Publicis Sapient Presents Accessible Design and Technology Panel

ALISON WALDEN: Hello everyone. My name is Alison Walden, I'm a senior director of technology at Publicis Sapient and the host of our accessible design and technology panel for IDPD Week. We have almost an hour and a half for our discussion today and I just want to go through some housekeeping items upfront. As we mentioned earlier, American sign language is available from Roopa, who is listed as one of our panellists, so find Roopa on the screen to take advantage of that. We also have real-time captioning available. There should be a link in the chat that you can follow to adjust the appearance of the captioning. Any questions on these housekeeping items, just use the Q&A button on Zoom. We are taking all questions for the panellists at the end. Any questions that you have throughout the presentation just, please, also use the Q&A button and we will get to them after.

Before we get started, I also wanted to provide a bit of background on IDPD Week. So it stands for International Day of Persons with Disabilities. This year it falls on Thursday, 3rd December. At Publicis Sapient, we have organised events this week, from Monday to Thursday, to promote an understanding of both visible and non-visible disability issues and really to mobilise support for the dignity, rights and well-being of individuals with disabilities. Throughout the week we will be joined by colleagues and clients from all over the world to illuminate disability issues and raise awareness because everyone should be enabled at work. We are proud to be celebrating IDPW Week, we hope you will participate each day and take away some key learnings and new insights to help make every environment you are part of more accessible and inclusive.

Now, I'm very happy to introduce our esteemed panellists, so thank you to all for joining us today for what I'm sure will be an insightful conversation. We have Kendall Akhurst, a product owner from Lloyds Banking Group. We have Matt Roberts, Lead Digital Designer and User Experience Manager at Sightsavers. We have Manish Agrawal, Senior PM Accessibility at Microsoft and former Publicis Sapient employee. We have Shadi Abou

Zahra, Accessibility Strategy and Technology Specialist coming to us from the W3C. That is amazing. Welcome to all of you. I'm just going to jump right in and get started.

So, I wanted to start with a question for all of you. As experts in this space, can you each take a moment to articulate for people on the call, who might be new to the idea of web accessibility, why it's so important for organisations to create accessible experiences? Both for internal applications and external applications for the general public. Go ahead. Actually, I can pick on you if you like.

Manish, I have you right here in the middle of my grid, if you want to get us started.

MANISH AGRAWAL: Sure. Hi. So in Microsoft we have got, I can distil it down to four reasons why we want to do accessible products. First of all, our mission. Our mission is to empower every person, in every organisation on the planet to achieve more. And every person basically does include people with disabilities. So that is our mission and that is the philosophical underpinning of everything that we do. It's given that we want to include people with disabilities in our products.

Other than the philosophical reasons though, I mean there is other reasons, like the impact. You know, more than a billion people in the world live with disabilities. This is not just a static demographic, it's... Everybody becomes a part of this billion at some point in their life, as they age, as they go through life. The thing is that people with disabilities have a disproportionate hardship in terms of employability. They are more unlikely to be unemployed than everybody else. Not just that, there's an economic impact. If we make our products more accessible, we find that, you know, we are able to sell them more. I'm not sure if I'm allowed to share the numbers, but it's a nontrivial amount that we gain just because we, our products are more accessible than the competition. That number is likely to quadruple in the next two years based on our recent analysis. Just the impact, social impact, the economic impact, on - even impact on hiring people. It's a pool of people with disabilities, a pool of people that is untapped for hiring for recruitment. Just the impact is huge.

The third reason is my least favourite, but important all the same, legislation - legal and risk. So compliance to legislations across the world. We do it because we have to do it.

The last reason is perhaps the most important, which is, innovation. When we build products that are inclusive and where we have considered the needs of people with disabilities upfront, we end up building a much more compelling product. Every time. We have seen this over and over and over in the various products across the board. It's also for the (inaudible) fact, it's given various names, but the net result is we - if we add constraints to our design process while building the product, we end up building a product that is more versatile, that can be used in more situations. Things that we haven't thought of while designing the product. Those are a lot of the reasons. I can give a lot of examples, but I will let other people talk too for their reasons as well.

ALISON WALDEN: Thank you, Manish, those were some really great reasons. Do you want to go next, Shadi?

SHADI ABOU ZAHRA: Sure, happy to. Manish has already outlined a lot of things. But, yeah, I mean to add to that, we really shouldn't under estimate this so called electronic curb cut or the benefits for everyone that accessibility provides. I think we often have in our mindset that accessibility is for a certain group of people, however large that group. It is a substantial group, we are talking about 15% 20%. It's far beyond that. I think it was actually first research commissioned by Microsoft, many moons ago, that actually looked at accessibility - if I may talk on your behalf, Manish, sharing another story just - were I believe the story was that Microsoft was looking to what is the business case as a company on doing accessibility. They found that about 15% 20% of the population require these accessibility features. Require. But that up to nearly two third benefit from that. From then on they started changing the name from 'accessibility' to 'ease of use'. If you look in the newer versions of the operating system they call it 'ease of use'. It's like the elevator. Who thinks of an elevator as an assistive technology, right? Or curb cut? All these things, automatic door opener, all these things we take them for granted and we don't think of them as assistive technologies any more, they just improve everybody's lives. Thinking of that, it shows this aspect of innovation or usability improvement that I think Manish was talking about. Innovation is yet a separate thing. People with disabilities, for example, have been using things like text to speech forever and now it's becoming mainstream. So people with disabilities because they need newest technologies or they rely, they are very early adopters, designing around, let us call it, the fringes of the bell curve, makes the product

much more robust and useable across many, many more things and use cases that people haven't thought of.

The last point I want to mention is, we are all getting older. I think there have been also companies who have published papers, I think SAS, a software company, had published a white paper also, a while back, about why they are doing accessibility. They are doing much more internally, they don't actually have such customers, they are more in the B sector, but they were doing accessibility because the average age of their employees is increasing. We all know as we all age, we tend to have more age related disabilities or limitations. So that is another thing why businesses need to think about it, the average age across most societies is rapidly increasing and if we want to retain employees, we need to ensure that, not only the outwards facing ICT systems are accessible, but also internally. So it's a bit selfish. I think as accessibility as being something selfish. It's not for the others. It's really for all of us.

ALISON WALDEN: Thank you, Shadi. Matt, do you have any thoughts that you could add?

MATT ROBERTS: Yeah. Just to add to what has already been said, really. From a Sightsavers' specific perspective as well. So for those who don't know, Sightsavers are a charity that focus on preventing avoidable blindness and fighting for disability rights. So it's at the core of what we do is to essentially top line, building more accessible products changes people's lives. We are very data driven, very research driven because we want to get the help to where it's needed most. Essentially, whether that's surgeries or getting people into education. So in terms of that data collection, we need to make sure that data is collected in an accessible way, it's stored in an accessible way and also presented in a way that can be understood. So there's so many stages from being in the field and collecting that data to then distilling it into different formats for partnering with other organisations. It could be for funds. It could be for grants. It could be to campaign for disability rights in a particular region of Uganda. But it's also, kind of, understanding that information and making it in an accessible format for our supporters as well. Providing that data in a way that can be understood by as many people as possible provides then a way of people understanding how important the work we are doing is. That goes right through from our research centre to the way the information is presented on a website, actually through to that donation process, if people are encouraged to support what we are doing. They have a

means of donating whatever amount to us, but also, on the flip side, they have a way of accessing the petitions and being able to contribute to the campaign work we do. So as much as what has already been said already, for Sightsavers it's a real kind of part of who we are and what we do. It really does have that real life impact on changing people's lives.

ALISON WALDEN: Thank you. Kendall, can you add anything?

KENDALL AKHURST: Sure. All of the panel have covered a lot of the detail of why we just need to be accessible. I guess, for me, the first thing is around all of our customer base should be able to access all of our products and services. Again, that is not always the case, even though we are going a long way to get there. I think there is a business case behind that, it's the right thing to do. I mean, our premise, as far as Lloyds Banking Group, is helping people prosper. If we exclude a big group of our customers because they can't access our content, access our facilities, then actually how are we going to meet that goal of trying to help them prosper?

It's a bit of a joke if you have your arms behind your back before you start. We are really passionate about that. Personally, I use a wheelchair, but it's opened a new world up to me and how things aren't accessible to some of our colleagues and customers and to have been working through that, as a product owner, I think the frustrations of finding things that aren't accessible when you have your hand on heart doing a great job as an organisation to try and be more accessible is heart-breaking. I think that's probably what we are trying to get across to everybody is that, you know, we need to wear our heart in the game on this because it's the right thing to do. It's also a huge business case, why would you exclude a group of your customers who can be a lot of value to your organisation. So, hopefully, that all makes sense.

ALISON WALDEN: Yeah, thank you, Kendall. I feel like no organisation does it on purpose, right. Nobody wants to exclude anyone based on how they access the content. Just hearing all of these reasons, you know, why it's so important to close the gaps that make it happen, it's really helpful, I'm sure it's helpful for everyone on the call. I have another really general question. I'm actually really eager to hear what you think about this.

The internet has been around since 1990, right. Software has been around for even longer. So why do you think that accessibility of digital experiences is still an issue today? Why

haven't we solved it yet? I would love it if each of you could briefly share what you think the main barrier might be to this finally happening if you can. We don't have to go in the same order. We can let Kendall go first this time, we will go backwards.

KENDALL AKHURST: No problem. I think probably the biggest reason that we haven't solved it is because organisations just don't understand how important it is from the bottom up actually. So top down most organisations have got… are in the right place in trying to drive through accessible solutions. But then, when it gets down to that middle management and backlog activity, even working within agile - as most of the organisations here I'm sure are – you get to the point of – oh, we'll put that on the backlog because it's not as important. It's only a small group of customers. Actually, it's quite the reverse. Universal access benefits everybody and excludes nobody hopefully. Things like subtitles, audio description it should help a number of customers you don't expect them to as well. I think we really don't do a good job, generally in business, of actually seeing the value of a customer and particularly this group of customers who, to that number, there is a lot of money in that market and even more so with an ageing population that we can capture if we get our accessibility right. So I think organisations have still got a long way to go with that even though the general premise is that we are doing it for the right reasons because it's the right thing to do and regulation is helping with that too, I think from a wider perspective. I think during the big organisations we have on the call today are doing it because it's the right thing to do. Potentially because we can afford to maybe helps. It's definitely that position of - we know it's the right thing to do and it will be good for business in the longer term.

ALISON WALDEN: Thank you, Kendall. Matt, this is pretty much what you talk about with organisations all of the time, what do you think are some of the barriers that have prevented this from being just a mainstream thing that everyone does?

MATT ROBERTS: Yeah. I guess there's a few points here. I guess it's the definition of "accessibility" whose responsibility is it within an organisation to understand what accessibility is and how they can act on it? We talk about - oh, it's the responsibility of the design team. Oh, it's the responsibility of that team. Actually, really, it's a shared responsibility. A shared responsibility to understand what that term means and what that term also means to them in that role and internally and externally.

I guess, from a kind of personal perspective as well, I'm colour blind. I was hard of hearing when I was a child. I had seven years where I struggled with arthritis. I didn't have full function of my hands. Well, if I haven't got the confidence and the ability then to have that open and honest conversation with colleagues, with friends, family, then they cannot understand how they can help and to what extent. Every day someone would send me an email with "see corrections in red", but I can't see red. So that is then a real barrier for me to really get on with my job. Actually, it's only through conversation, I think this is a big part of it, is that if it was highlighted in a different way, bigger or just yellow behind it, there are other ways that could help everybody. Like Kendall said, it's a universal kind of approach to it. It's not just a case for that person and a case for that person. It's a universal. We are looking at universal solutions to help as many people as possible. That comes through a lot of conversations with the right people.

ALISON WALDEN: Thank you. How about you, Shadi.

SHADI ABOU ZAHRA: Well, two things. One is, maybe that societal aspect and the technical aspect. Actually, it's more the educational aspect I would highlight here. What do I mean by that? Societal aspect, as Matt was speaking I just realised wow, we have here a panel of all of us with one form of disability or another which, quite honestly, how often do you see such panels outside in the real world? Maybe it's because it's (inaudible) or the topic or something. I compared a lot to just general diversity and the gender movement. If you can see it, you can be it or something. Also, a lot of the segregation or separation that we have in a lot of communities, where I live here in Austria, for example, in many other countries you still have separated schools already for children that get separated out because they have disability. So there is a lack of understanding and a lack of knowing each other, a lack of connection. So it's really misunderstanding, it's not knowing and not understanding what others... I think a big part of accessibility is not really the technical stuff. It's societal aspect. Once the mindset is there, once the diversity is there, then I think people will know that they need to have it as everybody's responsibility. Just like diversity in an organisation is everybody's role and everybody knows it starts from the hiring and it needs top level management support and all this. It would also apply the same (inaudible), but we need to have a societal change.

The other big factor that I see is lack of education. How many developers, designers, project managers, whatever, complete their education or training or something and never hear about accessibility? Right, or even worse, they are educated to programme things the wrong way or to… So not only do they not hear of it, I mean, see that in courses, in books and whatever where the examples are actually wrong code. If you actually repeat these examples in the way you are taught, you are actually creating inaccessibility. So we need I think to place a lot of accessibility in education and make sure that people are learning it from a very early stage and understanding that what the correct way is, just like they learn about security and privacy and all this when they are developing and designing systems and so on. That accessibility is just equally part of that. Yeah, I will stop there.

ALISON WALDEN: I love that, Shadi, just the idea that there is a right way to do it. If it's not accessible, it's because you have done it the wrong way. There are so many ways that you can do it wrong. Thank you so much. Manish, can you talk a little bit about why you think it's still an issue?

MANISH AGRAWAL: Sure. I want to build on top of what Shadi was saying, I completely agree. A computer engineer who passes out from university never learns about accessibility as part of their course. Not just computer training, but any business person, any course, people don't have exposure to the need for accessibility and how to do it. You know, that lack of exposure to, A, the information, B, the skills, is basically, it's not that people are evil and they don't want to include everyone, but it's just that they are not aware of the need to do it and how to do it. So that's one aspect of, you know, one of the most important aspects of why we don't build accessible products or software.

There are a couple of other reasons. One is accessibility, like a lot of compliance areas, is imposed because of legislation and policy. So it is treated as a checkbox exercise towards the end of your product life cycle. You try to test for accessibility after building the product and then try to retro fit it. We need to shift left and make it a part of the design. That's how you get it right. Not treating it as a compliance exercise, or actually treating it as a compliance exercise is one big barrier to making an accessible product.

Lastly, I think the, you know, policy and legislation causes it to look like an compliance exercise, but it is still important. It is still lacking in, it may be there in some developed countries, but a large part of the developing world, were a lot of population of people with

disabilities lives, still doesn't have adequate legislation. Even where there is legislation, it applies to public spaces or public companies, very little of it applies to enterprises who have, who will hire employees on what kind of environments or software they provide to their employees and so on. That is probably the last set of the barriers.

ALISON WALDEN: Thank you, Manish. Thank you everyone. I think answering just those two general questions was a great introduction for everyone to this topic.

Let us move on to what you have each been doing. You have all been responsible in your careers for incorporating accessible processes at your organisations. These aren't tiny businesses either. Kendall, as a product owner within group transformation at Lloyds Banking Group, how are you ensuring that accessibility is incorporated into the products and services that you are building for customers and is there a way you are transforming the ways of working to drive accessibility?

KENDALL AKHURST: Absolutely. I think a bit of this has been touched on already very much in the discovery stage of a project or a piece of work. We are breaking things up into smaller pieces, as I touched on before, around our job approaches, but very much around making sure you do that in the early stages and early sprints of that work to make sure that you understand where your blockers are or anything that might be inaccessible because it's new technology. That is another one of the probably more in an architectural level in the organisation, we are doing a lot more when we are using strategic platforms used across the board. So as a product owner, my job is a bit easier and then I can use web technology that has been already tested across the board for different accessible features. We are also using external non-profit organisations to challenge us and to test our sites to make sure, because we do our own testing. We have new ways of testing that use IA that tests things. The reality is the proof is in the pudding when your customer tries to use something. So as much customer testing as we do, we are still not 100% right every time and using other organisations to come on and have a look as well is a good way of sort of keeping ourselves honest on that and making sure that, yeah, we have a strategic platform that is accessible. You know what, we started using different fonts somewhere or doing something slightly differently and it wasn't as accessible as we expected. So, yeah, probably just test, test, test.

Another one around that to make sure and again the mobile device first sort of approach we use now brings challenges as well around that. I think we are doing quite a good job of making sure that we are accessible on the smallest device working backwards. That gets easier once you have that approach. It's taken a long time to get to, but I think that is working quite well. Now, as a product owner, I definitely find that it's something that we are just doing as part of the business rather than something I have to absolutely dig into every sprint for work that we do.

ALISON WALDEN: Thank you, Kendall. I think that is really key. That is a key thing that gets missed a lot is getting some people with lived experience with disability to test your product with an expectation that you might have to change something after. I find lots of times we are like OK, sure, let people test it. You kind of launch it anyway despite what impact it might have had.

KENDALL AKHURST: 100%. I think probably everyone on this call has had that in the past where we used to get to a point - that is only 5%, 1% of customers, you know, a feature that we need, so, you know what, we will come back and do it later as a backlog activity. Then it never gets done because it's a small priority. Actually, that's not acceptable any more. So I think that's definitely been a change of thinking and approach and obviously there is rules and regulations behind that as well. Definitely people are thinking that way now. That we can't leave that until later. That has to be accessible before we go live to the customers.

ALISON WALDEN: If I can ask, Kendall, now that you have it, it sounds like you have it very embedded into your processes, I know that the fear that many organisations have is that it's going to dramatically lengthen the amount of time that it takes to create something. I always try and tell people, no, once you are used to doing it, it's not going to take that much longer. Certainly it will take a little bit longer because you are testing across different devices in different ways, has it added a really significant amount of time to your product duration. Can you talk a little about that?

KENDALL AKHURST: Absolutely. With the bigger releases, absolutely not. I guess there has always been challenges with testing for the 20 years I've been working in digital. Testing was always the big thing that slowed up a project as far as – we've found a defect or we found this. Once you put accessibility into that and because you are already using that framework, it generally doesn't add any additional time to it. It's really hard if you don't do

it very often because it does add a lot of time and, yes, you need experts to give you support on that. Once you have a general framework that you use, it's just part of what you do. Again, I say that, knowing that we don't have everything 100% accessible all the time when we bring in new technologies. That is probably one of the things that everyone on the call, I hope, will be mindful as organisations is making sure that everything is accessible as we come. We will touch on it later in these questions around things that new technologies that come in and are making accessibility easier for some things like colleagues. Again, challenging, does that work for everyone and is there anyone excluded because of that new technology potentially? You have to always keep your eyes on the ball. In general, it definitely gets a lot easier the more you do it because it's like anything, repetition, you know, makes things just part of your processes.

ALISON WALDEN: Thank you, Kendall. I think organisations worry it will take long because they are used to doing the check box approach that Manish was talking about earlier and then of course that takes forever. If you think you will tack it on at the end, then you just end up doing a bunch of things.

KENDALL AKHURST: The end, everyone knows, at the end of a project it's too late. You are effectively not going to deliver your project if you haven't already thought about accessibility at the beginning. Even the middle sometimes it's too late, isn't it, when you get to some where you used the wrong code or that code is too hard to change. You know, things like that. They are really hard to change if you are too far into your project.

ALISON WALDEN: Definitely. Thank you for that.

Matt, I was wondering if you could go next. I know you are a member of the British Interactive Media Association Inclusive Design Council. I was wondering if you could talk about how you are helping organisations design with everyone in mind and share some of the key challenges and success stories in your work doing that.

MATT ROBERTS: Yeah, absolutely. So for people who don't know who BIMA are, they are a community of businesses, charities and academia across the UK. They have various councils focussing on particular areas of the digital space. So you have sustainability, diversity, inclusion, human behaviour (inaudible). The Inclusive Design Council came about in March this year and it is made up of people from digital, Kin + Carta, Sightsavers, all sorts of

organisations. I guess the first and biggest success was that BIMA recognised that accounts, they should be accounted for in inclusive design alongside some of these other big topics of digital world and technology. So, in terms of its success, that was a great kind of platform because we acknowledged that not every organisation kind of acknowledges inclusive design as an important element to really focus time and effort and resources on. That's a really kind of moment to say, brilliant, BIMA are recognising inclusive design at this level. So, in terms of the council, we are kind of in our infancy, in March time this year we kind of launched. What we are doing is, we are kind of coming together as different organisations and kind of… The initial challenge really was kind of understanding where everybody's level of understanding and experience was within accessibility, to then share that experience and knowledge with the other members of BIMA. There's hundreds of organisations and different roles represented within BIMA. How do you then… How do you then run a masterclass for this breadth of experience and also breadth of experience within the Council? So in terms of a challenge, that was a real kind of discussion point, just there to start with. What are the definitions of accessibility and inclusive design? What is the business case for it? How do we define this to be able then to share it?

What we ended up doing, one of our successes of the year in September, was we ran a masterclass. That was really aimed at kind of understanding that everyone has a different level of understanding of accessibility. What we wanted to set out from the start is that no one is left behind. We are not pitching it at that level that we will leave people who are new to it. They are kind of interested in it, but they can't grasp the idea, the notion, the way it kind of falls to them in terms of responsibility. We had so much interaction. So many questions off the masterclass. It was brilliant. We weren't isolating certain attendees, you know, accessibility experts that had been in the industry for five, ten years, we were kind of reaching those people that are new to the terms and new to the idea of accessibility and its importance. I think what was just a phenomenal moment to recognise that.

I suppose the challenge that we are kind of acknowledging is that, as a council, are we representative enough of different people, but also different organisations? Are we representing enough lived experience to be able to then share the knowledge and the information with the BIMA members? We have now kind of promoted the idea that we truly want to be seen as an inclusive council and we want to invite people with lived

experiences to tell stories, to educate us as other council members and educate BIMA members as to what they can do, how they can help and everything like that. So I guess that's one of our challenges at the moment. We have just recruited Laney Watson(?) which is a phenomenal contribution to the Council. I think we are going to create some real buzz next year with creating some toolkits that we can send out to organisations to really help them become more accessible organisations.

ALISON WALDEN: Wow, that is really exciting, Laney Watson. Awesome. When you are working with different audiences of different skill levels and experience with accessibility, is there anything that you have found works really well to get people who are not familiar with it very engaged, very quickly?

MATT ROBERTS: Yeah. I guess, just have to keep the message as simple and as straight forward as possible. I mentioned the, for me, being colour blind, someone writing their corrections in red. You know, everyone can understand that. Oh, I didn't really think about that. There we go. There is such a simple solution that benefits more than just the 1 in 12 men who are colour blind. The impact is just huge. It's when you start to think about that, you know, with remote working now, you know, we are kind of understanding the way Zoom and Teams can really kind of engage more people. Actually, can isolate some people that were used to say lipreading in the office. In a Zoom call we need to make sure that captions are there and they are of a good quality to be able to involve everybody within the conversation. So we are just making conversation as simple and as straight forward in every day as possible because as soon as someone grabs that and understands that and the impact of being left out of the conversation because captions aren't available, you know, it's a no brainer. Then people start to think OK, I want to go out on their own to find better solutions. That's one of our main kind of approaches to it.

ALISON WALDEN: Yeah, thanks so much. That's such a great point about how personal experiences, people are able to sort of able to resonate with that immediately. It kind of goes back to Shadi's point that he made earlier, if we increase the diversity of all of our groups overall that would just happen naturally. There would be way more personal experiences just happening between everyone and everyone would just immediately be more aware. Definitely something that needs to happen.

I wanted to ask you, Manish, I know Microsoft has been busy focussing on creating technology for people with disabilities for many years now. I'm sure we will talk about a lot of those applications a bit later. I was wondering if you could tell me about or tell all of us about Microsoft's accessibility evolution model.

MANISH AGRAWAL: Sure. So the accessibility evolution model is like a capability monitor for accessibility as a capability. So it gives you a structured way to measure the (inaudible) across areas (inaudible). It goes from initia, to repeatable, to defined, to optimised. There is one more. Managed. Managed and optimised. And, you know, you could have as many steps there, those are the five that we have. Then within… For each of those steps you could have, you could measure for various facets. You could measure for anything like vision and strategy and risk and compliance, standards and regulatory. You could measure for your, you know, the simplest one is just the development life cycle. How mature are you? How much are you able to move accessibility to your design phase in your product development life cycle. Are you treating accessibility bugs as quality problems or not? Right. I mean, you could develop as much capability and accessibility, but really it's just a symptom of… accessibility problems are just a symptom of your overall quality problems. So does this feed into your overall quality metric of the number of bugs that you get on accessibility? Do you treat them equally as you would for any other functional bug?

So, you know, where you are in that, in the majority of each of these facets. So we have this given structure where we are able to take the structure, give it to Microsoft is a very huge organisation, so each division can then start measuring on whatever it is focussing on and because everybody is measuring the same way, we are able to collate this information at an enterprise level, at a Microsoft level, and then come up with information across the board. This allows various things, compare organisations, who is doing better? Who needs more work? But within an organisation, which area do we need to start measuring or we need more work on? Overall, at a Microsoft level, to focus where we need strategic investments in terms of accessibility. So, that's I'm not sure if I'm doing justice, but that briefly is what the evolution model is. We found it really useful to scale accessibility across the organisation.

ALISON WALDEN: Thanks. Is this documented somewhere that other organisations could leverage it or is it purely an internal facing thing at Microsoft?

MANISH AGRAWAL: I believe it's available at   I can find out and get back to you. I don't know. It should be available at Microsoft.com, I can look for it and send you over.

ALISON WALDEN: OK, thanks.

Then finally, Shadi, our representative from the W3C web accessibility initiative, you have produced countless web accessibility perspective videos at W3 that explain everything from getting started with accessibility to detailed explanations on how to design and develop in an accessible way, to running projects to ensure they incorporate accessibility. My question for you is, what are the structures that an organisation will need to have in place to benefit from the advice in your videos and what roles within the organisations need to learn the content in these videos? Is it the CEO should be watching? Is it everyone? Is it a junior consultant? What do you think?

SHADI ABOU ZAHRA: Yeah, everyone. This is one of the issues that we are wrestling with is really the spectrum of audience is really broad. We want to address high level executives and managers who, you know, make it happen. Who assign the responsibilities and the euros or dollars or whatever goes with it. So, on the one side, we need to address them. At the same time, developers and designers want more detailed materials. You know, how do I do that? What does it actually mean? Technologies are evolving so quickly. At the same time, we need researchers. As technologies are evolving we are looking at how to do accessibility in immersive environments, in internet of things. To all of these kind of digital technologies as it's evolving and trying to embed accessibility in these so that you can make such projects, presence and content accessible.

But also from a different side we have, you know, people who are fairly advanced, have already a lot of accessibility background and are looking for the newest or very specific information, how do I very specific guidance. We still have people entering the field saying Ah! Blind people use computers? You know, we have this whole spectrum of multi-dimensional on both what their career or what their job descriptions are is a broad spectrum. That is increasing. Before you just had the web master that did everything and now you have the developer, designer, the UX designer, the visual designer. I think people in the field know all these job titles that need to be there because the web or digital technologies, just more generally, has become much more mature, much more complex and needs these roles. The roles are expanding, but also the depth and the knowledge about

accessibility, both technically and educationally. So really trying to provide a lot of different flavours here, technical materials and educational.

The perspectives were really designed, the videos that you are talking about, were designed to be very, very short. So they are under a minute each because we know the attention span, particularly of higher level executives or managers. It should be something that is easier to pass around if somebody said, "What do you mean by text to speech" or "What do you mean by colour, use of colour"? You can send that one video and people would see it in action very quickly. Also making accessibility more human. You know, showing people that are actually engaging with this and the additional benefits. So colour is not only for that particular sector, but also because if you are using your mobile in the field there is kind of empathy, there is kind of feeling, understanding. So we have these types of resources that are really intended for sharing and easy consumption, shall I say, all the way to tutorials and techniques. All the resources that accompany the standards and the guidelines to try to evolve things and help people, guide them. As you mentioned also, project I don't want it list all the things. The bottom line is, we need to address all and we know that some people say, the website is very full. We redesigned it a few years ago to try to make the information more easy to use and more easy to find because it's a lot of information that is there.

ALISON WALDEN: Thank you. I was wondering, for the people on the call, is there a place where the perspective videos are arranged by discipline, for example, so that they could make their own curriculum? Like say, all the PMs want a certain type of video. All the designers would be interested in certain other of the perspective videos. Is there any way it's arranged like that?

SHADI ABOU ZAHRA: Yeah. So, well, not the videos themselves because these are only 10 videos of such. Actually, one of the things we are developing right now is curricula for accessibility training and we have developed the first curriculum here, which was called "introduction" we are renaming it "foundations" to really give the foundations. We are just about to publish, hopefully next year, the curriculum for developers and then we are working on designers and content authors as well. This is intended for trainers, but also educators.

We hear very often like… One case is a university professor says I teach IT, I would love to teach accessibility, but I'm not an expert in that field. If you give me the materials and the curriculum, I can build that into my courses. That is one use case. But the same time we also hear about accessibility professionals that don't have as much in the educational strength or that educational skills to know how to create a course to address different things. The third use case, which I think is really important, is we also see mismatches between, let us say, I'm a company, I want to train my staff and I ask for somebody to come in and teach accessibility and they come in and they teach something that I wasn't expecting or not what I really was asking for. If we have this curriculum, you can use these learning objectives to define to clearly say - this is what I want you to teach my staff. These are modular and role based. So we are trying to package the information in such a way that it can be placed, not only in training specifically on accessibility, but in mainstream IT teaching to kind of insert accessibility in there.

ALISON WALDEN: That is really fantastic. Is there anywhere on the site where we can keep up with the timeline of when those things will launch?

SHADI ABOU ZAHRA: Yeah. We

ALISON WALDEN: No pressure!

SHADI ABOU ZAHRA: No, that's not one of the issues is... I will put in the chat the link to the website itself. So it's W3.org/WAI. We will try again. There is so much information we tried to put at the front the results, but there are the working groups behind. So if you go to get involved you can see the working groups that are developing these different materials and there are project definitions and timelines and so on and so called charters. You can follow that. Yeah... (Laughter) It's not immediately available or as easily. All our work in the public. If people have questions, let's me know, we would love to have people more involved in a lot of this work. Again, technical work, research work, we are just right now working on accessibility user requirements, collecting accessibility user requirements for immersive environments. What does accessibility mean in augmented reality or virtual reality? But at the same time also for real-time communication. It has been increasingly used technology for browsers. I think Zoom users in the background to communicate between different things. So here there are accessibility requirements that needs to be considered. So there's research aspects here and then there is educational aspects. We

have a lot of this work. It's all open, happening in the open. All the resources are also provided freely. We would love involvement. A little add!

ALISON WALDEN: That's great. Thank you for making yourself available to answer questions on that. I love that segue, you know, a lot of people, when you talk about accessibility, they are, you know, maybe they are not as excited to learn the basics, but they always want to hear about the emerging technologies that are going to come out soon to help make content more accessible in the next decade or so. I don't know if any of you wants to start us off. Maybe Manish, maybe you could start us off with emerging technologies that you think will have the biggest impact on accessibility in the next decade. I think you are on mute, Manish.

MANISH AGRAWAL: Can you hear me now?

ALISON WALDEN: Perfect.

MANISH AGRAWAL: Happens to me all the time.

Yeah, right now is a very exciting time to be. Some of the most important technologies that will help with accessibility are in, in my opinion, it's probably my personal opinion, is in the artificial intelligence and the machine learning space. You know, we are seeing this across the board, not just in specialised applications like we have Seeing AI(?) which you can use your phone for a lot of things like just reading text to analysing a picture to get more information and so on. That could translate into a variable where I could, you know, something like in vision glasses that currently do that. That is specialised equipment, but it's going into mainstream applications like, you know, PowerPoint has real-time captions. Realtime subtitles. Teams has it. Zoom has it as well. These kind of applications of artificial intelligence just significantly help with ability problems that we could not imagine that we could solve like even five years ago.

So I think those, in my opinion, are the most useful things that are coming out of the technology world.

ALISON WALDEN: Thank you, do you remember when you showed me Seeing AI?

MANISH AGRAWAL: I know. It can tell your age.

ALISON WALDEN: I was quite annoyed with Seeing AI, it knew exactly how old I was. I do not trick Seeing AI like I might be able to trick myself, but I can't trick Seeing AI. Just for everyone on the call, if you are not sure what it is. Do you want to just say briefly what it is, Manish?

MANISH AGRAWAL: Yeah. So Seeing AI, it's an application that helps a blind person make sense of their environment. So they can use a phone, point a camera, point the camera at something and it gives you various things that you can see. If there is text, it will read it out. You can scan a document. Those are the simpler things. It can describe a scene to you. So you can click a picture and it can describe what you are looking at. You can point it to a person and it can describe the person and whether they are smiling, frowning, what they look like. You know, potentially their age. It can give all kinds of other information about products. You can point it to a bar code and it will give you information about your medication, if it's a medicine bottle and so on. It's a very handy tool that I use very often. Yes.

ALISON WALDEN: Thanks. Yeah. It really was, I was so amazed with that application when you showed it to me. I was really impressed that that technology was available.

Matt, is there any kind of emerging technologies that people are thinking about at Sightsavers or like want to have or things that you are using in your work or hope to use?

MATT ROBERTS: Yeah. I was just going to comment on Seeing AI. I just think it's such a brilliant app and phenomenal that that technology is available and it's just getting better every release. I think it's just a ground-breaking piece of technology. So kudos to everyone involved in that.

Emerging technologies for Sightsavers. I guess it's not we are looking at AI, but it's very much early stages. I'd probably base my comment more personally rather than more than Sightsavers. I think the thing for me, the technology that fascinates me and I'm intrigued by the developments of it, is all the automation of face ID, one touch, fingerprint scanning like that. On the scenario of everything, every digital service being password protected in some way and the amounts of passwords that anyone has got to remember now is just, just phenomenal. You look at banking apps, obviously a lot better now, but previously they were kind of remember your user ID. Remember your password. Every time you come

out of your app, you are lost at that point, you are then coming out of the app and you have to reload and copy and paste the password from somewhere else. The whole experience is far too complicated. But the idea of being able to unlock a service just through your face or fingerprint and not have to feel   I have to remember that. You know, we take it for granted I can remember that password for that. That's an overwhelming amount of information you have to retain at that given point when you are, in some instances, when you are time based you need to give your password now or it will lock you out.

So the evolution of that kind of technology just fascinates me, where you can just be   a camera can just detect who it is very easily and allow you access to book a holiday. Access your emails. Access your bank account and things like that. Just provides a level playing field for so many more people that up until recently were having to remember 30/40 odd passwords just to access their bank account. So I think, for me, that's where I'm very excited about where technology is going.

ALISON WALDEN: Thanks, I'm excited about that too. I think that's a great example of perhaps when some of that technology was developed it might have been, it might even have been to help people with disabilities. It's another example of where innovation ends up helping everybody, right. I rely on the touch ID and something recognising my face. When I get to a scenario where I have to actually type in the password now, it's really frustrating to have to remember that. So, yeah, I fully, I'm with you there.

Kendall, how about at Lloyds in the next decade, is there anything you are thinking about in terms of emerging technologies to improve accessibility?

KENDALL AKHURST: Very much. If you look at some of the things that have been mentioned, fingerprint login, a bit more secure than a password that potentially someone else can hack. Things like that are really important. I think probably looking at the technologies that are coming in, it's things that make customers' lives easier. Things like Alexa. You know, you look at when the iPhone came out years ago, just those rolled out to the masses sort of solutions and how we can do them in a secure way. I guess being a bank, and a financial organisation, we are very risk adverse. We are not going to be the first to the market with some of these things, but very much we have opened banking recently. We are leading the way to trying to make customers' lives easier across a brand, a range of products that might not all be with us. I guess, from a technology perspective, it's really

important that we stay on the edge of that as far as how customers want to do business and it makes it more accessible for them. Alexa is a good example for people obviously who are blind who get a benefit from that. They can do almost everything by talking to a device. Back to Matt's point before, just got to be very careful of the security aspect too, that it can recognise one voice over another voice and nobody can manipulate that and get into it.

Again, other things that trying to bring out things like we have done a partnership around being able to make British Sign Language available more readily to our customers. That is a little bit of a person integrated with technology solution, but I see more of those becoming automated completely as far as things that will, with artificial intelligence, that will do let them do it themselves, so you don't need the person in between to help with that solution. Again, obviously, step by step the covid has been a really big one for us, as far as introducing some technology pretty quickly. I guess probably goes back to what we are doing internally, some of the things we are talking about Teams, transcriptions has made it really good for our deaf colleagues to be able to be involved and replays of more videos in sessions that we he have done because we can pretty much check that transcript very quickly and get that out to the masses within our organisation. That is a really big win, which obviously turning it around for customers is something that the technology is improving in that space that we can get solutions out there that will make their lives easier and also have a point of difference for us as well as we use them.

ALISON WALDEN: Thank you, that's great. Shadi, you had mentioned already AR and MR, is there anything else on the horizon that you are thinking about in W3 in the next decade. Will there be different guidelines written to sort of extend to cover all these different types of emerging technologies?

SHADI ABOU ZAHRA: Yes, but before that I want to be a bit of a party pooper, if I may.

So I'm an absolute technologist. I think every technology is beneficial, starting from the invention of the wheel that allows me to move around. So every technology is of benefit or has the potential to be beneficial, but it also has the potential to be more exclusive as well. We see, for example, smart homes rather than I cannot... If the interface is not accessible you can't turn off the header any more, whereas with a mechanical one you are able to touch it and turn the knob or something.

So the questions is how to design and utilise these technologies. We talked about biometrics, well some people don't and we know the aspect of bias that happens with this. AI bias is a big issue. As much as AI can really help a lot, it can also lead to certain types of exclusion. It has actually, there is the very well know example of self-driving car simulation, where the car did not recognise a wheelchair user moving backwards. Thankfully, it was only a simulation, but drove over that wheelchair user. So there is very little data with people with disabilities, so there is a concern here. It's even more important that we try to address accessibility concerns in technologies as quickly as possible because, just like with anything, once it's already, you know, deployed it's very difficult to retro fit things. It's important we address these issues from the beginning to the extent possible. So, yes, we are looking at XR and... But a lot on AI. The question is what is there really to standardise? The idea is this will be a big technology change. We are looking at potentially some sort of data set for accessibility to help AI tools and tooling here. You know, W3C could be a place where different companies and different stakeholders can come together. We are looking at big data and data and privacy aspects. Especially with IOT with the internet of things. There is the concern, it's not the typical data security, but it's actually even activities or certain patterns, certain patterns that you do, the fact that, I don't know, my smart home door is set to be open longer before it closes already tells you something that I'm maybe slower in walking or have some kind of a disability. So alone services that we use, the fact that what my fridge knows whatever about me in the future. So the privacy concerns and sensitivity are increasing and disproportionately for people with disability. This is another area we are looking at which I find very exciting, this area where accessibility and privacy kind of overlap and where there is tension but, at the same time, benefits of addressing this for all of society. We all have the unresolved issue about data on the web, but I think for people with disabilities it's disproportionately more in some cases.

ALISON WALDEN: Thank you. I don't think you burst the bubble or anything, I think that is really important to add when we are talking about emerging technologies that there are all of these different considerations.

I wanted to do a really quick time check. We have just under 20 minutes left. So I think maybe it would be a good time to jump to some questions. Let us see here. I just have a list of questions that people have been sending in.

Here is a question.

How best do you think we can address the education gap on accessibility? Could you give any examples of how or where this is being done really well? Anyone have thoughts on that one?

MANISH AGRAWAL: Can you hear me?

ALISON WALDEN: I can hear you.

MANISH AGRAWAL: Yeah, I mean the real need, I can talk about the real need. I've seen a few examples. I would not say they were really good examples because I haven't seen many good examples in the higher education space really of... The need is to give people, our students, exposure to the fact that, you know, there is disability. What is disability? What kind of tools in technologies people with disabilities use? How to build products or software that works with those technologies. I've seen a course, a couple of courses from some on the basics of (inaudible) for example. They very briefly cover accessibility in some of their examples. That basically needs to change. The example this information needs to be embedded in those fundamental sources were people learn the web basics because those are really hard to relearn once you master those. That's my (inaudible).

ALISON WALDEN: That's a good point. Once you establish all of your habits, it just becomes second nature to code it a certain way and really difficult to change. We also find that people reuse code that they find online and that code has issues built into it. So, yeah, thanks. Anyone else have any thoughts or examples on ways to close the education gap for accessibility?

KENDALL AKHURST: Just probably keeping it simple is one of the better ones. Again, a lot of these solutions aren't always simple. We use some things here at Lloyds which probably other organisations would do similar things, like espressos, where we have a half hour session where experts would come in to talk to us from other organisations. They are really good at just unearthing some of the solutions out there and allowing us to dwell into those further with our engineers and designers to actually go back and get more information. I think that's about getting it out to the masses so we can upskill our organisation is probably the important catch right there. Not saying we do it perfectly. It's just a good way of doing it. Probably another thing that we have done for accessibility is having hackathon, you

know, where you have a problem and you approach that and bring your experts together. They have a lot of intellectual property between themselves, but obviously don't talk to each other a lot of time. It can break down things some things pretty quickly. We don't do it as much as I would like. It's just another way. I remember about a year ago we did it here, it was a really good way to look at some of the common problems we were running into around access on our website. Just another idea.

ALISON WALDEN: Thank you. Those are some nice ideas that organisations could try. Did you have something, Shadi?

SHADI ABOU ZAHRA: I wanted to go exactly in that direction. Education is a very broad term. There is the higher education, but there is also kind of education in terms of organisational. I know many organisations are increasingly having sensitivity programmes or diversity programmes and looking at that. I remember a friend a few years ago was doing job interviews and he said it was one, exactly one organisation, that asked about accessibility in the job interview. So these are the kind of things that self-education here and making it part of what also the expectation is here. I think that's there are good examples here I think on that.

ALISON WALDEN: That's a good point. I think it always helps when the organisation makes it something that's needed and then everybody kind of leans into to do that, right. If the organisation itself is not asking for it, it's harder for people to have the initiative to learn it themselves. Another question here. Go ahead.

MANISH AGRAWAL: I want to add one thing. At the organisational level, we have a lot of training programmes in brown bags certifications and all kinds of things, you know, for general public and targeted users. But one thing that I've seen stands out as something being most effective is letting people see how people with disabilities actually use their products and the problems they run into or the benefits they get out of it when they are made accessible. Every time that happens with a team of designers and engineers - I do a lot of those training -, a lightbulb goes off. It's a moment for them - oh, this is so important. They understand why they need to do it and a lot of how they need to do it as well. Just giving the exposure to real users of, you know, people with disabilities to your engineers and designers is a huge plus there.

MATT ROBERTS: Can I come in on that point as well. I think from our point of view at Sightsavers, that with every new starter we run an inclusion workshop. That is for any new starter regardless of job role or team that they work within. We run an hour workshop where we openly have discussions about disability. What is everybody's understanding about what disability is? What is inclusion? What does it feel like to be excluded? I think that little education right from the start, when they join an organisation, it doesn't matter who they are, but just to instil that idea of what it is. What it feels like to be included. What it feels like to be excluded. It's then part of their everyday approach to what they do, in terms of presentations, talking to people, meetings, whatever it might be. Instilling that idea at the very start can really kind of produce amazing accessible, kind of, involvement right across the organisation internally and externally.

ALISON WALDEN: Thank you. Thanks Matt.

I have a few more questions. Actually, let us do one more question because I think we are running out of time here. This one is kind of interesting and I'm going to ask Shadi to answer first, if that is OK. It's about providing CAPTCHA in form submissions. Obviously, when you provide a CAPTCHA the intent is to increase the security for the application, buy it also tends to reduce the accessibility. I haven't found a fully accessible CAPTCHA. So, how can the trade-off between accessibility and security be overcome?

SHADI ABOU ZAHRA: A very good question. So we have a paper that talks about alternatives to CAPTCHA, I will post a link. So it's the inaccessibility of CAPTCHA. It talks about the issues really inherent with CAPTCHA and different approaches one could consider to address the issue of authentication. We have increasingly more mechanisms now. Coming back, I think this is one of the issues that accessibility is, kind of, just amplifying or highlighting an issue that is there. If we forget about accessibility, put it aside for now and just use CAPTCHAs and it's allowed and everything is great. How many users will you be locking out? Right. I don't mean about diagnosed disability. I mean, just how many people will have problems. I know for sure my elderly mum is going to have issues with that, right. Many other people with lower computer skills or other issues are going to be locked out. So you are locking out people. Accessibility is just highlighting that issue, it's amplifying it even more. CAPTCHAs are not useable. Inherently, they are trying to make it difficult for you and kind of test you. So some people will not be able it achieve that. So think of it that way.

Are there other mechanisms, and very often they there are other ways to achieve the same purpose rather than CAPTCHAs. If you do use CAPTCHAs, again, they are hardly fully accessible, but there are ones that are worse than others. There are kind of semi work arounds like CAPTCHAs and things like that, such approaches that do try to make it less intrusive or less exclusive to people. But really think about it and don't just put it like, security against accessibility kind of thing. What is it really from a user experience and what is the impact of that.

ALISON WALDEN: Thank you. I loved that point that you made that it's not security against accessibility. Just like it's not design versus accessibility or anything else. Easy quick coding verses accessibility. They are altogether, they can all be pointed in the same direction and working together. So, thanks.

Does anyone else have any ideas around the whole CAPTCHA thing? Are they doing anything at Microsoft for that, Manish? Let us go with Manish first and then we will catch you Kendall.

MANISH AGRAWAL: Sure. Yeah. There are two or three things. One is we are for a lot of our services, for at least in inside the enterprise, making sure users don't have to enter any passwords at all. So zero passwords. No CAPTCHA. It is kind of an environment.

The other part that Shadi was saying, CAPTCHAs, the way I have to solve any CAPTCHAS, I use an automated service, a machine learning service, which essentially defeats the purpose of CAPTCHA. It's a machine answering that question. Even for the re CAPTCHAs you could write a script which goes up and down three or four times. If I really was to very quickly go through a form and click the re CAPTCHAs button it thinks I'm a robot, even though I'm not. It's a bad user experience regardless.

At the end of the day if you really, really have to use a CAPTCHA, the way we recommend is that you provide as many options as you can. You work with people with different kinds of disabilities. So only doing audio is not sufficient. You may have deaf/blind people who will not be able to see the image or hear the audio. So you could potentially throw out a maths question, which is also a CAPTCHA. Again, you provide various options to lessen the burden, but there is no good alternative.

ALISON WALDEN: Thank you, Manish. In a couple of minutes, Kendall, do you want to mention -

KENDALL AKHURST: Really quickly. Absolutely. Really quickly, Alison. I guess the thing is there are other solutions out there that can achieve the same outcome. I think it's important to remember we have things like bot managers now that can pick up that you are coming from different IP addresses, different locations. Repetitively coming from the same location. Things they can take away the onus on having CAPTCHA on the forms and also the way you design your forms. Design them in a way that they are not easily detectible by a robot. That's not all the solutions, but I think it's definitely about good design and good customer experience. I think ideally you shouldn't need CAPTCHA to get that right. That isn't an ideal solution, but I think there is definitely plenty of examples out there where there is a number of forms out there where you can submit them and you don't have to go for a CAPTCHA experience and again it could be just that last level of security kicks in with something like CAPTCHA rather than why put all your customers through it. That's just not a good solution. Not a good customer experience solution let alone and accessibility experience. There's ways to attack problems that don't involve using a sledgehammer approach to it.

ALISON WALDEN: Thank you. The sledgehammer approach, that's it exactly. Manish is describing how easy it is to trick it anyway. It's not even secure and we're making people go through that experience.

So thanks everyone. We have four minutes left. I just want to say that this has been an incredibly interesting conversation, it went by really quickly for me. Thank you so much to all of you for sharing how you have fostered accessible design and technology in your organisations hearing about your challenges and successes and changes and impact will help all of us on the phone and on the call in our own organisations. I think in today's pandemic hit world, as people become increasingly isolated and reliant on digital tools, products and services it's more critical than ever to ensure that all content and services are accessible to everyone. As I always say, it's something we should have been doing all along anyway. I'm really glad to have had the opportunity to share and promote your ideas as experts in this field during our IDPD Week events at Publicis Sapient.

I also want to remind everyone on the call that there are a lot more events for you to enjoy this week. We look forward to seeing you again in 2021. November 29th 2021 we will do activities for the whole week, so all five days. We had a short week this week, but we are coming back again next week for the full week. Thanks to everyone. Thanks to everyone who joined the call and asked questions. I'm sorry we didn't get to some of your questions, but thank you so much to everyone for joining.

SHADI ABOU ZAHRA: Thank you, I enjoyed that. Thank you.

KENDALL AKHURST: Thanks very much, guys.