

Reading the DAISY way

Lynn Leith explains how this international standard can provide 'a better way to read' for those unable to use standard-sized print.

A public library in which 95% of the collection comprised books with their pages glued together would not be much of a library.

DAISY is an internationally recognised accessible multi-media publishing system, compatible with the World Wide Web. This new way of publishing is opening up a much wider choice of reading for individuals who are blind and others who are unable to use standard-sized print.

Loss of the ability to read print impairs a person's ability to access information in a meaningful and useful manner. Braille, although extremely limited in availability, does provide information for individuals who are blind. However, most people lose their vision later in life when learning Braille is difficult or impossible, and many more people are unable to read print for other reasons such as dyslexia or learning difficulties.

For decades, the audio cassette (and before that the vinyl record) was the only way in which the majority of individuals unable to read print could access information. But, for anything other than reading a book from one end to the other, these analogue formats were simply inadequate.

What is DAISY?

DAISY is an acronym for **D**igital **A**ccessible **I**nformation **S**ystem. The original concept for DAISY was born from the need for accessible audio that could be used by individuals unable to read print, as easily and efficiently as a sighted person uses a printed book.

At its inception in the early 1990s, the 'A' in 'DAISY' represented the word 'Audio'. Much has happened since then, taking DAISY far beyond simple digital audio, and making DAISY truly 'a better way to read'.

The DAISY Consortium works closely with the World Wide Web Consortium (W3C), which is the standards-setting body for the Internet,

and other standards organisations. Wherever possible, the DAISY Standard is based on existing standards, including all or part of:

- XHTML or XML
- Synchronised Multimedia Integration Language (SMIL)
- Audio files.

It is SMIL that currently provides the multimedia support for DAISY; SMIL links the elements of the book and ultimately facilitates navigation. It's the glue that holds it all together.

Why not use MP3 format?

Some producers of accessible educational and general reading materials have asserted that audio books in MP3 format are accessible and meet the needs of the people for whom they provide services. However, audio MP3 books do not enable readers to do any more than move from one MP3 audio track to another. If a sighted reader accustomed to reading print were required to use a book 'limited' in this manner, it is fairly certain that the reading experience with this book would be less than satisfactory; in fact, in some cases, it would be extremely limiting.

What makes a DAISY book?

Digital (D)

The combination of digital files that comprise a DAISY book must conform to the recommended and commonly implemented standard, DAISY 2.02 or the more recent DAISY/NISO standard.

Sighted people are able to scan headings at a glance and jump to the text of most interest to them. By contrast listening to an analogue recording was linear and an excessively inefficient way to gain information. A DAISY book enables the reader to move through the book, and to specific points within the book, quickly and easily. This is called 'navigating' a book.

Accessible (A)

DAISY was designed to be accessible, from the bottom up. At a very early point in the development of the DAISY Standard, talking book readers from many countries were consulted about their reading requirements and their vision of a fully accessible audio book. It was clear that analogue recordings did not meet their reading and information needs. Access to points within the books, awkwardness of the cassette medium, sound quality plus numerous other issues made it obvious that producers of talking books had to begin the move to a digital platform. However, a digitally produced talking book in and of itself would not resolve all of the issues, particularly the



DAISY around the world

... so that everyone, regardless of ability to use print, has access to all published materials.

issues of accessibility and navigation from point to point within the book. During the development process it was determined that, for DAISY to be a truly international standard, it must go beyond accessible 'audio' and facilitate the production of multiple accessible formats, including Braille.

Information (I)

'In the Information Age, access to information is a fundamental human right.' — Taken from George Kerscher's presentation to the United Nations, Bangkok 2002.

Between 3% and 5% of printed materials in the world are published in an accessible format each year. A public library in which 95% of the collection comprised books with their pages glued together would not be much of a library. This, however, is equivalent to the reading resources available for those unable to read standard print.

System (SY)

DAISY, because it is accessible and meets the information and reading needs of those who cannot read print, has become an international system based on internationally adopted and implemented standards.



Studying with DAISY learning materials

In short...

DAISY is:

- Accessible for individuals unable to read standard print
- Navigable, providing direct access to specific points such as pages and enabling readers to move from heading to heading, page to page, paragraph to paragraph, phrase to phrase and/or word to word.

A DAISY book comprises a combination of files, including marked-up text and audio. It may be searchable, depending upon the type of DAISY book and the reading system being used. A DAISY book always adheres to the DAISY Standard.

A variety of DAISY books

There are six types of DAISY books as defined and described in the DAISY Structure Guidelines. Of these, four offer improved access and human voice or synthetic speech delivery through links between the digital audio sound files and the marked-up text files. It is these links that give the reader access to the structure of the book; they are the key to a DAISY Digital Talking Book (DTB).

At present, in many instances, libraries providing accessible reading materials for individuals who cannot read print are producing DAISY books that consist of an XHTML file made up of headings and pages, and 'linked' audio files. Some are also producing books that contain the full text component of the original print publication, but this requires considerable additional resources and time in the production process. Such a book, with full marked up text and audio, is the 'richest' DAISY DTB. As technology advances, the opportunities for production and provision of the 'ultimate' DAISY book increase.

The DAISY Consortium is participating in the development and evolution of related standards. Inclusion of video, MathML, and Scalable Vector Graphics is underway. Another project involves the direct production of Braille from a DAISY XML file. As the DAISY Standard becomes more widely adopted and moves into mainstream publishing, this enhanced reading experience, developed originally to provide access to those who cannot read print, will become the new and expected reading experience for everyone.

The print publication

A DAISY DTB should reflect, as closely as possible, the original print publication. This cannot be overstated. The type of book determines in part the amount of structure and the most appropriate type of DAISY DTB. For example, a mass-market novel rarely contains much structure and can generally be enjoyed by a reader with the limited structure present in print. The more complex a print publication is, the more complex the DAISY DTB is likely to be. A print reference book will need to be produced in such a way that the DAISY version affords comparable access to the information it contains.

Is it a book or a multimedia reading experience?

DAISY DTBs provide synchronisation of the following media types:

- Audio: human voice or synthesised speech narration of the printed word
- Text: XML version of the publication's text
- Images
- Video (under development).

Central concepts

Structure

Structure is at least two-dimensional, representing the sequential and hierarchical structure of the publication.

Navigation

How do you use a reference book, a gardening book, a cookery book...? From cover to cover, or do you go to a specific point in the book to read the portion that interests you or provides the information you require? Navigation in a DAISY DTB is defined in two ways:

1. Global navigation is movement to a specific point or portion of a book (for example, a chapter, part or page, or the index).
2. Local navigation is movement within a single text element (such as a list or table) or within a narrow range of text elements (such as a group of words, sentences or paragraphs). It is analogous to skimming a printed book.

Simplicity

All this may seem to be geared to advanced or educational reading requirements but DAISY DTBs and reading systems also suit those who need a very simple way to read. Audio tape books produced for those unable to read print had to be turned over, with controls operated when sides or tracks ended, and there were always several tapes to insert and remove.

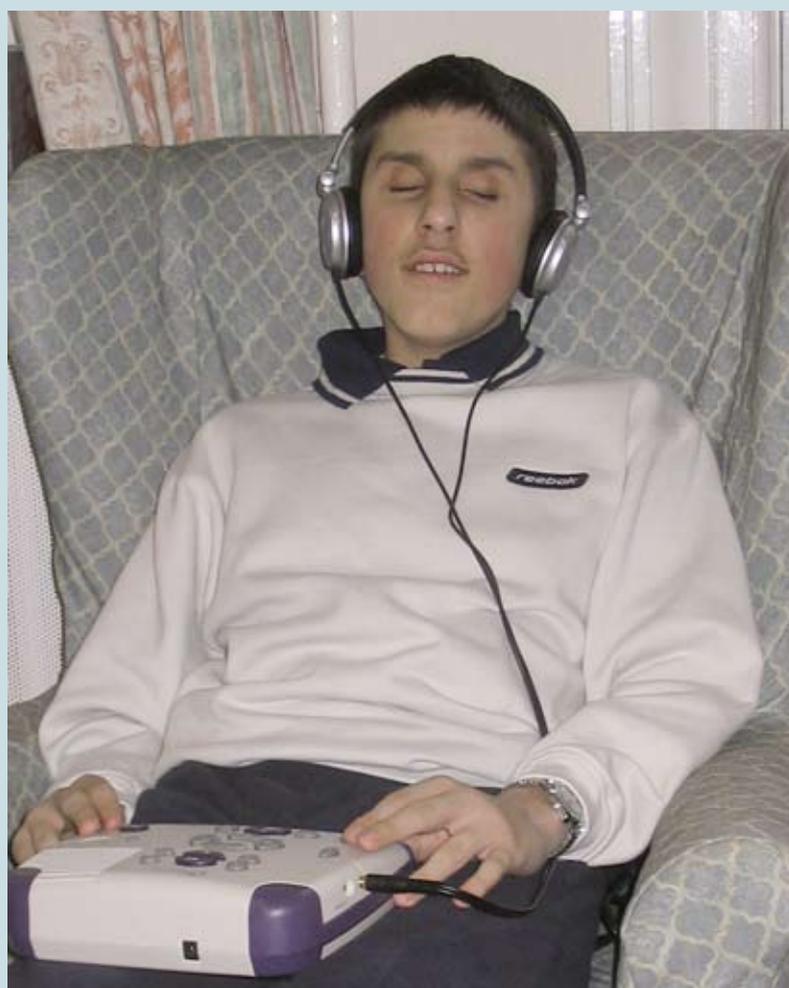
More than 95% of DAISY books fit onto a single CD (the most common distribution medium at present). An older person who has limited technical skills or restricted manual dexterity, can play a DAISY book by pressing one button. That same button will stop the playback. There are no tapes to change or toggle switches to press. Some of the current DAISY reading systems have a 'sleep' function that can be set, so that playback will stop after a set time period. This is useful if the reader falls asleep. All DAISY reading systems retain in memory the last point played, not only in one book but in several.

Reading could not be easier.

Advanced functionality

More advanced functions of DAISY DTBs include bookmarking, word searching, 'go to page' and the ability to speed up and slow down audio playback without distorting the sound. The potential DAISY audience extends to:

- All ages and all purposes:
 - ♦ Pre-school
 - ♦ Elementary and secondary school
 - ♦ Post-secondary
 - ♦ Career, start to finish
 - ♦ Retirement
- Those who cannot use standard print through:
 - ♦ Vision loss
 - ♦ Cognitive disabilities
 - ♦ Physical disabilities that limit one's ability to hold a printed book.



Relaxing with a DAISY book

On an equal playing field

One of the goals of the DAISY Consortium is to move the DAISY Standard into the mainstream so that everyone, regardless of ability to use print, has access to all published materials. As mainstream publishers begin to make their books available in DAISY format, the percentage of accessible reading materials will begin to grow. Information will be accessible. At present, most books in DAISY format are produced by libraries that serve those unable to read print and are available on loan through these libraries. A 'global library', which will provide access to DAISY books produced around the world, is part of the strategic plan of the DAISY Consortium and its members.

Compatible with the World Wide Web, DAISY technology is here to stay. Its adoption across so many countries helps to secure its future. Information about DAISY DTBs, the DAISY Standard and DAISY reading systems is available at the DAISY website (www.daisy.org). 

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