Disability Simulator Tools Webinar

Wednesday, June 17, 2020

>> John Rempel: Good morning everyone, this is John with CIDI. Thank you for taking time out of your busy schedules to join us. We will get started in a couple of minutes to give people more time to get into the room. Okay, thanks.

>> John Rempel: Good morning everyone, this is John Remple with CIDI. I'm seeing some new faces. It's 11 o'clock and this is the first time we are using zoom for an AccessGA deliverable. I'm going to get folks a minute or two to login and we will get started momentarily. Thanks a lot.

>> John Rempel: Good morning everyone, once again this is John Remple with CIDI. Thank you for taking time out of your busy schedules to join us on this webinar. It's great to see your names on the list of folks attending this morning. Welcome, for some people it is not morning. We have an individual from Germany joining us. We are happy to have you attend this. I wanted to start off by talking about the initial stages of this webinar. John Toles and I had a conversation a while ago. He attended a conference where the simulators were discussed.

Out of transparency, both of us have a disability ourselves. We can talk about that a little further in this webinar. We are quite clear on the pros and cons of some of these simulators. Hopefully with this webinar we will dispel some of the myths around simulators. Their value and sometimes disadvantages of simulating what a disability..... Person with a disability experiences. I will start off with a brief introduction to CIDI, John, you will move this along so you can go to the next slide for me.

Georgia Tech and the College of Design, we used to be called AMAC, Alternative Media Access Center, was pulled under one roof called CIDI, Center for Inclusive Design and Innovation. We provide practical solutions for challenges faced daily by individuals with disabilities. We focus on solutions that offer utility, use ability and accessibility. CIDI offers services including disability compliance, consultation, braille, caption, accessible digital content and assistive technology. We work with individuals on campus here at Georgia Tech. We work closely with the University system of Georgia, specifically the Galileo project that serves upwards of 8 million or more Georgians. We work with higher ed institutions across the country and we work with several state and federal governments entities. We do some national and international work across the globe, as well. Next slide.

Very briefly, some of our braille services include braille transcription, embossing, tactile graphics, and braille.... We also have a braille library for repurchasing materials that have been requested previously, rather than reinventing the wheel and redoing the work. Our library allows us to repurpose a lot of the work and save a lot of money that way. We have some of the leading experts when it comes to braille literacy in the country. I am very proud of our team. Next slide.

We have an entire text department that creates excessive documents as PDF, DOC, PowerPoint, EPUB, HTML. We provide training in these areas related to accessibility and documents. Next slide. We have an entire Tools for Life department. They are a powerhouse in and of themselves. They have several certified assistive technology specialists. They provide demonstrations, assessments and trainings. They work closely with individuals in education, work, leisure. They also oversee the assistive technology act which is federally funded. Next slide.

This is the department that John Toles and I are involved with. We provide digital excess ability compliance, testing in manual and automated. All of our accessible evaluations include several automated testing tools, manual code inspection. We also provide an MP4 walk-through so individuals can understand what a person with a disability experiences. We provide a great deal of technical assistance follow-up as well. Then on-site and online training to share the knowledge and experience and expertise with your internal staff so you can start looking that up yourselves. We also provide usability testing by people with disabilities for people with disabilities. Nothing about us without us. We also provide research as an institution that is focused on research. We look at initiatives that include students with disabilities who are traditionally underrepresented in higher Ed. Disability spans across all age, gender, ethnic, racial, cultural and socioeconomic boundaries. CIDI also studies how corporate government and nonprofit organizations support customers and employees with disabilities. Before you go to the next slide, this is an AccessGA initiative. It is a state funded initiative funded through the ADA Recorder’s office. It has been in place since 2012. It allows us to provide educational opportunities, training, technical assistance, sometimes web accessibility evaluations to higher Ed institutions as well as state agencies. We are very proud we have moved the needle considerably in the state of Georgia when it comes to accessibility. Next slide.

Before I pass it on to John Toles I want to introduce him. We have worked closely for a few years. John is a very talented individual in the area of web accessibility. We not only talk about what doesn't comply with WCAG 2.0 and 2., but John is effective at looking at remediation solutions when excess ability barriers exist. He is a very important part of the team and it is a pleasure working with him. He is very detail oriented and I am very proud to have him as part of the ICT team. I will pass on to you.

>> John Toles: As John mentioned previously, I got the idea for doing this webinar after attending a workshop that was about web accessibility. I was exposed to web disability simulators for the first time. I felt they were being used in a way that they weren't intended to be used. They were trying to replace and automate some of the more manual methods that I don't feel like was really effective.

What is a disability simulator? For the purposes of this webinar, we will be talking about whether disability simulators as opposed to a more physical simulation. There are lots of things that problem solve disability simulators that have more to do with the physical environment. That would be like a disability experience rather than a simulation. It all falls into the same category.

A web disability simulator applies various visual filters, text replacement, images to content in order to provide examples of how people with disabilities experience web content. They are often browser extensions for Chrome or Firefox. All of the ones we will talk about they are for Chrome. They could also be standalone apps. The browser extensions can affect more content because they are interacting with the code of the website. They are usually only going to affect web content. It won't be applied to an app outside of your browser. The standalone apps will affect less content. They are usually focused on single disabilities.

The one we will discuss today is purely a visual disability simulator. But it can apply to multiple applications on your device because it overlays on your screen versus trying to interact with the code of the website. What are some of the uses and shortcomings of disability simulators? They are useful for understanding the experience of navigating the web with a disability. That is something you don't think about when you are designing or creating content for a website. What it is like to view the content or navigate the website if you have a disability, and it helps with that.

It is also helpful for building empathy for people with disabilities, especially if you have a limited experience dealing with a person with disabilities. Until you interact with someone with a disability, it is difficult to understand their experience. In the same way it is difficult to understand the experience of any group you don't interact with regularly. It's also easy for illustrating the issue to other people. That can be something, you are trying to use words to describe issues you would have with content on your website and the person you are describing it to doesn't seem to understand. Useful to have this simulator we can turn on the extension and show them how this content would appear to a person with a disability and how they would interact with it.

Some of the shortcomings are they don't accurately represent all disabilities. It is an impossible task but I felt like some designers would use this as a way to less accurately experience a disability versus actually talking to someone with a disability about the disability. Everyone has a different experience. You can't completely represent people with disabilities with this experience. Personally, I have dyslexia. One of the major features of all of the web disability simulators we're going to talk about is a dyslexia simulator. It does not represent my experience of dyslexia at all. But I have a very different experience from other people with dyslexia that I know. For them, the experience they describe is more accurate for them and less for me.

The point is everybody experiences their disability differently. In order to understand that, you need to talk to people with disabilities before you try to do a simulator to feel like you understand it. There was an emphasis on using these as a way of testing the website. A lot of these disability simulators are going to represent the content in a way that expresses disability whether or not the content is actually accessible. It doesn't actually help you test the website. You will never get to a point where you can count on the simulator and nothing else. It always forces something to happen so we can represent the experience of someone with a disability. Finally, it can cover-up some excess ability issues by focusing on problems created by the simulator. Let's say I was attending this workshop and they were talking about trying to figure out how to get the disability simulator.... Dyslexia especially to pass that. It wasn't something they could pass because of the way the disability simulator works. They were focusing on trying to stop the disabilities from creating.... We will demonstrate this leader.... It switches letters around on the text in the page. They were trying to figure out how to get it to stop it. That is what the programs designed to do. It's never going to stop switching letters. The simulators we're going to talk about today, I don't want to feel like I'm endorsing or saying entities are bad. What I did was Google the term disability simulator and search through and found the top results. I decided to test those and demonstrate them here today.

This slide contains links to each of the disability... Each simulator. The first one is Funkify Disability Simulator. It is by a company called Funkify. They do mainly website compliance testing. The same for all of these, really. They are all complaints testing for things like security and that is their main focus. But they test versus the compliance and this is a side product they produce as a way to help people who are using their product understand the experience of people with disabilities. There's also the Silktide Website Accessibility Simulator and the matrix AB web disability simulator. The website for that one is in Swedish. It does translate well if you are using Google Chrome and using the translate option on it. It is very readable in English. There are some weird word replacements, but that is to be expected when you are translating from another liquid. Another one is an open source app called color Oracle. It is a screen overlay that helps represent content for people who have color issues or issues with color vision.

Funkify is available at funkify.org/simulator. It offers a variety of conditions like dyslexia, motor and vision related to his abilities. It is available as a browser extension for Chrome. It requires an account with a limited trial for it. There is a free version and a premium version. The premium version has more content, but the free version... The premium version has more content, more disability solutions available. There are more options you can control. But you could have a basic idea of what the simulator has to offer with the free account. It includes personas to identify various conditions that are simulated. You have, rather than relating just to disability, they relate it to a user who has the disability.

>> John Rempel: Can add something here? Can you go back to the previous light? You and I talked about this previously as we were preparing this. These labels, I'm not taking anything from the value of the simulators themselves. You can be pretty derogatory. It shows lack of insight to the company itself. Troubling Trevor is not really appropriate. Blurry Banca.... I have blurry vision myself. The way they have labeled some of these, they are cute but they are not necessarily sensitive to the disabilities themselves. I just wanted to say that.

>> John Toles: Oh yeah, thank you. Silktide is similar to Funkify disability simulator. It focuses more on screen reader -related disabilities. There is a screen reader simulator built into Silktide that allows you to tap the elements on the page to hear what would be announced by a screen reader. It is also available for chrome. But it is available for free with no sign up. It announces.... Like I said it allows you to get a feel for what is being announced by the screen reader as you move through the content on your page. It will announce the alternative text the same way the screen reader does.

The MetaMatrix AB simulator has similar features to the others. It is from a Swedish company, but like I said the website does translate very well into English. It can just be a little confusing when you go to the website, at least it was for me when I was googling these. I clicked on it and it took me to a Swedish website. The text shown in the simulator itself, on the right-hand side it is a screenshot of the actual simulator. That is all in English so it is easy to use it. You don't worry about it being in Swedish. What sets it apart a little bit is that it includes some disability education and links to resources. The screenshot includes a description of what is happening or a description of what the simulator is doing but it also includes a couple of drop downs. You click on those and it gives you a description of what you can.... The links for better understanding will provide links to actual resources. This will give you some things to think about when you are designing content for the disability. Color Oracle applies, like I said, applies to the entire screen. It's at the top of the other programs. It is available completely for free; it just applies to color perception disabilities. Color Blindness, the three different types of major colorblindness. Complete color blindness will make your entire screen grayscale. Then it will switch around various colors and affect hue and saturation. It won't be completely 100% accurate for everyone, but it will give you an idea of what your content will look like to a person with that color perception disability. I'm going to share out my screen quickly. I'm going to do a quick demo for some of these. Okay, John, can you see my screen?

>> John Rempel: I sure can.

>> John Toles: First I will turn on the Funkify simulator. As John said, they are trying to relate these two particular users. The names that are given to the users are a little bit insensitive. Nobody wants to be identified solely by their disability. It might be a little better to say a user with hand tremor or a user with tunnel vision instead of trying to relate it to a natural person. I will turn on the dyslexia simulator. Because it is a free version, with the premium version you have more control over what you are doing. We will go back to the screen.

This is our e-text website. It is switching around the letters. This version switches all of the letters. There are some that will only switch the first and last letter and some that will switch everything but the first and last letter. It sort of gives.... I think when you don't switch the first and last letter, that gives a little better representation of what dyslexia is like. It's a very common thing for people with dyslexia to know what the first and last letter is, but I can't understand or I don't understand the middle part so it makes it hard for me to understand the word. As we scroll through, it is applying to all of the text. As you’re reading through, you can understand what the text is supposed to be, but it takes you longer which is a fairly accurate simulation of what a dyslexic person goes through. They can read the text, it just takes them longer and they have to put more effort into it. If that makes sense. For me personally, it doesn't represent my experience very well because I don't experience letters jumping around the way some people with dyslexia described. For me, it is more I have to identify the shape of the letter really for me it's not really on a letter by letter basis. I really have to look at the word and identify the shape of the word versus being able to pick out letters and be able to figure out the word phonetically. I have to compare the word to every other word I've come across until I get a match.

I will try to hand tremor simulator. Hopefully you can see my mouse cursor and it is randomly.... I'm not even moving my mouse at this point. It's going to make your mouse jump around and it will be difficult to click on anything. I don't have a hand tremor so I don't know if that is what a person with a hand from her experiences. But I know from talking to people who had hand tremors that clicking… Because it's not necessarily... It might not necessarily be the mouse moving around constantly. It might be anytime they have to apply force to the mouse, they have to do it too hard or too light so clicking on things is really difficult. I had to put a lot of effort to click into services.

Let's turn that one off and switch over to... I'm going to switch over to the Silktide simulator. This is the screen reader simulator. I will turn it on. We will start tabbing through and hopefully the audio will come through. Wait, I'm doing it wrong. It is giving a representation.... I will turn on the audio.

>> Voice-enabled, main navigation – heading

>> John Toles: Did you hear that?

>> Know, about, link, research, link

>> John Toles: I don't know if my audio is coming through.

>> John Rempel: Yes, sorry I was on you. You can hear it loud and clear.

>> John Toles: It is reading the text for the link and also saying link because in the code for the website it is identified as a link.

>> Services link.

>> John Toles: You can go through element by element or you can you select. Services link collapsed

>> John Toles: And it will read whatever.

>> Education link,portfolio, member login search unchecked the checked box. Enter the terms you wish to search for search text box

>> John Toles: Let me scroll up a little bit. That is our search text box. It is reading both the instructions, what it is and what the label for the box is. Then it is identifying what the input field is. It is a text box with a search label and there are instructions included on the input box that say enter the terms he was to search for. I will close. The last thing I want to demonstrate is the Color Oracle. Color Oracle, give me just a second to turn it on. I will probably have to share out my entire screen so you can actually see the effects. Okay, can you see my taskbar at the bottom of my screen?

>> John Rempel: Yes.

>> John Toles: When you turn on Color Oracle, it is going to sit on your taskbar. It will run while you are doing other things. To actually activate it, you will right-click on the icon and you can pick which type of color related disability you want to turn on. It is actually really useful because it identifies the common, rare, and very rare versions. It is not something you can scroll around with. Anytime you try to interact with anything on the screen, it will turn it off. You can turn it on, view the content you are wanting to view with it on, as soon as you click or do anything else with it, it will turn off. I will get another one. It is coming through on your end?

>> John Rempel: It is, yep.

>> John Toles: Just making sure. Now grayscale. This is more useful if you are a designer working in Photoshop and you are trying to create some graphics. You want to choose colors that are visible when you have various color related disabilities.

You can't, for instance, distinguish between green and blue or you have visual acuity that is not strong enough to distinguish between light green and a white background. You want to check whether or not the shade of green you are trying to use in your graphic has strong enough contrast to the white background. You can turn Color Oracle on and get a better idea of what it would be like for someone with that disability to view the content you are creating. I’m going to share that back out. I think that will put us close to the end. I'm going to go back to the slides now.

As a summary, to summarize what disability simulators do well is they provide a quick way to represent the actual content website that you are creating through the perspective of a person with a disability. They will increase awareness for less visible disabilities. Things like hand tremors and tunnel vision that they don't really think about when you are first designing a website or content. It will help you illustrate the experience for stakeholders and decision-makers. You need to set aside some money to design an alt website to make it more accessible but you are having hard time convincing the person you need to convince to give you the money. It will help you to see that website through the perspective of someone with a disability.

They are, however, not useful for actual website accessibility testing. They are always going to do what they are doing. Trying to say make changes to your website and come back to the disability simulator to see if it makes a difference. It's not really effective. You have to fall back on understanding the guidelines, testing, talking to people with disabilities, do usability testing to understand the needs of the people with disabilities that you are trying to serve. Finally, simulators that focus on particular disability, I have found in doing research, are little more useful than the ones that are just trying to be a general all disability simulation. Color Oracle, that can really be useful.... I have been using it more as I do a little more design work as part of my job here at CIDI. I have actually found it to be probably the most useful for specific tasks like testing and design. So with that, I think we will draw it to an end. If you have any questions, we can do those now.

>> John Rempel: Great presentation, John. I will give people an opportunity to post questions in the chat. I wanted to make a couple of points. One thing the simulators do is generate good conversation. I worked with John Toles for two years before I realized he had dyslexia. He does certain things a certain way that work well for him. He is a really bright and talented guy. I wasn't even aware he was making some accommodations. One of the things he does is drop text into Notepad because it is a cleaner experience for him. The letters are much more discernible. Rather than globalize any of these simulators into a general population, generate conversation with your colleagues as individuals who might be in the marketing team or design team or customer support saying I'm struggling with this experience on your website or application. Understanding what their disabilities are. These tools are not going to do that. They are not going to pinpoint exactly what a person experiences. But it is a starting point that starts the conversation and lets us think outside of our own paradigm and our own experiences at how someone else with a disability may access content. I noticed Stephen Bianco in the room who said he uses the latest tool that John was demonstrating. Stephen, if you are more comfortable typing in the chat room or if you wanted your microphone. I am curious to see what your response would be to that. I will go ahead and unmute you, and you can use your mic or you can type in the chat room. I'm putting you on the spot a little bit. I'm curious what your response was to using it later with your team.

>>Speaker: I showed this off to the institution to show them how they can make interpreting graphs more accessible to those who may be colorblind. Maybe they’re even printing out the charts in black and white where the color loses meaning.

>> John Toles: That's an excellent point. A lot of times they will design a graphic and not realize the person you are sending it to is going to print it out and it will be printed in black and white because you are using a black-and-white laser printer. If you are using color coding, he will completely lose access to that information.

>> John Rempel: Good feedback, John. Within the Mac and Windows environment, you have grayscale high contrast options right within the operating system. If you ever want to test that inverted colors, for instance, as well.

Sometimes we will use those tools to make sure the color contrast is sufficient for WCAG, not only for default but when they are inverted. Often what happens is especially with branding and logos and branding that is more challenging to change; those contrasts don't meet WCAG. Stephen, thank you for that response. There is also a question from Katrina. Does CIDI offer website design assistance? I will comment but John you can weigh in, as well.

We assist from the perspective of if you are in the mockup stage or wireframe stage, we are happy to assist with that process and assure that accessibility and usability is being incorporated for people with disabilities. What's really a costly undertaking is trying to change all of that after the developers have built it out. If you are at the design stage, that's really the best time to tackle some of the excess ability and usability issues. Your developing team hasn't spent hours and hours creating the code and building out the entire framework. The design stage really is the ideal time. From a mainstream perspective, we don't necessarily get into how you want to design it for your marketing strategy and branding other than meeting WCAG 2.0 and 2.1 requirements and a corporate best practices. John, do you want to add more?

>> John Toles: I think you covered it pretty well. When I talked about doing design work for CIDI, I also worked with.... I don't work with just ICT, I work with other groups within CIDI. I knew where the question was coming from mentioning doing design work because I actually design, work and design for other groups.

>> John Rempel: Someone asked, do particular fonts... Sorry, I'm trying to keep up. Do particular fonts work better for dyslexic people? That's a question for you, John.

>> John Toles: There's a lot of research around fonts for people with dyslexia. I don't think, at least from the latest reading I've done about it, I don't think there is a consensus as to whether or not fonts have a significant impact for people with dyslexia. I know there are studies that say yes but there are also studies that say no. There are studies that are inconclusive. I don't think there is an overwhelming amount of evidence. For my personal experience, font does make a difference. Monospace fonts, like courier new, really help me to be able to read.

I can always figure out what the word is no matter what the font is, but when it is based on evenly and there is clear distinction between each letter, and overall fit into a similar... When each letter... When I say monospace font, it means every letter takes up the same amount of space no matter what letter it is. The letter I takes up as much screen real estate as M or W. Having it spaced out like that helps me. There are some fonts specific for people with dyslexia. The one I use is called open dyslexic. It is available for free. I believe the website is open dyslexic.org. You can Google open dyslexic font and you should be able to find it easily. I use it as default on my web browser. I use it also on my phone for my Kindle app when I'm reading. It takes a little to get used to it, but once I did I found I was reading much faster than I did before. I will type it into the chat...

>> John Rempel: Thanks, John. While you're typing that, I want to comment that we get a lot of questions on what works, especially if you're building on a website or application. There is a crossover there. Research shows you want to stay away from fancy like Sans serif. There is Aphont, which is designed by the American printing house. It is actually pretty clever. It has success with individuals with low vision as well as dyslexia. Are there any other questions or comments?

Hopefully this was valuable and insightful. This was not a sales pitch to promote simulators per se, but to create a heightened awareness for pros and cons. There are some myths around it. I will say what has been especially helpful... I have been in the field of low vision and blindness myself for over 20 years now. No blindfold will ever simulate blindness. What it does do is create an awareness of the memory that is needed when you walk into a room that you are not familiar with. Even your keyboard. You might be surprised how much you use your vision with the keyboard.

One of the most impactful things I have experienced is having someone under a blindfold and going through their daily activity routine with a blindfold on and start to understand some of the things they take for granted with their vision. Really, you can't beat having an individual with a disability who can contest products and services and applications and asking them firsthand what the experience is like. I would strongly encourage any of you working with people with disabilities to treat them like gold because their input is extremely valuable. The simulators won't come close to the input, the risks. And input they can provide for you. A lot of the credit is to you, John Toles, for recommending this webinar.

>> John Toles: Just as a final comment. I felt like maybe the reason people giving the workshop where I originally encountered these were using it because they didn't know anyone with a disability or have anyone in the company with a disability or felt comfortable identifying as having a disability.

They were sort of using simulators as a way of avoiding, avoiding contacting people with disabilities or even going more psychological with it that they were trying to avoid having an uncomfortable conversation with a person with a disability.

Nobody wants to admit their ignorance. They especially don't want to run the risk of saying anything offensive. When you're talking to someone about their disability, and you can unintentionally be offensive because you just don't understand their experience.

You have to sort of get past that. You have to push past that and get to a point where you can have a difficult station and you can get comfortable apologizing. That is an experience we want to avoid, but when we are working in this space, it is something we have to get over.

>> John Rempel: Good point, John.

>> John Toles: You have to become comfortable being uncomfortable.

>> John Rempel: You have a whole list of people saying thank you, excellent information.

A lot of folks are grateful for what you offer today, John.

Thank you all for attending, I really appreciate it. This is being recorded and it will be archived and sent to everyone who registered.

With that, we'll go ahead and close it out.

We look forward to hopefully connecting with many of you in the future. With that, enjoy the rest of your day. We will sign off, here. Thank you, bye.