# Presentation to

# Round Table on Information Access

# For people with Print Disabilities Inc.

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## iPhone, Therefore I am:

## How Smartphones are Ringing in

## A New Paradigm of Information Access

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Two events that took place in 1956 have influenced my presentation this afternoon. On 16 September 1956, television was introduced to Australia. It was only black and white, but it was still television. Without television, the campaign for audio description would have evolved very differently over the past two or three decades. For example, I very much doubt that we would be talking today about the Audio Description Song. If you haven’t heard of this song don’t be too discouraged, because I only wrote it a few weeks ago. The idea came while I was reading Federal election priorities from a number of organisations. It seemed to me that the best way of getting media cut-through for these priorities would be to turn them into a musical, full of melodies that people and politicians could hum along to. And so The Audio Description Song was born. It has four verses and a chorus. The chorus is, “Audio description, It’s just as cool as can be; Audio description, I want it streaming on an iPhone near me”. Now, just hold that iPhone meme, because we’ll be back with it soon. I’ll just mention that I’m arranging to have the song recorded, so look out for it on Spotify and don’t be surprised if it makes Eurovision in 2023.

The other event from 1956 that I want to draw your attention to took place on January 3, the day before Louis Braille’s birthday. It was the first American performance of Samuel Beckett’s play Waiting for Godot. This play has become an icon of twentieth-century tragicomedy, and a foundation of what became known as the Theatre of the Absurd. The play is set on a French country road near a tree. Two men, Vladimir and Estragon, are waiting for an elusive character named Godot. Near the end of the first act of the play, a boy appears to tell them that Godot won’t be coming today but may come tomorrow; at the end of the second act, the boy appears again (although he doesn’t seem to remember coming yesterday) to say that Godot won’t be coming today, but may come tomorrow. So nothing really happens, and you’re left with the strong feeling that nothing ever will. Godot will never come, and whatever benefits he is supposed to bring with him will never materialise.

There are about as many interpretations of Waiting for Godot as there are braille dots in an encyclopaedia: capitalist, Marxist, imperialist, colonialist, Christian, anti-Christian, philosophical, political, you name it – there’s even a reference to it in The Audio Description Song. And when I attended the Art Beyond Sight conference in New York in 2007 and heard the keynote speaker apologise for the fact that Apple’s new product called the iPhone was completely inaccessible, I certainly felt like we were waiting for Godot, and that all our advocacy and all our lobbying were futile.

I certainly didn’t imagine that less than two years later I’d be going into the Apple store in Sydney one weekend to buy an iPhone 3GS, which was the first iPhone to include the Voiceover screen-reader. Maybe Godot had finally come – or at least sent a look-alike.

The iPhone with its touchscreen interface marked a tectonic shift in consumer communications technology, and alpha companies like Nokia and Research in Motion were largely swept away by the avalanche as the era of the smartphone began. For the blind and low vision community, the seismic waves came in 2009 with the iPhone 3GS, and one of the most important of those waves has been a new paradigm for accessing information. More traditional ways of information access haven’t been swept away like the Blackberry, but for an increasing number of people, it’s the iPhone all day, every day, and in every way. Of course, the iPhone isn’t the only touchscreen-equipped smartphone out there that now includes accessibility features (think Android phones like the Samsung Galaxy) but as we’ll see momentarily, the blind and low vision community still prefer the iPhone three to one.

Fast forward six years from 2009 to December 2015. By then, accessibility features had been a part of every iPhone for six years, and as the iOS operating system had evolved, the number and sophistication of accessibility features had increased. Apple’s catchy advertising phrase from 2009, “there’s an app for that” had lost its buzz value, even for those of us who are blind or have low vision: I wanted to control my Sonos music system – there was an app for that; I wanted to check to see if the lights were on or off – there was an app for that; what colour is this shirt – there’s an app for that (and it’s almost always wrong); and by December 2015, we’d been using Siri for just over four years. A perennial problem, of course, was that not all the apps for that were accessible apps for that.

In our policy and advocacy work at Vision Australia we were finding that governments and businesses assumed that everyone could use an app, including people who are blind or have low vision, and that solutions to even the most incorrigibly wicked problems were always just an app away: how do you know where the next bus stop is – we’ll come up with an app for that; how can you check the train timetable – just use an app; and so on, and so on. We strongly believe that if our advocacy to government and industry is to be effective, it needs to be supported by an evidence base. Although we knew anecdotally that the use of iPhones and other accessible smartphones by people who are blind or have low vision was increasing, we didn’t really have any data that we could use when trying to explain that apps were only ever a part of the solution to complex problems – high tech isn’t always best tech.

And so we used our regular Client Satisfaction Tracker survey to ask 500 of our clients some questions about their use of smartphones. We found that, overall, 17% of respondents used a smartphone, but this figure alone did not tell the whole story, because it was heavily influenced by declining smartphone use with age: 86% of people in the 19-34 age group were using a smartphone, but this figure dropped to 2.8% for people in the 75+ age group.

The value of our 2015 research is that it gave us a snapshot of smartphone usage among our clients that we were able to share with governments at all levels when working collaboratively to find optimal solutions to existing problems and to plan for new products and services. But by mid-2019 it was clear that the general smartphone landscape had continued to evolve remarkably quickly; there were more services that could only be accessed via a smartphone – rideshare and some food delivery services for example, and access to some government services could only be achieved with a smartphone. So, for example, you could use the Commonwealth Government’s MyGov service from a PC, but the MyGovID credential, which was being developed separately to MyGov, was only available on a smartphone. It was getting harder to find a major business that didn’t have an app in addition to or instead of a traditional website, and whether it was doing your banking or buying groceries or reading the news or listening to music or swiping right to arrange a date or tuning your cello or ringing a bell at the end of your mindfulness meditation session, well, there were a whole bunch of apps for that. Were they all accessible? I’ll leave the answer to that question as a homework exercise, but I’ll give you a hint: if “yes” is part of your answer then you’ll need to repeat a grade.

As we reflected on the unprecedented pace of change in the smartphone space we felt it was time to undertake new and more detailed research into the smartphone usage patterns of people who are blind or have low vision. We were concerned that the frenetic, haphazard and unregulated development of apps with little regard for inclusive design could very quickly leave whole segments of our community stuck in a digital ghetto, unable to take advantage of new services and information streams that were rapidly becoming part of everyday life. It was more important than ever to have robust evidence that we could present to government and industry to reinforce our advocacy.

So we Prepared a research brief that we circulated to a number of tertiary institutions with expertise in researching disability-related issues. We accepted the proposal that was submitted by Curtin University for conducting survey and interview research into smartphone usage by people who are blind or have low vision.

The main data-gathering component of the research was a fairly comprehensive survey, offered in online and telephone modes, and comprising a mixture of multiple-choice and open-ended questions. We had the usual research conundrum of balancing depth and granularity of data against survey fatigue, incomplete responses, and grumpy telephone disconnects. The final form of the survey consisted of 24 questions, and took an average of about 25 minutes for respondents to complete.

The first section of the survey collected basic demographic data, including Age, degree of vision impairment, geographic location, additional disabilities, sources of income, and smartphone ownership. The next section focused on how people were using their smartphones (and if they didn’t use a smartphone there were some questions about why they didn’t). We then asked which accessible apps were people using, and how often were they using them? What activities were people using apps for, for example, checking email, listening to podcasts, doing banking, ordering home-delivered food, surfing the web, navigating around in the community using GPS and mapping apps, and so on. And then we explored people’s experiences with accessibility: are so-called accessible apps really accessible in practice? What about the accessibility of apps in general? And, finally, we invited respondents to nominate apps that they would like developed, and to offer suggestions for how Vision Australia can best support clients with their smartphone usage.

The research itself was conducted in February and March 2020. In one of those undesigned coincidences, that time period also marked the beginning of the COVID-19 pandemic, and the Curtin research team was able to conduct in-depth interviews with a number of survey participants about the impact of the pandemic on their smartphone usage. We circulated information about the upcoming research through our various distribution channels, including electronic direct marketing, newsletters and social media.

A total of 841 respondents completed the survey: 632 of those completed it by phone in conversation with one of the research team, while the remainder used the online format of the survey.

I’ll give you a taste of some of the key findings of the research, and then comment on their implications for us as service providers and information access practitioners. If you are interested in this area I encourage you to read the full report, and to make that easier I’ve provided the link in the chat.

Overall, 79% of respondents used a smartphone. Remember that figure of 17% from our 2015 research – clearly there had been a significant increase during the intervening four years. As with the 2015 figures, there was variation between different age groups: in younger age groups close to 100% of respondents used a smartphone, and it wasn’t until the 65-74 age group that the figure dropped below 90%. In the 85+ age group, 31% of people were using a smartphone, compared with 2.8% in 2015. 30% of respondents had additional disabilities, the most frequent of which was hearing impairment. this is an important factor to emphasise when advocating for things like more accessible alternatives to the ubiquitous visual captcha on websites and in apps – garbled or otherwise distorted audio captchas are going to exclude a significant number of people who are blind or have low vision.

One finding that we should carefully reflect on is that 43% of people not using a smartphone cited insufficient vision as the reason. This means that many people who have acquired a vision loss are probably experiencing unnecessary frustration and exclusion because they aren’t able to benefit from apps that can help with everyday activities. We don’t know how many of these people used a smartphone before, but we can be sure that almost everyone who acquires a vision loss in the next 5-10 years will have been using a smartphone. If they conclude that they can no longer use it, they will feel more excluded and frustrated than ever. We really must work as hard as we can to increase awareness in the community generally that smartphones are us, whoever we are and regardless of our disability.

76% of survey respondents said they used an iPhone, while only 24% used an Android smartphone (mainly Samsung). While Apple definitely dragged its heels initially on iPhone accessibility, Android phone manufacturers were even slower, and even though the gap has been narrowing, people who are blind or have low vision still have a significant preference for Apple. Which is not, of course, to imply that iPhone accessibility is perfect, or that Apple can’t and shouldn’t do better.

One of the most important findings from the research is that people who use smartphones generally use them a lot – 84% of respondents said that they use their smartphone throughout the day. And they use them for an almost infinite variety of activities:

* for phone calls, 97%; texts, 86%; email, 57.7%;
* banking, 39%;
* booking taxis and ridesharing, 38%;
* browsing the web, 47%;
* getting around in the community, 41%;
* listening to music, radio or podcasts, 56%;
* checking the weather 52% (and I reckon that Siri always sounds happier when he’s able to report that it’s raining or thunderstorms are expected)

Over 50% of survey respondents said that they used apps specifically designed for people who are blind or have low vision. AI-based apps (like Seeing AI, Envision AI and Supersense) were the most commonly used, followed by GPS apps like Blindsquare. But 38% said that these so-called accessible apps were difficult to use and 35% said that they were not even fully accessible. What we all need to emphasise to app developers is that accessibility is a verb – it requires action, testing, incorporating user feedback, and more testing. There’s great magic and power in words, but simply saying that your app is accessible is … well, simply saying.

When survey respondents encountered an app that they were having difficulty using, for example, because it did not comply with accessibility standards or guidelines, 21% said that they contacted Vision Australia’s assistive technology helpdesk for assistance. That’s good, and it shows that we are providing a useful service. But 69% said that they simply deleted the app and did not try to use it anymore. It’s easy to see how that can translate into exclusion from services or information, but it can also be a matter of life or death. When the Commonwealth Government released its COVIDSafe app on 26 April 2020 with the message, “help stop the spread and save lives”, it did not comply with accessibility guidelines, and it was therefore difficult or impossible to use with Voiceover and Zoom. A number of survey respondents who participated in follow-up interviews with the Curtin researchers about their smartphone usage during the pandemic said that they downloaded the app but when they weren’t able to use it they deleted it.

Proficient smartphone users said that they were using their smartphones more during the COVID-19 pandemic. The barriers created by apps that do not comply with accessibility guidelines – especially government apps that relate to public health or other critical information – are amplified during times of emergency or natural disasters. If there isn’t a culture of front-of-mind accessibility and inclusive design before an emergency, then there almost certainly won’t be one during the emergency.

This is such an important issue that I want to digress slightly and provide another example. If you booked an appointment to have a COVID-19 vaccine in NSW from mid-2021, you received a text on your smartphone with a form that included 19 questions that you had to answer prior to the appointment. Voiceover could read the questions, but because the form had not been designed to comply with accessibility guidelines, all it said for both the yes and No buttons for each question was the word “button”. If you guessed that the first “button” was yes,” and the second was “no”, you were wrong. So I and no doubt others unwittingly answered that I had recently been in contact with a positive COVID-19 case, that I had been in isolation, that I had a history of allergic reactions to vaccines, that I had diabetes, kidney failure, heart disease, severe immunosuppression – in fact, because of the poor design I answered “yes” instead of “no” to all 19 questions. I was about to submit the form but thought I had better check with a sighted person just in case the form had other fields that were not accessible. If I had submitted the form as I had completed it, I would have been denied the vaccine, and would probably still be dealing with the fallout.

52% of survey participants in the smartphone usage research said that they wanted us to do more advocacy in the smartphone space, and so it’s essential that we advocate to government and the community for greater accessibility all the time, while we have time.

The report of the smartphone usage research made a number of recommendations, covering government, industry, service providers and all sectors. The final recommendation is an apt summary and a strong call-to-action for us all: “Finally, we recommend that the responsibility for accessibility is embraced and shared across all sectors, recognising that access is not simply established through device design, but achieved through responsive industry, service provider and government policies.”

What our and Curtin University’s research into smartphone usage by people who are blind or have low vision tells us unequivocally is that the smartphone is no longer a luxury or a technological fashion accessory – it’s a necessity for the vast majority of users who are blind or have low vision. The question isn’t, “is there an app for that?”, but, rather, “where’s the app for that?”. For many younger people, their smartphone (most likely an iPhone) is their primary, go-to, or only device for interacting with services, staying connected with friends and service providers, and accessing information of all kinds.

Whether we like it or not, and whether we realise it or not, those seismic smartphone waves have rung in a new paradigm of information access, and the more we embrace it, and the more we learn to harness its seismic energy, the more use we will be to our clients and our community. If, on the other hand, we leave people who are blind or have low vision waiting for Godot to bring the benefits of this new paradigm while we cling doggedly to traditional ways of providing information, fail to advocate for better accessibility, and ignore the need for more training and awareness-raising, then the blind and low vision community will simply swipe left on our profile, and leave us to bask in our irrelevance while they find new dates, and sing new songs, and find other organisations to meet their needs.