**Why Accessibility?**

Hi! My name is Jessica and I would like to talk to you today about Accessibility and how it is related to the modern technologies we use in communication. Specifically I will focus on use of websites, but many of the concepts span across other digital platforms as well.

**A little bit about me**

I worked for over a decade as a front-end web developer. Around 2012 I took some time away to help with my family up until about a year ago when I decided to get back into the industry. Before I took time off, I had a project assigned to me for a college here in Michigan and they were very concerned about Accessibility and Section 508 compliance.

At the time, the idea of Accessibility was all very new to me and to our development firm. I did my research and we implemented as much as we could while developing their website, but it was a very new responsibility in my field. Fast forward to now, I am working at a local community college and Accessibility is all the buzz. The college has decided that by July 2019, all college coursework and documentation needs to be fully compliant, so I am very thankful to have had the opportunity to work on that previous project and to get that exposure beforehand.

**So you might be scratching your head and asking *~~what about Accessibility and~~ what is Section 508?***

~~Accessibility is~~

As to what Section 508 is, if you’re a lawyer you might have a more in-depth answer, but in short the ADA describes[[1]](#footnote-0) Section 508 as a *portion* of the Rehabilitation Act of 1973. Under this Act, government entities or entities with ties to the government in any way (think federal financial aid, for example) are not legally allowed to discriminate against people with disabilities. Various sections under the Act stipulate accommodations for specific domains and according to section508.gov[[2]](#footnote-1) in 1998, Section 508 was amended to include electronic and information technology - so think computer programs, websites, copiers/printers. Access-board.gov[[3]](#footnote-2) notes that Section 508 was then refreshed once again in 2017 and finalized in 2018 to include new and emerging technologies. The most recent refresh also brings the standards and guidelines in-line with that of the Web Content Accessibility Guidelines (also known as WCAG[[4]](#footnote-3) for short) which is globally recognized and sets the goalpost for compliance for areas of web content and Information and Communication Technology.

**Why should we care about Accessibility?**

We have had a once-in-a-lifetime opportunity to witness great growth in technology over the last few decades. Things like the internet and smartphones have given people instant access to expansive information like we never could have imagined. Video chat spans thousands of miles to bring us a familiar face or to facilitate business meetings halfway across the globe. Computer animation has transformed how we watch tv and movies thanks to 3D animation? And speaking of 3D - 3D printers allow creativity to come to life and become something tangible, and have even solved some very unique problems. So what’s next? Google has already pushed out a self-driving car[[5]](#footnote-4). Maybe Marty McFly will even ride around on a hoverboard in our lifetime! Great Scott! We have so many possibilities of what’s to come because of these advancements - things that were once only thought of as science *fiction!* All of this advancement is really cool, but what happens when your abilities do not match up with the way these tools were intended to be used? What happens when they cause more frustration than they do offer help or convenience?

Accessibility is a BIG concept that includes items that we have come to expect seeing like access ramps, elevators, and even accessible bathroom stalls. Businesses, educational institutions and places of worship have all had to adapt in these ways to allow people with unique abilities the same opportunities that everyone else has to physically access their facilities. These new technologies and tools are no different. With their invention, they have created a unique arena of concerns. How one person uses a computer can vary vastly from another. Based on a user’s abilities, they may require the use of assistive technologies, which may require a special way of developing the content. These are the things we need to keep in the front of our mind when developing in a digital format.

To demonstrate what it can be like as a user with a disability, I want to play a short clip of a webinar from a website that I have followed for almost two decades called Smashing Magazine. Their content focuses on trending items in web development and online marketing. A lot of their content is paid-for content, however, they have made this interview free as they felt it was important to *actually show* people how frustrating a website can be to a non-sighted individual when Accessibility is not planned for and implemented correctly. I wanted to single out this clip because it really hit me as it perfectly demonstrates *why,* as a developer, I need to be mindful of Accessibility.

In this clip, the host is interviewing Leonie Watson[[6]](#footnote-5), a non-sighted individual who also happens to be a prominent figure in the world of web development. She is involved in many groups, but most notable to accessibility she is very active within the World Wide Web Consortium (W3C), which is an international web standards group. Leonie is testing out various sites and in this moment is attempting to find information on unemployment benefits on the Massachusetts government website, mass.gov - a site that *should* be accessible. Please listen carefully to her commentary as she points out the *expected* behavior versus the actual behavior because that is really where the frustration sets in.

**[play LEONIE WATSON (27:00-29:xx)]**

As you can see, mass.gov is completely useless to Leonie as she is attempting to use her screen-reader. To a sighted user, you can see her screen-reader highlight areas that she is trying to navigate to, but even visually, the way the focus is jumping around the page, it is hard to follow what the software is actually doing. Sadly, this site is a massive fail for anyone accessing the site with a screen-reader and I would hazard a guess that it would probably produce similar outcomes for a user that employs keyboard-only access as well. Leonie goes on to express frustration over sites like mass.gov and admits that she is a very impatient person and typically leaves the page quickly if she is not finding what she needs right away or runs into this many roadblocks. From a marketing perspective, that is the last thing you want your users to do. We have all experienced some level of frustration when using technology. Whether it is due to lack of understanding of the technology or simply a fail in the technology itself, it is never a fun place to be and you definitely do not want to intentionally drive users here.

In the past few years, there has been a rise in awareness about Accessibility and I feel that is mainly credited to some of the lawsuits that have surfaced due to inaccessible content.

* InsideHigherEd.com highlights MIT and Harvard, pretty big names in education, are currently locked into lawsuits stemming from 2015 with the National Association of the Deaf after failing to make massive amounts of open video content accessible for deaf or hard of hearing individuals[[7]](#footnote-6).
* In 2017 a similar lawsuit ended with the University of California Berkeley pulling thousands of educational videos from public view after failing to provide adequate captions[[8]](#footnote-7).
* LevelAccess.com points out that it’s not just external consumers that we need to be mindful of in their article *Bartleson v. Miami-Dade County School District* highlighting the responsibilities that organizations have to make internal systems and content accessible to employees as well.

**So the next logical question would be what can we do to eliminate or minimize frustration for users with varying abilities?**

I don’t really want to get into great depth about *how* to develop content for Accessibility, as that is a larger conversation, and gets pretty technical. But, I do want to touch base on a few key elements to keep in mind that are fairly easily recognized and apply across many digital platforms, as well as discuss their impact on a user.

**We need to be mindful of ALL abilities when talking about Accessibility**

When Accessibility is brought up, a lot of people jump right to visual impairment and the need for the use of a screen-reader. While that is a great example of an disability that requires an assistive technology, we need to keep in mind, it is not the **only** disability that exists or needs accomodation. **(explain AT)** The following overview is my interpretation of important points of the Web Content Accessibility Guidelines. The full list can be found at w3.org.

1. Users may have difficulty using a mouse or input device due to motor impairment. For that reason, it is important to offer more than one option for navigation - for example using a mouse is as easy as using a keyboard. Organizing your content logically will also help to reduce confusion as the user navigates through the document with their chosen device. Using appropriate document tags such as headers and appropriate hierarchy within the document makes content relationships clear. Another similar item to mention at this level is providing accurate and descriptive alternative text for all necessary images.
2. Users may not be able to differentiate colors due to color vision deficiencies. Offering content with adequate color contrast ratios, at least 4.5 to 1, is an easy way to make sure content is presented clearly to all users. So basically if there is text on a background color, you need to make sure there is enough contrast that it makes the text legible.
3. Users with vestibular disorders may be sensitive to content that moves or flickers. For this reason, it is important to allow users the ability to control when to start videos and animations so they may be prepared for movement. It is also advised that content does not flicker as that may have adverse effects for this group of users.
4. Users that are hard of hearing or deaf may have trouble with auditory content. It is best practice to provide accurate and timed closed-captioning for all videos.
5. Users may have a cognitive impairment that may make the content difficult to understand if it is presented in only one form. Offering content in multiple ways can help users decide how they best interact with and understand the content.

So again, these are just key points that I feel make a big impact on a user’s ability to interact with a digital document, and it is a great start. But it is important to take the full guidelines into consideration when developing digital content. You never know if a user is going to need certain accommodations. Furthermore, they do not need to expose to you that they do, which is why it is so important to anticipate these types of needs for your audience.

So at the end of the day, as you can see, not only is it a legal requirement that organizations accommodate people with varying abilities, having content available that is inclusive is just the right thing to do. And typically if it is done well, it enhances the experience for everyone.

However as a designer or developer, with this new technology, these new tools, we are starting to understand that we need to accommodate a broad spectrum of abilities, to be inclusive from the ground up, to allow the largest audience possible to make use of our products. It’s just the right thing to do.

1. <https://www.ada.gov/cguide.htm#anchor65610> [↑](#footnote-ref-0)
2. <https://www.section508.gov/manage/laws-and-policies> [↑](#footnote-ref-1)
3. <https://www.access-board.gov/guidelines-and-standards/communications-and-it/about-the-ict-refresh> [↑](#footnote-ref-2)
4. <https://www.section508.gov/manage/laws-and-policies> [↑](#footnote-ref-3)
5. <https://waymo.com/> [↑](#footnote-ref-4)
6. <https://tink.uk/about-leonie/> [↑](#footnote-ref-5)
7. <https://www.insidehighered.com/news/2019/04/08/mit-and-harvard-fail-get-out-video-captioning-court-case?fbclid=IwAR37tS88yN8D2jjIGBwdU656KXX7IEa8jDzU8Ad-2k-ZAW--kWYnn0Ivr9s> [↑](#footnote-ref-6)
8. <https://www.insidehighered.com/news/2019/04/08/mit-and-harvard-fail-get-out-video-captioning-court-case?fbclid=IwAR37tS88yN8D2jjIGBwdU656KXX7IEa8jDzU8Ad-2k-ZAW--kWYnn0Ivr9s> [↑](#footnote-ref-7)