

## Information Access: forging new paths

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**Abstract:**

*Vision Australia (VA) has a bold new plan of making 100% of information available to its clients in accessible formats. Vision Australia Information Library Service has introduced a number of revolutionary new services, making current news and information available to people who have a print disability. Emphasis is on multiple access methods and format choices for clients using technology that maximises client choice. These services are being developed as part of a five year plan called the i-access program at an estimated cost of \$30 million dollars over five years.*

## Introduction

Vision Australia (VA) has a bold new plan of making 100% of information available to its clients in accessible formats. We believe this to be a goal worth pursuing. The plan is embodied in the i-access program – a suite of projects being implemented by Vision Australia.

Only 3% of all published information is available in alternative formats. Blind and vision-impaired people say that the biggest barrier to greater independent participation in society is a lack of accessible information. Vision Australia can implement an information access solution for all clients that will exponentially increase the amount of information available to clients. This solution will provide clients with a personalised choice of information formats and delivery mechanisms.

The most significant benefit of the i-access program is the platform it provides to support the Information Access Service for use by our clients.

Vision Australia Information Library Service (VAILS) has introduced a number of revolutionary new services, making current news and information available to people who are blind or have low vision, to those unable to hold or manipulate books, or to focus or move their eyes, and to those with a perceptual disability. This grouping is generally described as “print disabled” rather than vision impaired. Emphasis is on multiple access methods and format choices for clients.

The model we are developing dovetails into existing information systems and will be of relevance to a significant and growing client base that is shared by all Australian public libraries. The ‘print disabled’ eligibility criteria outlined above, also applies to many home library users throughout Australia. They are also eligible to join the VAILS service. The accessible technology that is freely available could be a valuable adjunct or support to a public library’s relationship with a member in the local community.

These services are being developed as part of a five-year plan called the ‘i-access’ program, at an estimated cost of \$30 million dollars. This paper will outline a number of projects within the program that support the VA goal of making information accessible and usable. The component projects cover; developing a collection in a digital format known as DAISY (Digital Accessible Information SYstem), IT infrastructure and mass storage systems, delivery mechanisms, playback devices for library clients, burn-on-demand production systems and a client telephone interface.

We believe Vision Australia clients should be able to access content from a wide variety of providers and across a wide spectrum of information sources. The solutions we are implementing will see Vision Australia as a significant gateway to information, one of many possible providers of information within the public library community, helping our clients to become more independent.

The public library community also participates in the process of making information more accessible through the types of collections and formats that are available to the wider community. This paper outlines a number of steps towards a profound improvement in the way technology is being used to make information accessible to a community that is recognised as information poor. Libraries also participate, individually

and together, by purchasing online databases that are accessible. Is this enough? There is always more work to be done in making many online sites more accessible, whether it is due to technical coding issues, or just confusing layout and design. Having a good understanding of the available opportunities is something we can all do together.

## **Context**

### **Vision Australia**

Vision Australia is a living partnership between people who are blind, sighted or have low vision. We are united by our passion that in the future people who are blind or have low vision will have access to and fully participate in every part of life they choose.

Vision Australia's i-access program is a tangible demonstration of this vision and reflects the transition of the current analogue talking book library, the Vision Australia Information Library Service (VAILS), into a fully digitised Information Access Service.

Vision Australia receives approximately 70% of all funding from individual donations. A fundraising campaign is under way, and it is hoped that the generosity of donors continues to support the development of 21<sup>st</sup> Century services to clients and to make the vision a reality. The Victorian State Government contributed \$750,000 to assist the program through the offices of the Community Services Minister, Gavin Jennings, in July 2007.

Our wide array of services is designed to meet the needs that will present themselves over the course of a lifetime – beginning with children's services and ranging to employment, independent living, information, recreation, equipment and a range of other vital services.

### **Vision Australia Information Library Service (VAILS)**

The Information Library Service is a flagship service of Vision Australia. The Service provides information and reading materials in accessible formats for people with a print disability. Most Australian public libraries have print-disabled members as one of a range of client groups that comprise their client base. For VAILS, this group is our only focus. Any developments in service provision to this group will widen the service models available in the library field, and will have potential implications for service provision at a local level.

A wide range of print alternative books and magazines is available free for loan, through postal delivery, to members across Australia. Material is available in a variety of formats including audiotapes, CD's, DAISY CD's, Braille and audio-described videos. The library also provides audio magazines on cassette and DAISY CDs. Local newspapers are produced on cassette through a wide reaching volunteer service in Victoria. National daily news, some magazines and the full library catalogue are also available via the telephone. VAILS launched a web based newspaper subscription service of 15 daily national newspapers to all registered library members in the first phase of the 'News On The Go' trial (NOTG) near the end of 2006. NOTG users access the content with a Book Port, a small portable digital device supplied by the library.

VAALS is the only library in the world providing a range of playback devices to all clients free of charge.

The average number of loans per annum by a client is approximately 62, including books and magazines. Over 8,000 online periodicals are also available via a consortial arrangement with other Victorian public libraries (Gulliver). Covering a wide range of academic and professional publications as well as magazines, these can be accessed via the VAALS web page. The new services will tap into this existing information stream in the public library network by making the content available in a more portable and flexible manner to our clients. Other library or information services include a reference service to clients and staff of Vision Australia, a member liaison telephone service and restricted personal support services for the production of alternative format information. A large amount of work is also produced for primary, secondary and tertiary student members who belong to registered educational institutions, on a fee for service basis.

### **About our Clients**

We currently provide library services to approximately 16,000 clients across Australia from two locations that supply specialised alternative format information in Braille, Audio, e-text and Large Print. The library holds approximately 25,000 titles that cover a broad range of subjects and caters to adults, teenagers and children.

Client demographics indicate that 70% of our clients are over the age of 70 years and that the balance is mainly adults over the age of 35. The number of children and young adults using the service is quite low. The living arrangements for these age groups can be quite varied ranging from independent living to living with families or to living in supported accommodation. Some clients are home-bound or find it difficult to be mobile. In fact, of the total client base, 44% live alone or in supported care. It would be expected that those who live alone are less likely to have support, particularly for online service and are more likely to be financially disadvantaged.

The importance of the older demographic is that these clients are likely to be long-term clients who have social needs that the library fulfils over and above the loan of a book. For this client group the relationship established with the library is critical to their well being. The exchange of a physical item is affirmation of care and support. 69% of our clients are female; it is likely that a large number of these are widows living alone. According to internal research conducted in 2007, over 70% of the client base stated that they prefer to receive their loans on physical media. This group is also less likely to have access to, or the means to afford, online services.

Levels of education, employment and income of our members are well below the average for the Australian population. Of the total client base, 82% are retired or pensioners and a further 7% are on unemployment or disability pensions. Only 3% are reported as being employed full time. A significant percentage of our clients have an annual income below \$20,000.

While clients come from all over Australia, they are predominantly from New South Wales and Victoria. Client numbers in Queensland, Tasmania and the ACT are relatively small in comparison. Library services are provided in South Australia and Western Australia under contract. We have recently opened an office in Darwin to

expand our service, particularly to include the indigenous community. Many clients are in regional and country areas.

Annual internal surveys of clients continue to show that the number of clients using computers and with Internet access is very low. Our surveys have shown that around 20% of clients use computers, and that this has remained static for more than three years. Only 1% of clients indicated an intention to purchase a computer in the twelve months following the survey, indicating a barrier to further up take. The Vision Australia Information Library Service Digital Club has approximately 300 members. This is a low uptake of current digital services in relation to our total client base.

OECD data from December 2006 for Broadband Internet connections indicate that less than 20% of households are connected to broadband Internet (<http://www.oecd.org/sti/ict/broadband>). Due to our older client base, it is likely that the percentage of clients using broadband would be significantly less. The uptake of online services will be low in the first twelve months, somewhere between 250 and 300 clients. This will grow as more content becomes available. The online service will eventually grow to become the service of the future, but this will take at least ten years to become the predominant model.

The uptake of Vision Australia supplied DAISY CD players by clients has been high and this is expected to continue as the collection grows. This is due to the fact that a DAISY player will be required to play the DAISY formatted content provided by the library and that many clients are not likely to be able to fund devices independently.

### **Drivers for Change**

It was recognised by the organisation that the strategic path for VAILS lay in the continuation, modernisation and extension of library services. This would then ensure a continued service capability that would provide clients with information pathways concerning recreation, employment and education.

In September 2005, the Vision Australia Board approved the i-access program, clearing the way for the organisation to proceed with the implementation of the five-year i-access program. Key to this program is the transition away from the library's aging cassette-based analogue talking book collections and production systems to the DAISY digital format. DAISY is the globally-recognised standard for digital talking books. It is a standard that structures audio content to allow vision-impaired and other users to conveniently navigate the content.

It is a critical priority of our service that Vision Australia supplied devices do not lock the client into sourcing information only from Vision Australia, but that our clients are given as much open access to information as the technology will allow. The client can use the devices to gain the full benefits of the DAISY format and VAILS service, but they can also use the same device to access a range of other formats independently. For example, DAISY CD players can play material from a variety of sources, such as, commercial audio CDs, MP3s, music or talking books borrowed from the local library or purchased from a retailer, etc.

A client using a handheld online device such as the BookPort™ can download content from mainstream sources, such as Audible.com, and any text based information

service. This device can read up to 14 different file types and uses a Text To Speech converter (TTS) to provide an audio rendition of the file contents. It can play music and audio files, it can be used to read web pages, Braille files, it can provide full navigation of a DAISY book, and it can read most text documents. As a result, clients can use this device to access information completely independently of the library service, and they can use it to carry and access those files anywhere. The device is slightly larger than a mobile phone and very portable. Clients also use the personal voice recorder in the unit to record notes or phone numbers; they also use the alarm clock, and other features the unit has to offer.

Devices that are easy to use and are so flexible will more easily fit into a person's lifestyle and avoids the need to have multiple devices to perform specialised functions. People prefer convergent technology that minimises the number of devices required.

The range of devices supplied is also commercially available.

### **Content**

Digitisation of an analogue collection is seen as safeguarding the library's most significant asset and 'future proofing' the collection, as the digital format allows for an easy migration path as new media formats and delivery systems become available.

### **Accessible Information**

Vision Australia is committed to looking at ways of increasing the percentage of published material being made available to the blind and vision impaired. The i-access program will deliver an open, online service to deliver books, newspapers, magazines and other text-based content to a remote handheld device, and will substantially assist us to achieve our goal.

### **21<sup>st</sup> Century Library Services**

We need to continue running a parallel physical inventory service model with a shelved physical collection until the close of 2009. It may be possible to implement a fully on-demand online model in the future, depending on delivery systems and infrastructure development. However, in the first five years, the physical model will be the dominant one, but over time, more clients will shift to an online service. It is essential to understand that multiple parallel models will need to be running at any one time. This is a reality that is a part of our present and future.

### **Copyright and Digital Rights Management**

While the primary focus of this paper is the technical and delivery systems being developed to increase the amount of accessible information to the print disabled community, a brief comment on the legal framework is appropriate.

Copyright and DRM (Digital Rights Management) requirements for the print disability sector vary throughout the world from very flexible to very strict conditions. In Denmark, Danish National Library for the Blind (DBB) is recognised in law statutes and has legal rights to format shift to meet the needs of the community it serves, without seeking approvals from publishers.

Some legal limitations do apply to Vision Australia. We adhere to our legal obligations where they exist; for example Vision Australia controls the number of simultaneously

existing copies within the physical collection where the publisher requires us to do so. Copy numbers for titles in circulation are controlled within the managed library environment. Titles for download are specifically selected with no particular restriction. Future dynamic creation of physical inventory, for example using a “burn on demand” capability, will be restricted by library business rules if no legal restriction applies. Library management systems can provide the necessary loan or transmission data to verify compliance.

Together with the blindness community, we are making representations to national government to develop more equitable conditions in recognition of the difficulties the blindness and print impaired communities face in accessing information.

## **Why DAISY?**

DAISY books enable people who are print disabled to browse through the book, using the table of contents and index in much the same way as a sighted reader.

Around the world, DAISY is transforming the reading and learning experiences of people who have a print disability. DAISY is the international standard adopted in 53 countries, including the libraries provided by blindness agencies in Denmark, the UK, the US, Canada, Japan, Singapore and New Zealand. The global library initiative involving these agencies could mean that the catalogues and information services of all these libraries may be shared in the future, and that audio production schedules could be managed centrally.

DAISY is an international recognised standard. The ANSI/NISO Z39.86-2005 Standard is the official name of DAISY/NISO Standard. More information is available at <http://www.daisy.org/>

## **Advantages of DAISY technology**

DAISY technology offers a range of features to both the producer and the end-user that make it a preferred medium of choice.

DAISY books offer numerous advantages over books on tape and commercial books on CD and cassette. DAISY content is compact and portable, fitting on a single CD. One CD eliminates the frustration of sorting multiple volumes 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.

The DAISY book structure effectively recreates the print version, and allows readers to browse an index or table of contents page. It is practical and user friendly. Previous audio books were very linear, requiring a tape be fast-forwarded or rewound. DAISY books allow a reader to go directly to specific sections, chapters or pages, and to place bookmarks. This ability to move around the book is not available with books on tape or CD, and is seen as one of the ways our clients can really ‘navigate’ around a book, liberating their reading proclivities. Our clients (particularly readers who may have a hearing impairment) also prefer the improved sound quality and no more chewed, worn out, unravelled or damaged tapes.

At the May 2007 DAISY Consortium meeting in Melbourne, the president of the DAISY Consortium Board, Elsebeth Tank of The Danish National Library for the Blind,

described other groups who also benefit from the DAISY technology, including young students with mild forms of autism and learning disabilities. Ms Tank indicated that the technology had made it easier for many beyond the immediate print disability sector to enjoy reading and to help with learning and education.

One of the powerful things about DAISY is that anyone can create and share DAISY books easily. Software available today allows the creation of a DAISY book using a standard PC. Text files can be converted into audio with new, high quality digital voices and marked up to create a navigable book. The files can be burned to CD or emailed to the recipient who can access the contents with an inexpensive PC program. Portable devices can be used to record human narration and fully structure DAISY books in the field.

In conjunction with the DAISY Consortium, Microsoft has announced that the next version of MS Word, due in early 2008, will include an option to save a file as a DTBook. This DTBook file is a DAISY source file, from which a DAISY book can be created. (An old but excellent article on "Theory Behind the DTbook DTD" provides a valuable background on the Data Type Definition file and can be found at [http://www.daisy.org/publications/docs/theory\\_dtbook/theory\\_dtbook.html](http://www.daisy.org/publications/docs/theory_dtbook/theory_dtbook.html))

## **DAISY Players**

DAISY players include hardware CD players and recorders, handheld devices that can access DAISY files via an internal hard drive, and software versions are available for MAC and PC. DAISY books are easy to create.

DAISY CD Players are accessible and user friendly. They give prompts and describe the function of each button so there is no need to remember many instructions. From the producer's perspective, the easy-to-use software programs make the production of DAISY books a relatively simple process, not requiring any specialised hardware. There is also an increasing awareness of the benefits of this technology in dealing with the special learning needs of children in a school setting. DAISY production software can speed up format shifting and lower costs for schools in supporting children with special needs.

Bookmarks can be inserted for readers to return to at a later date. Audio features, such as "Where am I?" tell you where you are in the book. When you take a break in reading, the player will remember where you stopped, and will resume playing at that same place when you start to read again. Our clients also love the feature that announces the book title when the CD is inserted into the player, and then immediately returns to the last place you were reading.

DAISY books can be transferred from CD to other non-CD based devices, such as the BookPort™, and retain all the navigational advantages DAISY technology has to offer. Devices like the BookPort™ are used by people to access a wide range of information, independent of any service offered by Vision Australia.

All files within the DAISY standard are W3C compliant and include audio (WAVE and MP3) and text (HTML and XML). DAISY is a recognised ISO standard, and the technology is freely available for anyone to produce and play back material in the DAISY format.

## **Current Library Collection**

### **DAISY Books**

DAISY books are delivered to the user on a DAISY CD, and can then be read using a digital playback device. The library already has nearly 6000 titles available in DAISY format. The collection is growing quickly and is expected to contain 11,500 titles by June 2008. We are committed to converting the talking book collection into this new digital format over the next few years.

The current library audio analogue collection is made up of approximately 14,500 high-use masters and commercial titles. Approximately 2,400 of these are being converted to DAISY masters. Another 1300 titles are non-DAISY CD audio, many of which have already been converted, but the bulk of titles are analogue reel masters. The collection also holds 9,000 Braille titles.

Online library members may, at no cost, receive newspapers and magazines made available from Fairfax and News Limited publishing houses. We convert the content to a DAISY format and make it available, by using special software that allows members to download the content onto a small handheld device suitable for playing DAISY formatted text. An example of such a device is the BookPort™, from The American Printing House for the Blind (<http://www.aph.org/>). The text is then converted 'on the fly' by the device, which has 'Text To Speech' capability using a synthetic voice. An older version of the service has been available via the telephone for some years. This is a free service arranged between the publishers and Vision Australia.

## **The i-access program**

### **Program Scope**

Along with other elements, the i-access program is scoped to deliver the four principal components below:

#### **Digitised content**

A key tangible outcome of the i-access program is the new collection of structured DAISY digital books that are to be distributed to, and read by, clients. DAISY titles will be acquired through DAISY Consortium and commercial purchases, created by converting the current analogue collection, through Vision Australia's own audio production capacity, and new pathways to non Vision Australia content. Braille files will be included where available.

#### **Online storage capabilities**

This capability is based on a new high-capacity central repository to hold all Vision Australia digital content, such as books, newspapers and magazines. The estimated capacity requirement is 80 terabytes.

#### **Search, select and delivery functions**

Members will be able to search the content repository by phone or Internet for the books, newspapers and magazines of their choice. Once a selection is made, the content will be delivered to the member by mailed CD, online over the Internet or by telephone. The necessary hardware and supporting software for the delivery of i-access content will be acquired.

## Digital playback devices

The current cassette playback devices are to be replaced with DAISY CD players and digital handheld online devices. Necessary training and support for the new technologies will be provided to clients.

## i-access in a nutshell



These four components of the program have been further broken down into the following seven projects:

1. Playback devices
2. DAISY title collection
3. IT computer room & infrastructure
4. Online Text and Braille (NOTG / DIODE)
5. Online DAISY Audio (Online Library)
6. CD burn-on-demand
7. Integrated telephone channel

(DIODE: Digital Information On-Demand Everywhere)

## Program Timeframe

i-access is a 5-year initiative, allowing new technology to be phased in whilst old technology is gradually replaced. This approach minimises disruption to the current client base and limits annual financial commitments.

The program began in the November 2006 with a pilot study, and will finish in late 2010 when the final targets for library content and playback devices are achieved.

The table below identifies the key initiatives yet to be completed as part of the i-access program.

<b>i-access Sub-Project</b>	<b>Start Date</b>	<b>End Date</b>
Distribute playback devices	February 2007	June 2010
Create DAISY title collection	May 2006	June 2010
Build IT computer room & infrastructure	January 2006	June 2010
Establish online delivery <ul style="list-style-type: none"> <li>• Online DAISY Text (DIODE / NOTG)</li> <li>• Online DAISY Audio (Online Library)</li> </ul>	October 2005 October 2006	June 2008 June 2008
Implement CD burn-on-demand	November 2006	June 2008
Develop client telephone interface	March 2007	December 2008

## **Current Program Status**

### **Leading Up to the i-access Program**

Prior to the start of the i-access program, Vision Australia began its move from analogue to digital platforms for the Information Library Service. Consistent with the decision to adopt the DAISY standard, all studios now produce in DAISY format.

### **Proof of Concept**

i-access program activities formally began in November 2005 with the establishment of the i-access Steering Committee. A decision to conduct a 'proof-of-concept' trial of the DAISY digital format was taken. Beginning in December 2005, the trial ran for six months, with the dedicated effort of numerous client services staff, volunteer coordinators, and volunteer coaches and Information Library Services staff. All client participants were required to give feedback as part of internal research work that is used to refine elements of the service. The trial involved two types of devices and delivery systems: CD and online.

### **DAISY on CD**

Utilising an initial 1000 digital book titles already acquired from the Royal National Institute of Blind People (RNIB) in the United Kingdom, we embarked upon a trial of new CD DAISY players. A total of 1000 players were purchased from the two leading suppliers, and these were distributed to library members for assessment.

Machines and CDs were sent to clients along with training kits. Training was provided to participants by phone, at Vision Australia offices and in client's homes. DAISY formatted material was provided whilst helpdesk and support services ensured that the trial ran smoothly.

VAALS, (as coordinator of the trial), requested our internal market research unit to collect internal client feedback. This evaluation, which involved surveying over 600 people, has seen collaboration between Library Information Services and Management, Volunteer Coordinators, Customer Contact, Client Services staff and the Market Research and Development team. Volunteers also assisted in contacting clients.

For the DAISY (CD-based) trial, 96% found it easier to manage one CD rather than the multiple cassettes that are currently required to play a single book, and 89% prefer the device to the talking book machine. Whilst a huge 98% of respondents wish to continue with the CD device, several suggestions for improvement have been provided to assist with improving the players or the service further.

## **Online Device Trial**

As part of the News On The Go Trial, 100 online handheld devices were tested. The BookPort™ connects to a member's personal computer where they can download newspapers and magazines online through the i-access "News on the Go" service.

As previously described, clients subscribe to a number of National daily newspapers. The software to allow selections and downloads is a VA product. As the file format is marked up DAISY text only, the titles are quick to download even on a dial up connection.

The BookPort™ converts the text via an onboard Text To Speech synthesiser. It converts most text formats (including HTM, HTML, DOC, TXT and RTF) in the same way, and proves to be flexible for people to use in a range of activities. The device also plays MP3 music, acts as a Braille note taker, has a personal notes audio recorder inbuilt and more.

For the News On The Go (BookPort™) trial, 85% were satisfied with the services and 91% responded that they would like to continue receiving the service. Comments about the BookPort™ and software were also provided. Further feedback was gained from volunteer coaches and staff involved in the trial.

The online trial was an effective "proof of concept" for online delivery of a specialised DAISY text news service. It also highlighted how some clients took full advantage of the feature rich device and how the flexibility of the device, combined with the news service, made a significant contribution to the availability of accessible information for that client.

## **Individual Project Background and Status**

### **Digital Library Content Background**

The key purpose of this project is to build the DAISY digital content of the library. DAISY content is acquired from multiple sources: the DAISY Consortium, analogue-to-digital conversions, commercial publishers and from our in-house audio production operations.

Now that Vision Australia is producing DAISY titles, a number of other international blindness agencies have indicated a preparedness to swap titles.

### **Commercial Purchase and Internally-Commissioned Work**

As part of standard operations, Vision Australia sources audio titles from commercial suppliers and then back-converts these into DAISY masters using in-house facilities. The cost of a commercial sub-master converted to DAISY can be high (depending on the cost of the original non-DAISY master).

There are three main ways VA builds the DAISY digital content, as follows.

### **Purchase of DAISY Titles**

Pricing based on purchase quantity has been established with the DAISY consortium, and a second purchase of 1000 DAISY titles from the Royal National Institute of Blind People (RNIB) was completed in May 2006 under these arrangements. However, in May 2006, an in-principle agreement was reached between Vision Australia and RNIB that resulted in RNIB's entire DAISY catalogue becoming available to our library

members. RNIB will supply Vision Australia with approximately new 12,700 titles. Some reformatting of titles has been undertaken by VAILS. Under the terms of the agreement, Vision Australia will have the right to on-sell the RNIB titles to other blindness agencies within Australia and New Zealand. This will assist in defraying costs associated with the purchase and reformatting of the titles and will provide an 'at cost' catalogue of titles for blindness agencies in the region.

In the latter years of the i-access program, titles may also be purchased through other members of the DAISY Consortium, such as The Royal New Zealand Foundation of the Blind (RNZFB) and The Canadian National Institute for the Blind (CNIB).

### **Analogue-to-Digital Conversion**

A Danish service provider is presently converting the library's analogue collection. The process began in November 2006 and will run until early 2008. Nearly 2000 titles will be converted through this process.

### **Digital-to-Digital Conversion**

A procurement process will be undertaken in the current financial year to identify a suitable service provider to convert many of the library's CD audio collection into DAISY digital format.

## **Playback Devices Background Media**

The DAISY CD option really suits a transitional model, as the player interface is relatively easy for library members to use. The player user interface has similarities to analogue tape players. The compressed DAISY compact disc is the program's preferred media for the physical distribution of DAISY content.

A CD has several advantages from the client's perspective. A CD can be delivered by post to all clients, including remote and home-bound clients. Audio compression means that a DAISY book can easily be placed onto a single CD; this substantially improves handling and lowers the cost of materials, when compared to uncompressed CD audio and cassette. Apart from the DAISY CD players being offered by Vision Australia, many feature-rich DAISY CD players are available in the marketplace at reasonable prices. These can handle uncompressed CDs, music CDs and MP3 files on CD. Importantly, DAISY players are able to resume playback from wherever a given title was stopped.

The compact disc also has advantages from Vision Australia's perspective. Blank media is cheap at \$0.35 cents per disc and this price continues to fall. The storage capacity of a CD is approximately 700MB, and this is sufficient to hold 3 average DAISY titles. The CD is an enduring medium, likely to be around for the next five to ten years. The distribution of digital content is suited to CD and uses master files compatible with online delivery. The current logistical systems for the distribution of CD are already in place and these allow a logical transition path for our staff, using existing systems and processes. The CD is a tried and proven medium and is being used by many large, international, alternate format libraries.

### **DAISY CD Player**

Once the CD had been selected as the preferred media for DAISY content, DAISY CD players needed consideration. The general requirements for the player were that it had to be sturdy, portable, DAISY compatible, reasonably priced and suitable for use by a

wide range of ages, especially the elderly. From research undertaken late in 2005, we found that there are two manufacturers who are the market leaders: Plextor and Humanware. As their players had been introduced relatively recently and neither company had a track record in Australia, a significant trial involving both suppliers was conducted to assess player performance.

VA has adopted a multi supplier approach for DAISY CD players. It is intended that the i-access program will go to market each year to secure the most appropriate player available at the time, to take advantage of likely falls in the cost of players and to create an opportunity for new suppliers in the DAISY player market.

Currently 7,400 DAISY CD players are in use by members. Within two years, playback devices will be available to all library members.

A team of volunteer trainers, is available to assist in training via telephone. Sessions are rostered for times that suite clients. The benefit of this is that resource is maximised. We are able to provide extensive support to a small training team in a range of devices. Another key focus is the development of user documentation. Over the last two years, we have redrafted materials a number of times. We believe the current draft has made a significant difference in reducing the number of support calls required. For each type of device, a "Getting Started Guide" and an "Additional Features Guide" cover most elements of player functionality in an easily digestible format.

### **Online Handheld Device**

An online handheld device is needed to receive content via the Internet and play it back to the client. The general requirements for the device is that it be lightweight, portable (like the DAISY CD player), DAISY compatible, reasonably priced and contain a text to speech voice engine. The BookPort™ was selected as fulfilling the requirements. It has a stable user interface and can receive content directly from a PC. This allows for Internet based content to be used by the device. The BookPort™ was chosen because it is an accessible device that is flexible and offers the client a large range of uses.

This device does require a user to be more technologically literate than the above CD Player as it is used in conjunction with a PC and therefore has all the possible complications associated with software and hardware.

Currently approximately 280 online devices are in use by members. A small support team of staff provides phone based support for clients using this device.

### **Upcoming New Device Trials**

A number of new devices are expected to be trialled over coming months. The device that will be discussed here is the Plextor PTX. Others due for testing will include three online handheld devices due for commercial release soon will also be trialled. These include the new versions of the BookPort™, the Milestone 311 otherwise known as the Bones player and a third device from a Taiwanese manufacturer.

### **Plextor PTX Trial**

The PTX is a prototype DAISY player developed by Plextor for reading books distributed via the internet, as opposed to CD. The Plextor PTX has the following characteristics:

- User Searches a catalogue of selected books
- Streaming or Download
- Library assisted book selection
- Stores books in “My Library”
- No PC required
- Wireless or cable network connectivity
- Similar to the Plextor PTN1 Pro DAISY CD player

This project will inform Vision Australia’s development of an on-line distribution model associated with the i-access program.

While the initial i-access Online project focuses on the delivery of information via PC, the PTX trial extends that proof of concept to demonstrate another option for library members to access online information without the use of a computer. Client software is not required to support the service. Instead, clients will be able to select and stream or download content directly on a portable DAISY player (the PTX).

The PTX trial is seen as developing a service model that may become a part of the overall i-access architecture. The trial will incorporate an integrated search and download/streaming system that:

- Uses existing infrastructure at VA
- Uses existing library titles available through the i-access Online Project
- Allows the client to access online information without the need for support for computer or software systems
- Strategically partners with a developer to tailor a custom interface system to suit our clients
- Provides a menu option for selection of titles
- Leverages user familiarity with the Plextor PTN1 Pro as the interface is almost identical
- Provides reporting modules within the management system for Library service staff
- Makes available a limited selection of books for the trial, based on copyright permissions, and progress of the i-access online project.

As well as informing our own developments, this trial allows us to better contribute to the work of the DAISY Consortium on-line protocol project, and directly contribute to the design of such a system for the future that suits our requirements. The feedback received from clients throughout the trial will be fed back to the manufacturer, and may result in firmware updates and changes to the functionality of the PTX system. One purpose of the trial is to test such functionality.

## **Computing Environment and Communication**

The new digital file storage repository was purchased in February 2006. With further upgrades under way, it is estimated that the fully assembled repository will have a storage capacity of approximately 80 terabytes by May 2008. Storage requirements will be reviewed in 2010.

## **Online Library: i-access Online**

There are three stages in this process development.

The first stage involved consultancy with Microsoft, where they provided a statement of the vision, high-level requirements and solution architecture that included a broad implementation plan. The second stage fleshed out the architectural detail and the implementation plan. The last stage, yet to be completed, is the implementation of the i-access Online service, drawing on resources from Microsoft and consultants from the Aurora library management system. While timing is still to be confirmed, the first release of the Online Library is targeted for June 2008.

i-access Online will be the online entry point into Vision Australia's information access services. These services are centered on three capabilities.

The first is to emulate the library experience of Vision Australia library clients. In order to receive book titles, clients rely on the phone based professional services of the staff in Reader Services as well the automated loan functions of the existing Library Management System (LMS) – "Aurora". This system allows a library client to have a 'push' or 'pull' model for content selection. The future i-access Online solution will continue to facilitate both pull and push models for content selection.

The second capability allows library members to upload files in any of a set of prescribed formats and request that the content be converted into an accessible format, initially either DAISY Text or DAISY Audio but the range of output options is intended to grow.

The third capability allows library clients to identify newspaper and magazine content they would like to receive online as part of Vision Australia's *News on the Go* service. A growing list of capital city and regional papers will be on offer. Users of the service will be able to receive their selections early on the day that the newspaper or magazine is available in newsstands to sighted people.

i-access Online will offer enhanced features such as a virtual librarian, moderated forums and live chat rooms to foster a sense of community for VA library members. i-access Online will provide the technology platform upon which VA's eCommerce presence will be built at a future time.

Some capabilities of the online library already exist, albeit in a first stage model. The catalogue web search page (Visway) and the completely redeveloped News on the Go service. This new service was launched in December 2007 and will be one of the major components of the i-access Online service. It had existed in a non web based form for a couple of years. Now its working title is i-access Online and this new and innovative suite of services delivers audio DAISY books and magazines, Braille books, newspapers and other publications to portable handheld devices such as the Book Port™ using the internet and your personal computer.

The i-access Online service can be used by Library Clients on any PC that has the i-access Downloader software installed. This software can be downloaded directly from the i-access Online website.

## **i-access Online Service description**

### **Newspapers**

A growing list of capital city and regional papers will be on offer. Users of the service will be able to receive their selections early on the day that the newspaper or magazine is available in news stands to sighted people.

Newspaper content is delivered as text files in DAISY format. With i-access Online, you can subscribe to a specific day for any daily newspaper. For example, you can have the Melbourne Age for Saturday only, if that is your preference.

When you logon and download, i-access Online will check back over the past three days to see if there are any outstanding back issues that match your selected subscriptions. If there are back issues, these will be automatically downloaded. You can also adjust the number of back issues stored for you through the Profiles tab. There is also an option to manually select and download individual back issues yourself for up to two weeks previous.

### **Books**

Through i-access Online, an initial selection of about 20 book titles will be made available to members by the Library for download. You can select a book, which will be placed in your "shopping cart". The book can then be downloaded immediately or at a later date. Because of the large file sizes, an initial storage and download limit of one DAISY audio title per download will apply. We will review this as the service grows. There is no limit on the number of Braille books and text books that can be downloaded. The selection of books will change each month and will include books that may be in DAISY Audio, text or Braille.

### **Magazines**

Through i-access Online, a selection of DAISY audio magazine titles will be available each month for download. You can select a magazine, which will be placed in your "shopping cart". The magazine can then be downloaded immediately or at a later date. An initial download limit of three DAISY audio magazines per download will apply (this is on top of 1 audio book); this will be reviewed as the service grows.

### **Client profiles**

Through i-access Online, you can use the Client Profile page to maintain information about your personal preferences. You can change your device type, newspaper download settings, contact phone number or email address details and even personalise your password. The device type is usually a Book Port™, however we are preparing to support new devices in the future.

### **Alert messages**

The i-access website uses a system of alert notices that notify users of changes to the i-access website, scheduled downtime or new book and magazine selections. After logging on, an alert message indicates if any items are ready for downloading or if other messages are available for you. Alert messages will also appear when you log in using the i-access Downloader.

## **Stage 2 - Online Digital Content - DIODE II**

Digital Information On-Demand Everywhere (DIODE) builds on the i-access Online service, and introduces the text-to-DAISY conversion engine for clients to use and the i-access software DAISY Player. This component is scheduled for implementation by the end of 2008. Currently under consideration is an expansion in the variety of supported file formats.

## **Burn-on-Demand**

The Burn-on-Demand project will acquire and deploy a new CD-ROM creation and dispatch capability. The project began in July 2006. This is a long cycle project, involving the definition of high-level requirements, before either an existing solution is sought or a customised software development is undertaken. Recent collaboration with the Dutch blindness agency, Dedicon, has allowed VALS to implement a customised version of the Dedicon Burn-on-Demand system. This project is not expected to conclude until June 2008.

Requests for titles from the Library Management System will link directly to the Burn-on-Demand capability. This project will provide the capability for titles to be circulated as required by clients, thus reducing the need for warehousing of physical media content and the attendant resources required.

## **Client Telephone Interface**

This project started in April 2007. The project will implement a new self-serve telephone-based service that integrates with the other elements of i-access to make library books, newspapers and magazines available to clients via a nationwide free calling number. It updates and extends the existing service. The project is not expected to conclude until the end of 2008.

## **Benefits of the program**

The most significant benefit of the i-access program is the platform it provides to support the Information Access Service for use by our clients.

Only 3% of all published information is available in alternative formats. Blind and vision-impaired people say that the biggest barrier to greater independent participation in society is a lack of accessible information. Through the smart use of technology, Vision Australia can implement an information access solution for all clients that will exponentially increase the amount of information available to clients in many areas of usage, including recreation, employment, education and day-to-day living needs. This solution will provide clients with a personalised choice of information, how they access it and how they receive it.

The Information Library Service is uniquely designed for the print disability community; no other service of its kind exists. The benefits of the program will position the Information Access Service for the next ten years. However, the online component of the service will extend beyond that. It is difficult to estimate beyond the ten-year horizon, and we have reviewed technology platforms to future-proof the solution as much as possible. The infrastructure and hardware will vary in its life, depending on the component to be replaced. PCs and servers will have, on average, a three-year replacement cycle, whereas the storage and infrastructure will be five years.

The model we are developing links into existing information systems, such as the consortium database purchases involving Victorian and Australian public libraries, the Internet and daily newspapers. The model will be of relevance to a significant and growing client base that is shared by all Australian public libraries.

Vision Australia clients will be able to access content from a wide variety of providers, across a wide spectrum of information sources. The solutions being implemented will place Vision Australia as a major gateway to information, one of many possible providers of information, helping our clients to become more independent. It is not just about books, it is about education, employment and training, day to day living, life long learning and open access to information. It is about empowerment and quality of life.