.⁴³

Video authoring platforms also offer authoring tools to work with assistive technologies. YouTube allows authors to add their own subtitles or captions in addition to their automatic captions for those with hearing impairments.⁴⁴ Captioning services such as CaptionSync and 3PlayMedia even allow authors to outsource captioning.⁴⁵ Authors can also add captions to videos not hosted on YouTube by adding captioning files to an uploaded video hosted on a web page.⁴⁶ Similarly,

YouDescribe is a free authoring tool that allows users to search YouTube videos and add audio descriptions for people who are blind or visually impaired.⁴⁷

III. Obstacles to Accessibility and Initial Recommendations

Roundtable participants raised two key obstacles to authors embracing accessibility. First, many authors are not aware of the need for accessibility. Second, flaws in existing technical authoring tools undermine their utility and prevent greater uptake. This section reviews these issues and the initial recommendations roundtable participants raised to address them.

A. The Role of Authors in Improving Accessibility

As a threshold matter, roundtable participants were conscious of the pitfalls of drawing binary distinctions between content creators and people with disabilities. Many people with disabilities are content creators, and many content creators are also content consumers. That said, participants also noted that one most conspicuous barriers to authorship and accessibility is the lack of awareness among non-disabled content creators about the need to make content accessible at the outset of creation, as well as the lack of understanding of how to do so. This section shares some of the factors that roundtable participants identified that may cause authors to neglect their role in improving accessibility and lists some ways roundtable participants identified to help encourage authors to integrate accessibility into their workflow.

1. Authors Are Not Always Aware of Their Role in Improving Accessibility

At a glance, this problem seems relatively straightforward: Authors, unaware of the need to make their works accessible, fail to do so. But participants contemplated several factors that may nevertheless perpetuate the disconnect between authorship and accessibility:

- Authors may fail to make their content accessible because they do not think about it, because they do not know how, or both;
- Retroactive solutions for content and accessibility may have unwittingly come at the expense of proactive solutions to make “born accessible” content; and
- Authors may not be aware of the cost of retroactively making works accessible.

Roundtable participants contemplated why authors often fail to make their works accessible, discussing whether non-disabled authors consider people with disabilities when they create content or whether non-disabled authors understand how to consider accessibility features in evaluating authoring tools. Since Congress passed the ADA, authors and content distributors are

increasingly becoming aware of their legal and ethical obligations to make works available in an accessible format.

However, even as authors are becoming more aware that they should make their works accessible, the absence of conversations between authors and people with disabilities means that authors are not fully versed in the needs of people with disabilities, and their efforts to make content accessible often fall short. Moreover, roundtable participants speculated that the lack of knowledge about the availability of authoring tools to improve accessibility—as well as the complexity of these tools—contribute to authors’ limited assumption of their role in improving accessibility.

Roundtable participants also raised the possibility that pressure to improve accessibility has focused on the content *distribution* phase rather than the content *creation* phase, inadvertently detracting from the importance of making works accessible from the start. In some sectors of the content industry—e.g., book and movie production—distributors have become more cognizant of their ethical and legal obligations to make works available in an accessible format in the wake of both social and legal pressures.⁴⁸ These efforts are often driven by an *ad hoc* approach: accessibility is promoted on an issue-by-issue basis as particular groups of advocates raise concerns about specific entities, often in the context of litigation or structured negotiations. While the issue-by-issue approach has played a vital role in encouraging accessibility, roundtable participants agreed that there is a need for authors and disability communities to shift the conversation to the broader goal of how content creators can work more closely with disability communities to cultivate an environment where accessibility is intrinsic to the content creation process.

Finally, the conversation at the roundtable touched briefly on the fact that authors may not be aware of the costs of retroactively making works accessible. For example, in order to ensure that students with disabilities have equal access to content at an educational institution, disability services offices will need to make sure the format of the work is accessible. While some publishers may provide works that are easily made into accessible formats, such as EPUB or HTML files, other publications may be in less accessible formats. Depending on the original format of the work, this process may prove costly and time-consuming.

2. Opportunities to Encourage Authors to Integrate Accessibility into Their Workflow

Because of the pivotal role that authorship can play in improving accessibility, roundtable participants suggested that efforts should be undertaken to improve awareness among authors

and to integrate accessibility into the author workflow. As such, long-term solutions for authorship and accessibility would benefit from the embrace of content-creator-led initiatives. Participants discussed three solutions that might help promote awareness among authors.

First, participants discussed how authors' organizations could take a more active role in raising awareness and educating authors about how to improve the accessibility of their creations. Authors Alliance, for example, could educate authors about the available tools for improving the accessibility of their works, especially as this supports its mission to help authors who want to "share their creations more broadly in order to serve the public good."⁴⁹ Raising awareness of how authoring tools help authors reach more readers—and sharing information on how to use these tools—could encourage authors to integrate accessibility into their normal workflow. Some roundtable participants felt that authors may be in the best position to make their works accessible in a way that remains true to their original intent. A participant expressed that screenwriters, for example, likely have better insight into how to describe a scene for audio descriptions than an editor or a disability service employee adding the audio description at a later point.

Second, participants expressed a desire to see other organizations and authoring platforms develop resources to help authors navigate authoring tools and to see those that have already been developed be promoted. These resources are particularly valuable to self-published authors who cannot rely on a publisher to make their works accessible. For example, the Accessible Books Consortium has created a guide to accessible books for self-published authors.⁵⁰ Platforms like Apple iBooks⁵¹ provide guidance on how self-published authors can conform to accessibility standards. Others, like Amazon Kindle and Barnes and Noble Nook Press provide little information on this topic. Platform-specific resources on improving accessibility could help authors to format accessible documents.

Finally, participants discussed the role Creative Commons and other licensing organizations could assume in promoting accessibility. Creative Commons is a non-profit organization that provides standardized licenses that help content creators share copyrighted content.⁵² Authors use these licenses when they want to give people the right to share, use, and build upon a work that they have created. At the roundtable, participants suggested that Creative Commons could consider adding an accessibility designation to its licensing scheme, indicating that the work has accessibility features that must be retained if the work is shared or reused. Participants also suggested Creative Commons could play a role in educating third-party users of Creative Commons-licensed content about the extent to which some Creative Commons licenses can mitigate concerns about copyright liability for adding accessibility features.⁵³ Creative Commons

is widely known among content creators and content consumers, so working with Creative Commons on accessibility could be a way to maximize social awareness efforts.

B. The Use of Technical Authoring Tools to Improve Accessibility

Many authoring platforms provide authors with the ability to improve the accessibility of their works through various accessibility features. Roundtable participants agreed that authoring tools have the potential to spur the creation and maintenance of accessible documents, even where accessibility is not required by law. Participants also agreed that there needs to be greater awareness of the availability, capability, and utility of authoring tools, including their accessibility features, as discussed in the previous section. This section turns to the problems roundtable participants raised with respect to current authoring tools and outlines the ways that roundtable participants suggested to address these deficiencies.

1. Inadequacy of Current Authoring Tools

Although roundtable participants acknowledged the progress authoring tools have made over the years, the participants noted a variety of specific technological areas that require improvement. Problems that hinder the use of these tools include incompatibility across platforms, the lack of integration of accessibility features into authoring platforms, the inaccuracy in some tools, the lack of accessibility features being enabled by default, and the fact that authoring tools are often inaccessible themselves. Unless these problems are addressed, technical issues will remain a barrier to accessibility.

Participants discussed the difficulties of maintaining accessibility across various platforms. For example, maintaining accessibility is relatively simple when a Word document is first formatted correctly and an author can convert it to a PDF and maintain the original accessible features.⁵⁴ However, Word includes PDF conversion mechanisms that result in inaccessible PDFs. Further complications can also arise when an author wishes to combine various documents from Word and websites into one PDF. Roundtable participants discussed how more difficult conversions often present accessibility problems that can only be solved with hours of reformatting. Additional issues with Adobe Acrobat include converting images of web pages into PDFs and making older PDFs accessible.

Roundtable participants also discussed how a lack of integration of authoring tools on platforms can be a barrier to usability. For example, YouTube does not integrate the ability to add audio descriptions to a video in the YouTube platform. Ideally, users would have the option to add audio descriptions to their video files that can be toggled on/off, like closed captions. Instead,

creators have to upload multiple versions of the same file to YouTube (one with audio captioning, one without), or rely on third-party services to crowd-source the audio descriptions, meaning that the file is then available to the visually impaired on a third-party site that aggregates this content.⁵⁵

Another example that roundtable participants raised is the inaccuracy of automatically generated captions on YouTube and other platforms, which leads some authors to believe, incorrectly, that their videos are fully accessible without further intervention.⁵⁶ YouTube is continuing to improve the accuracy of the auto-caption program, but many videos lack captions of acceptable quality.⁵⁷

Roundtable participants emphasized that, in many cases, accessibility features are not enabled by default. For example, YouTube disables third-party captions unless the owner explicitly takes steps to enable them, while the default method of generating a PDF from Microsoft Word on MacOS can result in an inaccessible PDF. And WordPress, the prominent online blogging platform, currently requires the use of plugins to enable some accessibility features and address shortcomings,⁵⁸ its developers are also grappling with significant accessibility issues with its new editor, Gutenberg.⁵⁹ Roundtable participants discussed how, when accessibility features are not prominently displayed within authoring platforms and are not on by default, it is easy for authors to overlook them.

Finally, roundtable participants emphasized that authoring tools are often inaccessible themselves, imposing roadblocks for disabled authors. For example, complex user interfaces in applications like Adobe Acrobat Pro pose significant usability challenges for authors with cognitive disabilities, whereas platforms like Google Docs are designed to be compatible with screen reader technologies.⁶⁰ One participant highlighted that the expense of commercial tools may likewise impose a barrier for disabled authors who face systemic economic and employment discrimination. Participants agreed that paving the way for disabled authors through the availability of accessible authoring tools is a critical component for fostering accessibility in authorial communities more broadly.

2. Ways to Improve Technical Authoring Tools

Roundtable participants discussed possible improvements for accessibility authoring tools. Many simply are straightforward corollaries of the above-identified issues:

- Cross-platform compatibility should be improved, such that document conversions retain accessibility features built into the original formats.

- Platforms should seek to integrate additional accessibility features into their platforms so that users do not need to rely on off-site services to make their digital works accessible.
- Technologists should continue to improve the accuracy of existing automated tools that add accessibility features.
- Accessibility features should be enabled by default, where possible. Interfaces for authoring tools and platforms should, by default, prompt authors to enter data required for accessibility, such as captions or image descriptions.
- Authoring tools should be accessible.

In addition, participants suggested a range of potential options to increase authors' use of available authoring tools. The awareness-raising suggestions raised in the previous section should be one component of a campaign to encourage the use of authoring tools to improve accessibility. Roundtable participants also wondered whether moving accessibility features to prominent menu positions or introducing pop-up messages to introduce accessibility features might result in increased use. Roundtable participants generally agreed that further research is needed to determine which, if any, of these ideas would have a positive effect.

IV. Conclusion

The digital age offers more opportunities than ever before for authors to create and disseminate content. It has also given rise to the growing availability of technical authoring tools that help authors make their digital creations accessible to the widest possible audience. Nevertheless, obstacles to digital accessibility remain that can be traced to the current authorship and authoring tools ecosystem. This report summarized those obstacles as identified by participants at a November 2017 roundtable and presented initial solutions participants raised to overcome these obstacles. This report is intended to increase awareness of the role of authors in addressing accessibility at the point of creation, encourage the improvement of authoring tools, and prompt more authors to make their digital creations accessible.

ENDNOTES

¹ For the purposes of this report, as in the U.S. Copyright Act, the term “author” includes creators of a broad range of content, including books and multimedia content.

² Convention on the Rights of Persons with Disabilities, prov. 1, Mar. 30, 2007, 2515 U.N.T.S. 3 [hereinafter CRPD].

³ *Deafness and Hearing Loss*, World Health Org. (Mar. 2018), <http://www.who.int/mediacentre/factsheets/fs300/en/>; *Vision Impairment and Blindness*, World Health Org. (Oct. 2017), <http://www.who.int/mediacentre/factsheets/fs282/en/>.

⁴ Lewis Kraus, *2016 Disability Statistics Annual Report*, Univ. of N.H. (2018), https://disabilitycompendium.org/sites/default/files/user-uploads/2016_AnnualReport.pdf.

⁵ CRPD, *supra* note 2, preamble.

⁶ *Id.*

⁷ See, e.g., *Authoring Tool Accessibility Guidelines (ATAG) Overview*, Web Accessibility Initiative, <https://www.w3.org/WAI/intro/atag.php> (last visited Apr. 23, 2018) (detailing the authoring tools and guidelines to help authors create more accessible content); 47 C.F.R. § 79.1(j)(2) (spelling out the FCC’s caption quality standards, which are used as a model by some disability services offices); Elisa Edelberg, *Accessibility Laws for Public Websites*, 3PlayMedia (Oct. 5, 2017), <https://www.3playmedia.com/2017/10/05/accessibility-laws-public-websites/> (describing trends in judicial treatments of video and web accessibility); Sheryl E. Burgstahler, *Universal Design in Higher Education: Promising Practices* Univ. of Wash. (2013) https://www.washington.edu/doit/sites/default/files/atoms/files/Universal_Design_in_Higher_Education_Promising_Practices_0.pdf (explaining universal design principles for the higher education community).

⁸ *Accessibility Lawsuits*, 3PlayMedia, <https://www.3playmedia.com/resources/accessibility-lawsuits/> (last visited Apr. 23, 2018).

⁹ Letter from Rebecca B. Bond, Chief, Disability Rights Section, Department of Justice, to Nicholas B. Dirks, Chancellor, Univ. of Cal. Berkeley (Aug. 30, 2016) (“DOJ 2016 Letter to Berkeley”), *available at* https://www.ada.gov/briefs/uc_berkeley_lof.pdf.

¹⁰ Tamar Lewin, *Harvard and M.I.T. Are Sued Over Lack of Closed Captions*, NY Times (Feb. 12, 2015), <https://www.nytimes.com/2015/02/13/education/harvard-and-mit-sued-over-failing-to-caption-online-courses.html>.

¹¹ 42 U.S.C. § 12101.

¹² 42 U.S.C. § 12182.

¹³ 42 U.S.C. § 12181.

¹⁴ *Id.*; see also DOJ 2016 Letter to Berkeley *supra* note 9; Nina Golden, *Access This: Why Institutions of Higher Education Must Provide Access to the Internet to Students with Disabilities*, 10 Vand. J. Ent. & Tech. L. 363 (2008).

¹⁵ See generally Stephanie Khouri, *Disability Law-Welcome to the New Town Square of Today’s Global Village: Website Accessibility for Individuals with Disabilities After Target and the 2008 Amendments to the Americans with Disabilities Act*, 32 U. Ark. Little Rock L. Rev. 331 (2010).

¹⁶ *Id.*

¹⁷ *Website Accessibility Under Title II of the ADA*, <https://www.ada.gov/pccatoolkit/chap5toolkit.htm> (last visited May 1, 2018) (detailing why websites should be made accessible).

¹⁸ *Id.*; *Nondiscrimination on the Basis of Disability; Notice of Withdrawal of Four Previously Announced Rulemaking Actions* 28 C.F.R. 35, <https://www.federalregister.gov/documents/2017/12/26/2017-27510/nondiscrimination-on-the-basis-of-disability-notice-of-withdrawal-of-four-previously-announced> (last visited May 1, 2018) (The DOJ formally announcing the withdrawal of the Advance Notices of Proposed Rulemaking “regarding the accessibility of Web information and services of state and local government entities (title II) and public accommodations (title III)”).

¹⁹ Twenty-First Century Communications and Video Accessibility Act (CVAA), 111 P.L. 260, 124 Stat. 2751 (2010).

²⁰ *Id.*

²¹ *E.g.*, 47 C.F.R. § 79.4.

²² *See* 47 C.F.R. § 79.3.

²³ *See* 47 C.F.R. § 79.1. In practice, the quantity is even less than that because the Commission’s rules allow broadcasters and MVPDs to count airings of described programming twice toward the quarterly requirement. *See* 47 C.F.R. § 79.3(c)(2).

²⁴ 47 C.F.R. § 79.3(b)(1) and (4).

²⁵ *See generally* 47 C.F.R. § 70-9.

²⁶ *See Copyright Law of the United States*, The Copyright Office, <https://www.copyright.gov/title17/> (May 1, 2018).

²⁷ *See* 17 U.S.C. §§ 512, 1201–1205, 1301–1332; 28 U.S.C. § 4001.

²⁸ 17 U.S.C. § 107.

²⁹ *See generally* *Authors Guild, Inc. v. HathiTrust*, 755 F.3d 87 (2d Cir. 2014); *Sony Corp. of Am.*, 464 U.S. 417, 455 n. 40 (1984) (stating that “Making a copy of a copyrighted work for the convenience of a blind person is expressly identified by the House Committee Report as an example of fair use, with no suggestion that anything more than a purpose to entertain or to inform need motivate the copying”); 17 U.S.C. §§ 512, 1201–1205, 1301–1332; 28 U.S.C. § 4001.

³⁰ Although a circuit split exists, some courts read Section 1201 to impose liability for circumvention whether the underlying use is fair. *Compare Chamberlain Grp., Inc. v. Skylink Techs.* 381 F.3d 1178, 1202–03, (Fed. Cir. 2004) (requiring a nexus between circumvention and infringement) with *MDY Indus. v. Blizzard Entm't.*, 629 F.3d 928, 944, (9th Cir. 2010) (rejecting a nexus requirement).

³¹ *See generally* *Section 1201 Of Title 17: A Legal Overview*, The Copyright Office, https://www.copyright.gov/1201/1201_background_slides.pdf (May 1, 2018).

³² *See* 17 U.S.C. § 121.

³³ *See generally* World Intellectual Property Organization, *Summary of the Marrakesh Treaty to Facilitate Access to Published Works for Persons Who Are Blind, Visually Impaired, or Otherwise Print Disabled (MVT)* (2013), http://www.wipo.int/treaties/en/ip/marrakesh/summary_marrakesh.html.

³⁴ *See* *Authoring Tools, Social Media*, World Wide Web Consortium, <https://www.w3.org/standards/agents/authoring> (last visited Aug. 27, 2018) (defining authoring tool as “[a]ny software, or collection of software components, that authors can use to create or modify web content for use by other people . . . [they] should allow all of us to publish to a universal space of web content, read by people from all over the world...using many different input and output devices”).

³⁵ *Principles of Accessible Design*, WebAIM (last updated Mar. 15, 2016), <https://webaim.org/intro/> - principles (discussing the various principles of accessible design that are often built into authoring platforms such as the ability to provide alternative text, headings for document structure, and captions for visual media).

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- ³⁶ *PDF Accessibility- Defining Acrobat PDF Accessibility*, WebAIM (last updated Jul. 31, 2014), <https://webaim.org/techniques/acrobat/> - adobe; *PDF file format accessibility features combined with Adobe® Acrobat® and Adobe Reader® allow universal access to documents*, Adobe, <https://www.adobe.com/accessibility/pdf/pdf-accessibility-overview.html> (last visited Apr. 20, 2018).
- ³⁷ *PDF Accessibility – Acrobat and Accessibility*, WebAIM (last updated Feb. 18, 2014), [https://webaim.org/techniques/acrobat/acrobat - tags pane](https://webaim.org/techniques/acrobat/acrobat-tags-pane).
- ³⁸ *Alternative Text*, WebAIM (last updated Feb. 21, 2018), <https://webaim.org/techniques/alttext/>.
- ³⁹ *See Alt Text*, Univ. of Minn., <https://accessibility.umn.edu/core-skills/alt-text> (last visited Apr. 19, 2018) (stating that by adding alt text, authors can also ensure that the image communicates the intended purpose or enhances the meaning of the text which improves quality of the content).
- ⁴⁰ *Make your Word documents accessible*, Microsoft, <https://support.office.com/en-us/article/make-your-word-documents-accessible-d9bf3683-87ac-47ea-b91a-78dcacb3c66d> (last visited Apr. 19, 2018).
- ⁴¹ *Ten Common PDF Accessibility Errors with Solutions*, Univ. of Ottawa (Sep. 2014), <https://www.uottawa.ca/respect/sites/www.uottawa.ca.respect/files/fss-fixing-accessibility-errors-in-pdfs.pdf>.
- ⁴² *Use the Accessibility Checker on your Windows desktop to find accessibility issues*, Microsoft, <https://support.office.com/en-us/article/use-the-accessibility-checker-on-your-windows-desktop-to-find-accessibility-issues-a16f6de0-2f39-4a2b-8bd8-5ad801426c7f> (last visited Apr. 19, 2018).
- ⁴³ *Create and Verify PDF Accessibility (Acrobat Pro)*, Acrobat, <https://helpx.adobe.com/acrobat/using/create-verify-pdf-accessibility.html> (last visited Apr. 19 2018).
- ⁴⁴ *YouTube Help Add your own subtitles & closed captions*, Google, <https://support.google.com/youtube/answer/2734796?hl=en> (last visited Apr. 19, 2018); *YouTube Help Use automatic captioning*, Google (last visited Apr. 19, 2018), <https://support.google.com/youtube/answer/6373554?hl=en>; *Adding Captions to YouTube Videos*, Univ. of Wash., <https://www.washington.edu/accessibility/videos/youtube/> (last visited Apr. 19 2018).
- ⁴⁵ *Adding Captions to YouTube Videos*, Univ. of Wash., <https://www.washington.edu/accessibility/videos/youtube/> (last visited May 28, 2018).
- ⁴⁶ *Adding Captions to Videos on Web Pages*, Univ. of Wash., <https://www.washington.edu/accessibility/videos/web/> (last visited May 29, 2018).
- ⁴⁷ *YouDescribe*, SKERI, <https://www.ski.org/project/youdescribe> (last visited Apr. 19. 2018); *About Audio Description*, Univ. of Cal. Berkeley, <https://webaccess.berkeley.edu/resources/tips/audio-description> (last visited Apr. 19, 2018); *How to Audio Describe a YouTube Video*, Media Access Australia, <https://mediaaccess.org.au/web/how-to-audio-describe-a-youtube-video> (last visited Apr. 19, 2018).
- ⁴⁸ *E.g. Limitations and Exceptions: Access to Books for the Visually Impaired – Background Brief*, WIPO, <http://www.wipo.int/pressroom/en/briefs/limitations.html> (last visited May 1, 2018); *see also* Elisa Edelberg, *Audio Description Lawsuits: Netflix, Hamilton, UC Berkeley, and AMC Theatres* 3PlayMedia (Jan. 4, 2018), <https://www.3playmedia.com/2017/04/05/audio-description-lawsuits/>; *Accessibility Lawsuits*, 3PlayMedia, <https://www.3playmedia.com/resources/accessibility-lawsuits/> (last visited May 1, 2018).
- ⁴⁹ Authors Alliance, *About Us*, <https://www.authorsalliance.org/about/> - mission (last visited Aug. 27, 2018).
- ⁵⁰ Dave Gunn, *Accessible eBook Guidelines for Self-Publishing Authors*, Accessible Books Consortium (January 2016), http://accessiblebooksconsortium.org/export/abc/abc_ebook_guidelines_for_self-publishing_authors.pdf.
- ⁵¹ *iBooks Author: How to Make Your Books Accessible*, Apple, <https://support.apple.com/en-us/HT202371>.
- ⁵² *See generally*, Creative Commons, *What We Do*, <https://creativecommons.org/about> (last visited Aug. 29, 2018).

⁵³ In this way, Creative Commons licenses can facilitate retroactive accessibility and even allow accessibility features to be tailored to the audience's preferences. For example, after Authors Alliance founding members James Boyle and Jennifer Jenkins self-published their casebook, *Intellectual Property: Law & The Information Society*, under a Creative Commons license, visually impaired students shared with the authors that they appreciated being able to use the open electronic text to produce machine-generated audiobooks in whatever format they choose.

⁵⁴ Al Sacco, *How to save a Microsoft Word doc as a PDF or other file format*, Windows Central (Feb. 27, 2017), <https://www.windowscentral.com/how-save-microsoft-word-doc-pdf-or-another-file-format>.

⁵⁵ Glen, *Audio Description on YouTube*, Well Eye Never (Sep. 3, 2016), <https://welleyenever.com/2016/09/03/audio-description-on-youtube/>.

⁵⁶ *Improve Accessibility: Correct YouTube Auto-Captions*, Univ. of Minn. Duluth, http://www.d.umn.edu/itss/classroom/captioning/youtube_autocap.html (last visited Apr. 20, 2018).

⁵⁷ Todd Spangler, *YouTube Has 1 Billion Videos With Closed-Captioning, but Not All of Them Are Accurate*, Variety (Feb. 16, 2017, 9:00AM), <http://variety.com/2017/digital/news/youtube-1-billion-videos-closed-captioning-accuracy-1201990083/>.

⁵⁸ *E.g.*, Joe Dolson, *WP Accessibility*, <https://wordpress.org/plugins/wp-accessibility/> (last visited Aug. 27, 2018).

⁵⁹ Rien Rietveld, *Overview of the Gutenberg Accessibility Merge Proposal Issues*, (last updated Jun. 21, 2018), <https://make.wordpress.org/accessibility/2018/06/21/overview-of-the-gutenberg-accessibility-merge-proposal-issues/>.

⁶⁰ *Accessibility for Docs Editors*, Google, <https://support.google.com/docs/answer/6282736> (last visited Aug. 27, 2018).