Meaghan Roper: Hello everybody, my name is Megan Roper, I'm a business analyst level access and I'm here today to discuss with you the next topic in our intro to assistive technology series. I'm joined today by my colleague, Roy.

Roy, would you like to introduce yourself, tell us a little bit about yourself, how long you've been using a TI and what you do.

Roy Nickelson: Sure. So I'm really Nicholson. I'm a senior accessibility consultant here level access. I've been working with and with level access since 2004

Roy Nickelson: There were various incarnations of the name and different things through that time. But basically, basically for 16 years now. I've used at since the late 80s and jobs, specifically since 1996 jaws was invented in for Windows was invented in 1995

Meaghan Roper: Wow, really, really cool. That's so I'd probably consider you expert level in terms of using JAWS. Correct.

Meaghan Roper: That's a fair assumption that's really awesome.

Meaghan Roper: So I want to get into sort of like the introduction to jaws here, first and foremost, I wanted to sort of ask you what is a screen reader like what does it do, how does it help you to access the web and other platforms.

Roy Nickelson: Okay so screen editor basically. Well basically it's a way of interfacing with the operating system. So, the screen reader goes between the operating system and the user is a way of thinking of it so It's your basic level of we'll start with the input, because it's easier any of your keyboard commands our First pass through the screen reader. And then if it, if it's not a screen reader specific commands, such as insert T to read the title of the window. Then it's passed on to the application itself. So if you hit the letter T by itself. For example, when you're in a notepad window. It'll be typed into your application.

Roy Nickelson: So what else is the screen here to do it will basically just read what's on the screen. So let's let's take again or Notepad example.

Roy Nickelson: If you hit the Alt key that brings up your menu bar so it'll say, you know,

Roy Nickelson: It'll say File menu at that point and then you know to down arrow to get into the menu or you can press enter. Also, and video here. Like I items as you explore them any like new and open

Roy Nickelson: And and you will know, based upon what the screener saying how to how to interact with it. You cannot. It also tell you, like when you're in the open dialogue and new tab to the OK button. It'll say OK button. So basically it, it reads or announces what's on the screen.

Roy Nickelson: In ways that so the user knows how to use it or interact with the controls.

Meaghan Roper: Okay, that's a really good explanation of jaws and screen readers. So I wanted to ask you, who typically use a screen reader is like, what, what type of end users do we usually see obviously a screen reader is an assistive technology. So it's often being used by folks with various disabilities.

Roy Nickelson: Right in the most common are blind, low, low vision and also I believe people with dyslexia sometimes use them. So it's really important to make sure that that

Roy Nickelson: That the app or web material is accessible, even from a visual standpoint because some low vision users may be using the product with screen readers well

Meaghan Roper: Yeah, so going off of that you mentioned a bunch of keys that you used a notepad like Alton. Enter. So I wanted to ask

Meaghan Roper: You know, it's my understanding as user myself that screen readers depend on a lot of shortcut keys and keyboard use. So I was wondering, what are some of the like common shortcuts that you use.

Meaghan Roper: With your screen reader, whether it's like doing basic stuff on your desktop or when you're on the web. Like, how are you navigating

Roy Nickelson: Okay, so we're gonna go back even further because I think this is a key point that that may at least by testers be missed.

Roy Nickelson: It's important to know the difference between your Windows command in your screen reader command. So some of the ones I gave earlier like all to get to the menu bar that's a Windows command. If I tell you, Control S to save a file that's a Windows command.

Roy Nickelson: Some of the screen reader commands. Some of the common ones are

Roy Nickelson: Are things like insert T to say the title of the window. Insert F7 to bring up your list of links insert F6 to bring up your headings list. These are jobs commands the last two I gave the ones that start with insert

Roy Nickelson: So in your quick navigation department you use H quite a bit to go to the next heading, or to go to the next table.

Roy Nickelson: F for form field Eve or edit field.

Roy Nickelson: Those are some of the some of the common ones for testers this and more advanced things that I don't guess we need to get into here, but that's kind of a basic overview

Meaghan Roper: Okay, so that's a really good transition that into my next question. So it sounds like a lot of the time on screen meters are depending on HTML markup and other parts of the code to be navigating

Meaghan Roper: You know, through a website or an application. So I wanted to know what happens when a web application or or web content that you're looking at isn't built with accessibility in mind.

Roy Nickelson: Various things it could be

Roy Nickelson: Anything from difficulty with with the forum because the the labels aren't being announced properly, it could be that you can't navigate, as you would expect with the Tab key or it could be that you could I get to certain content at all.

Roy Nickelson: A classic annoying example is if you go to some restaurant pages. They have a menu menu as an image with no alternative text. That's what it would be there because it's greater can't interact with it.

Meaghan Roper: Yeah, that's a really good example I've seen a lot of menus that are either images or they'll also be like downloadable PDFs.

Meaghan Roper: And then it's really hard to try and like download those and either scan them or

Meaghan Roper: You know, try and use OCR to sort of guess what's going on there I oftentimes sometimes we're like jumped from a desktop even to a phone. I'm an iPhone user

Meaghan Roper: To see if like voiceover can do some guests work for me and tell me what's going on there. So yeah, when when stuff isn't built with accessibility in mind and and inclusive it in mind.

Meaghan Roper: It sounds like it can be really difficult.

Meaghan Roper: So I'm sort of, you know, going off of that as well. Can you give a recent example of something that you saw that was like particularly inaccessible like whether it was a website or maybe an app that you were looking at

Meaghan Roper: That just it was difficult to use or you ended up having to find like a lot of workarounds

Roy Nickelson: Probably the

Roy Nickelson: The best example I can think of lately, and I'm not going to say it was, it wasn't client, but I'm not going to say who it was, but there was the rest right and they were using a third party.

Roy Nickelson: Service and the ordering process was not accessible. They, they would went to online ordering only at this point because of obvious reasons. And so

Roy Nickelson: That the worst case scenario at this point was in any Windows browser. I was using when I got to the end of the process, which was difficult because nothing was accessible from the keyboard and labels were missing and

Roy Nickelson: Basically misbehaving what the screen reader in a number of ways. But when I submitted the final order the web browser Christ and motor wasn't submitted.

Roy Nickelson: I finally was able to get through it on the iPhone, but that was even with difficulty. And I know some other users that were using the same site that could not even place an order so

Roy Nickelson: You can get that that was a pretty horrible example, but that was like the last one I saw recently that wasn't client related

Meaghan Roper: Yeah. And the thing that stood out to me the most there that you just said was something that I mentioned earlier, which was that you when it failed on your desktop you tried it on your iPhone.

Meaghan Roper: Is that something that you find that happens a lot. Like if something is not accessible on desktop that you'll lean towards checking the mobile site to see if it works.

Roy Nickelson: Sometimes, but but

Roy Nickelson: In general, General, I find that if you do it on one, you know, work with the other. It's very rare left I did where I can where I can't get through it one and Ken, the other, but it does happen sometimes.

Meaghan Roper: Yeah, well,

Roy Nickelson: I usually find myself gravitating

Roy Nickelson: gravitating towards the desktop if something's not going to work. Or if I'm working, working with something I I tend to

Roy Nickelson: If I have doubted it a worker. I want more control. I'll start with the desktop. And if it doesn't work, I might go to the phone but easily, especially if it's something longer. I'm going to use the desktop browser.

Meaghan Roper: Yeah, so do you generally find that for you like desktop is is a faster experience because

Meaghan Roper: You know some of the recent data that we've been collecting that came out in the state of digital accessibility report from level access this year shows that

Meaghan Roper: There's, you know, slowly been a steady increase in the number of users who are accessing things through mobile devices, because the rest of the world is kind of leaning into, you know, requesting ride sharing through mobile devices or shopping or ordering food so

Meaghan Roper: You know, do you just think that desktop is faster for you, as a user, or do you think in general it's faster experience then sort of mobile devices.

Roy Nickelson: I'm going to go with it depends. So if I'm like, there's certain examples that you just have to do on mobile. If you're going to use rideshare you're going to, you're going to do that on a mobile device.

Roy Nickelson: If you're doing your banking, you might do it on both. I prefer the desktop experience on that.

Roy Nickelson: And that's just because I'm used to it. I've got the full keyboard. If I want to enter some data. I can type quicker. I can. I think I can jump around pages quicker with different headed like navigating my headings or or or links. But again, this is coming from.

Roy Nickelson: Using the internet since 97 probably with jaws and and then just, you know, more recently, but even still that's been like 10 years I've been doing it on mobile.

Roy Nickelson: But I don't know. I've just just just tend to jump to the bigger device bigger form factor devices and the more robustness of a desktop or laptop in this case.

Meaghan Roper: Yeah, that makes a lot of sense. And obviously mobile is really convenient for when you're out and about in traveling, especially for ride sharing or like

Meaghan Roper: I tend to use my mobile device to get information about what's around me and things like that, too. So I can see where mobile is good, obviously, on the go. Clearly, which is why it's called mobile

Meaghan Roper: But it sounds like a lot of the time, you probably have some better workarounds for desktop to I would think, because you've been sort of a user of that longer

Roy Nickelson: That could be

Meaghan Roper: So my next question then sort of intern is can you think of a recent example, or even just something that you use often like a website or application that is like particularly accessible, something that works really well for you that was developed really well with accessibility in mind.

Roy Nickelson: I'm trying to think of some examples that people would use. And unfortunately, I'm not really

Roy Nickelson: Coming up with anything I you know I've done some online banking that works pretty well.

Roy Nickelson: That's something that everybody has to do, obviously, so it's good that that's reasonably accessible.

Roy Nickelson: But nothing is jumping out at me off the top of my head right now.

Meaghan Roper: Can I ask you a question, then, like, for me, I see, like, like you said, often banking is is pretty accessible, especially like with bigger banks.

Meaghan Roper: One vertical that I see sometimes like struggle when I do my online personal shopping is retail because I feel like, for one thing, there's a lot going on on retail sites.

Meaghan Roper: Everything's constantly changing, like the ads are changing the products are changing. They change their layouts pretty often. So do you think that like when you say retail or, you know,

Meaghan Roper: Something like I don't know healthcare or are those verticals, where you tend to see like stuff is a little more accessible for you. Do you see that you know banking seems to always do. Well, it's, you know, things like that.

Roy Nickelson: Oh, pick on retail a little bit

Roy Nickelson: So,

Roy Nickelson: A little bit mention the name of a retailer that everybody uses. But if you do a search on your retailer. My problem is you come up with too many results.

Roy Nickelson: And if it's something that you don't like, if you know exactly what you're looking for the exact name and model of a product you're looking for, for example, you can buy it. But if you're looking at

Roy Nickelson: This product, but you want to look at different versions of that product, then you have a problem. And really, I would almost again as by just because I'm old, or

Roy Nickelson: Would be, did I just want to go see the item. First, you know, if I'm looking at

Roy Nickelson: An example, if I'm looking at water pitcher, for example.

Roy Nickelson: I want to go touch the water pitcher. I want to see how big it is. I want to see how it compared to my old one that broke or whatever and you can't do that on the on the internet. There's just no way to do that.

Meaghan Roper: Yeah, that's a pretty good example. And I guess that kind of transition to my next question as well which is if you could make recommendations to the developers.

Meaghan Roper: Who made a website or application that you didn't have a particularly good experience with, like, what would your recommendation be

Roy Nickelson: Probably the most general one and because it affects most users is it's easy to tech for anybody is check with your keyboard accessibility first because

Roy Nickelson: If you can get to stuff with the keyboard, you're probably about halfway there and then check your other basic stuff like your, your form fields makes it a labeled

Roy Nickelson: Images. Once you get a lot of that then, then you can get them, the more complex stuff. But you see, so we see so much stuff in our testing that they've missed the simple examples of the simple stuff has been missed

Meaghan Roper: Yeah, that's a really, really good point. I've definitely had some instances, I like that you talked about the search results because one thing that I encounter a lot is that

Meaghan Roper: Search results. Often they aren't like there's no heading for them. So it's either really tough to get to them or like I recently was doing some shopping and the focus order of the website.

Meaghan Roper: All of the search filters. I had to tab through like 30 results before I got to the filters and you had even mentioned like

Meaghan Roper: Sometimes you want to look for something you don't know exactly what you want, yet, but there's too many results. So I had to go through all the results to add the filters.

Meaghan Roper: To narrow down like you know some of the search results that I wanted. So ultimately, I ended up having to go through all of them.

Meaghan Roper: But that's why it's really important to have

Meaghan Roper: Like headings or landmarks to let you jump to certain regions, I think. And then also, like, making sure that your focus order is in good shape because

Meaghan Roper: It would have been really helpful if I got to the filter region first so that I could apply a couple filters and maybe drop it from 30 results down to

Meaghan Roper: 15 and then I wouldn't have spent so much time, sort of like looking through all the results. I ended up looking through more than I needed to just to get a filter to see less, I guess.

Meaghan Roper: So, it ended up being kind of redundant to even apply filters. After that, since I had looked at everything.

Roy Nickelson: Right, if it was for the reading order would be nice in and to know that the screen readers don't

Roy Nickelson: Don't necessarily read in the order that you're seeing they read in the order, at least on the web. They read in the order that things are laid out in the dumb document object model. And so it's very important to check your reading order and your tap water.

Meaghan Roper: So speaking of some of these issues that we're talking about. I wanted to circle back a little bit and focus specifically on Jaws. And you mentioned obviously earlier that it's been around for a really long time. And to my knowledge.

Meaghan Roper: Jaws actually does a lot of guesswork and and has some tricks that it can do to sort of help.

Meaghan Roper: Make something that's not so accessible, a little more accessible. So can you maybe talk a little bit about that. Like, have you had any experiences where where

Meaghan Roper: Jaws in particular has helped to make an experience a little more accessible for you and maybe sort of talk about what it's doing in the background to help a user get through something like that. Okay.

Roy Nickelson: So let's talk about the most

Roy Nickelson: basic example of where this happens and and i will kind of give a little history lesson here. So wait, what Megan referring to is if form fields are not labeled properly.

Roy Nickelson: Say, we'll have a first name field. If it's not labeled a new tab to eight jaws may guess and say first name, or in some cases it may guess wrong and say last name.

Roy Nickelson: I've had that happen. But where, where other screen readers NBA specifically will just say edit it this point. And the reason jaws guesses is kind of

Roy Nickelson: His history thing back in the day, back when Windows 95 came out, there wasn't any accessibility really built into Windows. There was some but not really. We didn't have MSA Microsoft. The act of accessibility or

Roy Nickelson: Or later.

Roy Nickelson: Or later UI, which is a

Roy Nickelson: UI automation. And so these have ways of

Roy Nickelson: Providing information to screen readers. So your label attribute becomes the name of the accessible name becomes accessible name so again. So your first name.

Roy Nickelson: Field that's, you know, when you have the label that's the accessible name and and in it. MSA, but anyway, back to what I was telling you. So this wasn't there in the beginning so jaws had to guess based on relationship visual relationship.

Roy Nickelson: Or proximity relationship.

Roy Nickelson: Based on where the label was in relation to the form field. And that's why I chose guesses, because if it goes through its algorithms and it doesn't find an accessible name.

Roy Nickelson: Then it will try to because it's a screen reader. It's not people. It's not just a testing tool. It's a screen reader. So if it can't.

Roy Nickelson: If there's not, then if the information is not provided it will try to come up with something because that's its, its job is to try to get the information to the user in any way can and so I realized it starts to fall back one. Some older techniques.

Meaghan Roper: Yeah. So, okay, you, you said you said a lot there. And I have a couple like points that I'm coming away with from what you shared. So first, I don't know if we mentioned this earlier but jaws stands for job access with screen reader and so

Meaghan Roper: Knowing of

Roy Nickelson: Third party the correction.

Roy Nickelson: Drawbacks with speed.

Meaghan Roper: With speech. Sorry. Job excellent speech. Correct. So, so sort of what it is doing here right is giving access and helping

Meaghan Roper: Compensate for some accessibility issues on the web, which, which is really helpful. So it's literally creating access. But then one of the other things that you brought up, you mentioned another screen reader that we're going to be doing a later episode on called NBA

Meaghan Roper: And one of the things that I wanted to ask you about so jaws obviously is doing a little bit of guesswork will say,

Meaghan Roper: NBA is not doing guesswork. And one of the questions that I often get when talking with folks is

Meaghan Roper: Is one better than the other or should I be testing with one over the other. And usually, my answer is that I think both are pretty robust

Meaghan Roper: Testing Tools and I think you're going to get a lot of value out of both of them. But what would you say

Meaghan Roper: Do you think that Jaws is a better testing tool because it's doing some guesswork or

Meaghan Roper: Maybe because it's doing guesswork. Could it be providing some like false positives, whereas NBA might

Meaghan Roper: I don't know, like, because it's not giving false positives. I'm sort of wondering because I know you work with jaws. Obviously a lot. So what do you think is, is one tool better than the other or they equally pretty good.

Roy Nickelson: Okay, I missed some of those questions. So if I don't answer completely. It can restate it

Roy Nickelson: So I think that, so it's here's where it gets important to point out that there's a couple different types of testing.

Roy Nickelson: Manual and functional testing for functional testing. It could be different. You could get some slightly different results.

Roy Nickelson: Depending on the screen you're you're using going back to the guesswork thing we described earlier, however, that being said,

Roy Nickelson: Really fights coded correctly, you should not get that much difference with the with between the screen readers, where

Roy Nickelson: Where what we do comes in handy is there's commands and jaws to see certain element information so we can see parts of the underlying HTML code quickly with some jobs commands.

Roy Nickelson: And I like to use some of that when I'm looking when I'm testing stuff to see what's going on behind the scenes. But really, from an end users perspective.

Roy Nickelson: It, it's getting to the point that at least on the web, it's six of one, half dozen of the other. If you're testing a native app in person.

Roy Nickelson: Or a native Windows application, and particularly something that might be a little bit older, or in house custom applications, you might get some better results with jaws.

Roy Nickelson: Just because of some more of the legacy support that I described earlier. But really, from new modern office web, that type of thing, really, it shouldn't for the end user, it really shouldn't matter too much.

Meaghan Roper: So yeah, so it sounds like what you're saying is that like effectively when it comes to sort of end user testing or use case testing sort of the functional testing how usable, something is jaws and and vda are going to be effectively the same but you mentioned that

Meaghan Roper: There's a couple of advantages to testing with jaws, in particular, like you, you like to be able to sort of look at what's going on underneath everything and understand like, Okay, what's happening here that is making something accessible or not accessible for me. Right. Yeah.

Meaghan Roper: Okay, that's really interesting because I hear this question a lot from folks like should I be testing with one tool over the other and and I often say you know i i agree with you that

Meaghan Roper: You know, I think, effectively, you're going to get the same sort of idea of what your end users are experiencing.

Meaghan Roper: Which is pretty good, right, because obviously jaws comes with a price tag and NBA

Meaghan Roper: Currently is free and is available freely to the public. So NBA is a good choice for somebody who maybe is just starting out with accessibility testing or

Meaghan Roper: You know, is is new to it, or just trying to learn how to use a square meter or maybe doesn't have it in their budget quite yet.

Meaghan Roper: But it sounds like jaws. Although does have a price tag with it. There are some advantages to using it because like you said, there's some legacy support there. And also you can do a couple of other things with it that you can't necessarily do with NBA

Roy Nickelson: Yeah.

Meaghan Roper: That's, that's pretty good. So overall, I wanted to ask you, are there any like lasting thoughts that you would want to

Meaghan Roper: Or sort of concluding thoughts rather that you would want to share with listeners about jaws and about screen readers and accessibility like anything that somebody should know if they're brand new to screen readers and assistive technology.

Roy Nickelson: Not that I can think of.

Meaghan Roper: Just make sure that they're building everything as excessively as possible with accessibility in mind from the start.

Yeah.

to end on. Well, thank you, Roy. I'm really glad that you were able to join me today to talk about jaws. This has been some really good conversation and I look forward to chatting with you again soon.

Roy Nickelson: All right, thanks. Megan.

Meaghan Roper: All right, I'm going to stop the cloud recording here.