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>> MOHAMMED LOUTFY: Good morning, good afternoon, good evening, everyone. Welcome to this Side Event organized by the Global Initiative for Information and Communication for Inclusive Information and Technology G3ict with a title of Scaling Up the Availability and Accessibility of Assistive Technology Softwares.

Under the Conference of States Parties to the Convention on the Rights of Persons with Disabilities in its 15th edition, this event is being streamed via G3ict YouTube channel. The event is being also recorded and will be uploaded onto the United Nations website, Web TV, as well as the United Nations social media platforms to be charged as video on demand.

Captioning and International Sign Language interpretation are available throughout the whole event. To use English and Spanish translation, please press the interpretation button on your screen.

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Accessible technology of persons with reading disabilities today is considered a vital source of support for ensuring their independence and inclusion. Screen readers like JAWS by Freedom Scientific have, indeed, proven to be representing a reliable aid to help persons with reading disabilities engage with a rather complex operations like solving mathematical equations. Navigating IOT platforms. Or having access to sophisticated documents, document formats such as Excel or PDF files and PowerPoint presentations.

Thanks to the screen readers, persons with reading disabilities today have better chances of enhanced employability and increasing opportunities of inclusion through mainstream education systems and different workplace environments. However, the question to be asked, how do we make sure that persons with reading disabilities, particularly those living in low and low, middle‑income countries, could access, use and most importantly afford screen readers that are compatible with such technologies.

What kind of supports do persons with reading disabilities need so they would not feel obliged to rely on manipulating strategies to access digital data? How could we make sure that they could access, use, and afford screen readers that are supported with extended warranties and professional technical support and maintenance? How could we help these persons with reading disabilities find efficient alternatives to those open‑source screen readers that do not seem to have always succeeded in keeping up with ongoing and fast‑progressing technologies.

Our panel session today, we are going to learn about very exciting initiatives and best practices that revolve around the business model of national and institutional licensing of screen readers for persons with reading disabilities through among our panelists today, we are so pleased to be hosting or to be welcoming the pioneering company behind such important initiative I am referring here to Vispero Group, owner and producer of JAWS screen reader.

We're also honored to bring together to the table representatives of organizations of Persons with Disabilities, agencies, and academic institutions, who will talk to us about dynamics that surround efforts of bridging the digital divide. And, hence, ensure that Persons with Disabilities have access to use and, most importantly, are able to afford technologies that could transform their lives through inclusion and employment, education, independent living programs, and other platforms.

I would like to welcome with us today at this Side Event Mr. Matt Ater, Vice President of Corporation Business Development of Vispero Group. Mr. Trevor Prevatt, Director of Stakeholder Engagement at the Caribbean Telecommunications Union. CTU. And Ms. Carmen Millan, Director of the Center of Assistive Technology at the National Spanish Organization of Blind Persons. And Ms. Tania Athanasia Kalaitzidis, Manager of Media Accessibility Project at CUNY Assistive Technology Services at the City University of New York.

However, before we get started, with our panelists today, it is my great pleasure and honor to welcome among us Ambassador Luis Gallegos. The former Minister of Foreign Relations of Ecuador. The former Representative, Permanent Representative of Ecuador at the United Nations for several times both in Geneva and New York. Also the former Ambassador of Ecuador to El Salvador, Australia, and the United States. Ambassador Gallegos also is the Chair of G3ict Board of Directors. Ambassador Gallegos is the gentleman who we as Persons with Disabilities around the world owe him, owe lots of respect and gratitude as he stands behind all efforts that have made the CRPD possible and come to existence since he served as Chair of the ad hoc committee on the CRPD.

I would like to invite His Excellency Ambassador Gallegos to start the session with his opening remarks. The floor is yours.

>> LUIS GALLEGOS: Thank you very much, Mohammed, for your expressions. And I'm very honored for what you say. For what you have just said. Ladies and gentlemen, let me begin by thanking you for accepting the invitation of G3ict to discuss an issue which is fundamental in the workings of the new dimensions of technology.

When we, as Mohammed just explained, when we were debating and negotiating the convention, the CRPD convention in 2002‑2006, one of the most visionary, I would say, visionary inputs was the accessibility article which is Article 9. Accessibility, of course, had been looked at as an issue of visible disabilities. And that means wheelchairs. Capacity for movement. More than anything else. For persons who are in wheelchairs or do not have eyesight and other disabilities.

But the visionary part is the one that demands that state members sign and ratify the convention, the CRPD, make accessibility an ITC issue. Which means to make information and communication technologies accessible to Persons with Disabilities. This is a legally standing document which is incorporated into the legislations internally into more than 183 countries that are members of the CRPD. Therefore, it should be used as a tool to prompt governments, both national and regional and local governments, to apply themselves in making ‑‑ not permitting the division, the divide between those that have and not have access to technology.

As we move into this realm, I think that the most important part is to see if we can have, create public/private partnerships. Replicatable by States Parties and initiatives that bring added value for Persons with Disabilities, enhancing opportunities for education, employment, and access to inclusive technology.

I would invite you gentlemen as you speak about the issues of the use of these mechanisms and software to make accessible reading for Persons with Disabilities. To take into account that this is an enforceable right for Persons with Disabilities today. Thanks to the work of the disabled persons communities and organizations and DPOs around the world. I thank you very much and wish you the best to the panelists. And to the audience that we may have an event that proves to be outstanding in efforts to comply with the convention and to move this issue from where it is now to the new dimensions of technology implementation and vision of the future. Thank you very much.

>> MOHAMMED LOUTFY: Many thanks, Your Excellency, for your great words. Very inspiring as always.

Turning now to our distinguished panelists. I will start with the first round of questions. Each one of you will have three minutes only, I'm sorry, for answering these questions.

Matt, let me please start with you and ask you what has inspired the idea of Vispero's project offering national licensing of JAWS screen readers for persons with reading disabilities?

>> MATT ATER: Thanks, Mohammed. And good to be here today. So if we look at the challenges that individuals have with accessing technology, a lot of it comes from the affordability. We look at the cost of computing. We look at the cost of software. You know, hardware devices. Whatever it may be. Phones today and so on. The challenge that people with disabilities, in this case we're talking about blind. But in the problems that we have is people can't afford the technology in several, most countries.

And so, you know, in places who have work, you may see an employer may purchase it. In places of possibility at a university, a university may pay for it. But when it comes to I need to build my skill and get the skills to be able to work or to go to school, you need access to this technology. And, you know, there's challenges around the world about being able to afford technology that really brings the availability of people to compete and work side by side with their peers.

Some people would ask, why is technology more expensive? It's partially due to the fact that it's, you know, a small niche market. And then on top of that, you know, you have to keep up with the latest technologies. And if you look at the complexities of technology today, your browsers, your operating systems, your productivity suite tools, are changing so rapidly today because of agile development. This type of model allows people to stay up to date with their software.

You know, there may be cases where people in certain cases have gotten access to software bought it's three or four years old. 3 or 4‑year‑old software doesn't work well when technology is shifting and changing so rapidly.

And we think about two years ago when the pandemic started and you had people using Zoom and Teams and Google Meets and other applications every day to just have meetings like this one today. If they're using 3 or 4‑year‑old software, it's possible that it's not working and compatible with the latest versions of those applications. And so the opportunity for in countries investing in their people within their countries to help them get access to this technology and make it more readily available rather than a one‑our opportunity when they may purchase it when someone needs it and it sometimes takes time. We've seen several countries make the investment where the people within those countries have access to the technology.

>> MOHAMMED LOUTFY: Thank you very much, Matt. Indeed, investment in people is very important. And we, you know, believe that with such an initiative, Persons with Disabilities will have better opportunities of inclusion. Thank you.

Trevor, we are aware of CTU's initiative that's entitled as CVAS. This reflects partially CTU's approach to promoting digital accessibility for Persons with Disabilities. Can you speak to us more about this initiative, please?

>> TREVOR PREVATT: Sure. Thank you very much. Thank you for allowing me to be part of this distinguished panel and event.

Okay. The CTU, we fully support all efforts to promote digital accessibility for PWDs in Caribbean countries. We firmly believe and are firmly committed to ICTs being for all. In particular, because ICTs can enrich the lives. The CTU is a Caribbean community, an institution. It's also an ICT organization. It's funded mainly by its current 20 member states. However, our resources are limited but our mandate is fairly broad. Including focusing on harmonizing policy development, human capacity building, coordination of regional ICT projects and representation at regional, international forum.

CTU's efforts were propelled in June of 2013, Secretary General attended G3ict M‑Enabling Summit in Washington, D.C. This was followed by a successful policy and high‑level issues workshop. Again, in collaboration with G3ict held in Montego Bay, Jamaica. That was in December of that year. The workshop was attended by numerous PWDs and their organizations from across the Caribbean region.

However, a decision was taken at that point, really, given the CTU's limited resources. The way we can make an impact was to reach out directly to PWDs and to demonstrate how ICTs could change their lives in a manner that was a hands‑on approach. So we did that by introducing them to many accessibility tools available to them.

Starting in March of 2014 in Suriname and using a blind and Deaf facilitator from Jamaica to run separate workshops for the blind and for the Deaf, the CTU held 45 workshops since that time. Nine of its member states. Unfortunately, since 2020 with COVID‑19, of course, a lot of that stopped. But with the countries opening back up, we hope that will change now.

Importantly, as in regards when CVAS came into play, what happened in 2015, the same two ICT PWD facilitators from Jamaica attended that year's M‑Enabling Summit. The summit, met with VTCSecure, a global leader in communication access for people with disabilities. And we (no audio).

>> MOHAMMED LOUTFY: Mr. Trevor, we cannot hear you.

>> TREVOR PREVATT: Yes. Did you just stop hearing me, I hope?

>> MOHAMMED LOUTFY: Yeah. We hear you now.

>> TREVOR PREVATT: Okay.

>> MOHAMMED LOUTFY: Just wrap up, please, very quickly.

>> TREVOR PREVATT: Okay. Sure. No problem. So I was just mentioning about CVAS. My apologies for that. We use VTCSecure to introduce a video relay service. What happened is with the support of many stakeholders, we did a proof of concept. In May of 2020, we introduced a pilot project which we hope to spread across the Caribbean into the future. Thank you.

>> MOHAMMED LOUTFY: Thank you. Thank you very much. Mr. Trevor.

Carmen, let me now turn to you and ask you in your opinion, what role do you play in promoting the usage of screen readers, ensuring their affordability for persons who are blind or partially sighted?

>> CARMEN MILLAN: (Speaking Spanish)

>> INTERPRETER: I'm so sorry to interrupt.

Thank you so much. Here, I'm speaking from Madrid, Spain. Thank you too all the committee for allowing me to participate. Thank you so much, Mohammed. I would like to talk about the national organization that we help the visually impaired. For more than 70,000 people in our social catalog, this is in order to help people with their studies, with their employment, with technology, with education. With their technology. We are here to help with a special technology that's to help the visually impaired. This is for complete inclusion. We're developing this in our daily living to help them with their social lives. Their daily living. This has been, or we have been producing this ever since 1997 with the screen reader.

>> CARMEN MILLAN: (Speaking Spanish)

>> INTERPRETER: And so, yes, this is the first step that we're developing and we are producing the screen reader. ONCE is doing this. We're working hand in hand with the software developer which we are trying to make this available for every type of equipment so that they can use the screen reader.

>> CARMEN MILLAN: (Speaking Spanish)

>> INTERPRETER: So, yes, we're trying ‑‑ this is the first step. And also this is a very new technology. And we're getting to ‑‑ so people can get to learn this or know this. The software, it's very helpful for people with visually impaired. So they're trying to get this so they can actually help them with their studies, with their school, with work. And trying to incorporate this with a fund, with a loan, that would make it free. So they could be able to access it.

>> CARMEN MILLAN: (Speaking Spanish)

>> INTERPRETER: So we're trying to make this available for people who are studying and who work. And to make this readily available in a free manner. So they could use it in a free manner.

>> CARMEN MILLAN: (Speaking Spanish)

>> INTERPRETER: So we're trying to make this really available to the organizations trying to make this readily available so they can use it in their work and culture. And their school or studies. And ONCE has ever since 2016 has passed a law saying that this would be completely free.

>> MOHAMMED LOUTFY: Thank you very much. Sorry. I need to ‑‑ three minutes are up. I would like to mention that the spontaneous translation is now available. Thank you for the colleague who was helping now. I'm sorry, Carmen. I will definitely come back to you with more questions to learn more about your initiative.

Yeah. Please allow me now to move to Tania. What is it that has made CUNY decide to provide JAWS screen readers to the students with reading disabilities?

>> TANIA A. KALAITZIDIS: Thank you so much, Mohammed. Thank you for having me on today's panel. So JAWS is a screen reading assistive technology, right, that makes it possible for our students with disabilities. Specifically, those with visual impairments to have access to their digital course content.

You know, when it comes to higher education and course content, it's all about giving them access. So by providing JAWS to our students, they're not being excluded from their classes and allows them to be independent. Without screen reading technology, even if the digital content is fully accessible, how would it be accessed by a blind student, right? So without the technology, they would most likely have to rely on a person as a live reader.

So for us here at CUNY, that means the student has to go to their Disabilities Office, speak with their accommodation specialist so they can find someone who's available to read for them. It's a whole process. So JAWS really allows our students to independently access their digital class content. And, of course, it's part of the law. Here in the United States, we have Sections 504 and 508 of the Rehabilitation Act and Americans with Disabilities Act where it's required to create accessible environments. Including online content in higher education. And by providing assistive technology, including screen readers, it contributes to accessibility. Of course, we understand the cost of assistive technology that can be quite pricey for our students. Which is the reason why we were able to secure an unlimited home license for our students to use at home.

>> MOHAMMED LOUTFY: Thank you, Tania. Thank you very much. That's amazing. And on behalf of all blind people, I mean, we thank you for this great initiative.

Let me start now with the second round of questions. And Trevor, please allow me now to start with you. And ask you can you explain to us how Universal Service Funds programs work, given your experience with governments.

>> TREVOR PREVATT: Sure. What happens in the Caribbean, that is, most countries have in place Universal Service Funds. They were done following the model used in other countries around the world. These funds were used to try to establish, to ensure that people located in rural and disadvantaged areas with small populations could still be able to get connection to the networks of the telecommunication companies.

Established by the National Telecommunication Regulators and generally funded by a small surcharge levied on the revenues of those companies. This then gave the regulators the wherewithal to subsidize the operations of the companies in order to have them provide services in financially unattractive areas. The objective, therefore, was to provide universal service for a country's population regardless of where they lived.

However, over time, it became better understood that the mandate for USFs is needed to be changed from universal service to universal access. Universal access in this particular context taking into account the people in rural areas, disadvantaged parts of the population need not only connection to the Internet and services but also the wherewithal to have the skills and devices and supporting services to make use of that connection.

USFs, therefore, can be a source for enabling initiatives to be put in place which can, therefore, be of great benefit to PWDs. CVAS that I spoke about earlier is an example of the use, the Telecommunication Authorities, Internet in Trinidad and Tobago, put in place a system to fund devices to PWDs and funded the CTU as well in its implementation of CVAS.

All right. Sorry. I lost my bearings here. Sorry. My apologies. You asked about the challenges. There are many challenges in the operation of CVAS. One of the main challenges is a historical challenge in the legislation that first set up these USFs was drawn on prior ‑‑ drawn up prior to the changes that took place in the telecommunications sector. And was based on the provision of universal service.

So as a result, until the legislation is changed, the regulators are unable to fund initiatives based on universal access which is obviously working to the detriment of PWDs.

What I would like to recommend to participants is a study done in 2019, October 2019, which looked at using Universal Service Funds to increase access to technology or PWDs in the Caribbean. In that study, it outlines many of the challenges that USFs in the Caribbean face. Things like the non‑implementation of enabling legislation. Failure to use technology, technologically neutral language. That sort of thing. Then also, importantly, what the study does is it identifies best practices and recommendations for Caribbean countries who wish to establish or improve their existing, to increase access to technology for PWDs in the region. Thank you.

>> MOHAMMED LOUTFY: Thank you, Mr. Trevor. That's very helpful. Thank you very much.

Carmen, let me come back to you here and ask you from your experience what role do you think that grassroots organizations of persons who are blind and partially sighted could play to help promoting and ensuring the affordability of screen readers in their countries?

>> CARMEN MILLAN: (Speaking Spanish)

>> INTERPRETER: The previous question, ever since 2016, there's been a fund to make this readily available and free for people in the organization in Spain. We are still working and there have been more than 8,000 downloads and 4,100 of the software. This is in order to make this a lot more accessible for the visually impaired.

>> CARMEN MILLAN: (Speaking Spanish)

>> INTERPRETER: Well, this is an investment, an economical investment, that we have made. And this is the best bet that we have made. Because it's always a good idea to invest in technology and to make it very accessible for the visually impaired. And so that they may receive the help that they need through the software.

>> CARMEN MILLAN: (Speaking Spanish)

>> INTERPRETER: This is a manner for a person to be able to do their work, to do their job, to be able to go and just any type of work that they have to do. In an equitable manner using the screen reader.

>> CARMEN MILLAN: (Speaking Spanish)

>> INTERPRETER: The key is to analyze all this information and to be able to help the visually impaired and to agree or to be in agreement with the other organizations. So that they may have the accessibility and that this may be designed especially for the visually impaired.

Okay.

>> MOHAMMED LOUTFY: Thank you very much, Carmen. That's really helpful. Tania, if I can just turn back to you and ask you from your experience, also through CUNY and the work that you're doing with the students who are blind or partially sighted, how do you describe the impact that your screen reader software program has had on their experience, their academic experience?

>> TANIA A. KALAITZIDIS: Definitely. I'd say that screen reading software has made a tremendous impact on our visually impaired students. And, again, it comes down to accessibility. Right? So without the screen reading software, there's no way to access content without ‑‑ or digital content, I should say ‑‑ without relying on a person as a reader.

And, of course, a lot more goes into accessibility regarding content creators and their role. But without screen readers, again, there would be no way to access their content without relying on a human reader.

And, I mean, to a visually impaired student who, let's say, is blind, a computer monitor and a mouse, they're both pretty much useless. So by using a screen reader, they can listen to, browse, and interact with the Internet. They can check their email. They can read and navigate documents. They can take online exams and complete, submit, homework assignments online. And they can even fill out forms. So, and with screen readers, again, it even gives them structure when reading documents.

For example, it will let them know when they come across a bulleted list. When they come across hyperlinks. When they come across headings or titles. And when they come across images with alternate text, for example. So all of this contributes to independent learning. And, of course, it contributes to graduating on time which is a huge thing. When students are relying on, you know, quote/unquote, old‑fashioned ways of not using assistive technologies. On just relying on note takers and live readers. They may need to take less amount of classes at a time. And that can really delay their graduation.

So I believe JAWS and screen readers in general really empowers visually impaired students and higher education.

>> MOHAMMED LOUTFY: Thank you very much, Tania. That's totally true. Based on my experience as a blind person, myself. I agree with every single word you've said. Thank you very much.

Matt, let me please come back to you and ask you how do you see the impact of your initiative on lives of persons with reading disabilities? And what's some of the challenges that could hinder the outcomes?

>> MATT ATER: Thanks, Mohammed. I'll say this. When you listen to the numbers of people who are impacted every day when you think about these different programs, whether they're at a university like CUNY or in Spain with ONCE. And other countries where we've done this work. The universities. The impact to the person is what makes them ‑‑ means the most to me.

I think about a student who, you know, went all the way through college, became a lawyer. Took the bar. All the things they had to do to be able to get to that state. They weren't going to be able to do that without the affordability and reach of using a screen reader to be able to do that.

The work and the effort that goes into making things accessible today by the universities and by workplaces around the world, there's so much work that goes into that. And by having access to the screen reader to be able to read that content back. You think about the volumes of books that a student has to have in a school setting. They got to turn all of that into accessible content if it doesn't come in accessible content. Once they get it digitally, now they get to read it on demand. And on their own time. They don't have to wait on a reader. They don't have to plan out the time with somebody else. They're independent. When we think about independence, it's about being able to do things on your own.

You know, Mohammed and I were in New York this week. Just the ability to walk around and go from one place to the next and be able to read stuff on our phone. Read stuff on our computers. That's the level of independence we need. If I had to have someone read the email to me each time that I got an email, or complete a form for me. Or apply for something for me. Or read a book to me. Then I have to rely on somebody else. And that's not something we want to do.

I would say the largest challenges that we face is deployment in reaching people in countries to explain the opportunity. So when I talk about deployment, you know, for every country we have to plan a method and work with a partner like ONCE to help with the process of deploying and supporting the customer. We recognize when you do this around the world, it's about partnerships. So we're in 70 countries today providing our screen reading technology. And by having partners in those countries who can help do the training, support, and deploying the software to people, is a big part of the program. So taking that, finding additional partners in different countries. We have the people who do the distribution for us. But now we have to reach the right people within those countries to be able to support an effort like this.

And so the beauty of a program like today is to be able to share that it can be done. When you look at what ONCE's done in Spain or what CUNY's done at the University of New York ‑‑ City College of New York City, you get an idea of what the effort is that goes into getting the software out to people. And they've done great jobs in making sure that they can support their communities.

>> MOHAMMED LOUTFY: Wonderful. Yes. I agree with you, Matt. These efforts are very important. Yes, indeed. Nowadays, we save lots of time just because of, thanks to the screen readers that we can access them. It changes our lives a lot.

Let me move back to you, Carmen. And ask you what do you recommend that policymakers and other stakeholders in countries should do to ensure that blind and partially sighted persons have access and afford the kind of technology they need to ensure their inclusion in society. Like screen readers.

>> CARMEN MILLAN: (Speaking Spanish)

>> INTERPRETER: Well, we live in a reality where our society is completely digitalized. And for this, we need access to these type of channels for the visually impaired. So what we should do or what should happen is that there should be equipment and software readily available. There should be ‑‑ what they should do is there should be access to it. And there should be development of this type of software and equipment.

>> CARMEN MILLAN: (Speaking Spanish)

>> INTERPRETER: Private/public companies should be able to work on this. So that people can have access during work, during their education. So they can have this type of technology for the visually impaired.

>> CARMEN MILLAN: That's all.

>> MOHAMMED LOUTFY: Thank you very much, Carmen. That's really helpful.

Tania, what policies do you think should be deployed to help academic institutions become more inclusive and their digital platforms become more accessible for students who are blind and partially sighted?

>> TANIA A. KALAITZIDIS: I think what helps is having a universal design policy so that way learning environments can be accessed by all students. With universal design, you remove barriers, again, for all students no matter their ability or disability.

Some students have multiple disabilities. Or some students choose to not disclose their disability or choose to not register with their school's disability or accessibility office. So by having a universal design policy, you lessen the barrier. And you have a less of a chance of excluding someone. You really open the door for all students. And include assistive technology in the Universal Design Policy.

Students with disabilities, for example, as we talked about, students who are blind or partially sighted, rely on screen reading software. Or other students may need other assistive technologies. Such as reading and writing software. Of course, it's best to discuss with your staff which assistive technology software are best for your students. And have them deployed throughout your campus. Have them readily available without waiting for students to request them. That's very helpful.

And, of course, make sure your faculty and staff are aware of accessibility guidelines. Having them trained on how to make accessible content or so that way if they are providing any digital documents to their students, they are made accessible so those using assistive technology can access them.

>> MOHAMMED LOUTFY: Thank you, Tania. That's really helpful, indeed. Matt, how do you envision the future of digital accessibility for persons with reading disabilities? And what are some of your asks to governments who ensure that inclusive ICTs become more affordable?

>> MATT ATER: So there's so much technology and so much great technology today and over time. You know, I, you know, we as people who are blind traveling, working, going to school, retiring, whatever it may be. We have multiple tools in our toolbox. And an example would be I carry a phone with me everywhere I go. I do text messaging and email on that phone. I don't sit down and write a paper on it. I don't do track changes and things like that. But I'm going to use it for the type of tool that it gives me. Right?

The same would go with computers. I also have smarthome technology which a lot of us do. I'm not going to say any of the names of them. Because I don't want to wake up their devices. But if we think about those smarthome technologies and what they provide, they're also a tool in the toolbox. Would I use it to read a book? Probably. Would I do it to write a paper? No. Would I do it to read an email to me? No. And the reason is that when I want to navigate through an email, I may have heard something and I want to go back and read it again. But what we need to do within these applications, such as screen readers, is continue to look at other components we see in other technologies and bring those forward.

An example would be we added a speech input technology so you can give it commands. Because somebody who didn't know this technology may have not known those commands. If they could just say make it bigger to a screen magnifier, then that's much easier than having to know the command was a certain key stroke.

So part of the thing that we have to continue to do to innovate and make sure that this technology supports the new person or the new person who's getting into this technology, is understand what methods they use to access technology. So I used smarthome technology as an example. Another could be a smartphone where a touchscreen is used. And so how do people use their technology is really critical in terms of where the path is going to be forward.

And so today, not everybody's walking up and using a computer keyboard such as I use in front of my desk every day. Because they're using two thumbs on their phone. How do we make sure we continue to innovate, to support, somebody who's talking to their device or someone who's using a touchscreen device? That's one part.

Now, when we think about what the governments can do, I think the government needs to recognize that the best thing they can do is invest in their people. If they provide them access to assistive technology, whether it's JAWS for Windows or some other products that they may need. And there's lots of products depending on your disability out there. If they provide assistance to those technologies, then what we're going to do is have more citizens in our countries who are able to go to school. Get a skill. Get a job. And be successful. The idea is if we get people those skills ‑‑ the technologies and skills to be able to do those tasks, then they're coming off of the welfare programs and being part of contributing to employment and taxes and things of that nature.

So I think the important thing that governments can recognize is they invest in people with disabilities and they're going to get something back for it. I think that's the part about investing in both their technology, their training, and their schooling to get them a skill. That will hopefully provide more positive life for those people with disabilities.

>> MOHAMMED LOUTFY: Thank you very much, Matt. That's totally true. Investment in people is very important, not only for the people themselves but also for society. That's great. Thank you.

Trevor, I'd like to conclude with you by asking what is your advice to end users, advocates, industrialists, and scientists who want their voices to be heard by governments when lobbying for digital accessibility policies.

>> TREVOR PREVATT: Thank you. My first piece of advice is collaboration. The CTU believes in the power of collaboration. We used it, as described by some, to punch above our weight. Therefore, I believe stakeholders, those you mentioned, in the quest to have digital accessibility policies put in place, need to come together to make things happen.

As I mentioned earlier, many challenges many USFs face is lack of engagement with PWDs and project allocation and design. I think that this is a huge opportunity to create much greater awareness amongst PWDs and their organizations of the existence of USFs. It's always amazed me when I talk to PWD groups around the Caribbean how they just don't know that the USF exists in their country. So if more people know about it, they can use that as a vehicle to get much greater benefits.

One of the things I think that stakeholder group should do is use the fact that the UNCRPD is legally binding on the government. And to remind, was mentioned earlier, to remind governments of their need to live up to the obligations that they've committed to. And so, but I think it's, though, important for stakeholders not just to sort of make a reminder to complain this is happening, that's not happening. Also to bring forward solutions to governments. Governments can then buy into.

Another piece of advice which I'd like to share is I think stakeholders need to ensure ‑‑ I'm not sure if I'm off the track here. But I find that in architecture, every single architecture student has to learn and must learn about universal design to get the sense in the academic circles that a person who is into ICT, who's going to become a developer, going to become a content producer, must learn about universal design. So I think that if that's not within academic curricula, that's something that needs to be introduced.

Just finally, this is going to ‑‑ what I understood is the 2030 Sustainable Development Goals, particularly SDG 4. They mentioned PWDs quite substantially. But SDG 4 talked about quality education. My work in CVAS has led me to recognize that in particular for the Deaf community, societies as a whole, and I think governments that represent them, in my view, this is my personal view, failed to provide the quality of education, articles like SDG 4.

I believe to function successfully and fully in their countries, Deaf communities must not only be fluent in sign language they use but must be fluent in reading and writing the language in which they live.

Currently based on my experience in Trinidad and Tobago, most people who are Deaf, it does not allow them to get the sorts of jobs that Matt was alluding to because of the ability of people who are blind to use screen readers and get ahead. I think certainly in Trinidad and Tobago, we've not helped the Deaf community move ahead. Thank you.

>> MOHAMMED LOUTFY: Thank you, Trevor. Indeed. I would like to also emphasize that education is very important and maybe with you through CTU and other agencies, we can maybe try to put some pressure on governments and stakeholders to consider adopting policies on digital accessibility, especially in higher education programs and vocational training institutions. Because without that, people, maybe not many ‑‑ would be proactive and decide to learn digital accessibility unless they are very interested.

Anyway, thank you very much to all of our panelists. We have a few minutes to receive questions from our audience here. So we have only, like, 15 minutes to go. So I think we can ask ‑‑ we can have some questions. Can you please tell us if there are any questions asked via the chat box?

>> MAHTAB IRANI: Yes. Hello, everyone. How can government support awareness and use of choice of screen readers given the wide variety of freely available and paid choices available? Both already included in operating systems and available for download.

>> MOHAMMED LOUTFY: Who was this question addressed to?

>> MAHTAB IRANI: It's not addressed to anybody.

>> MOHAMMED LOUTFY: Okay. Who would like to take that question?

>> MATT ATER: I can make a comment. I think that like I mentioned in my last comment, I think everybody has to figure out what tool works in their toolbox. When we think about employment settings, we need to make sure that we have both the infrastructure and the support to provide the proper accessibility to the things that I need to do for employment. And for school. Now, out of the box tools such as ones I use on my phone work great for what I do on my phone. They may not be able to give me the same level of access to things such as Mohammed mentioned. PowerPoint, Excel, track changes in Microsoft Word. Can I do all of those same things? When you're evaluating the choices and selections you may have, you have to be able to know that there are different tasks within workplace or within school to be able to support you.

If all I'm going to do is read an email or browse the Internet and the phone works just fine for that experience, then you may not need something more advanced. To be able to perform those tasks.

>> MOHAMMED LOUTFY: Thank you, Matt. Anyone would like to add anything before we move to the next question? Okay. Mahtab?

>> MAHTAB IRANI: Tania, has CUNY analyzed the screen reader from Microsoft, Chrome operating laptops, screen reader on Windows systems, and screen reader for Mac in addition to JAWS?

>> TANIA A. KALAITZIDIS: Our techs throughout CUNY have explored other options. Besides JAWS. Including the voiceover built into Mac as well as the free NVDA. We did find that they do work differently than JAWS, which is fine. Keyboard commands can be different. I think JAWS is just a little bit more customizable. But although we do have JAWS and we always provide JAWS to our students, they still have the option to use MBDA or if they're Mac users, they have the option, of course, to use the built‑in voiceover into Mac. Again, they do work differently.

For me personally, I use a Mac at work. And I've tried using the built‑in voiceover. I do find it a little bit confusing. I do find JAWS to be a lot easier. But that's just my opinion. It all comes down to student preference.

>> MOHAMMED LOUTFY: Thank you, Tania. And I agree with you. I had a similar experience. I, like, switched between different voice ‑‑ sorry, screen readers. I found that JAWS can be the most comprehensive dealing with different softwares and programs. Especially if you want to read PDF files. Nowadays JAWS offers OCR, built‑in OCR system. So also with Excel format documents, it's very easy to navigate. And we can do much more with JAWS comparing to the other ones. We're not saying that other ones are not as important, but in terms of the level of usability of these. The level of robustness of screen readers. I think JAWS has proven to be the most robust and reliable.

Any other questions brought up?

>> MAHTAB IRANI: Yes, a similar question again for Tania. I love the idea of providing universal access to screen reading software. However, do you find that most students bring their own technology with them to higher education institutions and may not make use of the free access to the JAWS license? How do you deal with this potentiality?

>> TANIA A. KALAITZIDIS: A student has their own technology that they use, that's perfectly fine. Even though we do have an unlimited license to JAWS per students to use at home, they're not required to use it. Again, it all comes down to the student's preference.

So, and this doesn't just go for JAWS. It's any assistive technology we purchase for our students. Just because it's purchased, it doesn't mean that we are forcing the students to use them.

So how it normally works is a student here at CUNY, a student with a disability who registers with their disabilities office, they meet with an accommodation specialist. And they discuss which assistive technology works best for them. The accommodation specialist will tell them the available technologies that we have for them. And, of course, if they would like to proceed with using them, we provide trainings for them. We would train them on how to use the software. But if they don't want to, and if they have their own technology, that is perfectly fine.

>> MOHAMMED LOUTFY: Thank you. Thank you, Tania. Other questions?

>> MAHTAB IRANI: Yes, our next question isn't for anyone in specific. Online communication software technology has rapidly improved during the COVID‑19 pandemic. However, many people with disabilities cannot use devices to access this technology. What needs to be done to overcome this barrier?

>> MOHAMMED LOUTFY: Anyone would like to take this question? I guess no one wants to answer that question.

>> MATT ATER: So if we're talking about some of the new online services, let's use Zoom, Teams, Meet. Whatever they are. Those are some of the ones that really changed, you know, the way we compute today. Because we're more virtual than we were three years ago.

And if we're looking at those technologies, you know, most of them have done a nice job in terms of making their products accessible. Then people still need to use assistive technology to access them. Whether they're using a built‑in assistive technology. Or using something else like JAWS.

So I think that the ‑‑ it gets down to the affordability and other things of that nature. But that's the nature of computing. Do you have a smartphone? Do you have a computer? To be able to put that application on. I think that's what the question was relating to was some of those systems.

>> MOHAMMED LOUTFY: Thank you, Matt. Definitely with the pandemic, we started having ‑‑ we started the pandemic having lots of challenges using all these platforms. And lots of people gave feedback to the companies behind these platforms. And we can see that, for example, nowadays, we use Zoom. Very easily, we can use it as a conference setting or webinar setting or just a meeting setting. All other platforms, as well, have improved quite a lot. And this is all thanks to efforts of Persons with Disabilities giving their feedback. Companies like Vispero, have really taken this switch to relying on virtual platforms seriously. Seeing the potential outcome. And benefit of these virtual platforms in the long run. In many ways, in many aspects of lives of blind people or Persons with Disabilities in general.

We can take one more question before we close the session or conclude. Mahtab, are there more questions?

>> MAHTAB IRANI: There's one more question. Open‑source screen readers have given features to include many local languages around the world. While the commercial screen readers is very slow and disinterested about this. Access, rights of blind people, in poorer parts of the world?

>> MATT ATER: I can probably take this one because it seems to be toward this topic. We added, in fact, this past release back in December, I think we added another 20 different voices. So we continue to add, including, you know, some of the ones that we added was ten different dialects in Chinese and Mandarin, one of the Chinese dialects. We added Ukrainian, Vietnamese. We continue to add language support. There's localization. There's language support. Localization, we do. We have over 30 languages localized today. I don't know the exact number for JAWS and for the Fusion platform. It's over 30 as well. Of course, there's the synthesizers vocalizer, synthesizers that support that different languages available free on our website based on usage of the software.

So if there's a language not supported, we're more than willing to talk with folks. But it's also based on demand of the customer and what they've requested.

>> MOHAMMED LOUTFY: Thank you, Matt. Any more questions, Mahtab?

>> MAHTAB IRANI: These are all.

>> MOHAMMED LOUTFY: Thank you very much. Thank you, Mahtab. Well, thank you, all, for joining us today. On behalf of the G3ict, we are so happy to have you all here. And we would like to thank our panelists for their excellent input and contribute to this discussion.

Again, no doubt, screen readers, technology, digital accessibility, is very important. And it has changed lives of millions of Persons with Disabilities. I would like to see this experience replicated and spread more and more and more to reach last person living in every last village around the world. We can see how assistive technology, screen readers, and other parts of technologies have also helped the inclusion of Persons with Disabilities in with aspects of lives and society.

And, again, digital accessibility is not only beneficial for Persons with Disabilities but also, it's beneficial for society. And, particularly, elderly people and many others. And it's also going to shift toward more positive outcomes for this world.

I would like, again, to thank you all. We'd like to thank our audience. We'd like to thank our panelists for their excellent contributions. And also would like to thank our technical team who have been helping with this ‑‑ with putting together this event. I'd like to thank the interpreters and the language translators.

And, again, we look forward to seeing you all in our next Side Events and webinars. Thank you. Thank you, all. Have a great day.

>> Thank you, everyone.

>> Thank you.

>> Thank you.

>> Thank you. Good‑bye.

>> Good‑bye.

(Event concluded at 11:45 A.M. CT)

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