

Running an Introduction to Technology training session

A guide to demonstrating the benefits of accessible technology

R N I B

See differently



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A guide to demonstrating the benefits of accessible technology

This RNIB document is intended to act as a guide for organisations and local societies planning to deliver basic Introduction to Technology training sessions for people with sight loss.

It is aimed at any group, or organisation, which wants to help its customers with sight loss to understand what technology can do for them. You don't need to be an expert to use this guide, just have a keen interest in exploring the accessibility features available on many popular devices.

This guide will give an outline of how to run an introductory session, and provide a few tips and hints. It also details some of the resources you will need to help blind and partially sighted people get started with using technology.

We've based this guide on our experiences at RNIB of delivering technology training during projects such as Online Today (nib.org.uk/practical-help/technology/accessible-technology-events-guide) and our Living With Sight Loss courses. This has helped us generate a range of top tips which should prove helpful to you.

A full introductory session could last about four hours, but we have designed the guide so you can adapt it or adjust it according to your needs. This document isn't a script, it's a series of guidelines and pointers, so you should feel free to make it your own.

You will need relevant devices and software to help you demonstrate what you are talking about in the session and there's a suggested list of useful kit and apps in Appendix A.

Above all, we feel technology shouldn't be scary. So be as relaxed as possible. You should have fun running this session and make sure the people attending do too.

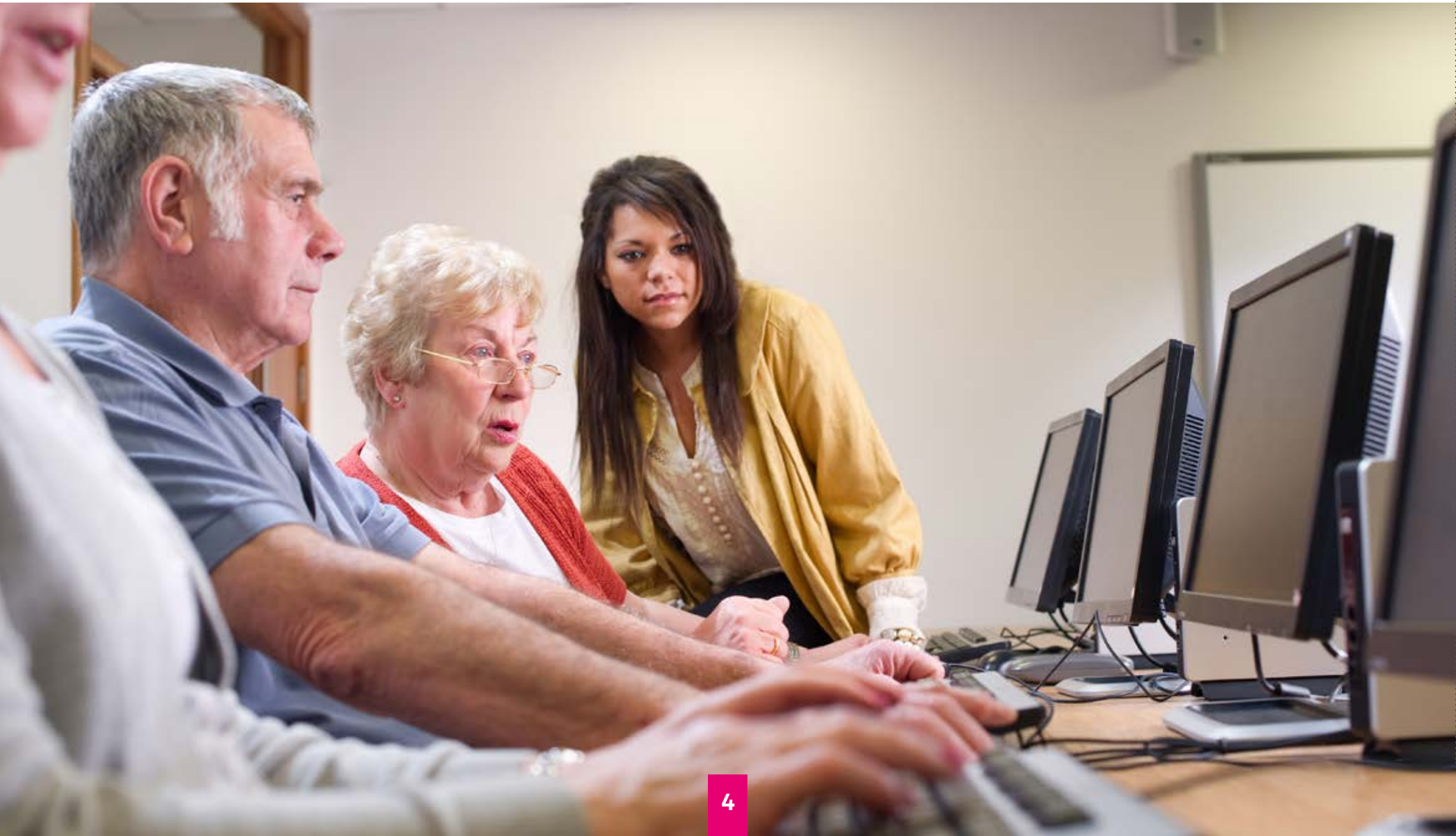
RNIB's Technology for Life service continues to provide support to people with sight loss and partner organisations to develop and grow their own technology offer. To find out more visit: nib.org.uk/technology

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Introduction



Aims

A basic Introduction to Technology session should raise awareness among visually impaired attendees, introduce them to the types of devices available and what technology can do to help them access the information they need or want. Above all these sessions should inspire people with sight loss to interact further with technology and help remove the barriers which prevent them from learning more about what's available and what it can do for them.

Objectives

At the end of the session attendees should have:

- An awareness of technology that can help them to read
- An awareness of the different types of technology available for different reading situations
- An awareness of different types of technology that can help them record information
- An awareness of the different sources for accessible information
- An awareness of technology that can help them to use mobile devices.

Starting the session

An essential starting point for your session is to identify the level of technical knowledge of the members of the group you are working with.

The person leading the session, or the course leader, needs to establish a base line of knowledge so they can start at the lowest point, so that the whole group can be involved from the start.

Establishing your attendees' level of technical knowledge will also enable you to use the modules in this document to create a session tailored to the different needs of all the individual group members.

Managing expectations

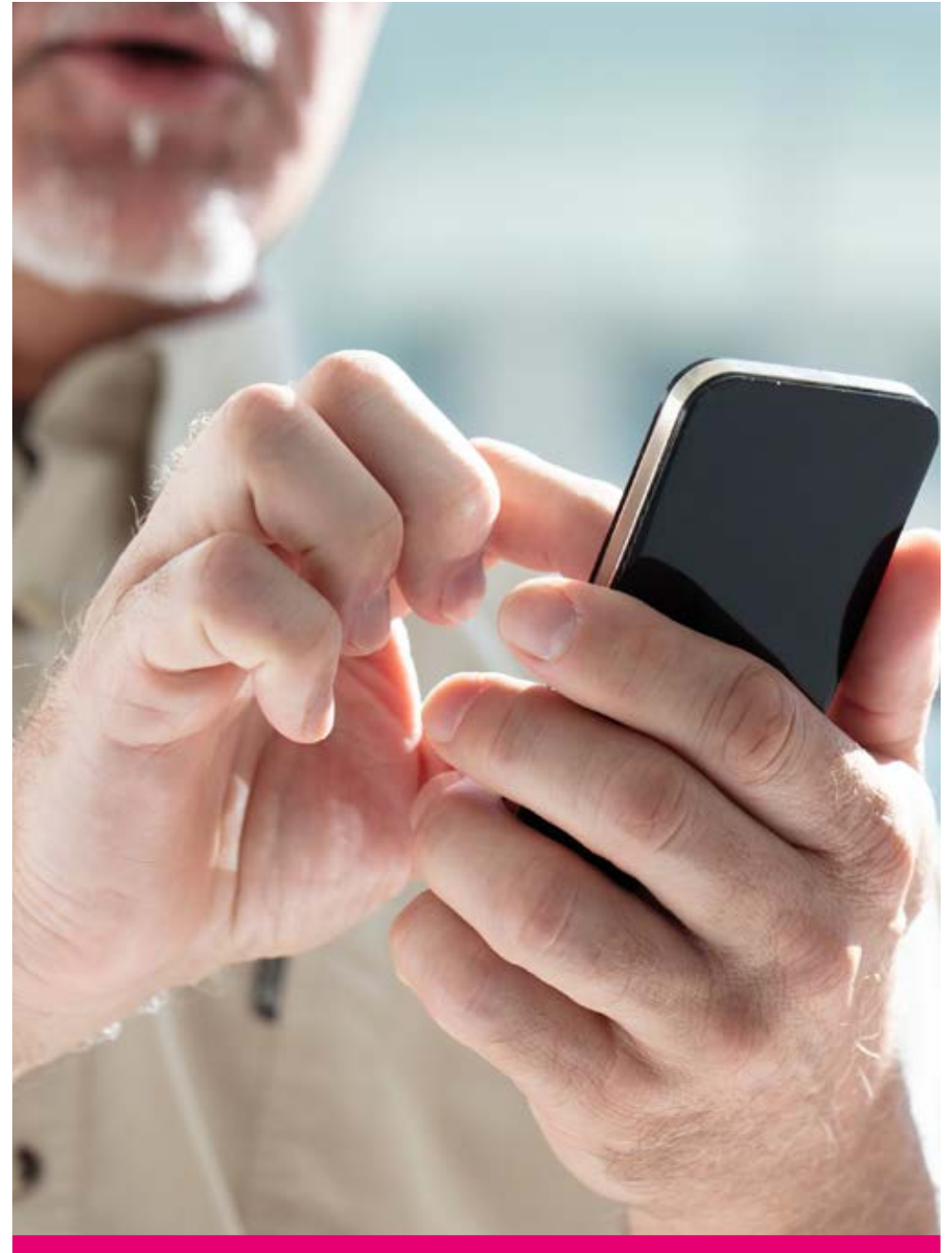
In your session, your attendees are likely to have different levels of skill and technical knowledge and you will find they have a range of different expectations about what technology – and your training session – will deliver.

Managing expectations is tricky! So be clear from the start that this is an introduction to technology, not a problem-solving exercise. It might help to have a plan to refer attendees to a local service which can help fix hardware and software problems, a volunteer, or the RNIB Technology for Life service [rnib.org.uk/practical-help/technology-hub/technology-support](https://www.rnib.org.uk/practical-help/technology-hub/technology-support).

Asking the following questions might help to establish how much technical knowledge /experience each group member has so you can manage their expectations:

- What devices do people have already?
- How do you use them?
- What do you like about them?
- What do you want to achieve or do with each device?

Top Tip! As this is an introductory session, try not to lead people into talking about their problems or challenges with technology at this stage. However, getting the group to share positive stories and benefits of technology will help stimulate their interest and improve confidence.



Starting the session



Using a Jargon Buster Quiz

(10 minutes)

If you have enough time at the beginning of your session, running a quick Jargon Buster Quiz is a simple and effective way of helping gauge general technical knowledge as well as being a good 'ice breaker' for your session. The quiz is designed so that everyone can participate, whatever their level of knowledge.

It can also help you identify the different personalities within the group. You simply need – for each question – to read out the definition of the term first and then see if the group members know, or can guess, what you are referring to.

Don't get bogged down with answering questions. You are only providing a general introduction to technology.

Questions (definition first):

1. A huge network of computers connected together. The global communication network that allows almost all computers worldwide to connect and exchange information. i.e. it is a worldwide system of computer networks. It is a network of networks in which users at any one computer can, if they have permission, get information from any other computer (and sometimes talk directly to users at other computers).

Answer: The Internet, sometimes called simply "the Net,"

2. This is closely linked with, but a very different system, to the internet. This is a collection of pages found on this network of computers.

Answer: World Wide Web (www or web for short)

3. A computer programme used by users to access and navigate the web.

Answer: Browser (Safari, Internet Explorer, Firefox and Google Chrome are all examples of web browsers)

4. This is a wide bandwidth connection to transmit data signals. **Hint:** this can be coaxial cable, optical fibre, radio or twisted pair.

Answer: Broadband

5. This takes information that arrives through your broadband signal, deciphers it, and delivers it to a variety of different receivers including your computer, your phone, and sometimes your TV. It also chooses the best route for the data so that you receive the information quickly.

Answer: Router

6. This is a way of connecting with the internet without cables/wires.

Answer: Wireless broadband connection – also known as Wi-Fi

Note: It is the connection between your computer and the router that is wireless, not the actual broadband connection itself.

7. This uses mobile phone signals, it is a network technology

used to deliver internet data over the mobile phone network. You need to sign up for Internet Data with your mobile phone company to access it.

Answer: 3G, 4G or 5G mobile broadband, also known as Mobile Broadband.

8. Any physical device used in or with your machine. For example, the computer monitor, keyboard and the mouse.

Answer: Computer Hardware

9. Programmes that are needed / are installed onto a computer, in order to allow that computer to interact with specific hardware

Answer: Software

10. The most important software that runs on a computer – the system that powers and controls the use of a computer. It manages the computer's memory and processes as well as all of its software and hardware. It also allows you to communicate with the computer without knowing how to speak the computer's language.

Answer: an Operating System

Additional descriptive Note: As a car needs an engine to function, without an operating system, a computer is useless!

Extra information:

- Microsoft operating system is Windows

- Google's operating system is Android
- Apple's operating system is IOS
- Search online to find the latest versions of those operating systems, or talk to our Technology for Life Team to find out more about the operating systems and accessible features.

11. This is what allows the user to interact with a computer, smartphone or tablet without using a mouse or keyboard.

Answer: A touch screen

A touch screen is a computer display screen that is also an input device. It allows the user to interact with a computer, smartphone or tablet by touching pictures or words on the screen rather than using a mouse and keyboard.

Touchscreens are used on all smartphones and tablets and on some PCs and laptops.

12. It's a piece of software that can run through a web browser or even offline on your computer, phone, tablet or any other electronic device. It may or may not have a connection to the internet.

Answer: Application, often referred to as an 'app'.

Reading Section

(30 minutes)

Technical terms used in this section include:

- magnification / video magnifiers
- audio or Talking Books (rnib.org.uk/talking-books-service) / newspapers
- braille displays.

Braille is a specialist access method and should be only briefly mentioned.

Magnification – making things big, bright and bold!

If you have some residual vision then magnification can provide a potential solution to reading printed documents, books and other material such as magazines and bills.

In this section we will look at using a handheld video magnifier to read printed text. Bear in mind that magnification can also be used on computers or smart devices to increase the size of text on a screen.

Video magnifiers

Traditional optical handheld magnifiers are fixed at one strength and cannot alter the appearance of print. In contrast, video magnifiers (hand held and desktop models) provide a range of additional features which can be adjusted to suit individual visual requirements.

Features offered by video magnifiers can include:

- The ability to alter the brightness of the image on the screen.
- A variety of magnification levels so users can choose an appropriate size of print.
- Ability to change the colour of text and or its background to improve contrast.
- Ability to take a picture / save an image of what you are looking at.

Showing portable handheld video magnifier

Pass your demonstration video magnifier around, so people can try out this device, to see if it enhances their vision.

Top Tip! Be sure to have some letters, menus and newspapers available for the group to try reading while using the video magnifier. While people are trying the device, listen to what they are saying, work with them to show them how easy the device is to use. Also tell them there are more than a hundred different models of video magnifier. Costs range from £150 to £3,000 or more.

Talking Books and newspapers

A handheld or desktop, video magnifier is a great solution when reading small amounts of text but is not generally suitable for reading a whole book. This is where Talking Books or local talking magazines / newspapers can provide a solution.

Showing Talking Books and newspapers

Explain the process of accessing talking newspapers in their area, and then provide a demonstration of a talking book / talking newspaper via a USB player.

When demonstrating a USB player let your attendees hear the quality of annunciation and expression of the readers, and the clarity of the various volume levels.

Explain how Talking Books library services work (RNIB and similar services at Torch Trust and Calibre).

For example, explain how:

- Books can be stored on CD, memory stick (ideally, pass one around)
- Books are posted free of charge with an Articles for the Blind label.
- It's simple to return a book – just turn over the address label and post it back to the library.
- As soon as the library receives a returned book the next one is posted out to you.

Braille Display

Explain that a braille display is typically a box with a line of Braille cells. Pins in each of the Braille cells move up and down to show the contents of a line of text on a screen. They range in size from 12 cell lines to 80 cell lines. Braille displays can be connected to computers, smart phones and tablets.

They typically require a screen reader to send and control the output from the screen to the Braille display. Some displays can also be used to input characters into the computer or smart device.

Braille displays range in price from £450 to £3000.

Showing a Braille Display

Explain how most braille displays connect via USB cable or wirelessly by Bluetooth and how, once set up, both devices will communicate when turned on. Some Braille displays can connect to more than one device and you can easily switch devices. When demonstrating a braille display let your attendees feel the braille display and try navigating through a few lines of a book or document.

Now we move to the devices that are readily available on the high street, and provide clients with cheap, or free, accessibility options, which can be used quite easily with a little support.

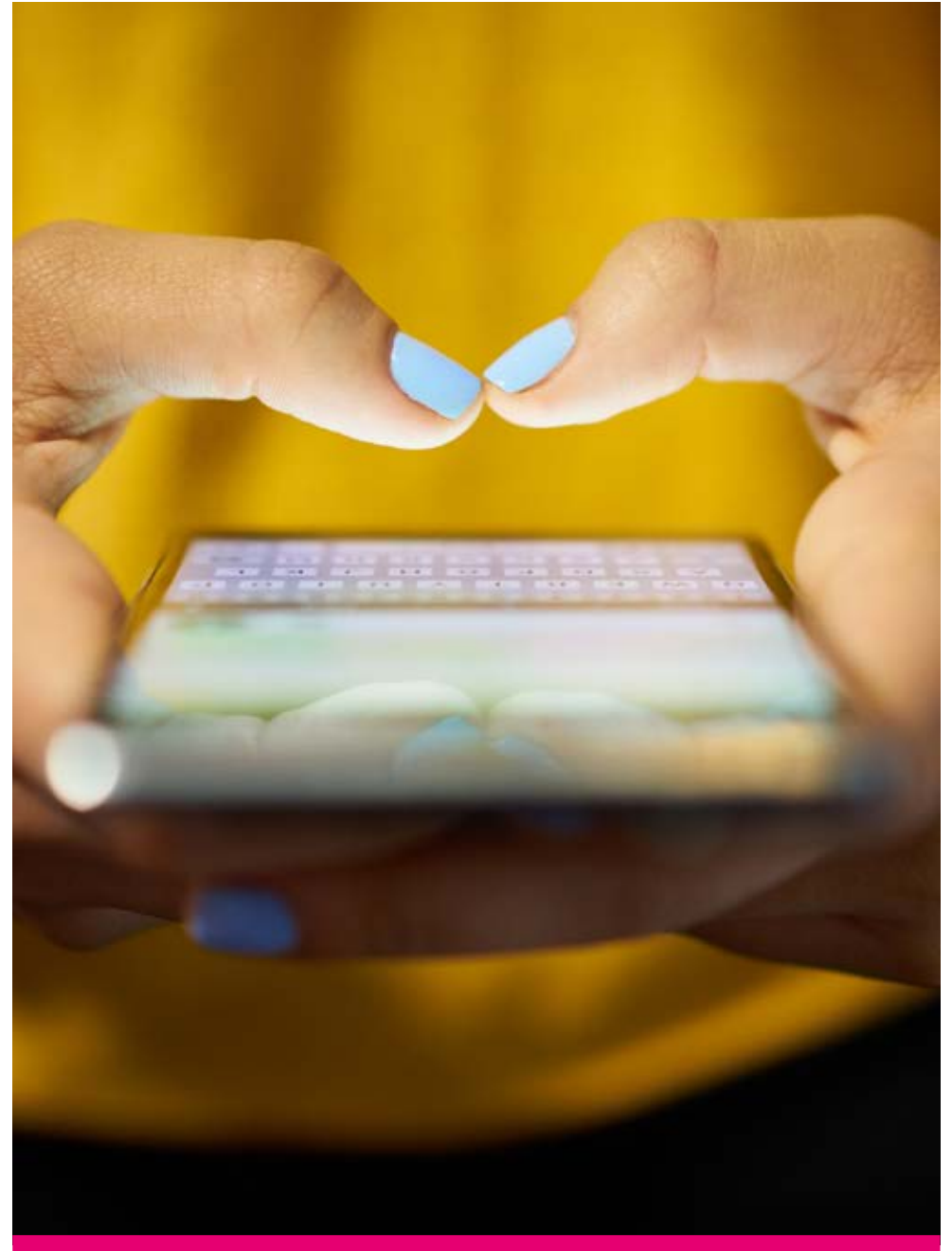
Smartphones, Tablets / iPads* and Computers

(1 hour)

*'iPad' is the trademark name for tablets made by Apple.

Some of the words used in this section:

- Operating System (OS)
- Applications, or the shortened term Apps
- Programmes – a term usually used when talking about laptops / desktop computers
- Tablets / iPads
- Smartphones
- Accessibility
- Gestures
- Magnification – making things on the screen appear bigger
- Screen-readers – software that reads aloud text on a computer. Voice Over and Talkback are terms which refer to screen reading software found on Apple and Android devices. These are discussed below.



Starting with what the group know already

Find out if people know about the different kinds of computers and devices. Ask if they know what the various kinds are and how to tell them apart.

- Desktops
- Laptops
- Tablets / iPads
- Smartphones.

If some people present have experience of using a computer, get them to talk about what they use them for. Alternatively, you may have to share your own experience or that of friends or other service users.

Lead the group to talk about the following, which should prompt discussion:

- Information found on the internet including facts/music / what is in the shops / when trains or planes are leaving.
- Electronic mail (email) that is instant and not dependent on the postman or going to a letterbox.
- Creating and amending documents.
- Storing, retrieving and amending documents easily, without using lots of paper.
- Reading books and reports.
- Getting electronic versions of bills and bank statements.

In the past many people accessed information by using desktop computers but these days using a tablet or smartphone is becoming standard practice.

Remember tablets and smart devices are modern versions of computers; they are basically a computer in a more portable format.

Appreciating the variety of phones and tablets which are available.

It would be helpful to pass around a smartphone and tablet / iPad, especially if there are people present who have not used a smart device before.

Explain that tablets and phones come in many sizes and they are called smart devices because they have touch screens and, like other computers, can connect to the internet.

At this stage it is worth pointing out that tablets usually have larger screens than a normal phone. However, this is not the only difference between these devices as will be explained soon.

Talk about the two main types of smart devices (Apple devices and Android based systems), and the third less popular type (Windows based systems):

- iPads and iPhones are made by Apple and use an Operating System, also made by Apple, called IOS.
- Phones and tablets made by certain manufacturers, such as Sony, Samsung, LG and Nokia, use the Android operating system which was designed by Android Inc.
- Windows phones and devices use an Operating System designed by Microsoft.

Session attendees who have laptops or desktop computers may be familiar with the term Windows.

Windows devices often come supplied with a keyboard. However, this does not necessarily make them easier to use as, to get the best experience from these devices, visually impaired users will need to add additional magnification and audio software.

Operating Systems and User interfaces

Explain that one of the advantages of Apple products is that they use Apple's own operating system called IOS. This means that the user interface on an iPhone and iPad is very similar.

Phones and tablets which use the Android operating system are made by a variety of manufacturers and each manufacturer adds their own branding known as a skin.

This means that there will be differences between the user interfaces of Samsung, LG, Sony and Nokia devices etc.

Top Tip! A tech joke goes: You can skin an android but not an Apple (ha ha, did I really say that!).

Examples of Android devices with 'skins'

The Amazon 'Kindle Fire' is a good example of a tablet which uses the Android Operating System with a User Interface (UI), or skin, designed by Amazon.

The Kindle skin gives it a look and feel which will be significantly different from, for example, a tablet made by Samsung or Nokia even though the underlying operating system is the same.

Synapptic software on Android devices

A very popular skin / User Interface for blind and partially sighted people is made by Synapptic (**synapptic.com**). Synapptic software works on phones which use the Android operating system and enables users to control their phone via simplified menus. It also offers a range of magnification and contrast settings.

Finally, explain that both Apple and Android regularly update their operating systems to improve the way they work / update the functionality.

Smartphones verses tablets

In the following section, the term 'tablet' is interchangeable with the term 'iPad'.

Tablets

Tablets generally have larger screens than smartphones. This means they can be useful for people who have some residual vision. However, the increased size means that tablets are less portable than phones.

Unlike a smartphone, tablets have no mobile data – except for a few models which you can purchase a special sim card for. So you can usually only use tablets where there is a Wi-Fi connection, for example in public buildings and not when you are going along the street or on the bus.

As tablets generally have no mobile data it is not possible to use them to make phone calls over the phone network. However, it is possible to use a tablet to make calls over the internet, for example via Skype and WhatsApp.

Smartphones

Smartphones are more portable than tablets, but their smaller screens can be a problem if you have limited vision. However, if you are using audio output (voice over / talk back) screen size is not an issue. In fact, a smaller screen can be more useful because less information is displayed on a phone's screen making it easier to navigate.



Smart phones use mobile data; this means they can access the internet anywhere that there is a signal and don't have to rely on Wi-Fi – but they can also be connected to Wi-Fi networks which saves on mobile data usage.

Smartphones can be used to make standard phone calls as well as internet calls via apps like Skype, WhatsApp and Viber.*

*There are many apps that work on both phones and tablets and a few that will only work on a particular type of device.

Must-know accessibility features

Many people assume that a visually impaired person will not be able to use a smart phone or tablet because these are 'touch screen' devices, which do not have tactile buttons, and to use them you need to be able to see what is on the screen.

However, the manufacturers of modern smart devices want as many people using them as possible. Therefore, they include in their operating systems magnification options, to accommodate people who have reduced vision, and screen reader technology to accommodate the needs of people who do not have enough vision to read.

Using voice over / talk back

Using a smart device with voice over or talk back involves learning a range of finger gestures. Once you have mastered these finger gestures you can navigate around a touch screen by listening to the voice over / talk back which will tell you where you are on the screen.

The two main finger gestures are flicking (also known as swiping) and tapping. The gestures are done using one, two or three fingers depending on what you want to achieve and whether you are using an Apple or an Android device.

Using finger gestures in combination with voice over / talk back does take time to get used to, and requires practice, but allows a visually impaired person to make phone calls, use email, texts and apps, and access the internet without sighted assistance.

Differences in using accessibility options on Apple and Android devices

Unfortunately, different finger gestures need to be learnt for using both the magnification and screen reader options on Android and Apple devices. Also, the terminology used by Apple and Android differs e.g. Voice Over and Talk Back – they both do the same thing but have different names.

This can make matters confusing at first because you will be dealing with both operating systems at the same time. But as you practice and get used to your own devices things will become clearer.

Top Tip! Although you will find that magnification gestures on Android and Apple devices are different, the basic gestures for Android and Apple's screen reader are the same.

Generally, if the people you are working with have prior knowledge of Android or Apple devices it will be either one or the other. They will seldom be fully aware of both operating systems.

The following is a quick guide to the Apple and Android operating systems and their accessibility options / strengths:

- The magnification option on the Android operating system is easy to use and more adjustable than the Apple equivalent which is called 'Zoom'.
- Apple's screen reader, 'Voiceover', is more sophisticated than the Android equivalent, 'Talkback'. However, Talkback is getting better on newer devices.
- Android devices tend to freeze if you run the magnification and talkback options simultaneously. Apple devices do not have this problem.
- Android devices tend to be cheaper than Apple devices.

What you will need to learn – the basics.

- How to switch on / off the accessibility settings for both magnification and speech on Android and Apple devices.
- How to change the screen colours so that there is white text on a black background.

- Some of the basic finger gestures used on Android and Apple devices*.

Realistically you are not going to be able to give individual tuition to all members of the group – time and number of people present will not make this possible.

However, learning these basics will make your demonstrations run smoothly, and you will be able to answer simple questions from those who have no prior knowledge of this subject area.



Suggested Group Activities

1. Using magnification on a smart device

If attendees found the video magnifier helpful they might also be interested in using the magnification options on a smart device.

- Hand round a tablet and / or phone to show what the screen normally looks like. Then turn on the magnification option and pass the same device around so people can see magnification in operation.

Note: To turn on the magnifier feature on an Android device, or 'Zoom' on an Apple device, go to the settings menu. Once it has been enabled it is possible to turn magnification on / off with a finger gesture. The gesture on an Android device is three taps with one finger. The gesture on an Apple device is two taps with three fingers.

- With magnification engaged on your smart device some of the contents, which you would normally see, may now be 'off screen'. Therefore, you will need to explain how to use finger gestures to find these items that are no longer visible.

Note: On an Android device this will involve putting two fingers on the screen and then sliding these fingers in the direction you want to go. For an Apple device, you will need to do the same action but using three fingers.

- If you have time, and it seems relevant to the group, you can demonstrate and let people experiment with various levels of enlargement.

Note: In the case of Android devices, put two fingers on the screen and slide them apart to increase the size, or slide them together to decrease the size.

In the case of Apple devices, enlargement can only be done as you turn Zoom on. This is accomplished by double tapping on the screen with three fingers but not lifting your fingers on the second tap, then sliding them up the screen to increase the size and sliding downwards to decrease the size.

Using inverted colours

Some people find it easier to read what's on screen if the colours are inverted – white text on a black background – in conjunction with magnification. Therefore, it might be helpful to pass round a smart device with this option enabled.

You can change the screen colours in the Settings / Accessibility menu of Android devices and in the Settings / General / Accessibility menu of Apple devices.

2. Screen readers

At this basic introductory stage, you do not need to worry about the differences between Apple and Android screen reader functions. The gestures described below are common to Android, Apple and Windows touch screen devices.

- Turn on the screen reader, (Talkback on Android, Voiceover on Apple, Narrator on Windows and Voice Assistant on newer Samsung devices) Pass the device around so people can try finding out what is on the screen. When they touch the screen, or when they slide their finger around a screen, the screen will speak aloud what is under their finger. This is called 'explore by touch'.
- Get participants to tell you their reactions.
- Next explain that sliding your finger around the screen is rather haphazard way to use a smart device – as it is easy to miss an item you are looking for – and there is a more systematic method of moving around the screen which will enable you to find everything that is there, without missing anything out. This is done by swiping / flicking one finger from left to right repeatedly to move forward / down the screen one item or line at a time. Swiping / flicking one finger from right to left repeatedly moves you backwards / up the screen one item or line at a time.
- The importance of listening to the screen reader while performing these finger gestures cannot be emphasised enough. What the screen reader announces is where the focus is. Those who try using their sight can often get confused. What they are hearing is always going to be more important than where they are trying to aim their finger! Screen readers work on the assumption that people, using them, are unable to hit any target on the screen!

- The swiping and exploring by touch described above, is simply the way to navigate around the screen to find what you want. Once you have found what you want there is a separate finger gesture used to activate your chosen button or link. Keep swiping or exploring by touch until you find your chosen item or button. Stop immediately you hear the item you want announced – it is crucial that your chosen item is the last thing the screen reader says before you perform the activate gesture!
- To perform the activate gesture double tap on the screen with one finger. There should be a noise to indicate that the screen is changed and the screen reader should announce the heading of the new screen.

If all is going smoothly, you could pass around a device with the number keyboard on the screen. Then everyone could try swiping / flicking to find a number they want; then activate that number to be dialled with a single finger double tap. Each person could dial two or three numbers.

Longer sessions might include showing people how to use the on screen QWERTY keyboard for writing text messages or emails.

Those who are experienced touch typists would benefit from being shown Bluetooth keyboards if you have one in your equipment kit.

Apps Section

(1 hour)

What is an app?

You can use a computer to do many different tasks, sending emails, writing documents, keeping an electronic diary etc. Each of these tasks is done by a programme, which is a collection of instructions that performs a specific task when executed by a computer.

Smart phones and tablets use applications (often shortened to apps) to do the same sort of tasks and though there is a technical difference between a programme and an application, essentially, they do the same thing.

To do a task on a tablet or a smart phone you need a specially written app. For example, there is a calendar app where you can keep information about appointments, Kindle app to look at books and a messages app to read and send text messages.

The growth in the use of smart phones and tablets has been matched by a growth in the availability of apps to use on them. Of the millions of apps that are now available some are specifically designed for blind and partially sighted people, for example TapTapSee, and many other general apps, such as Trainline, have been designed to be fully accessible to blind and partially sighted people. However, unfortunately, there are still many apps that do not work with magnification and / or screen readers.

Applications can be downloaded from the Internet or via Google and Apple's online stores – Google Play and the Apple App Store.

There are apps that are restricted to their own respective platforms, (only for Apple devices or only for Android devices). However, there are others that can be put on both Apple and Android, for example "Be My Eyes".

Some apps are free and others have to be purchased but they are often very affordable.



Suggested session activities are as follows:

The best way to help people understand what applications can do is by your demonstrating several of them.

Top Tip! Be sure to have your device is connected to a Bluetooth speaker so everyone in the room can hear your demonstrations well.

There is a list of apps in Appendix C which will give you some ideas. Be sure to practice before you do any demonstration. This will help you to be confident and reduce the likelihood of anything going wrong on the day. Also check out YouTube as you will usually find a demonstration online, to assist your preparation with any app.

Successful demonstration comes from preparation and rehearsal. You do better at showing other people things when you are comfortable with apps and devices yourself.

Devoting time, before your session starts, to connect devices to the internet, via Wi-Fi in the building or your net card, will save you a lot of potential embarrassment during your session!

Reading is a task that the majority of visually impaired people will be interested in. The following reading apps are popular with many blind and partially sighted people and work well with talkback or voiceover:

- A book ready installed on the Kindle app. (Remember classic literature which is out of copy-write is FREE to download, for example a book by Charles Dickens).

- Use a news app to have an up to date article read out aloud (News-stand on Android or Apple news).
- Another app for those who like real, rather than electronic, voices is Audible Books.
- An app that would help people read mail is Seeing AI. This is on Apple devices only at present.

Be sure to bring a letter for demonstration purposes.

Note: If time is available, you may like to show how this app can help with instructions on food or medicine packaging, as well as tell the difference between similar items e.g. shampoo and conditioner.

- Many visually impaired people get worried that they cannot see bus numbers. To address this issue, demonstrate the UK Bus Checker or Bus Times app (Greater London) or the First Bus app (North England). The advantage of demonstrating these apps is they do not involve typing in information, only navigating lists.

- The Colour ID app is available for Apple and Android devices. However, Apple has a more sophisticated app called Examine Clothes Colour. Try this on a patterned shirt or skirt.
- If there is time, talk about Social media: Facebook or Twitter.
- To find out more about apps that are good for BPS, blind and partially sighted people go to rnib.org.uk/technology or contact the Technology for Life team.



Artificial Intelligence Section (30 minutes)

Digital assistant on smart devices

Did you know there is a digital assistant on most smart phones and tablets?

Digital assistants on smart devices respond to voice commands and questions – as long as the commands, or questions, are made using basic sentences. There are a number of digital assistants available:

- Siri (available on Apple products / operating systems)
- Google Assistant (available on Google, Android and the Apple operating systems)
- Cortana (available on Windows operating systems)
- Standalone digital assistants / smart speakers

One of the popular gadgets in people's homes these days is a standalone digital assistant. Sometimes called a smart speaker, digital assistants such as Google Home, Amazon's Alexa or Apple's Siri, can carry out a range of tasks for you based on your command. Common requests include, 'What's the weather like today?' or, 'Text Mum Happy Birthday.'

Whether you are using a standalone digital assistant or on a smart device you will need to use a wake-up word, or phrase, before you can interact with it.

- Google home requires "Ok Google"
- Amazon Echo needs the name "Alexa" at the beginning of every instruction.
- Siri uses the phrase, 'Hey Siri'.

Top tip! The most important difference between smart phone based digital assistants and standalone devices is that all stand-alone devices **MUST** have an internet connection to operate. Please stress this fact!

It is also important to be aware that to set up a standalone device you will need to use a smart phone or tablet with the appropriate app installed on it.

Suggested session activities are as follows:

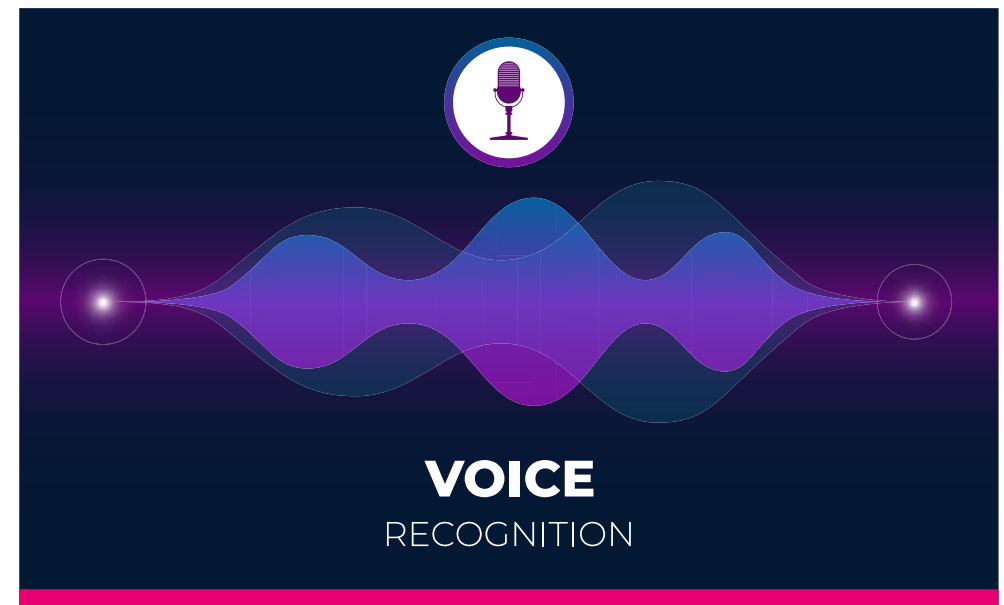
Introduce the group to smart speakers by setting up a device, such as Google Home or Amazon Alexa and trying out asking some questions.

When working with a group, we need to ensure that questions asked of any digital assistant, always contain simple basic language. Be prepared to re phrase a question, for instance change 'what hour is it?' to 'what's the time?'

Using an Amazon Echo device, some other examples you might like to try are:

- Alexa, who is the president of the USA?
- Alexa, what is the capital of Slovenia?
- Alexa, what is £6 in dollars?
- Alexa, set an alarm. (Perhaps you could explain to the group, we will change topic when the alarm goes off.)
- Alexa, tell me a joke.

A digital assistant can also be used to play music, but this will cost extra, for example via a subscription to Amazon Prime. Unless you have a full account with a registered credit card you will not be able to demonstrate internet shopping, but you could still tell the group how this can work.



Computer Accessibility Section

(30 minutes)

Screen Readers

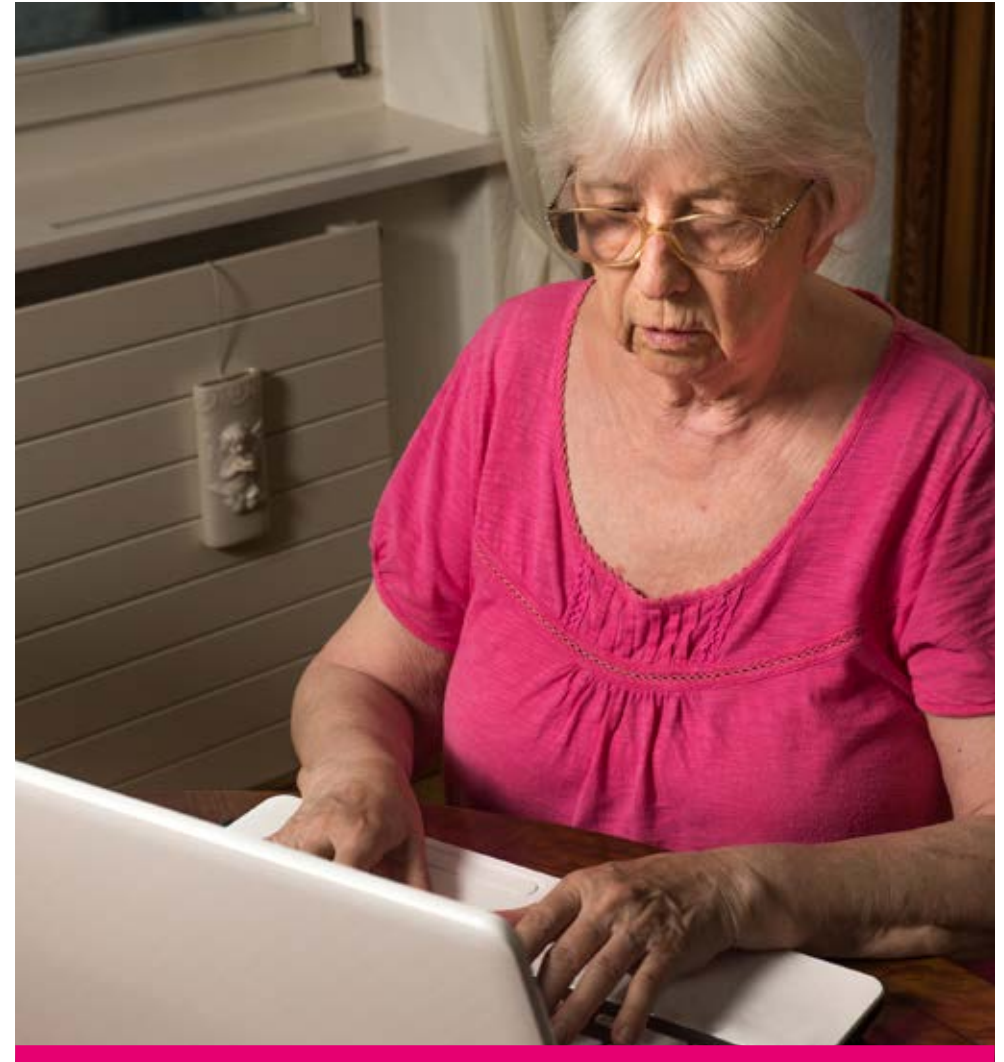
A computer program that reads everything on the screen aloud is called a screen reader.

Modern computers have screen reader's built-in – the Windows screen reader is called Narrator, and Apple's is called Voice Over – but there are also other options available which offer greater functionality.

Below is a list of popular screen reader programmes:

- NVDA (for computers) which is free but has its limitations, for example working on spreadsheets is not possible: **nvaccess.org**
- Jaws Screen Reader (for computers) which currently costs £850. This has more professional features to navigate menus and internet pages. Freedom Scientific: **freedomscientific.com**
- or Sight and Sound: **sightandsound.co.uk**
- Dolphin Guide is a screen reader with a simpler interface aimed at the novice user. It lists what can be done, giving a number to each activity, and then a person makes their choice by entering the number of the item they want. Dolphin: **yourdolphin.com**

Computers and tablets can also be linked to refreshable braille displays but a prior knowledge of braille is required to use these systems.



Magnification

Windows latest operating system has a very good in-built magnifier, with smoother fonts than previous operating systems, but the maximum magnification size is not as great as some magnification programmes available.

So, the answer to the question, "Do you really need to buy a special magnification program?" depends on what strength of magnification you need.

If you do require higher magnification levels (at least x36) there are a range of commercial programs which provide this along with more advanced features and functionality.

These features include:

- Font edge smoothing at nearly all levels.
- Cursor enhancements
- Colour filtering
- Additional Screen colour changes
- Cursor tracking.

Below is a list of common magnification programs:
MAGic (Sight and Sound)

- Supernova (Dolphin)
- Zoomtext (Sight and Sound).

- Trial versions of these programs are available to download or order by telephone, so you can compare them against each other before deciding which one to purchase.

(Free discs can be supplied by their respective distributors for example Dolphin for Supernova and Sight and Sound for Zoomtext or MAGic).



Appendices



Appendix A: Suggested Devices for course leaders

Below is a list of some of the devices / apps which you could demonstrate in your sessions. Which of these devices you use will, of course, depend on the needs of the group members and the length of the session.

- Smartphone (Android and Apple)
- Tablet (Android and Apple)
- Handheld Video magnifier – basic model
- Bluetooth keyboard with large print Keys (Logitech K35. Has MAC keys incorporated and/or EC Technology Bluetooth foldable keyboard)
- Giraffe reader (to be used in conjunction with smart phone)
- Sovereign – boom box
- Synapptic – Installed on an Android phone or tablet
- Alexa – Echo Dot.

Features which you can demonstrate on these devices:

- Zoom / magnification and colour inversion
- Apps (Seeing AI, Train Line, Blind Square or RNIB Navigator).

When dealing with technical questions, you can use the additional handouts in the appendix and / or try AbilityNet, an amazing online resource which provides in depth answers to technical questions:

mcmw.abilitynet.org.uk



Appendix B: Voice commands

Basic Alexa commands:

- Ask for help: "Alexa, help."
- Mute or unmute: "Alexa, mute" or, "Alexa, unmute."
- Stop or pause: "Alexa, stop" or, "Alexa, shut up."
- Change volume: "Alexa, set volume to 5," "Alexa, louder" or, "Alexa, turn up/down the volume."

Media controls:

- Play music: "Alexa, play some music."
- Play Spotify music: "Alexa, play "your playlist name" on Spotify."
- Play a radio station: "Alexa, play [radio station] on TuneIn."
- Play an audio book: "Alexa, play [title] on Audible," "Alexa, read [title]" or, "Alexa, play the book, [title]."
- Resume the last played audio book: "Alexa, resume my book."

Time and date:

- Set an alarm: "Alexa, set an alarm for 7 a.m." or, "Alexa, wake me up at 7 in the morning."

Basic OK Google commands

Searching the internet:

- "Browse [nameofwebsite.com]" when you want to go directly to the website.
- "Go to [name of website]" when you want it to appear in a Google search.

Sports

- "How is [say the name of the team] doing?"
- "Results from [say the name of the team] last game."
- "When is [say the name of the team] next game?"
- "Did [say the name of the team] win the last game?"

Stocks

- "What is [name] stock price?"
- "What is [name] trending at?"

Defining words

- "What is the definition of [say the word]."
- "Define [say the word]."

Appendix C: Applications

If you have a visual impairment a smartphone has the potential to open up your world, enabling you to understand objects, to 'see' colour, to 'read' books, emails and letters, to connect with people and to travel around independently.

Ultimately, a smartphone (with the right apps) can empower an individual with sight loss to get more out of life, to be more independent and to go beyond expectations.

Smartphone Tools

Navigation

RNIB Navigator app – is a simple and accessible door to door GPS navigation app for the iPhone.

GetThere GPS nav for blind – IOS only – is specifically for blind and visually-impaired users.

BlindSquare – IOS only – BlindSquare is the World's Most Popular accessible GPS application developed for the blind and visually impaired. It describes the environment, announces points of interest and street intersections as you travel.

Soundscape app – iOS only – lets users set an audio beacon at their destination and then the application plays 3D spatial audio sound cues to give the user awareness of what is around them. It also connects to global map services to describe places of interest or street names.

Using a smartphone connected to a headset like the Aftershokz Sportz Titanium Headphone (bone conducting headphone), it can help blind people gain a better awareness of their location, while it can also be used in conjunction with other apps, like a GPS map, working in the background.

Seeing/Reading Letters Applications

TapTapSee – is designed to help the blind and visually impaired identify objects they encounter in their daily lives.

Simply double tap the screen to take a photo of anything, at any angle, and hear the app speak the identification back to you (Note: Spoken identification requires Talkback to be turned on).

Magnifier, Magnifying Glass – You can use your smartphone as the perfect digital magnifier.

Be My Eyes – Helping the blind – Lend your eyes to a blind person in need through a live video connection or be assisted by the network of sighted users.

Prizmo – OCR Software – Prizmo could definitely act as your only scanner. But, it really isn't only a scanner, it can be used on anything. If you see a movie poster or an ad that you like, and would like to have documented, just take a picture, and Prizmo will help you with perspective, cropping and everything else.

KNFB Reader – OCR Software. The KNFB Reader app is an essential tool for anyone with low vision, visual impairments, difficulty reading, reading disabilities such as dyslexia, as well as blind individuals.

Seeing AI – A free app that narrates the world around you. Designed for the low vision community, this research project harnesses the power of AI to describe people, text and objects.

Reading Books Applications

Amazon Kindle – The Kindle app puts millions of books at your fingertips. It's the app for every reader, whether you're a book reader, magazine reader, or newspaper reader – and you don't need to own a Kindle to use it. Choose from over four million Kindle books from the Kindle Store or enjoy popular magazines like The Economist and Reader's Digest with high-resolution color images.

Audiobooks from Audible – Home of the world's largest selection of audiobooks, audio shows, and original series.

Overdrive – Borrow eBooks, audiobooks, and streaming video from your library using Overdrive on your Android device. More than 30,000 libraries worldwide offer titles from Overdrive, so download the app and find your next book today!

EasyReader – Created by assistive technology developer Dolphin, the app will allow you to browse and download content from three different RNIB reading services including RNIB Talking Books and RNIB Newsagent. EasyReader is available on both iOS and Android devices.

The app offers a simple interface and access to downloaded content in one place, on a smartphone or tablet. RNIB worked with Dolphin to ensure the app is tailored to readers with a visual impairment or dyslexia.

Leisure and Travel

Games – **Blind Simone**. Blind Simone is not just your ordinary Simone game. It was designed for the blind. The game's audio will verbally tell you what portion of the screen to touch, upper, lower right and left. Even if the exit button is hit by accident by a non-seeing individual the program will verbally tell the user that the app is closing.

Travel Applications

Traveline GB – Journey planning for Great Britain, live bus departures and fully interactive route maps.

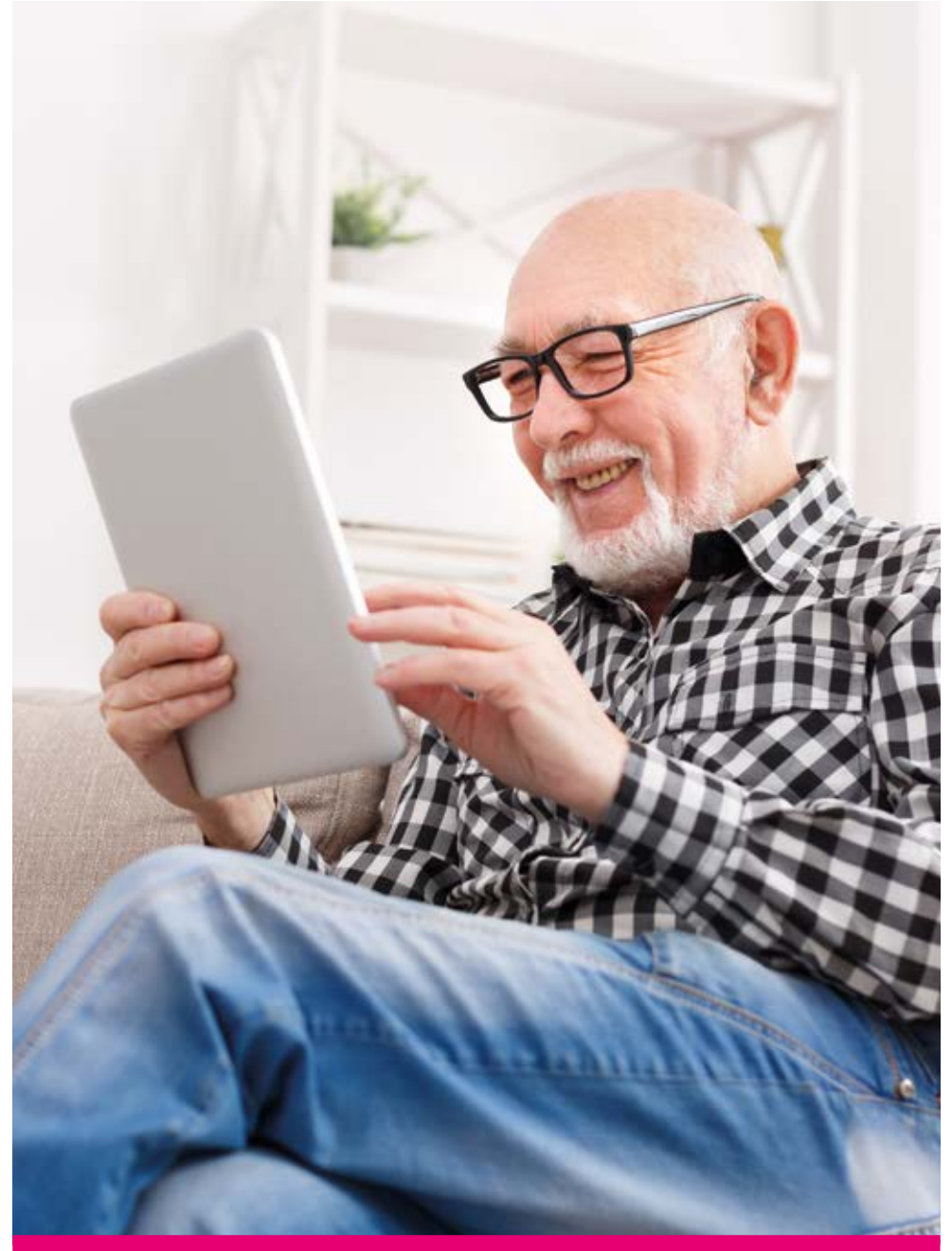
Trainline – UK Times & Tickets Trainline UK is the #1 most downloaded train app and journey planner in Great Britain. Join more than 10 million users and get the most up-to-date national railway information including train times, booking prices and the best travel route for your next trip.



Hardware

Giraffe Reader is a Stand that works only with iPhone models.

The Giraffe Reader is designed so you can erect it eyes-free, first time, straight out of the box, and create an OCR document reader.



Appendix D: Useful Links

Browsing: Webbie is a freeware web browser. It simplifies the browsing experience making it easier for blind and visually-impaired people, especially using screen readers, to browse the web, get the latest news, and listen to podcasts and radio stations and other common tasks.

Video magnifiers and CCTVs: There are several kinds or video magnifier available, including models that can share a monitor with a computer, portable models and units that can focus on distant objects such as signs and notice boards.

Here are some links to a range of models:

uk.optelec.com

visionaid.co.uk

enhancedvision.co.uk

Accessibility Solutions for iPhone and iPad: You can find a variety of hardware and software products (sold separately) that adapt iPhone and iPad for specific needs. Learn more here: apple.com/uk/accessibility/iphone

Accessibility Solutions for Android: You can customise your Android device using accessibility settings and apps. Here is an overview of how: support.google.com/accessibility/android/answer/6006564?hl=en-GB

Windows 10 Ease of Access tab: If you're looking for a high-contrast theme, voice narration or closed captions, you'll find them in the Ease of Access tab in the new Windows 10 Settings menu. But for those of you who are more comfortable with Microsoft's Ease of Access Centre, which offers up recommendations and optimization schemes for different issues, you can still find that in the Control Panel.

My Computer My Way: Help making a range of devices easier to use that covers vision, hearing, motor and cognitive adjustments. Easy to follow instructions that will guide you through each step to take:
mcmw.abilitynet.org.uk

RNIB Technology for Life: Here you can find a useful technology resource hub for access to the latest facts, tips and guides: rnib.org.uk/technology

RNIB Helpline: The RNIB Helpline is the gateway to access all RNIB services. Get in touch with your nearest Technology for Life Coordinator who can provide you with a range of help, factsheets and support. Phone: **0303 123 9999**

Henshaws 24 top apps

Henshaws Society for Blind People (henshaws.org.uk) has pulled together a list of 24 of its favourite free and paid-for apps and organised them in seven categories for: Identification, Reading, Social Networking, Navigation, Entertainment, Shopping and Work.

The list is available as an eBook, PDF and Word document by completing a form on the Henshaws website at the address below:

henshaws.org.uk/ebook-24-best-apps-people-visual-impairment

Henshaws regularly update their list of apps and, once you've signed up, they will send you the latest versions as they become available.



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