BLH Training Mobile Accessibility Testing and Resources

CIDI

2:30 pm ‑ 4:15 pm

3‑8‑22

[This is a captioned Stenograph transcript provided by CIDI at the Georgia Institute of Technology to facilitate communication accessibility and is not intended to be a verbatim record of the session.]

JOHN TOLES: Johan, if you're talking we cannot hear you.

JOHAN REMPEL: My apologies I was on mute here. Let me go back to previous slide,

>> Today we are going to be addressing topic of mobile accessibility testing and resources. I have privilege of co‑presenting with John Toles and Rayianna Daniels. We have provided link for chat in Streamtext. You are welcome to access that.

>> We have migrated to educational portion of Zoom which is more powerful, there's issues we are working out. Typically we provide two access points for captioning, one with Streamtext and other with Zoom default, for whatever reason the [Inaudible] has disallowed that for today. The Streamtext is available in the chat.

>> You all have heard of CIDI at this point, if you have ever attended my other training, we are at Georgia Tech. Pretty much everything we do is related to accessibility and disability to one degree or another.

>> Goals upon completion of this webinar, participants will be able to identify peripheral device that can be used for testing on mobile and identity two features within iOS that map with WCAG and two testing tools for testing on mobiles. Hope is that you leave this training with more concrete tools for testing in future.

>> John and Rayianna agreed to introduce themselves. They can do that better than me.

JOHN TOLES: Hello everybody I'm John Toles, work primarily in customer support. I wear many different hats, provide ICT, with Johan Rempel doing digital accessibility evaluations, writing trainings and I am also developer for our student accommodations manager which is database software package provided for disability services offices for higher education to manage their case load.

RAYIANNA DANIELS: Hello everyone I'm digital accessibility specialist. I work with John and Johan where I assist in providing disability education and provide webinars and training like this one.

JOHAN REMPEL: You all know me if you have attended any of these trainings. I oversee many of our [Inaudible]. We covered these last week with different devices on market and have majority of market share. So the two are to no surprise to most of you are Apples iOS platform and android. When testing with mobile there's a few factors to consider. You can certainly look at your analytics to determine which devices are used the most frequently and more and more. Traffic is increasing with mobile and flexibility. It is worth mentioning, if you receive my accessibility complaints, if this is challenging to use, individuals who just clearly say they cannot access their content certainly take that into account as well. So, if there's a way to capture that information with your agencies, sort of triage what's important and where the pin points are would be really helpful.

>> Then the devices to consider, screen sizes and available features. The operating systems continue to advance and provide more and more accessibility features so just being aware of what's being used and what is available within a particular operating system.

>> And bluetooth keyboards that's significant because we cannot assume that everyone is using a mobile device the way that's typically intended through gestures, swipes, there may be individuals with disability challenges and individuals with hand tremors that might be using peripheral device such as bluetooth keyboard.

>> Common mobile features apply to Android and iOS, we covered some of this last week. With iOS, it is voice over and Android it is talk back. Both of platforms provide magnification solutions. They are becoming more sophisticated with this especially for individuals with color blindness.

>> A project that Jon Toles and I were involved in and still are, we were rendering very different results, because with my visual impairment I really crank up text size within iOS and that really distorts some of default settings that a person may think are just fine. Just keep that in mind that not everyone will be using same default text size within operating something.

>> Captioning and videoing, we do provide if it is available they do provide that option, and LED and vibration results are both available on iOS and Android. Switch control is pretty generic, it can be any peripheral device that allows access, which it's two button or three button device that allows person access to mobile platform.

>> So iOS and Android tests, like I mentioned, when you are testing the iPhone's are typically what you will be testing with. A person can test with iPad. If you do hear complaints about people accessing on iPad the most common rendering difference on iPad and i‑phone is sometimes with the bigger screen on iPad it will columnize maybe 2 columns where iPhone will keep it in one. Generally the iOS platforms are pretty consistent across the board.

>> With Android I was just looking this up this week, there are over 24,000 different Android devices, types of devices on the market. So it can feel a little daunty on which device to test on. The the Google Pixel produced by them using the stock version of Android, which simply means that data plan carriers don't put their own skin on to the Android platform. Keep in mind Android is open source so it allows for that third party custom action. When you test the Google Pixel phone, like nexus, now the widely popular Samsung phones are something else to consider if you do have a Samsung one available to you, that might be be another consideration. Keeping your device's operating system updated ensures you have latest fixtures and features available.

>> I know a lot of individuals who are blind who do not run to latest operating system for iOS and Android. They give it a couple of weeks to let bugs iron out. They let other people test water and then they will jump in. Although it is good to use latest system, they will hold off for a couple of weeks or month or two before they dive in and try that operating system, especially people who use assistive technology, that's crucial. For a lot of people if it's minor bugs and it impacts voices that can be significant [Inaudible] they are facing.

>> Testing with peripheral devices, obviously you want to reduce cost, you want it to be portable and versatile, this is one example the portable keyboard from Microsoft. This is something we don't do on a regular basis. Again, we try to capture as much as possible within confines available and budget of customers we work with. There's occasion where peripheral device testing is, essential, especially if you know users who are using these like keyboard and switch. We also provide shortcut key for both iOS and Android using the keyboard.

>> Gestures for iOS and Android, we provided a few gestures here, for example single finger swipe moves between items, two finger swipe up, read screen from top and two finger tap, pauses reading and double tap activates selected item. We provided some useful links for you as well. Learn voice over gestures on I phone and use talk back.

>> Now I will attempt to play a short video. This is a video I created a while back and this is a presentation on specifically on a few fortune 500 company apps. This one in particular is Walmart's app. I wanted to mention they have made considerable strides toward accessibility since this will be created. This shows how it impacts people who don't have accessibility.

>> I have to just move the tool bar. I put focus of attention on Walmart and it tells me to double tap to open. So far so good. We are on sign‑in button, pretty self‑explanatory. I will explore this page simply by right swiping, that will move me from one element to other. Theoretically it should move me from top to button and right to left. Search in stores and online. It did not tell me if this was edit field or button, did not give me any indication what to do next. For all purposes this can be just be text. I swipe to right again, again I have no idea what to do. Trade here is evident it is button, but I don't know what it is button to. Once again a button I have no clue what it does. There's QR code available and bar code I can scan something in and get price for, because it is button it is unavailable to me because I would not know what it does just using voice over alone.

>> Okay, so once again I don't know what to do here. It isn't giving me information about whether this is a button, whether simply just sharing information to me. So, this is a trait that's not labelled. Notice the screen jumped down a bit. We have larger amount of blue on top portion of screen and all it said was button. What I think it is trying to do is access these banners going by which seem to be pretty important. It talks about online specials, preblack Friday online specials but I have no access to those. I will swipe again to right. Again button, large portion of screen is dropping down to solid blue providing no meaning or value to me.

>> So it by passed those banners entirely or you can also refer to that as carousel. It did not tell me what trait is to this element, is it a button, just straight text? I am going to swipe again to right. Once again it did not tell me what this actual element does. There's very faint arrow to the right of these elements which would indicate to a sighted person you can actually click on it, voice over is giving me none of that information. So once again these elements here are not giving me any additional information to access them. I can continue down by swiping to right.

>> That was useful information, shop Tab 1 of five. Visually we know it's highlighted or selected tab with shop, if you don't have color blindness and you have enough acuity to see blue v. black. I will select up here. It did tell us it's selected which is very useful for voice over user. I can navigate through rest of these by right swiping. So very effectively tod us which tap is on 4th of 4, and 5 of 5 and whether or not it's selected.

>> Hopefully that was helpful. I am uncomfortable with throwing any company or agency under bus regarding there accessibility. They have made great strides with accessibility and I give them credit for that. John can I verify with you that you are saying mobile accessibility demonstration. I will pass that on to John Toles. Feel free if any of you have any comments or questions we will try to leave time at the end, feel free to type in the chat as well, that would be helpful. I will pass on to John Toles.

JOHN TOLES: Thank you you can go to next slide. We are going to talk about some mobile specific WCAG guidelines that's been updated from 2.0 to 2.1. Many of guidelines can apply to mobile, but in 2017 Wc3 released updated guidelines that better represent landscape. Up dated for guidelines to include fig considerations of mobile devices. There's link on page about 2.1 guidelines.

>> Starting off with the specific guidelines, there's 1.3.4 orientation level double AA guideline. It basically means content does not restrict it's view and operation to single display of orientation such as portrait or landscape, that basically means that a user who has their device mounted, picture on right hand side there's sort of snake clamp device that can be attached to wheelchair or table that allows person to mount their mobile device in specific orientation that's best for their eye line and mobility. That means if they have it mounted in landscape it still operates in landscape. You don't have to switch it over to portrait mode. It is becoming less of a problem. There used to be a lot of applications especially if it was a web site it would not display correctly if you squished it from landscape to portrait.

>> The next one we will talk about the 1.4.10 reflow. This content can be presented without loss of information or functionality and it gives specific CSS pixels. That ensures content can adapt to image on slide. Just means while sitting on top of each other your sight or content should be able to reflow these devices without user having to pan and zoom on the page.

>> Next couple we will talk about 2.5.1 pointer gestures all functionalities uses multipoint or path based and can be operated with single pointer without a path based gesture. It is basically meant for people with mobility issues, even things like hand tremors that makes it hard for you to do multipoint or path based. Multipoint is 2 finger swipe v. 1 point. Path based gesture would be like multiswipe. On iOS, if you swipe in a Z pattern that's called multifinger scrub, that's usually cancel for most apps. It will take you back to previous seen. What this guideline means, even though that's option for operating that function the function also exists somewhere else. You can just click on it and do single finger gesture to achieve the same thing. So, the next one is 2.5.4 motion actuation, functionality can be operated by device motion or user motion. Can also be operated by user interface components. Most common of this iOS, if you shake your phone. If you were typing in a form and you shake your phone, it will come up and ask you to undo last thing. It is basically saying that cannot be only way you can access your undo function. There somebody something either user interface components or a button or something that you can click on to do the undo function as well. That's true for a lot of apps, but some applications will have specific, sort of like specific motion actuated things that don't always have interface component equivalence.

>> So the next two, the next one is 2.5.5 target size. This is really important, you should be considering this from very start when you are building an app or website. 50% of mobile devices are on [Inaudible], target size basically says that pointer input is at least 44 by 44 CSS pixels. It is fairly large area and you don't have to hit a specific area.

>> 2.5.6 is concurrent input mechanisms web content does not restrict use of input modalities available on a platform. What it means by input modalities is that you can use input device that you are most comfortable with basically. You can use your keyboard, your switch device, anything, whatever you have to interact with your mobile device. It should operate exactly the same way, whether you're using native app or web content on your phone. There are some exceptions like for security or user setting. It is basically don't restrict people from using their preferred methods.

>> Some of key area's you want to focus on whether you're creating a native app or web site and you know that's going to have a large part of this traffic go through mobile. You want to maintain visible focus. Any components you include you want to make there's visible focus, color contrast should be 4.5 to 1 or greater for regular font and 3 to 1 for greater or large fonts. Larger fonts you don't need as large structure.

>> You need to pay attention to your structure, things like headings, labels for form inputs, focus order. I think you noticed in demonstration as John was going through it started readings on wrong side of page. Sign in was on right hand side of page, which was fine for that particular app, because I was reading vertically down. If it was multiple things on page it would have been confusing because you see it over here. They need to be able to keep their devices in orientation that's most comfortable to them. That's end of my section. I will hand it off to Rayianna.

RAYIANNA DANIELS: Thank you John, I will be testing tools for mobile accessibility.

>> So starting with flow analyzer, it is automated testing tool that's operated from your desktop. Key feature automatically [Inaudible] highlights area's where issues have been found. The highlights issues once they are found they are categorized based on severity and issue type. If desired you can actually filter based on these categories. So with issue type, you are given categories that include topics like tapable area, lighting controls, color contrast, accessible names. As far as severity, they range from critical to best practices, moderate or minor and also needs review. That's typically for things it believes is an issue, but requires mainly review from you using screen reader or testing tool.

>> The software flow analyzer all though it is accessed on your desktop you can connect to physical device or simulator to run app. It kind of varies between different operating systems. On iOS, when you are connecting to a physical device it requires you to know actually Apple developer ID, if you don't have access to developer ID or you just don't know it for whatever reason, but you do have access to x code simulator and that's is x code iOS simulator, you can run flow analyzer that way without having to use developer ID.

>> On Android you also have option of connecting to physical device or simulator, process for connecting to both is same. So whether on physical or simulating device you would have to download flow analyzer accessibility app from Google play store and use core code or [Inaudible] so it can scan. Once you are connected you should be able to see app in your desktop, it will give you a screen that looks just like this here with image of app you are scanning. One thing about it, you have to scan each page of app, it doesn't necessarily scan entire app. Whatever page you have active at the moment, you press the page and that will be scan. . It doesn't do a final catchall. Any pages you export from scan you can [Inaudible] those to use for whatever you want to use for.

>> Google accessibility scanner for Android is mobile app that basically makes suggestions for improvement. Flow analyzer was on complex side requiring you to connect from your desktop, Google accessibility scanner is app you would download from play store to run on app itself. You still can use simulator. It is aimed at beginners so it gives very basic recommendations and it finds very basic issues like color contrast and labels and touch target size like really surface level stuff. Because the range itself is pretty limited in what it finds I would not recommend uses this or any automatic system tool just alone. You want to pair it with another tool. So getting into essentially how to use it, it is pretty basic. It is an app, once you download it on to device, there's something you have to enable in settings, it will give you a button that will over lay any apnea you open. When you are inside the app that you want to test, you click button and it will test app you want to test.

>> So before diving into the x code accessibility inspector I feel like it's important to provide over view. It allows developers to create [Inaudible]. So, when you download x code accessibility is included as default feature. Unlike the other tools I mentioned it is not automated e testing tool. It actually aids more in manual testing. Essentially it's pretty much just displays information about objects on a screen. So, no matter if you are testing actual app or web site, you can use it for a lot of different things. What it will do is display information, property values about objects within an app and then it will trigger actual methods to find problems within those objects.

>> Since x code runs on Mac books you may be wondering how to use it with mobile app. You can use it with simulator that I mentioned before. Use those 2 to find information about elements in your app. If you hover over a heading it will tell you all information about heading, a button, it will tell you all information about button, function, where it resides and like object tree.

>> The tool itself is actually pretty cool and pretty ‑‑ it works best when you are doing manual testing. . I will say that.

>> So browser inspector tools, if you're developer you are already familiar with them. They are available in most web browsers like Chrome, Firefox, Safari and tools have wide variety of functions like java script code and provided useful information in code. Also ability to test view tools. If you have a web based app that users may access from desktop you can see how that content flows down from mobile or to desktop.

>> Inspector is to provide information to assist technology, like REO roles, hetbuttes and labels and give you information for whatever information you have highlighted. For instance like a button, it will tell you all information you need to know about that button.

>> So, UAAG user agent accessibility guidelines these pretty much explain how to make user agents accessible to people with disabilities. They include browsers, media players, readers, browser extensions and mobile browsers. It basically tells you how to make those things accessible, anything that renders web content, how to make that accessible.

>> Pretty much every UAAG guidelines can be applied to mole browsers. Some guidelines like 1.8 and discusses view point and 2.2 which talks about sequential navigation.

>> Here are the resources that I mentioned before. All of these are pretty good resources and contain a lot of information. Mobile web applications best practices, it covers topics like adequate use of cookies, optimize start time and text reflow. It is a pretty long list. I think it's best for pretty much any developer no matter what your level or skill set, you will find something that you did not know. I will say that.

>> WCAG guidelines is basically the list of 2.1 guidelines it has a great reference to go back to if you are ever wanted to know more or performing a [Inaudible] yourself. It will give you links to other sources and teach you how to understand guidelines as well as assess criteria for each one.

>> W3C mobile accessibility task force. On this link you can find information about task force and stay up to date on their guidelines.

>> BBC mobile accessibility guidelines. It is pretty easy to read and digest if you're beginner. That is it. Any questions?

JOHAN REMPEL: Great thanks Rayianna and John, shorter presentation today. As Rayianna mentioned, some of this is pretty straight‑forward, but you get into deep waters pretty quickly if you are not an app developer. Even if you are and you are familiar with components that's definitely another layer. I would recommend to anyone who is interested in learning more about accessibility, even from end user standpoint or developer standpoint, just start using some of assistive technology built into your phone, both Android and iOS. We provided some resources here in this power point. You need to experience this from end user standpoint and draw people in as much as possible with disabilities. People who use this on a daily basis who may find or point out barriers you may not have been aware of.

>> Any questions or comments feel free to type in chat or open your microphone, you should be able to unmute yourself and ask questions or make comments that way. Hopefully this was helpful for you. I know you all are typically quiter group. As usual we are going to send this out as accessible PDF. We will provide the recording archived and also provide the transcript for this. Tiffany says thank you and thank you for breaking silence ice.

>> Was this helpful and if anybody can comment too, are there other aspects to this that we could have covered that would have made this more valuable to you all?

>> So Tiffany is laughing because she knew I called her on breaking the ice.

>> Dana says thank you, this is outside my wheel house, but it's interested to learn about challenges and solutions.

>> Goal is not to be perfect and make everything accessible 100% of time. Goal is to understand there's accessibility gaps and be aware of them as much as possible. This is not often a [Inaudible] hurdle, it is very often a communication hurdle as well. If you are aware that your apps or content of apps is not accessible, even having a contact e‑mail or person in place and reaching out you cannot access this. Very often that piece of breaking the frustration and there's a real life persona can reach out to them and assist very often can be real [Inaudible] between lawsuit and someone being frustrated and gaining access to that material by other means.

>> George says I have to agree this is outside of my wheel house, but do you have anything like a tip sheet that I can use by doing end user work. I think George what you are referring to is content itself that you are uploading that may be mobile friendly? John brought up a really good point, when you are considering touch point size, considering color and contrast pretty much everything be covered so far in web accessibility applies to mobile as well, especially if it's simply responsive and it's simply responded to particular screen size that you are using, the real estate size. I would just encourage you to whether it's color contrast, creating alternative texts, incorporating headings all of that is transferrable to mobile. Tiffany says same for me, I like the way you think, thank you. Thanks George for question.

>> John and Rayianna, did you have anything else to add?

JOHN TOLES: I posted a link to W3C.org. If you explore that page there's also tips for designers and developers as well as how to handle audio, video media. It gives you some things to look for in your particular area, if code and design is outside of your control, then you can follow these types for just writing content that is accessible.

JOHAN REMPEL: Great resource John, thanks.

RAYIANNA DANIELS: I don't have anything else to add. You guys covered everything.

JOHAN REMPEL: Then thank you for all your work on this Rayianna, she put in quite a bit of time with some of those testing tools. If not any other comments we will close it out. I know you all are very busy. It is definitely a commitment to sit in on these. This is one of the reasons why we like live presentations and opportunities for people to ask questions because they can respond in realtime. Thank you all and enjoy the rest of your day, bye bye.