Webinar: Web Accessibility Best Practices  
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>> John Rempel: Good afternoon, everyone. It's 1:28 p.m. I'm John Rempel from CIDI. We'll get started here in just a couple minutes. We'll let more folks join and then we'll get started. Thank you.

>> John Rempel: Good afternoon, everyone, or good morning to some of you. I know there's at least one person here from California. My name is John Rempel from CIDI, center for inclusive design and innovation. And John Toles I will introduce in just a few minutes.

Thank you for taking time out of your busy schedules to join us today.

Next slide.

So we are offering live captions today. There's really two ways to access this if it's valuable for you. Heather our captionist is going to be putting the in the chat room. You can also use the closed captioning option on the toolbar within zoom in order to access captions as well.

This is an initiative that is made possible through AccessGA. AccessGA is a joint initiative of the state of Georgia ADA coordinator's office, CIDI, and Georgia Tech authority. The objective is to support Georgia state agencies that strive to provide equitable and timely access to their employees and students and clients. We're coming up on almost 10 years now this has been in place.

We provide a number of different services: Live webinars, technical assistance, hands on training, web accessibility evaluations for state agencies of Georgia, newsletters and an up to date Wiki.

We offer services to the higher ed community within Georgia. We believe in sharing information and if this goes beyond the borders of Georgia, fantastic. We welcome anyone who wants to learn and grow in these areas. We provide services to higher ed institutions in a number of ways. We have a listserv that we offer. We also do web accessibility evaluations for higher ed institutions. And then there's a website. Webinars such as this are archived on both websites.

A little bit about center for inclusive design and innovation or CIDI. So we provide practical solutions for challenges faced daily by people with disabilities. We provide consultation, captioning, accessibility digital content, trainings and web accessibility evaluations, technical assistance.

We also serve Georgia Tech directly. We provide training and technical assistance and also to University System of Georgia to a larger degree as well.

We also serve higher ed institutions across the country. We also work closely with other state and federal governments. For example, we currently have a contract with the CDC making a lot of their content related to COVID‑19 accessible. We provide national and international non‑profits and for-profit services in a variety of different areas. We provide braille transcription, embossing, tactile graphics for individuals who are blind, and we have a repository braille library so other institutions and repurpose materials. We have a sizable contract with the library of Congress. So it's not just one product made for one person. It's one product that can be used multiple times as a cost savings.

We have an e‑text department that provides accessibility in a variety of different formats: PDF, DOC, PDF to name a few.

Then we have the Tools for Life that provides technical assistance and assistive technology training.

With our digital accessibility UX testing we provide digital accessibility compliance testing both manual and automated through the AccessGA contract and as a fee for service. We provide when we're not dealing with a pandemic onsite training and remote. We have done quite a bit of useability testing specifically with our CDC project that's under way right now. We have a large repository of customers who have disabilities and a database that we draw from related to testing.

As a research institute with Georgia Tech, that's obviously one of our initiatives as well. Disability spans across all age, gender, ethnic, cultural, and socio-economic boundaries.

A little bit about digital accessibility compliance.

I think in order to understand this ‑‑ to understand best practice, we need to understand what is compliance. This is a question that we get all the time is what do I need to do to be compliant. We have a picture on the right of a check box of a person going down the list. Here are areas referred to for compliance: Americans with Disabilities Act, WCAG 2.0 level A and AA, section 504.

The ADA when it was created really didn't have the intention of covering information technology. Keep in mind, the ADA was signed into law 6 months before the internet even came about. That being said, it was extremely forward thinking the way it was written. It definitely has been applied to digital accessibility over the years.

I referenced Title II specifically. This requires state and local governments to provide program access to people with disabilities.

It's important to realize that the United States Department of Justice as early as 1996 recognized the importance of web accessibility related to the ADA. In 2000 the DoJ told an appellate court said... [Reading from PowerPoint].

Under the ADA here's a quick chart of some of the lawsuits in the last few years using the ADA. 200018 there were 2314 cases by 2020 it rose to over 3500 cases. So you see there's a continued increase. Even though the ADA doesn't give specific language related to the spirit of the law and not the letter of the law.

Many of you have probably heard of Section 508. It's been updated as of January 18, 2017. This is really important. It's been harmonized with WCAG 2.0, web content accessibility guideline. This is the benchmark for accessibility. Many state and local governments have adopted the ICT refresh and/or the WCAG standards as statutes, regulations, or policies.

So a little bit about the W3C WCAG. It was developed by W3C. In 2008 WCAG was published as a final recommendation. It's known internationally. Many countries refer to it as their standard. WCAG 2.1 was published in 2018. With updates to mobile accessibility and people with low vision just to name a couple. There's level A, AA, AAA. When talking about compliance we're referring to level A and AA. Level A could be defined as essential requirements to meet otherwise it would be impossible for one or more groups to access web content. Level AA is requirements to meet when some groups will find it difficult to access web content.

So 504 is very often referenced as well. This refers to education programs and activities. It was a civil rights law or amendment to the civil rights law of 1973. It prohibits discrimination based on disability. It requires that the needs of students with disability. Let's move into the realm of best practice.

We're going to talk about WCAG 2.0 level AAA and WCAG 2.1 and then WCAG 3.0 which is the draft version right now.

I will talk about best practice in the light of users that may not be included in existing guidelines.

So WCAG level AAA as you get further through the letters it becomes more stringent. A is generally the easiest to comply with. Double A is a little more challenging and triple A is in the realm of best practice. WCAG 2.1 really in some circles is chalked up as best practice. Some organizations are incorporated 2.1, some are not. It depends on standards of a particular organization.

I just became with this information yesterday actually. This is a direct quote from the White House's accessibility statement. This is worth noting here... [Reading from PowerPoint].

This is significant because a lot of organizations are still referring to 2.0.

[Continuing to read].

So keep in mind this isn't legally binding necessarily to other organizations, but it is a good faith effort from the very top coming from the White House that they will adhere to 2.1. Not legally binding but precedent setting.

It becomes confusing what is A, AA, AAA. This is a quick reference that will be available in the resources at the end of this PowerPoint.

This is a quick reference divide that WCAG puts out. You can very easily use the filter here to drill down and access specific information depending on the filter you use.

Very briefly about WCAG 3. It's still very much in the making. There's a lot of unknowns about it. Basic information here. They're not going to go with A, AA, AAA. They're going with bronze, silver, and gold. It will not develop into a standard until a least a few years. So we have a ways to go before we can think about implementing 3. It uses a rating system of 0‑4 from very poor to excellent. Based on outcomes rather than the binary true false statement that the current WCAG is using.

Best practice accessibility and useability for end users. This is important regardless of the website or the organization, leveraging people with disabilities is really essential. If you want to meet the needs of people with disabilities. So include people with disabilities throughout every aspect of the project for testing and feedback. Include the design, implementation stages also. Ensure that continued feedback is received by people with disabilities on a regular basis. Provide an easy and effective means for all users to provide additional feedback on barriers or challenges they may experience and respond to those needs.

Have a contact us page. Have an accessibility statement on your site if possible. And have a phone number that they can call or at the very least an e‑mail that they can reach out to to let you and your organization know that they may be struggling with certain aspects.

They may very well provide really useful information to better market your organization, to make it available to many more people who may be struggling with the same issues that they are.

With that I will pass it on to John Toles. A brief introduction of John Toles. I've worked with John for a few years now. Very, very bright talented individual. We're fortunate to have him on our team. He recently became certified under the CPAC with IAAP. Certified professional in accessibility core competencies I believe.

We work closely together with several presentations we've given. He's also an integral part of our team with programmatic and useability testing. I learn from him almost every time I talk with him. I will pass it on to John Toles.

>> John Toles: Thank you, John. Go to the next slide. Go back one. So thinking about best practices. You want to think ‑‑ some best practices are easier to implement if you think about them as early as possible in the process of building a website. It's easier to start with a goal in mind in the beginning than it is to redesign a website later.

Some examples of this is color contrast. When building a site, you want to pick a color scheme that enhances visibility and pick a minimum contrast ratio. The difference between the foreground and background color of the website.

You want to use plain language. That means to tailor your audience to your audience.

So in color contrast I included the main guidelines on this slide. That is WCAG guideline 1.4.3 and 1.4.6. 1.4.6 is an AAA guideline. I have included a link to it. It means you have to have a contrast ratio of 4.5 to 1 for all text and images of text. And a contrast ratio of 3 to 1 for large text. It excludes inactive user interface components. So if you have a navigation in one of the menu items is not active and it's slightly different color that's what it's talking about. It excludes decorative images and logos.

Guideline 1.4.6 is basically the same but has more stringent guidelines. A 7 to 1 ratio for all text and images of text. That is difficult to meet. It means all of your text and images of text has to be black and white.

The contrast ratio is 4.5 to 1. It excludes the inactive UI components, decorative images, and logos. I have included a link to the Colour contrast analyzer. It provides precise pixel control over what color you're testing, and it will calculate the ratio for you. I included color oracle. It's helpful when you're doing a demonstration in a meeting and you're talking about your website design and you want to show your audience what it would look like for someone with a particular visual disability, you can put ‑‑ you can use color oracle to demonstrate that.

Next slide.

So because there are two competing guidelines for color contrast, we've come up with a set of guides that we feel are more ‑‑ it feels like AA doesn't go far enough and it feels like AAA is too hard to meet. It's somewhere in the middle. The simplify best practice are to use dark text on a light background as much as possible when using informative text. If you're displaying news articles, it doesn't have to be black and white ‑‑ many people with certain disabilities find it hard to read text that is black and white. So you may want to use an off white back ground and a slightly gray text. You want to use a minimum of 16-point font size. That's just the most comfortable font size to read on the web. You want to use relative size units in CSS rather than specifying font size. So if your headings are larger than your minimum font, you want to specify in CSS that it's twice as big for your H1 heading rather than a specific font size. That way it won't affect users who have a larger default font size.

Next you want to use minimum 4.5 to 1 contrast ratio for everything else. That includes both active and inactive UI components. So in the example earlier if you have your navigation menu and an item is inactive, you still want to use 4.5 to 1 color contrast ratio. The fact that it's inactive is important to a user. If you're not thinking about that when designing things like that the user may not know it's even there. You want to differentiate it in another way to denote it's inactive, rather than making it invisible.

Logos and decorative images can be excluded. Normally decorative you don't even include. Things like alt text 4 people don't see them and don't care they're there. Logos are more artistic. Generally they can be excluded.

You also want to offer high contrast and dark mode color schemes when possible. At the bottom of the slide is a link to developer articles and how to articles on how to set that up.

For plain language, included links to the exact text for all of the guidelines from WCAG that cover language used on websites.

To summarize, they all encourage the creation of additional content to help users understand things like unusual words, abbreviations. That's difficult to do. Having two versions of all the text on your website is not possible for all people. It's easier if you implement a content writing standard that avoids them. So your main version is simplified. It's easier to do that than running multiple versions. There's also a link to the federal plain language guidelines and a link to the tool called Hemmingway Editor. You can paste text into it, and it will give you a grade level. It will give you ideas to use more concise language. I use this tool a lot when analyzing a websites reading level.

Most websites are going to be targeted at the general public. There's facts on the right-hand side about the general public as an audience. Really the way the plain language guidelines put it is that most people right at an 8th grade level which isn't necessarily true. In online content, people only read 18‑20% of the content. They mostly scan for key words and read the text around the key words they're looking for. They pay attention to lists and paragraphs. People rarely read FAQ's.

So the next point I want to talk about is thinking about your content from the user's perspective. It's easy to implement the guidelines as a check list and not consider how users are going to navigate. A couple examples are contextual links. Meaning the link describes the purpose of the link. All links will need to be unique and never duplicate.

There are also skip to links. Usually it's targeting the container for your website's main content rather than something in the main content. You're jumping past the navigation but you're not giving the user any visual indicator of where your focus is landing. So we recommend including visual focus and not just the container. I'll explain more later.

For contextual links I included the links to the exact words to the guidelines. Summarized it means that users ‑‑ the first link 2.4.4 purpose means that when someone looks at the link text or it's being read out by their AT, assistive technology, the purpose of the link can be determined using the link text alone or in combination with the surrounding text. I'm sorry ‑‑ I've got a leaf blower going outside. If you can hear that I apologize.

That is a level A. That's minimum. Guideline 2.4.9 link purpose link only means users can determine the purpose from the link text alone. So the text encourages the use of alternative mechanisms for determining the link. Screen reader users often use list of links and ambiguous links making that impossible to do that. I have an example of ambiguous links on it. They say click here, read more. It's impossible to know what goes where. This is a standard way of navigating so it's difficult if you're trying to navigate by links and all you hear is click here, click here, click here.

So for skip to links, that falls under the guideline 2.4.1 bypass blocks which is an essential guideline. Content can be skipped using a link or UI control at the top of the page. This was mostly intended for screen reader users. Skip links are really useful for sighted keyboard users. People who have mobility issue that prevents them from using a mouse. When someone who can use a mouse is accessing a webpage you can scroll through. You don't have to worry about hitting tab over and over again to highlight interactive parts of the webpage.

Because of the ‑‑ because of many implementations of many skip links they do not meet the user needs because they don't help the user track their location within the content. So it lacks visible focus but the HTML container for the content. On the right-hand side I have a couple of strategies at the top. There's a screen shot from a website called accessibe. It highlights around the H1 heading to let you know that's where your focus is landing. The bottom screen shot is from a website called web aim. Their strategy is it briefly highlights the main content ‑‑ the back ground of the main content in yellow to let you know that's where the focus has moved to.

So the final ‑‑ the next point I want to talk about is that best practice may become standard practices in the future. John was talking about WCAG 2.1 being recently implemented. It's been a few years now at this point but it's recent as far as WCAG is concerned. That includes ‑‑ 2.1 includes specific guidelines for mobile devices. New guidelines from WCAG 2.1 include 1.4.10 and 2.5.2. Those are AA guidelines. In the past if you were creating a website and you had a mobile devices in mind that was really a best practice. Having your content reflow and having users easily cancel actions on a touch screen device were going above and beyond. Now they're best practice. People avoid having to redesign their website when 2.1 standards came out.

The final point is the guidelines can't keep up with the rate that technology changes. Following best practice may require you to innovate, not just follow guidelines. If you read through WCAG they have a lot of articles for how to do certain things or how to meet certain accessibility requirements. A lot of these articles mention flash and silver light and image maps. These are obsolete in 2020. Nobody uses flash or silver light anymore. I haven't seen an image map on a website in probably 10 years. Popular technologies like smart watches or article cards aren't mentioned at all. So if you want to go above and beyond in your best practice, you want to fall back ‑‑ you may not find a guideline that really describes what you want to do. So you may have to rely on your understanding of accessibility principles. We encourage you to do that rather than follow a check list.

At the bottom of the page I included a link to the principles of accessibility page from W3C. The image on the right-hand side is a breakdown of does your browser support flash and almost all of them don't any more. You will have it disabled by default and as of the end of 2020 ‑‑ 2 months ago now ‑‑ browsers will no longer support flash which is an example of how quickly technology changes. When I was learning web development, if you weren't learning flash, you were way behind. John, do you want to start your live demo?

>> John Rempel: Thank you, John. So fingers crossed what I'm going to attempt to do here with JAWS ‑‑ the most common screen reader used ‑‑ I will demonstrate a few points that John has talked about. Give me a moment here. John, if I can verify you're seeing the BBC website now.

>> John Toles: Yes.

>> John Rempel: [Synchronized speech] are you hearing JAWS?

>> John Toles: Yes.

>> John Rempel: What I'm going to demonstrate John pointed out benefits of best practice when it comes to the skip to main content links so I will demonstrate that now. I will put the focus of attention in menu [synchronized speech].

Okay. There we go. Now we have the focus there. I'm going to tab until we get to the /\* skip to main content link. I will do my best to not talk over JAWS.

[Synchronized speech].

This isn't bad. Skip to content visible. Like John mentioned, the skip to main content serves a much larger population than someone who is blind. So someone with mobility challenges would have to navigate all of these different menus here in order to get to the content of the page. If I hit enter on this.

>> Synchronized speech.

>> John Rempel: Visually we have no idea where the visible focus landed. If I tab once.

>> Synchronized speech.

>> John Rempel: JAWS highlights the text here faintly. Visually I have no idea where the focus was until I hit tab. So that's what John is emphasizing the value of that visual focus for a larger population.

>> John Toles: I want to point out that visibly the focus is visible as a light green back ground there but that's being put there by JAWS. If you didn't have JAWS running you would see a really faint line around the heading. So even after you tab hopefully that will still be visible, but it may not be depending on the user settings. If the website had CSS that ensured that all the headings were able to receive focus then there would definitely be a visible focus indicator. The fact that it's there for a JAWS user doesn't mean it will be there for a user who is just using a keyboard.

>> John Rempel: Very good point. This is where it gets a little more complicated too.

>> Synchronized speech.

>> John Rempel: Sorry. It does have a thin white border. That could be color contrast violation. If that white boarder goes against the white in this woman's blouse. For someone that's low vision or color blind or accessing this on a bright sunny day they may lose visible focus as well.

Now let's listen to this a little bit. I'm going to shift tab back and tab again.

>> Synchronized speech.

>> John Rempel: This keeps changing. I've looked at this site 3 times this morning. Each time it changes. It's reading the alt text that's been provided. The alternative text for the image, as well as the link. It's also not letting me know that this is news related to Asia. Contextually a person who is blind may think they're out of that section and tabbed to a new section when this previous link was related to an article in that part of the world. Let's tab again.

>> Synchronized speech.

>> John Rempel: It did say China there. It's really inconsistent with how these are rendered. John and I were looking at this earlier. Some of the alternative text is not great. This is an example of very poor color contrast. The one to the bottom right. I can't even read that. I have a vision impair myself. You want to be careful using text with colors. I'll bring up this as well BBC's logo is fantastic. It's black on white. There are a lot of logos that are very challenging when it comes to color contrast. From a compliance stand point you don't need to adhere to WCAG guidelines because it is typically very expensive to change branding for a company. If you can incorporate best practice from a marketing stand, the larger targeted audience the better.

So let's talk about headings now. John and I were looking at this earlier. There are no H1's. Headings range from H1‑H6. If you are following WCAG, you should have an H1. This really should have been showing up as an H1: Welcome to BBC.com. We have H2, H3, H4 but no H1.

Let's pull up the links now. John touched on this earlier as well about WCAG 2AAA adherence. Simply by accessing the more link we have no idea. More of what? We see this often with "read more." It's noncontextually. This doesn't have dozens of read mores.

Color contrast. Let's talk about that. I'll demonstrate this. This isn't the greatest example, but this is a color contrast analyzer that John mentioned. Let's take a quick look at this here. This is a contrast fail. This is 2.4 to 1. If you're using text on an image if you're wanting to improve your logo or branding this is an effective tool to use. This is in the list of resources so you can download this free tool.

That's a brief over view of some areas of compliance and best practice on this one website. We could spend a considerable amount of time. We're at 2:18.

>> Synchronized speech.

>> John Rempel: Let me silence JAWS.

I apologize. Okay. Any questions from any of you? The room is small enough that if you choose to type in the chat or you want to unmute yourself feel free to ask any questions and we'll do our best to answer them.

>> John Rempel: We have a question come in from Valery that says how would you advise the developer to use CSS to make hover more prominent? In the case of the BBC website I almost never recommend using text on an image itself. Because you don't know what that color is going to be. It's almost impossible to have a text color that's going to be visible against every color you can imagine an image could have in it. That's what I mentioned in the presentation article cards. That's what that's called. You don't have to have if you're implementing article cards that way, I do not suggest doing that. Putting text on images just makes it really difficult to implement that way. I hope that answers your question.

Female Speaker: Hello? Hi, I have a question. I'm very familiar with a lot of what you talked about. I'm legally blind. I use JAWS. One of the tasks at my job is really to educate other people about accessible web design. For the most part these are people who have just been thrown into making the website for their organization. Really have no back ground or understanding. When I guide them toward the WCAG resources and toward WebAIM and other sites, I feel like what are the real most basic, basic things to start with to really get people to understand? Your visual explanation was really good. Those are things I try pointing out to them. Click here, read more, blah blah blah. What are some of the real simple basics to get people to understand and how to get them started? Is it by using some web checkers or what do you think?

>> John Rempel: John, do you mind if I respond? I'm sure the wheels are going with you as well. First off that's a really good question is how do you get traction. You mentioned that you're legally blind yourself. I don't know if that's an unenvious roll on your part, but you are probably intentionally or unintentionally one of their best aspects on educating them on the impact of lack of accessibility has on people. We try to hit home that these are individuals that you're making websites and applications accessible for. This isn't just following code guidelines and checking a box. One of the most powerful things that I've used personally ‑‑ I used to be an educator and rehabilitation therapist for years. If you have this opportunity, have an individual actually try using the computer with their keyboard. Just for half an hour. Try doing what you normally do just using your keyboard. That really helps on multiple levels. It starts showing them that they probably don't know the keyboard as well as they think they do, but it also shows that the level of dependency they have on the mouse. Whether a person is a screen reader user or switch device user to navigate a page that rides on top of the keyboard user interface that is powerful. Just suggest to them take your hand off the mouse. That's how a lot of people are accessing a computer. If you can't do it without the mouse chances are other people can't do it either. At CIDI we started lunch and learns educating people on disability awareness, sensitivity training. If you have that opportunity of your organization of providing a lunch and learn or formalize it if people are getting credits. Rolling in credits is an incentive. It sounds like you're one of the accessibility evangelist within your organization. Getting executive buy in is really important. Letting people know this isn't just a nice thing to do. The law requires accessibility. Anyway, I've talked enough. I will pass it on to John if he has additional comments.

>> John Toles: You hit it precisely there when you said to access the website with just the keyboard. Coming from a developers stand point that's a really eye-opening moment when somebody grabs your mouse and tells you you have to navigate with just the keyboard. It's a good way of getting a developer to realize that their experience is not everyone's experience. That's something just in general that's hard to get anybody to realize but especially some of us more stubborn web developers.

>> John Rempel: Did that answer part of your question? Was that helpful?

Female Speaker: That was partially helpful. That is things that I do. Even if people are on board though because I've done this for probably 24 years, my concern is that as a beginning and trying to create a webpage even if you have the best intentions none of these people really have developer skills. So even some of the things you were presenting I think may be foreign language to a lot of them. So I'm concerned how do you get them to keep interest without becoming easily confused at first?

>> John Rempel: Yeah. It's tough. Part of what may be helpful ‑‑ it depends on what the turn around ‑‑ turnover is in your agency ‑‑ but implementing some basic one on one disability awareness in the orientation of the employee the first week they walk in the door. What do they know about accessibility? Whether it's basics about the legal responsibilities they have as an agency. Whether it's etiquette. It goes beyond the raw code as you know. I'm sure you experience that on a personal level. I do too. I'm legally blind as well. I go between functioning as a sighted person and not functioning as a blind person. That's a tough one. It sounds like executive buy in from the top is really what's needed as well.

Female Speaker: I appreciate that. You guys did a great job. Thank you.

>> John Rempel: Thank you for your question. It's not an easy one to answer. It's not a simple question.

>> John Toles: We have a question in the chat from RC. I work for a state agency. How do you suggest enlisting ongoing feedback from folks with disabilities when we aren't in regular contact with any of your web users?

>> John Rempel: You want me to take a shot at it? What I would do if you are a state agency you're already providing services to people with disabilities on some level. I would ‑‑ if you haven't already, start developing relationships with some of the disability organizations. Whether it's a blindness rehabilitation agency, whether it's a deaf and hard of hearing facility or service provider. And get their buy in. Also making it really easy to collect that information. Whether it's a contact us link on your page, sending out surveys is another good way to make sure your customers and potential employees needs are being met. And this one is not an easy one necessarily because it involves the recruitment of HR but there needs to be effort also with hiring people with disabilities and getting qualified individuals with disabilities who can education people from within. Those are some thoughts I have. John, do you have anything to add to that?

>> John Toles: You want your accessibility statement on the website and make sure there's an e‑mail address and phone number that someone can contact you about accessibility issues. You want to include people with disabilities. You said you're not in regular contact, you want to solicit feedback from people with disabilities so the best way to do that is to have people with disabilities on your team.

>> John Rempel: Any other questions?

>> John Toles: That's all in the chat and we're at 2:31.

>> John Rempel: We're over a bit. Thank you all for taking time out of your busy schedules. Thank you John. I always enjoy co‑presenting with John. I always learn from him. This is being recorded and archived and sent out to everyone who registered. Thank you for your time. Enjoy the rest of your day.