

# Web Accessibility

## ADA & 508 Compliance

### WCAG 2.0 & SECTION 508 Accessibility Compliance for:

- Small Business
- Schools & Colleges
- Public Institutions
- Government Entities



## Credits

Website: [www.kaffeinatedkodemonkey.com](http://www.kaffeinatedkodemonkey.com)

Facebook: <https://facebook.com/kaffeinatedkodemonkey>

Twitter: <https://twitter.com/kfn8dkodemonkey>

Cover Design: Kaffeinated Kodemonkey

Proofreader: Alden Vanden Brink | RBWCD

### **Disclaimer:**

This my interpretation of the laws and standard that can be found on the intent. I did my best to notate where content was gathered from. The information and suggestions are purely up to you to follow and to research.

### **Associations:**

Within this book, the author has provided links to useful websites and online tools. The author cannot be held responsible for the content of third party websites. He recommends you keep your anti-virus software up-to-date.

### **Credentials:**

- Implementing Web Accessibility on Government websites
- Training - I have attended a developers web accessibility training course offered WebAIM through Utah State University.
- Certification – DaVinci Coders for Ruby on Rails
- Associates of Software Engineering form Westwood

Copyright © Kaffeinated Kodemonkey 2017.

All rights reserved, contact for permissions regarding extracts and reprints.

First published 2017

This edition 2017

# **Contents**

What is ADA & 508 Compliance.....	04
Updates to the 508 requirements and what the DOJ is saying.....	05
What are the WCAG Guidelines.....	06
DIY Web Accessibility ~ Things you can do yourself.....	08
First Prepare your workspace.....	08
Second view your website form a different perspective.....	08
Third Let's Go to Work.....	09
1. Perceivable.....	09
Guideline 1.1.....	09
Guideline 1.2.....	10
Guideline 1.3.....	11
Guideline 1.4.....	11
2. Operable.....	12
Guideline 2.1.....	12
Guideline 2.2.....	13
Guideline 2.3.....	13
Guideline 2.4.....	13
3. Understandable.....	15
Guideline 3.1.....	15
Guideline 3.2.....	15
Guideline 3.3.....	16

## **Contents** (cont)

4. Robust.....	17
Guideline 4.1.....	17
Conclusion.....	18
Resources.....	19

## What is ADA & 508 compliance

All this goes back to the 1973's Rehabilitation Act which provides a wide range of services for persons with physical and cognitive disabilities. Those disabilities can create significant barriers to full and continued employment, the pursuit of independent living, self-determination, and inclusion in American society.



The Rehabilitation Act has been amended twice since its inception, once in 1993 and again in 1998.



These are Sections 504 and 508 to include an impact on accessible web design due to the more business offering products and services online. Section 504 provides the context of the law while Section 508 of the act provides us a blueprint of just what is intended in Section 504.

Section 508 refers to the federal government. The Department of Justice (DOJ) published the Americans with Disabilities Act (ADA) Standards for Accessible Design in September 2010 stating that all electronic and information technology must be accessible to people with disabilities. <sup>(1)</sup>

Why this matters to so much is because as technology moves forward the DOJ is pushing for stronger regulations and mandates for documentation online. This includes websites, online forms, and PDF's just to name a few. When complaints arise, members of the public, students, and employees with disabilities may:

1. File an administrative complaint with agencies they believe to be in violation of Section 508.
2. They may file a private lawsuit in federal district court, or
3. They can file a formal complaint through the US Department of Justice Office of Civil Rights.

## Updates to 508 & what the DOJ is doing

In January 2017, the U.S. Access Board issued the Information and Communication Technology (ICT) Standards and Guidelines, updating its existing Electronic and Information Technology Accessibility Standards under Section 508 of the Rehabilitation Act of 1973. <sup>(2)</sup>

The goals of the Revised 508 Standards include:

- Enhancing accessibility to ICT for people with disabilities;
- Making the requirements easier to understand and follow;
- Updating the requirements to stay abreast of the ever-changing nature of the technologies covered;
- Harmonizing the requirements with other standards in the U.S. and abroad.

The new standards require websites and electronic documents of federal agencies to conform to the WCAG 2.0 AA by January 18, 2018. The Original 508 Standards remain in place until then.

The DOJ has been working with various groups to create a more unified standard that everyone can follow, however in 2017 the presidents administration placed the DOJ's rulemakings under Titles II and III of the ADA for websites, medical equipment, and furniture of public accommodations and state and local governments on the inactive actions list with no further information.

We believe the Department of Justice ("DOJ") will likely adopt the [Web Content Accessibility Guidelines 2.0 Levels A and AA](#) ("WCAG 2.0 AA") as the standard for public accommodations websites once they are removed from the inactive actions list for a number of reasons, including the fact that WCAG 2.0 AA is the access standard used in all DOJ settlement agreements and consent decrees about websites and mobile apps.



In the absence of website regulations, the courts are filling the void with a patchwork of decisions that often conflict with one another. As a result, an online business or business

## Web Accessibility ~ ADA & 508 Compliance

conducting business online is at risk of a lawsuit under the 508 standards even if you are not receiving federal funding or a federal contract.

The uncertain legal landscape has fueled a surge of lawsuits and demand letters filed and sent on behalf of individuals with disabilities alleging that the websites of thousands of public accommodations are not accessible. This surge has lead to 751 web accessibility lawsuits from 2015 to Aug 2017 with 432 of them being filed in 2017 alone. <sup>(3)</sup>

Here are a few cases we know about that have gone to trial over not being ADA Compliant:

- [Winn Dixie](#)
- [Miami University](#)
- [Dave & Buster's](#)



We don't want you to get caught with your pants down so we are here to help you stay on top of the ADA & 508 Standards for Web Accessibility.

## What are the WCAG Guidelines

The WCAG 2.0 guidelines came together over years of organization and deliberation by the World Wide Web Consortium (W3C). Over the years WCAG has become the best means of making your website useful to all of your users. The W3C's first incarnation of WCAG in 1999 was a huge leap in web accessibility. They broke it down into 3 levels:

- Priority 1 – the most basic level of web accessibility
- Priority 2 – addressed the biggest barriers for users with disabilities
- Priority 3 – significant improvements to web accessibility

## Web Accessibility ~ ADA & 508 Compliance

By designing WCAG 2.0 around principles and not technology, the W3C created an ethical statement as well as useful guidance. The principles of WCAG 2.0 are:

- **Perceivable**
- **Operable**
- **Understandable**
- **Robust**

Your goal should be to be the best POUR site on the internet. Although knowing how to design a POUR website is not enough if you don't understand what it all means.

### **Perceivable means:**

The three main senses that the guidelines can help with are sight, sound, and touch.

### **Operable means:**

The user can interact with the site through forms, controls, and navigations.

### **Understandable means:**

It clear and precise with is going on and the user knows what they need to do to intact with your site.

If you use a collapsible box you may need to use an indicator on the label that lets the user know the box opens.

### **Robust means:**

A website that third-party technology (like web browsers and screen readers) can rely on. Your website must meet recognized standards, such as HTML and CSS. This minimizes the risk of your users relying on technology that cannot correctly process your website.



**User Testing for Web Accessibility**



## DIY Accessibility ~ Things you can do yourself

The Web Content Accessibility Guidelines (WCAG) 2.0 are organized into three levels of conformance:

- Level A – the most basic web accessibility features
- Level AA – deals with the biggest and most common barriers for disabled users
- Level AAA – the highest (and most complex) level of web accessibility

For our purpose of this e-book, we are focusing on Level AA of the WCAG standards for this is the one most required.

Starting with Level A is a great way to make progress and begin helping out your users. Level AA is the standard many governments are using as a benchmark as this level targets the most common and most problematic issues for web users.

### First Prepare your workspace

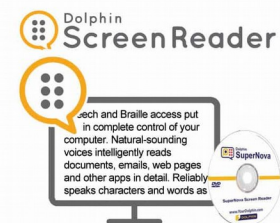
You will need access to multiple browsers. We suggest Chrome, FireFox, Edge (windows browser), and Safari (if you can). Also a mobile device.



You will need a screen reader. Chrome has a plugin you can add to the browser and your computer may have one installed (see resources for a list) you can activate.

### Second view your website form a different perspective

Open your website in a browser, put your mouse in a desk drew, (I know sounds silly) using your keyboard navigate your website. Make notes: what browser you are using, what you could and couldn't do, what frustrated you, and overall how did you feel.



## Web Accessibility ~ ADA & 508 Compliance

If you did not now open your browser in Chrome do so now. Activate the screen reader extension (?). Then Navigate your site using the screen reader. Make notes: I navigated via links and the screen reader skipped my dropdowns, or I navigated via headers and it jumped all over the page. Close your eyes and navigate the site with the screen reader again. How easy or hard was that?

Do the same thing on your mobile device (minus the mouse in the draw). If your site is built with a responsive design this should be easy. Still, make notes what do you like what don't you like, what was hard to do what easy. If your device has screen reader capabilities turn it on. Close your eyes try it again.

This will help you become more aware of how your site is used by those with a disability. Remember, not all users are blind or deaf. Some have restricts movement, maybe they are paralyzed, or have a learning disability. Furthermore, the more accessible your site is the easier it is to use for non ADA users.

## Third Let's Get to Work

Taking the notes you just made use them as a guide. In the resources is a checklist you can use also to see how access able your site is.

### 1. Perceivable

Web content is made available to the senses – sight, hearing, and/or touch.



#### Guideline 1.1

Text Alternatives: Provide text alternatives for any non-text content.

##### Level A

- All images, form image buttons, and image map hot spots have appropriate, equivalent [alternative text](#).
- Images that do not convey content, are decorative or contain content that is already conveyed in text are given null alt text (alt="") or implemented as CSS backgrounds. All linked images have descriptive alternative text.
- Equivalent alternatives to complex images are provided in context or on a separate (linked and/or referenced via longdesc) page.

## Web Accessibility ~ ADA & 508 Compliance

- Form buttons have a descriptive value.
- Form inputs have associated [text labels](#).
- Embedded multimedia is identified via accessible text.
- Frames are appropriately [titled](#).

### Guideline 1.2

Time-based Media: Provide alternatives for time-based media.

NOTE: If the audio or video is designated as an alternative to web content (e.g., an audio or sign language version of a web page, for example), then the web content itself serves as the alternative.

#### **Level A**

- A descriptive text transcript (including all relevant visual and auditory clues and indicators) is provided for non-live, web-based audio (audio podcasts, MP3 files, etc.).
- A text or audio description is provided for non-live, web-based video-only (e.g., video that has no audio track).
- Synchronized [captions](#) are provided for non-live, web-based video (YouTube videos, etc.)
- A descriptive text [transcript](#) OR [audio description](#) audio track is provided for non-live, web-based video

#### **Level AA**

- Synchronized captions are provided for all live multimedia that contains audio (audio-only broadcasts, web casts, video conferences, Flash animations, etc.)
- Audio descriptions are provided for all video content NOTE: Only required if the video conveys content visually that is not available in the default audio track.

## Web Accessibility ~ ADA & 508 Compliance

### Guideline 1.3

Adaptable: Create content that can be presented in different ways (for example simpler layout) without losing information or structure.

#### Level A

- [Semantic markup](#) is used to designate headings (<h1>), lists (<ul>, <ol>, and <dl>), emphasized or special text (<strong>, <code>, <abbr>, <blockquote>, for example), etc. Semantic markup is used appropriately.
- [Tables](#) are used for tabular data. Where necessary, data cells are associated with their headers. Data table captions and summaries are used where appropriate.
- Text labels are associated with form input elements. Related form elements are grouped with fieldset/legend.
- The [reading and navigation order](#) (determined by code order) is logical and intuitive.
- Instructions do not rely upon shape, size, or visual location (e.g., "Click the square icon to continue" or "Instructions are in the right-hand column").
- Instructions do not rely upon sound (e.g., "A beeping sound indicates you may continue.").

### Guideline 1.4

Distinguishable: Make it easier for users to see and hear content including separating foreground from background.

#### Level A

- Color is not used as the sole method of conveying content or distinguishing visual elements.
- Color alone is not used to distinguish [links](#) from surrounding text unless the luminance contrast between the link and the surrounding text is at least 3:1 and an additional differentiation (e.g., it becomes underlined) is provided when the link is hovered over or receives focus.

## Web Accessibility ~ ADA & 508 Compliance

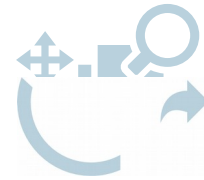
- A mechanism is provided to stop, pause, mute, or adjust volume for audio that automatically plays on a page for more than 3 seconds.

### Level AA

- Text and images of text have a [contrast ratio](#) of at least 4.5:1.
- Large text - at least 18 point (typically 24px) or 14 point (typically 18.66px) bold has a contrast ratio of at least 3:1.
- The page is readable and functional when the text size is doubled.
- If the same visual presentation can be made using text alone, an image is not used to present that text.

## 2. Operable

Interface forms, controls, and navigation are operable.



### Guideline 2.1

Keyboard Accessible: Make all functionality available from a keyboard.

#### Level A

- All page functionality is available using the keyboard, unless the functionality cannot be accomplished in any known way using a keyboard (e.g., free hand drawing).
- Page-specified shortcut keys and accesskeys (accesskey should typically be avoided) do not conflict with existing browser and screen reader shortcuts.
- [Keyboard](#) focus is never locked or trapped at one particular page element. The user can navigate to and from all navigable page elements using only a keyboard.

## Guideline 2.2

Enough Time: Provide users enough time to read and use content.

### Level A

- If a page or application has a time limit, the user is given options to turn off, adjust, or extend that time limit. This is not a requirement for real-time events (e.g., an auction), where the time limit is absolutely required, or if the time limit is longer than 20 hours.
- Automatically moving, blinking, or scrolling content that lasts longer than 5 seconds can be paused, stopped, or hidden by the user. Moving, blinking, or scrolling can be used to draw attention to or highlight content as long as it lasts less than 5 seconds.
- Automatically updating content (e.g., automatically redirecting or refreshing a page, a news ticker, AJAX updated field, a notification alert, etc.) can be paused, stopped, or hidden by the user or the user can manually control the timing of the updates.

## Guideline 2.3

Seizures: Do not design content in a way that is known to cause seizures.

### Level A

- No page content [flashes](#) more than 3 times per second unless that flashing content is sufficiently small and the flashes are of low contrast and do not contain too much red. (See general flash and red flash thresholds)

## Guideline 2.4

Navigable: Provide ways to help users navigate, find content, and determine where they are

### Level A

- A link is provided to [skip navigation](#) and other page elements that are repeated across web pages.

## Web Accessibility ~ ADA & 508 Compliance

- If a page has a proper heading structure, this may be considered a sufficient technique instead of a "Skip to main content" link. Note that navigating by headings is not yet supported in all browsers.
- If a page uses frames and the frames are appropriately titled, this is a sufficient technique for bypassing individual frames.
- The web page has a descriptive and informative page title.
- The navigation order of links, form elements, etc. is logical and intuitive.
- The purpose of each link (or form image button or image map hotspot) can be determined from the link text alone, or from the link text and its context (e.g., surrounding paragraph, list item, table cell, or table headers).
- Links (or form image buttons) with the same text that go to different locations are readily distinguishable.

### **Level AA**

- [Multiple ways](#) are available to find other web pages on the site - at least two of: a list of related pages, table of contents, site map, site search, or list of all available web pages.
- Page headings and labels for form and interactive controls are informative. Avoid duplicating heading (e.g., "More Details") or label text (e.g., "First Name") unless the structure provides adequate differentiation between them.
- It is visually apparent which page element has the current keyboard focus (i.e., as you tab through the page, you can see where you are).

### 3. Understandable

Content and interface are understandable.



#### Guideline 3.1

Readable: Make text content readable and understandable.

##### Level A

- The language of the page is identified using the HTML lang attribute (`<html lang="en">`, for example).

##### Level AA

- The language of page content that is in a different language is identified using the lang attribute (e.g., `<blockquote lang="es">`).

#### Guideline 3.2

Predictable: Make Web pages appear and operate in predictable ways.

##### Level A

- When a page element receives focus, it does not result in a substantial change to the page, the spawning of a pop-up window, an additional change of keyboard focus, or any other change that could confuse or disorient the user.
- When a user inputs information or interacts with a control, it does not result in a substantial change to the page, the spawning of a pop-up window, an additional change of keyboard focus, or any other change that could confuse or disorient the user unless the user is informed of the change ahead of time.



## Web Accessibility ~ ADA & 508 Compliance

### **Level AA**

- Navigation links that are repeated on web pages do not change order when navigating through the site.
- Elements that have the same functionality across multiple web pages are consistently identified. For example, a search box at the top of the site should always be labeled the same way.

### **Guideline 3.3**

Input Assistance: Help users avoid and correct mistakes.

### **Level A**

- Required form elements or form elements that require a specific format, value, or length provide this information within the element's label.
- If utilized, [form validation](#) errors are presented in an efficient, intuitive, and accessible manner. The error is clearly identified, quick access to the problematic element is provided, and user is allowed to easily fix the error and resubmit the form.
- Sufficient labels, cues, and instructions for required interactive elements are provided via instructions, examples, properly positioned form labels, and/or fieldsets/legends.

### **Level AA**

- If an input error is detected (via client-side or server-side validation), provide suggestions for fixing the input in a timely and accessible manner.
- If the user can change or delete legal, financial, or test data, the changes/deletions can be reversed, verified, or confirmed.

## 4. Robust

Content can be used reliably by a wide variety of user agents, including assistive technologies.



### Guideline 4.1

Compatible: Maximize compatibility with current and future user agents, including assistive technologies.

#### Level A

- Significant HTML/XHTML validation/parsing errors are avoided. Check at <http://validator.w3.org/>
- Markup is used in a way that facilitates accessibility. This includes following the HTML/XHTML specifications and using forms, form labels, frame titles, etc. appropriately.

You can [download](#) the complete list from WebAIM it includes all the A – AA – AAA with full explanations.

This list is provided as a resource to help you implement [Web Content Accessibility Guidelines \(WCAG\) 2.0](#) (W3C Recommendation 11 December 2008), which is [Copyright](#)© 2008 [W3C](#)® (MIT, [ERCIM](#), [Keio](#)), All Rights Reserved. W3C [liability](#), [trademark](#) and [document use](#) rules apply.

## Conclusion

There are lawyers and companies popping up to help with ADA lawsuits. One is [Custodio & Dubey, LLP](#), they explain how to prove an ADA claim. Burnham even offers an [Essential Guide to ADA Title III Enforcement: Private Party Lawsuits](#).

Make sure your site is ADA/508 compliant, as I have side this is not a one and done deal you need to stay vigilant. Websites evolve, content changes, and you need to make sure that it stays compliant.

## We Want to Hear from you

Please shoot me an email and let me know. I would love to hear from you.

Email Us!



Want our Accessibility Expert to review your site and give you a free report?

Book a Cup of Coffee \*



\* If we can't meet in person we will send you a Coffee Card.

## Resources

### Websites

1. WCAG 2.0 ~
2. WebAIM ~ <https://webaim.org/>
3. W3C ~ <https://www.w3.org/WAI/>
4. Wuhcag Checklist ~ <https://www.wuhcag.com/wcag-checklist/>
5. Section 508 ~ <https://www.section508.gov/content/build/website-accessibility-improvement/WCAG-conformance>

### Tools

1. Screen Readers that come with your OS or Mobile Device
2. Chrome extension: ChromeVox
3. Wave Web Accessibility Evaluation Tool by WebAIM

### Citations

1. [2010 ADA Standards for Accessibility Design](#)
2. [Section 508 Law and Related Laws and Policies](#)
3. [Website Accessibility Lawsuit Filings Still Going Strong](#)