

Title: **Universal Access using Daisy Reader Software**

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 Software: Daisy Reader Software
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1. Introduction

Digital Accessible Information System, or **DAISY**, is a standard based on XML, which is a simple subset of W3C defined SGML. Using this framework, 'a talking book format is presented with enabled navigation within a sequential and hierarchical structure consisting of (marked-up) text synchronized with audio. DAISY assists people who for different reasons have problems using regular printed media'.

DAISY books have the benefits of regular audio books, but they are superior due to the embedded navigation levels (currently six in the DAISY 2.02 standard), the content (i.e. other objects such as images, graphics) and displaying synchronized text to speech. DAISY books can enable users who are blind to navigate an encyclopaedia. An encyclopaedia as a regular audio book would be useless because it lacks search and navigation features and requires a linear listen.

DAISY is for everyone who needs accessible information and for everyone who loves to read.



DAISY Multimedia can be:

- ❖ A talking book or computerised text,
- ❖ A synchronised presentation of text and audio produced according to the DAISY Standards.

While reading a DAISY book, a reader can go to the next or previous page, chapter or sentence. These books can be distributed on a CD or DVD, a memory card or through the Internet. DAISY books can be listened to on standalone DAISY players, computers using

DAISY playback software such as AMIS, mobile phones, and MP3 players – (albeit with limited navigation functionality).

A computerized text DAISY book can be read using refreshable Braille display or screen reading software, printed as Braille book on paper, converted to a talking book using synthesised voice or a human narration, and also printed on paper as large print book. In addition, it can be read as large print text on computer screen.

[Source: http://en.wikipedia.org/wiki/DAISY_Digital_Talking_Book]

What is DAISY?

- DAISY is a way of preparing an audio book, usually on CD, that allows the reader many more options than those available with any of the previous cassette or audio CD books.
- A body of experts responding to suggestions from blind or vision-impaired readers from around the world developed DAISY in 1995.
- The DAISY format gives people who are blind and vision impaired an improved way to read a book.
- The International DAISY Consortium includes many major organisations and corporations who have recognized the superiority of this standard.
- DAISY is a format designed specifically for people who cannot read print due to a print disability.
- It now caters to a much broader range of potential users in education and the wider community.
- Libraries for the blind around the world are producing DAISY books now - around 125,000 DAISY books have *already* been produced.



Vision loss negatively impacts a person's ability to access information in a meaningful and useful manner. Reading, access to information and learning are an ongoing part of life. Without these, a person is severely restricted in education, career and lifelong, daily learning. DAISY was designed to alleviate and avoid restrictions that often present in accessing text in other formats. The DAISY System is transforming the reading and learning experiences of people who have a print disability in over 50 countries around the world.

DAISY is a very flexible and expansive format with numerous benefits to a wide range of users, not only to blind and vision impaired people. It is quickly becoming a standard format that will enable struggling readers, students with learning difficulties and others to access text in a faster, more organised, more powerful and elegant manner.

2. Background to DAISY – a DTP Book

A traditional talking book is an *analog* representation of a print publication. A *Digital Talking Book* (DTB) is a multimedia representation of a print publication. In both instances, the rendering of the audio is in human voice.



At a very early point in the development of the DAISY standard, talking book readers from many countries were consulted regarding their reading requirements and their vision of a fully accessible audio book. Those who provided input made it very clear that analog recordings did not meet their reading and information needs. Access to points within the books, awkwardness of the medium itself, sound quality plus numerous other issues indicated that producers of talking books had to begin the move to a digital platform.

However, a digitally produced human voice talking book in itself would not resolve all of the issues, particularly the issues of accessibility and navigation from point to point within the book. DAISY DTBs do meet talking book reader requirements by providing access to the talking book that has never before been possible with a human voice production of a print book.

The three basic types of DAISY publications are:

- ❖ Audio with NCX: DTB with structure. The NCX is the Navigation Control Centre, a file containing all points in the book to which the user may navigate. The XML textual content file, if present, contains the structure of the book and may contain links to features such as narrated footnotes, etc. Some DTBs of this type may also contain additional textual components, for example, index or glossary, supporting keyword searching.
- ❖ Audio and full text: DTB with structure and complete text and audio. This form of a DTB is the most complete and provides the richest, multimedia reading experience and the greatest level of access. The XML textual content file contains the structure and the full text of the book. The audio and the text are synchronized.
- ❖ Text and no audio: DTB without audio. The XML textual content file contains the structure and full text of the book. There are no audio files. This type of DAISY DTB may, for example, be rendered with synthetic speech or with a refreshable braille display. [Source: http://www.daisy.org/about_us/dtbooks.shtml]

3. Benefits of DAISY

DAISY books offer numerous advantages over books on tape and commercial books on CD:

- ❖ DAISY books give people who are blind or print-disabled an improved way to read. With links between text and narration, DAISY books allow a reader to go to directly to specific sections, chapters or pages, and place multiple bookmarks. This ability to easily move around the book is not available with books on tape or CD.



- ❖ When a user finishes reading, a digital playback device will "remember" where the text is stopped, and resume play at that same place when the user starts to read again.
- ❖ DAISY books have better sound quality when compared to books on tape. The digital recording eliminates the traditional hiss and background noise found on cassette, especially books that have been played many times. This is important to readers who may have some hearing impairment.
- ❖ An entire DAISY book can be contained on one CD, whereas books on tape span multiple cassettes (and commercial books on CD span multiple CDs). One CD eliminates the frustration of sorting multiple tapes for low vision readers and prevents the hassle of missing or damaged parts of a book.
- ❖ Up to 50 hours of audio may be contained on one DAISY CD - the equivalent of more than 30 standard cassettes.

In order to provide these features, DAISY books require a special digital playback device (similar to a portable CD player) or software program. However, many digital playback devices also play standard audio books and music on CDs, and MP3 files. The digital playback devices gives prompts and describes the function of each button so there is no need to remember too many instructions.

[Source: <http://www.visionaustralia.org.au/info.aspx?page=594#what>]

4. Commercial and Free Software that provide Daisy Book Access

a. Commercial OCR Software:

Dolphin Publisher

<http://www.yourdolphin.com/productdetail.asp?id=12>

Anyone creating alternative formats to print, including: publishers, transcription services, colleges, employers, trainers or anyone attempting to publish information in compliance with disability acts.

Key Benefits:

- Allows users to create a DAISY digital talking book in minutes.
- Create talking books with fully synchronised text and audio.
- Use human recorded audio, synthetic speech or record audio directly into Dolphin Publisher for use in talking books
- Import HTML or MS Word documents or type text directly into Dolphin Publisher.
- Includes HTML editing facility for simple corrections to be made within Dolphin Publisher.
- Includes copyright tools for publishers to protect content from unauthorised copying or playback.

Book Wizard Reader

www.aph.org/tech/bwr_info.htm

The Book Wizard Reader software reads Digital Talking Books. Supports all Digital Talking Book formats including Daisy 2 books and Daisy 3 books.

PRS Pro

www.plextalk.com/in/prs-pro_top.html

PLEXTALK Recording Software Pro (PRS Pro) is a DAISY2.02 production tool, which can import DAISY2.0 content for editing or upgrading. Three functions are included in one package (Recording/Editing/CD-R Writing). *Note: PRS Pro can only produce DAISY books that are structured audio and it does not have the capability of producing full text DAISY books.*

READ:OUTLOUD

www.donjohnston.com/products/read_outloud/

Read:OutLoud is an accessible text reader that provides below-grade level readers access to the general curriculum. Since 92% of students with IEPs are reading below proficient levels, a widespread solution is necessary. Up until now, it has been cost-prohibitive to provide technology to every student with an IEP. It can read NIMAS (instantly converts "on the fly"); PDF; Rich Text Format (RTF); Text Files (TXT); XML; HTML; DAISY and Web Browser.

b. DAISY players

ezDaisy

www.telex.com/Talkingbook/Product.aspx?MarketID=13&CategoryID=32&ProductID=104

The ezDaisy is portable and easy to operate with basic functions that make reading accessible for all. The ezDaisy digital talking book player plays Daisy, Niso, MP3 and CDs.

PlexTalk PTR2 Recorder http://www.plextalk.com/in/ptr2_top.html

PTR2 is designed to be a high quality recorder with the ability to create DAISY 2.02, audio only, books and Music CDs. It can play DAISY titles, music CDs and audio file CDs and CF cards. It can be used as a CD-RW or memory card drive when connected to a computer. For quicker and easier editing of your DAISY content, the *PTR2* is supplied with the *PlexTalk* Recording Software (PRS). This package provides users with all the necessary tools to record, edit and finalise users own audio-only DAISY 2.02 books. The *PTR2* can be operated in 2 main modes called "Normal" mode and "Book Creator" mode. Users can switch between these 2 modes at any time. Also supports languages including Danish, Dutch, French, German and Swedish.

*PTN1*

www.plextalk.com/in/ptn1_top.html

The model *PTN1* CD player from *PlexTalk* is a way for students to enjoy their favourite audio titles including: Daisy Digital Talking Books, music CD's, MP3 CD's or audio books on CD. The *PTN1* is attractive yet rugged and is designed to provide reliable service. With easy, completely accessible controls and a high quality built in speaker, the *PTN1* can be operated and enjoyed by virtually any student. The *PTN1* includes a host of special features to assist the visually impaired user such as a navigational voice guide, speed and pitch controls, and page/time jump functions.

Victor Reader Classic Plus - www.humanware.com/en-australia/products/learning_disabilities/details/id_109/victor_reader_classicx.html

- "Go to page" function, to jump to any specific page instantly
- Easy CD insertion/removal - also plays audio and MP3 CDs
- Play speed with pitch compensation with highly intelligible variable play speed
- Supports all DAISY navigation levels Navigate easily by chapter, section, page, paragraph
- Key Describer Function Speaks functions of each key
- Dedicated Sleep button, power light indicator and audio announcement of battery capacity
- Digital Sound Quality Use the high-quality built-in speaker or your earphone set
- Compact, portable and sturdy and uses rechargeable batteries and built-in carrying handle

Victor Reader Streak - www.humanware.com/en-australia/products/learning_disabilities/details/id_108/victor_reader_stream.html

This versatile, powerful DAISY-MP3 and NISO player lets users read and navigate through complex books, including reference manuals and school books, as well as novels and magazines. Students can also use its built in text to speech to read books in text format such as Bookshare. There are many more functions, including an integrated microphone to record voice notes. It is small, discreet and very portable.

c. DAISY Reader Freeware*AMIS*

<http://daisy.org/projects/amis/> - a free DAISY reader application

AMIS stands for Adaptive Multimedia Information System. *AMIS* is a software program that students can use to read DAISY books. It is self-voicing, meaning that no specialized screen-reading software is needed in order for it to be used by visually impaired people. *AMIS* is open source software and is provided free of charge. *AMIS* works well with several major screen reading software packages:

- *Jaws* for Windows scripts are included with the installer
- *Window Eyes*
- *Hal* and *Supernova*

Plugin for MS Word

http://sourceforge.net/project/platformdownload.php?group_id=208610 (30 Mb file)

The "Save as DAISY XML" add-in was created through an open source project with *Microsoft*, *Sonata Software Ltd.* and the *Digital Accessible Information System* (DAISY) Consortium and can be downloaded freely on *Sourceforge*.

Dorina DAISY Reader V1.0 (DDR)

<http://www.daisy.org/tools/tools.shtml?id=118>

This DAISY 3 reading software developed by the Dorina Nowill Foundation for the Blind in Brazil is free to use and share. The DDR DAISY reading software can be downloaded in 3 different language versions: English, Spanish and Portuguese. DDR is designed as an add-on to the Firefox browser and is available from the Firefox add-on site.

Read:Outloud Bookshare Edition http://www.donjohnston.com/products/rol_bookshare/index.html

In 2009, students who qualify under the [Chafee](#) copyright exemption amendment will use Don Johnston's Read:OutLoud Bookshare Edition text reader to access thousands of electronic books, educational materials and resources in [NIMAS](#) and DAISY from the Bookshare website. The program's goal is to eliminate barriers for students with reading disabilities and to provide the necessary tools to ensure access to the general curriculum, materials and textbooks.

DTBmaker <http://w3.wmcnet.org/daisymaker/> (for MAC OSX)

DTBmaker version 2.6 is a new version of DTBmaker for MAC OSX. This single application will produce all three Daisy formats (Daisy 2.02, Daisy/NISO 2002 and Daisy/NISO 2005). This version supports a simple method of making a digital talking book from a collection of audio files, support for pictures in books, and greater support for NIMAS files. It also supports both Cepstral and Apple Speech Manager voices as well as production of books from pre-recorded content.

Iduna DAISY Reader <http://sourceforge.net/projects/idair>

NOTE: For a complete list of software playback tools, refer to the DAISY Consortium web site at: <http://www.daisy.org/tools/tools.shtml?Cat=splayback>.

5. Benefits to Students

- Students are able to move from page to page, place a bookmark if there's a passage they want to go back to, and at the end of the reading session, the player will "remember" where the student has stopped - even if he or she hasn't read other books in the interim.
- With the ability to place multiple bookmarks and move around quickly, students will find DAISY ideal for locating material quickly when studying.
- DAISY navigation is handy for finding the articles students particularly want to read in magazines and skipping to sections they want in reference books such as cookbooks or how-to manuals.
- The DAISY structuring allows essays to be completed to academic standards with footnote details and bibliography made possible.
- Some digital playback devices are available that have the ability to record voice, narration, additional comments etc, which is useful for recording lectures.
- Students will no longer need to count the tones as they fast-forward to find a particular page. Instead they will be able to simply and quickly locate it at the touch of a button.

6. In Conclusion

It seems that the two most likely standards for re-versioning and publishing text and books will soon be in *MS Word* and *DAISY* formats. DAISY can be reformatted quickly into all other formats including plain text, HTML, Braille, large print and Word. DAISY has so many benefits in accessing text due to very powerful and flexible navigation. The TTS aspect and quality of voice has recently been resolved due to advances in sound quality in TTS technologies.

Vision Australia is pioneering the introduction and promotion of DAISY books in schools and in the general community. Their recent initiatives will result in greater acceptance and use of DAISY as a leading alternate format for students and education from primary through to tertiary levels. Programs that have DAISY reader capability built-in include *textHELP Read & Write V9* and *Wynn V5.1*.

Resources:

A useful video is available on YouTube - <http://www.youtube.com/watch?v=HZicWnCfHlw> that clearly shows a user accessing a physical daisy reader device. Other videos are also available concerning DAISY. Some pertinent FAQs concerning DAISY can be located at <http://www.visionaustralia.org.au/info.aspx?page=687>. A very comprehensive web site with information on *Digital Talking Books*, including the DAISY format can be located at <http://www.hicom.net/~oedipus/books/dtb.html>. DAISY books are available at <http://www.bookshare.org/>. An older article worth reading is: www.nla.gov.au/initiatives/meetings/disabilities/daisy.html.