**M-Enabling Australasia 2013 Conference**

**Day 1 – New service models using mobile devices: 13:30 – 15:00pm**

TERESA CORBIN: Alright, good afternoon, everyone. Hope you had a good lunch. We might get started. I just want to introduce Emma Dawson from the Institute for the Broadband-Enabled Society, IBES. In my pursuit of finding out what people use, she uses Tram Tracker in Melbourne. And she admits she's not a very fun person because he's a news addict and she's in to iView and uses podcasts a lot. So there you go. Here's Emma.

EMMA DAWSON: Thank you. I do – I am rather addicted to podcasts I have to say. When I see people walking and jogging and I think they're listening to music and I'm listening to Philip Adams or the Law Report, but that's the life of a nerd! Welcome everybody to this afternoon's session on new service models using mobile devices. I'm Emma Dawson. I work with the Institute for a Broadband Enabled Society as Melbourne University and I'm here to introduce a very distinguished panel this afternoon who will be giving us insights in to service models over mobile that can benefit people with a disability and older Australians. And I'll briefly introduce our panel, but I'll introduce them in more detail as they get up to speak. We have Sandy Gilliland from the Australian Communication Exchange. Frank Vetere, my colleague who has done a lot of work with me at IBES. Harriet Korner from the NSW independent living centre. Denise Wood from the University of Australia and Mathew Peterson from shining things. We have interesting panels which promises to help us use mobile technology to benefit people with a disability and older Australians. As we all know, we live within an ageing population. We hear a lot about it all the time. The great achievements in healthcare and medicine in the 20th century have led to a situation where now the average Australian can expect to live well in to their '80s and beyond and to live with a greatly improved quality of life compared to that of our grandparent's generation. At the same time, as I don't need to tell anybody here, one in five Australians now identifies as having a disability. Again, people with a disability are now living vastly more engaged and productive lives than society made possible in previous generations. And, of course, another feature of life in 2013 is the transformative impact of communication technology. The ubiquity of Internet and spectrum‑based mobile connections has over the last 30 years infiltrated all area of our life. Some would say a little too much. I certainly think so when I see my 2‑year‑old niece swipe my iPad and start playing Angry Birds! But this technology enables technologies of the stuff of science fiction. The ability to communicate instantly with one another across vast distances from virtually any location and to access seemingly endless information from a huge variety of sources, let alone access services on the Internet and through mobile technology. Has transformed the way we live and interact with one another in the world around us. Mobile devices that allow us to tap in to online and broadcast information and to connect with one another at any time from any one place have perhaps had the greatest personal impact in our everyday lives. That is, I think, mobile technology is particularly of use to the individual. The uptake of this technology has been widespread and rapid.

A recent survey by Frost and Sullivan found that now 73% of Australians now own a smartphone. That goes beyond, of course, the traditional mobile phone, in connecting us to each other, but allows us to connect to a world of data and information at our fingertips. I think an even more startling statistic is that less than five years after the launch of the iPad, now, 49% of Australian households own a tablet device. It's been an incredibly rapid uptake and a particularly user friendly technology. All of this technology clearly has great potential to assist people who were previously marginalised or found it difficult to access services within the community due to the physical or social constraints that often came with age or disability.

Mobile technology is often heralded as the great solution to bridging what is referred to as the disability digital divide, but to do so, it must be designed and made available in a way that is accessible and useable. Access to services over wireless communications is already genuinely transforming the lives of people with a disability and older people. Devices and services that we may think are simple or may take for granted if we don't have a particular need for them, Tram Tracker being my personal favourite, as Teresa pointed out. Systems such as navigation and global positioning systems. Mobile online access to Government health and education services. Online banking over a mobile device. Digital libraries for people with reading and visual impairment. Even social media. All of these services and devices are opening up a previously difficult to access world for people with various disabilities and disadvantages due to age or declining health. Many of these services and applications are in their infancy, but research and development – that's something that IBES is particularly involved in – is increasingly tapping in to the potential of these devices and systems. As will be demonstrated by the presentations this afternoon.

Without further ado, I would like to move on to the first presenter. Sandy Gilliland was appointed as chief executive of the Australian Communication Exchange in July 2007 after a career of more than 25 years holding senior, State, national and international positions in the not for profit sector. He's been with ACE for five years and led them through a consolidation phase culminating in the successful bid for the National Relay Service contract. Please join me in welcoming Sandy Gilliland.

SANDY GILLILAND: Thank you, Emma. Good afternoon, everyone. As of today, it is actually six years. Emma Dawson six today?

SANDY GILLILAND: I think Emma and I have the distinct privilege of being the first speakers after lunch. And if, like me, you had a nice lunch, I'll remind you of what's happening in your body right now. You have elevated blood sugar levels and to compensate for that, if your pancreas is working correctly, a squirt of insulin in to your body. And the by‑product of that is that you want to sleep! So I will not be disillusioned if I hear some quiet snoring and nodding of heads. Maybe, in fact, this is a challenge to all the app developers in there. We need to find an app that allows people to be jolted out of the dreams for speakers who are after lunch or post dinner. But let me also start by congratulating ACCAN in particular. Johanna Plante and the CEO Teresa Corbin for enabling the M‑Enabling Conference. What an ambitious initiative and well done, what a great agenda and I think it is terrific that you've done that.

To put in context what I'm about to tell you, what I'm about to talk about. In Australia, there is, we believe at the moment, there is one in six people who are deaf or hearing impaired. With an ageing population, some of the previous speakers have certainly spoken about the demographic of the future. The estimates are the ratios as approximately one in four by the year 2050. So I think the next 30 years, we're going to see approximately ten million people who are going to be deaf or hard of hearing. And ACE, the Australian Communication Exchange has three community groups, they being deaf, the hard of hearing or hearing impaired and the communication impaired. And that's what we base our strategic imperatives on and dedicating our mission to.

Included in that number I quoted earlier is probably around 10,000 people, and this was referred to earlier as well, who use Auslan, Australian Sign Language as the principle means of communication. That is, in fact, their first language. Now, ACE is a not for profit organisation. My notes tell me that we've been around for about 18 years at the forefront of communications innovations. And I was just speaking to the founding CEO who is in the audience here. And he reminded me that it is not 18 years, it is more like 25 years. So we've certainly been around a while and looking to get some information later on about the 25th anniversary that we'll enjoy later this year.

As a not for profit, we work almost solely for a social return in our investment. Really, our R and D team is driven by passion and they're driven by a vision, which is to ensure that there is a functional equivalence for our constituency in terms of communication in telecommunications in particular. We're going to have two shots at that this. I'm going to be brief this afternoon. Our CIO is also talking on the channel tomorrow and he'll give you a lot more detail.

So I'll really just give you an over‑arching view. We have a very passionate board of directors who also support our operations in terms of achieving our vision. And we believe we're making great leaps forward in service delivery for our core groups. We leverage off widely available technology, so we're not engineers – we're enhancers. And we invest in world‑leading services to deliver our goal of functional equivalence in telecommunications and communications in general. And as I said, our creative and passionate R and D are driven by evidence‑based needs. For example, we have a consumer advisory group that gives us feedback and information as to where the unmet needs might be and also assist us in how we might drive our imperatives to meet the unmet needs, or facilitate them in being met. And we have a simple process. First, we listen to the communities and with their help, identify an unmet need. Next, we explore existing technologies that can be used as a platform for new services. And the third stage is then to bring the ideas in to life. And we ideally give the community a chance to test technology and services and tell us whether or not it's met their needs. Using our evidence‑based research and community feedback, we've developed a range of mobile smartphone apps which aim to bridge the gap of social inclusion across all aspects of life. And since introducing our first app as part of a suite of apps called Open MI access, ACE has achieved an astonishing 10,000 downloads spanning the space of education, employment and entertainment experiences. And working with our key partner organisations has been crucial to the success of these developments alongside the support of business and the industry to challenge the way information is publicly provided. And today, I'm just going to take you through a couple of key examples of our solutions in action. But I do profess that I am not, if you're asking me questiones – don't do the technology. That will be for Tony tomorrow as the CIO and he's speaking on a panel in the morning. But what I can shed light on is some of the challenges that we face as ACE took steps towards achieving the vision and the wider opportunities which we've identified along the way. One of our most popular applications is called Open MI Tours. It ensures cultural exhibitions are accessible by taking the traditional audio tour, usually delivered on an old clunky MP3 and instead, uses the features in smartphones to deliver accessible content. ACE set out to deliver high quality sign language and audio, plus captions, so the deaf and hearing impaired Australians could truly experience everything that cultural exhibitions have to offer. We've now delivered the Open MI Tours solution to ten major venues across the country and headline exhibitions like in the National Gallery of Victoria. I don't want to understate how challenging this process has been. In some cases, it's taken 18 months and nearly two years of discussions and various operating levels and governance levels in large institutions to achieve the result. To put it bluntly, it's a relentless effort of ACE's equally very passionate marketing division. But very quickly, we realised that we weren't just challenging the concept of who visits museum, we were also challenging the technology of who has audio tours in Australia and indeed, throughout most of the world. We can see that the museum spent less money on maintaining the old devices, they would have more money to spend on making themselves accessible, and not just to the deaf and hearing impaired community. ACE is trying to drive this change by enlightening these venues and others on the need to adapt and service anyone who as access to a smartphone. In this regard, we are saying that the investment in Open MI Tours doesn't just make you socially responsible, it could deliver greater financial returns. It can drive more visitors and lower the overheads of maintaining existing equipment, and that's been a hard story to sell.

One of the most surprising welcome outcomes from ACE's experience in this space was the realisation that what we had produced had much wider applications. And isn't that typical for benefits for the consumers. We built a platform that can be adapted to service general customers, the blind, and it's been mentioned earlier today, through audio descriptions, or even multiple languages for the growing international tour I market. We found that it helped to engage businesses in new ways of services to meet their outcomes. The other app I would like to introduce you to ­­follows a similar pattern to the Open MI Tours. And the intent of this app is to make public announcements accessible. ACE is working with transport groups and by example, Brisbane Airport Corporation to help them with public announcements. Again, ACE has had to promote internal change with large corporations in order to deliver the accessible mobile solution. And you have to wonder how many hearing people or how many deaf people have missed a gate change announced in an airport because they weren't advised via accessible media. Our apps are there to meet particular needs of the constituents, however, many more stand to benefit from the widespread introduction.

There's one other thing that I would like to talk to you quickly about if I may. If I'm still doing well on time which is currently available at Victoria's Werribee Open Range Zoo. It is called Open MI Excursions and it is an interactive app that enables students, when they come across an animal enclosure to use a QR code to access the captions and the Auslan for uploading to their smart device and giving them the information about the animals in that particular enclosure. It also allows them during that experience to be quizzed on questions and that is then uploaded to the device for the teacher, for example, to collate and collect information about the experience and also for the zoo for future use to be able to understand better what the needs of those who are experiencing the tour might want.

ACE has been working closely for many years now with a US‑based telecommunications service and product provider. I suppose, that experience has allowed us to first hand and second hand experience and acknowledge the 21st century communications and video accessibility act, which you'll find out a lot more about tomorrow, but which we believe is the most advanced legislation to promote digital accessibility. And I fully endorse Teresa's comments earlier that it might provide a guidance model for Australia in the very near future. And like all of you, I look forward to further insight in to what that implementation of legislation might mean for us. And tomorrow's key note address from Karen Peltz Strauss. To conclude, I want to thank the users and our partners who openly share their personal stories of triumph. We hear about families reconnecting via the app technology as well as providing sense of regained independence. To us, every new venue that recognises our mobile solutions represents a number of life experiences that might have otherwise not taken place. Thank you.

EMMA DAWSON: Thank you, Sandy. I was very interested to hear – obviously ACE is doing great work that is very welcomed by the people they're intended for. It seems you're running into the bureaucratic problems in terms of dealing with governments in different organisations to get these applications accepted. Did you find it was easier, or were the problems common across the board?

SANDY GILLILAND: I think the problems are across the board, but typically the results or the outcomes are consumer‑driven. If you've got the consumer behind it, then you will get a result. But also, particularly if you can see if the corporations can see that there is a bottom line – we're not all involved in social return. That's our ambition. We understand there's a profit‑driven incentive as well. You either more money or you save money. If we can show where you save money, we can help.

EMMA DAWSON: There will be time for questions at the end of today's session. Please thank again Sandy Gilliland.

(APPLAUSE)

Our next speaker this afternoon is Harriet Korner. Harriet is a speech pathologist with over 25 years’ experience working with children and adults. She works with the Independent Living Centre of NSW and the Independent Living Centre provides assistive technologies and advice using its app magic website. Please welcome Harriet.

(APPLAUSE)

HARRIET KORNER: Thanks very much. Look, it's a real privilege to be here today, so thank you. Mobile technologies are changing the world for people with complex communication needs. In the world today, communications is synonymous with telecommunications. We all rely on various forms of telecommunications to carry out our everyday lives, now more than ever before. Yet for many people with complex communication needs, access to telecommunications is often restricted. Oops. Sorry, just having a little technical issue.

I just wanted to clarify what I meant by complex communication needs – I know there are a lot of people here today who have complex communication needs and people have different understandings of it. But it's a term used really, I think, the main term used is "communication disability", but for people where they have little or no speech. People who have a communication disability are often an unrecognised group in our community. I think they often get overlooked in amongst all the other disability groups. It's really relating to people where their speech might be very difficult to understand, very effortful, or they may be unable to speak at all, and usually the person may use another means of communication. That can vary – some people prefer to use their speech and some people do use other methods of communication. That may include signing, a communication book or board – so paper technology, in other words – and electronic communication devices. Now, since the advent of the iPhone and particularly since iPads arrived in our world, mobile technologies have provided another means of communication. People with complex communication needs have a lot to say, but are often restricted in their capacity to communicate with others by access to the time, equipment and knowledge of others in their environment for their communication. Research has shown that people with complex communication needs often do not use telecommunications and may be unaware of all their options in using telecommunications. In a sense, I'm using telecommunications as we have been today – it's including everything, any form of long‑distance communication, email, SMS, Skype, social media, and so on, as well as traditional telephone services. Telecommunications enables connections for name‑tagging all sorts of social relationships, but leisure, work and more mundane participation in daily‑life activities such as calling Government services to use information services. It's also vital in relation to emergency services. What we're wanting to do is to provide a way that people with complex communication needs are aware of all the options. Often people know about some options but they don't know about all the options and they don't know how to problem‑solve particular situations. Often people are under‑utilising telecommunications in their daily lives and avoiding situations that require using the telephone or relying on others to assist them in ways which might reduce their participation.

The Independent Living Centre is absolutely delighted that we have received a Telstra Social Innovation Grant. This is going to be to do a pilot project which will aim to deliver training and support to people with complex communication needs with a focus on young people 12‑25 years to enhance their knowledge and skills in digital literacy. The Independent Living Centre wanted to provide people with opportunities to be aware of all the different assistive technologies that were available, including in mainstream mobile technologies and also including the various accessories that are available to assist people with disabilities to access mainstream mobile technologies. Also, to look at specialised assistive technologies available where mobile technologies are not always accessible – so to look at the whole range of technology.

We also identified with Telstra the need for digital literacy skills for all people who are accessing the internet and social media. It's not just the equipment, it's learning about the strategies as well. Some of these have been touched upon today – things like the confusing issue of whether to have a pre‑paid plan or whether to have a mobile‑phone plan or pre‑paid, avoiding bill shock – things like that – and also strategies in terms of cyber safety and learning how to use the communications to avoid difficult or unsafe situations. We also wanted to look at considerations for people from Aboriginal and Torres Strait Islander backgrounds, and people from culturally and linguistically diverse backgrounds who often under‑utilise telecommunications.

We're going to be using the app magic website that we have to help deliver information and advice. We're going to be developing plain‑English information sheets that are culturally appropriate for people from different backgrounds. We'll be doing face‑to‑face workshops with young people with complex communication needs 12‑25. That will be delivered in four regional areas, as well as in Sydney and across NSW. The grant will also enable us to purchase various pieces of equipment so that we have those to assist with the training and to enable people to have individual appointments to try out different equipment, and to help problem‑solve their needs.

And we will be developing educational modules that will be available online for anyone to access about using telecommunications.

The sort of things that we'll be looking at include aspects of digital literacy, considerations when choosing equipment, strategies for using telecommunications effectively in various situations. So what might work for your close friends is not going to work with people that you don't know so well. And then learning about various websites. There are actually lots of resources to assist people, but often people don't know about them, so we'd be hoping that this project will assist people to learn about some of the organisations available to support them. Organisations such as AAC Voice, Agoski, Isaac, Erata, the Newell Network, the National Relay Service, the Independent Living Centres across Australia, and Telstra disability services too. There are lots of services and lots of organisations, but people often are very unaware of them. We'll be trying to help bring that information. If I've said a few things that people haven't heard of, you can contact me later.

So everyone connects – connecting people with complex communication needs – will deliver a comprehensive suite of information advisory services assisting people to access telecommunications, and we'll be gathering results from our pilot project, which will be reported at the end of June, 2014.

I've just got some references there that I put together, including Gerard Goggin, who's here today – I'm very excited about that. I would like to acknowledge the assistance of the Telstra Foundation in making this project possible. We're very, very excited about it. We'd also like to acknowledge that my colleagues who have been associated and have been doing the Newell Network Project, and also big thankyou to AAC Voice – a group of people with complex communication needs – for their ongoing contributions to this project. Thank you.

(APPLAUSE)

EMMA DAWSON: Thanks, Harriet. Sounds like a really exciting project. Good to see a major telco get behind such important work. You mentioned that you're focussed particularly on young people, those between 12 and 25. I suppose most of us think of young people as being highly digitally literate. Is that still the case with the people you'll be working with, or is there a disadvantage?

HARRIET KORNER: This is a very good test. Telstra were keen for us to focus in on that age group. I do think some young people are digitally literate all by themselves, and other people are not. Particularly from particular groups. But also, people may problem‑solve things themselves, but what they can come up with as their own solution may not always be a really efficient solution. This will enable people to learn more and then have more options. It's really about giving people information so that they can then apply the information in the way that will suit them, rather than being too prescriptive about it.

EMMA DAWSON: It's really interesting. I think it reminds us all not to take certain assumptions for granted, and the popular understanding of young people being a homogeneous group is far from reality. Thanks again to Harriet for a really interesting presentation.

(APPLAUSE)

Our next speaker today is Professor Frank Vetere, my colleague at Melbourne University. Frank leads the interaction design laboratory in the Department of Computing and Information Systems. His research aims to generate knowledge about the use and design of information and communication technologies for human wellbeing and social benefit. I think we can all get behind that. Please welcome Frank.

(APPLAUSE)

FRANK VETERE: Thank you, Emma. And thank you, ACCAN, for organising this wonderful event and inviting me to participate. As Emma mentioned, I lead the interaction design group. In many ways, I will be dealing with some of the issues that were addressed this morning concerning design and benefit, and I'll be talking specifically about – we're not up? It was working before. We did test it... It happened to Bill Gates too.

(LAUGHTER)

Great, thank you. Isn't it wonderful how technicians pull things out and put them back in and they just work? It's great.

(LAUGHTER)

I'll be talking about a project, a particular project that was funded initially by IBES, and now funded by the Australian Research Council, with strong support by our partners, Benetas. Benetas is an aged‑care service provider. I'll talk about this project looking at the social isolation experienced by older people, so it's a particular type of accessibility that I will be talking about. We'll be exploring the role of technology for looking at addressing some of the social isolation experienced by older people. Being part of an interaction design lab, we work very closely with our participants. You'll see, as I talk, the involvement of our older people in the design and discussion and the iteration of the technology, so we don't come to this project with a prescribed solution – we come to it with trying to understand both the problem of social isolation and the problem of design and the problem of benefit. So it is very much a research project. Please take it in that spirit.

Social isolation – we've been struggling with this for many, many years, and there's been an enormous amount of literature written about social isolation. I don't pretend to – I'm not going to go over it all now. But just to say that it's – it has been written about, but the process of designing for social isolation is unclear – how to best create technology and how to best take the knowledge about an idea and translate that into technology is certainly an ongoing challenge, even though we might have some insights in terms of the drivers and the contribution of ageing to social isolation and the impact of ill health on social isolation. There's a lot of knowledge there, but how we translate that knowledge to design is an ongoing challenge. I'll talk specifically – we covered the literature, we spoke to experts, we ran workshops, and through a long process of thinking and talking to people, we've got this – we came up with the design of an iPad application that we've taken in the field. I'll talk about that application briefly and how it's played out in the field.

We've called this application Enmesh. It's an iPad application. It is intended for the creation of photographs, the creation of messages as well, the ability to connect and share those messages and photographs with strangers. The ability to take and share those messages with carers, too – an important part of this project is acknowledging the role of Benetas as an aged‑care service provider. The role that Benetas and the carers in Benetas will play in addressing social isolation was a fundamental and critical part of this study, and still is part of the study. Involving the carers as part of the solution, as part of the participants in the application, is an important part. I think quite a unique part of this study too. The technology is not just something that older people use on their own – it is also something that is used by the aged‑care service providers and carers. There's some unique aspects to this I hope to show you in a moment through a few videos. There's a shared display, which helps to create a particular type of bond. The photographs and the messages are displayed in this sort of semi‑random form. I'll show you that in a moment. There's this sort of synchronous movement of items, again which is quite unique, I think, in what we do. People who are socially isolated are hard to reach, firstly, so trying to identify people who are socially isolated is difficult, so we needed Benetas. They don't come naturally with a network of friends – many of our participants have very, very few people in their lives. And they're often very reluctant to contribute. So the process of saying, "Here's an application. Go take a photograph. Go and make friends" is not going to work on its own. So the solution – a purely technical solution, as was articulated earlier. The answer is not just going to be in the technology. The ability of very gentle, very simple – "simple" is not quite the right word, but non‑confronting ways of acknowledging another person of being connected to another person, not through words but through actions and through other forms of technology – technology mediation is an important part of what we do. This is a video. I think you'll see this – our older people see the photographs falling down a screen in a sort of cascade screen saver‑type way. These photographs were all taken by old people. When the photographs are touched, they can be enlarged, reduced, moved around. They're all falling in a very gentle motion as a cascade motion down the screen. There are independent texts and independent photographs that fall down quite gently. These photographs and texts, as I say, were taken by the older people, and also by the care managers. You can see they can be touched. Newer photographs appear more frequently than the older photographs. The photographs that are touched more often tend to appear more often than those that are not.

The unique part of this is not just the display, but what we call the ability of having two iPads that, when an image is touched or moved or reorientated, that image is then moved on another screen. Here you see two iPads – if you can one iPad being held by one person and the other iPad held by another person in another location, when an image is touched or arranged or moved, you see that being touched or arranged or moved somewhere else. This is part of what I was talking about – this non‑verbal way of being aware of somebody else's presence in a very gentle, an unspoken sense of connection to another person. We found this to be quite powerful as a way of connecting and bridging some of the social isolation. The work we do is very much in the field. We spent a lot of time going to people's lives, spending time with people. In this pilot study, we're currently undertaking a larger study, but this study of 70 people between 71 and 92 – they were identified as being socially isolated by Benetas. All of our participants live in their home and they're part of the CACP program – they have some Government support, but they do live in their home. We have an application on the iPad, as I've shown you – the care management is also involved. We did intersperse some face‑to‑face meetings as well, throughout. This pilot went for 10 weeks. There were a lot of photos and messages shared and taken, and we conducted interviews with participants and with care managers. It's been a fascinating study. There've been people today talk about the wonders of the iPad and the wonders of Apple. Indeed, it is a game‑changer, as other people have said, but it's by no means the perfect device. The iPad is a big device. It's very hard to hold. Holding it with one hand and taking a photograph when your fingers have difficulty grasping is very, very difficult. Using it for texting is very, very difficult. It is not the perfect device. We don't have a solution, a perfect solution, yet. It's certainly promising, and I think the work we're doing is identifying some of the issues. This is just the physical form of the iPad – some of the issues we've found in using the iPad. I'll show you another video of the sort of way – the problems of holding an iPad to take a photograph. Here you have one of the participants trying to hold it. She's actually doing it quite well. But it's difficult to balance it with one hand and arrange the photographs, and then maybe using it to take some other photographs – it's actually quite difficult. And the ability of accepting a finger press that's sometimes a big finger or not just a touch, but a hard press – there are issues associated. I know the new IS is better than some of the older IS versions of this, but the ability of the iPad to detect a touch in a way that's sensitive to the way we observed it was not perfect. This is another one of our participants using the key pad to enter a message...

I should say, I'm being a little bit critical, but a lot of the positive – there was an enormous amount of positive feedback by our participants.

I'll just quickly go to some of the storytelling. It was wonderful giving power, in many ways, to our older participants to talk about some of the issues that they've been confronting. This is one – a diabolical day. X‑rays showed broken vertebra – talking about illness quite freely and openly. "Don't feel like food tonight. Too painful." An opportunity to talk about approaches to food and taking photographs of food were very good. This is a short video that was taken, and is quite humorous. I'll read this." My prison for most of my life..." a photograph of his house. This is quite humorous." My night‑time cell when confined to barracks" – he took a photo of his bedroom. He lives alone." My freedom machine when on parole." That's a photograph of his wheelchair." I had a car once but I don't drive any longer – I'm too old." When he met, he talked about the humour and comedy – sort of a dark humour. This is his household elevator, and talks about other people telling him not to use it. This was a 92‑year‑old fellow.

(LAUGHTER)

"My radio for emergency calls" – this is some of the technology in his house." My kitchen is starting to look like a NASA rocket control centre – wires everywhere." This generated a lot of interest, a lot of humour, and it was a lovely exchange.

I'll finish up – it's a pilot to a longer study. We're going through the process of iterating the design for a longer study over a year. We clearly found the opportunity for older people to be empowered, to share some of their own stories. The idea of having an audience was really, really important. And we clearly observed other people being content producers. Thank you.

(APPLAUSE)

EMMA DAWSON: Thanks, Frank. It really is an interesting study. I've wondered this for a while – you mentioned, at three points in your pilot program during those 10 weeks – I think weeks 2, 6 and 10 – you brought participants together, face to face. Did you find there was any impact of those meetings on their online interaction or their interaction over the devices following the meetings? Did it encourage them to talk more with one another?

FRANK VETERE: They were very important meetings. We always acknowledge that this solution was never going to be simply a virtual solution. It was going to be also an opportunity for people to have some face‑to‑face encounters. So there were a lot of positive responses to those. Your question directly is, "Did we see an increase in activity?" The answer is probably no, but the anecdotal feedback we got from our participants was that they were very important and very positive, and as part of the overall solution. We see this as being an integrated part of what Benetas and others who are interested in social isolation can offer. So yes, that was an important part.

EMMA DAWSON: Interesting. Thanks again, Frank Vetere, for work on what's a very interesting project, I'm sure you'll agree.

(APPLAUSE)

Our next speaker this afternoon won't need much introduction to most of you here – associate professor Denise Wood, who is extremely well‑known in these circles. She's with the University of South Australia, and her research focuses, amongst many other areas, on the use of accessible information and communication technologies to increase social participation. And of course, Denise was the inaugural winner of the 2010 Telstra Christopher Newell Award for Telecommunications and Disability. Please welcome Denise Wood.

(APPLAUSE)

DENISE WOOD: Thank you very much. I would also like to congratulate ACCAN on this wonderful event. It's fantastic to see such good representation. Indeed, I'd like to thank ACCAN for giving me the opportunity to share some of the research that we've been doing with you today. As was mentioned, we've been involved with quite a few projects in this particular space, and I guess this is probably a useful time in the day to be picking up on this particular study, because I think it draws together some of the strands of some of the topics and themes that have come out in earlier sessions.

For example, we've heard, certainly, about the fantastic apps that are available, the diversity of apps that are available, and the opportunities that those apps are realising – that technology is realising – for people with disabilities. We've also heard about some of the challenges, both on the technology side and also on the service and support and delivery side. And Claire, earlier on, talked about cultural and linguistic diversity – what I would refer to as equity overlap – where we might have someone, for example, who is a senior, has a physical disability, perhaps an intellectual disability, perhaps they're from a culturally or linguistically diverse background. They might be female. And they may also be suffering from a range of other factors from their life experience, such as lowered self‑esteem or self‑efficacy. The research that I'm going to share with you today is a particular population of people that I think we haven't really talked much about today. They are the people who are perhaps the most disenfranchised – people who are in institutions and are also isolated by the environment in which they find themselves. There are two related projects here. The first was to look at the potential of the sorts of devices that we've been talking about today as assistive technologies. We have a particular interest, as Harriet does, on people with complex communication needs. That is sort of the introduction to a second stage to this project, which is then investigating the potential of these devices really as research tools to give a "voice" to people whose voices may not be heard in all the consultations with government and with service providers.

The first of the projects is the one that I'm going to concentrate on today. There were two sort of related projects to that as well, funded by different organisations. First of all, we'd really like to thank Telstra for their support with this project. We also had the support of Disability SA, Disability and Commune Services in South Australia, and Highgate Park, the institution where we ran this project. And also a UK came many of you would be familiar with – their software apps include Predictable and Seen & Heard. They provided us with the apps that we used in this project.

The major aims of the first stage of our research was to look at the benefits of the technology and the apps. In terms of how they may enhance the participation of this particular population, and especially those with complex communication needs. We also then wanted to look at the potential of these devices as storytelling tools to enable those people to share their life experiences of what it's been like living in an institution, what sorts of things have helped to make them resilient in that environment, what sorts of things we could learn from that as people are beginning to move out of those institutions into the community. Our main research questions are – just how effective are these technologies for this particular sort of population? How can they facilitate communication, as well as social participation, for that population? And how can we, as researchers, use these technologies more effectively to engage with these people?

In drawing up the methodology for the project, we had to think first of all about what were appropriate assessment tools to measure the impact of this initiative. Then, we wanted to not specifically, as Frank did, develop an app but rather to look at a range of apps and how those apps and the technology fits within the overall tool kit, if you like, of the devices that a person with complex communication needs might benefit from using.

In terms of the selection criteria, really we were looking for participants who could communicate in any way whatsoever, any modality, and for any purpose. So it's a fairly wide target population that we were looking at. And we wanted to look, then, at what sorts of supports we needed to provide our participants throughout the project, but also what sorts of supports would be needed by those participants to gain from the experience longer‑term.

As I said, the focus of our research was adult residents at a high‑dependency unit, most of whom had both physical disabilities and combination of combination communication needs, and in one case, also someone with an intellectual disability. We also employed a participatory research‑design approach, whereby we recruited two co-researchers who were, themselves, people with disabilities.

We finally decided on the following suite of assessment tools, which were used both for pre-intervention that is getting the baseline information on the participants, and then post‑intervention. They included the Canadian Occupational Performance Measure, which I'll talk about in just a moment, a tool developed by Blackstone, Hunt and Berg for social networks, which is the circles of communication, to get a sense of the frequency and the individual satisfaction with different circles of relationships that they had in their lives. We also began the study using the UCLA loneliness scale. We actually abandoned that because our participants found it too distressing. We were not going to put the needs of the research above the needs of our participants, so we decided to abandon that. We did continue with the goal‑attainment scale, which was a much more useful tool. It was much more empowering for our participants. Most of you are probably familiar with that. If you're not, basically we work with the participants to identify what they want out of the project and out of the device and the apps that were provided. And we also asked them to give us a sense of where they think they are currently on that scale, and then of course we administer that at varying times throughout the project and post‑intervention to see whether, in fact, their goals have been met, and to what extent. What we in fact found was a lot of the participants moved very quickly on from their initial goals because they set very low goals for themselves – they had no other standard by which to go. While we've got post‑intervention tools listed, which included all of the above but also the Quebec User Evaluation of Satisfaction scale to get a sense of their satisfaction with the technology itself. However, we haven't really got into the post‑intervention because, as I said, the participants' goals keep moving and we're finding it incredibly hard to ever reach the point of post‑intervention, mainly because we are committed to helping these people. We did set a time frame. We did run the post‑intervention at that point. But because people had set new goals, we elected to continue on with volunteers, who've since come and joined our team – which has been wonderful.

Just a very quick run‑down – the Canadian Occupational Performance Measure is a tool that helps us with the initial goal‑setting, working with the participants. It looks at things like self‑care, productivity, leisure, and it looks at how the individual currently rates their performance and what their satisfaction is with that performance. What we found was quite a mismatch between what they perceived their performance level to be, and their satisfaction – which I'll pick up on in a moment.

One of the interesting things that came out, even in our ethics application process – and I think an important lesson that we've learned from this research is some of the challenges, indeed, in getting these kinds of projects approved through ethics, because this had to go through the Government department's ethics approval processors, who didn't necessarily understand some of the complexities. For example, they challenged why we would use this tool, because that had nothing to do with iPads. And I said, "Um, so you don't think the technology might actually enable or facilitate a person to be able to improve in areas such as self‑care, productivity, like banking and so forth?" They were some of the challenges. The social networks, as I said, and so on. The process to date is we've gone through all of this, as I said. It's been a cyclic process. We've had to go back and forth. All of the findings from this research are published in a paper that was published in the May edition of Telstra TGA special edition journal – the TGA Telecommunications Journal of Australia, that special edition which was devoted to the Christopher Newell Award. All of the findings from this study are published there, if you do want to get the detail. Really, I just want to summarise to say that a lot of the goals for our participate researchers were around communication, improving their ability to type quickly. For some, it was also – what we did find is it was really important to have some of these apps initially to introduce themselves to strangers, and thereafter, sometimes they would then feel more comfortable with using their own speech.

As I said, with participate one, her goals were met almost immediately and she moved on to much higher goals. We don't have time to look at the video. Participate two had much more modest goals, and is still trying to realise some of those goals because of a whole range of other personal issues that impact. That's another thing that I would point out – these kinds of research studies are constantly interrupted by illness and those sorts of factors, which we can't control.

Just quickly, in terms of our participants, I'll just go back to that summary – it's a little hard to see on the screen, but we were talking about the diverse group of people. You'll notice most of our participants in this institution are, in fact, in the older population – our eldest member of the sample population was 86. Interestingly, she is the one that's perhaps benefitted the most. Our first participant had suffered from a stroke, had quadripules, still has not really been able to get an effective solution. He needs eye‑gaze communication, which is not yet well‑supported on the iPad. Participate two is the person who's also got an intellectual disability, and I'm very interested in the Enmesh application. I think that one might suit that person's needs much better. Participate three is, again, one of our older participants with cerebral palsy. For her, one of the biggest benefits was being able to take the iPad with her to the doctor and talk to the doctor for the first time. One of the other interesting things that came out was we discovered, through her ability to now communicate directly with us, that all the staff had mispronounced her name for some 21 years that she'd been in that institution. One of the other insights, though, was her self‑efficacy and self‑esteem has been so damaged by those experiences that, even though she feels and she's able with the iPad now to tell people what she thinks, she still hasn't got the confidence to do so. That will take a lot longer. Participate four is our delightful 86‑year‑old who is onto social networking, who is – I should say participate three, one of the first things she learned once she started using social networking was, "How do I un‑friend someone?"

(LAUGHTER)

A 86‑year‑old, she's been connecting with her church friends, listening to Bible stories, playing puzzles morning, noon and night. Her quote I had up earlier, "It's the best thing that's ever happened to me." But I will accentuate that it's not just the technology – it's the fact that we've also had a research assistant visiting her every week. One of the things that we really found has been lacking for these people is people taking the time to communicate with them. The research project gave them space to, for the first time for some of them, have communication partners. So that's something that is easy to overlook sometimes. Participate five, we are just coming up with some solutions for him. I think his was perhaps – there are a couple of examples – in fact, we called our paper in the TJA Journal, "If you leave it with me, I'll work it out." That sums up the problem. When we had a break over Christmas and we came back, none of the devices had been used. We didn't want to put words in their mouths, so to speak, so we said, "Perhaps you were on holidays. Is that why you didn't use your device?" " No." Eventually it came out that no‑one actually set it up for them in that whole time. I guess that quote sums it up." Please, if you could just set it up for me, I can do it from there." Sometimes we overlook the obvious. I mentioned there was sometimes a mismatch, so sometimes people rated their performance low but they were quite satisfied with that, because they didn't know any other life. There were a range of technology challenges which have been touched on, and I'm not going to go into detail. One of the good things about the project has been that we've been able to work with Therapy Box to improve some of their apps along the way. Sometimes it was the placement of an icon that made the difference between the person being able to use it. Things like pop‑up ads – tremendous challenge. They couldn't close the ad. They were reading the newspaper, the ad came up, they couldn't manage to close it. Little things like that that are so easy to overlook.

And changing key guards – Predict doesn't use the standard keyboard layout. Every time they change their app, we needed to get new key guards cut. Those sorts of little things. I think the main thing that I want to reinforce that's come out of this project is there are a range of factors – the technology is not the only aspect. There are things around the person's self‑efficacy, self‑esteem, that need to be worked on. They do need communication partners. But we also do need more research – working with developers. Often there's an assumption that all these apps exist, so isn't that great? But the developers actually need the firsthand experience of the users to guide that, as Frank would certainly agree. Thank you very much.

(APPLAUSE)

EMMA DAWSON: There are so many questions I could ask you about that, but in the interests of time and ensuring that there is time for questions at the end, we'll move on. But please thank again Professor Denise Wood.

The final speaker this afternoon is one of those people who makes me feel very old and very uncool. Mathew Peterson has been in the software business since 2003, so clearly started when he was in school. He's the owner of Shiny Things and I think you'll find it an interesting presentation. Matthew is striving to ensure technology and education finally become complementary. And from what he told me, the focus of the work is particularly interesting to me. I'm about to have a child and I have a niece already using my technology and I'm looking forward to hearing from Matthew today.

MATHEW PETERSON: Just need to bring up the slides, if possible. Oh, it's gone to the last page. Can we go to the first page? Sorry.

Yeah, so I'm Mathew Peterson and I have the task of following up from some very interesting speakers so hopefully I can show you some fun things. I've been making apps for ten years, so basically, I left high school and started making as. And every app I've made has been my idea or one of the ideas of my employees, so if you have ideas, let me know, because we can make them. And the overriding goal with technology is to make it searcher. Wherever possible, we make it as simple as possible. And that, in an engineering point, engineering term, I should say, we took 250,000 lines of code and made it one button. And that, I can say, saved a lot of hours of hassle for a lot of people.

So, my company right now, Shiny Things, we make education apps. So far, we've had around 360,000 downloads in the last in about 90 countries and this is just out of our little office in French's Forest, so we're doing pretty well so far.

We have some interesting issues when dealing with kids. Children, as you can read up on the slides, have fine motor skill issues. They haven't learned necessarily have to take their finger and stick it on a button. They also have little understanding of the typical things that we use like a floppy disc icon for saving isn't something that they would know about, seeing as floppy discs haven't been around for five years. And as Steve Jobs famously quipped – you're holding it wrong, when he was talking about reception issues with the iPhone. Kids hold them wrong all the time because they have no way to hold them. That goes for a lot of people who have been introduced to technology. They don't necessarily know how to interact with it.

Alongside our education apps, we like solving fun problems. So one of the areas that was communicated with us recently is that there aren't very many good apps for routines. For instance, daily routines like taking the lunchbox out of the school bag, etc. So we built an app called stepping stones which allows them to either, visually via photos that their parents import or via audio, go through the routines. It should be released shortly. We have some minor user experience problems to figure out. But it touches on what I'm going to talk about which is future technologies. And devices today have a lot of amazing things in them. Technology has enabled things to become faster, smaller, cheaper and use less power. So this little iPad right now was a dream five years ago and now I can give a speech on it. It also contains a lot of interesting sensors. We have cameras, a whole assortment of things from GPS to just the ability to detect the light levels in the room. And those sensors and the ability to enable some things. And all of technologies I have to go through, and I'll go through quickly, I believe, are all things that are either mobile today or will be mobile in the very near future. Unfortunately, by making technology simpler, we've also made it less accessible to a lot of people who really need it, and hopefully, by discussing these technologies with you, you can come up with some ideas of how you can use them to assist people yourself or people you love and, if you have any questions or ideas, please let me know in the Q&A session and we can discuss them.

So, touch screens. They have been the great enabler for many people in the last five years and they've been fantastic for the children and elderly. But, they've become less accessible. So I'll go through three technologies on mobile touch screen technologies that will appear very, very soon and should enable people to interact with them better.

Starting with Siri. I know this was talked about this morning. But there are some new items in it that I would like to go through relatively quickly. Siri previously could access contacts. You would ask Siri a question and it would get you details. Now, Siri can control your device, and very effectively. If I want to open an app, I can open an App, Angry Birds probably! If I want a reminder, I can do that. And it now can incorporate in to things like find my friends to enable me to find someone if I need to and get voice directions to them using maps. And these new accessible features, being able to control your device, should appear in the next two months. By the way, if there's anyone from Apple here, I'm not talking about this – I know I'm not allowed to!

When we look at switch control, which is new in IOS 7. I believe Greg mentioned it earlier. You can control the device with head tilts. It is more than that. It is an accessible protocol as we developers call it, that will enable you to either plug in a switch or use a gesture controlled device, so for instance, I could move my finger and a gesture‑controlled device could use switch control. It is also coming in the next two months and when combined with voiceover, it is extremely powerful because you can navigate your entire iPhone or iPad or whatever, any of those IOS devices. And the most interesting one to me is Haptic Technology. Currently as you know, most devices have motors in them so they can provide some sort of physical feedback via vibrations. Apple recently took out a patent where there are multiple motors in the device. So like noise cancelling headphones, you can create a vibration in a specific spot inside the screen. That way when you tap on a button, that button will react appropriately. Or if you're scrolling your finger or hand across the screen, you can detect on‑screen elements via vibrations but further to that is the dynamic Haptic buttons. We can enable buttons to appear on the screen as a groove or a ridge or then in the case of Braille, we can have dots appear and be able to physically feel them. And this will be a great enabler when it eventually appears in the next few years.

So we've got some visual technologies that can coming out and this is going to challenge people with the names. Oculus Rift is what you saw on the screen there. It is a 3D immersive visual device that you can put on your head and engage in an environment completely immersively. This is one of the areas that I would like to talk to people about because I think it is so early in its technology infancy that we don't understand what it could do, but as an example, a teacher in Victoria and I were discussing this, that children with special needs who need time out, and a lot of kids do need it these days, can simply put on the goggles and explore an immersive environment that's been designed for them rather than have to go to a time out room or sit in the corner or whatever! Depending on the issues that they have!

So yes, I would love in the Q&A session to discuss that. Google Glass, which, as many of you know, is something that Google will release probably next year. It is a great enabler. The simple fact that you can interact with it via either voice or gestures or using switch control, as I discussed earlier enables you to get all sorts of feedback and it is completely hands‑free. Of course, there are some issues with it. Its battery life is quite poor, but these will all be overcome in the next five or ten years.

Quickly jumping to gestures – it's a new input for digital devices. Depending on the technology, any body movement can be interpreted in which ever way necessary. The switch control with the camera using your head is one type of gesture interpretation. But when we look at technologies like Microsoft Connect, we can go from moving your head, your body, your legs, your arms, down to moving your pinky finger and being able to control a digital environment with that amount of precision. Microsoft Kinect, many people call it a toy but I don't think so. Since 2012, we've been able to make any application we want for it. It's been used a lot in classrooms but I believe that we can use it in many other areas and I would like again to discuss that.

Some great facts about it is that it is cheap and readily availability. You can go to any gaming store and pick it up immediately, and Microsoft has made all the software you need for it available for free.

Finally, we've got Leap Motion in the gestures area. Leap Motion enables you to have a vertical interactive space. So if I have any finger and I'm pointing at my computer monitor, it can interpret things on the computer screen in that visual realm in front of the screen. An example that I have which might spur some thoughts from you is interacting with a computer in a sterile environment. One of my friends is a surgeon and he would love to look up information using his hands, but obviously he can't touch screens when doing surgery. So the leap motion enables him to interact with a computer and look up information without infringing on things that would affect his surgery.

Finally, we have connectivity. This is a picture of Google hangouts and we'll jump to Google hangouts. It's fast, reliable and free and it enables you to communicate with anyone, anywhere, at any point in time on any device, which is astounding. Recently, they had interpreter support which enables you to replace enough with an interpreter or with anybody else at a third party location. And we are expecting great things from Google in that regard for enabling communication with all sorts of people.

Finally, we get to the NBN. Everyone knows about the NBN. It is going to enable so many things and it will probably be discussed in greater detail by people who know much more than me.

So the distant future. There's been lots of talks about the iWatch and things like that from Apple. It's coming. Wearable computers will be the next big thing. Again, this is an area of discussion, but one example is – can we monitor medical conditions? And yes is the answer. Something I thought of this morning is – could we allow wearable computers to help us navigate an environment when we don't have any cues? As an example, a wrist band could have the ability to put pressure on your skin and therefore enable you to move around as sonar would, because obviously the wearable device would have a lot of sensors in it. And then the human machine interface which is a long way away but we're already starting to see interesting things like cockroaches being able to control robots! We're obviously more complex than cockroaches, but we'll get there. But when we get that type of integration with computers and can replace censors that are slowly wearing out, then we're basically enabling everyone. And yes, that's the end of my speech.

EMMA DAWSON: Thank you, Matthew. Wow, I guess is the only reaction I have to that. The first question I would ask you – your last slide says the distant future. And I guess to some of us here, some of the technologies you just showcased really do look like the sort of thing that I was watching in science fiction shows. It is Star Trek come to life. How far away do you think some of the technologies are. Obviously Google Glass is reasonably well developed?

MATHEW PETERSON: We're looking at things like Oculus Rift and Leap Motion, they exist today. We've been playing with them in our office. Wearable computers will probably exist next year so it's been astounding how quickly those things can appear. And I think we're just going to continue to be astounded as to what will come out next. But hopefully the NBN rolls out a bit faster!

EMMA DAWSON: No comment! Please join me again in thanking Mathew for a really interesting presentation.

Now, we are running pretty tight on time. I don't think that we can let such an interesting session go by without an opportunity for questions from the floor. Who would like to kick things off? Anyone?

UNKNOWN SPEAKER: One of the groups was dual disabilities and we sort of covered that. But I think also covering disabilities who are homeless and in terms of mobility it is one thing which is homelessness and using mobile devices to prevent or reduced socialised isolation. Does anyone have anything to say about that? Or do you know of any research being done in that area?

PROFESSOR FRANK VETERE: It's a great question and I think we need to look at tough questions like that. I don't know. I think I've heard of the Salvation Army and people like that who are providing advance and buses for homeless people to have Internet access. I've heard of those sort of programs. That's a little bit different I think than what you're getting at. But it is some way of dealing with some of the genuinely disenfranchised people who are in big need.

DENISE WOOD: Is it work that you've been looking at yourself? You've obviously got a particular interest?

UNKNOWN SPEAKER: (Inaudible)

EMMA DAWSON: There is a group of researchers who have just cropped up in the last fortnight at IBES at Melbourne University interested in looking at this. They've come to me with an idea for a research project about how mobile devices could be disseminated to people, to children in foster care and to children and young people that are caught in the system through homelessness and other issues. So it is literally an idea at this stage but we have identified it as a gap in the research.

PROFESSOR FRANK VETERE: I should probably say, I don't know but I'm guessing that mobile technologies already used by homeless people extensively already. So it is just that somebody needs to do the work to understand it better. So I don't think that it is a blank slate.

UNKNOWN SPEAKER: If I could leap in here. We have given a grant this year to Justin Humphries under the ACCAN grant scheme to study that very topic. Watch this space. She's already out there. Gerard Goggin if you're still around, I'm sure that you could fill our attendee here with some details. But have a look on the ACCAN website on that project.

EMMA DAWSON: ACCAN to the rescue as always! Question down here.

UNKNOWN SPEAKER: I attended ACCAN's affordability in March and there is a terrific paper there.

EMMA DAWSON: Any other questions or comments? Over here. A bit of a shadow there.

UNKNOWN SPEAKER: A question for Denise. With your work, have you thought about augmenting your apps with something like Skype so that people can talk to each other with speech. It just strikes me as a really nice way of helping to break down isolation and a quick comment about Microsoft connect that I read this week. That you can now interpret sign language and produce text. And Matthew – do not escape without me talking to you! Thank you!

PROFESSOR FRANK VETERE: Was that for you?

DENISE WOOD: Either of us.

PROFESSOR FRANK VETERE: The question of Skype is a really good one and we've discussed it in our research group. Our response is that if somebody is able to access Skype, then it's probably not the sort of person that we're interested in working with. We're dealing with the part before Skype. So I'm not trying to avoid your question. The issue is – it's those that are reluctant to pick up the technology in the first place and we don't want to recreate a Skype or recreate a Facebook or recreate something that already exists.

DENISE WOOD: From our perspective, because we were really guided by what the participants chose to use and we showed all of the sorts ever applications that they could use, including mainstream apps like Skype, none of our participants chose to use Skype. But I think you're picking up on another important point and it's a point that I highlighted in my presentation is the need for people to be able to communicate with others and one of the interesting things that came out of our study was one of the mothers of our research assistant decided that she'd like to contribute in a voluntary way. And so, she then started playing online games with the participants that were in to online card games. So I think that's another dimension that really could be explored. And even things like intergenerational – getting younger people to pair up and partner up with older people, but also retired people who plight want to communicate with some of these people. So I think there's some important issues around the way in which the technology could facilitate those kinds of interactions.

EMMA DAWSON: Probably have time for another question. Down here.

UNKNOWN SPEAKER: It's Louisa from Vision Australia. This is a question for Frank and Denise, I think, but other panel members are welcome to respond. I just want to know what the approach was that you took to training your participants in the use of these devices? And what you learnt from or whether you had modified them in any way or the length of time it took those sorts of variables?

DENISE WOOD: From our perspective, the training was an incredibly long process. And by that, I don't mean their ability to just be able to interact with the app, but much more around being able to use them effectively, so for example, to be able to customise settings for some was quite challenging. Frank did mention some of the inbuilt problems that they had with the technology, for example, the touch. Most of our participants really struggled to be able to get just the right touch. They would want to hold on and... you know. And that process itself took quite some time. Then, apps would be updated and they would change layout and that would create... and as I mentioned, predictable change is keyboard layout. The key guards no longer worked. We had to wait for a new key guard to appear. Eventually we resorted to getting Tad to customise key guards just to get them operational again. But little things like that that are easy to overlook that can derail the training process because you start again in some cases. We're still training those people and we're two years in. So you know, initially many were up and running within a fairly short space of time. But functionally, being confident to do it on their own, being more of a power user, that's taken months. And I think that's something that's underestimated when we talk about the ongoing support and sustainability. It's not just a case of providing funding to give them the device and then assuming all will be right. And also, their condition changes over time. Their health changes. Sometimes that impacts on their ability to use the device.

PROFESSOR FRANK VETERE: Can I take an alternate view, and I think that's really valuable. We provided almost next to no training and I'm just contrasting this because I think it is trying to find out the best way of doing it. We showed people how to take photographs and how to enter some text. It took a up a couple of minutes and that was it. And the rest of the training – call it "training", was through discussions at the meeting groups when we met and opportunity for our elder participants to just discover the applications themselves. Now, I think there's merit in both and I think it's interesting that we need to probably explore the best value of that. But it was a conscious decision to offer almost no training. And I don't think that they were under supported. I think we were able to support our participants in other ways. They were able to ring our researchers if there were any issue. It's not a matter of abandoning our participants but a conscious decision not to go through a long tutorial process

DENISE WOOD: And I think what's highlighted there is the variability with the individuals. We were dealing with people not only with very complex physical challenges and very complex communication needs, but also, as I mentioned before, we were dealing with people with lowered self‑esteem and self‑efficacy who would give up very quickly. And so, much of it was also not so much formal training as much as support.

EMMA DAWSON: OK. Well, I think... oh, one more question at the back and then we're going to have to wrap it up.

UNKNOWN SPEAKER: This is a question for Sandy. On ACE's Access App suite, we can see the benefits for deaf and hard of hearing Australians. Does ACE have any other apps in the pipeline for development?

SANDY GILLILAND: Always! I like to see... I think the team at ACE are a group of superheroes who are always on the lookout for where there is not functional equivalence for the groups that we serve for our constituency. And we will always attempt to find a solution. So yes, there will always be something in the pipeline.

UNKNOWN SPEAKER: Excellent, thank you.

EMMA DAWSON: Alright, well, I think you'll all agree it's been a really interesting session this afternoon. So please join me again in thanking our speakers today. Sandy, Harriet, Frank, Denise and Mathew.

(APPLAUSE)

Teresa is up again. Time for some afternoon tea.