1. INTRODUCTION

A common assumption across communication practices is that everyone can read standard print based information. As a result, vast quantities of information are provided in text form, both in hardcopy and on the internet in portable document format (PDF). This is further reinforced through the extensive use of printed advertisements throughout national, metropolitan and local newspapers. The assumption that printed information is accessible, however, is fundamentally flawed.

Vision Australia’s interest and concern in the area of financial literacy and banking springs from significant work in accessibility, not only with clients who are blind or vision impaired, but with people who experience what is called a ‘print disability’. These people, approximately 3.5 million Australians (as set out in the statistics later in this paper), have difficulty accessing standard printed material for a variety of reasons.

This paper discusses the issues surrounding communication, the obligations of information and service providers, and some solutions which may apply. A critical issue is access to information and services around financial literacy, banking and financial products.

2. THE ISSUES

2.1 What is a print disability?\(^1\)

Print disability is an inability to access standard printed information. The causes of print disability vary, but may include:

\(^1\) Print Disability Review Department of Community Services and Health, 1989
Print disability will affect individuals in different ways, depending on a wide range of issues, including degree of impairment, degree of motivation, support, education, available resources and more.

A person experiencing a print disability is typically denied a broad range of information that the majority of Australians take for granted. For an individual to make an informed decision, they must be provided with the relevant information. Absence of such information will result in no action or sole reliance on the advice of a third party. A person experiencing a print disability will require information to be provided to them in accessible formats and has the right to receive that information in a format of their choice upon request.

2.2 The Statistics

Research commissioned by Radio for the Print Handicapped (RPH) in 2002 to establish the size of the potential audience provides the following data.²

The following table provides the total number of people with a print disability in Australia, profiled by impairment type. This audience figure represents the total available audience Australia-wide, not considering actual access to radio services. The total of 3,304,639 Australians with a print disability represents almost 17.5% of the population (17.39%). ‘The population’ referred to in this document is 19,001,753 people. This figure was calculated by multiplying the Australian Bureau of Statistics (ABS) 1996 Census population of 17,892,423 by the estimated five year growth rate of 6.2%.

Not every individual who suffers any form of a print disability would acknowledge themselves as such, therefore may not necessarily identify RPH Australia as a service provider relevant to their needs.

This total figure is recognised as a conservative estimate. As pre-existing data sources were not always available, estimates erring on the side of caution have been employed throughout the research.

Table A: Print Disabled Population of Australia by Impairment Type

<table>
<thead>
<tr>
<th>Vision</th>
<th>Physical</th>
<th>Literacy</th>
<th>Learning</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>193,300</td>
<td>205,723</td>
<td>2,607,400</td>
<td>3,304,639</td>
</tr>
</tbody>
</table>

Accurate State/Territory profiles and country/metropolitan profiles have not been available for each impairment type due to the lack of disaggregation of available statistics. Table B represents the population with a print disability for each State and Territory as extrapolated from the total population figures and the total potential audience figure found in Table A.

Table B: Print Disabled Population of Australia by State/Territory

<table>
<thead>
<tr>
<th>% of Total Australian Population</th>
<th>Print Disabled TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>New South Wales 34%</td>
<td>1,123,580</td>
</tr>
<tr>
<td>Victoria 24%</td>
<td>793,117</td>
</tr>
<tr>
<td>Queensland 19%</td>
<td>627,885</td>
</tr>
<tr>
<td>South Australia 8%</td>
<td>264,375</td>
</tr>
<tr>
<td>Northern Territory 1%</td>
<td>33,049</td>
</tr>
<tr>
<td>Australian Capital Territory 1%</td>
<td>33,049</td>
</tr>
<tr>
<td>Tasmania 3%</td>
<td>99,117</td>
</tr>
<tr>
<td>Western Australia 10%</td>
<td>330,467</td>
</tr>
<tr>
<td>TOTAL 100%</td>
<td>3,304,639</td>
</tr>
</tbody>
</table>
2.3 Quantifying Print Disability

From this pie chart, it is clear that the major issue in relation to accessing standard printed information is ‘literacy.’ In this research, literacy figures provided are for people aged between 15 and 74 years. This range has been pre-determined by the ABS in their data collection. Child literacy figures are available, although it has been presumed that children under the age of 15 are not RPH Australia’s primary target audience.

The 1996 ABS Survey on Literacy, *Aspects of Literacy*, determined five skill levels of literacy:

1. **Prose literacy** - the ability to understand and use information from various kinds of prose texts, including texts from newspapers, magazines and brochures.
2. **Document literacy** - the ability to locate and use information contained in materials such as tables, schedules, charts, graphs and maps.
3. **Quantitative literacy** – the ability to perform arithmetic operations using numbers contained in printed texts or documents. This type of literacy clearly has a strong element of numeracy. However, because quantitative literacy relates to the ability to extract and use numbers from printed texts and documents, for the purposes of the Survey of *Aspects of Literacy* (ABS 1996) and this publication, it is referred to as a type of literacy.

In addition, the Survey determined five skill levels of literacy from Level 1 covering people with very poor skills who experience considerable difficulties in using many of the printed materials that may be encountered in daily life to Level 5 covering those who have very good literacy skills, and can make high-level inferences, use complex displays of information, process conditional information and perform multiple operations sequentially.

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After Market Equity consulted with the ABS, it was determined that those who possess a skill of Level 1, Prose Literacy would experience considerable difficulty in reading the newspaper daily and therefore have a print disability. A total of 19.7% of the Australian population aged between 15 and 74 years in 1996 or 2,607,400 people are considered to have a print disability through literacy impairment.

However, the figure of 19.7% only illustrates illiteracy amongst those aged 15 to 74 years. This figure as a proportion of the entire population of any age, is 14.6%.

Table 4: Number and Proportion at Each Skill Level

<table>
<thead>
<tr>
<th>Skill Level</th>
<th>Prose Scale</th>
<th>Document Scale</th>
<th>Quantitative Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>'000</td>
<td>%</td>
<td>'000</td>
</tr>
<tr>
<td>Level 1</td>
<td>2,607.4</td>
<td>19.7</td>
<td>2,580.3</td>
</tr>
<tr>
<td>Level 2</td>
<td>3,631.9</td>
<td>27.5</td>
<td>3,738.3</td>
</tr>
<tr>
<td>Level 3</td>
<td>4,668.9</td>
<td>35.3</td>
<td>4,774.2</td>
</tr>
<tr>
<td>Level 4</td>
<td>2,052.7</td>
<td>15.5</td>
<td>1,880.8</td>
</tr>
<tr>
<td>Level 5</td>
<td>259.9</td>
<td>2</td>
<td>247.2</td>
</tr>
<tr>
<td>Total</td>
<td>13,200.8</td>
<td>100</td>
<td>200.8</td>
</tr>
</tbody>
</table>

People classified as illiterate according to the ratings of Level 1, Prose Literacy tended to:

♦ have a lower education attainment;
♦ be in the older demographic of 65-74;
♦ be male; and
♦ be indigenous.

The high numbers of people who are regarded as having literacy difficulties presents a real issue for those providing financial literacy information or general financial services.

3. ACCESSIBLE INFORMATION IS A RIGHT AND IT’S GOOD BUSINESS

In all areas of life, Australians make life decisions and financial decisions based on the information available to them. It is therefore critical that those providing such information mirror their print communication strategies with a strategy to reach people with a print disability. By doing so, providers will also reach a much broader audience and deliver positive communication outcomes.
An integrated approach which takes the attitude of building a business solution, based on a clear understanding of our population, will deliver a far superior service. The typical trend in developing strategies is to prepare a service and then modify it. The unfortunate reality is that these modifications rarely occur, as there are often no resources, financial or personnel, to achieve any meaningful modification. The technological solutions have to date also precluded much flexibility. Vision Australia, provider of services for people who are blind or vision impaired, including communication strategies to reach those people, reports that far better outcomes are achieved when providers consider the need for accessibility at the outset of a project.

An example of such an innovation is the Victorian Electoral Commission (VEC). Around the globe, electronic voting is being rolled out as democratic governments move into the 21st century. In Victoria, the VEC is preparing to pilot e-voting (for people who are blind or vision impaired) at the 2006 State Election, trialling 6-7 voting centres around Victoria.6 The natural evolution of this technology will be to expand it and include the general public, significantly improving the electoral system through a wide range of cost savings and streamlined processes. This approach turns the standard approach backwards and will deliver a far superior and inclusive outcome.

4. SERVICE PROVIDER OBLIGATIONS

There are, of course, obligations upon all service providers to ensure fair and equitable participation by all consumers. Some of these can be found in the following areas.

4.1 Financial Services Regulation

In determining whether entities are complying with their obligations, Australian Securities and Investment Commission (ASIC)’s approach7 is to take into account the spirit and intent of regulations. Providers will face issues in circumstances where their conduct is, or is likely to:

- Materially harm or disadvantage consumers; and/or
- Undermine the confident and informed participation of consumers in the financial market.

ASIC

ASIC states that Product Disclosure Statements must be clear, concise and effective. Since 18 December 2003 ASIC has had the power to issue a stop order on a Product Disclosure Statement that is not worded and presented in a manner that is clear, concise and effective. Product issuers should remember the following tips8.

• *Easy to understand* – information must be worded clearly and concisely. Jargon should be avoided wherever possible and terms should be clearly defined within a document

• *Easy to use* – navigational aids, such as tables of contents and clear signposting can help consumers to find information in a PDS more effectively

• *Upfront summary* – an executive summary highlighting important information is a useful tool, particularly in long documents

• *Effective cross-referencing* – reference to additional information elsewhere in the PDS or in other documents must not be misleading and, in particular, the page numbers and other references need to actually direct the consumer to the right place in the document

• *Equal prominence of benefits and risks* – disclosure of information about product risks should have equal prominence to information about product benefits.

To what extent can financial services providers claim that product information is clear, concise and effective when it is available only in standard print?

### 4.2 Contract Law – Some General Issues

There is significant state and commonwealth legislation which relates to contracts (including *Trade Practices Act 1974* (C’th), *Corporations Act 2001* (C’th) and Fair Trading legislation in each state) and service providers may need to seek legal advice in relation to interpretation and application, particularly in regard to matters pertaining to what constitutes full and independent access to terms and conditions. This may be particularly pertinent in respect of product disclosure. However, there are contentious issues which need to be considered by all providers entering into contracts with people with a print disability. Many providers will accept a document with a clause such as ‘This document has been read and understood by …’ completed by a third party. The inherent risk here is that the third party is making the decision as to whether the document was clearly understood by the person entering into the contract. It may be that, in order for a true acceptance of contract, the person entering into the contract requires full and independent access to the terms and conditions therein.

A party will be bound by contract terms if they have read them or should have read them. How does this apply to a person who cannot access the standard printed version supplied?

The principle of ‘acceptance’ is generally regarded as a final and unqualified expression of assent to the exact terms of an offer. How can acceptance be interpreted if a party does not have independent access to the exact terms of the offer?

In addition, there are issues raised by modern technology, including the Internet and the *Electronic Transactions Act 1999* (C’th).
4.3 Disability Discrimination Legislation

The Disability Discrimination Act states that:

‘(1) It is unlawful for a person who, whether for payment or not, provides goods or services, or makes facilities available, to discriminate against another person on the ground of the other person’s disability or a disability of any of that other person’s associates:

(a) by refusing to provide the other person with those goods or services or to make those facilities available to the other person; or
(b) in the terms or conditions on which the first-mentioned person provides the other person with those goods or services or makes those facilities available to the other person; or
(c) in the manner in which the first-mentioned person provides the other person with those goods or services or makes those facilities available to the other person.

(2) This section does not render it unlawful to discriminate against a person on the ground of the person’s disability if the provision of the goods or services, or making facilities available, would impose unjustifiable hardship on the person who provides the goods or services or makes the facilities available’.

A particular case of interest is Bruce Lindsay Maguire v Sydney Organising Committee for the Olympic Games Human Rights and Equal Opportunity Commission No. H 99/115. In June 1999, Bruce Maguire lodged a complaint against SOCOG alleging discrimination under the Disability Discrimination Act 1992 (Cth). His complaint related to SOCOG’s failure and refusal to provide:

- full and independent access to the Olympic website for people with a vision impairment
- the official Olympic ticket book in Braille.

The web accessibility complaint was handled by the Human Rights and Equal Opportunity Commission (HREOC), and resulted in the finding of unlawful discrimination by SOCOG. During the hearing, IBM (the website developer) confirmed that the tables used to display results would be inaccessible to people with vision impairment. The tables had no structural information that would enable screen-reading software to distinguish one data cell from another.

SOCOG argued unjustifiable hardship, claiming that to correct the site would cost $2 million and take 368 days. These arguments were refuted by expert witnesses who claimed that the real cost of correcting the site would be about $30,000 and would take from two to four weeks.

SOCOG was directed by the Commission to do all that was necessary to establish a website accessible to Mr Maguire. SOCOG failed to comply with this order. The hearing reconvened and the Commission found that SOCOG had been dismissive of Mr Maguire’s complaint. The Commission declared that SOCOG should pay the complainant the sum of $20,000.

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9 Disability Discrimination Act 1992 Part 2, Division 2, Section 24 Goods Services and Facilities
Other examples of recent conciliations at HREOC include:  

**Access to finance for vision impaired customers**

A woman who is blind complained that she had been discriminated against when a credit provider refused to accept the Blind Citizens Australia identity card in place of a driver's licence, and required her to obtain legal advice as she could not read the printed contract herself. The matter was resolved when the respondent agreed to accept the Blind Citizens Australia card, to permit contracts to be read to a vision impaired person by an independent person rather than requiring a lawyer, and to investigate production of contracts in accessible formats (2005).

**Access to government website**

A man who has a vision impairment complained that a State Government Department's website was not accessible, so that he was not able to make fully informed comments on proposed legislation in the area. The complaint was resolved when the Department advised that it was undertaking a major project to achieve accessibility of its sites and documents; that all new documents from July 2005 would be provided in accessible formats on site and that any existing documents would be provided in accessible formats on request (2005).

**Accessible bills**

A woman who is blind complained that a utility company did not provide bills in an accessible format. She was seeking access to online billing as a private and convenient method of payment. The complaint was resolved with an agreement to provide in Braille a document setting out the range of payment options; continue a pilot project of providing summary bills in Braille; and make electronic text format bills available within 30 months (2005).

**Forms in accessible form**

A woman who is blind complained that the online version of a form required to be filled out in connection with a Commonwealth program was not accessible so that unlike people who could see she would need to attend the agency's offices to get assistance. The matter was settled when the respondent agency advised that it would prioritise developing a new online customer account system which would provide independent access including for blind users (2004).

**Access to government information**

A man who is blind complained that a government discussion paper had not been made available in Braille, and that when he requested a copy he was advised that one would be able to be provided only after the community consultation period had finished. The complaint was settled with an agreement that the agency responsible would ensure that electronic versions in text or HTML format would be available at the same time as the less accessible PDF format; and would review its Disability Action Plan including in relation to ensuring that planning of publications included planning for timely publication in accessible formats (2004).

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5. SOLUTIONS – BREAKING DOWN THE BARRIERS

Communication is now complex and multi-faceted, covering various media and targeting a range of audiences and stakeholders. Information providers need to be aware of the special information needs of the diverse audience and convey material in a format that is accessible to all members of that audience.

5.1 Communication Strategies

By providing information in accessible formats, (e.g. audio file or audio CD, large print, Rich Text File, Braille) organisations are adopting effective and integrated print-based and electronic solutions to reach all Australians. Communication strategies that include choice in the way information is delivered will ensure people with a print disability are not inadvertently marginalised and also reach a greater audience in a more effective way.

5.2 Universal Design

Universal Design is a philosophy, not a set of rigid or hard and fast rules. It is an approach to design that can be applied to all types of products and services.

The concept of Universal Design is not tied to any specific organisation, nor to any particular single set of principles, however, the work of the Centre for Universal Design at North Carolina State University is seminal. A key reference is their 1997 seven Principles of Universal Design which are, in brief:

1. **Equitable Use**, seeks to maximise the usefulness of design for everyone, identical whenever possible and equivalent when not, so that it avoids segregating or stigmatising any users.
2. **Flexibility in Use**, values design that accommodates a wide range of individual preferences and abilities.
3. **Simple and Intuitive Use**, seeks to create ease of understanding for users, regardless of their experience, knowledge and language.
4. **Perceptible Information**, seeks to ensure that design allows information to be communicated effectively to the user, regardless of ambient conditions or the user's sensory abilities.
5. **Tolerance for Error**, seeks to minimise hazards and the negative consequences of accidental or unintended actions.
6. **Low Physical Effort**, seeks to ensure that interaction with the environment can occur efficiently and comfortably and with minimal fatigue.
7. **Size and Space for Approach and Use**, seeks to maximise approach, reach and manipulation capabilities of users irrespective of their size, posture and mobility.

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11 [www.design.ncsu.edu](http://www.design.ncsu.edu), Centre for Universal Design at North Carolina State University, accessed July 2006
12 [www.design.ncsu.edu](http://www.design.ncsu.edu), Centre for Universal Design at North Carolina State University, accessed July 2006
13 [www.design.ncsu.edu/cud/univ_design/princ_overview.htm](http://www.design.ncsu.edu/cud/univ_design/princ_overview.htm) accessed July 2006
5.3 Accessible Formats

Financial institutions and other organisations are, often inadvertently, marginalising the print disabled community by providing information only in standard print form or in a PDF form on the website. In the experience of Vision Australia, people with a print disability will have a preference or particular need as to how they receive information. The channels used include:

- **Audio** - CD, DAISY CD, cassette, MP3 files for website
- **Large print** – accessible PDF or printed
- **E-text** - coded for computer generated speech e.g. rtf, html & ASCII
- **Plain English** - simplified text
- **Braille** - only format for people who are deaf and blind
- **Tactual graphics** - tactile diagrams and maps
- **Accessible websites.**

There is new technology emerging, particularly in the audio sphere, which will significantly impact on the ways in which information can be accessed.

- Broadband is increasingly available
- Digital delivery of a range of audio formats is now mainstream, through websites and pod casting
- New devices are becoming available, revolutionising access to a range of file types and formats
- Personal Digital Assistants (PDAs) are widely used by people across the board including many people with disabilities.
- MP3 players are almost ubiquitous with people under 40
- Specialist devices like Bookports and DAISY players are becoming available to people with a print disability and pilots are underway at Vision Australia.¹⁴

5.4 New Technologies

5.4.1 DAISY Audio

Digital Audio Information System (DAISY)¹⁵ is the emerging audio standard, which is providing unprecedented access to audio information. DAISY enables the following:

- Up to 100 hours of spoken audio on a single CD
- The ability to place multiple publications on a single CD
- Full navigable text up to six levels i.e. chapter, section, page, paragraph
- Accessed through a PC with DAISY software or using a DAISY playback device
- Delivered:
  - as audio files on hard copy CD or via broadband or
  - as text files that are rendered into audio on the user’s device (making dial-up connections viable).

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¹⁴ For information on any of these technologies, contact Strategic Projects Manager Tony Clark at Vision Australia on tony.clark@visionaustralia.org.au
¹⁵ [www.daisy.org](http://www.daisy.org) accessed October 2006
DAISY has been adopted as an international standard\textsuperscript{16}. As a result it is likely that DAISY enabled CD players and devices will become mainstream in the next five years. During that time, Vision Australia is providing DAISY players to 20,000 people with vision impairment, who are members of the Vision Australia Library.

5.4.2 ‘Future Book’

The ‘Future Book’ is an ideal packaging solution to use to deliver information on a compact single medium in all formats. Future Book can provide the following:

- Multiple publications on a single CD
- Each publication provided in multiple formats including DAISY Audio, MP3 Audio, Large Print PDF, Standard Print PDF, Rich Text File (rtf), Braille File (brf).

5.4.3 Synthetic Audio

The technology now exists to produce good quality synthetic audio through a streamlined automated process, using a standard Word document as the source. This process is ideal for single use material, such as one off requests or personalised information and for information with low or infrequent demand.

Once recorded, the information can be outputted to a CD or audiocassette. Audio cassettes are being phased out and CD is not the most used format, according to Vision Australia’s Accessible Information team.

5.4.4 Accessible Billing

This is a revolutionary approach to making bills and statements available in accessible formats\textsuperscript{17}. Fully secured billing services can be supplied to organisations whose customers cannot access their billing or financial information in conventional print. Invoices and statements, complete with the preserved institutional branding are sent directly to the consumer in the format of their choice.

Data is sent direct from the biller or print manager to Vision Australia for conversion into one of four accessible formats

- Braille
- Audio
- Large print
- E-text.

Bills will be converted and despatched direct to the customer within 3 days of receipt from the bill issuer. In many cases the alternative format bill will arrive within one day of the print bill.

\textsuperscript{16} ANSI/NISO Z39.86 2002
\textsuperscript{17} www.tbase.com/index.php?categoryid=36&p2_articleid=50&s=& accessed October 2002
5.5 Accessible Banking

5.5.1 Australian Banks

As at October 2006, two Australian banks are providing statements in either large print, audio or Braille. Some work has been done on accessible ATMs. Several banks provide websites which are accessible at different levels. As yet, no provider has taken up the challenge of developing overall strategies to provide accessible services to people with disabilities.

The Australian Bankers’ Association has worked with the community to produce voluntary Industry Standards which aim to improve the accessibility of electronic banking. The Industry Standards are important steps in helping overcome the digital divide and will assist individual banks develop or enhance their electronic banking services for older Australians and people with disabilities. The ABA, the Human Rights and Equal Opportunity Commission (HREOC) and the Accessible E-Commerce Forum, worked with representatives from member banks, other financial institutions, community groups, suppliers and retailers to develop these Industry Standards.  

5.5.2 Royal Bank of Canada – Case Study

The Royal Bank of Canada (RBC) aims to be in a position of leadership within the community and with employees in relation to accessibility for people with disabilities. RBC is described as an exemplar case study by Microsoft.  

RBC has:

- 12 million individual and business customers
- 2.4 million telephone banking customers
- 2.3 million online banking customers
- 5.3 million insurance customers.

For customers with disabilities, RBC provides:

- Website complying with Web Content Accessibility Guidelines
- Large print cheques
- Braille Bank statements (since 1992)
- Accessible ATMs (since 1998)
- Alternative format options (Braille, large print, audio cassette, computer disc) for other printed information. Some information, such as banking guides is available, but not all print information is yet made available in a range of formats
- Branches are physically accessible (more than 90% of branches)
- Teletype systems and hearing loops
- Cheque writing templates.

In 1999, there were 13,000 Canadians registered to receive information in alternative formats. This number would be much higher now.

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19 Accessible Technologies in Today’s Business: Case Studies for Success, Microsoft 2002 pp 74-91
5.5.3 Union Bank of California – Case Study

Union Bank of California provides universal access to banking services for persons with disabilities and elements of this strategy are available on the website. Information provided in alternative format includes:

- Statements
- Product brochures and disclosures
- Renewal notices
- Loan applications and documents

The Bank has done work on talking ATMs and adopted a policy of universal web page design, based on the World Wide Web Consortium (W3C) Web Content Accessibility Guidelines 1.0, Recommendations 5 May 1999.

5.6 Accessible Websites

The internet is a highly suitable format for people with vision, mobility or manipulatory impairments and many people use adaptive technology, such as screen readers (using synthesized voice) or software that allows them to format the screen to their particular needs. Access to web sites is described by the Australian Human Rights and Equal Opportunity Commission (HREOC) as ‘…designing web pages so they can be navigated and read by everyone regardless of location, experience or type of computer technology used.’

Equal access for people with a disability in this area is required by the Disability Discrimination Act (DDA), where it can reasonably be provided. This requirement applies to any individual or organisation developing a Worldwide Web page in Australia, or placing or maintaining a Web page on an Australian server.

5.6.1 ‘A Look at Internet Banking Accessibility in Australia’

This paper, prepared by Dr Sofia Celic, Steven Faulkner and Dr Andrew Arch from Vision Australia’s Accessible Information Solutions, provides some interesting data on the accessibility of internet banking in Australia at the time of its release.

5.6.2 Designing Accessible Web sites

In its most general sense, accessible web design refers to the philosophy and practice of designing web pages so they can be navigated and read by everyone, regardless of location, experience, or the type of computer technology used. Tim Berners-Lee, the inventor of the Worldwide Web and Director of the W3C Consortium, has commented that “the power of the web is in its universality. Access by everyone regardless of disability is an essential aspect.”

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20 Union Bank of California, [www.uboc.com](http://www.uboc.com), Accessibility, accessed October 2006
24 Modified from guidelines developed by The Association for the Blind of WA (Inc.)
Some people who have a disability use adaptive technology to present website content in an accessible manner. This can be done by magnifying text and images, or by presenting text as spoken word or Braille output. In order for web pages to be useful and navigable by everybody, it is necessary for site developers to follow basic principles of universal design.

Vision Australia advocates that, in order for people who have a print disability to successfully access a web site using adaptive technology, it must at least meet the Priority Two guidelines of the World Wide Web Consortium Web Content Accessibility Guidelines 1.0.\(^26\) Preferably, a web site should also incorporate as many, Priority Three standards as possible and practical.

Look for the definitive guidelines on accessible website design at the **World Wide Web Consortium Web Accessibility Initiative** site at: [www.w3.org/WAI/](http://www.w3.org/WAI/). This site also provides a wealth of information on accessible web site design, including guidelines, techniques and reference tools for developers.

Other sites containing information on designing and developing websites to be accessible to blind and vision impaired people include:

- Evaluating Websites for Accessibility - Preliminary Review [http://www.w3.org/WAI/eval/overview.html#prelim](http://www.w3.org/WAI/eval/overview.html#prelim)


- RNIB Accessible Web Design Advice ... some simple advice from the RNIB to help you design web pages that will be accessible by everyone. [http://www.rnib.org.uk/xpedio/groups/public/documents/publicwebsite/public_webaccesscentre.hcsp](http://www.rnib.org.uk/xpedio/groups/public/documents/publicwebsite/public_webaccesscentre.hcsp)


- Design Guidelines for Users of All Ages ... AgeLight has published this paper to help ensure user interfaces and web sites are designed for "functional usability" for active adults, seniors as well as the "graying baby boomer" who are now experiencing the physiological changes of aging. [http://www.agelight.com/Resources/webdesign.htm](http://www.agelight.com/Resources/webdesign.htm)

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\(^26\) [www.w3.org](http://www.w3.org), accessed October 2006
How to make non-text elements accessible ... making non-text elements, particularly images, accessible is fundamental to accessible web design; even if you attended to this issue alone, you would make a big impact on the accessibility of your site.
http://www.mcu.org.uk/articles/alttext.html

An excellent introduction to how people with disabilities use the web, including examples specific to people with vision loss and a discussion of access technologies, can be found at the World Wide Web Consortium site at ww3.org/WAI/EO/Drafts/PWD-Use-Web/Overview.html

People who are totally blind use "screen reader" software which outputs screen content as speech. The best way to test a site to see if it works with these programs is to have someone who is a skilled user of this software test it. Free, fully functional demonstration versions of the two screen reader applications that are in common use can be downloaded from: JAWS 3.7 from www.freedomscientific.com, and WindowEyes 4.1 from www.gwmicro.com

People who are vision impaired may use "screen magnification" software to magnify the screen content to an appropriate size. A site's compatibility with these programs can be tested by downloading free demonstration versions of the two most popular programs in use: Zoomtext 7.0 from www.aisquared.com, and Magic 8.0 from www.freedomscientific.com. Once again, it is recommended that this testing be performed only by people skilled in the use of screen reader technology.

6. CONCLUSION

Financial services providers are well placed to ensure the provision of clear, concise and effective information to people with a print disability, by delivering this information in accessible formats. At the very least, information on products and services should be available on accessible websites in accessible formats such as Rich Text File, on audio CD, in large print and in Braille, the latter on request. Information on financial literacy should be treated in a like fashion.

Consumers with a print disability will have difficulty participating, negotiating or making informed financial and other life decisions unless all relevant information is accessible to them in a format of their choice.

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