

## The Best Assistive Technology Tools for Reading

Assistive technology (AT) has revolutionised the reading landscape, especially for those facing challenges due to disabilities or learning differences. The introduction of these technologies has helped to create a more even playing field for those who experience difficulties with reading, allowing them to access information and services in both the online world and real life settings.

Assistive Technology (AT) refers to any device, system, or design used by individuals with disabilities to perform functions that might otherwise be difficult or impossible. It can include hardware, software, and peripherals that assist people with disabilities in accessing computers, information, and other areas of life where they might face challenges.

The primary goal of assistive technology is to enhance the functional independence and quality of life for individuals with disabilities, enabling them to access information, participate in educational, vocational, recreational, and social activities, and perform tasks that they would have difficulty with due to their disability.

There is a wide variety of assistive technologies used to improve a user's ability to read or digest content. Each has its own advantages and specific cases for use. Some of the most popular assistive technologies for reading include:

Text-to-speech (TTS) technology converts written text into spoken words using synthesized voices. This innovative tool has revolutionised the way people access and consume content, especially benefiting those with visual impairments, dyslexia, or other reading challenges. By transforming digital text into audible speech, TTS allows users to listen to content rather than read it, making information more accessible and aiding comprehension.

Screen readers are specialised software applications which transform digital text into synthesized speech, enabling visually impaired and blind individuals to access content displayed on a computer screen. Operating seamlessly with various platforms and applications, they read aloud everything from menu options and hyperlinks to large volumes of text. They can also describe images when provided with appropriate alt text. Beyond just reading content, screen readers allow users to navigate web pages, documents, and other digital interfaces using keyboard shortcuts, which offer an auditory representation of the visual layout. This therefore, makes screen reader accessibility a step above regular text-to-speech tools. Screen readers can also be a beneficial assistive technology for ADHD, as these individuals offer experience concentration difficulties while reading.

Optical Character Recognition, commonly referred to as OCR, is a technology that converts different types of documents, such as scanned paper documents, PDFs, or images captured by a digital camera, into editable and searchable data.

For individuals with visual impairments or those who face difficulties in reading printed material, OCR can be a game-changer. By scanning a book or document, OCR software can transform it into digital text, which can then be read aloud using text-to-speech tools or converted to braille for tactile reading. It makes previously inaccessible materials instantly available and interactive for many readers.

Screen Mask Tools help readers by blocking out or shading parts of the screen, allowing the user to focus on a specific section of text at a time. By reducing visual distractions and improving focus, screen masks can be particularly beneficial for readers with attention difficulties or certain visual processing disorders. They help to streamline the reading process,

making it easier for users to track text and avoid losing their place. This tool is not only beneficial for disabled people, but also benefits elderly people, who generally have poor vision.

Audio books are recorded versions of text, often featuring professional narrators or even celebrity voices. For individuals who have dyslexia, visual impairments, or other reading challenges, audio books provide an alternative way to access content. They allow users to listen to the text, which can enhance comprehension, especially for auditory learners.

Moreover, audio books can be used alongside printed or digital texts, letting readers follow along, thereby improving word recognition and fluency. They are also immensely beneficial for multitaskers who can 'read' while performing other tasks.

However, the most prominent limitation of Audio Books, is that they are not an assistive technology that benefits people with hearing impairments or deafness, for obvious reasons.

There is a wide range of assistive technology (AT) tools available to help individuals who struggle out there. With the appropriate choice of an Assistive Technology device and software, persons with disabilities can lead a more independent life.

Adapted from: "The Best Assistive Technology Tools for Reading" Published By: Michael Halpin, 6<sup>th</sup> November 2023