**M-Enabling Australasia 2013 Conference**

**Day 2 – Developing for all – accessible websites and accessible apps: 13:45 – 15:15pm**

TERESA CORBIN: OK, everyone. We'll get started. There was a change of plan from before lunch. I'm sure nobody minds. So long as we get the door prize, nobody minds, Bert. Anyway, Bert and Georgia, who have actually been the driving force in Telstra organising this event, are going to draw the prize now.

UNKNOWN SPEAKER: The first one is Peter Simpson.

TERESA CORBIN: And he's won a Telstra EasyCall. Is Peter Simpson here? Peter Simpson is there! Oh, he's outside. That's OK. We'll find him.

UNKNOWN SPEAKER: The next one is Andrew Norman, University of Melbourne?

TERESA CORBIN: Andrew Normand. What's Andrew won?

(LAUGHTER)

UNKNOWN SPEAKER: With some network access.

TERESA CORBIN: Wow. Cool.

UNKNOWN SPEAKER: And last but not least, Karen Seton, Southern Cross Uni. These are the phones that Megan and Rachael displayed this morning. So you'll know all about them.

TERESA CORBIN: Excellent.

UNKNOWN SPEAKER: Thank you.

TERESA CORBIN: Thanks so much, Telstra. I think conferences are so much better when you can win things.

(LAUGHS)

Scott can tell you what his favourite app is.

SCOTT HOLLIER: Thanks very much, Teresa. I'm Scott Hollier from Media Access Australia. My favourite app is called Big Launcher on the Android. It changed everything – there's six really easy‑to‑use buttons. I love it. Today, we'll be looking at developing for all – developing websites with accessible applications. It's a great pleasure to introduce our four panellists. One of the things coming out of the session after lunch – everyone is quite full, those chairs are a lot more comfortable and you start to drift off. So we've got four very lively and exciting presenters today. I'm under strict instructions not to refer to them as "feisty" or "sexy" – I believe that gets you in trouble.

(LAUGHTER)

A brief plug before we start – Media Access Australia, that I represent, has released a catch‑up TV report yesterday, and there's lots of information about accessibility of online information. I'd strongly encourage you to download a copy and have a look. The four panellists we have today – Euan Ramsey‑Stewart and his colleague Megan in the front row from Uni NSW. We have Brendan Fitzgerald from Infoxchange. We have Dr Andrew Arch from the Australian Government Information Management Office, and Tony Bennetts from the Australian Communication Exchange. Please give all the panellists a welcome.

(APPLAUSE)

Just to briefly start – what do we mean when we look at developing for all? It's an interesting thing that the panellists are going to explain in a bit of detail. One of the things that's been really interesting looking at this space is that, if I wanted to use a consumer device five or six years ago, I would certainly need to get a relatively expensive device, I'd probably need to spend thousands of dollars on assistive technology. What's fantastic today is that, not only can I buy something like an iPhone with lots of accessibility built in, but I have a choice of devices – I can choose an Android device now. More recent versions of Android have a decent amount of accessibility. Windows 8 has touch‑screen capability. Not only do I have access to choosing my own device, but I have so much ability to independently access information. But consumer tech is only one side of the coin. We also need to seriously consider the other side of the coin, which is what happens when developers don't create websites that are accessible? What happens if those apps are difficult to use? It's certainly the frontier of accessibility that we focus on at the moment. It's nice that consumer tech is largely there for us, and now the challenge over development and apps continues. This quote – I'll hand over to our first panellist, Euan, who will continue the conversation. Thank you.

(APPLAUSE)

EUAN RAMSEY‑STEWART: Hi, everyone. Thanks, Scott. I represent, and I'm the research partner, for a small project based at the University of NSW. We're researching indoor location and navigation technologies for people who are blind or vision‑impaired. SIMO stands for Simplified Information for Mobility and Orientation. The SIMO project started over 12 years ago, and it's slowly grown. It's due to complete at the end of this year after we just had our 4‑year research grant from the Australian Research Council, with myself, my company RSID, and the University of NSW and Vision Australia as our partners.

Do we have a clicker? Could I get someone up the back to the next slide? Thank you.

What challenge did we solve? We've moved on, we've developed an accessible and usable mobile app. That solves part of the big, what we call, social inclusion challenge. We have provided a means for independent indoor navigation for people who are blind or vision‑impaired. But we face some challenges of our own along the way. This is going to be the main focus of the talk today. We have little information or data available for what we're doing. Costs were unknown. We didn't know how much this was going to cost. Technology was virtually nonexistent in this area. We also – our platform and operating systems – we didn't know what to use. This is before the iPhone came out, before we had all this whiz‑bang technology now. We needed to know what the user wanted. Thank you, guys.

For the SIMO project team, this started as a navigation problem about providing an accurate location in specific places – that being indoors. But the challenge has grown to mean even more for us. Now, for us, it is the questions you have to ask when you are actually at a location – what information you are given and how you use it to navigate. Because questions lead to information, and information equals power of choice. When you have choice, you have independence.

We now live in a period which has been termed the "information age". You can put anything into a search engine on the Web using a smartphone or a computer, and you can always find some sort of answer. But what good is information if it is inaccessible, ineffective, or there just is too much to comprehend? What if it's all three at the same time, especially when trying to find your way somewhere? We are an indoor society, and we spend 80% of our lives indoors. Knowing there are accessible toilets in a shopping centre is great. But what if you don't know where they are and how to get there? As a society, we try to make things easy, by providing, for instance, maps and information booths in shopping centres, but they turn out to be just as ineffective for almost everyone. Hard to read, and most likely inaccessible layouts – also, you can't actually carry them with you. This is not just a theory, because we don't live in the virtual environment. Knowing your location is one thing, but using it to find what you need, want or wish for is another. It's real, it's now, this is the real world – the real‑time navigation and information challenge. SIMO project solve these accessibility challenges by combining what we term "cutting‑edge indoor positioning technologies with an inventive navigation interface on smartphone platforms." We took what is traditionally a visual medium – the map – and converted to a form that, if required by a user, is basically non‑visual, and still provide accurate and relevant information in a simple way to help a person navigate. We provide for persons who are blind or vision‑impaired location information at the start of a journey, then continuously throughout the journey right to the end destination. Information is a right, not a privilege. The right to equal access and life opportunities and, if the technology is there, as designers and engineers, we have a duty of care to use it correctly. To improve quality of life for everyone. In 2006, following some independent research collaboration I did with Vision Australia, resulting in the creation of a prototype physical hand‑held unit called Sipod, with the introduction then of the mainstream market of the smartphone, we forecast our team, early on, its potential popularity for persons who are blind or vision‑impaired and, the power these devices would have in computing and processing. So we asked the question, how could we leverage this technology to create a stigma‑free solution which met all our design criteria? We built upon our existing research and design principles to come up with a navigationer specifically designed for persons who are blind or vision‑impaired. We took a 2‑streamed approach to the design problem.

First was the technology. We had to combine all the sensors already built into a smartphone and use what we needed to provide accurate positioning and location indoors. This was a major challenge in itself, because it had never been done before. It has involved some pretty innovative ways of using the censors, and some very complex algorithms. The second was the interface design for the smartphone, used to deliver a location and a database of information to assist in navigation. From the outset, we strove to design with persons who are blind or vision‑impaired as collaborators, and asked first what was required. This has involved many hours of interviews, in‑phase design, testing and redesign, and retesting and, trials, of the various interface designs with our collaborators. In the last two years, we worked on these two streams simultaneously. That's the design challenge. Using our design principles – go beyond what you think you know, be willing to keep it simple, and there is always a solution – we've been able to solve many complex challenges that otherwise would have stopped us dead in our tracks. We believe in inclusive design principles at SIMO. We want to include, to not exclude.

If we came to a solution that wasn't appropriate, we kept going and we reworked the problem until a suitable resolution was found. We have produced a very simple but effective interface, the SIMO app, that has taken into consideration as many of the varied and wide‑ranging accessibility needs of people who are blind or vision‑impaired. It is not pretty, and we understand that, but it is effective. We did not waste valuable resources on something that just looked good. SIMO works for its intended purpose. We have made sure we have settings functions that allow the users to select personal preferences such a range of colour‑contrast streams, various sizes of the Terisias font to allow for persons with low vision as well. We have included the use of the already in‑built accessibility features of the various phone platforms – vibration, for example, for tactile keys, text‑to‑voice, and we've also created a hot setting which is specific for our step protection. We've created large‑button interface in a single column that allows for single‑handed use left or right. This allows the user to use a primary mobility aid such as a cane, dog or sighted guide. The SIMO team believes there is a new challenge that needs to be addressed, and that challenge is education. Not all designers and developments are aware of, or use, all accessibility features available on smartphone platforms. The vast majority of apps are inaccessible in some form or another. Why? Quite often, in fact, designers and engineers miss the fundamentals of inclusive and accessible design concepts, mainly because they're not being enforced or made mandatory in mainstream design or education systems. I'm an industrial designer. I wasn't taught any of this.

Universal design principles and standards are given a cursory going‑over, and then it's up to the individual to interpret what this means. Usually, to a very minimum baseline. Most of the time, it is the misunderstood notion that accessibility and accessible design is expensive. It's this backwards approach that provides for the inequality in our applications and services, and this is a failing in our education of design‑teaching systems. The SIMO project team proves it doesn't have to be this way. We have provided a workable and functional prototype for all major platforms. We're not perfect, but we will continue to use inclusive design principles and collaborative approach to evolve, enhance and invent our suite of products and services for social inclusion. This is a matter of course for this team. In truth, the team have only just started on our SIMO journey. We now hold over a collective 30 years of knowledge in our area, and we want to share it. We're committed to accessibility. Although our indoor SIMO projects are in development, we intend to release, next year, a SIMO outdoor map – because we can. Unlike other outdoor apps, SIMO helps make every journey a new treasure hunt. We provide simplified, contextual, real‑time, relevant information for navigation which is easy to understand. I would like to end on this slide. This is a quote from John Gill, former chief scientist at the Royal National Institute to the Blind. It's from his publication, 'Access Prohibited: Information for Design of Public Access Terminals': "Good design if people with disabilities is frequently good design for everyone." Thank you.

SCOTT HOLLIER: I might take two questions at the moment. As I mentioned yesterday, being vision‑impaired, if you wave at me, I might not see you. If you could try to get the attention of a roaming mike and you have a question for Euan, that would be great.

UNKNOWN SPEAKER: Vincent Yu from Disabled Peoples Association. Everyday needs for vision‑impaired people – one of the things we did is that we used the people with intellectual disabilities to build their (inaudible). A marvellous job they've done, because every minute they're just on the keyboard and typing. We have captured about 20,000 publicly accessible toilets around Australia. That's a bit of a step forward for what most people want. But the one question we have is the problem of indoor navigation. I think you just hit the nail on my head. We can lead them to shopping centres, but we can't lead them to the toilets. If you think that your SIMO...

EUAN RAMSEY‑STEWART: We pronounce it with an Australian accent, sorry." Simmo" is with two "M"s.

(LAUGHTER)

UNKNOWN SPEAKER: If we can combine the effort, I think everybody will find their toilet very quickly.

EUAN RAMSEY‑STEWART: Absolutely. I think that's an absolutely fantastic idea. That's what this conference is about – people getting together and collaborating. I'm actually really excited about that, that you've mapped 20,000 toilets. For us, it's not just the accessible toilets, it's also the lifts, it's also stairways, it's emergency exits, it's flare areas where the reception desk is. For us, it's the public areas of every building indoors that everybody has a right to access. For us, we've started very slow talks with NSW Government, and I hope they go further. We need to maintain our focus, and I would love to talk to you about your app, because our app, SIMO – we found that even though we specifically design it for people who are blind or vision‑impaired to start with, it can actually go across a whole range of disabilities. I think the way you've approached it, as well, is the way we are looking at it as well. We need to keep information simple, because we live in a world that is information overload. There's too much information these days. To process that information is a big mental effort. Let's talk after this.

UNKNOWN SPEAKER: Love to talk to you.

EUAN RAMSEY‑STEWART: Awesome.

UNKNOWN SPEAKER: The outdoor applications are very good.

EUAN RAMSEY‑STEWART: We're looking at using certain maps and things like that. We'll have a chat about this. Good stuff. Anyone else?

SCOTT HOLLIER: One more question, and we'll keep going from there.

UNKNOWN SPEAKER:

EUAN RAMSEY‑STEWART: There's got to be someone else! Good.

UNKNOWN SPEAKER: I've got one question. The idea of SIMO is fantastic. I think – for probably the average blind or vision‑impaired person, an accessible toilet isn't quite as necessary, mostly because we're not in wheelchairs, but I think definitely knowing the difference between men and women's toilets is very handy.

EUAN RAMSEY‑STEWART: That's what we look at too.

(LAUGHTER)

When we come to a location, say for example we have men's and women's toilets side by side, we actually say, "The women's is on the left. The men's is on the right."

UNKNOWN SPEAKER: It's a crucial information. It's very handy to know at the time. It could lead to a potentially embarrassing situation. My question surrounds – I guess it's more of a techie kind of question. In very large, wide‑open spaces – I'll thinking of one which we'll all be going to soon, Sydney Airport. These days with online check‑ins and that sort of thing, it's probably more essential for places like airports to have these sorts of facilities. How will your app technically be able to orient somebody who's just arrived in a cab and stepped into the airport to be able to navigate their way through wide open spaces and into security and through to the gate lounge?

EUAN RAMSEY‑STEWART: Look, very good question about wide‑open spaces. SIMO technically works very, very well in tight, complicated spaces. With the large areas, we use the I‑am‑yous, measurements on your phone, to give your estimated areas and, we use wi‑fi. Our system is based on wi‑fi fingerprinting technology, which our lead researcher wrote the very first paper on. That's how I got involved in this project. Basically, we can provide any information you can get there. It's the information you need and how you deliver that information – Google has those maps already, but they don't provide access. It's very hard to use. We actually have systems where we can map areas' key locations and you can use those as way‑points to go from one point to another point. Then yous you your normal orientation and mobility skills at the end. Within that 3m or 5m area to navigate where you are with the information we provide. It's like having a guide beside you.

SCOTT HOLLIER: Please give Euan one more round of applause.

(APPLAUSE)

I'd like to ask Brendan from Infoxchange to come up and share some things with us. Thank you very much.

BRENDAN FITZGERALD: Thank you. I don't have quite as many slides as Euan, but I'll also probably work out how to work them. One of the things I will be talking about is one of the areas I look after in Infoxchange – a software‑testing social firm which employs a group of people with Asperger's syndrome. Based on the toilet discussion, I'm not sure we'll be going to that testing area any time in the future, and I look forward to questions at the end of the session. The other thing I'd say in the beginning, I'm not actually an expert on accessibility. When Bert rang and said, "I want you to be in this panel talking about accessibility as an expert," I said, "I can't really – it's not my area – I'm not an expert." He said, "You'll be perfect." I try not to let Bert down.

We're nearly 25 years old. We started in 1988 out of public housing estates in Collingwood and Fitzroy. I'm developing applications for not‑for‑profits, providing service information and sharing that. That's grown over a long period of time. That's been quite a strong part of our business. 80 staff in all. Based in Melbourne, in Richmond. We have four or five in Brisbane, and a number working out of New Zealand broadening digital aspects – in Christchurch, they no longer have records or even an office to go to to manage their work, so we're supporting cloud‑computing applications and we've had a long relationship with Microsoft in that regard. My area of business – that's the digital proficiency side – think of Infoxchange as two parts. The digital inclusion side is heavily focussed on digital equality. That's my driver. That's really impacted the use of technology as it equates to individuals. We've done a number of projects and activities over a long period of time – the wider Collingwood, where they're wiring up and being the ISP and developing digital literacy skills for people in public housing and high‑rise estates in Collingwood and Fitzroy. To this day, that still remains, we think, two of the largest digital‑inclusion projects in Australia. We've also done a lot of work in terms of another part of the digital inclusion puzzle, if you like – the access to affordable hardware. We've been refurbishing and (inaudible) to people under low income under our PC banner, PCs and computers and computer equipment that we can reuse, mostly out of government and other not‑for‑profits. The other area that I look after which I mentioned is the test IT area, which is relatively new to Infoxchange. There's a group of six people in all whose expertise is in accessibility testing, is in functionality testing and, in regression. We do static testing for scope in partnership with them. As part of this social firm, we have to have 50% of our staff with a disability. That disability being high‑functioning autism, so Asperger's. In actual fact, it's an ability. What the team we have have is an amazing capacity to identify errors, faults in software, faults in websites, even to the point of being able to look at a piece of paper and find out and identify very quickly where the full stops and commas should be, and so forth. What it is really good about the test IT project is that it we're actually looking to solve two things. One is Infoxchange itself has a testing need. Secondly, we look at the unemployment rate amongst adults with Asperger's – it's up around 50%. That's an unacceptable unemployment rate – way into a space that's not acceptable in this country. Particularly people who have a wonderful ability. The story around accessibility – over time, it's been a bit of a bolt‑on. One of my learnings in coming to Infoxchange is that testing – it seems something that will come after the application is built, and it's not often built in or quoted into the very beginning or scoping of the piece of work. We recently have been asked to quote on a piece of work – as an example, for a rather large not‑for‑profit who's purchased a system that includes payroll and had. R and CRM. I think we've spent close to $1 million. They didn't scope in any testing of those applications. So, quite an important part of their functionality, it, if you like, of those systems, is going to rely upon them to be able to work well and to be able to work effectively. This talk will have a theme around testing and the need to think of it as something which you build in from the begin, just as you would build in accessibility.

I've got three slides. This one is talking about three things, really, to skim the top a bit. One is the food chain of decision‑making. On the screen is a slide that has a dog straining at its chain or leash, and there's rabbit just out of reach tickling its nose with a cheeky smile on its face. He could well become dinner in the next life, if that chain breaks, but anyway.

In this food chain decision‑making, this comes out of work I was involved in a few years ago, largely around multilingual wear and how decisions, the decision‑making change, if you like, ranging for who develops the policy or the project idea right through to the marketing people and the Web designers, Web developers and content managers – they always play a role in accessibility and information. There are probably two elements, I would think, in terms of this food chain of decision‑making. The first one is around government and strategic. The second one is around organisational practice. If you think about W3C standards and things like United Nations convention on the rights of persons with disabilities, there are lot of guidelines, conventions we've signed up to, that organisations need to think of as being critical to their success. And leadership within an organisation really needs to bind those processes and conventions into their daily activity. The first thing I'd say is our CEOs and boards need to, if we're going to talk about our organisations as having respectful or inclusive values, then we need to use them. That's the first thing. The organisational practice one I mentioned was around, as I said, the Web. We did some work for the Victorian Government in 2007 which looked at how Government put its multilingual translating information online. That's online still – it's a report called "Community Languages Online." I would have put the url up, but it's way too long and totally inaccessible. We found things like, in turns of looking at the state of play of what government was doing both in Victoria, federally and overseas, there was a lot of practices that were quite – in fact, the end result is that it impeded information they were trying to communicate. For example, starting at the very top, I've had at least four ministers in Victoria over the past probably 5‑6 years make comments like, "Why don't we just put the Google Translate button on?" I'll leave that comment there. You have to go through this process of re‑educating all the time. And re‑educating politicians is a rather tricky task.

We also discovered things like – there was one department that was putting Arabic up online. The html was done as image. It was also backwards, so it was running the other way.

(LAUGHTER)

I won't name the department, but in that case it was done because of lack of skills in the Web team, really. We talked about the use of PDF – it was right throughout this whole world of translated information online. Also in people with dealing and engaging with the translation agencies, they weren't asking for bilingual metadata to come back for translation. They weren't asking for bilingual tags to be retained as well. Put the non‑surgical PDF up online, but also don't attach information to it as well – that makes it even harder to find. They're very much thinking about it from, I suppose, a print or traditional view of the world, where there's mediated access. What we really want to move towards is more mediated access. You can see in this food chain is the policy people, the marketing people. I've heard the phrase, "What are had top two or three languages?" That's a really silly way of starting towards a campaign which might be looking to develop for a particular community. The top two languages would probably be Italian or Greek – totally wrong market in some areas. It's poor thinking from the beginning. Other things we discovered was the procurement process in that food chain was quite important. Couldn't see display fonts – you're starting to see the picture of where accessibility, functionality and findability of information is being impacted by a range of people throughout that food chain. Through the Web developers and content managers and their skills and understandings, the tools they need to work with and need to manage the information over time.

The second slide I have here has a big "Donate" button on it. I want to touch upon the financial implications. First of all, working for a not‑for‑profit and having seen, through organisations such as MS Australia with their (inaudible), how important online fundraising has become for not‑for‑profits in particular, having that desktop philanthropy that exists out there today. Only recently discovered an organisation, a not‑for‑profit, that had a "Donate" button which had been designed and set up by their developers and, they discovered it wasn't actually working after they'd promoted it, which is kind of crazy, because from the Web stats, we found nearly 1,000 people then called were caught in this loop. That's maybe 500 or 600 people reaching for their wall toot give you something. It's not a really clever thing to do in terms of being inaccessible.

Two perhaps more serious matters – things like the Digital First push by Government by 2017 – pushing transaction activities online. Nearly 1.8 million people are not connected in this country. The people who this Digital First push is aimed at are those most likely to have a health problem or health issue. We're going to have a situation where it's Digital First and accessibility some time later.

That brings another question around affordable access and flexible access to the NBN, particularly with the work we've done around public access. There's a chance for more people to be left behind. Another area that Infoxchange is heavily involved in as well, in terms of productivity, is telework. We've been advocating and have been involved with the Department of Broadband for some time working on trying to promote that. They've got some targets to double the amount of people working in an inflexible way, to double by 2020 to 12%. What are the accessibilities around just the website or the mobile app – it's payroll, had. R systems, email, the online support, for those people working remotely. The communication systems they'll be using. One of our pushes is to really see telly workers as a way of bringing people with a disability back into the workforce, or into the workforce for the first time, trying to exploit high‑speed broadband for that purpose. There are some questions there that need to be thought about.

Lastly, I've put up a slide on the screen which is a screen shot from a little while ago. I've got a Google account, email account. I've been involved with one of the Victorian associations who has a conference coming up in February next year – about 1,000 people coming to Melbourne. We run it every two years. They use Google quite critically. I thought I'd better reactivate my Google account. The screen shot that's on the screen there has the captcha that came up for the third time around after about 50 minutes of trying to reactivate my account.

(LAUGHTER)

The screen shot, the captcha that came up, is spelled out as "S‑U‑F‑F‑E‑R." I'd had about enough of it by then. I guess my point here is that accessibility, or inaccessible information, is personal. It can be quite frustrating. Just recently I've had some similar issues with Twitter. Trier to get support is incredibly difficult and frustrating. In terms of the two things I focus on is the ability to listen in and implement good practice. We're doing some good work with the University of Sydney and looking at their accessibility statement. They talk about how not only they work to W3C AA standards, but their Web teams hold meetings with visually impaired students, and incorporating their feedback. The final thing I'll say is with our testing team. Testing is really something that shouldn't be seen as a moment in time when an application or website is released to the public. We have been advocating and regularly doing accessibility health checks on websites and apps to ensure that data – these are living things, this data is added to and developed in real time. You're also texting in real time to ensure you're maintaining standards. I'll leave that there.

(APPLAUSE)

SCOTT HOLLIER: Thanks very much. We have time for two questions. If anybody would like to ask any questions, that would be great.

EUAN RAMSEY‑STEWART: Brendan, I have one for you. Education – talking about educating ministers and how hard that was with Government departments. Surely there's something you can put in place there.

BRENDAN FITZGERALD: Educating ministers is one thing. I might leave that and take it on notice.

(LAUGHTER)

There was a mention of skill development. I think the skills development is – taking a flawed approach to their learning approaches. There's some really good stuff happening in meet‑ups and a lot of open source and collaborative approaches. I think it should be encouraged as much as it possibly can be.

EUAN RAMSEY‑STEWART: With the whole education system, I mean, universities don't tend to teach in the areas that we need – education. I work on this project part time. I actually work for one of the big banks. What they're doing is making sure that they're trying to educate at the very beginning of the process now. I think organisations are the ones who are going to lead the way – you mentioned that as well. How far do you think we are away from that?

BRENDAN FITZGERALD: Um... that's a pretty good question. I'm probably not quite qualified to answer that. But I can only talk of my own kind of experiences, both inside of Government when I was working there, and now in a not‑for‑profit. Critical to that is the organisations developing their own strategic approaches that effectively...

UNKNOWN SPEAKER: We've got a question up the back of the room, if you're interested.

UNKNOWN SPEAKER: You are very interesting, but I've got a question too.

(LAUGHTER)

Thanks, Euan. Lisa here from Inclusive UX. I'm really curious to know about the process you have been training the testers and their skills.

BRENDAN FITZGERALD: I can take you through that. We have a partnership with Alpha Autism, who are a disability employment service specialising in autism. They've been with us for some time in terms of providing the support base we need as an organisation to bring our staff into a spiriting role, and creating a supporting work environment for the three we have who have Asperger's. They all come from backgrounds that haven't had a very successful work life. This has been quite important in that process. We've also worked with Social Firms Australia, who have provided a lot of support in terms of helping us to create quite robust business plans. One of the critical things about IT is, if we don't keep a focus on the financial imperative and ensure that that's actually successful, our other goal of creating long‑term employment processes of employment for people with Asperger's – we won't be able to achieve that. There's a balance that will be going on.

We also based a lot of our work upon some examples, one in Denmark – they have 100 people employed who have Asperger's. There's another one in the UK, and I think there's another one in America. Around the world, there are some examples of where organisations are looking to bring into their workforces people with high‑functioning autism. That support base from organisations like Alpha Autism‑ because it comes with a screening process, and not everyone is suited to this – that's another thing I'd say. In terms of being able to find the right mix, the three we've got have all got tertiary qualifications ranging from computer degrees, computer‑science degrees, to one of them – Alex has got – what's that weird financial one? Actuary – I think only six people in the world know anything about it, and Alex is one of them.

(LAUGHTER)

So there's quite a – we're looking for a characteristic where they have highly developed skills, but also we need to ensure that they come into the workforce and are supported in that way. The last thing I'd say, quickly, is that the interesting by‑product of this is that we, as an organisation, are starting to learn a lot about what it means to create a supportive work environment. I think over time, that will be one of the really interesting things – the strong learnings that Infoxchange will create from test IT, which we didn't set out to do, but it's something we're learning as we go.

SCOTT HOLLIER: That's great. We'll keep going for the moment, but I would just ask you to please join me in thanking Brendan.

(APPLAUSE)

I'll like to welcome Andrew for his presentation.

ANDREW ARCH: I'm going from three slides to zero slides and I thought that was the best way to keep it from there. You a little bit about my history, I was working since its early perception since the early 1990s in government departments and moved in the early 2000s to the team working in training. And since then, I've had three years with the W3C in Europe. Very fortunate there to work at a project looking at the overlapping issues of ageing and disability. And more about what we can do for people with disabilities and parts of that fit and with older people and we tend to box with people disabilities in to single departments and address blindness and deafness and physical impairment. Older people tend to acquire multiple impairments as they get older. Although sometimes they can be fixed. My mother‑in‑law, aged 90, has better eyesight than I have – which I'm envious of. And coming back to Australia, I joined the Australian Government office to work on the National Transition Strategy Project. AGIMO, which is the preferred pronunciation – it is primarily looking at ICT‑related policy. That's its mandate at the moment in its current guise. So things like cloud computing for government, big data whether we're looking after the web area, IPv6 which is required to available the Internet down the track. Registration of government domains and under the web policy, of course, it's accessibility. When I got involved in sect in the early 2000 with Vision Australia, my manager said – don't consider this a long‑term career move. The guy that was there said that we'll have this all solved within a year or two or three or four. 13 years later, I'm still working in this area and you see it just growing and growing and growing please because want to do more and more with the web and the technology is changing and all sorts of things are changing so there's continually new challenges there. I've also been involved with the W3C since the early 2000s when I was nominated to one of their working groups and I've continued that involvement ever since. I'll come back to the W3C later in the talk and maybe encourage some of you to participate.

Scott asked us when we were putting the panel together – what are the things that thrill you about all of this web stuff and mobile stuff and accessibility and the thing that thrills me is the convergence that's happening. And we've heard quite a lot about that in this conference – web and mobile and it's not just for people with disabilities now. Because as several people said yesterday – situational awareness is also driving a whole lot of development. One has a spin‑off to people with disabilities or what people are doing for people with disabilities has spin‑offs in to the wider community. You even just see here, the example of captions that's used a lot in the environment at the airport, at the pub, in public venues where you can't hear anything. Or they've turned the volume off, you rely on the captions there, even if you're fully sighted. DAISY and EPUB. The standard for e‑books, the same thing on your kindle or Sony, although they've put hooks in there to protect their digital rights. It is basically EPUB and last year they combined to have a single standard based on XML and as people adopt e‑hub three, hopefully we'll have more and more there. And something we're taking notice of in Government. And everyday technology and assistive technologies is voice activation, gestures and there's work going on in the W3C to standardise some of that work as well.

The other thing, having worked in this area for three years is the issue of ageing. And increasing the demand for accessibility. So re-emphasising some of the stuff that Graeme Hugo talked about, baby boomers and the ageing population here in Australia. Baby boomers expecting to use technology and the fact that disability comes with ageing if you look at the ABS statistics after each census. Or the people with disabilities and careers, you look at the graphs of what proportion of the population at each age has severe and ongoing disabilities that affect their everyday living and it's just one of the curves at the end is that the body starts to break down after your life. I was told once that most of us who didn't need glasses as a child were likely to need reading glasses in our 40s or 50s. And I've got to remember to take mine with me most times these days.

But while we do have an ageing issue in Australia, we have nowhere near the problem that we do have, that a lot of other countries have. And I'll just give some statistics from the work I was doing with the W3C there. People over 65 forecasts by various international and country‑based statistical bodies – 16% globally over 65. Australia, we're looking at about 22-point something by 2050. The EU as a whole is looking at around 29% or close to 30% and within the EU, there's some countries that are going to be greater than that. But Japan almost has 30% at the moment or will have by the ends of this decade and by the middle of this century on current forecasts, they'll have 40% of the population over 65. So think about the disability impairment accessibility requirements in that community. So while we still need to do work here, I think in terms of ageing and accessibility, we can probably learn a lot from overseas and there's a lot of money being poured in to things like smart homes and a lot of other research programs because like we recognise, it's cheaper to keep people working independently for as long as you can rather than moving them in to cared accommodation. So the work that the W3C was doing with web accessibility and ageing was just a drop in the bucket compared with all the research going on in Europe at the moment.

OK, Government. What are we doing in government? Australia was one of the early countries to adopt web content accessibility guidelines version 1 and I think we were the third country in the world to adopt WCAG 2. What we did when WCAG 2 was to say it's all very well to have enthusiasm but if we don't have a strategy in place to measure and hold agencies to some sort of accountability, then the enthusiasm will die off.

Back when WCAG agencies said we'll adopt this in the websites in the next two years and then by 2005 or 2006, some agencies were still doing very well but a lot of agencies have forgotten about it and it was never chased up and followed up.

So the National Transition Strategy for web accessibility was part of the adoption of WCAG 2. And we set some goals, an interim goal of online material in the Commonwealth Government to be what the W3C call single A confirming by the end of last year and AA conforming which is the midrange. But it is the standard that most countries are adopting, AA by 2014. Some of the service delivery in particular, it's probably not going to happen because the development life cycle for a lot of the big service delivery applications that are online is a 10‑year life cycle which means that they go through a periodic review and refresh only an 10‑year basis and then there's other service delivery aspects that they might have outlived their life cycle but for a variety of reasons, some of them are resourcing and some of them are considering where the particular program or project might go where they're saying – OK, we're just doing some patching at the moment. So things can happen progressively, but for a lot of these... when you're waiting for a big refresh, for a whole new platform to come along and be redeveloped on, we're not going to get there the whole way until that actually happens.

But the NTS has actually driven an awful lot of activity. There's a lot of awareness across government agencies now. There's a lot of activity and we hope that that is also spilling over in to the private sector. Certainly in Canberra now, if you want to go out and get your annual report prepared, there's a lot of – even just in terms of having design done, there's a lot of awareness around in the graphic design industry in Canberra about what needs to be done to present that accessibly and most of the reports are going to end up online. So we've driven a lot of activity there. The other thing about the NTS is that it required agencies to actually know what they had online. So it's driven a lot of other governance things that have had spin‑offs in terms of how they manage their websites, how they manage their service delivery development and that sort of stuff, which wasn't part of the NTS but it has actually had that additional benefit. And just to reiterate – one of the things that we do definitely emphasise is build accessibility in from the start. It's an awful lot cheaper than trying to fix it afterwards. In fact, if you have old material, and its lived its useful life but you don't want to remove it because it has some public interest, agencies should be moving that in to an archive and definitely offline or decommissioning it completely. One of the things that we became aware of was that a lot of projects finished and the websites just sat there day in and day out, year in and year out even though the program or the initiative had concluded. And you know, you've got to build that in to the governance. You've got to build the website to disseminate it but have a wrap‑up phase at the end as well.

We did another survey early this year of agencies. We've had lots of progress indicated in that. We're still going through the clean‑up and analysis of the data there, but there's been a lot of staff training going on across the agencies. Some agencies have even produced their own internal materials. FaHSCIA for instance produced a YouTube video that they shared with agencies and it is available on YouTube with transcripts there. Just about why they're doing this and why people need to take account of it. Many agencies are also indicating that their websites are mobile‑enabled. It's a question that we ask – it's not part of accessibility but with the convergence of the web and the mobile, it was something that we wanted to know. A lot of agencies reviewed their procurement requirements and to assist them with that, we published some information early this year to make sure that they get it in to their approaches to market. Because if you don't put in your approach to market and then find it in the contract, how can you expect someone to deliver it at the end of the day and hold them responsible? A lot of systems have been upgraded and a lot of agencies seem to be reporting from a cursory look at the data as we get in to the analysis phase. That's some issues that were major issues a couple of years ago like the issues around multimedia seem to be minor issues now. A lot of agencies say that we need to know how to deal with this, but we need to make sure that it is done. A digital‑first program that came out a month or two ago that Senator Lundy and a few other people referred to yesterday, we're seeing as a new opportunity to embed accessibility in to the work that Government does and build it in from the ground‑up as part of that. And the idea of Senator Wong late last year talked about efficiencies in moving to publish online only. We're looking to ensure that accessibility is in those processes.

States and Territories also endorse WCAG 2 through the Government. And all the States and Territories have adopted some form of the national transition strategy, albeit sometimes with slightly different targets and with different time frames. The area that we're not seeing the take‑up so quickly is in local Government, which is unfortunate. But we consider that local Government is a beast of State and Territory Government and really the States and Territories should be driving the accessibility in local Government.

I didn't touch on the mobile activity but the AGIMO recently published a mobile road map which talks about two aspects – service delivery through the mobile platform to citizens and the idea of bring your own device for public servants to bring their own devices to work. Part of that is around meeting community expectations, around improving access to Government services, increased opportunities to collaborate. Often in real time. And there's lots of mobile activity going on in Government. An account a couple of weeks ago, over 60 applications from Federal Government listed on the www.Australia.gov.au website. And the good thing about that is that the other aspect is that hundreds of the websites from our survey are indicating that they're mobile responsive and they will work on mobiles – maybe not perfectly, but a lot of agencies have indicated that that is part of their redevelopment. They're redeveloping to accessibility and they're redeveloping to make them mobile aware.

But with the mobile application development, there's a lot of interest across Government. It might not be 100%, but a lot of the agencies are expressing interest in the fact that they have to make this accessible from the start. So they're coming to us rather than us having to tell them, which is really pleasing. Accessibility is really important in what we're doing with this.

I personally take the approach that mobile applications really in most cases have a specialised browser because they're giving you a targeted interface in something you could have done over the website with a Government agency anyway. And if they're just a specialised browser, then accessibility applies in the same way it does to any other web development.

Just to finish off – Scott, if you'll just give me one more minute is to mention some of the work of the W3C. I know there's criticism that there's no guidelines there. The W3C has done a lot of W3C has done work on this. If you look at the W3C, within the mobile mapping requirements to WCAG and the user experience and the overlaps between the situational impairment that a person experiences being outside in the sunshine or using a small screen and so on compared with issues that people with disabilities experience. That stuff has all been quite well documented. There's work going on on the independent user interface or the IUI which is work on the standardising of mouse actions, keyboard actions, touch actions, voice actions, etc. So that the same thing happens whether you scroll on your screen with a mouse wheel, touch the screen with your finger, say "scroll down" verbally. That all will have a standard impact. The W3C is also inviting people to come and work with them on mobile accessibility. Scott and myself would be pleased to talk to anybody afterwards who would like pointers in to how they can contribute to that work, whether actively or just by joining one of the documents. So just to conclude – one of the things that I've always suggested to the private sector is if you've got any form of corporate social responsibility, then web accessibility should be part of your responsibility. It's not just about being green in the environment. It's about everything that you do.

(APPLAUSE)

SCOTT HOLLIER: Just to reiterate, if anybody wants to join W3C, you can join in lots of ways. If anybody has any fairly quick questions for Andrew, that would be great.

UNKNOWN SPEAKER: Thank you, Scott for the presentation. That was great. I was wanting to ask whether the web transitions strategy has had any benefits for people with disabilities who are working for the Government, as such, and the emphasis of the presentation was very much on presentation to the public, as such. Has it had any kind of impact in terms of improving employment of people with disabilities? Or is there better opportunities for people with disabilities as a consequence?

ANDREW ARCH: Yes, is the microphone working? OK, good. We don't differentiate between public‑facing websites and applications and internal facing the agency's Internets and HR systems that are web‑enabled, apply for leave and all those things internally are just as much under the National Transition Strategy as the public‑facing stuff. That said, we understand from anecdotally from the information we're getting back is that agencies are putting their initial efforts, or have put their initial efforts in to the public‑facing sites because when they consider that, they don't know who the audience is. So they've often got a much bigger audience as well. So when they've had to prioritise where they do the work, a lot of that work has gone on on the external stuff rather than the internal stuff. But we're in the surveys asking them all about their intranets and internal applications and they're very much covered there because obviously for somebody to gain employment in the public sector, they need to be able to use the systems that are available to them and we rely more and more on ICT systems to do our work these days.

UNKNOWN SPEAKER: Thank you. Susan Thompson from Vision Australia. I'm just interested in if you have any sense, Andrew, of how or whether there's any kind of thought given to how you would prevent accessible things now from being broken tomorrow?

ANDREW ARCH: Um... pass!

(LAUGHTER)

I think part of the answer to that is being aware. And particularly if you're doing upgrades to software products and that type of thing, making sure that as part of the requirements that accessibility is taken in to account right from the start. You don't want to break it and have to go back and fix it. And that's one of the reasons why some agencies complain or people at some agencies complain saying we're using such old systems. It's because some of the systems are being customised to work with particular bits or interact with each other, but they've had some accessibility enhancements made to them. And as soon as you move up to the next version of a particular product, you've got to go and reinvent all those things. Now, internationally, we know the products are generally getting better but there's no guarantee of that. It comes back certainly for the sorts of stuff that we use inside government, it's got to be part of that procurement request. When you do approach the market, accessibility has to be a part of that and then specify that it should be part of the statement of requirement.

SCOTT HOLLIER: Please thank Andrew again.

(APPLAUSE)

I'd like to call our final panellists, Tony, to present. Thank you very much.

TONY BENNETTS: Good afternoon, everybody. I'm going to at the end of this, attempt something that I should know better! Attempt a tech demonstration!

OK, first of all I'd like to congratulate ACCAN for running a forum like this. I don't know if it was mentioned earlier. I had the privilege of presenting at the M‑Enabling Conference in DC in early June. And it was a great event and it had an excellent turnout. I think they had 600 people turn out to the event. So when you look at the numbers who have turned out to this event in terms of around 260 or so people I think, Wayne mentioned the other day, that's a fantastic turnout when you think that the US has a 300 million population and we have about a 22 million population. So again, congratulations ACCAN and congratulations everybody who has come along today.

Firstly, what I wanted to talk about today is to give you an example of the process of developing an application that initially started out to solve a particular issue for deaf and hearing impaired users. But over time developed out to be an application that provided accessibility to all – not only people who had vision impairment or those who were multilingual and coming in from other countries. What I'm talking about is our open MI Tours, a museum accessibility application. And I think at the end of this, the point I'm trying to make is that we're all familiar with the concept of universal design and I think applications and more to the point, the smartphones and tablets and the design flexibility that's been allowed by Apple, Android and others, really you start to see how universal design is achievable.

I want to share with you the process that we went through to develop the Open MI Tours application. But I want to explain a little bit. I'm from ACE, the chief officer from the Australian Communication Exchange. We're a national not-for-profit and we're the relay provider for the National Relay Service and we have spent many, many years looking at ways to develop and enhance communication for those who are deaf, hearing impaired or speech impaired. And we actually do this in a couple of different ways. The first thing we do is we search the world for applicable technologies so looking to other destinations, to other markets, to other communities and how they solve some of the issues in terms of day‑to‑day challenges for those who are deaf, hearing impaired and speech impaired. And when we find appropriate technology, we invest in bringing that technology out as part of a trial, as part of an implementation and an incubation process to prove up the technology in this country and to make sure it has value to Australians in the community that we serve.

When we can't find solutions that are out there in the market, when they look internally to see how we can develop a solution to meet specific needs. And in those cases, we have a fairly defined process in terms of our engagement with the community in understanding what their day‑to‑day challenges are.

So we start with the challenges. We start with talking to the community and asking them the simple things – what are the things that frustrate you in your day‑to‑day lives? And one of the issues that came to the fore was the concept of touring museums, and I'm sure we've all been to a museum. And it is a very difficult place for people who are deaf and hearing impaired because the information that's provided, most museums rely on audio tours to provide the enhanced set of information that they can't provide in terms of their interpretation boards – the little plaques that you see by the exhibits. So what we wanted to do was to solve that. We wanted to make museums accessible. So we looked at what are the processes around that? The first thing is that we have those in the community who use Auslan as their first communication language.

There are others who have a hearing impairment require captions. There are others who could benefit just from some DB audio boost – that is volume above and beyond the normal audio devices that you get at a museum.

So consequently, we sat down and we looked at how we could do that, how we could apply existing technology to solving that problem and we have some very specific guidelines we have in our development process. The first thing that we look for is that the solution needs to provide communication as close as possible to natural conversation speak – that is sign language is regarded as a high‑speed language – being able to display captions at a quick space. So we wanted to be able to make sure that the information is being imparted as quickly as possible.

The next thing is mobility. Mobility is a big thing – smartphones, tablets, the ability to get access to those sorts of services but in the mobile environment. The last thing that we wanted to do was to not necessarily reinvent, or invent something from new. We wanted to make sure that we could leverage off existing software and existing hardware so that we could avoid the issue of expensive accessibility items. We wanted to make sure that we could use common, readily available, high‑volume devices to deliver that outcome. And in fact, we wanted to make sure that people could use the device that they were most comfortable with and so that concept of bring‑your‑own‑device was also important to us. Open Mi Tours ticked the boxes and I'll explain why.

As you can see there, OpenMi Tours was launched at the National Sports Museum in May 2011 but the development cycle started long before that. We needed to work with a museum. We needed to work what their requirements were. We needed to work with individuals in the community to understand the best way of delivering the messages and converting the audio tours in to functionally equivalent sign language and captions. We also had a whole range of other variables in the mix in terms of museums of different types and different display criteria and how they saw themselves and how exhibits were presented. So it took us around 18 months to work with the museum and the community before we were able to launch the first version of Open Mi Tours which we called, at that stage, Smart Auslan. And it was effectively a QR code‑triggered device that played a high resolution sign language video that was converted from the audio to sign language with appropriate captions at the same time.

Our key focus, of course, was serving our community members, the deaf and hearing impaired. And just to talk a little bit about how it works. You might be familiar with QR codes. They’re popular. They're the same thing as a bar code but they can contain so much more information. And consequently, we were able to place more QR codes around the National Sports Museum and they could be triggered by our software using the camera scanner. The nice thing about QR codes is that they can contain a lot of information, so what we were able to do was to develop a process whereby we could play multiple streams of different media – and I'm talking about video media, I'm talking about audio media and I'm also taking about layering captions in different orders, and play them back simultaneously. What this meant was that we could, of course, mix things up if somebody wanted to watch a pure Auslan video, they could. If somebody just needed captions, they could have captions. If they just needed audio, they could have audio, or DB‑boosted audio, or play any combination.

One of the other things that became obvious is that we could layer in to that multiple languages so you could have a situation whereby you could be watching an Auslan video that had French audio and English captions or vice versa. Or mix them up.

Consequently, what we were seeing there was interest from the museums in the sense that they saw a wider opportunity for this sort of accessibility application because again, it now offered the opportunity to be applied to a whole range of different visitors to the museum. The other interesting fact that came through the process was that museums generally spend a lot of money on their audio equipment and their audio tours. And who we were able to do is to demonstrate to them that that process really was no longer required. You had the opportunity to now enter in to a different paradigm in terms of people bringing their own devices, being comfortable with the device in their pocket and being able to get the accessibility material in the process that they liked. We had a very consultative and collaboration process. One of the things that we learnt through the process was that in producing our videos, we used deaf sign language users to tell the story appropriately rather than using interpreters to deliver the content.

We also started to look beyond the dear and hearing impaired communities in terms of how else can we provide solutions for other users of the service? And in particular, we were able to overlay audio description. We also looked at alternate triggering mechanisms. For example, now in the National Gallery of Victoria, we're using small blue tooth modules to trigger audio and audio description tracks for those with a vision impairment. So obviously they can't use the scanner to scan QR codes or anything else. We're also using image recognition now, so that we don't have to effectively use a QR code. We can scan the actual image, the exhibit, the painting that's on the wall and have it play the appropriate material.

The key issue for us was community engagement, and while we launched the first version of Smart Auslan Now OpenMi Tours in May 2011, over the years, we've spent many hours working with the community, taking communities through the various exhibits. We have now roughly around a dozen different museums around the country. As I mentioned, the National Gallery of Victoria, GOMA in Queensland and major galleries are now purchasing content to play through the application so that they can service a wider range of users of the museum and it all started out as an application for the deaf and hearing impaired.

What I might try to do now is give you a quick look at it. As I said, I'm being a bit brave in that I'm using a beta version of the software! So you can see on the screen here now how the interface looks. There are options to choose the gallery. But in simple case, you go in to scan mode. It goes in to scan mode and you can see that now. And once it comes across... it's all a bit slow. Once it comes across an image it recognises... there we go and we have the play signal!

Now it automatically goes out and you can see we have a high resolution sign language description plus captions that reflect the audio tour of that particular devoice. It can be stopped, played, reversed...

But as I said, my point is that we started out with a specific accessibility app and we ended up providing an application that museums saw as having appeal right across‑the‑board for a whole range of community members, and as you saw there, they're actually purchasing the content and providing the applications to the wider community. Thank you very much.

(APPLAUSE)

SCOTT HOLLIER: Anyone like to ask Tony some questions?

UNKNOWN SPEAKER: Hi, my name is Michael. I'm deaf, I work at Vic Deaf. And I personally use the OpenMi app. I've been using it at the National Gallery of Victoria actually. And I found it really, really very helpful. And I've used it in other galleries as well. I have a question for you and really for anyone on the panel, whoever would like to respond. If we're talking about Internet accessibility and accessibility of content, for deaf people, Auslan is my first language, Australian sign language is my first language and I would like to comment on the fact that we overcome the fact that for many deaf people, Auslan is their first language but not necessarily available on websites?

TONY BENNETTS: That's a good point and when we were developing the application, that became blatantly clear that the high resolution, high frame rate of video needed to appropriately display sign language was just not going to be delivered via the Internet. In fact, part of our solution when I often describe it as an accessible app, it is also accessible for the museums. The museums don't need to invest in infrastructure, WiFi or anything, to try to deliver this over the Internet. And that's how we've been able to deliver a high‑quality experience by avoiding what we know to be one of the pit falls. Having said that – to get to your point going forward – bandwidth is the key driver of video quality. And when you have a very high speed connection, you get reasonable quality. But I think we have to look to the changing technology, developing codes, better compression algorithms to give us better quality video stream in the future that will allow videos and hopefully web‑based videos to deliver the frame rate and resolution that you need to be able to understand what's being signed.

SCOTT HOLLIER: If we could just have one more question before the break.

UNKNOWN SPEAKER: If I could add something else, it's Narelle from ACCAN. We have a project in ACCAN in conjunction with the North Melbourne institute of TAFE and Cathy Clark whom I'm sure many of you know, will be working to put together a framework for Auslan interpretations for websites, so there will be standards for websites for Auslan interpretations. And we're really looking forward to getting the outcomes of that project. Thank you.

(APPLAUSE)

SCOTT HOLLIER: We can probably squish in one more question if there is one for Tony.

UNKNOWN SPEAKER: Thank you, it's Wayne Hawkins from ACCAN. I was just wondering – with the museum apps, are museums able to change the content in are they able to do all of that updating when they update their exhibits? Are they able to just go ahead and reload new content in to that application? Or is there... do you need to go to ACE and redo the whole process?

TONY BENNETTS: That's a good question. No, the way that we do it – to make sure that we have the right presentation in terms of video quality, frame rate speed, presentation – we produce the material for them and we upload that for them at any time that they would like to make changes. So making changes to standard tours does happen from time to time. But one of the other things that we've been able to do in our own internal back‑end process is to be able to produce the material very, very quickly. And the benefit of that is that we're able to provide content for the range of temporary exhibits that you see passing through. So for the past two years, we've been providing content to the National Gallery of Victoria for their two winter exhibits. And the same for GOMA in Brisbane. So we focus on fast turnaround of the production of the material to ensure that it is not just the standard long duration tours that get converted to Auslan and captions, but also the shorter term exhibits, again opening up access and not limiting anybody.

SCOTT HOLLIER: That's great. Please join me in thanking Tony. And please continue your applause for the whole panel. Thank you very much.

(APPLAUSE)

Break time. Thank you.