

Election 2003: Fully Inclusive?

An Investigation into the Accessibility of Web based Manifesto information of parties standing in the Scottish Parliament Elections 2003.

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April 2003

1. Summary

The web sites of the main political parties standing in the 2003 Scottish Parliament elections were assessed for their accessibility to disabled web users. The study was particularly aimed at finding out how easy it was to access the information provided by on-line Manifestos.

The findings of the study suggest that access to on-line party Manifestos was likely to be in most cases frustratingly inefficient and long-winded for many disabled users, including people who are blind and visually impaired people, people with dyslexia, people with mobility impairments and cognitive impairments. In some cases manifestos and other information will be completely inaccessible to some visitors.

This inconsistency in the availability of web based information to the widest possible cross section of society suggests a worrying lack of awareness of the needs of designing for disabled web users, despite some sites stating that they had considered accessibility during design. The result is continued social exclusion, limiting the ability of many people to make an informed choice when they vote on 1st May 2003.

Many sites, including those of Scottish Labour and Scottish Conservatives, failed to comply with basic guidelines for web accessibility - guidelines that were published the day before the first Scottish Parliament election in 1999. Ironically, there is evidence to suggest that for all parties, it would not take much effort to significantly improve access to on-line Manifestos for most disabled web users, making access to information easier and more flexible for the electorate, as well as giving parties an efficient way of making policy available to the widest audience.

Specific findings included:

- Scottish Labour's site failed basic accessibility guidelines, despite a claim that the site had been designed to take disabled visitors' needs into account. Nearly 80 key presses were required in order to access the Manifesto, which was only available on-line in PDF format, a file format that requires special reading software.
- The Scottish National Party (SNP) provided alternative versions of both their main and Manifesto sites that had been designed with accessibility in mind – unfortunately it was not possible to navigate from one to the other, and the alternative version of the Manifesto could not be directly accessed by a blind person using a screen reader.
- The Scottish Liberal Democrats provided a site that did in theory meet many accessibility guidelines, but the layout of information was such that many disabled users would find location of the Manifesto and other information extremely difficult – access to the Manifesto required nearly 30 key presses.
- While the Scottish Conservative Manifesto was relatively efficient to access, their site failed basic accessibility guidelines by omitting to provide text alternatives to many graphics, making understanding potentially very difficult for blind visitors. Some parts of the site would not be accessible to people who could not use a mouse.
- The Scottish Socialist Party provided an on-line Manifesto with the fewest accessibility problems – it was accessible without great difficulty when using a screen reader and text only browser. Even so, access to the Manifesto required nearly 20 key presses, and some users with low vision may have difficulty in easily reading the text.

2. Introduction

Legislation relating to accessibility of polling stations has been introduced to help many more disabled voters to exercise their democratic right by voting in the elections for the 2003 Scottish Parliament. E-government is often suggested as a way of making democracy more accessible to disabled and older members of society. But how do the web sites of Scottish political parties fare for accessibility to disabled web users? Do these sites make information accessible so that voters can make an informed choice between parties when they vote?

Each political party standing for the 2003 Scottish Parliament maintains a party web site. These web sites are potentially very useful sources of information for the electorate, not least as a place to find out about party policy via an on-line manifesto. In particular, the web is potentially the easiest way for many disabled people (a group where turnout at elections has been quoted as historically more than ten per cent below the rest of the population¹) to independently access information relating to the election, information that allows them to analyse party policy and make an informed decision on likely voting intentions.

The Representation of The People Act 2000², introduced in time for last year's UK General Election, made radical reforms to the voting procedure for disabled people. This Act requires every polling station to have large print ballot papers on display and a device to allow blind and partially sighted voters to vote independently. In addition, the option to vote with the assistance of a companion has now been extended to any person who is blind or has a physical incapacity or an inability to read. However, whilst these measures have allowed more disabled people to exercise their right to vote they are of little use if a disabled person cannot find out about a particular party's Manifesto pledges.

While there is currently a separate issue relating to wealth and access to Internet technology for many groups of society, the provision of accessible web sites is in the authors' opinion an efficient and flexible way of making election-related information available to a wide audience, regardless of disability.

3. Background

Web Accessibility for Disabled People

People who may have difficulty or find it impossible to access information on the web include people who:

- are blind.
- are visually impaired, for example through a colour perception problem, macular degeneration or myopia.
- are deaf or hearing impaired.
- have dyslexia.
- have a physical impairment that affects manual dexterity or prevents the use of the hands to operate a computer.

¹ Quoted by the Royal National Institute for the Blind (RNIB), 2001. See: <http://www.epolitix.com/data/companies/images/Companies/RNIB/Accelelect.htm>.

² Representation of the People Act: <http://www.hmso.gov.uk/acts/acts2000/20000002.htm>

- have a cognitive disability that affects concentration, results in memory loss or inability to easily understand textual information.
- have a learning disability.

In many cases, technology exists to enable access, such as *screen readers* that can covert text into speech for blind people, *Braille displays*, *screen magnification software* and *alternative input devices* that can replace the keyboard or mouse.

A well-designed web site will cater for a wide range of access needs, and will work well with these assistive technologies. For example, a Manifesto presented as an accessible web page can also be read out by a screen reader or presented as Braille by a Braille display directly to blind Web surfers, resulting in an efficient and flexible presentation of information, saving disabled web users from having to order, or even purchase, alternative versions.

It should be noted that there is a related economic issue here, in that assistive technology tends to be expensive, while many disabled people are comparatively disadvantaged economically, and may not be able to afford the cost of a computer plus appropriate technology. This issue is obviously extremely significant in the subject of accessibility of web base information, but is beyond the scope of this review.

There has been a significant amount of research into the area of web accessibility³, resulting in the availability of many useful guidelines, tools and other resources to help web site designers develop web sites accessible to the widest possible audience. Unfortunately, awareness of these resources is still limited, and knowledge amongst designers in how to effectively design with accessibility in mind is not as widespread as it could be. Unfortunately, there is also a viewpoint held by some that accessible design is incompatible with other goals, such as a visually stunning web site, with complex functionality and interactivity, while others feel that accessible design is either too difficult, too expensive, or an inefficient use of time.

These arguments can be balanced by considering that, as with other products, designing a web site accessible to a diverse range of people often benefits everyone – a web site that is easier and faster to use than its rivals is undoubtedly a significant asset.

Legal Imperatives

In addition to the commercial benefits, an accessible web site is also likely to be required under Part III of the Disability Discrimination Act 1995 (the DDA)⁴. Under s.19 of this Act, service providers are obliged not to discriminate against disabled people in the provision of a service and to make “reasonable adjustments” to any services which a disabled person might find unreasonably difficult to use as a result of his or her disability.

Although the Act does not stipulate that web sites are covered by the obligations, it does give the example of “access to and use of an information service”, which is likely to include web sites, being in essence sources of information. The position with e-commerce sites is arguably even more clear cut, with the web site clearly being a service. A recent revision of the Code of Practice on the Provision of Goods Facilities

³ See W3C Web Accessibility Initiative for more on web accessibility: <http://www.w3.org/WAI/>

⁴ Disability Discrimination Act (DDA):
http://www.hms0.gov.uk/acts/acts1995/Ukpga_19950050_en_1.htm

and Services⁵, which accompanies Part III of the Act, has for the first time included a web site within the examples of services which will be subject to the Act. The Code of Practice, whilst not an authoritative statement of the law, is designed to give guidance to both service providers and disabled people as to what is and what is not covered by the Act. Further, in hearing a case brought under the DDA, the Court has a duty to consult the Code of Practice where it is deemed relevant.

The argument for accessible web sites is further strengthened by recent experiences in Australia, where in 2000 the Sydney Olympic Games organising committee was ordered to pay damages to a visually impaired man who was unable to access the main Olympic Games web site. Despite there being no explicit requirement for web sites to be made accessible, and the site in question only offering information and news on the games, the Human Rights & Equal Opportunities Commission held that the committee were offering a service to the public⁶. As such, there was therefore a legal requirement on the organising committee to provide a web site accessible to the disabled.

The DDA closely mirrors the equivalent Australian legislation and provides a strong indication on how it will be interpreted by the courts. Although no legal action has yet been brought against a UK service provider because its web site is inaccessible to disabled people in light of such a clear argument it is hard to imagine that a court in the UK would come to different decision.

4. The Review

Sites Reviewed

The parties chosen for this review were those linked from the BBC News web site's Vote Scotland 2003 section⁷

The parties reviewed were:

- Scottish Conservative and Unionist Party.
- Scottish Green Party.
- Scottish Labour Party.
- Scottish Liberal Democrats.
- Scottish National Party.
- People's Alliance Party.
- Scottish Socialist Party.
- UK Independence Party Scotland.

It should be stressed that the omission of any party's web site from this review should not be interpreted as a political statement by the authors.

A selection of pages from each party's site was chosen. These were:

- The Home page.

⁵ Code of Practice: Rights of Access- Goods, Facilities, Services and Premises:
<http://www.drc-gb.org/whatwedo/publicationdetails.asp?id=223§ion=2&all=1>

⁶ Ruling of Maguire v Sydney Olympics Organising Committee:
http://www.hreoc.gov.au/disability_rights/decisions/comdec/2000/DD000120.htm

⁷ BBC News Web site: Vote Scotland 2003:
http://news.bbc.co.uk/1/hi/in_depth/scotland/2003/vote_scotland/default.stm

- The page giving access to the party manifesto.
- A page from the manifesto detailing party policy on the economy.

The pages were accessed during the period 11-17th April, and consequently any changes to the pages made after that time are not taken into account.

Review Methodology

The methodology was developed with the aim of quickly gaining an impression of accessibility of the sites chosen, and did not aim to uncover all potential accessibility problems present.

To obtain an initial overview of general accessibility levels, the Home page of each site was checked with the 'Cynthia Says' accessibility checking tool⁸. This tool automatically inspects the HTML code of a web page for potential accessibility problems – while it cannot report every potential problem, it does detect certain key features, such as the presence of text alternatives for graphics, and gives a useful indication as to whether a site is likely to present some people with accessibility problems.

Following this, each site was viewed in a variety of browsers, with the aim of judging compliance with a set of accessibility guidelines. The following browsers were used to assess the pages for potential accessibility problems:

- Microsoft's Internet Explorer, which statistics suggest is the most widely used web browser. Version 5.5 was used in this study.
- IBM Home Page Reader. This is a text-to-speech browser used by many blind web users to access the web.
- The Lynx text-only browser. While Lynx is used only in very small numbers to access the web, it is very useful as a testing tool. Lynx presents web pages in a stripped down format, does not show graphics or animations and does not support web technologies such as JavaScript, and is therefore an excellent indicator of potential accessibility problems.

Using these browsers, an assessment was made of the pages' compliance with the following accessibility rules of thumb. These, and the 'Cynthia Says' checking tool, are based on the World Wide Web Consortium (W3C)'s Web Content Accessibility Guidelines (WCAG)⁹:

1. *All information in audio, graphic and animated format should be provided in equivalent textual form*, otherwise some information may be inaccessible or incomprehensible to blind web users and any other web user who cannot access graphics.
2. *All information should be accessible without requiring to use the mouse*, otherwise navigation and information location may be very difficult or impossible for people who for reasons of physical disability are unable to operate a mouse – and for blind people, who use the keyboard to navigate rather than the mouse.
3. *All information should be accessible and understood without requiring to see colour*, otherwise anyone with a colour perception problem may not be able to distinguish or understand information.

⁸ Cynthia Says Accessibility Checking Tool: <http://www.cynthiasays.com>

⁹ W3C Web Content Accessibility Guidelines (WCAG): <http://www.w3.org/TR/WAI-WEBCONTENT/>

4. *All hyperlinks should clearly indicate the page to which they lead, otherwise navigation may be difficult and time consuming for many people, particularly people using screen reading devices.*
5. *It should be possible to change the appearance of text on the pages using the browser, for example to enlarge text size or change its colour to improve readability, otherwise information may be very difficult to understand for people with sight problems that affect readability, and people with dyslexia may be prevented from being able to adequately read information.*
6. *All information should be accessible in HTML format, preferably HTML that validates to accepted standards¹⁰, otherwise many browsers and assistive technologies may not be able to adequately show web sites.*

NB The WCAG, first published on 5th May 1999, one day before the first ever Scottish Parliament elections, are the most widely recognised and accepted benchmark for web accessibility. The 14 guidelines are subdivided into 65 prioritised checkpoints, based on the significance of the related accessibility barrier to which they refer. In this review, using a subset of these guidelines allowed a faster assessment of the accessibility of the web pages in question. Therefore this report **does not attempt** to describe all accessibility problems present in each party's site.

Findings

General

When checked with the 'Cynthia Says' accessibility checking tool, using the 'WCAG Priority One' setting to check for only the most significant accessibility problems, the following web sites **failed** the check:

- Scottish Conservative and Unionist.
- Scottish Labour.
- UK Independence Party Scotland.
- Peoples' Alliance.

This indicates that the above sites are **likely to present significant accessibility problems** to some groups of disabled web users. It should also be noted that sites that did not fail the check may still have accessibility problems – the tool could only automatically check for a small subset of all accessibility guidelines.

Following this check, each party's site was reviewed in more detail:

Scottish Conservative and Unionist

<http://www.scottishtories.org.uk>

Generally pages could be understood when listened to in Home Page Reader, but some images were missing alternative text, potentially confusing users of other screen reading technology.

It was possible to access the manifesto and its sections using the keyboard – access to the manifesto required only 4 key presses. Some other features such as the menu allowing access to information about a specific constituency could only be accessed using the mouse.

¹⁰ Valid HTML is written to a standard specified by the W3C, and web pages can be validated using the W3C's MarkUp Validation Service: <http://validator.w3.org>

Pages were readable and understandable when viewed in monochrome.

Links to the manifesto were clearly labelled; however some other links on the site were found that did not clearly indicate their destination.

Some text on the site could be enlarged; but the size of the text forming the site navigation on the left hand side of pages could not be changed.

The manifesto information was provided in HTML format, although the HTML did not validate to an accepted standard, when checked using the W3C Validation Service.

Scottish Green Party

<http://www.scottishgreens.org.uk>

Several images lacked text alternatives, including the navigation bar links and the image at the top of the Home page containing the party name. This meant that browsing with Home Page Reader and Lynx was significantly more difficult than need have been.

The Manifesto was accessible using the keyboard for access, but 26 key presses were required to access the Manifesto. Navigation to the manifesto was relatively straightforward.

Contrast between text and background colours was quite low, potentially limiting readability.

Some text on the site could be enlarged; but not the text forming the site navigation on the left hand side of pages.

The manifesto information was provided in HTML format, although the HTML did not validate to an accepted standard.

Scottish Labour

Main site: <http://www.scottishlabour.org.uk>

Manifesto site: www.justthebeginning.org

Encouragingly, a "Disability Access" link was provided on the Home page, linking to a page giving information about the site's accessibility to disabled visitors. The information on this page suggested that several steps had been taken to ensure the site "works well in text browsers" and "fits criteria of people with visual impairment". Unfortunately, despite this, many significant accessibility problems were found, which are likely to make access very difficult to blind, visually impaired and other disabled users.

Navigation links on the main site were presented as graphics of text that was very difficult to read, and this text could not be enlarged.

Most graphics were provided with text alternatives; however, in many cases these were not appropriate and would likely result in significant frustration for screen reader users. For example, many decorative graphics were given alternative text "*" – meaning that when reading a page with a series of these graphics, Home Page Reader spoke "asterisk", "asterisk", "asterisk", "asterisk", when encountering these images.

Access to the party's manifesto required navigating via an intermediary page to a separate Manifesto web site, where the manifesto itself was only offered in PDF format, and not in HTML.

It was possible to navigate to Manifesto using the keyboard, but to access the PDF version required 79 key presses.

Alternative versions of the Manifesto were offered, in Braille and audio, but required users to contact the party to order these. Using Lynx, it was not possible to access the Manifesto site from the main site, due to the JavaScript technology used to create the link to the Manifesto site.

Scottish Liberal Democrats

<http://www.scotlibdems.org.uk>

The main site was composed of frames – i.e. the main page was in fact composed of two sub-pages, displayed together by the browser to give the impression of one page. Using frames causes potential accessibility problems for browsers that do not support them, as well as some assistive technologies that can have difficulty in detecting changes in content of frames.

The manifesto was presented in HTML format – although not in an accepted standard of HTML. However, the layout of the site meant that navigation was often inefficient – using the keyboard, 28 key presses were required in order to access the first link to the Manifesto. The layout of the site, and the use of one long page for the manifesto meant that information flow was also unexpected when the site was spoken by Home Page Reader, making information comprehension particularly difficult.

Some graphics were not provided with appropriate alternative text. Most text could be enlarged to improve readability, but some text remained potentially difficult to read.

Scottish National Party

Main site: <http://www.snp.org>

Manifesto site: <http://www.releaseourpotential.com>

The main site used frames – in this case, the main page was composed of four sub-pages, displayed together by the browser to give the impression of one page. As with other party sites using frames, there are potential accessibility problems for browsers that do not support them, as well as some assistive technologies that can have difficulty in detecting changes in content of frames.

The Manifesto was provided on a separate web site, with a link from the main Home page. It was possible to navigate to the Manifesto using the keyboard, and required only 8 key presses to access the main Flash version – the Flash manifesto was also keyboard navigable.

Some graphics on the main site were lacking appropriate alternative text, making comprehension of the site very difficult for screen reader users. Interestingly, a separate ‘text’ version of the SNP site was provided; presumably as an effort to improve accessibility. Pages of this version of the site displayed a verification icon from the Bobby accessibility-checking tool, and was the only site of those tested that included some evidence that external accessibility validation had been carried out. Despite this, however, the text only site did not provide a link to the Manifesto site.

Some text on the site could not be enlarged, and could present significant readability problems to some site users.

When using Home Page Reader access could not be gained to the Manifesto site, although when Lynx was used to access the Manifesto site, an accessible version of the Manifesto was provided. The main Manifesto site was presented as animated content, using Macromedia Flash rather than HTML. Although this meant that the Manifesto was presented as rich audio-visual content, this may cause many users accessibility problems - even if the Flash content has been made as accessible as possible through the use of recently introduced accessibility features, there was no

option to view an alternative HTML version of the manifesto for users who cannot access Flash content.

Paradoxically, as seen when using Lynx, a text based HTML version of the manifesto did exist, but unfortunately was only automatically offered to certain browsers. So for example a blind user accessing the site with Internet Explorer and a screen reader may only be offered the Flash version.

It was noted that the SNP Manifesto was offered in Braille and audio formats, but to obtain these required telephone ordering, and each format cost £4.50.

Peoples' Alliance Party

<http://www.peoples-alliance.org.uk>

Significant difficulty was encountered in accessing this site using Lynx and Home Page Reader. Graphics were not given text alternatives, making navigation and comprehension of information very difficult.

Keyboard access through the site was made virtually impossible due to the animation at the top of the Home page – the reviewers found it impossible to bypass this in order to access the site navigation. Thus, it was not possible for users who cannot use a mouse to navigate to the Manifesto.

The Manifesto was additionally provided only in PDF format, and was not available in HTML.

Scottish Socialist Party

<http://www.scottishsocialistparty.org>

Access to the party's manifesto was straightforward, with a clear link on the Home page. Using Home Page Reader, the manner in which link text was read out was slightly confusing, but did not significantly hinder access.

The Manifesto was keyboard accessible, but did require at best 19 key presses in order to access it.

Graphics were all provided with appropriate text alternatives, and some, but not all, text could be enlarged – the small text size of the manifesto could not be changed using Internet Explorer's text size options.

The faded grey text used to provide captions for some images could present readability problems, but most text was appropriately readable.

The manifesto was presented in accessible HTML format, and the HTML validated to the XHTML 1.0 standard, significantly improving the potential for the site to be accessible in a wide range of browsers.

UK Independence Party Scotland

<http://www.ukip-in-scotland.org>

To gain access to the Manifesto, users first had to navigate past an introductory screen in order to get to the Home, where a link to the Manifesto was provided. The site used frames – in this case, the Home page was composed of two frames, and the Manifesto section was comprised of three frames. As with other party sites using frames, there are potential accessibility problems for browsers that do not support them, as well as some assistive technologies that can have difficulty in detecting changes in content of frames.

The site presented information, including the Manifesto in simple HTML text, although the HTML could not be validated against accepted standards. It was

possible to adjust the appearance of most text other than the navigation links, and browsing in monochrome did not prevent access to or understanding of information.

Keyboard access to the manifesto was possible, and the manifesto could be accessed directly in 8 key presses, although elsewhere in the site, the 'Select Your Region' feature used a menu that could only be activated using the mouse.

5. Comment

Despite the increasingly high profile of web accessibility as an essential aspect of web design, the legal implications relating to potential discrimination, and the obvious advantages to parties who provide information through an accessible web site, the findings of this review were very disappointing. Evidence suggests that access to online Manifestos will be at best frustrating and time-consuming, and at worst impossible for many disabled people, including blind and visually impaired people, people with motor impairments, and also people with dyslexia.

The lack of thought given to keyboard accessibility – essential for blind web users as well as anyone with an impairment that prevents them from using a mouse – was particularly disappointing. Some sites, most notably Labour, required an excessive amount of key presses in order to access the Manifesto, and the Peoples' Alliance Manifesto was inaccessible to keyboard users. Other sites allowed efficient keyboard access to the Manifesto, but other features could only be operated using the mouse. Examples included navigation menus on both the Conservative and UK Independence Party sites.

For some party sites, there was little evidence to suggest that disabled users had been considered during the design and testing process. Examples were the missing or inappropriate text alternatives to graphics of many sites, while the layout of the Liberal Democrats' site, with key links and information on the right hand side of pages meant that browsing using a screen reader would be particularly inefficient and frustrating.

The reliance on providing a full Manifesto only in Portable Document Format (PDF) format was also a potential accessibility problem. A Manifesto presented in well written HTML web pages should be easily and immediately accessible to people using a variety of browsers and assistive technologies. To access, read and print PDF documents require additional separate software. Additionally, the nature of this file format means that to allow documents in this format to be readable by screen readers may require a blind user to convert the document into an accessible text version, depending on how the PDF was created. At best, additional effort may be required for many to be able to read PDF files; at worst they may be inaccessible to some blind web users.

NB There is certainly a role for providing a Manifesto document in PDF form, as well as HTML web pages, where the PDF is intended for printing the document out for off-line reading. But for on-line viewing, HTML has the advantage of being more immediately accessible to a wider audience.

Another disappointing finding was that while some sites, notably those of Scottish Labour and SNP, provided evidence that accessibility had been considered, there was frustration that this did not translate into an optimally accessible web site.

- In the case of Labour, a comprehensive 'Disabled Access' page promised that accessibility had been catered for, yet the site contained many significant problems. In mitigation, the page in question did acknowledge that further work needed to be done, but the evidence of the review suggests that a significant amount of work may be required.

- With the SNP, separate versions of both the main site and the Manifesto existed. In theory, these 'text only' versions are provided as alternatives to users who have difficulty accessing high graphic web content. There are several issues with taking the 'alternative accessible site' route, but notwithstanding these, navigating to the 'Text' version of the SNP site using a screen reader was difficult, and virtually impossible in the case of the Manifesto. The Text version of the SNP site did not provide a link to the text version of the Manifesto, meaning that these separate versions were not available to people who would most benefit them.

The picture is not, however, completely bleak. The Manifesto of the Scottish Socialist Party was relatively straightforward to access, even when using Home Page Reader and Lynx, and the SSP's web site was particularly commendable in that it validated to an accepted HTML standard: XHTML 1.0 Transitional. The simple layout and design of the SSP site helped to ensure improved access to the Manifesto. This greatly increases the chance that the site will be readable in the widest range of browsers and assistive technologies.

What is also encouraging is that for all sites, only a small amount of effort is required to significantly improve accessibility. By providing the Manifesto in valid HTML, ensuring that information in graphic and animated form is also provided in text form, and ensuring that navigation to the Manifesto is as efficient as possible when using the keyboard, accessibility should be dramatically improved for many users.

As well as designing to accepted accessibility guidelines, involvement of disabled web users is also recommended, in order to ensure that sites are as easy to use as possible by as many people as possible.

6. Conclusion

Commendably, steps have been taken to ensure that the physical process of voting in the 2003 elections to the Scottish Parliament will be made more accessible than ever before to the electorate, regardless of disability. Unfortunately, the accessibility of web based party policy information allowing voters to make an informed choice remains disappointingly low, with accessibility of party information on the web very inconsistent. Many disabled voters may be severely compromised in their ability to use on-line Manifesto pledges to choose between parties.

Whether attitudes of a political party towards accessibility on the web match party attitudes towards accessibility of society in general is not an issue on which the authors can comment. It is however hoped that parties seize the initiative to use the web as an economical, efficient and accessible way of stating their case for election to the widest possible audience.

7. About the Authors

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David Sloan is Research Co-ordinator of the Digital Media Access Group, a research and consultancy group based in the Division of Applied Computing at the University of Dundee. David has advised many clients on the accessibility of educational, commercial and public sector web sites, and has also spoken on the subject at a number of conferences in the UK and beyond. He is also studying for a PhD, looking at aspects of how web accessibility can be improved for disabled web users.

Martin Sloan

Martin Sloan is a Trainee solicitor with Edinburgh commercial law firm Brodies, and is one of the UK's leading authorities on Web Accessibility and the law. Following his Honours Dissertation on Web Accessibility and the DDA, Martin has written for several leading UK law journals and has spoken at conferences organised by the RNIB and the University of Edinburgh. Martin was supported in his original research by the Digital Media Access Group at the University of Dundee and periodically writes for their Web site. Martin also runs a Web site containing information on Web Accessibility and the law in the UK at www.web-access.org.uk.

8. More Information on Web Accessibility

Books

Web Accessibility for People with Disabilities – Paciello, M (2000), CMP Books. ISBN 1-929629 – 08-7

Constructing Accessible Web Sites - Thatcher, J., Waddell, C., Henry, S., Swierenga, S., Urban, M., Burks, M., Regan, B. and Bohman, P. (2002), Glasshaus. ISBN 1904151000

Building Accessible Web Sites - Clark, J (2002), New Riders. ISBN 073571150X

Selected Web Sites

Digital Media Access Group: <http://www.dmag.org.uk>

Adobe (PDF) Accessibility: <http://access.adobe.com/>

Dive into Accessibility: <http://diveintaccessibility.org>

Jim Thatcher's Web Accessibility site: <http://jimthatcher.com>

Macromedia Web Accessibility:
<http://www.macromedia.com/macromedia/accessibility/>

Making Connections Unit (Glasgow Caledonian University): <http://www.mcu.org.uk>

National Centre for Accessible Media (USA): <http://ncam.wgbh.org/index.html>

Royal National Institute for the Blind (RNIB) Campaign for Good Web Design:
<http://www.mib.org.uk/digital/>

UK Law and Web Accessibility: <http://www.web-access.org.uk>

W3C Web Accessibility Initiative: <http://www.w3.org/wai/>

WebAIM – Web Accessibility in Mind: <http://www.webaim.org/>