

Can everyone use your eBook reader?

Guidance on the accessibility of eBook readers and apps

1. Introduction

eBooks are an increasingly important part of the book industry's output. They have the potential to revolutionise reading for the estimated one in eight of us have a print impairment such as sight loss, dyslexia, or a disability that makes it difficult to hold a book or turn a page. However, this requires eBook readers (mobile devices used primary for reading eBooks) and eBook apps (software applications for reading eBooks on mobile phones, tablets and computers) to be accessible to us. Section 5 below explains some of the alternatives to reading small dark text on a light background, and navigating with a mouse or touch screen.

It takes everyone in the supply chain to make eBooks accessible: here is what you can do to increase your market reach by making your device or software accessible to as many people as possible.

2. What is an accessible eBook reader?

An accessible eBook reader is one that allows people with print impairments to engage with all its functions in a way that suits their individual needs. User needs can differ widely, depending not only on the print impairment, but also on the individual. However, there are many steps you can take to ensure your eBook reader can be used by as many people as possible.

There are a number of key areas to consider when ensuring eBook readers are accessible; from start-up right through to accessing eBook content.

2.1. Download and installation/start-up

Readers with print impairments should be able to purchase eBook readers online or download and install eBook reading apps independently, using their tools of choice.

2.2. Ergonomic design

eBook reading devices should be designed to be comfortable and accessible to accommodate all users, regardless of individual

preferences or abilities. Users should be allowed to maintain a natural body position; repetitive actions should be avoided and sustained physical effort should be minimised. It should be possible to use an eBook reader with one hand (left or right) or via an external device like a keyboard or a switch.

2.3. Menus and interface

Complex interfaces and multilevel navigation cause difficulties for a wide range of users, so unnecessary complexity should be avoided.

2.4. Access to eBook content

In order to access eBook content, most print-impaired readers will need to be able to adapt the way the eBook is displayed (for instance changing the typeface, font size, colour or contrast) and can be read (such as via scrolling, magnification or output as synthetic speech or braille).

2.5 Navigation within an eBook

Many books are written to be read straight through; others are best read in a non-linear fashion. Sometimes you wish to scan through a book of recipes; other times you know exactly what you're looking for. Navigation within an eBook should reflect this and should equally apply regardless of how you access the text.

The following sections do not provide an exhaustive checklist, but should provide a starting point for you to consider how you can make your product or service accessible to more readers.

3. eBook reading apps

3.1 Download, installation and registration

- If you use a website or installation software, it is navigable using the keyboard, the mouse, voice recognition software, screen readers and reading support tools (such as ClaroRead or Read&Write)
- Any website used for registration, purchasing or support of the product conforms to accessibility guidelines such as those of the Web Accessibility Initiative (<http://www.w3.org/WAI/>).

3.2 Menus and interface

- Simple navigation systems that can be accessed with or without sight
- Interfaces that can be operated in a variety of ways e.g. using only the keyboard or only the mouse
- Ability to re-size controls within the app
- Speech feedback via built-in TTS or supported third party assistive tool
- Support for screen readers and reading support tools
- Optional large size menu buttons for readers with visual impairments or poor fine motor skills
- Keystroke shortcuts for all menu items.

3.3 Access to eBook content

- Ability to change typeface and font size, colour and contrast
- Built-in text to speech includes options to adjust speed, gender and language
- Built-in magnification or zoom options
- Support for screen readers and reading support tools
- Optional large size menu buttons for readers with visual impairment or poor fine motor skills
- Keystroke shortcuts for all viewing options and text-to-speech control.

3.4 Navigation within an eBook

(This is the same as for eBook reading devices, given in 4.5 below)

- Hyperlinked table of contents / structure
- Straightforward and consistent page layout and navigation
- Ability to move between eBook content and the table of contents with ease in a variety of ways: for example, using only the keyboard or only the mouse.
- Keyboard shortcuts for all navigation controls
- Consistent keystroke commands, such as using arrow keys to turn pages when the focus is on the page and also using arrow keys to navigate up and down the structure when the focus is on the contents pane.
- Optional large size navigation buttons for readers with visual impairments or poor fine motor skills

- Text to speech is navigable: the reader should be able to navigate through the text (backwards or forwards) at the levels of page, screen, paragraph, sentence, word or character.

4. eBook reading device

4.1 On/off and start-up

- Different audible and haptic cues on power on, power off, sleep on and sleep off
- Minimal number of button presses to start reading
- Accessible manual and quick start guides. If in PDF format, ensure it meets WCAG 2.0 (<http://www.w3.org/TR/WCAG/>)
- Default font size is large
- Option to power on/off with external switch or USB device.

4.2 Physical characteristics

- Adequate sized buttons that contrast to the surround and which feature tactile markers
- Audible and haptic feedback when buttons are pressed
- Dedicated buttons for alternative access such as to adjust font size or to turn on audible menus (i.e. not through a menu system)
- Touch screens have alternative access options
- Memory card slots are placed away from the on/off button, as it can otherwise be too easy to eject the SD card by mistake
- There should be the ability to connect external controls such as a keyboard or switch interface, for example by Bluetooth or USB

4.3 Menus and interface

- Simple navigation systems that can be accessed with or without sight
- Built-in text to speech and magnification options
- A range of access options including external USB devices
- Keystroke shortcuts for external keyboard for all menu items.

4.4 Access to eBook content

- Purchase and download systems do not require PC skills, thus allowing older non-IT literate people and younger people with learning difficulties to access eBooks without needing an IT course and computer
- Ability to change typeface and font size, colour and contrast

- Built-in text to speech including options to adjust speed, gender and language
- Built-in magnification or zoom options
- Personalised content settings stored across titles and menus.
- A range of access options including external USB devices
- Keystroke shortcuts for all viewing options
- Text-to-speech control for external keyboard

4.5 Navigation within an eBook

(This is the same as for eBook reading apps, given in 4.5 above)

- Text to speech is navigable: the reader should be able to move through the text (forward or backward) at the levels of page, screen, paragraph, sentence, word or character
- Straightforward and consistent page layout and navigation
- Ability to move between eBook content and the table of contents with ease in a variety of ways, such as using audible menus or magnification
- Ability to turn pages by different means: such as using a button or slider, and options for left- and right-handed users.
- A range of access options including external USB devices
- Single key keyboard shortcuts with external keyboard for all navigation controls. (Single key shortcuts are needed so that switches can be used)
- Consistent keystroke commands, such as using arrow keys to turn pages when the focus is on the page and also using arrow keys to navigate up and down the structure when the focus is on the contents pane.

5. Alternative ways of reading eBooks

5.1 Text-to-speech

Text-to-speech software programs read digital text out loud by converting it to synthetic speech. Many readers benefit from this software, including people with low vision, who struggle to see the text, and people with dyslexia, who can see the text but have difficulties processing its meaning.

5.2 Screen reader

A screen reader is software that allows users to access the contents of a computer screen and navigate around its structure using

synthetic speech. It not only reads out digital text but also provides navigational and structural information, allowing a reader who has little or no vision to navigate through the different sections of a website, application or document.

5.3 Colour and contrast

The ability to adapt the colour and contrast of screen interfaces can be a huge benefit to people with sight conditions or dyslexia.

5.4 Screen magnification

Screen magnification software can magnify the text, menus and icons on the screen of a computer or mobile device. Many software packages also allow customisation of text and background colours to improve readability and contrast.

5.5 Keyboard access

Someone with low vision or motor difficulties may rely on tactile controls like buttons or a keyboard to navigate software or a device, rather than a mouse or a touch screen.

5.6 Switch access

A switch is an input device which requires simpler motor control than a keyboard or mouse - for example pressure from a knee, inhalation or eye movement - and may thus be useful to someone with physical or cognitive limitations.

6. Facts and figures

6.1. About us

The Right to Read Alliance is a coalition of nineteen organisations who work successfully with publishers, government, libraries and charities to ensure that people with print impairments have access to the same book, at the same time and the same price as everyone else

6.2. Sight loss

- Almost two million people in the UK, and 285 million worldwide, live with sight problems.

- One in five older people have sight loss which affects their day-to-day living.
- In the UK, 100 people a day start to lose their sight.

6.3. Dyslexia

- As many as one in 10 people are dyslexic to varying degrees of severity.
- This includes 1.2 million British school children.

6.4. Books in accessible formats

151,969 new books were published in the UK in 2010. Several charities within the Right to Read Alliance transcribe and produce books in alternative formats, mainly for loan. Between us we have the capacity to transcribe only a small proportion of books published. RNIB, the largest charity, transcribes around 1,000 books a year.

So, if you are a keen reader with a print impairment you have restricted choice, even with specialist provision. With developments in digital publishing and eBook readers, however, it is becoming increasingly possible for publishers to meet that demand directly.

7. Contact us

Pete Osborne, Chair

Right to Read Alliance

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