# Microsoft and its Adaptive Accessories Transcript

Robin Christopherson:

Welcome to another episode of The AbilityNet Podcast. Disability technology inclusion. I'm your host, Robin Christopherson, Head of Digital Inclusion at AbilityNet, A pioneering UK charity with a mission to make a digital world accessible to all. You can download a transcript of this episode from [www.abilitynet.org.uk/podcast](http://www.abilitynet.org.uk/)

So, sit back, grab your favourite beverage, and let's get started.

Well, we are back for another AbilityNet podcast. And this is another one in the series, where we interview chat with the T4G Tech for Good Award winners. And I'm really chuffed to have two amazing guys from Microsoft on this time, because yes, they are winners. And we're going to talk about what category they won in and what you know, project or product it was. That was a winning entry in a moment. But first of all, I think I'm going to ask you guys to introduce yourselves if that's okay. Because you'll do a much better job than me. So, Michael do you want to go first?

Michael Vermeersch

Okie dokie. Thank you, Robin. Thank you for having us. So, my name is Micah Vermeersch. I'm Microsoft's Accessibility Go to Market Manager. My work is about closing the disability divide, making sure that our products and services are accessible. And this requires a focus on skills, awareness, and workplace culture.

John Helmes

My name is John Helmes. I'm a designer at Microsoft. I'm actually an Azure. And we'll get more we'll get to some more detail there. But incredibly passionate about accessibility. Everything around accessibility because my youngest daughter, Jara has Cerebral palsy. And that's actually why I'm so passionate about this space and been working with Michael as well.

Robin Christopherson

Fantastic. Thank you so much both, we should probably do another whole show on Azure and the cloud because that's definitely the future. So yeah, brilliant. Thank you so much both for coming on. Now the first cheesy question that I always put to every interviewee that comes on the show is what hot or cold beverage have you got to help you through? I've just got a normal cup of tea, builder's tea, with me here. Michael, what have you got?

Michael Vermeersch

So, I got some flavoured cold water, which I've read some research that drinking cold water in the morning and throughout the day burns more calories. Because apparently you need to heat your body. So that's me.

Robin Christopherson

Fantastic, John.

John Helmes

I think it's a great question, because you made me very aware of how much coffee I drink. So, I went with sparkling water. Let's see how that goes. But yeah, in general, drinking a lot of water as well. So, I guess that that blends the caffeine intake a bit.

Robin Christopherson

Well, you guys put me to shame, I think really on the health point of view anyway. Fantastic. Okay, let's talk about why you're here, which is winning, T4G Tech for Good Awards category. And this was for your adaptive devices. Okay, first of all, what was it like for you and your team to win a T4G award? I don't know who would like to jump in on that one.

Michael Vermeersch

I'm sure. I mean, this should be definitely something for John. But I also got some feelings about it. So, John, you look like you wanted to go first.

John Helmes

I'm very excited. It was really amazing, I have to say. Being nominated is already really cool. And winning with such a line up, I think is pretty amazing. I think there were some really cool innovations in this space and it's well blasé all right, you know how you say like "they're all winners", it's like you say that but like I really honestly do feel like that right. There are some amazing candidates. The tongue interface, work dongle. I thought that was that was pretty amazing. Also, the smart cushion and many more. I think. It's, it's amazing to see the breadth of innovation from the people that were listed. And it's really nice to see so much innovation across so many different fields. And, yeah, again, amazing to win. And I, I think we need to keep pushing everywhere we can. We're doing that in our industry. theme was absolutely, yeah, it's really nice to win the award. With that, so, yeah, it's, it's awesome.

Robin Christopherson

Fantastic. And we're really chuffed that an organisation the size, and global reach and impact as Microsoft is chuffed to win a tech really, really good. So yeah, I mean,

Michael Vermeersch

Well on that Robin, if I can interrupt here. There is that thing, you know as an organisation, as a global organisation we'll always produce products. But, you know, it's important to do this with the community to be inclusive, and to get that input from the disability community. And when we do this, there's always more opportunity to do more. And there's this award, that recognition that we then got, that kind of shows that we hit the benchmark, that we're on the right track that we hit something which is right, because, you know, it has to come from the communities that feedback. And in these days, and these times, our leaders are continuously faced with decisions, what to do, what not to do, where to invest in, where not to invest in, and getting feedback like this, like these awards, that confirms that our leaders are on the right track. And that reinforces our mission statement to empower every person and organisation on the planet to achieve more. And if you bring that then a level down to the real heroines or heroes like John, again, they got so much to do, right. And they don't know, when they go into this route, they don't know where it's going to go. You know, they might be successful, they might not be successful. That takes courage and then being rewarded for that journey of resilience, because, I'm sure. John hit blockers there. Right. So that resilience, that courage the right focus. At that point, I think it's really key to have those awards. And in that sense. Yeah, that that is just amazing, then to get there and just encourage us to do two more to do more right stuff.

John Helmes

Yeah, and just to chime in there as well, I think, absolutely couldn't agree more. But also, you know, helping them reach our target group, right, and making more people aware about the possibilities, all these technologies, you know, that were lined up in the category. You know, what you do there is also creating that awareness, and, in the end, helping people across so many different fields to, you know, find what it is that works for them. Because in the end, that's what we do, why we do what we do, right? Like it has to empower people, like Michael is saying to achieve things they deemed impossible without that technology. And I think that should be at the essence of everything we do today in this space. So yeah, I think that's yeah.

Robin Christopherson

Absolutely, yeah. I mean, it's not easy to push on a, you know, to drive through an agenda that really embraces inclusivity. And goes that extra mile, because you know, this, these are tough times, you know, financial climate, etc. And it really speaks to the culture and the leadership within Microsoft, you know, it's a very different Microsoft under Satya in these last however many years it is now. And it's brilliant that you guys have got the breadth, albeit that you may have to battle for, I don't know, to produce such brilliant products. So, let's talk about the actual products that that you won an award for. So, these range of accessible, I mean, adaptive accessories. So, for people who aren't aware, what are we talking about? Who'd like to kind of give us a lowdown on what you've been working on?

John Helmes

I can go. So yeah, so the Microsoft Adaptative Accessories are actually a highly adaptable ecosystem that lets you customise your computer input basically. So, it's a family of different devices with I would say, a range of customisation opportunities, right. So, the accessories exists or the Microsoft mouse that comes with the standard tail that can be orientated and set up for both left and right handedness. We then also have the Microsoft adaptive hub, which is a standard hub to connect to your computer device, but also lets you take, you know, whatever existing assistive technology that you might have like buttons, using 3.5-millimetre Jack plugs, etc. So, it's providing that opportunity as well. And then next to that, we have three different types of adaptive buttons. And those adaptive buttons can be used both wirelessly, and wired with the hub, again, creating a wealth of customisation possibilities for your computer input. So, it's obviously not purely about the physical things, right? Like the mouse, the hub and the buttons. But there's actually a wealth of customisation opportunity, once you connect these things to the computer, and how you can set them up, right, so you can completely customise in software, what you want these things to do these buttons, whether that's the Microsoft adaptive buttons, the new buttons, or whether that's a button that you might already have. In software, you can then actually tweak exactly what you want those buttons or button to do opening applications creating macros, so a sequence of actions, opening webpages, think about copy and paste, creating shortcuts like that. But also advanced possibilities for the mouse, for example, increasing the DPI on a mouse, so the speed of movement or slowing it down, depending on you know exactly what it is that you need. So, there's a lot of modification possibilities in software that we believe is quite powerful. And then to go the extra mile, you can actually also with 3d printing, customise the physical adaption between or the adapter, I have to say, between what it is that you need your hand, even your foot maybe, your chin, and that button or that mouse so you can really customise the accessories with 3d printed extensions, to further optimise it for what it is that you need. And we've worked with Shapeways global leader in 3d printing to already offer a range of different 3d printed adaptations that people can choose from.

Robin Christopherson

Brilliant, so adaptable, so customisable, including, you know, programming and software, etc. I wonder if there'll be, you know, mainstream take up of these, like they were with the adaptive games controller, which was helping people, you know, get higher PBS personal best scores and thing, because what's good for people with more extreme needs, can make a device or, you know, product extremely usable for everyone else as well. So, have you had any data on that kind of take up more broadly as well?

John Helmes

Absolutely, Robin, I think what you're saying is absolutely spot on. So, this can really empower anyone to be more productive, right. And I think that is also when you think about why we designed the products like we designed them to have this customisation, adaptation possibility. But you can go as far with that as you want it, as you want to basically you can use it as a shortcut control, you know, in kind of any regular setup as well, if you want to do opening applications, starting video, stopping video, like use it as a shortcut tool in your favourite design application or video editing tool, which by the way, I've seen people already, you know, set up there as well. So yes, I couldn't agree more. So, it's, it's a system that anyone can benefit from, but you can customise both physically and digitally, as much as you want.

Robin Christopherson

Yeah, even someone who's you know, entering MIDI music live from a keyboard and they could use a foot pedal to stop and start recording or whatever it might be. They're just that options are endless. So, you mentioned about designing the design process. So, what is involved in designing these groundbreaking products and kind of testing them before you, you know, end up with the finished product.

John Helmes

Yeah, it's a good question. I don't know how long you have. No, I'm kidding. I will. I mean, it involves a lot of people. It involves commitment. It involves passion from a company. And I think, you know, at Microsoft, there is an amazing opportunity to follow your passion. And that's actually how this work started as well. So, I think in the introduction, but I can't exactly recall, I was myself. I think I did mention my daughter Jara is seven years old now. She has cerebral palsy. And that's actually how this work started for me and my involvement in this work. So, Microsoft allows its employees to hack on projects that you feel passionate about every year during the hackathon. And this was something that I started hacking on. In one of these hackathons where I saw the struggles that Jara had to operate a normal mouse with her computer and having made 3d printed orthotics before for her. To me, it felt like this is not rocket science. It's like there's a mismatch between the environment and the technology here. And how can we solve that with, you know, a 3d printer, or folic like extension that I'll add to Jara's mouse, because her fingers were continuously sliding off the mouse. And she would continuously trigger the mouse itself, because she has involuntary movement. She's got like spasm. So, creating that shell, and connecting that to the mouse created this dampening effect that had an amazing impact on how she could then actually use the computer and use the mouse for first time very effectively. And I think it kind of started with, with that idea. Now Microsoft has a wealth of history, when it comes to accessibility, we have the Xbox adaptive controller, we have a lot of solutions in software. So, there was a very passionate and dedicated team already, you know, developing a lot of very innovative features and products in this space. So, we after the hackathon actually teamed up with that team. And, yeah, it's been an amazing ride. A lot of passionate people coming together across, you know, the company and so many different geographies as well. And actually, in the midst of a pandemic, it's amazing how all these technologies enable us to do these things. And enabled us to quite literally develop this product over the last, you know, two and a half years.

Robin Christopherson

Absolutely brilliant. I mean, it should start with end users, you know, there's a cliched phrase, nothing about us without us. And, you know, you don't want to be developing products for any minority group, without their involvement, because it they won't be fit for purpose, they won't be what people need, you know, it won't meet people's needs. So yeah, brilliant. And I'm sure that you know, there is a range, there are a range of end users involved in every process, not just with the adaptive accessories, but in developing all Microsoft products, both hardware and software as well. Because, you know, for new Microsoft product comes out, I as a blind person can be rest assured, you know, can be confident that I won't be left behind. So even something like clip champ, which is a video editing tool is 100% accessible for me as a blind user. So, Microsoft, you know, massive organisation, the potential for what you do to impact people, globally, as I mentioned before, is just huge. So have you got any idea of the impact that this these you know, this range of adaptive accessories is having on end users, and I don't know maybe having an impact on industry as a whole because absolutely no doubt that you guys are leading the way in this area of inclusion, and really showing people how important it is to prioritise it.

Michael Vermeersch

Yeah, I can talk a little bit about that. So, the adaptive accessories are purchasable in all countries which have Microsoft store presence. And at the time of announcement that was already 25 countries, which were listing these. So that's quite a lot and a nice global spread those countries. And of course, there are all available via a digital store as well. So ultimately, you know, if you can go digital, they are available. I think we need still more awareness, especially at the consumer level. And I see this every day, there's this, the frontline worker needs to know that these things exist, that accessibility exists, the number of times I get in touch with a disability focused organisation, and they asking about accessibility, and then ask them well, who sold you the product in the first place? Did you not ask them what the accessibility features were of the product? And it's because often the frontline retail, they don't actually know, or come forth automatically. Hey, did you know this is how you can do this. And this is how you magnify things. This is how you can change the experience on how you manipulate the device, etc. So, there's, there's still a lot of work to be done. But yeah, I mean, we got the availability, but it's still there's still a lot of awareness to be done there.

John Helmes

Yeah. And if I may chime in as well. I think there's some really, really nice examples that I'm kind of experiencing here. And I think I didn't really touch upon that just yet. I mean, obviously talking about the hackathon. And Robin, I think you had some great points there where, you know, as we've been developing the adaptive accessories, we have been interacting with a lot of people, uses of the Xbox adaptive controller. And there's been a lot of work of the team going on there in Redmond. We have the inclusive tech lab there with Bryce Johnson, Salomon Romney, all these people involved with all their experience developing the Xbox adaptive controller. And then I can speak for myself the development here as we were developing all these different prototypes and thinking about like, the amount of models we made, we made like so many models and prototypes. But Robin, what you were saying was so important and so crucial from day one. Every single prototype every single model travelled to Jara's school, we evaluated with the OTS there with the kids, hey, what works, what doesn't, oh, we need to be a little bit higher, this needs to be chamfered off, then we have are gone amiss. And in Rattlin, work with us as well, to optimise the shaves, obviously, we have those experts working on a lot of product lines as well. So, it's the kind of same fidelity methods that we're going through as we're developing other products as well working with users throughout all these stages. As the product comes alive, what works, what doesn't iterate, improve more models, more functionality? And then not just like the hardware aspect, but also the software? How can we make the software and what it does more accessible, I think one really nice feature there. That's what you need is for the mouse like, you know, if we move, if we move our mouse device up, we naturally have the mouse cursor move up. But my hand is, you know, position in certain way relative to my arm. But why is that the same for every single person. So, we have a really nice feature where you can actually rotate the optical sensor, the orientation in which the mouse cursor moves relative to your body. So really pushing the needle there really thinking about new innovations, evaluating with users, what do you users need, that we should add to this product? Taking it to the school, all these kinds of versions, working with UPS is absolutely amazing. Seeing the direct impact of the product there, obviously, you know, Jara takes the adaptive accessories to school every single day. She has some upbraid now, so she's using it less now but normally, all day, it's The basic, you know, equipment that she has with her. There is other two kids who uses Jara's mouse, the Jara's extension, three different extensions. And there's another kid who's very limited in movement. And he is using the mouse for at hours was talking about this before incredibly high DPI. So, with a very minimal movement, he is able to move from the bottom right of the screen to the top left. So, there's a lot of usages that are already seen there. Now beyond that, there's more and more usage popping up everywhere. And I'm very excited about that, because it's something that I want to pick up, speed up on sharing more of those examples of how people are using the accessories. There's people in the Netherlands were using the accessories for music making. That's using it as a digital synthesiser. But he's using the extension that Jara has, we have a larger version available for that, and it's kind of limiting the tremors that he has. So, there's a lot of really cool examples popping up everywhere. And in order to share more out of those, we've also Jara and I have started a YouTube channel, more video content, sharing all kinds of ways in which the adaptive accessories can be used. And this is something that we would like to pick up in our channel as well. Go to these people see and record how they're using the accessories. And then take that back and create videos and share that with the rest of the world. For us to be inspired and learn how you can use the accessories

Michael Vermeersch

There's another element that I felt so close to in your narrative their John. Is the encouragement of representation. And I just came up with this expression. What I mean by this is by having the adaptive accessories in the mainstream, ready in a shop, you see as a disabled person, hey, tech is also for me, I am included, I'm supposed to be included. Whereas before, it's almost like, oh, there's going to have to be something special for me. Nobody ever took care of making sure that I will be included, etc. And here, it's like, no, you are part of this. Your part of making technology advances and all of that kind of stuff you ask, the barriers to be removed, are built in, in the products. So, there is that kind of representation by technology, you are part of this, you are part of the technology community. Does that make sense? What I'm trying to say here

Robin Christopherson

100% I mean, it's mainstreaming adaptation. And who doesn't want to be mainstream, you know, you don't want to be this unusual guy who has to go to a specialist place, it adds cachet, it makes it normal. In fact, it makes it cool and other people might, like we've been talking about want to use it as well. So, 100% I think that's really, really important. So as far as any exciting innovations that might be in the pipeline is there you know, what's kind of on the table for where you might be going with these amazing accessories in the future.

John Helmes

surfacing the content to more people and showing how you can use the adaptive accessories there's also why we created the YouTube channel I'm sharing allowed sharing experiences you know the reduction of nice messages that are reaching me there's another kid who is using the, there will soon be a video on that too, using the adaptive buttons as the replacement of the mouse. So, he's not able to use a mouse, he's using two buttons to move the mouse goes around. It's a boy who has CP (Cerebral Palsy) as well, and I think is, so cerebral palsy. And I think that is also very telling, right? My daughter has cerebral palsy, she's using a mouse. This boy is using the buttons to move the cursor around. So, it really depends on your individual capabilities, what you're able to do whatnot. I think that's also the flexibility and the nice character of this system. But being able to show more of these examples and surface more of these examples is something that can inspire so many other people on Hey, this is how I could use, you know, this system. And oh, my God, it's difficult to do a podcast.

Robin Christopherson

It was a good pause at system. So, whether Michael needs to jump in there or anything.

Michael Vermeersch

I mean, another way of seeing this as one size does not fit all. And because of the first 30 of the echo system. You know, people who share things don't necessarily mean that they want to work in the same way. And I think that is what the flexibility of the echo system allows. But if we didn't look at, this is about experiences, right, experiences, making sure that we remove barriers. And I just, you know, I just want to add this thing. And I find this really exciting, because we already have what we discussed here today. But then further advancements and think about this also in the context of bringing it all together. Artificial intelligence. So, by all means, tell me if this shouldn't be part of this discussion. But I'm just going to go a little bit further on this. It's a journey, right? And there's still much to do. And even with all these accessibility features in our products, there are still barriers. And I think artificial intelligence will solve two elements here. The first one is finding ability, knowing what is there, how it can help you and when it can help you the help and support for this. So, this is about working habits suits you from experience level. And then there's another element, I will give examples against these. And then there's another level how about not only having technology help you like with what I just said, but also allows you to focus just on your strengths. And it does all the rest. A little example here, but we'll go a little bit in more detail later on. So, you could be a great designer. But giving the complete substance to your idea is, for example, getting the numbers to tell the story that's not you, or the opposite. You could be a real number person, but then bringing the message across to different stakeholders that's not you, so that is not your strength, and this is where AI (Artificial Intelligence) in the shape of co-pilot can and will make a difference now, I'm just going to give you two examples. And then I want you to bring those examples and that ecosystem then also for the adaptive accessories. So, the examples are in summary, you will be able to ask co-pilot, I've got lots of vision, can you magnify this for me? Or what does this picture tell me? And in the same way for the adaptive accessories, as and when this will progress, we'll be able to say, right, what exactly needs to be reconfigured for me to help me exactly what I want to do in this case. So basically, you'll be getting a better user experience and in a conversational way that works for you. That second style of example, is not just pure, how do I engage with a system? That second thing is, conversationally, right? Here are the numbers, I'm trying to show the return of investment of why people should implement this project. Can you drop me a communication and a PowerPoint to support this, and then you can add, oh, you know what, it's also the end of the financial year, we're in a great mood, let's make it look a bit festive, and fun, boom, co-pilot will also do that for you. So, take these things together. With the adaptive accessories, you're literally removing barriers on so many levels. And that's what I love about this if you know, the social model of disability, which is where disability is, it's having to work or function in an environment not designed for us. So pre adaptive accessories, you had a bog-standard mouse, and when you were left-handed or right-handed, you had a bog-standard mouse, tough, etc. And now suddenly, we are getting into an ecosystem where with adaptive accessories, and then with AI, where all those barriers will be taken away for you. And you can just be your true best self, and just focus on your strengths, and the rest will be solved for you. And that's the exciting advancement I think we're looking at.

Robin Christopherson

I mean, that's, that's so brilliant AI. For those who aren't aware, co-pilot is Microsoft's brand for the AI that they're injecting into windows into different applications. And for that to be the additional level of personalisation that will accommodate people's particular needs. And we're you know; we have diverse needs some of us more extreme in some areas. I love the idea of having a co-pilot for your mouse so that it automatically detects an essential tremor, or a tremor due to Parkinson's or spasm movements that you know that can then be dampened automatically as it learns how you tried to control that particular device. So absolutely love it, you know, your double clicking a little bit too slowly there and you don't always get it right. Let me compensate for that automatically invisibly. So absolutely love it. John, did you want to add anything before we ask people where we can find out more info?

John Helmes

No, I think I think I totally agree with Michael and you. I think it increases the diversity of how we can interact with our devices in a more natural and multimodal way. There's people that need a mouse, there's people that are going to use voice, my daughter's voice is affected quite a lot. So, she won't be able to benefit from that that much. But it's how the system is able to tie what you can do together, which is very exciting. And I think we're indeed at the start of an era that is going to be making that so much more natural and powerful, I can ask the system to set up my buttons as a mouse, I do not need to do it myself in the software, I just tell it to do that. That's incredibly powerful. So, I'm super hopeful for the future in this space. And my daughter is still very young. So, you know, really looking forward to all that ahead and what this technology can bring in this space.

Robin Christopherson

Fantastic. And I mean, I I'm sure we've all, you know, met or heard people with significant speech challenges or impairments who, you know, their assistant can understand them really well. But you know, we might need to take a while before we tune in, I'm very confident that AI and technology will be able to take on that sort of superhuman level of comprehension of people with you know, more extreme speech patterns and that voice recognition in the future won't be out of scope for people with significant speech challenges. So yeah, thought I just throw that in. There won't be anything that technology won't be able to do. Going forward. So fantastic. So where can people Check out more info about the adaptive accessories, the range of products that you're producing at the moment.

John Helmes

Yeah, so I think if you search for the Microsoft Adaptive Accessories, you will automatically find them. But also more broadly, Microsoft accessibility, you can find much more information about everything that Microsoft has to offer in the space of accessibility. Michael, do you want to chime in with more specifics?

Michael Vermeersch

Yeah. Just wondering, is it worth that we then attach maybe some links for you for when you broadcast publish the podcast, which might make it a little bit more easy to for to find it then I suppose.

Robin Christopherson

Yeah absolutely. We'll put some in the show notes. We'll gather those from you after the after we finished recording. So yeah, look in the show notes, guys. Tap on the links. Fantastic. Unless anyone's got any other burning comments. We'll just say thank you very much indeed. to Michael and John. Really, really appreciate it. Keep up the brilliant work. Anything else breaking in the future, please? Well, we'll watch the tech news, the press, because being Microsoft, it'll be there. But you know, do let us know as well. And we'd love to have you back on as and when and many congratulations again, for your Tech4Good Award in this in this category. Really, really brilliant.

John Helmes

Thank you, Robin.

Michael Vermeersch

Yeah. Well, thank you for thank you for having us. And thank you for this. And it Thank you, John. And the wider team is, you know, I I'm just blessed with being such with being with such great people really, I'm just a marketing person.

Robin Christopherson

Absolutely fantastic work. Thank you so much.

Rob McLean

Hi, my name is Rob McLean. I'm the Digital Inclusion Programme Officer for AbilityNet in partnership with BT. So, I'm reaching out today to ask for your help in contacting organisations, clubs and charities that would benefit from our free service. We want to find older people that need our help on how to use their phones, laptops, access digital appointments, pay for parking or video call their family, the things that most of us take for granted every day, but our older generation, our parents and grandparents, feel they need our help with. As part of AbilityNet's partnership with telecommunications company BT Group. We're delighted to offer the opportunity for individuals and groups in the range of areas across the UK to take part in free workshops to improve the digital skills of older and digitally excluded people. Sessions are now available in Glasgow, Edinburgh, Birmingham, Manchester, and London. If you're an individual aged 65 years old, or over, and could benefit from informal training, to help use your computer or phone more effectively, or if you work with older people in an organisation or charity in those regions with clients who could benefit from digital skills training, apply now for a free training workshop at www.abilitynet.org.uk/btdigitalskills. Or call us free on 08000487642. So how can I encourage my older relatives to learn how to use the phones more effectively? Where can I direct my elderly client to get support with using tech? How do I get help setting my laptop up to a printer? If any of these questions are on your mind or that of someone that you know AbilityNet can help.