

**WEB ACCESSIBILITY AND LAYERED APPROACHES: A SEARCH FOR A
SCALABLE SOLUTION TO WEB ACCESSIBILITY¹**

TABLE OF CONTENTS

I.	THE HISTORY OF WEB ACCESSIBILITY	3
A.	SECTION 508 OF THE REHABILITATION ACT	3
B.	ADA TITLE III AND CIRCUIT SPLIT	5
C.	DEVELOPMENT OF WCAG	8
II.	CURRENT CONFLICTS AND TRENDS IN WEB ACCESSIBILITY	10
A.	ACCESSIBILITY STANDARDS	12
i.	<i>WCAG's Standards Based On Disability</i>	13
ii.	<i>Blindness and Low Vision</i>	15
iii.	<i>Cognitive Disabilities</i>	17
iv.	<i>Physical and Motor Disabilities</i>	19
III.	MANUAL V. LAYERED APPROACHES	20
A.	COMPARISON OF LAYERED OPTIONS	21
B.	HOW A LAYERED APPROACH ADDRESSES ACCESSIBILITY	22
IV.	ONLINE ACCESSIBILITY ACT	23
V.	CONCLUSION	24

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The World Wide Web is one of the most significant technological developments of the modern age, becoming an essential part to an individual's everyday life and necessary to all businesses—small, medium, and large. Unfortunately, of the over 350 million websites in the United States, alone, only around 2 percent are accessible for users with disabilities. In the United States, people with disabilities make up about 20 percent of the total population—leaving 1 in 5 individuals blocked from the full potential of the internet.

Because most small and medium sized businesses use WYSIWYG (What You See Is What You Get) approaches to drag and drop elements onto their websites, many businesses utilizing web builder sites such as WordPress, Wix, Squarespace, etc., do not, by themselves, create a website accessible to persons with disabilities. For a person with a disability to use a website effectively and with the same experience as a non-disabled user, proper coding of the elements of a website, such as headings, links, form fields, and other HTML elements are required. This can be done by professionals in the field of accessibility through manual fixes to the source code on the site or by the newer layered approaches in which the source code isn't changed, rather code is added to a website and using artificial intelligence (AI) creates a layer of repaired code when the technology is activated.

A controversy around these two approaches has developed in recent years. The proponents of manual remediation argue that for a website to truly be compliant under Title III of the Americans with Disabilities Act (ADA) and Section 508 of the Rehabilitation Act (Section 508), an individual with training in web accessibility must fix the entire source code of a website. On the other hand, proponents of the layered approach argue that using AI to overlay accessibility features onto a website is the best way to create a scalable approach to web accessibility because the sheer number of sites active in the United States could not be fully remediated on an ongoing basis by manual coders.

Traditionally, these layered approaches to web accessibility have focused on the needs of people who are blind, who primarily use screen readers or other assistive technology. However, this population only accounts for about 10 percent of people with disabilities. Certainly, when a website is accessible to individuals who are blind, it is going to be more accessible for everyone, particularly those with a motor disability. Yet, to date, little focus has been given to the web experience for most people with disabilities, i.e., the 38 percent of the disability population who have Intellectual and Developmental Disabilities (IDD) or otherwise have a cognitive disability. Both the manual coders and many layered approaches completely overlook this important population.

Additionally, in recent years, lawsuits surrounding web accessibility have been on the rise.² This has created expensive, and time intensive litigation often being initiated by lawyers

² The number of web accessibility lawsuits filed in 2018, 2258 cases, was 177% higher than in 2017. See Minh N. Vu, Kristina M. Launey & Susan Ryan, *Number Of Federal Website Accessibility Lawsuits Nearly Triple, Exceeding 2250 In 2018*, Seyfarth (Jan. 31, 2019), <https://www.adatitleiii.com/2019/01/number-of-federal-website-accessibility-lawsuits-nearly-triple-exceeding-2250-in-2018/>. The meteoric rise came potentially from the fact that the Web Content Accessibility Guidelines (WCAG) became the working standard for Section 508 of the Rehabilitation Act as of 2018 thanks to the U.S. Access Board. See Michael Gower and Mary Jo Mueller, *Revised Section 508 Standards Now in Effect*, IBM (Jan. 25, 2018), <https://www.ibm.com/blogs/age-and->

filing serial lawsuits against mom-and-pop sites, causing businesses to react to the threat of litigation instead of focusing on making their website accessible for 20 percent of the population and their potential customers—people with disabilities. The costs and time incurred in manual remediation has caused many businesses to forgo accessibility totally, hoping that they will not be targeted for a lawsuit.

This article discusses the standards that have developed around web accessibility, what web accessibility means, the approaches to web accessibility, and how courts in various jurisdictions have interpreted web accessibility under the ADA and Section 508. This article argues that the need for a scalable solution is critical to allow an equitable online experience for people with disabilities that cannot be addressed by manual means and that, although some of these layered approaches do not address all the elements of the web accessibility standards discussed herein, some do provide more comprehensive accessibility for the wide range of people with disabilities and should be accepted as a cost-effective scalable solution as AI technology continues to improve. Lastly, this article discusses the initiatives for web accessibility by Congress and other governing bodies and suggests guidelines for future accessibility compliance.

I. THE HISTORY OF WEB ACCESSIBILITY

Through the development of legislation focused on the rights of individuals with disabilities, a broadened context of accessibility looking at the issue of access for people with disabilities to technology in the digital space has emerged. The two main pieces of legislation that address this issue are Section 508 of the Rehabilitation Act and Title III of the Americans with Disabilities Act. Section 508 only applies to federal agencies and contractors, but within that sphere, it is the most comprehensive disability protection for online spaces and digital software. Title III of the ADA, which regulates private businesses, includes developing caselaw on its applicability to the internet.

a. Section 508 of the Rehabilitation Act

The Rehabilitation Act, established on September 26, 1973, is the first federal statute to provide any kind of anti-discriminatory measures to protect the disability community.³ Though it exclusively applies to the federal government and federal agencies, it is a powerful statute within its aegis.⁴ It prohibits discrimination on the basis of disability in all programs by federal agencies, programs that receive federal funds, and in employment for federal contractors.⁵ The latter is covered by Section 503, which requires any federal contract worth more than \$10,000 to include a provision requiring the contractor to take affirmative action to hire qualified people with disabilities.⁶ It is enforced by the Department of Labor, but can be waived by the President or the Secretary of Labor on an individual contract basis.⁷

[ability/2018/01/25/revised-section-508-standards-now-effect/](#). The rise in web accessibility lawsuits continued after 2018, with 2020 having 23% more cases than 2019. It may continue in 2021; 1161 web accessibility lawsuits were filed from January through June 2021, and less than 8% of defendants from that timespan utilized third-party accessibility software such as AccessiBe. See ACCESSIBILITY.com (2021), <https://www.accessibility.com/digital-lawsuits>.

³ 29 U.S.C. § 794

⁴ *Id.*

⁵ *Id.*

⁶ 29 U.S.C. § 793(1)

⁷ *Id.*

In response to the growth of the internet and other such technologies occurring in the late 1990s, Congress in 1998 enacted Section 508, an amendment to the Rehabilitation Act. Section 508 protects the disability community from the discrimination in all sorts of nonphysical areas, such as telephones, electronic devices or software, printers, faxes, copiers, time clocks, and of course, the internet.⁸ To this day, Section 508 is the strongest statutory protection the disability community has for the information superhighway, but because it is an amendment to the Rehabilitation Act and not the ADA, the scope of its protection is limited to whatever involves the federal government.

Under Section 508, those already under the aegis of the Rehabilitation Act must give people with disabilities, whether they be federal employees or members of the public, the same ability to access online information as their nondisabled counterparts.⁹ This extends to websites, applications, computer software, apps for mobile devices, and other digital venues in that mold.¹⁰ For instance, in *Leiterman v. Johnson*, the court found that office telephones used by federal agencies must be accessible to blind employees.¹¹ The only exemption from Section 508 is reserved for national security systems.¹² Compliance with Section 508 involves ensuring that the contents of the applicable digital information receptacle be compatible with any kind of adaptive technology that would make them accessible for someone with disabilities, including screen readers and voice recognition technology.¹³ It also requires the receptacle to be just as navigable regardless of whether the user is working with a keyboard and mouse, or has limited use of a keyboard, or uses only the keyboard, and for it to be just as easily perceived by someone with a form of color blindness.¹⁴

The exact standards for compliance are put in place by the United States Access Board (Access Board). The Access Board issued the first set of Section 508 Standards on December 21, 2000, two years after Section 508 became law.¹⁵ “Among other things, these standards: ... establish technical requirements and functional performance criteria for covered electronic and information technologies; require agencies to document undue burden determinations when procuring covered products; and mandate accessibility of support documentation and services.”¹⁶ These standards stood for over a decade and a half, but its update had been in the works since 2006.¹⁷ After over a decade of development, reports, drafting, and revisions, the updated Section 508 Standards were published on January 18, 2017.¹⁸

⁸ 29 U.S.C. § 794d.

⁹ *Id.*

¹⁰ *Id.*

¹¹ *Leiterman v. Johnson*, 60 F.Supp.3d 166, 184-85 (D.D.C., 2014).

¹² 29 U.S.C. § 794d(a)(5)

¹³ *Appendix D: 508 Compliance*, [https://www.va.gov/vdl/documents/Clinical/Pharm-Bar_Code_Med_Admin_\(BCMA\)/psb_3_um_appendixd_508_compliance_r0111.pdf](https://www.va.gov/vdl/documents/Clinical/Pharm-Bar_Code_Med_Admin_(BCMA)/psb_3_um_appendixd_508_compliance_r0111.pdf).

¹⁴ *Id.*

¹⁵ 36 CFR 1194

¹⁶ 36 CFR Parts 1193-1194

¹⁷ *Id.*

¹⁸ *Id.*

The purpose of these revisions was to enable regulations to keep up with technology, to increase the regulations' effectiveness, and to consolidate multiple different and possibly competing standards from within and without the federal government.¹⁹ In practice, this meant incorporating much of the most recent Web Content Accessibility Guidelines (WCAG) designed by a nongovernmental board, into federal regulations. This combined the WCAG's conformance requirements with compliance standards already in place via federal regulations to create something potentially more effective than either by itself.²⁰ Finally, an additional revision to Section 508 was published in 2018, but its revisions amount mainly to correcting typographical errors in the 2017 revisions.²¹

Courts have ruled that Section 508 requires only "substantial compliance". In *Allied Technology Group v. U.S.*, the Federal Circuit considered this issue where an offeror who was not awarded a contract filed a bid protest on the grounds that the winning bidder was not fully compliant with Section 508.²² The Federal Circuit ruled that minor exceptions to Section 508 compliance was acceptable, because the statutory language and implementing regulations of Section 508 are flexible, and do not take an "all-or-nothing" approach to compliance.²³ In the eyes of the Federal Circuit, as long as the contracting officer considers the awardee to be broadly compliant with Section 508, despite minor exceptions, it is not in violation of the statute; Section 508 and its regulations do not require perfect and unequivocal compliance.²⁴

b. ADA Title III and Circuit Split

The ADA was signed into law and made effective on July 26, 1990.²⁵ As enacted, it was comprised of five Titles. Title I concerns employment discrimination; Title II concerns state and local governments and other public services; Title III concerns regulations of private businesses and public accommodations; Title IV concerns telecommunications; and Title V contains provisions that do not fit cleanly into the other titles.²⁶ Of these, it is Title III that is relevant for online accessibility for the disability community.

Title III prohibits discrimination on the basis of disability in places of public accommodation, such as schools, movie theaters, restaurants, and gyms. It also requires newly constructed or altered places of public accommodation to comply with ADA standards.²⁷ However, this protection is not absolute. For example, religious organizations, as well as entities deemed under the control of a religious organization, such as Catholic schools and hospitals, are completely exempt from Title III.²⁸ Because the ADA was written in 1990, before the internet became widely available, it contains no language directly referencing the internet and how the internet interacts with the ADA in general, and Title III in particular.

¹⁹ Youkan Xiu, *What Does Web Accessibility Look Like Under the ADA?: The Need for Regulatory Guidance in an E-Commerce World*, 89 Geo. Wash. L. Rev. 400, 411-14 (2021).

²⁰ *Id.*

²¹ 36 CFR 1194

²² *Allied Tech. Grp., Inc. v. United States*, 649 F.3d 1320 (Fed. Cir. 2011).

²³ *Id.* at 1331 (citing 29 U.S.C. § 794d(a)(1)(A) and 36 C.F.R. § 1194.1).

²⁴ *Id.*

²⁵ Americans with Disabilities Act of 1990, 42 U.S.C.A. § 12182.

²⁶ *Id.*

²⁷ Americans with Disabilities Act, 42 U.S.C. § 12182 (2008).

²⁸ *Id.*

The Supreme Court has yet to weigh in although it had an opportunity to when the Ninth Circuit case *Robles v. Domino's Pizza* was appealed.²⁹ The different circuit courts of appeals are split over whether a public accommodation under Title III can be online or whether it can only be in a physical space. The Second, Fourth, Fifth, Eighth, Tenth, D.C., and Federal Circuits have not commented at all on this question.³⁰ The divide among those circuits who have weighed in is between cases such as *Robles*, where the Ninth Circuit ruled that Title III can apply to the internet if a nexus exists with a physical business location, the Seventh Circuit case *Doe v. Mutual of Omaha Insurance Corporation*, which ruled that Title III never needs a physical location to apply, and the Eleventh Circuit case *Gil v. Winn-Dixie Stores, Inc.*, 993 F.3d 1266 (11th Cir. 2021), which ruled that Title III can never apply to the internet.

In *Robles*, the plaintiff, a pizza customer who was blind, filed suit against Domino's Pizza for having an inaccessible website and mobile application. The Ninth Circuit ruled that, because "[Title III] applies to the services of a place of public accommodation, not services in a place of public accommodation," it expanded the scope of Title III to the digital space.³¹ It also ruled that the ADA was clear enough in its requirements extending to the digital realm that Domino's had fair notice to comply.³² While this ruling did establish to the Ninth Circuit that Title III can apply to the internet, "it did not fully answer the question of whether the statute applies to other forms of Internet activity not closely associated (i.e., not having a sufficient 'nexus') with a traditional brick-and mortar physical location."³³ This nexus was the stated reason given by the Court to apply Title III to the Domino's website, so a website without such a nexus still may not have the same obligations under Title III.

After the Ninth Circuit remanded *Robles* back to the Central District of California, the District Court ruled in June 2021 that Domino's Pizza's mobile application was not accessible and ordered Domino's to change the application to make it accessible per the WCAG guidelines.³⁴ This is among the first time a company has ever been required by a Court to change its mobile application for accessibility purposes, making *Robles* a significant milestone for online accessibility.

Gil, out of the Eleventh Circuit, has a similar fact pattern but a very different outcome than *Robles*. In *Gil*, the plaintiff, a grocery store customer who was legally blind, alleged that the grocery store did not make its website accessible because it was incompatible with screen readers. Despite the website being similarly connected to a physical place of public accommodation as the Domino's Pizza website in *Robles*, in this case, the Eleventh Circuit ruled that public accommodations under Title III only encompass physical locations, and do not

²⁹ *Domino's Pizza, LLC v. Robles*, 140 S. Ct. 122 (Mem) (U.S., 2019).

³⁰ The Tenth Circuit does cite to a case that discusses the issue in *Smith v. Sharp*, 935 F.3d 1064 (10th Cir. 2019), but only for evidentiary purposes in a criminal appeal.

³¹ *Robles v. Domino's Pizza, LLC*, 913 F.3d 898, 904-05 (2019) (citing *Natal Fed'n of the Blind v. Target Corp.*, 452 F.Supp.2d 946, 953 (N.D. Cal. 2006)).

³² *Id.* at 906-07.

³³ ENSURING EQUAL ACCESS TO PUBLIC ACCOMMODATIONS, LRID MA-CLE 8-1. The quote referred to *Natal Fed'n of the Blind v. Target Corp.*, 452 F. Supp. 2d 946 (N.D. Cal. 2006), but it applies just as well to *Robles*, and *Target* is a district court case within the Ninth Circuit.

³⁴ *Robles v. Dominos Pizza, LLC*, CV 16-6599 JGB 1, 13 (C.D. Ca. 2021).

include websites in any capacity.³⁵ *Gil* acknowledges the existence of *Robles* but distinguishes it. *Gil* argues that *Robles* hinged on a nexus between the inaccessible website and the goods and services provided in its physical location, a nexus which does not exist in the facts of *Gil* because Winn-Dixie Stores does not make sales on its website.³⁶ This does leave open the possibility for the Eleventh Circuit to rule that such a nexus can make a website subject to Title III, but this has not yet happened.

In the Third Circuit case *Ford v. Schering-Plough Corporation*, the plaintiff brought an action against her former employer and insurance company arguing that the disparity between what the insurance company offered for physical and mental disabilities violated the ADA. The Circuit Court ruled that “[t]he plain meaning of Title III is that a public accommodation is a place,” and used the examples of public accommodations provided by the statute to underscore the decision.³⁷ From this, the Third Circuit ruled against the plaintiff because, “[s]ince Ford received her disability benefits via her employment at Schering, she had no nexus to MetLife’s insurance office and thus was not discriminated against in connection with a public accommodation.”³⁸ Despite this ruling out of the Third Circuit, district courts within this Circuit have delivered favorable rulings to ADA plaintiffs with complaints regarding online spaces.³⁹

The First and Seventh Circuits have a more expansive view of Title III than the Third and Ninth Circuits.⁴⁰ In *Carparts Distribution Center, Inc. v. Automotive Wholesaler’s Association of New England, Inc.*, the First Circuit ruled that the plain language of the terms provided in Title III to exemplify places of public accommodation do not imply that a physical structure is needed for Title III to apply. Despite using the same plain meaning analysis, the First Circuit reached the exact opposite conclusion to the Third Circuit; the example listed in Title III which was key to the First Circuit’s conclusion was “travel service” since travel services frequently conduct business without a physical business place.⁴¹ The First Circuit also relied on the ADA’s legislative history to interpret the statute broadly.⁴² This 1994 ruling did not rely on the internet, but it also did not concern itself with whether a nexus exists with a physical space.

The First Circuit’s ruling in *Carparts* was extended to the Seventh Circuit in *Doe v. Mutual of Omaha Insurance Corporation*. This 1999 case concerned discrimination by an insurance company against a person with AIDS, and stated right in the start of the opinion that “The core meaning of this provision, plainly enough, is that the owner or operator of a store, hotel, restaurant, dentist’s office, travel agency, theater, website, or other facility (whether in physical space or in electronic space . . . that is open to the public cannot exclude disabled persons from entering the facility and, once in, from using the facility in the same way that the

³⁵ *Gil v. Winn-Dixie Stores, Inc.*, 993 F.3d 1266 (C.A.11 (Fla.), 2021).

³⁶ *Id.* at 1283-84.

³⁷ *Ford v. Schering-Plough Corp.*, 145 F.3d 601, 612 (3d Cir. 1998)

³⁸ *Id.*

³⁹ See, e.g., *Murphy v. Bob Cochran Motors*, 2020 WL 6731130 (W.D. Pa. 2020) (citing *Robles* favorably and ruling that the ADA Applies to the internet). *Murphy* is currently unpublished and might be overturned, but it still shows that the Third Circuit is not as clear on this issue as, say, the Eleventh.

⁴⁰ *Carparts Distrib. Ctr., Inc. v. Auto. Wholesaler’s Ass’n of New England, Inc.*, 37 F.3d 12, 19 (1st Cir. 1994); *Doe v. Mut. of Omaha Ins. Co.*, 179 F.3d 557, 559 (7th Cir. 1999).

⁴¹ *Carparts*, 37 F.3d at 19.

⁴² *Id.*

nondisabled do.”⁴³ While *Robles* relied on a nexus between the website and a physical business, *Carparts* and *Doe* make no such distinction. However, other circuits have a very different view of Title III’s reach.

Finally, the Sixth Circuit, like the First and Seventh, has made a definitive ruling on the issue of whether Title III applies to non-physical spaces like the Internet in a case that is not focused on the Internet. In the 1995 case *Stoutenborough v. National Football League*, plaintiffs who were Deaf and hard of hearing argued that the National Football League (NFL) violated the ADA by prohibiting the live broadcast of home football games that had not been sold out, because the only other way to experience the games was via radio.⁴⁴ The Sixth Circuit threw out the case for similar reasons as the Third; it ruled that the plain language of the ADA limited the definition of places of public accommodation to physical places, excluding areas such as radio.⁴⁵ *Gil* cited this case in its opinion that Title III does not apply to the Internet.⁴⁶

Despite the federal circuits discussing this issue as one that does not affect accessibility in physical spaces, this framing is not entirely accurate. Banks, grocery and convenience stores, libraries, and other locations have computer software under the expectation that customers will use them. Machines such as ATMs, self-checkout devices, and in-store databases, among other things, will be unusable for individuals with disabilities without mandates for accessible software, or accessible equipment or auxiliary aids on these devices. However, while no circuit court has ruled on whether computer software in physical locations is under the aegis of Title III, it is likely that, at the very least, circuits like the Ninth and Third would say that it is. Computer software in a physical location provides that exact nexus to a physical place of public accommodation that those Circuits require.

Ultimately, the fate of Title III’s online reach is unclear. In some Circuits, a website needs a nexus to a physical location to be under the aegis of Title III, in other Circuits it does not require one, while in others no website is covered, nexus or otherwise. In practice, this means that most lawsuits alleging Title III violations in the online sphere will be won or lost at the venue stage. Plaintiffs will seek to establish venue within the First or Seventh Circuit, while defendants will seek to transfer to the Sixth or Eleventh Circuit. Because the internet is everywhere, plaintiffs will be able to achieve venue in any district court in a state which has long-arm jurisdiction over the defendant. This forum-shopping will continue by necessity until a national standard is established.

c. Development of WCAG

Although Section 508 applies to all technology, Web Content Accessibility Guidelines (WCAG) is a set of standards that was designed to make websites more accessible to people with disabilities.⁴⁷ When creating an accessible website, companies have various options on how to meet the WCAG and Section 508 legislation requirements. As the internet became more popular

⁴³ *Doe*, 179 F.3d at 559 (citing *Carparts*, F.3d at 19).

⁴⁴ *Stoutenborough v. Nat’l Football League, Inc.*, 59 F.3d 580 (6th Cir. 1995).

⁴⁵ *Id.* at 583 (“the plaintiffs’ argument that the prohibitions of Title III are not solely limited to ‘places’ of public accommodation contravenes the plain language of the statute.”).

⁴⁶ *Gil*, 993 F.3d at 1277. (Citing *Stoutenborough* in a footnote).

⁴⁷ <https://www.boia.org/blog/history-of-the-web-content-accessibility-guidelines-wcag>

and adapted, WCAG did too. WCAG has become universally accepted because it was developed by the World Wide Web Consortium (W3C), and it is broken down into four easily understood categories: “POUR” Perceivable, Operable, Understandable, and Robust. Within these categories there are clear technical guidelines for what fails and passes within the guidelines. WCAG is used by both American and international developers.

The first version of WCAG was created in 1999 as WCAG 1.0. It consisted of 14 guidelines with each guideline comprised of 1 to 10 tests in order to satisfy it. WCAG 1.0 only focused on HTML.⁴⁸ In the mid 2000s, WCAG 2.0 increased its scope by using its keystone acronym POUR. In 2018, the most recent update to WCAG was released as WCAG 2.1. WCAG 2.1 was an extension of 2.0 rather than a complete update. By complying with WCAG 2.1, developers comply with WCAG 2.0. WCAG 2.1 is the first set of guidelines to consider mobile devices. WCAG 2.1 also added new disabilities for web developers to consider such as individuals with low vision and people with cognitive disabilities. The next expected update to WCAG will be version 3.0 which is believed to include more guidelines for mobile devices as well as an expansion of guidelines for cognitive disabilities.⁴⁹ Additionally, WCAG 3.0, which will probably be called Accessibility Guidelines 3 (AG3), and is currently under the working name of “Project Silver”, will include a rating scale in their outcomes as well as critical errors. These outcomes will allow for the more granular consideration of each guideline in the testing phase.

To determine compliance with WCAG there are a set of guidelines for each level with the levels building on each other and becoming increasingly more difficult to fulfill. There are three widely accepted levels of compliance. Level A are guidelines which are considered essential for accessibility compliance. Level AA are defined as strongly encouraged features. Level AAA are seen as exceeding accessibility requirements. There are twelve manual tests to measure Level A compliance, 3 for Level AA compliance, and two for Level AAA compliance.⁵⁰

The W3C is an international community that develops web standards.⁵¹ This Consortium has chapters in countries all over the world.⁵² The WCAG is incorporated into the W3C for the standards concerning accessible website design.⁵³

The European Union published a Web Accessibility Directive in 2016 coupled with the European Accessibility Act to ensure a more accessible digital world.⁵⁴ The web directive requires all government websites from EU member states to maintain and enforce a uniform set

⁴⁸ Glenda Sims, *Understanding WCAG 2.1: A History of WCAG*, DEQUE (Nov. 1, 2017), <https://www.deque.com/blog/what-is-wcag-2-1-history/>.

⁴⁹ *WCAG 3 Introduction*, W3C WEB ACCESSIBILITY INITIATIVE, <https://www.w3.org/WAI/standards-guidelines/wcag/wcag3-intro/#:~:text=Goals%20for%20WCAG%20%20include,%2C%20apps%2C%20tools%2C%20and%20organizations>

⁵⁰ *Id.*

⁵¹ *About W3C*, W3C WEB ACCESSIBILITY INITIATIVE, <https://www.w3.org/Consortium/>.

⁵² *Directory*, W3C WEB ACCESSIBILITY INITIATIVE, <https://chapters.w3.org/directory/>.

⁵³ *Web Content Accessibility Guidelines (WCAG) Overview*, W3C WEB ACCESSIBILITY INITIATIVE, <https://www.w3.org/WAI/standards-guidelines/wcag/>.

⁵⁴ *Everything you need to know about the EU Web Accessibility Directive and the European Accessibility Act*, SITEIMPROVE (2021), <https://siteimprove.com/en-us/accessibility/eu-web-accessibility-directive/>.

of accessibility standards. Websites which fail to maintain and enforce these standards are met with fines and other legal penalties. The European Accessibility Act enforces the same standards for the private sector. In addition to websites the European Accessibility Act, unlike the Web Accessibility Directive also applies to any digital product including ATMs and Smart Phones. There are no substantial differences between the EU’s Web Accessibility Directive and WCAG 2.0 and WCAG 2.1 except for enforcement. Due to WCAG only creating a set of guidelines for countries to meaningfully enforce them they must create their own enforcement provisions. Australian guidelines are also based off of WCAG. Australian government agencies are required to meet WCAG 2.0 level AA and strongly encouraged to meet WCAG 2.1 level AA.⁵⁵ Canadian laws follow that of the United States, the European Union, and Australia. In Canada, all Government, Non-Profit, and Private Sector websites with more than 50 employees must be WCAG 2.0 Level AA compliant.⁵⁶

Some states within the United States are seeking to create even more progressive accessibility laws such as California’s UNRUH Act. New York, Pennsylvania, Florida, and California are seeing an unprecedented number of web accessibility cases filed in their district courts as of 2021.⁵⁷

II. CURRENT CONFLICTS AND TRENDS IN WEB ACCESSIBILITY

A growing concern with accessibility overlays and plug-ins is that they are creating a “separate but equal” phenomena which is outlawed by 28 CFR §36.202 c and 42 U.S. Code § 12182 - Prohibition of discrimination by public accommodations.^{58,59} Although it is seen as a last resort to create completely text only websites for blind and low vision users an overlay is not a separate page or last resort. An overlay is not a separate website but rather a set of tools within a website for users to tailor their individual experience. Overlays, unlike hardcoding, allow users to customize their experience with a website’s user interface to the greatest degree. Although a user must “turn-on” an overlay, this is in no way creating a separate site but rather utilizing tools within the original website.

Another point of development within technology accessibility is the transition from a mostly webpage-based model to an app-based model. As it stands, the standards under WCAG do not cover applications, although there is a push to include applications in WCAG 3.0. The recent litigation in *Robles* has created a movement of including mobile applications under the

⁵⁵ *Digital Service Standard Criteria: 9. Make it Accessible*, AUSTRALIAN GOVERNMENT DIGITAL TRANSFORMATION AGENCY, <https://www.dta.gov.au/help-and-advice/digital-service-standard/digital-service-standard-criteria/9-make-it-accessible#:~:text=Australian%20Government%20agencies%20are%20required,provide%20a%20more%20accessible%20experience>.

⁵⁶ Jennifer Doyle, *A Complete Overview of Canada’s Accessibility Laws*, SITEIMPROVE (May 26, 2021), <https://siteimprove.com/en-ca/blog/a-complete-overview-of-canada-s-accessibility-laws/#:~:text=The%20aim%20of%20the%20act,AA%20by%20January%201%2C%202021>.

⁵⁷ New York saw 1756 web accessibility cases in 2020, California saw 989, Florida saw 582, and Pennsylvania saw 187.

⁵⁸ *Why Accessibility Overlay Solutions Fail to Protect or Serve*, ACCESSIBILITYWORKS (Oct. 21, 2020), <https://www.accessibility.works/blog/avoid-accessibility-overlay-tools-toolbar-plugins/>.

⁵⁹ Timothy Stephen Springer, *Lies, Damned Lies, Overlays and Widgets*, LEVEL ACCESS (Apr. 2021), <https://www.levelaccess.com/lies-damned-lies-overlays-and-widgets/>.

WCAG and ADA standards which will ultimately allow for a major increase in accessibility litigation. Because overlays and plug-ins are put on top of a company website that accessibility does not translate over to the company's application as they are two completely separate entities. There will also be other considerations for mobile application accessibility because the screen is both small and based on physical touch. Therefore, the requirements for things such as text size and mobility requirements will have to be redesigned.

Regardless of what the various judicial circuits have determined on the issue of web accessibility, the Department of Justice's stance on the ADA is that it requires web accessibility.⁶⁰ Previously, it has taken action against companies such as HR Block, FedEx, Peapod, Miami University, McLennan County, and Carnival Cruise Line for failing to have accessible webpages.⁶¹ WCAG 2.0 Level AA is mandated by the Department of Justice. In 2016, a California grocery paid \$4,000 in damages for failing to have a compliant website under Unruh Civil Rights Act.⁶²

Going forward the Biden Administration is believed to be much more active than the previous administration for the enforcement of Title III of the ADA, particularly with digital access in mobile applications and websites.⁶³ Due to the Biden Administration's prioritization of an accessible and inclusive online world there will be more litigation focused on the topic of web accessibility and mobile application accessibility in relation to WCAG compliance.

An important note here is anyone can sue for anything, just because there is an uptick in litigation does not mean that an overlay does not provide an accessible website, it simply means a plaintiff has claims of an inaccessible website. There are also unresolved instances of litigation such as *Williams v. VaporDNA*, Case 1:20-cv-02294-JGK in the United States District Court for the Southern District of New York, which was filed because a website was not compliant and then an overlay was applied in order to make the website compliant.⁶⁴ Showing overlays are solutions not the ones causing the accessibility compliance issues. There is also other pending litigation such as *Fredericka Nellon v. Agri Beef Co.*, Case 1:20-cv-10595-RGS in the United States District Court for Massachusetts, where the listed complaints of inaccessibility are based on short time sensitive coupon codes. Even if a website is compliant with WCAG 2.1 Level AA most of the time, there still may be times where due to software or website updates not every link or pop-up is found.⁶⁵ It is also important to note that not all overlays are created equal. Some overlays may not work well, providing little to no effect on the website's accessibility level.

⁶⁰ *Information and Technical Assistance on the Americans With Disabilities Act*, ADA.GOV, https://www.ada.gov/enforce_activities.htm

⁶¹ *Id.*

⁶² Amanda Robert, Judges Handling ADA Lawsuits Over Websites Not Waiting On DOJ Regulations, FORBES (Apr. 20, 2020), <https://www.forbes.com/sites/legalnewsline/2016/03/29/judges-handling-ada-lawsuits-over-websites-not-waiting-on-doj-regulations/?sh=573dd9d65e0f>

⁶³ Minh N. Vu, *How Will DOJ Enforce Title III of the ADA in a Biden Administration?* SEYFARTH (Jan. 16, 2021), <https://www.adatitleiii.com/2020/11/how-will-doj-enforce-title-iii-of-the-ada-in-a-biden-administration/>.

⁶⁴ *Williams v. VaporDNA*, Case 1:20-cv-02294-JGK in the United States District Court for the Southern District of New York.

⁶⁵ *Fredericka Nellon v. Agri Beef Co.*, Case 1:20-cv-10595-RGS in the United States District Court for Massachusetts.

However, more comprehensive overlays do exist that provide a good experience for users requiring different accessibility features.

a. Accessibility Standards

On the horizon is updated guidelines known as WCAG 3.0.⁶⁶ WCAG 3.0 will continue to close the gap in web access for people with disabilities. For example, there are still large gaps in the accessibility guidance for cognitive disabilities and as more research is conducted into both cognitive disabilities and web accessibility the WCAG is looking to include this information in their latest updated guidelines.⁶⁷ Due to the change from website to mobile applications, WCAG plans on including mobile application accessibility and cognitive disabilities to a greater extent.⁶⁸ WCAG 3.0 is designed to be easier to understand so more people may implement it thus making the online world a more inclusive and accessible place.⁶⁹

Because the internet is so necessary to daily life and all people have different needs when it comes to accessibility, WCAG 3.0 will no longer only rely on a pass/fail system but rather a gradient system where the closer a website is to compliance the more points they will be awarded.⁷⁰ This will allow for a more fluid system to encourage the wide array of accessibility needed for a website to truly be compliant.⁷¹ Rather than having success criteria as true or false statements, WCAG 3.0 will have a scale ranging from 0 to 4. The scores will then determine a website's level of accessibility. Along with the rating scale there will also be critical errors, for example, if an image is not paired with a text alternative. If a website has any critical errors, it will not be WCAG compliant.

While WCAG is recognized as the standard for web accessibility, the court in *Gil v. Winn Dixie*, held that WCAG is not the law and therefore to be compliant with the ADA a company only needs their physical location to be compliant with ADA guidelines and not their online interface.⁷² This shows there are circuit splits amongst the courts when deciding how to rule on web accessibility.⁷³ However, with increased litigation from New York, California, Pennsylvania, and Florida, and the Biden Administration's focused on a more accessible and inclusive web, the current predictions are a more rigorous and cohesive set of guidelines and enforcement for web accessibility.⁷⁴

The DOJ has been enforcing the following technical standards through their litigation and compliance mandates to companies: "websites and mobile apps shall conform to WCAG 2.0 Level AA, at a minimum. Conformance must be maintained through all asset updates, additions, or changes. Conformance is not required for third-party links. Conformance is required for third-

⁶⁶ *W3C Accessibility Guidelines (WCAG) 3.0*, W3C (June 8, 2021), <https://www.w3.org/TR/wcag-3.0/>.

⁶⁷ *Id.*

⁶⁸ *Id.*

⁶⁹ *Id.*

⁷⁰ *Id.*

⁷¹ *Id.*

⁷² *Gil v. Winn-Dixie Stores, Inc.*, 993 F.3d 1266 (11th Cir. 2021).

⁷³ *See supra* Part I.

⁷⁴ Minh N. Vu, *How Will DOJ Enforce Title III of the ADA in a Biden Administration?* SEYFARTH (Jan. 16, 2021), <https://www.adatitleiii.com/2020/11/how-will-doj-enforce-title-iii-of-the-ada-in-a-biden-administration/>.

party content and integrations. Procurement shall seek WCAG 2.0 AA conformance from vendors.”⁷⁵

One of the biggest additions to WCAG 3.0 to account for cognitive disability accessibility is the new “clear words” criteria.⁷⁶ This guideline will require the use of clear words on a website. Rather than leaving room for interpretation or implied pieces of information, everything must be presented in easy-to-use language with an increase in images and diagrams to explain difficult concepts.⁷⁷ Currently the majority of the simplification of language and webpages are Level AAA requirements and generally not met in most webpages.⁷⁸ With WCAG 3.0, more cognitive disability accessibility will be taken into account.⁷⁹

Because different disabilities can sometimes have needs which directly conflict with each other—such as one person who understands content from a text-based solution and another person who understands content with a picture-based solution—a website under WCAG 3.0 will have to be flexible.⁸⁰

WCAG 3.0 will be a complete overhaul rather than an addition like 2.0 to 2.1.⁸¹ WCAG has focused on users’ individual needs and how to account for them.⁸² WCAG 3.0 addresses the growing need for mobile apps to have accessibility.⁸³ WCAG 3.0 also has the goal of encouraging more details for all aspects of a website or app.⁸⁴ For example, a page heading will have to tell a user where they are and what functions that page can serve for them, rather than having pages without clear headings and signposts.⁸⁵

WCAG 3.0 will encourage a pattern that users have become accustomed to during their use of the internet previously, such as a home link in the upper left corner, navigation at the top and a search bar in the upper right corner of a webpage.⁸⁶ Standard conventions will ensure users do not have to relearn new rules for every website they encounter.

i. WCAG’s Standards Based On Disability

WCAG covers a range of disabilities with hopes of including even more in WCAG 3.0.⁸⁷ By following the WCAG 2.0 and 2.1 Level AA guidelines, a company will make its content

⁷⁵ *Id.*

⁷⁶ *W3C Accessibility Guidelines (WCAG) 3.0*, W3C (June 8, 2021), <https://www.w3.org/TR/wcag-3.0/>.

⁷⁷ *Making Content Usable for People with Cognitive and Learning Disabilities*, W3C (Apr. 21, 2021), <https://www.w3.org/TR/coga-usable/#objective-3-use-clear-and-understandable-content>.

⁷⁸ *See generally What are the Levels of WCAG Compliance?*, ACCESSIBLE METRICS (Nov. 5, 2019), <https://www.accessiblemetrics.com/blog/what-are-the-levels-of-wcag-compliance/>.

⁷⁹ *Making Content Usable for People with Cognitive and Learning Disabilities*, W3C (Apr. 21, 2021), <https://www.w3.org/TR/coga-usable/#objective-3-use-clear-and-understandable-content>.

⁸⁰ *Id.*

⁸¹ *See W3C Accessibility Guidelines (WCAG) 3.0*, W3C (June 8, 2021), <https://www.w3.org/TR/wcag-3.0/>.

⁸² *Making Content Usable for People with Cognitive and Learning Disabilities*, W3C (Apr. 21, 2021), <https://www.w3.org/TR/coga-usable/#objective-3-use-clear-and-understandable-content>.

⁸³ *Id.*

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ *W3C Accessibility Guidelines (WCAG) 3.0*, W3C (June 8, 2021), <https://www.w3.org/TR/wcag-3.0/>.

accessible to people with disabilities such as: deafness and hearing loss, blindness and low vision, learning disabilities, cognitive limitations, limited movement, speech disabilities, and photosensitivity.

People with deafness and hearing loss may fall into different categories such as hard of hearing, partial deafness, deafness, or deaf-blindness.⁸⁸ Hard of hearing is when mild or moderate hearing impairments are in one or both ears. This can be for a multitude of reasons. For example, the cilia in the ear may be worn down due to age, the cochlea may be broken due to trauma, or a person may be born with congenital hearing loss.⁸⁹ Partial deafness is when substantial impairment of hearing in one ear occurs. Deafness is a substantial impairment of hearing in both ears. Deaf-blindness is a substantial impairment of both hearing and vision.⁹⁰

To account for these types of disabilities in WCAG 2.0 and 2.1, the barriers to people with deafness had to be considered such as videos with sounds, speech without captions or transcripts, or a lack of sign language to support information. Additionally, video content that does not have captions and that do not provide volume controls, captions that cannot be adjusted by text color and size, and web services which rely on the users’ voice must also be considered.

Requirements for Deafness:

Level A Requirements	Level AA Requirements
1.2.1 Audio-only and Video-only (Prerecorded) Level A. For prerecorded Audio-only content an alternative must be provided with equivalent information for prerecorded audio-only content. For pre-recorded video an alternative with the same information must be provided.	WCAG 1.2.4 Captions (Live) - Level AA captions must be provided for all live audio.
1.2.2 Captions (Pre-recorded) Level A captions must be provided for all prerecorded audio content except when the media is an alternative for text.	1.2.5 Audio Description (Prerecorded) - Level AA there must be an audio description provided for all prerecorded video.
1.2.3 Audio Description or Media Alternative (Prerecorded) - Level A. There must be an audio description for all audio.	
1.4.2 Audio Control- Level A any audio on a Web page playing automatically for more than 3 seconds must have a pause option or volume control of that audio specifically.	

⁸⁸ <https://www.w3.org/WAI/people-use-web/abilities-barriers/>

⁸⁹ *Deafness - a Range of Causes*, BETTERHEALTH CHANNEL, <https://www.betterhealth.vic.gov.au/health/conditionsandtreatments/deafness-a-range-of-causes>.

⁹⁰ *Id.*

ii. Blindness and Low Vision

People with blindness or low vision have different needs from those with deafness and other disabilities. Like deafness, blindness has a range of severity and causes. Some possible types of blindness are color blindness, low vision, and full blindness. Color blindness means an individual has difficulty distinguishing between certain colors such as red and green and sometimes cannot perceive color all together resulting in only seeing in shades of the greyscale.⁹¹ Low vision may result from poor acuity meaning their vision is not sharp.⁹² Other examples of low vision include tunnel vision, meaning only the central focus can be seen and no peripheral, central field loss, which is the opposite of tunnel vision, or photophobia, which is extreme sensitivity to light.⁹³ Blindness is substantial loss of vision in both eyes.⁹⁴ Blindness can be caused by eye health conditions such as cataracts, glaucoma, and diabetes.⁹⁵ Some low vision is from birth defects or injuries.⁹⁶

People who fall in the range of blindness may struggle with online accessibility in the following ways: if images, controls, buttons, or other structural elements do not have text equivalents screen readers cannot read them and therefore people with blindness cannot perceive them or use the webpage; and, if text or images cannot be resized or lose information when resized information will be lost and therefore unequal.⁹⁷ Video content that only has a visual component without text or audio alternatives cannot be used by screen-readers.⁹⁸ If applications or webpages are overly complex or contain unpredictable navigation, it can be difficult for users who are blind because they will not know where to click to progress a page forward or how to interact with it. If text and images do not have ample contrast then text and images cannot be seen by those who have color blindness. If a website does not support a custom color combination a person who has a unique type of color blindness outside of red/green or blue/yellow may not be able to see an image.⁹⁹ If color is the only indication of information a colorblind user or a user utilizing a screen reader will not be able to ascertain that information.¹⁰⁰

Requirements for Blindness:

Level A Requirements	Level AA Requirements
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⁹¹ *Accessibility Requirements for People with Low Vision*, W3C (Mar. 17, 2016), <https://www.w3.org/TR/low-vision-needs/>.

⁹² *Id.*

⁹³ *Id.*

⁹⁴ *Id.*

⁹⁵ *Can Cataracts Cause Blindness, and How Long Does it Take?*, NVISION (Dec. 7, 2018), <https://www.nvisioncenters.com/cataracts/blindness/>.

⁹⁶ *Accessibility Requirements for People with Low Vision*, W3C (Mar. 17, 2016), <https://www.w3.org/TR/low-vision-needs/>.

⁹⁷ *Id.*

⁹⁸ *Shared Web Experiences: Barriers Common to Mobile Device Users and People with Disabilities*, W3C WEB ACCESSIBILITY INITIATIVE, <https://www.w3.org/WAI/standards-guidelines/shared-experiences/#non-text>.

⁹⁹ Ivan Tuchkov, *Color blindness: how to design an accessible user interface*, UXdesign (Aug 9, 2021), <https://uxdesign.cc/color-blindness-in-user-interfaces-66c27331b858>

¹⁰⁰ *Making Audio and Video Media Accessible*, W3C WEB ACCESSIBILITY INITIATIVE, <https://www.w3.org/WAI/media/av/>.

<p>1.4.1 Use of Color - Level A color cannot be the only visual way information is conveyed or distinguishing element</p>	<p>1.4.3 Contrast (Minimum)- Level AA There must be a ratio of at least 4.5:1 in contrast except in large text where the ratio may be 3:1, the text is incidental and cannot be perceived by anyone or the text is a logo.</p>
<p>2.1.1 Keyboard- Level A functionality of the content can be accessed fully through a keyboard exclusively without requiring specific timings for individual keystrokes.</p>	<p>WCAG 1.4.4 Resize text- Level AA except captions and images of text, text must be able to be resized without assistive technology up to 200% without loss of content.</p>
<p>2.4.1 Bypass Blocks - Level A mechanism is available to bypass blocks of content that are repeated on multiple Web pages.</p>	<p>WCAG 1.4.5 Images of Text- Level AA- text must accompany images to convey information rather than relying on the image alone.</p>
<p>2.4. Page Titled - Level A web pages have titles in text that describe topic or purpose</p>	<p>2.4.5 Multiple Ways - Level AA more than one way is available to locate a Web page within a set of Web pages except where the Web Page is the result of, or a step in, a process</p>
<p>2.4.3. Focus Order - Level A if a web page can be navigated sequentially and the navigation sequences affect meaning or operation, focusable components receive focus in an order that preserves meaning and operability.</p>	<p>2.4.6. Headings and Labels - Level AA headings and labels describe topic or purpose.</p>
<p>2.4.4 Link Purpose (In Context) - Level A the purpose of each link can be determined from the link text alone or from the link text together with its programmatically determined link.</p>	<p>2.4.7 Focus Visible - Level AA any keyboard operable user interface has a mode of operation where the keyboard focus indicator is visible.</p>
<p>3.1.1 Language of Page - Level A the default human language of each Web page can be programmatically determined.</p>	<p>3.1.2 Language of Parts - Level AA nonmachine language of each passage or phrase in the content can be programmatically determined</p>
<p>3.2.2 On Input - Level A changing the setting of any user interface component does not change of context unless the user has been advised of the behavior before using the component.</p>	<p>3.2.3 Consistent Navigation - Level AA navigational mechanisms that are repeated on multiple Web pages within a set of Web pages occur in the same relative order each time they are repeated, unless a change is initiated by the user.</p>
<p>3.3.1 Error Identification - Level A if an input error is automatically detected, the error is described to the user in text.</p>	<p>3.2.4 Consistent Identification - Level AA components that have the same functionality</p>

	within a set of Web pages are identified consistently.
3.3.2 Labels or Instructions - Level A labels or instructions are provided when content requires user input	3.3.3 Error Suggestion - Level AA if an input error is automatically detected and suggestions for correction are known, then the suggestions are provided to the user, unless it would jeopardize the security or purpose of the content
4.1.1 Parsing - Level A in content implemented using markup languages, elements have complete start and end tags, elements are nested according to their specifications, elements do not contain duplicate attributes, and any IDs are unique, except where the specifications allow these features.	
4.1.2 Name, Role, Value - Level A For all user interface components (including but not limited to: form elements, links and components generated by scripts), the name and role can be programmatically determined; states, properties, and values that can be set by the user can be programmatically set; and notification of changes to these items is available to user agents, including assistive technologies.	

iii. Cognitive Disabilities

People with cognitive disabilities have different requirements for web accessibility. Some of the cognitive disabilities WCAG accounts for include attention deficit hyperactivity disorder (ADHD) which involves difficulty focusing on a single task usually resulting in being distraction prone; autism spectrum disorder which involves impairments of social communication and interaction abilities; intellectual disabilities which involves impairments of intelligence, learning more slowly, or difficulty understanding complex concepts; learning disabilities, such as dyslexia, which results in difficulties reading text; and seizure disorders which include different types of epilepsy and migraines which may be triggered by flashing images or audio.

People with cognitive disabilities may need clearly structured content with consistent and predictable labeling and navigation, options to stop animations, videos, and audio. Additional needs include simple text which is supported by images or graphs and the ability to change text fonts to a more readable format.

Cognitive Disability Focused Requirements:

Level A Requirements	Level AA Requirements
<p>1.3.1 Info and Relationships - Level A information, structure, and relationships conveyed through presentation can be programmatically determined or are available in text.</p>	<p>3.2.3 Consistent Navigation - Level AA Navigational mechanisms that are repeated on multiple Web pages within a set of Web pages occur in the same relative order each time they are repeated, unless a change is initiated by the user.</p>
<p>1.3.2 Meaningful Sequence - Level A when the sequence in which content is presented affects its meaning, a correct reading sequence can be programmatically determined.</p>	<p>3.3.3 Error Suggestion - Level AA if an input error is automatically detected and suggestions for correction are known, then the suggestions are provided to the user, unless it would jeopardize the security or purpose of the content</p>
<p>1.3.3 Sensory Characteristics - Level A instructions provided for understanding and operating content do not rely solely on sensory characteristics of components such as shape, color, size, visual location, orientation, or sound.</p>	<p>3.3.4 Error Prevention (Legal, Financial, Data) - Level AA web pages that cause legal commitments or financial transactions for the user to occur, that modify or delete user-controllable data in data storage systems, or that submit user test responses.</p>
<p>1.4.2 Audio Control - Level A if any audio on a Web page plays automatically for more than 3 seconds, either a mechanism is available to pause or stop the audio, or a mechanism is available to control audio volume independently from the overall system volume level</p>	
<p>2.2.1 Timing Adjustable. - Level A for each time limit that is set by the content, at least one of the following is true. The ability to turn off the time limit before encountering it; or adjusting it to be longer or the user is warned before the timer will expire and has the option to extend it.</p>	
<p>2.2.2 Pause, Stop, Hide - Level A for moving, blinking, scrolling, or auto-updating information.</p>	
<p>2.3.1 Three Flashes or Below Threshold - Level A web pages do not contain anything that flashes more than three times in any one</p>	

second period, or the flash is below the general flash and red flash thresholds.	
2.4.1 - Bypass Blocks - Level A, a mechanism is available to bypass blocks of content that are repeated on multiple Web pages.	
2.4.2 Page Titled - Level A web pages have titles that describe topic or purpose	
2.4.3 Focus Order - Level A if a Web page can be navigated sequentially and the navigation sequences affect meaning or operation, focusable components receive focus in an order that preserves meaning and operability.	
3.2.1 On Focus - Level A when any user interface component receives focus, it does not initiate a change of context.	

iv. Physical and Motor Disabilities

Individuals with physical disabilities such as motor disabilities or speech disabilities such as cluttering of speech or muteness have a different set of obstacles. Barriers that WCAG considered for guidelines related to these disabilities include: websites that do not provide a full keyboard support; insufficient time limits to complete a task that result in forcing a person out of the page before they are able to complete it; inconsistent or unpredictable navigation systems that increase the time a person is on a page even longer if they must scroll through a complicated navigation system; and, if a person must speak to engage with a page it may be inaccessible for those who have speech disabilities.

Physical Disabilities Focused Requirements:

Level A requirements	Level AA requirements
1.3.3 Sensory Characteristics - Level A instructions provided for understanding and operating content do not rely solely on sensory characteristics of components such as shape, color, size, visual location, orientation, or sound.	3.2.3 Consistent Navigation - Level AA Navigational mechanisms that are repeated on multiple Web pages within a set of Web pages occur in the same relative order each time they are repeated, unless a change is initiated by the user.
2.1.1 Keyboard - Level A all functionality of the content is operable through a keyboard interface without requiring specific timings for individual keystrokes.	3.3.3 Error Suggestion - Level AA if an input error is automatically detected and suggestions for correction are known, then the suggestions are provided to the user, unless it would jeopardize the security or purpose of the content.

<p>2.1.2 No Keyboard Trap - Level A if keyboard focus can be moved to a component of the page using a keyboard interface, then focus can be moved away from that component using only a keyboard interface, and, if it requires more than unmodified arrow or tab keys or other standard exit methods, the user is advised of the method for moving focus away.</p>	<p>3.3.4 Error Prevention (Legal, Financial, Data) - Level AA web pages that cause legal commitments or financial transactions for the user to occur, that modify or delete user-controllable data in data storage systems, or that submit user test responses.</p>
<p>2.2.2 Pause, Stop, Hide - Level A for moving, blinking, scrolling, or auto-updating information.</p>	
<p>2.3.1 Three Flashes or Below Threshold - Level A web pages do not contain anything that flashes more than three times in any one second period, or the flash is below the general flash and red flash thresholds.</p>	
<p>2.4.1 - Bypass Blocks - Level A, a mechanism is available to bypass blocks of content that are repeated on multiple Web pages.</p>	
<p>2.4.2 Page Titled - Level A web pages have titles that describe topic or purpose.</p>	
<p>2.4.3 Focus Order - Level A if a Web page can be navigated sequentially and the navigation sequences affect meaning or operation, focusable components receive focus in an order that preserves meaning and operability</p>	
<p>3.2.1 On Focus - Level A when any user interface component receives focus, it does not initiate a change of context.</p>	
<p>3.2.2 On Input - Level A changing the setting of any user interface component does not automatically cause a change of context unless the user has been advised of the behavior before using the component.</p>	

III. MANUAL V. LAYERED APPROACHES

Traditionally, the only option for a business to make its website accessible and compliant to accessibility standards has been to manually overhaul the coding of a website and incorporate accessibility guidelines.¹⁰¹ A manual approach to web accessibility requires hardcoding directly into the source code for a webpage and must be updated every time the webpage is updated.¹⁰² This, in turn, leads to the potential for mistakes to be made every time there is a new element to the webpage added or anytime the webpage is updated. This type of approach is increasingly susceptible to human error.

The ways a company can implement a manual approach is by either building an in-house team dedicated to the accessibility tests to perform quality assurance or by hiring an outside consultant to test their website where subsequent testing is required with every update.¹⁰³ Working with an outside consulting firm can lead to a loss of creativity for the designers and developers of company website as often times the outside consulting firm influences the look and style of the company website.

Today, another option is now available to achieve web accessibility. The layered approach allows for both efficiency and greater coverage when it comes to making a website.¹⁰⁴ A layered approach addresses accessibility after the website has been fully developed by a company's developers.¹⁰⁵ A layered approach applies code to the website that loads a system behind the scenes, in order to test for accessibility, provide an accessibility option, or both.¹⁰⁶ Plug-ins and overlays are put into the website's HTML code and just like most products, can be high-quality or low-quality. Plug-ins and overlays present the end user with a panel so they may customize the website experience to engage with the content in a meaningful way.¹⁰⁷ WCAG requirements go beyond only accounting for blind or low vision individuals, rather also including individuals who have limited mobility, cognitive disabilities, attention disorders, and seizure prone individuals.¹⁰⁸ Today, some overlay providers take into account various disabilities allowing customization based on the needs of many.

a. Comparison of Layered Options

The current plug-ins on the market tend to only focus on features designed for low vision and blind accessibility and do not automatically run compliance tests unless the website's developers initiate the test. However, new AI based overlay solutions are now being developed that address these concerns.

¹⁰¹ Jaroslav Vaňkát, *How you can easily make your website more accessible*, FREECODECAMP (Mar. 18, 2018), <https://www.freecodecamp.org/news/how-you-can-easily-make-your-website-more-accessible-88dc7db90bd2/>.

¹⁰² *Id.*

¹⁰³ *Manual Testing for Website Accessibility*, ZAG (Nov. 12, 2018),

<https://www.zaginteractive.com/insights/november-2018/manual-testing-for-website-accessibility>.

¹⁰⁴ See Kate Kalcevich and Mike Gifford, *How To Bake Layers Of Accessibility Testing Into Your Process*, SMASHINGMAGAZINE (Apr. 26, 2021), <https://www.smashingmagazine.com/2021/04/bake-layers-accessibility-testing-process/>.

¹⁰⁵ *Id.*

¹⁰⁶ *Id.*

¹⁰⁷ *Id.*

¹⁰⁸ *Id.*

As this technology builds popularity as a solution for website accessibility for small and medium size businesses, critics of the approach argue that some users experience difficulties with using their screen readers while an overlay is engaged. However, many users who utilize screen readers report little to no issues. There are also reported problems of mobility issues as overlays do not structure the website but rather sit on top of a website.¹⁰⁹ This points to larger claims that overlays can only spot and address 30% of WCAG requirements; this is an unfounded statement currently circulating personal blogs.¹¹⁰ Accessibility overlays can meet up to 100% of WCAG requirements, depending on the underlying structure of the website.

Critics also point out an overlay’s inability to caption audio and video. However, according to WCAG, overlays cannot provide automatic captions—rather captions must be done manually.¹¹¹ Automatic captions do not meet user needs or accessibility requirements because they generally need significant editing to be accurate and therefore useable. Captioning would be part of the layered approach because although overlays can provide a base layer of accessibility, a person is still needed to manually add captions to any video hosted on a website. These limitations do not suggest, however, that overlays are bad. Rather, an overlay is one tool, amongst many, that a website can employ depending on what type of content they choose to host.

b. How a Layered Approach Addresses Accessibility

As previously discussed, WCAG not only covers low vision and blindness but also other disabilities, including cognition disabilities, attention disabilities, motor disabilities, and seizures. Due to an overlay’s expansive number of choices for the end-user, a more tailored experience may be offered.

The below table demonstrates that not all layered approaches are the same, and the blanket criticism of these approaches are overly broad and do not consider the additional features that some, like accessiBe, offer to create accessibility not only for the blind and low vision community but those with cognitive, seizure and other disabilities that manual approaches do not even attempt to solve.

Categories	EqualWeb	AudioEye	accessiBe	UserWay
Blindness			X	
Low-vision	X	X	X	X
Seizures			X	

¹⁰⁹ Richard Hunt, *Is there a silver bullet for ADA website accessibility? Sorry, but the answer is no.*, ACCESSIBILITY DEFENSE (Mar. 31, 2020), <https://accessdefense.com/?p=5378>

¹¹⁰ Giacomo Petri and Christian Federici, *Over 80% of WCAG 2.0 Success Criteria requires Manual Review and 100% of the new WCAG 2.1 Success Criteria will require the same.*, USABLENET (June 28, 2018), <https://blog.usablenet.com/automated-wcag-testing-is-not-enough-for-web-accessibility-ada-compliance>.

¹¹¹ *Captions/Subtitles*, W3C, <https://www.w3.org/WAI/media/av/captions/>.

Dyslexia	X		X	X
Color Blindness	X	X	X	X
Deafness			X	
Cognitive Disabilities	X		X	X
Physical Disabilities			X	

accessiBe helps websites become accessible as showcased by the numerous companies that seek out the aid of accessiBe after being sued. accessiBe also hosts a widget with various disabilities not fully accounted for in WCAG. These disabilities include seizures, ADHD, cognition disabilities, and dyslexia. accessiBe also runs tests for accessibility every day without ever changing the website’s hardcode or infringing on the creative development of a company’s website. In addition to the overlay and widget, accessiBe has captioning services for any audio or video a website wants to host. This approach not only complies with WCAG 2.1 Level AA, but anticipates the changes coming with WCAG 3.0.

IV. ONLINE ACCESSIBILITY ACT

The Online Accessibility Act (OAA) was introduced by Rep. Lou Correa (D-CA) and Rep. Ted Budd (R-NC) on October 2nd, 2020. Despite its bipartisan appeal, the original bill died in the 116th Congress without receiving a single vote. The Act was intended to amend the ADA to introduce mandatory notice periods to shield businesses from lawsuits, and to make WCAG 2.0 Levels A and AA the standard for web accessibility rather than WCAG 2.1 the technical standard for online accessibility specifications. The new bill would also expand the ADA to apply to consumer-facing websites and mobile applications owned or operated by a private entity, and establish web accessibility compliance standards for such websites and mobile applications, amidst other purposes.

One of the most concerning flaws in the bill’s present form is the language describing the threshold for compliance. Section 2(a) proposes an amendment to Section 601(b) of the Act which purports the standard for compliance as merely “substantial compliance” with WCAG 2.0 and any subsequent revision or replacement to it. While the drafters of the Act recognized that perfect compliance with its standards would be almost impossible, this language invites more subjective interpretations of what constitutes substantial compliance which may result in excessive litigation; however it is consistent with what little law has developed under Section 508, as the Federal Circuit has required only substantial compliance with Section 508.¹¹²

¹¹² See *supra* Part I.

Another flaw in the Act is its mandatory extended process to file a complaint against an entity found to be in violation of its accessibility standards. The bill provides for a 90-day period in which the owner or operator of a website or application may modify their site to comply with the Act once they are notified of the violation. This extended process to file complaints impedes private action that could be taken against a noncompliant entity via the ADA itself: “A civil action under this title is the sole and exclusive remedy for any person aggrieved by the failure of any consumer facing website or mobile application to meet the requirements of section 601.”¹¹³ The Act also allows for conformance alternatives but does not elaborate on what such alternatives might look like:

“A private entity that owns or operates a consumer facing website or mobile application that is not in substantial compliance with the standard set forth...shall provide an alternative means of access for individuals with disabilities that is equivalent to access the content available on such website or mobile application.”¹¹⁴

Many disability rights advocates and legal professionals who objected to the original version of the Act took issue with the fact that it required compliance with an outdated version of WCAG. They argued the Act should be modified to require compliance with WCAG 2.1, a more recent version of the guidelines released in 2018, and not the older WCAG 2.0.

Despite these issues with the original bill, accessibility experts and lawmakers agree that a layered approach to web accessibility is the best mechanism to facilitate compliance with proposed laws like the OAA. Accessibility testing can be “layered” using a variety of different technologies and approaches at various stages in a digital product’s lifecycle to catch accessibility issues early. The earlier an issue is detected, the cheaper it is to resolve it. A layered approach to website and application testing also improves the general usability of the site, which increases customer and user satisfaction and may reduce customer service inquiries.

V. CONCLUSION

The layered approach to achieving greater web accessibility has been commended by accessibility testers for its adaptability that can be gradually implemented by a variety of businesses as well as non-profit entities. Our firm has extensively researched the overlay approach and accessiBe in particular. We have investigated this approach from the perspective of a screen-reader user and the perspectives of other disabilities. We have found accessiBe's layered approach and product to be highly comprehensive and useful for different disabilities. With our findings, and with the high scalability of this approach, we conclude that a layered approach, given the product itself is good, is valid and useful for users with disabilities.

The drafters of the OAA intended for such guidelines to be met as strictly as is feasible for the operator, while also acknowledging that perfect adherence is near impossible. Layered

¹¹³ Online Accessibility Act, H.R. 8478, 117th Cong. § 603 (2021).

¹¹⁴ *Id.* at § 601(b)(2).

solutions can therefore be a cost-effective solution for small and medium sized businesses, for instance, who will not be intimidated by costly overhauls to their operating systems. This will encourage businesses to continue to improve the accessibility of their websites and mobile applications in the long run. These layered approaches, especially the ones that provide wider access than just those who are blind and low vision, create a substantially compliant website that is practically and accessibly usable to all people with disabilities. The ultimate goal is, of course, achieving and implementing the greatest degree of accessibility for the greatest number of users.

Legal challenges to noncompliance of web accessibility guidelines including those set forth in the OAA continue to be brought to courts throughout the country. Winn Dixie's Eleventh Circuit appeal is still pending following its bench trial loss in *Gil v. Winn Dixie*. *Winn Dixie* was the first and only trial involving a website alleged to be inaccessible per Title III of the ADA in which the federal district court adopted WCAG guidelines as the accessibility standard.¹¹⁵ Winn Dixie argued that (1) websites are not places of public accommodation pursuant to Title III; (2) WCAG is not law and the trial court violated due process by adopting the guidelines; and, (3) Winn Dixie is in compliance with the ADA because Gil had not been deprived of the full benefit of and equal access to the services and goods in Winn Dixie's stores.

The Eleventh Circuit may hold that WCAG guidelines should be the legal standard for accessibility in public accommodation websites in lieu of the Department of Justice guidance. If it does, businesses within the court's jurisdiction will be able to plan and proactively implement accessibility measures with a level of confidence that their websites and digital platforms will be held to the same accessibility standard in the future. Title III currently lacks the mechanisms to instill such confidence in business owners and other entities.¹¹⁶

It is likely that the Supreme Court may play a larger role in website accessibility cases moving forward, as well. In October 2019 an appellate court circuit split arose from *Robles v. Domino's Pizza, LLC*. Domino's Pizza's petitioned writ of certiorari from the Ninth Circuit Court of Appeal's decision asked the Court to decide: "Whether Title III of the ADA requires a website or mobile phone application that offers goods or services to the public to satisfy discrete accessibility requirements with respect to individuals with disabilities?"¹¹⁷ The Court ultimately declined to hear Domino's petition.

In the two years since the original OAA was introduced, similar cases have continued to be brought before courts, and as website accessibility grows more and more salient in an increasingly digital world, they are likely to continue showing up on dockets across the country.

The only scalable solution to the 350 million plus inaccessible websites in the United States can only be addressed through a layered approach that considers all of the disabilities covered by WCAG 2.1 Level AA. At the moment, the only layered approach in the market that addresses all of these components is accessiBe, however, we urge other layered approaches to

¹¹⁵ Minh N. Vu, *First Federal Court Rules That Having An Inaccessible Website Violates Title III Of The ADA*, ADATitleIII (Aug 9, 2021) <https://www.adatitleiii.com/2017/06/first-federal-court-rules-that-having-an-inaccessible-website-violates-title-iii-of-the-ada/>

¹¹⁶ See *Supra* Part I.

¹¹⁷ *Domino's Pizza, LLC v. Robles*, 140 S. Ct. 122 (Mem) (U.S., 2019).

also consider and adjust for the wide range of disabilities, and not focus solely on those with blindness and low vision.