February 2022 IT Accessibility Community Meeting Captioned Text

The February 8, 2022 IT Accessibility Community Meeting was hosted as a virtual meeting by the General Services Administration, Office of Government-wide Policy.

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# --- BEGIN CAPTIONED TEXT ---

Glad you are here with us. Anyone else hear from outside of the DMV? We have a Lauren, too, from Indianapolis. Minneapolis in Indianapolis. Cool. Portland, Oregon. Cool. Yes. Wyoming, it is cool out there. Silver Spring. I love it. Okay. I am jealous, Santa Rosa, California. Atlanta. Asheville. North Carolina. Arizona. Texas. Okay, Jenny. I see you. Now we say Baltimore. Minnesota. This is wonderful. I love it. James, I will take Australia by way of Virginia. That is okay. All right, guys. We are going to go ahead and start. Northern Colorado? It is cold. So I want to welcome everyone and thank you for joining us. So, this year, we decided to really think about which way we are going. And, when you think of change, or when I think of change, I always think of change that I want to see starts with me first. This year, we will be focusing on being at the change in accessibility. That means, you be the change. The change you want to see. So, with that said, we will be looking at different ways you can be that change. On today, we will be looking at design and development. How can you be that change as within design and development? So we have two presenters today. We have Shawn Garmer from SBA and then we have Bree McGowan from GSA. So I want you to not sit back, but just listen and take it all in. Look at how you can be that change. So I'm going to turn this over to Sean. And Sean, it is on you.

Okay. Let's get started. Hello, everyone. I am Shawn. Coming to you from the SBA. Over here, I'm often referred to as that 508 guy. Sometimes they have love in their heart, and sometimes they don't. I am here today to share some ideas with you for managing, checklists, and using them to measure progress across the organization. So we get on this checklist treadmill, kind of, when customers ask us for a checklist. You go in to talk to them about doing accessibility and testing, and you hear them say, have you got a checklist that we can use to help us do this easier. And we then went to help them, so we spend a lot of time making checklists for the customer or seeking them out. Trying to find who has got the best checklist out there. And we end up trying to put these together for our customers did and we then spend a lot more time making guides to help the customer use the checklist. And we kind of get stuck on the treadmill. We give the checklist to the customer. We are all thinking that this is going to make them happy. It is going to make it easier to do the accessibility testing that we want them to do. With and also take it a step further. We spend time training customers on how to use the checklist. And how to do the individual checks each step. And for every product out there that comes along, we end up having to do this over and over again. Does this sound familiar to any of you? Just answer in the chat, yes or no. I am seeing a lot of yeses. So we are in this together. So then, you know, some time goes by and we get disappointed because we later learned that the customers are not using the checklists. For various reasons. Sometimes it is personnel turnover. You have went in and you have gained some cooperation with an organization, and then they have declared they are going to start doing it. You give them the checklist, but later on you find out well, no. They are not using the checklist at all. We do not have any way to track it to see if they are using the checklist or if the checklist are even useful to them. We don't get any feedback, really, from them. Usually what we get is more complaints. Well, are five white person left. So we do not do it anymore. We want to try something a little bit different. And our solution has three main goals. First, we want to give the customer something that they will want to use. Something so they get something back in return for their efforts and not just another list of demands or a to do list. We want them to want to use the checklist. The next thing it has to be is it has to be easy. Easy for us to manage. Because we create these checklist, we spend the time, all the different formats, we publish them in different places, the guides are also having to be updated and kept, and so we wanted to have something easier to manage for us to maintain. Because, I do not know about you, but I do not have an army on my team. So the other thing is we wanted to get something measurable. How do we measure usage across the organization? And without having to go and ask anyone if the checklists were being used. So our solution has two main components, and a third, maybe if you count the third one. And we looked around and we said, what do we have at our disposal? We don't have to go out and buy anything. Most of all of us have a SharePoint. So our solution consists of a couple of SharePoint lists and some HTML pages. The SharePoint lists, we use one of them to hold all of our checkpoints for all of our checklist. And putting them in one bucket, we saw some added value to that because we were really able to hone our questions. You know? For each checkpoint. I will give you an example. If you look across several different checklist for different products, you see similar questions for the same thing. For example, color and contrast. So it doesn't matter what the product is. You basically check the color and contrast the same way. Making sure those questions were worded, we start building some recognition across the different products for people using the checklist. And then we used HTML pages to give instructions of how to do the tests. And you will see that in action here in a minute when we do the demo. The next component we used was power up. And we did this for a couple of reasons. One, it was free, so to speak. Was part of our office 365 already. Another thing is we wanted to get our hands into it a little bit so we can start learning it, because I know people, when they get something like this, they start making apps. And then they will turn to us. Now, how do we make it accessible? We wanted them to learn how to use this product some. And we was power automate to some degree with this. I would be remiss if I did not mention the tremendous resource the folks at Section 508.gov have for us in the terms of the various guides and checklist. Some had plenty of something. A resource to pull from as we developed our check points and, of course, we wanted it to be in line with the AED C.O.P. C.O.P. So now I'm going to demonstrate our app a little bit for you.

Hello? Shawn?

Yes.

Question. What is AED C.O.P.?

Accessible electronic document community of cactus. You know? I thought about spelling that out? And then I didn't. I mean, I am working on sharing my screen. I am sorry. How is that?

We are good.

Okay. So let me close that, too. So what we have here is the home screen of our 508 assessment app. The first three fields are automatically populated. They are the tester email, the tester's full name, that is captured from the display name, and the testers organization. And the tester, in this term, is anyone who uses the checklist. It could be an excellent visibility tester, or could just be somebody wanting to check their document. The next field, you have a pulldown menu to choose your checklist. In this case, I'm going to select PDF communication. And I will say something about the naming of our checklist. We wanted to name our checklists to give an indication of when it is supposed to be used, and who is supposed to use it trade. So we named our checklist a little bit differently. So they select their checklist, and they have to type in their filename. And there is an optional field after that for if you wanted to add a reference I.D. Some people have some sort of tracking system that they are already using and they want to link to that. That is optional. And then we have a start button and a cancel button. Then it becomes enabled. So if we click start, that brings up our checklist. At this point, I told you before, we stored all of our checkpoints in one SharePoint list. What this does is it is only now focused on the checkpoints that are for that individual checklist. That is what we will be working with from now on in this particular checkpoint. So the first, the very top of the screen, we have a return to your home screen button, and we have a button to exit the application. The next thing they encounter on the ribbon is the filter by category. The side of the screen, you have the categories that you can select and navigate to filter our list down at just what you need. You can also hide the categories. If you hide it, you're not going to navigate to it and you will just jump right into the checklist. If you click the report, it will send you an email report Oma and it will include all the answers your checklist and some additional information that I will show you as we move onto the demo. You have a reset button. There is some information for the user next to that. That shows how many checkpoints are total in the checklist. How many of them are visible, how many of them are showing. If you filter down your checklist, it will show that number. How many of them you have answered. So, if you wanted to just focus on things that are in your document, you can select a category. And it will only show the checkpoints that you have for that particular category. And if you unselect it, it shows all of them again. You are free to do short checklist or full checklist trade it depends. Ever how the organization works. I wanted it to be flexible. But we do consider if you are doing something for an official accessibility test to be considerate of full tasks. You have to answer all the questions, and mark some of them. So the way the checkpoints are answered is, in each checkpoint, there is a pass, fail, radio button. In some the questions having an a option as well. If that option is optional, as in that element may not be in the document and may become N/A. There are a lot of questions were is not optional. It is either pass or fail. We have a way of distinguishing between those types of checkpoints. In the next, we have the comment field where the tester can give their customer a clue as to where the problem is. What to look for. What page to go to. Something more than just you have got to fail. Next to that at that same checkpoint, we have a help button. Where, as if you click the help button, it launches a new tab in the browser. That is where the HTML page comes in. It gives the instructions for that particular checkpoint. So the tester does not have to go and look for where the guide is. Or go off and read a guide. And come back to the checklist. They can get the help just for that checkpoint right there in the app. And because it is in the browser tab, -- I'm not able to close it because -- you can jump right back to the checklist. And, for each answer, you have to -- I am going to move that over just a little bit -- for each answer as you answer the question, you have to click a save button to add it to the report. Now, I just saved that one and I do not have any answer in it, so there is nothing there. So I'm going to go back and change it. If you change an answer, you also have to change it against you will have the answer. Have a pass. They clicked safe. It gives the user a little feedback there was a happy face. If I were to check fail, and I click, you see I get a little sad face. Now this is being stored just in the local memory. It is not being sent off for any database or anything like that. The user just goes down through answering each question. In this case, our first question is PDF has tags. I should have told you we were doing the PDF checklist. So we have, PDF has tags. And we can say yes. And we click, safe. The next one is, the PDF is not an image. Usually people pass that one. A lot of times they don't. A lot of times, too, I go in they read the instructions for the, PDF has tags, the instructions tell the tester, hey. Game over. Stop here. Don't test any further. And so those steps are included there. And we have a picture and description on how to look and tell if it is tagged. We have a range of people using the checklists. The may have number tested a PDF before in their life. We give them some instruction here. And then they can go right on about their business. As they get more experience using the checklist, they do not have to refer back off to the help file as option. And they can get this done faster. So we said, PDF does not have scan. We save. And we can add comments. We can say, fail, and we can put, a note in the comments. And we click save. Then, if we click send report, it sends an email to the tester. I thought I had that. I do not want to show you that email. Now we have it. It sends an email to the tester. In the email, it tells the name of the file and whether it was a full test right partial test. There is a summary that gives the tester's name, the date and time it was completed, how many items were tested, and how many fail. That is followed by an HTML table, which includes the checkpoints, the status of each checkpoint, and the comments. Any comments the tester moved in. It also gives the impact level of critical, moderate, or serious. And that is based on, we were able to put weights to each checkpoint because he is the SharePoint list. Then there's also the hyperlink to the same test information that the tester had in the app. That is included with the email. You can use this email to, you know, share with the person who has to go and fix the document. And you have a record of what you did for that test. And then, at the end, it refers people back to our home page. Our website. To give people more information or to get help. So any questions so far?

This is Mike. We have a couple questions in chats. One is, can other agencies use this or is it only for SBA workforce?

Okay. That is a good question. Right now the way that the licensing is for office 365, this is only available to internal SBA users. And we are trying a couple of experiments where we have just on our network to see if we can allow folks to use the app. But it was not intended to be the solution for the entire government. To give you an idea, you could build your own. You could build this same type of app for your organization. I am willing to share anything I have along that regards to do that. The reason I did that was because, I wanted to keep this one simple for us. It is based on the way we work. And your organization might work the family. Maybe you want to capture information differently. Yeah. I am willing to talk to anybody that wants to, you know, collaborate on how to do this or how to share this.

Perfect. So I think that should cover the question from Paula and from Francis. Francis, let me know if that doesn't. Question from Dave Weddington. Just wondering, are the checkpoints mapped back to the tag guidelines?

Yes. I didn't spend time mapping them like in the SharePoint list, but that could easily be done. But what I did is when there were applicable standards, I put them into the help files. So if the reader gets down to the bottom, one of the standard things at the end of the link to the standards or even the ICT baseline test that, you know, if we knew what that was or if there was some linkage we do prefer them. So that is how we map back to the standards.

Okay. I have got a few more questions. It is very popular today, Shawn. One question. Occupational hazard for all of us is have you tested the application for conformance? In this taste, they asked particularly about, trusted tester.

We -- yes. I've a person who is a trusted tester to an application test on this using screen reader.

Perfect. And, by that, I am assuming -- actually I don't want to assume anything. The outcome was a good on that?

Yes. Yes. It is completely navigable using the keyboard, and we do not run into any major notches. That said, we did see, when I was building this, we saw where you could go tell of accessibility things if you do not pay attention to them. It is just like every other product. There has the features there. But the developer does not use them, you can miss out.

Understood. Okay. Understanding that there are limitations on sharing the actual application, Jenny is interested to see if will be possible to share it as a template as opposed to be the true working app.

Absently. Easy. Easy peasy.

And they can contact you directly?

Yes.

A another question from Antoinette is you have to use this with office 365?

Yes.

Okay. And then you are just in between all these questions, Shawn, you're getting a lot of kudos.

But, wait, there is more!

Yep. I will hand it back to you to resume as you wish.

Okay. I'm going to go ahead and close out of this. But just to show you how quickly you can change from one checklist to the other, if I go back to the home screen, and I now change to the word document, I am going to click start and and it starts a whole new checklist. But this is now the Microsoft Word checklist and it brings up the checkpoints for that. So there you have it. The last thing is when somebody sends the report, we collect the data from the test. But we do not collect like every nook and cranny of which item and which items failed. The way we capture it is that report that got sent in the email, we put that into a single column in the checkpoint list. So, if we want to, we can drill down to that particular test at that particular time and look at the result, if we ever need to. But we did capture all the other information, like how many Russians were answered, how many failed, what was the score, and we also came up with a way to calculate the risk score. And that is all done in the SharePoint side. And I am going to show you some of that now. So what kind of data can we get from doing it this way? So what I am showing you now is an Excel pivot tail table. At the top of my screen, at the top of the pivot table, we have a couple of filters. You can filter this by year or by quarter. It is showing a list of the offices that are using the checklist, and it shows the number of times the checklist was used or a checklist was used. How many checkpoints were answered? That is the name of the game. We want more people checking more things. And then how many checkpoints failed? And there is the risk score that I talked about. So this has an average risk score of all the checks and all the test that they have been doing. And that is calculated based on the checkpoint weights that we assigned for critical, serious, or moderate. And the scale for this is zero is good. The higher the score, the higher the risk. Now, if we drilled down in this organization, we can see who are the testers. And, by name. We can see who the testers are and who is doing the testing. And we can look at their individual average scores. So you can suck kind of see who the serious testers are in this one because one stands out. They did one test. They answered 42 items, but they marked everything pass. So we're going to get that. You know? But you have got that with the paper checklist, too. People would do the checklist and say, everything passed, and they would send it on. Our motto is trust but verify. The testers here, you can see these are the folks that test everything before it goes out on her like face on the website. We can give them the Stata data and we can measure their workload. It gets even better. We can drill down to this particular tester. He it's using primarily the PDF checklist. If we drill down a little bit further, we can see how many failed and how many has passed. Then, with that, as you just probably saw, you can drill down to the individual report. And, if you want to, well. Sorry about that. You can see the risk score for that particular document. So how many times do you get folks who say, can I just get a pass? Is this really that bad? So this is an instant way in which you can just quickly look and say, Yep. It is really bad. You can tell them, in comparison, to what is good and what is bad. So this is just the kind of data that you can just collect from having this information in the SharePoint. If the organization is not listed here, they are not using the checklist did. That is how I'm hoping to see growth across the agency. Also, how many times have you went into a team and you give this great presentation and everybody is nodding their head, and then you go and leave. And then you are thinking, man. I really accomplished something. And later on, you find they are not doing it. Well, now, I can no sooner. If I did some training with some folks, I would expect to see them to start using the checklist at some degree, and I can drill down in and follow up with those folks. For example -- at first I thought, sometimes people just going to mark, all pass. I suggest we do those people out. It also just give me a person that maybe I need to reach out to now and maybe just say, hey. Do you need some help with this? And get them started really trying to do some testing. So that is how you can measure. With that, you can do some fancy dashboard stuff. I'm showing you now, a power pivot example, were across the top, it shows the total number of tests and how many organizations are using it. How many testers we have across the organization. I am listing the organizations by the number of testers they have and the number of tests they've done. That's easy to show when you start talking to hire upper-level managers. And you can also start looking at people who are testing to see if there being a serious tester. Now, a couple of these people, one of my colleagues in my office who helps a lot, you might look at that and say, man. They grade really hard. And they do that because it is showing 100% fail rate. Then there is myself. I am right behind her with a 98% fail rate. That's because all the ones I get sent are bad. They are bad already. So I am not getting those past successes. But we can actually watch this overtime so you can show improvement.

Hey Shawn, this is Mike. There are a couple questions that have come up . And if I can interrupt at this moment and get those to you.

Sure. Is the Mac super.

Super. So, maybe it's best. The first question is how long did it take you to create the application?

Well, if you really measured it from start to finish, you know, about fish six months. I had to learn how to use power ups. I was a new in the terms of the power ups. Then there was work of going into design detect points. Word the checkpoints. Come up with how we're going to order them. But once we got started, if I were to have to make a new checklist today, it would just be a matter of and putting them into the SharePoint list and then making it active so that when the app pulled it up, you could pick that checklist from the thing and you would be in business. This gives me an idea to point out. I don't want to just use this application for just checklist for documents. We started with Word and PDF because those are the most popular. But we want to also take it to other things. Like maybe I just have a checklist for product owner sign off. You know? If we are going public with some content. Or maybe I make a checklist to inspect the Pats. We want to add to these checklist so we can then monitor, you know, across the organization who is doing the actual testing. Or checking.

I am sorry, Shawn. This is Mike again. There is a related question to that. It's from Stephen. Is there a similar checklist for websites?

I did not do websites yet. As we have other tools that we use for web assessments. And we also felt like the web baseline tests were already out there. But we could. We could do very well just put a web accessibility checklist together. But for our use case, what I would want to do is lean on the tools that we have for verifying some of the web accessibility things and making sure that the people are using those. For example, in our PDF checklist, one of the final checks is to run PDF validator, which is from common law, and it is free. And it is a requirement for one of the checks.

That's another segue to another question. You mentioned the PDF validator that you use. Question from TranB is, from the Microsoft office documents, as a checklist tighten in any way with the accessibility checkers, either in whole or in part?

It is. And what we ended up in our word checklist was we talked about the built in checker from the individual checkpoints where it was equitable. So we would tell the person how to go and check that item using the built in accessibility checker. But unlike the accessibility checklist, we do not say at the end, like, you have to run the built in checker and have no failures. We felt it was better to talk about it on the specific checkpoints for Microsoft Word.

Perfect. A couple more questions. Have you used the data about the checklist, whether they passed or failed a target organizational change? You touched on it earlier, but I'm not sure that answered but sees question completely. Also, let me add to your answer another question from Sarah. How is it that organizational information is collected, and is there an entry form? Can you talk about how you intake and organization and how you target them for change based on how they are reporting?

Okay. So the way organizations -- to enter the intake question first, there is no intake for, like I don't have to go out and after the organizations if they are doing the testing. The way it goes is I introduce them to the checklist and encourage them to start using it. And they can make it a requirement or they can use it. They either use it or they don't. And, if they don't, they will not be on the list. So the data that I was showing you on the pivot table was refreshed today. That is up to the minute information that we are collecting just by people using the checklist.

It's good to know. And then, kind of on a related note from David Whittington, it would be great to understand how you assigned a weight for each test element. For example, how do you define critical issues versus what's not? This is good for helping to develop a level of complaints for products and they will reach out to you for a demo as well. But how did you weigh these?

The way I give them the weight was -- and the reason I gave them a weight was -- because some things are maybe just a minor inconvenience. So for that, they would just eat moderate. I did not go anything below moderate. I figured, if it was absolutely okay, then it does not need a mention. And then, the next level would be serious. Serious is an inconvenience. But the person can still get to the information. And critical would it be, it is blocking the person from getting the information. So I assigned the weight according to that model, in its typical model similar to what other accessibility testing tools use, like DQ's. Ask monitor. Also our testing tool, the PDF validator. You know? So they are similar. We just want to tell them, moderate, serious, or critical. So what happens when that item fails? It gets a little more points. So that will raise up the -- what I didn't want to say is people will get a score. They start scoring, and people look at it and say, I am 50%. So I am good. So I wanted them to understand, no. This is more serious. The goal is to get to zero. If we had more scores like five and four, then we know we are doing a lot better than we have scores like 40 and 50 and above.

So I have a question. I saw -- this is my own, by the way they should I saw that there was an individual who tested documents and indicated all of them -- I think there are two people -- I think all of them are at 100%. Do you also look at that range? As much as you would someone who fails all of their tests? How do you --

Yes. While looking at here is, I will use myself as an example. That was me. I get a lot of 100% failure rate because all of the ones I test failed because they are the bad ones that I get to help people with. Oh. There is one. I got one right tested for somebody and it was passed. I did have one. But as you drive down to the individual checkpoints, I mean the individual documents. I'm sorry. Then you start seeing -- I need to move this one over just a little bit -- you start seeing the rates for each document. So, over time, what you see is these rates go down as people are actually fixing their documents and testing their documents. And actually more people at testing their documents throughout the accessibility tester at the end of the line who is verifying it right before it gets published. We want more document authors to be using the checklist, and that way we should start seeing these numbers improve. You know?

So that actually ties into Antoinette's question. When you say testers, are you referring to employees who are dedicated by the way complaints reviewers or mediation specialists? Over at CMS, they call them 508 Lawrence officers. Or are these folks in here -- is this tool open to use by the document authors or anyone else who is trained to use the application?

That is easy. This checklist is open to everybody to use. I have a button on my main home page. And how they go about using it is different. And, as I can see, it is really useful to the accessibility testers. The two accessibility testers. Like you said, the ones who are verifying it. And that is their job to do that before something goes out in public. So the checklist is used for that. The thing that this also helps with is we get people generally testing the same way. You know? It is not 100%. If I drill down and look at the data, then you can see where two different people tested the same document and they get pretty close results. You know? That might have some disparity on how they check the particular item, but for the most part they're checking them the same, and the scores and up thing about the same. And with this data, this is to answer your previous question, somebody asked how to use this to talk to the leaders quick? I'm able to use this to talk to particular groups of documents just by the names of the documents, and I can talk to that particular manager and show them their documents. They are impacting the organization in other areas, and that has become very useful.

So that is very helpful. I appreciate it. And, again, more kudos in here. People are loving the idea. Paula asked a question, but I'm sure many others would like to know how they can get a hold of you.

Well, let's go back to the PowerPoint. And I am over at the SBA. My email is Shawn.Garmer@sba@gov. In my phone number is in there as well. 202. 205. 9626.

I put them in the chat, but somehow I and messaged Betsy directly. Let me get the information in the chat as well.

Great.

Thank you. Shawn, are you done? This was excellent.

Thank you, everybody.

This was excellent. Thank you so, so much. I am thrilled that everyone enjoyed it. And we will, if you have any additional questions, or if you missed the email and you want Shawn's information, you can feel free to email myself or the Section 508 mailbox, and we will get that to you. Thanks again, Shawn. We appreciate you. Appreciate you sharing a welcomed knowledge with us. So I like this. Someone said you make that 508 guy title, it's just more than that. It's a great title, but you're more than that.

Well, thank you.

See get a bunch of applause. And thank you's coming at you. And I will share that with you. And, guys, please before you go, if you just throw that in the follow-up survey, that would be great. But we will share that towards the end of part two. So, with that said, we are coming up on a break. So I am going to ask everyone to go ahead and take a break. Be back at 2:00, and we will have something fun to do. Then we will switch it to our next presentation. So I will see you at 2:00.

Recording stopped.

All right. All right. Welcome back everyone. So I have a little icebreaker or a game for everyone to try out. And I am going to send a link in the chat with everyone. You have five minutes to complete the test. Five minutes. And there will be a prize after I have determined who the winner is. And I am about to share it now. It is for fun. It is fun. It is a fun one. Five minutes. The link is in the chat. Bethany, let me see if I can email it to you. Okay, Michelle. I saw your message. That is weird. This is good to know. I will try it another way next time. Oh well, Kadeem. Can you send me your email address? If you want to -- okay. Tamika, let me do you right now. Samantha, send me your email address, please. Okay. So, Bethany, send me your personal email. I will send it to you right now if you want to play. Got it? So, I am sending this to Bethany, Kasia , and Jandi right now. Very quickly. No problem. Jandi, can you see it? If you want me to send it to you another way, I can. And then I will try to think of another method to do this if we do it again. Okay. So I will add two more minutes because I had to email it out. And, following that, we will have McGowin come and share with us. Two more minutes, everyone. And there is a prize. I will let you know who the winner is. Really, Sarah? I have not watched it yet. Okay. One more minute, everyone. For all the non-Trekkies, I will have another one for you to be fair. Oh, that is a good idea. Maybe I will think about that. Doing songs. Good idea. Very good idea. I will have to get Mike to help me with that one. What, Cammie, you have got to be kidding me. Well, I did not exactly make it easy. Okay, guys. When it turns to: 08, came over. Game over. Rihanna, you are on.

That was really funny. Thank you for doing that. Definitely so hard though. I didn't escort too great. But, hello, everyone. I am brief. I will go ahead and start scare sharing my screen. All right. Here we are. Right now I will transition us to a conversation about artificial intelligence and machine learning. Using those as tools to enhance accessibility. This is also a continuation of a presentation I gave for the IAAF conference last year. So I will go over introducing myself and then give an overview. I'll talk about the AI community. We will get into it a little bit about inclusion, and then we will go to Q&A. So, hi, everyone. I am Rihanna but I go by Paris. I might I.T. specialist on the digital strategies team.

Recording in progress.

This is a very funny gift however you say it of what might coding frustrations look like on my day today. So, to kind of ground us in the terms I will be using for this presentation, I would just like to give some definitions of what I mean when I say these words. So accessibility means the design, construction, development, and maintenance of facilities, information, and communication technology, programs, and services so that all people, including people with disabilities, can fully and independently use them. And that was defined in the EO recently. Artificial intelligence is the simulation of human intelligence processes machines, especially computer systems. So at specific applications of AI include expert systems, NLP, or natural language processing, speech recognition, and machine vision. And then machine learning, in sum, is just a branch of artificial intelligence. And computer science. It focuses mainly on the use of large data and algorithms to imitate the way humans learn, gradually improving a machine learning models accuracy. So, let's go into a little bit about -- I am at the GSA by the way. I do not think I said that. Apologies. So AI and ML community. So how do we strengthen this community? I think open source is a great place to start, in order to like dip your toes in the water of using different types of technology. But also like making the something that allows for radical collaboration. Open source is a great way to create acceptable systems and projects for people to contribute to existing projects and to open-source machine learning and AI use. And also to have different communities where there is, like, actual feedback loops and conversations and forums about how to improve existing technology. So that can lead into like emerging technology through this innovation and radical collaboration. We can iterate on what exists and also innovate on what could be. So the idea is these emergent technologies are designed to be not only accessible, but also robust. And then the whole point though is, for the people, centering people always. So I always ask this question. What is a safe and accessible Internet look like for people of all ability levels? And there is different ways that we can create systems to achieve this by sharing information, by collaborating on projects. How we store information. How people can access information. There are different ways to construct a system in which people would interact with. So the first system that we will touch on is a centralized system. Which all users are connected to a centralized network server. Also, the project might be hosted in a centralized place. And all decisions are made within a centralized body for instance. Then there is decentralized. Decentralized systems do not have one central owner. Instead, they have multiple central owners, each of which usually stores a copy of the resources users can access. And this would then create different ways for people to have different versions of something, and that also brings into existence version control. So if you are going to share information, it is good to know well, which version are you looking at. Then there are that distributed systems. Where users have equal access to data through user privileges that can be enabled or needed. The best example of a vast, disputed system, is the Internet itself. So to kind of put this into altogether, AI and machine learning are basically the codes and algorithms and that can enhance normal Internet or the base Internet with features to design and increase accessibility. This should also be the default of how to even design the Internet to reduce the use of widgets and just make the Internet actually accessible across the user experience. This also goes into maintenance of the actual infrastructure and architecture of the Internet. So developer communities are committed to maintaining and improving existing packages, libraries, and modules necessary for clean code. And then there is the people, which is those who actually use and consume the information or products that actually are hosted on the Internet. And then the Internet itself is like this global network that allows for all of these things to interact with each other. And the whole point is, it's the way it's being done serving people. Is it useful? Are the people being excluded from how we design our systems? So there are different emerging technologies, machine learning, and artificial intelligence to increase accessibility. So just a few examples of these would be VR job interview training for people with autism. There is a website that people can go to, and it will simulate what the interview process might be. And that can help settle some nerves that people might have. But it is also really great for people who might have different social awareness is to help them with how to communicate as well. There are different levels of communication I should say. There is also AI texting for informal mental health treatment. That can mean, it could either be an app or a web app that helps people walk through what they might be experiencing if they should know how to process different things too. There's also understanding empathy and text based peer support. Automatic image descriptions are photos captured by people who are either blind or have low vision. Personalized Apple for pedestrian travel. Like, improving braille literacy skills be a unification. These are all the examples of what we could be building or what are being built and actually exist to improve accessibility. Especially accessibility on the web. That is available on the Internet. And so, to kind of catch on to this, there is access and ability. Oh, actually, okay. So developing machine learning. That provides close captioning. Displaying larger text size for images on a screen. Also check boxes that can communicate with people. There are places with low broadband that may not be able to use these features on the website because it might actually eat up a lot of bandwidth. So AI can be used to reduce content on a website to allow people in low broadband places to still access information. So this is the area that I probably only focus in. It is really focusing on representative and unbiased data, or I should say reducing bias in your data. Because providing unbiased and representative data, especially for machine learning, algorithms, and artificial intelligence, will create a healthier and more robust outfit that is actually reflective of people's context in everyday lives. So the whole goal with accessibility as the default essentially is that the goal is the Internet is accessible by default for people of all ability levels, that it is safe and secure for people to use, and that the open-source community is a space that can allow for a different innervation and innovations on how we can achieve this kind of emerging technology that exists on the Internet to reduce barriers for entry for open-source communities not only use, but also participate in and contribute. That also goes directly into the diversification of how to develop machine learning algorithms and creating ethical AI that is more accessible, and training on Epson of data sets that is opposite of of patterns in their everyday lives. So how do we actually put this into practice? The idea is to expand our considerations, and essentially how might we prevent and intervene around all forms of exclusion using, you know, these powerful machines like machine learning. How might we reinvent these powerful technologies as a forethought and not an afterthought? How might we best understand context as it relates to people with disabilities? So integration may remove these boxes and barriers, but it is not really getting at the root of something being designed for something to access space equally. Weather is digital space or physical space. But with the web, digital space. The migrating space for people to have equal access to it is inclusion. And this takes it a step further where there is equity and space for people. And so, the way we put this into practice is, especially with algorithmic bias, is that machine learning and AI are programs essentially to find patterns and informal groupings. And they are only as good as we train them to be. They are only as good as may be the data that we get it. So there is a huge important on algorithmic bias that describes systematic and repeatable errors in the computer system that creates unfair outcomes, such as privileging an arbitrary group of users over another. So bias can emerge due to many factors, including but not limited to the design of an algorithm or the unintended, which is more often the case, or decisions relating to the way data is coded, collected, selected, or used to train the algorithm. And as we say in like ethical AI communities, unintentional harm is still harm. So one of the ways I've experienced this, just giving an example, as I had to create a machine learning algorithm that can describe what is happening in a video. So it is also doing a little bit of object recognition. And what we did, and we were very proud of our demo, was like showing when someone in a video Night Beat waving. It will show in a caption, someone is waiting. Or might be when someone is running. It would say, oh. This person is running. But what it did not capture, and what we did not realize, was that all of our data was used for adult height folks. So any people who were of standing ability to stand height. An average. So that excluded children and folks who might be -- who might have movement disabilities. Who might be constrained to a wheelchair. So that was a huge bias that did not see with our team. I think that is a great example of how unintended harm is still harm. So algorithms are harnessing volumes of macro and micro data to influence decisions affecting people and arrange tasks moving recommendations to help bankers determine the creditworthiness of individuals. So we really want to make sure that the data that we are using to train our models is actually not representative of people, and is contextual. And so this is, I think, a way to finally move out of the cycle of invisibility. So I persons of disabilities are often invisible in data collection and monitoring. So if you have a process for the data collection instruments and methods do not consider persons with disabilities, then it means that the data is not representative of the experiences folks with disabilities have come and that was reporting and discussion, not reflecting the folks with this abilities. Answer kind of get the snowball effect now, of like strategies that are now focused on limited, available evidence, and often are exclusionary. That also leads to folks with disabilities remaining invisible in data and programs. And so to move out of that inner circle to have inclusion in every step of the process and break this cycle of in visibility, is to first start with the inclusive processes and methods that we develop, which will then lead to also including having inclusive study designs and methods of data collection. Data analyses and results that represent the experiences of persons with disabilities. And then we have also in this episode, every step of the way we need to include just different areas and also contexts. So step four would be inclusive reporting and dissemination. And then discussion about affection and disparity are promoted because they are included in every step of the process, which also leads to evidence available to guide inclusion strategies and policy development. So there are multiple ways to get started on this and different efforts and programs in the government that are also tackling this. So there is the EO that promotes the use of trustworthy AI and the federal government. There is also the national artificial intelligence act of 2020, which was a coordinator program across the entire federal government to accelerate AI research and application of the nation's economic prosperity and national security. There's also the AI R and D interagency working group, which you can join which it was formed in 2018 to coordinate across 32 participating agencies and to support activities with a mission to make things more inclusive. There is also you can be a part of different medications. There was a call for nominations and I think it is yearly. Someone correct me if that is wrong. But basically of the opportunity to apply to serve on the national artificial intelligence advisory committee, and you do not even need like coding background or artificial intelligence background because there is different cohorts in working groups. There is also the AI center of excellence. And then different AI communities across the federal government to unite federal employees who are active or interested in AI policy, standards, and programs to accelerate the thoughtful adoption of AI projects. And, now, now that I just powered through my hesitation, presentation, I will open it up to the chat. To Q&A.

Hey, Bri. This is Mike. You want me to work through the chat? Are you looking for more interactive session? How would you like to move forward?

Yeah. I am open to however this can be interactive or if there aren't any questions we can go back to a vet.

We have some questions in the chat. Shannon love the idea of opening the tolls, but there are many federal requirements that make them difficult to use them. How does GSA get around this or partner with our cyber security teams to enable access to these tools?

Oh, that is a great question. Different ways I think that -- one of the more cumbersome processes that had to go through for my development was having to get a lot of the tolls improved through the approval process. Even something as like a python pack tickets package could take up to three months to get approved. But I'm thinking things are moving a lot quicker. There's also just a more -- there is a portal, I think, that allows for developers to get different packages approved quicker. So that is how I was able to use some open source tools. There are also tools that might be rejected because they might have packages that anyone can update. I think it has been a case-by-case basis for me. I've also had the luck to you stuff that doesn't have too much like security constraints. So things that have higher levels of security I would assume would have to have a more steps to go through processes to make it improve.

Thank you, very much. You know. Certainly GSA is concerned about security. And we do have that in place. But I think to Shannon's point, there are differences between say GSA and the intelligence community or DOD to a degree that allows them to use or not use these things. There is a question from Jack McDowell, from the state of Oregon, he sets it up a little bit here. We explored a few AI solutions and the state of Oregon in particular AI driven alt tag generation and chat box. All these technologies seem useful for general websites, we are concerned that the AI generate descriptions/answers could provide information inconsistent with policy. For example, we created a chat but to answer HR COVID leave questions. Covertly was particular complicated because there were multiple factors which affected leave, including sick, child care, schools closed, quarantine, and so on. With the automatic alt tag generation, we were concerned that the alt tag would effectively be concerned quote speaking for an agency, causing potential risk bite mislabeling and image. How can we taste so the question that set up is how can we mitigate these political/policy risks in government?

Oh. That is a great question. I honestly don't really have an answer for that because I think that might deal more with the policy side of things and how maybe having some sort of disclaimers in that this might be mislabeled or whatever. One of the ways that it could be accomplished is by having just a human at the end of the pipeline. So the idea is the way I view AI is not necessarily to remove the human. It is just to reduce the tasks or the load or the weight of work that a human might have to do. So there's something like say, taking pictures that a machine learning algorithm can do with relatively high accuracy, then the human goes in and update it. I think that might be maybe one of the better solutions for that. But, as far as mitigating the political and policy risks, I do not really have an answer for that.

So this is Mike again. I think if I can add to your answer with an example, and Microsoft office 365, for those who are in an agency that uses that, they actually have for when you insert an image it will attempt to auto generate and alt tag for that. But for those that have witnessed that, they tend to not be so great, yet. So I think AI is emerging, and I think it will get better. I know that, you know, some of the big industry players in the private sector are working on being able to identify, you know, juggling cats or whatever it is you put on the Internet. Sorry. Not juggling cats. Petting them and treating them very nicely. So I think to breeze points, you know, it is the trust to verify what we were living to earlier. We identify pre-deficiencies and a sure it is in alignment with either your policy or, you know, the actual context of how you were using that image. Because, I think even today, when we are writing a description for an image, that alt text might be different depending on how you're using it. That's another nuance that AI is going to have to look into. Speaking about the future, the next question though, Bri, I am going to actually skip back to Samantha's. Sarah had one. What are a few applications of AI that you envision for the future for improving accessibility in government? Sorry. I was going to try to summarize that a different way. Like, are there any applications where you see AI helping a government in accessibility?

So one of the applications that I am working on right now is that solicitations review tool, which is a machine learning algorithm that scrapes, Sam.gov, of the different notations that are posted right there. To natural language processing to learn and search for complaints language. And it is trained on past data in which people manually labeled something. Yes, this is complaint. Note, this is not complaint. We wait different things in the model and then, when it goes to the new data, it generates the label whether or not a solicitation is complaint or not. And that is an example of how currently the machine learning is being used to improve accessibility in the government. Oh, sorry.

Know. Go ahead.

I think another thing that machine learning can help mitigate things in the government is, it may not even be consumer facing. And might just be where every employee gets a little, you know, virtual assistant or chat but to help them with just the day today is Monday and tasks of like email checking and going to and flagging things for different people. That could be something that could actually reduce the amount of workload that we have to do from our day today, which might help improve the way we regulate two different tasks or stuff. So that could also be an application.

Right. I think if I could kind of check and add a follow-up response to his question related to chat box. Enter a phase his question, if an Amazon chapbook sends him and they chat talk loop, were finally asked to chat with a person, isn't that -- excuse me -- that isn't that big of a risk for Amazon. But for example, if an unemployment chatbot says I don't qualify for employment, that could cause a liability for the state. Again, this is Mike. My response to that is, yes. That is possible. But, Bri, when that depend on kind of how quickly we of all that AI and the rules of engagement so that it can kick someone out and put them in contact with humans before making those types of decisions?

Oh yeah. I would say never designed something to tell someone they are ineligible or not qualified for something if it is being done with AI. It is more to reduce the burden of going through maybe a 10 page survey and just helping the end. It is more for helping the end-user to see if they could possibly qualify something. I would say that to frame it, it would not be helpful to necessarily say you don't qualify for something, unless there are different ways you can design it to do that to where it may not have that sort of implication. But the ultimate thing is you would want to have many different touch points so that someone could be put in touch with maybe a human so that it would not say the state just said that I do not qualify for unemployment. I think the way you design the artificial intelligence is just as important as how you collect the data. That would not be something that would be useful much, because it is not necessarily I think addressing the problem of someone. I think that bought in his most faithful form should be not a cumbersome process. Maybe it should not be making exclusionary decisions.

Does a great point. I'm going to get back to Samantha's question before I lose it out of the check you here. She asked, as the government tends to fall behind in technology, how quickly do we see this moving forward in multiple agencies?

I think being in the office of government policy has made a pretty big leverage as we are able to develop technology that could be used governmentwide. I think, I think there are many levels to that question that we would have to tackle. The first one is like government falling behind in technology. I think that is a whole conversation. Then there is also, how do we move forward in multiple agencies? I think the goal should be -- and this is what I think Shawn did very well with earlier -- showing an example of a tool that could exist and making it durable and shareable a crossed governmentwide for governmentwide access is a way to maybe remove some of the friction in government technologies and different applications or apps we could use. So maybe when we create something, creating it with the intent of making it as durable and easy to use as possible.

So that is a great point. And actually kind of moving that question a little forward, Sarah has a question and a chat. What are some techniques for improving the inclusive quality of date of collection for use by AI? I think that is kind of --

There is actually a case study with a test called P 20, which is basically an approach which can be used to identify and monitor individuals at greatest risk of marginalization or determination. And, actually, I will post in the chat the case study paper. This is kind of what I used to help determine how to go about gathering data. How to go about making sure that the data I have is holistic and also not done in a vacuum. Making sure that teams are diverse and that you are having an open conversation around how to approach something in your processes and methodologies. So I use the P 20 test usually one of going about gathering data for my machine learning algorithms and models.

So this is Mike. I'm not familiar with the P 20 cases. But I wonder, does that document or can you speak to Shawn's question here, which is have your discussions with AI developers intersected with applying universal design principles?

Oh, yeah. Yes. I think those are kind of two different things. One is kind of the like making something function. The other one is making it actually useful and meaningful for the user to interact with. At this really an important parcel of creating a good product for a good user. So, yeah. I would say that anything you create, you would also want to center consumer experience, and using those universal design principles to make it something accessible and needful for folks to interact with.

Yeah. That is great. I do not have any other questions, unless someone will direct me to one that I may have overlooked. There were kind of in a flurry there for a little bit. Were there any other questions for Bri? Yes. We will definitely -- the question in the chat is that the links that she shared will be shared in the training session under the workshop materials. All the information will be posted there.

Okay, great. Thanks, everyone.

Thank you, so much, Bri. And thank you for everyone, attending. Before we go, I wanted to make sure everyone had a chance to please fill out our survey. That will help us with the types of presentations you want to see. And, without further ado, I want to share who one with a perfect score. And he is a true Trekkie. Adam Politis got 110. Perfect did I need you to send me your dates probably I'm going to send you your prize. But I do not know how you want it. You can either send me your personal email address or your work email address. For second place, doesn't get a prize though, I'm going to give her kudos. That is and Turner. She got 95%. She missed one question. And in third place, the email address is ScottKVS at Gmail.com. I cannot tell who that was, but that person missed two questions. So our winner is at implied as, Adam Politis. I put my email on that chat. Please do that. I think everyone for attending. And look out for our next meeting, which will be in April. And we will have another game for you. Thank you everyone for attending. Thank you to the presenters. Please, please, please do take the time to fill out our survey. And you can hang around for a few words if you just want to, but don't forget to fill out the survey. Thank you. Everyone, feel free to come off of chats.

Recording stopped.

Sure, Dave. I will see you next meeting. And thank you interpreters. Much appreciate it. Sure, Shawn. You were great. Thank you. You're welcome, Michelle. Who else? I saw some more thank you's. Samantha and Tamika and Hillary. And who else do I see? Hannah. Bri, I see some thank you's to you, too. Jennie, you are welcome. Sarah. Hey, Sarah.

[ Event concluded ]