

- Well, I think a lot of times when it comes to accessibility, we get an interesting results. So, there's a group from WebAIM, so this is a group outta Utah State University, and they studied a million homepages, and they ran them through their automated tool to see how accessible they were. So, they ruled out, for those who aren't aware, and we'll get into this in a little bit, there's lots of things you can look at for accessibility. There's some things that a robot can look at, and know really well, and there's some things a robot can look at and go, "I don't know," right? So, they looked at a million home pages, and they wanted to see how much inaccessible stuff was out there. And so, what they found was that the web is a perfect place, it's really accessible, we don't have to do anything, we can go home. No, what they found was that of every set of elements on a homepage, and these were the million most popular home pages on the web, one in 13 were a blocker for someone with a disability.

- [Audience] Oh, surprisingly low, actually.

- Yeah, it is lower than a lot of people think. But it's still, that might be your Google tracking Pixel, so I don't care. That could be your buy now button, and that could be the funnel for my email address to get you into, like, me into the sales process. And so, like, they could be little things, but they could also be pretty something major that's getting in the way of somebody with a disability from actually getting something done.

- [Audience] Or like the IRS.

- Right. So, and I think one of the things that there's kind of a misconception out there is that, well, a lot of people figured out accessibility, like government websites, or corporate, or big enterprises, and really, this is across the board, right? And it's kinda fun, you can go to this website, punch in your website and see how you rank when it comes to accessibility. So, as we look at accessibility though, a lot of times what we come back to is, right, small business owners have a chance to work on something, they've got 20 minutes. SEO or accessibility, right? They're gonna work on their search engine rankings. Because that's where the revenue is. We know that one out of, we know that 20% of people, or one out of every five has a disability of some kind, and of that, half of those people have a severe disability. Significant disability meaning that it impacts part of their daily functions, on a, you know, to do something. So, but still, SEO, right? We know that 100% of people are using a search engine, so let's work on that. So, when we look at the web content accessibility guidelines, right, these came out in, they were first released in... Excuse me, they were first released in the late 90's. They're updated in 2008. They were updated just this year. The next set's coming out in a few years, right, so these are not, they don't change that often. And so they have these four tenets that a lot of times for accessibility are gonna help a lot of people. And so, when we talk about web content being accessible, right, the first part is, is it perceivable? In other words, can I see it, right? As a low vision person, can I see it, and can I understand what's going on, right? But it's also, can I operate the website, right? So this may be like, I can't use a mouse, but can I still get through your website? Another part, right, I have to be able to understand your website. So, this could be somebody with a learning disability, this could be somebody with a screen reader who hears a giant block of text. They might not understand how all these pieces fit together. Somebody

with a learning disability might struggle to understand how your site is organized, right? And then the other tenet is, is it robust? So does it work with all kinds of different assistive tech? So a lot of times when we talk about SEO rankings, we can also be looking at how those relate to these four ways. Yet still, a lot of times, we end up with accessibility looking at specific users, right? So the key one that we end up looking at is users who are blind, right? We talk about screen readers, we talk about accessibility, we talk about screen readers, and I think sometimes that's where we stop. Right, but there's all these other disabilities to think of, about somebody who maybe have limited vision, or somebody who can't use a mouse, right? They might be deaf, right, so are we providing closed captions on our videos? Are we making it so that, maybe there's some kind of audio cue that you have a new message waiting in your online chat window, but you don't actually present that in a non-auditory way. Right, we might have users who have a learning disability, and we might have users that we can't even think about. So, the idea with disability is that it's gonna cover a really broad swath of people. It could even cover people who have a seizure disorder, right, and so if we have blinking, flashing content, we have animating content of any kind, that can, if we do it in the wrong way, we make it too fast, right, it could trigger somebody into a seizure, that we'll never know about, but they're sure not gonna shop from us again, right? But still, a lot of times accessibility ends up like this guy, Milton from Office Space, right? It's like, has anyone seen accessibility? Can we work on accessibility? It doesn't get the attention that we want it to have. And so, we end up with kind of this argument between, are we SEO doing SEO today, are we doing accessibility today? And it naturally, right, we always end up with that, but what I'd like to sort of challenge us with, is that maybe we get rid of this idea of being SEO versus accessibility, and instead we try to put the two together, so that we can make our sites more search engine friendly, and more usable for everyone. So, I think one of the things that we've been talking about here, right, we've talked about the different ways that SEO could impact some of these areas, and that could impact accessibility as well. So, are there, of those things that we mentioned, right, we talked about alt text, or images having an accessible name. That makes sense from a SEO perspective. And then for somebody who's blind looking at that image, right, if we've keyword stuffed that description,

- [Audience Member] Still inappropriate, yeah.

- It makes things a little weird when I'm on a site, and I'm hearing all of your keywords, followed by an image that really has nothing to do with that. It's like a picture of two people having a beer, right? Which may relate to the article, in talking about how to create a great workplace culture, right, but if you're trying to rank for, you know, all the great things that you do for workplaces, that's probably not gonna be part of it, right? And the same goes for all these other categories of, all these other categories of things that could be impacting people with disabilities, and search engine ranking. So, what I want us to think about today is that we're always gonna be working on our website from a quality perspective. We're always gonna be looking at it, saying like, "Oh, do we have broken links? "Do we have misspellings?" We're also gonna be looking at it from an SEO perspective, and as we make improvements for quality, right, we're gonna be able to double our impact to SEO, and triple our impact when it comes to accessibility. We're just gonna keep incrementally growing as we go through this cycle all the

time, because as we know, right, your website's never... You might pay someone to redesign it, but it's not gonna be there for very long, and you're just gonna redesign it in a few years, if you haven't already updated it with a ton of content. So the Americans with Disabilities Act passed in 1990. Has been generally said that we need to apply the principles of accessibility to buildings. We have lots of great standards about doors need to be 32 to 36 inches wide, you need to have elevator buttons within reach, you need to have ATMs within reach, but the idea came along before Al Gore invented the internet, right, so we don't, it didn't speak about accessibility back then. It's been updated several times, but it still doesn't speak about digital accessibility directly. So section 508 comes as the idea that government websites need to be accessible. So, when those laws were updated, right, they said specifically that last, two years ago they said, here is what this means, right, and it's about the accessibility content, web content accessibility guidelines we've been talking about. But, that leaves out the private sector, and so what's happened, right, is that there's all kinds of lawsuits that have happened around accessibility, that are targeting, I used to, we used to use this presentation, we would put up the names of some of the big lawsuits you might know of. But if I were to do that today, right, we'd have every single company in the U.S. pretty much listed up there. And, a lot of them are doing great work for accessibility, and they're still getting sued, right? The people who made it possible for me as a blind guy to use the supercomputer in my pocket, got sued for accessibility, even though I use it every day. So, how do we make sure that we're doing the right thing, and that we're protecting ourselves from risk, right? It's just about making the website accessible in the first place. So there's a lot of people out there that are trying to now use the courts to say, "Hey, your website has to be accessible, "just like your business has to be accessible "for somebody who uses a wheelchair." And the point of all, you know we could go into all those different court cases, but in general they're all coming out with the same result, that, look, if you have a website, you need to make sure that people with disabilities can use it. If you're using a partner to build your website, you're still on the hook for their work. If you're a company that works with another company, so if you're a grocery store that has a pharmacy, but all your pharmacy stuff is run through a partner, you the grocery store are still responsible for the accessibility. So it becomes everybody's job, when we talk about accessibility, and we look at litigation and legislation, all about it. So what I'd like to do is talk about this really important part that people with disabilities are shopping online. And, this is always creating the question though, of when we go to work on accessibility, and a lot of us have heard this, right, is this a nice to have, or is this required? We always hear this. Well, we know we need a better user experience, but that's not legally required. Accessibility though, is that, is that just, are you going above and beyond what we have to do? Are you trying to put all your favorite user experience changes into this accessibility, so that we'll fund them and fix them? So a few years ago, a friend of mine, who's since passed on, was talking to a pretty major corporation, and she was in the room with them. They are a big box store, and she was telling, they were arguing about, well, yeah I know that you would like to access that this way, but we've done it this way, and she got so frustrated, she stood up and said, "You know what, I am trying to give you money. "That's okay, I'll just go to Target," right, and she left. And of course she came back in, but point being, she knew, and they knew that Target has done a really great job with accessibility. Other big brands, big box stores, big online stores that we all use everyday, don't. And so, as a result, I personally pay a premium to do my grocery shopping at Target, because I

know I can do it quickly, and I know that if I put items in the cart, my wife can add things to the cart, and we can checkout, and all is great, because it's accessible, because they've invested in it. I know I'm probably paying 20% more for most things than I would if I shopped on Amazon, but to me it's worth it, because I can do it on my own, and I can do it independently. So I wanna talk through some of the common barriers that folks face, when it comes to accessibility, and we can look at any one of these, and I would like to sort of have a discussion with all of you about how we can make this more sustainable for ourselves, right? We're in, you know, the space that is full of folks that are building websites, and doing everything online, and yet so much of the internet, right, one out of every 13 things on a homepage, is not accessible. So, we wouldn't allow a website to go live, looking like this, with a broken image from Google in the middle of our homepage. But yet, we're willing to let it go live when a screen reader user is gonna hear image, image, image, image. And maybe it's labeled by the way that it came out of the digital camera. Maybe it's labeled by some kind of fun awesome attribute. Maybe this is supposed to be that this is your user account, that you can login, and take care of your, change your credit card, those kind of things, but yet, all that a user's gonna hear is, user circle, and not know what that means. And so, I think we need to find compromises between how do we sort of, as folks have mentioned, use images appropriately, label them appropriately, but yet also make sure that they're usable for folks with disabilities? We did a series of blog posts targeting a specific group of people. It was kind of a, blog posts that were meant to attract an LGBT audience. So it was a picture of, say, two women standing over a checkbook, and the article was about combining your finances when you get married. Right, or it was a picture of two guys walking with a baby down the street, and it was talking about buying your first home. And so one of the things that we do with accessibility law is we say, "Oh, is this image decorative, "or does it have a purpose?" And CaptionMax has a tough job, right? So they do the audio description for shows like Chicago Fire, which is my guilty pastime, my stories. Right, it's not exactly wonderful television, but, you know, it's fun. And so, you know, you have a lot of action going on, but you also have the richness of sound. You also have the dialogue, and you're trying to put in there the most important part of what's happening onscreen, but yet you wanna add a, oh I have an extra second, can I add a little color to this? But I don't want too much, because I still wanna let the audio breathe. That's a tough job. So, I think one of the things that we have a lot at work, is we have a lot of people posting gifs.

- [Audience Member] Yeah.

- Gifs, for some of you, but it's gifs. And, which is just really weird that it's jiffy. But anyway... It's peanut butter, or a great, funny... So in those instances, right, I've had some fun explaining those. So I have some friends who are blind, and I would explain. They're like, "What is this gif thing? "I don't get it." And I would have to explain it to them like, well, it's, they're like, "It's just like a little quick movie, right?" I was like, "Well no, because it just keeps looping." I was like, "It's kind of like I pick up an apple pie, "and throw it at you. "I pick up an apple pie, and throw it at you. "I pick up an apple pie, and throw it at you." Right, like that's the point of the, that's what kind of what makes it funny. Right, but at the same time you, you need to add some kind of description. Because obviously everybody's laughing at this picture of, you know, in Slack all I see is image, and turns out that it's Milton saying, "Has anyone seen my red stapler?" That

makes it a lot more funny to know that, than just an image. But I think back to our example though, right, we have a blog post for an LGBT audience. It's got pictures, it's got headlines, right. I agree with, that it's, those were decorative images, and so I showed this to a friend, I was really proud of the work we did. We made this whole thing really accessible. And I showed it to a friend of mine, and she's like, "This is really interesting." She's like, "Why aren't there any pictures on this site?" And, I said, "What do you mean? "They're just decorative, "but what kind of pictures are you looking for?" And she's like, "Well, tell me what some of them are. "I'm just curious." So I told her about the images. And she said, "Those aren't decorative. "Those images look like my family." She said, "Reading the posts, I would just think, "oh, it's just posts about getting married, "having kids, moving into our first house." She's like, "But now, you're telling me that, "you went out of your way to pick a non-traditional image, "like that appeals to me in a different way." So, I think one of the things that we have to struggle with, is we know we don't want this, broken image. We know we don't want image, image, image, right, but we want to convey some of those images as, you know maybe this is a user account button. Right, we're adding a label to that, in a new way. Another common example we see on the web, when we talk about perceivable, right, are these really modern hip looking forms. Sort of proving my point on this TV that you are supposed to be able to read this really faint text to know that your first name goes in this box, your last name, your email address, right? All well and good, except as a screen reader user then, I start to type, and I no longer know what that field is for. Right, or even worse, I click into a field, and as soon as I click into it, that label disappears. So the only way for me to then know what it is, is then I have to go to this field, the last name, to then see that's my first name, to then go back to type in my first name, to then hope that I got it in the right spot. And then, sometimes, you know, even worse right, all that happens is your email address just turns red. And you're like, oh, that's wrong. Right, now you're color blind, or you're on a bad projector, or a large screen and you can't tell the difference, and you're like, what's wrong with this? Why isn't it working? And so, moving to something that's so old-school, right, of actually having labels, and form fields, right, makes these more accessible for everyone. So, can we make this technically screen reader usable? Sure. But if you remember, we had six populations up on the screen, of people with disabilities. All right, and so somebody with a cognitive impairment, who may literally have typed out part of their email address, or just clicked in to type their name, they've literally forgotten what that said, because of short term memory loss. Or, somebody with low vision doesn't know what this is for at that point. Or because they can't read maybe that faint font color. So if we go with something more robust, right, we're gonna end up with a system that can work for everyone. So I would challenge you that, this takes up a lot more space, I agree. And maybe there's some kind of happy medium between these two, that I've seen. See me after, I'll give you all kinds of geeky code to do something fun. But, I argue that sacrificing some real estate, versus somebody being able to actually sign up for your service, or buy your product, I think we would all choose, I would want someone to buy my product, more than I would want short real estate. But yet, we always want both, and so we just go, well, 80% of the market will be fine. But again, we're leaving money on the table with that 20%, who, by the way, tend to be more loyal shoppers, who tend to stick with a brand far longer, right? Look at me. I don't go to five sites to check out who's got the cheapest version of Tide today. I go to Target. I know it's accessible. I know I'm not gonna have to fight with it. Cool, done, right? In the same way that so many of us are wired to the app that

just happens to come up first. But you might be more apt to comparison shop than say I would be, just because I'm expecting one in 13 things on the site to be broken, and I don't wanna deal with it today. So all of these, it's kind of like world hunger, right? World hunger is a solvable problem. We just happen to have some societal problems in the way, right? Same thing with accessibility, right? We know the code. The code's been out there since '98, 2008, 2018, but now, we just need to actually take the time to put it in. But usually we're so rushed through it, that we're not giving it that thought. Or, sometimes what's happening is that we're gonna be going through something like this, right, and we're gonna have... We didn't actually even write any of this code, right? We had these magic elements, and I just told it I needed contact info. Boom, done, right? And it just so happens that somebody else's code, that's built from somebody else's, that's built on a framework, that's built on something else, didn't take into accessibility, didn't take into account accessibility. So it's kind of like outlining a term paper at school, right? We would have our level one headings, was the thing we were doing, and then level twos all related to each other at the same piece, and then we would kind of go in a level, and we'd say, "Oh, here's some subpoints," and we'd come back out, we go back in, right? It's the same way that a screen reader user's gonna use those headings. But, what ends up happening a lot of times is that we say, in a page like this we would say, "Well, yeah the H1 should be the important thing, "we all get that, but H2 is big, and bold." Well, I don't want it to be that big. I'm just saying this is a checking account. I don't need it to be big, and bold, and flashy, and in your face. So I think a lot of times what we find is that our design systems have not separated the idea of headings from their size and shape. So if you go into Microsoft Word, for example, next time you're at your desk, and you go up to the top ribbon, you'll see all those different styles that are designed for you, and a lot of times if you're even using those, it's a great way to save yourself time, but a lot of people don't, but if you're using them, people go well, that H2 is still too big. That H3 is still too big. I'm gonna grab the H4. Oh, now I need something a little bigger, I'm gonna grab my H3, right, so now you've kind of thrown that order out of place, for somebody who is listening to that page, rather than looking at it. Might look great, but functionally, it's challenging. The good news is, screen readers and search engines work the same way. Search engine likes to understand those headings, so that it can understand the flow of a page, right? Same thing with bulleted lists, right? This sounds so simple, right? We talk about this in content marketing, that you should have really easy to consume things. No one likes to read anymore. We just wanna skim, right? Well, good news is that those lists, when they relate items together, are gonna help everyone. So the other, the other pieces of understandability, right, so here we have a page that's like embedded, a PDF of a form. Someone mentioned the IRS earlier. So, you know, they sometimes will do this, where it's like, oh I wanna make this web application, but you're so used to the paper form, I'm not gonna bother to reflow it. Imagine doing this on a mobile device? Right, we're gonna run into some trouble, because you end up with links that say like, read more, about what, right? Buy now, about what. And, especially when you're going to land on something that you're not sure what it's gonna do. So, when we adjust those links, to make it clear where we're gonna go, then it's gonna help search engines, right? Here we have really descriptive link text, for a search engine, but we also are also making a lot easier for somebody to understand what's going on, rather than these same links that are gonna tell me to read more and learn more.

- [Audience Member] Or, click here.

- Yep. Right. We've known that click here doesn't work anymore, right? We've moved away from that. Now we'll make the link the action, right? Answer now, buy now, login, right? But, we haven't made that leap, sometimes with, when it comes to assistive tech. Right, and so, you know the examples that we have, right, often lead to forms like this. So it's like, oh I'm gonna read more, and here's an inaccessible image that I get, or an inaccessible PDF, that looks like what I want it to look like, but yet, that's not gonna work too well on a phone anyway. It's not gonna work very well for a lot of users. And so, a lot of times when we keep something simple, we're helping somebody who has limited cognitive ability, or limited learning. Maybe they're taking in information at 20, they're only seeing 20% of their screen at once, or smaller. Or making it simpler for everyone. I'm sure all of you are on social media, right, and so a lot of times we don't think about accessibility as it relates to social media, either. So, here we have, right, a picture, and then this, when all the conference rooms are booked at Siteimprove Minneapolis, and we talked about this a little bit earlier, when it comes to Slack, right? Good news is that the social media platforms are keeping up with us, and that they are starting to allow us to put in alt text. So, alternative text, accessible names for these images. We can make that clear, as to what should happen on those. So we could instead put in some kind of a description, of what's actually happening in that image. So as we do social media stuff, right, we talked about the alt text, it's also important too that we look at how we're going to, you know, be using our hashtags. So, search engines, or screen readers, sorry, read hashtags, just like search engines do, and putting all of that in lowercase together, right, is kind of impossible for all of us to read, and we're like, what, sort of trained to break that apart, right? Screen reader user is just gonna hear a really odd mash of letters that's gonna try to be pronounced. And we start to kind of use that CamelCase of a hashtag, right? Screen readers pick up on that, search engines pick up on that. More importantly our users pick up on it. And then, also be thinking about, for videos we talked about this when it comes to CaptionMax, right? So, we have a video on our social media page. Are we providing a link to a transcript for somebody who can't process that video as quickly? Or, maybe they don't want to watch the video because of where they are, and they're happy to read what's going on. I've noticed a lot of videos on Facebook, for example, starting to just have closed captions for everybody, so that we can be secretly watching, or going through our feed, and watching videos, and commenting on them, without anybody necessarily needing to know we're doing that in the middle of a meeting. And then, also we're thinking about audio description. So believe it or not, audio description is not an above and beyond requirement. This is me on my soapbox for a second. It is considered as one of the lower hanging fruit of accessibility. It's also one of the more expensive parts of accessibility. But think about it. If I give you an episode of, if I give you Office Space, just go back to that example, and I give you a giant book and I say, "Cool, go watch Office Space, have a nice weekend," now I give somebody else a CD, or a DVD, give somebody else Hulu, are they gonna have the same experiences? Not at all. But, is that better than nothing? Sure. But I think we need to think about, we used to think that closed captioning was expensive, and inaccessible, and tough. And, only benefited those users who couldn't hear. And now, whole bunch of people in bars figured out that closed captions were really helpful, and now it's extending down to social media. PowerPoint's starting to do this now, brag on Microsoft for a second. You post

an image, you copy and paste an image into your PowerPoint presentation. The first time you do it, and you get a thing that pops up, and yells at you, and says, "Hey, you should probably add alt text to this. "We've made it really easy. "Just right-click and say Edit Alt Text. "If you want, we'll even try to generate this text for you. "We've generated it for you anyway, "even though you didn't ask us to. "Until you tell us not to, "we're gonna keep doing that. "Image appears to be a screenshot of a social media post, "generated with 50% accuracy. "Hey, is this right?" You say yes or no. You say yes, cool, we move on. You say no, it's gonna prompt you to fill it in. So, what we'll hear a lot, what I'll hear a lot of times if I post a picture of my son, right, it'll say, "Picture may include boy, "young boy, soccer ball, trees, outdoor." It maybe will figure out that he's playing with the soccer ball. It may figure out that he's smiling, those kind of things. But hey, that's a lot better than image, image, image. Especially on a platform like Facebook, which almost no one writes anything on anymore. So really, you know, when it comes to how we can make accessibility part of our organization, right, it really starts with being a champion for it, which I would applaud all of you, right, because you're here getting kind of the, you're aware of accessibility, and now you can take that back to where you work, where you live, right? But really it's about noticing that, even in your external environment, as you walk around, and you see things that aren't accessible. As you see that fancy new technology, and you go, how would somebody who can't reach that screen use it? Oh, there's some buttons down here. Let me see what happens. Let me experiment with this, and go, wow, well yeah it's here, but this provides a very different functionality. Or maybe you're in a hotel, in Los Angeles that's hosting the International Accessibility Convention, and you have elevators that are smart elevators. You actually pick your floor before you get in the elevator. It's pretty smart, actually. If there's five of us going to the fourth floor, we don't need to get in five different elevators. And so it's kind of like a shuttle system, in that you, it's like, go to elevator C. And you get in, and you wait, and then eventually, right, it takes you straight to your floor. I've wondered sometimes what happens when you hit the wrong button, but it turned out that you had to actually get out, call a new elevator. But, that's a system that, on the looks of it, was a touchscreen. Below it was a phone keypad, and if you pressed pound, it activated a speeched mode, right, and you could type in your floor, and it would tell you aloud, where to go. And it would even tell you, you know, elevator C, behind you to your left. So those kinds of things, though, notice in our environment, and pickup on, and then we might reward those brands with our business, right? We might also be looking at the ways that we're hiring people. We might intentionally go hire people with disabilities, because we know that they're gonna see the world differently. They might be just as capable of a developer, but they're sure gonna bring a different level of accessibility to their code, and not to say that we shouldn't hire able bodied people, but we also should give opportunities to people who, you know, 70% of the blind people, who are unemployed, right? And then, we should also be looking at the ways in which we're partnering. Are our partners that we're working with accessible? Are we demanding it of our partners? Are we putting it into our contracts, to say this is something that we are gonna require? But we can also look at this from an internal perspective, in the way that we do business, and in the software that we buy. So, when I had to go buy time management software for my team, now, it just so happened that I needed to be able to use it, but even still, right, I've had other teams say, we're buying a virtual meetings client. Should we buy product A, product B, or product C? Maybe they're all the same price. Maybe they all kind of do the same thing.



And so maybe part of your determination becomes, well I don't have any employees with a disability right now. You probably do, you just don't know it, and they haven't told you, but even still, I don't have anybody with a physical disability, but let's get ready so that we don't have to make a giant switch when that person comes, or make an accommodation. Let's just buy the one that's more accessible. Let's buy the one that's really forward thinking, as that's probably gonna cascade to all the other ways that they do business. And so as we wrap up, right, we talked about sort of using your, unplugging your mouse and using your keyboard to navigate your site. You know, imagine that you're, you can only see part of the screen at a time. So all of you right now can do this, like with your hand, right, and you're sort of seeing only a few words at a time. Imagine that I've got some text here, but the link for it is way over here, right? You may not get there, you may not see it. That's something that you can do on your website. And then you can also run automated accessibility tests. Right, Siteimprove has a Chrome extension. There's lots of tools out there. Just hit your site, grab the extension. It'll tell you what are some of the low hanging fruit that you can probably work on right away, or that you can yell and scream loudly enough and get somebody else to do for you as a developer. So, as we close, right, we've talked about SEO versus accessibility. Talked about what happens when we marry the two, and what if we just thought about the two of them being equal to each other? Equally important, equally doable, equally solvable. Then we can really make some big changes for everyone, and truly, make the web for everyone, as it was intentioned in the beginning. I can't tell you how many times we were so excited as a blindness community, when a book was come, when Ebooks came out. We're like, this is great. Ink and paper was never that accessible. Now it's gonna be digital. Zeros and ones, we can hear it. Oh, it's just scanned images. But what about, when we think about that book could have big SEO impact, and a big accessibility impact. We can really make some change. So thank you all for being here, and look forward to continuing these conversations.