Multimedia Devices & apps for Deaf and Hard of Hearing children and teenagers.

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 Distinguished Educator
 Accessibility Ambassador
Assistant Principal - Hearing NSW Department of Education, Australia

@ozmsh

This is me

- Born with normal hearing - started losing hearing in school with unknown cause.
- Profoundly deaf from playing in too many loud bands!
_Teacher of the Deaf
-Currently an Assistant Principal - Hearing with the New South Wales department of Education in Australia.
- Apple Distinguished Educator and Apple Accessibility Ambassador

Today

- Slide only for transition purposes

Today

Accessible Content

Accessibility Features

Accessible Apps

Meet the needs of the end user

We are seeing more acknowledgment that we really need a few things to come together in order to meet the inherent needs of a children/students who are D/HH.

Devices with accessibility built in: Accessible content: Along with the software/apps that are accessible - all need to co-exist if we are to meet the needs of the user.

Same device as everyone else

It cannot be stressed enough how big a deal this is for our children and adolescents to be able to use the same device as everyone else - just in a different way. No longer is there a flashing light saying ' I am different' to the world to see.

Accessibility features could be hardware based, software based (or both).

An example of hardware - LED Flash for alerts
Uses phone flash to alert user to a call - visual stimuli as opposed to audio

Haptic feedback on Apple Watch to alert user to notifications as opposed to audio notifications

Connecting Devices

Hardware accessibility can also come from being able to connect hearing devices to the many various electronic devices in our lives such as phones, computers and so forth.

- iOS accessibility example page holder

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slide content will change - once we have been able to ensure that our children and young people can have access to the audio signal from their iPad or iPhone, we can really start to make use of some of the built-in accessibility features of iOS. One that I cannot speak highly enough of is speak screen. On the screen you can see a sample of how to turn this on. What this feature does is allow any content on the screen to be read out by the device. Once it is activated in the Accessibility menu, we simply swipe with two fingers from top of screen and down. We can change the pace, voice and other settings. This is useful for our students who require repetition of content in order to access meaning. They can access the audio because they have made use of the various audio connection options between their hearing devices and the iOS device, and can play the same back as many times as they like, in the privacy of their own room if they wish! A powerful tool.

- iOS accessibility example page holder

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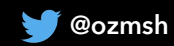
page content will change - being able to customise the look of closed captions on your device is critical for some. What if you rely on captions but also have a vision impairment and cannot read the text on the page? On the screen you can see how the end use can change the font, text colour and size as well as background colour to suit the end user.

Regardless of the method of HOW we connect devices, we need to ensure that we are giving our children and adolescents the skills to work it out themselves and take ownership of their devices and the world around them as much as possible. So many different options are available for a range of situations. We should be assisting all in an unbiased way to understand each of these and their limitations to allow them to make up their own mind.
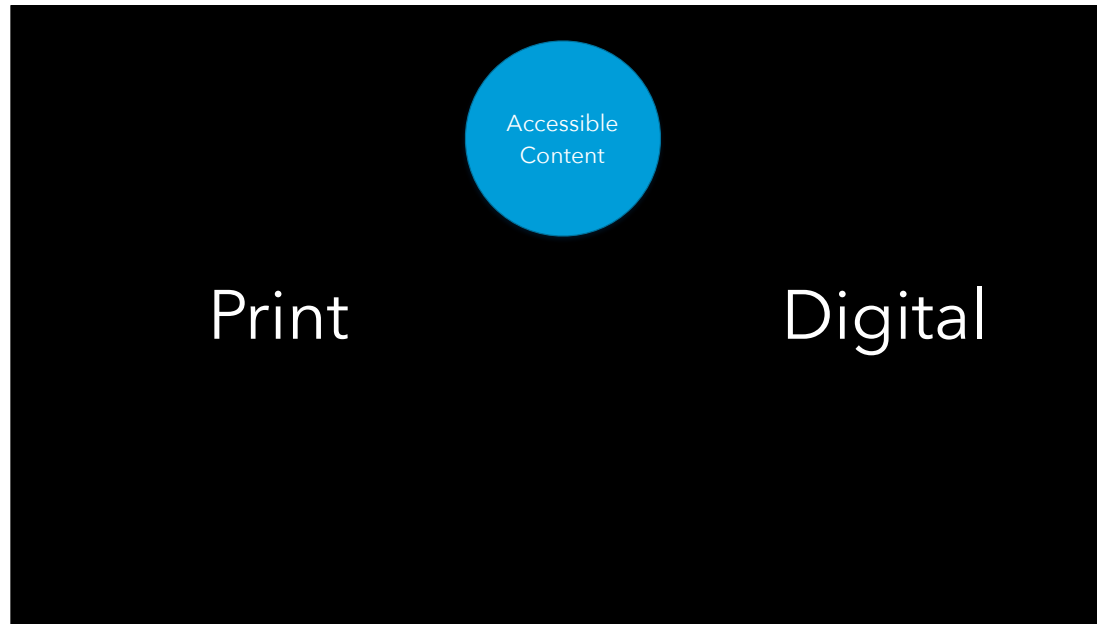
World moving rapidly towards Digital content over print. We need to be giving our children the skills to consume and create accessible content. Some of this may include: use of captions in audio visual materials including social media content. Significant work has been done by range of companies in the tech world including Apple, Google, Microsoft and Twitter just to name a few in the world of accessible content curation and creation. It is far easier and quicker to create content that is accessible to all then it once was. An excellent example of this is Real time captioning and translations available in MS Powerpoint. Also, app called clips from Apple allows user to record captions in real time as you record via content for consumption on social media. An area that we need to watch carefully as it develops further!
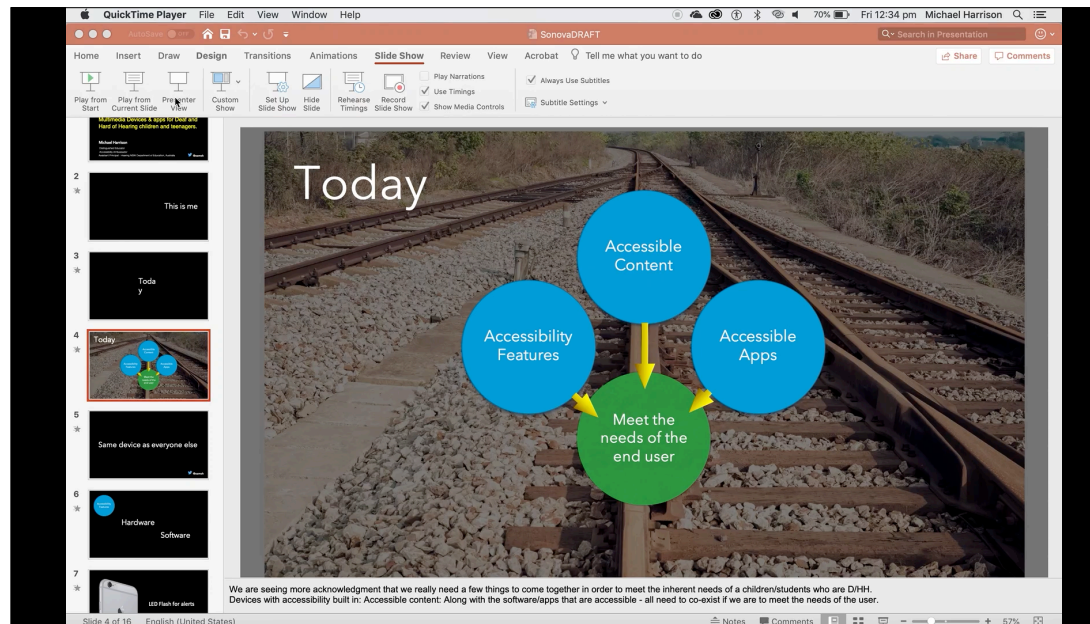
Many of the tech companies are doing great work in the area of accessibility recently. I have to pay particular credit to the work that Microsoft is currently doing across all of the software applications. A great example of this is being able to show close to real time captions while you are presenting in Powerpoint. It also allows you to change the language settings so that you could present in English as I am doing today and choose a different language such as German on the text output. Users can also choose their own translation languages on their own personal devices.

Another great example of how ANYONE can create accessible content is the Apple app, Clips. Clips allows you to create live titles creating instant captions of videos for sharing to social media - an example of accessibility by accident. Clips was not designed with Accessibility in mind!
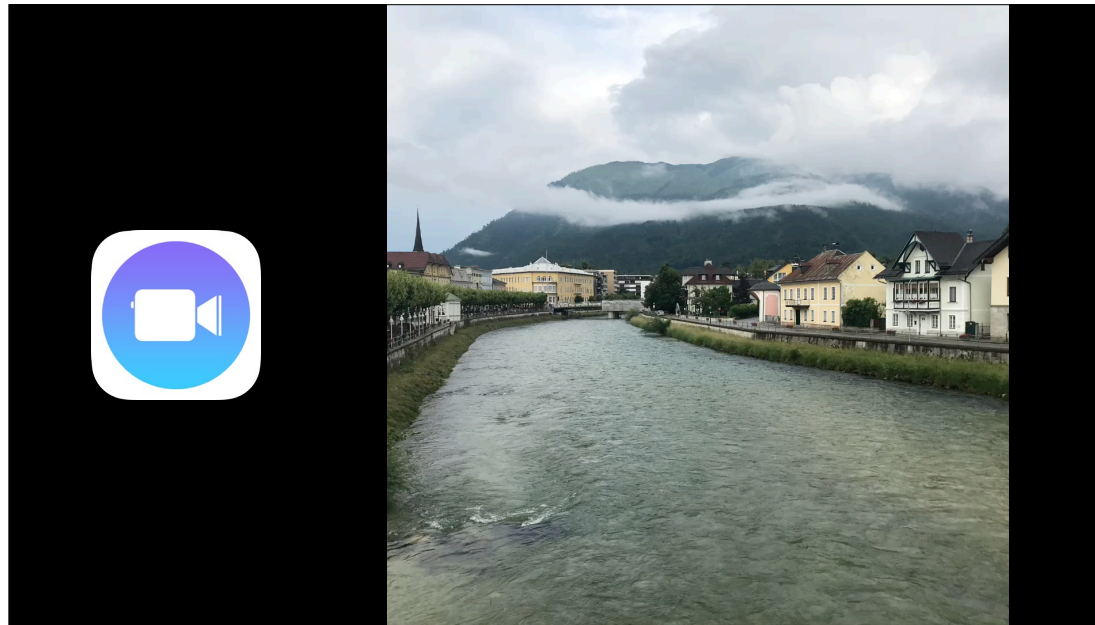
Demo video of live titles creating instant captions of videos for sharing to social media

Text from video: Video and content will change to Munich video on day of conference. No audio will be played on this slide but English subtitles will be played on video sample from Clips. Text on subtitles in English will be simple such as 'Welcome to the city of Munich! We are very pleased to be here.;' or similar.
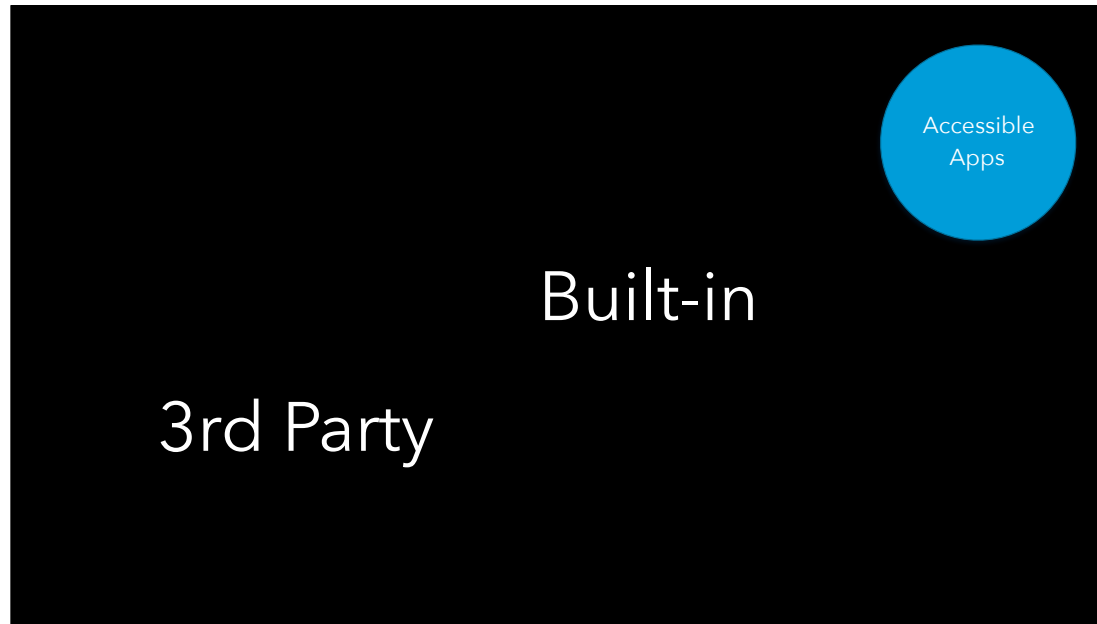
Finally, we need to make use of Accessible apps whether they are built into the iOS device or are from 3rd party providers or app developers.

A great example of this is how device and software manufacturers such as Apple, create the developer kits or the building blocks that allow app developers to access the key features of the device including built in accessibility features, to ensure that the app they design and sell can be potentially accessible.
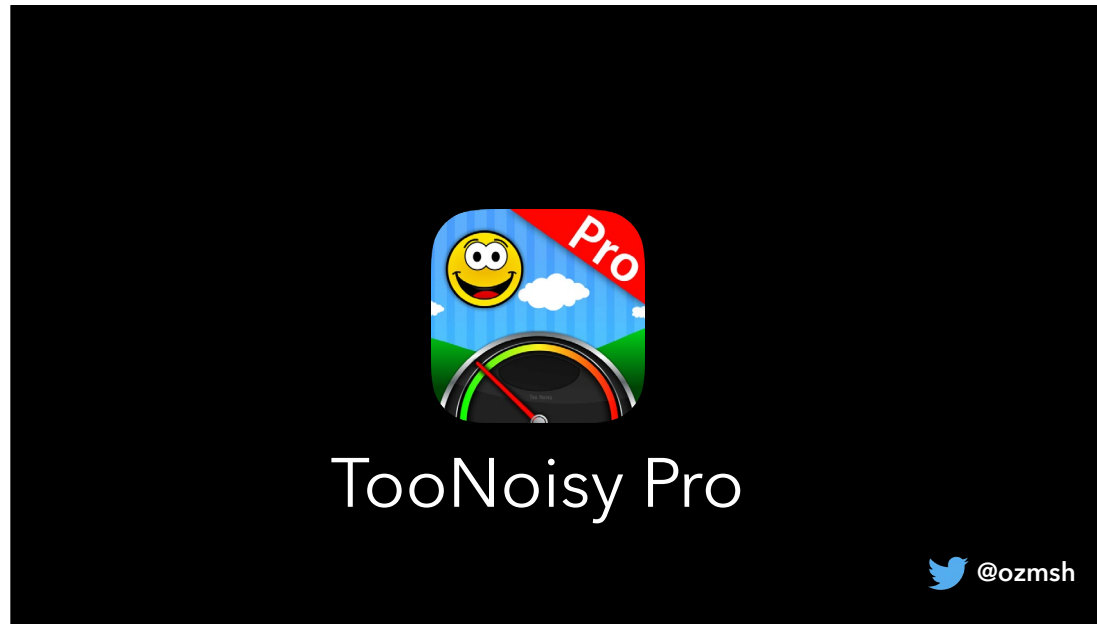
iOS is completely accessible

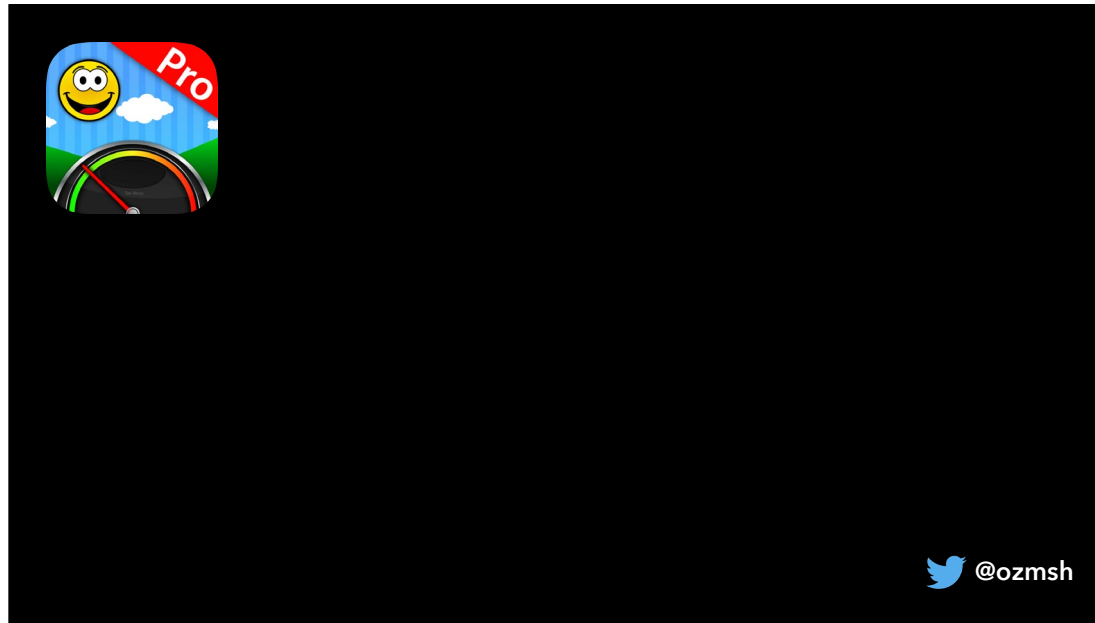All of these apps are built into the device

API Application Programming Interface

Apple's SDK (software developer kit) allow others to create accessible apps too.

VoiceOver, Switch Control.

TooNoisy Pro

A great app that is used in a lot of schools that I visit, is TooNoisy. The app which you can see on the screen is available across different platforms as well as being available as a web-based app that can be used on any computer. It allows the teacher in the class to monitor the sound levels in the classroom to assist with class room management and therefore ensuring that unnecessary noise in the classroom is kept to a minimum.

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Wheels on the Bus

Wheels on the Bus is a great example of an app that we use with our younger students. It brings a very popular song onto the digital world. This app is an example of a universal app as it allows various languages to be used and not just English.
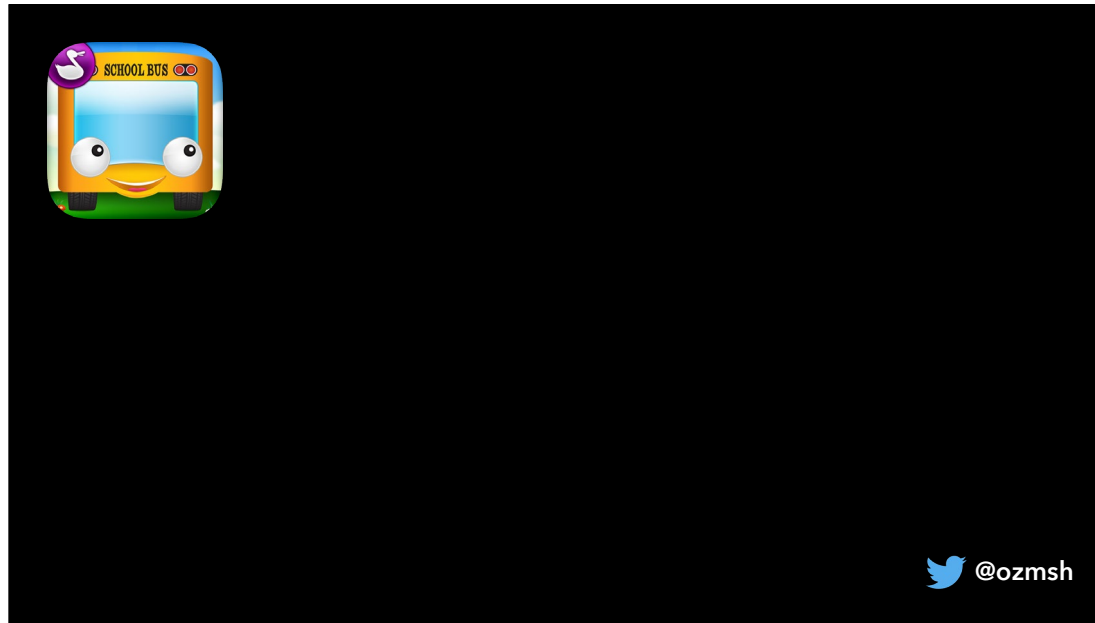
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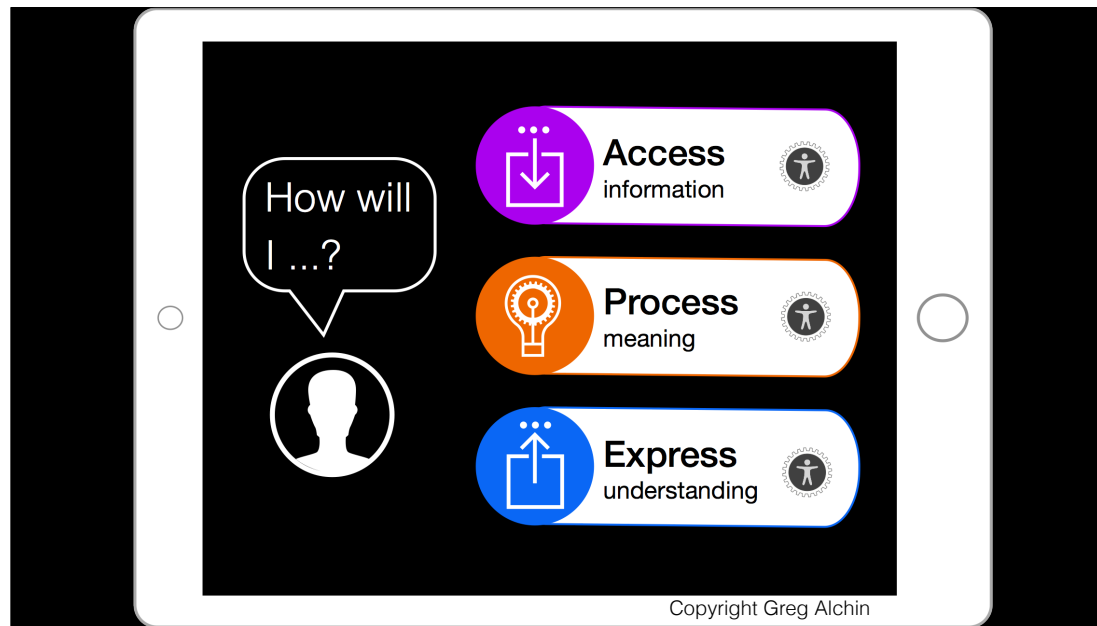
Sometimes we need to get back to basics when it comes to our children, adolescents and adults that we work with. How will I or they, Access information, Process meaning from this information and finally Express their understanding. This image on the screen has been created by a colleague of mine from Australia and summarises a lot of what we do in our

Key take away from today - it is crucial that all three aspects of
Making use of the built in Accessibility features of your device, Ensuring Content is Accessible to all and creating/using accessible apps -
means that the needs of the end user are met.
How are you doing in this area in your professional or personal lives?

We need to ensure that as teachers that we do not limit the potential of our students based on OUR lack of understanding or confidence in the use of technology.

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Final challenge for today

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