

CHAPTER TITLE:

**“FAILING THE DISABLED COMMUNITY?:
THE CONTINUING PROBLEM OF WEB
ACCESSIBILITY”**

By

Dr David Kreps

d.g.kreps@salford.ac.uk

Professor Alison Adam

A.E.Adam@salford.ac.uk

University of Salford, M5 4WT

Fax: +44 (0) 161 745 8169.

Published 2006 in *Advances in Universal Web Design* Eds
Kurniawan & Zaphiris
Idea Group Publications

FAILING THE DISABLED COMMUNITY? : THE CONTINUING PROBLEM OF WEB ACCESSIBILITY

Abstract

The focus of this paper is web accessibility for disabled people, given that much of the web remains inaccessible or difficult to access. The topic of disabled web access is introduced through a consideration of disability discrimination legislation and a description of how the law applies to web accessibility. There is a tension between the active burdens the legislation demands and the relative passivity of approaches towards disability discrimination which still prevail. This is exacerbated by the widespread acquiescence to automatic software checking. The history of the development of the World Wide Web in terms of accessibility is briefly described. This reveals the familiar tension between a 'free market' approach and regulation which does not readily support social inclusion through accessibility. A table of detailed points showing where automatic tools cannot perform an adequate check against the W3C standards is presented followed by a narrative expanding our claim for the poverty of automatic approaches.

Keywords

Accessibility: discrimination (disability): digital divide

INTRODUCTION

‘...most websites are inaccessible to many disabled people and fail to satisfy even the most basic standards for accessibility recommended by the World Wide Web consortium. It is also clear that compliance with the guidelines and the use of automate tests are only the first steps towards accessibility: there can be no substitute for involving disabled people themselves in design and testing...’ (DRC, 2004, v)

The words of Bert Massie, Chairman of the UK’s Disability Rights Commission represent an indictment of the continued problems of web accessibility, automatic tools and the exclusion of disabled people from design signalling a continuing Digital Divide between the disabled community and the rest of society.

The concept of the Digital Divide has become something of a mantra for those concerned with the accessibility of ICTs. As studies are undertaken on accessibility in terms gender, class, age, disability etc. our understanding of the ways in which accessibility to new ICTs is much more than just having technology available becomes increasingly sophisticated. At the same time, the use of the World Wide Web for the provision of goods, services, information and education has grown exponentially in the last ten years. It seems incontrovertible that access to the Web could be immensely beneficial for disabled users, over a wide range of applications, especially those whose impairment affects vision or mobility.

In this paper we consider the issue of web accessibility for disabled people. We argue that much of the web remains inaccessible resulting from the interplay of a number of factors. In the following section, the topic of disabled web access is introduced through a consideration of disability discrimination legislation and how the law applies to web accessibility.

This issue is exacerbated by the widespread acquiescence to automatic software checking, where it is assumed that software can do everything necessary to pass all the appropriate accessibility checks. Our analysis continues in the next section which describes the history of the development of the World Wide Web in terms of the development of HTML and XML. Although the absence of regulation of the Internet has permitted an incredible explosion of creativity, the ‘free market’ of Internet expansion and web usage does not promote an active programme for social inclusion. Despite this, the active attempts of Berners-Lee and the W3C consortium has resulted in a set of web accessibility standards which has been accepted by the European Parliament. The next section details a table of detailed points showing where automatic tools cannot perform an adequate check on the accessibility of a website and the narrative following this expands our claim for the poverty of automatic approaches. We close by suggesting ways forward from the current impasse.

LEGISLATION AND ACCESSIBILITY

In several Western countries legislation has been enacted to ensure that individuals are not discriminated against on the grounds of disability, gender, race, and, more recently (at least in the UK), age. For the purposes of this paper, we shall be focusing on the UK and the wider EU, with reference also to the US and Australia. Each of these regions have legislation in force, to prevent discrimination against the disabled; this legislation is widely interpreted as mandating the use of accessibility techniques on the web. The standards described, like the reach of the Internet itself, are, however, global.

In the US, the Rehabilitation Act of 1973 was updated in 1998 and ‘Section 508’ states specifically that Federal agencies' electronic and information technology should be accessible to people with disabilities (FirstGov 2002). Section 508 lists a range of guidelines for web authors similar to but neither as exhaustive nor as strict as those adopted elsewhere. They do, however, represent an overt

legal requirement, in contrast to, for example, UK legislation, which does not even mention the web, leaving it to others to interpret the meaning and scope of the term, ‘services.’

In Europe, as part of the “Lisbon 2010 objective of making the European Union the most competitive and dynamic knowledge-based economy in the world,”(EUParliament 2003) a series of Action Plans have been implemented, including the eEurope Action Plan 2002, 2005, and iEurope 2010. The first of these Action Plans was closely followed by EU Council and EU Parliament resolutions (EUParliament 2002) mandating accessibility standards for all public websites, and in keeping with this new focus, the EuroAccessibility Consortium founded in April 2003 brought organisations from across the Union together to prevent fragmentation in understanding and implementation of the Guidelines, with the aim of setting up a Web Accessibility Certification Authority and Quality Mark for the EU, based upon the W3C Guidelines (EuroAccessibility 2003). The eEurope Action Plan 2005 included the plan to achieve "an Information Society for All", and consequently an eInclusion agenda for both social and regional inclusivity in the Information Society (EU 2005).

At a national level, within European nation states, legislation on Disability Discrimination as it relates to the provision of services has also been interpreted as including services delivered electronically. In the UK, the Disability Discrimination Act (DDA 1995) came into force in phases over a period of almost ten years, the most important phase, for web accessibility, being 1st October 1999. This was the date when provisions in Part 3 of the Act came into force, making it unlawful to discriminate against disabled people by refusing them service, providing service on worse terms or providing a lower standard of service. It also requires service providers to make reasonable adjustments to the way they provide their goods, facilities and services to make them accessible. The owner of a public facing website is a ‘service provider’ under the terms of the Act, and must therefore comply with the law. The

DDA revised Code of Practice on Rights of Access to goods, facilities and services was published in February 2002 (DRC 2002); chapters two and five deal specifically with accessibility of websites. The revised Code of Practice ‘deals with the duties placed by Part III of the Disability Discrimination Act 1995 on those providing goods, facilities or services to the public’ and ‘makes it unlawful for service providers.. to discriminate against disabled people in certain circumstances.’ (DRC 2002: p.iii)

This Code of Practice was written by the Disability Rights Commission, the UK Government body charged with protecting and championing the rights of disabled people in the UK. In section 2.17 of the Code, under the sub-heading ‘What services are affected by Part III of the Act’ the following sentence appears: ‘An airline company provides a flight reservation and booking service to the public on its website. This is a provision of a service and is subject to the Act.’ Additionally, in sections 5.23 and 5.26, the list of auxiliary aids and services ‘which it might be reasonable to provide to ensure that services are accessible’ for those with hearing and visual impairments, respectively, includes, in both cases, ‘accessible websites.’ (DRC 2002) Hence, although UK legislation does not explicitly mandate accessible websites, the examples clearly signal that we are to understand the web’s role in the provision of services and make due consideration as to accessibility.

The original 1995 Act was not the end of the story, in the UK, however. The Act included an exemption for the Education sector. Accordingly, in 2001, the Special Educational Needs and Disabilities Act (SENDA), which came into force with respect to ‘student services’ in September 2002, required that the websites (Internet and Intranet) of HE institutions should also apply accessibility practices. Recently completed its passage through the UK Parliament, furthermore, the Disability Discrimination Act 2005, when it begins to apply, from December 2006, will strengthen and supersede the former Act in several respects, in particular with regard to the public sector. It will include a new

duty on Local Authorities to ‘promote equality of opportunity for disabled people.’ (UKParliament2003) The Bill includes: ‘a duty to take steps for the purpose of making an auxiliary aid or service available to any such disabled persons.’ This duty to make information available in an accessible format underlines the provisions in the Code of Practice mentioned above, which lists auxiliary aids and services.

It is in this respect that an accessible website, however, becomes of critical importance to any organisation in its attempts to comply with Disability legislation. The UK Government website that acts as a resource for disabled people, www.disability.gov.uk, now merged with the disability section of www.directgov.gov.uk, carried the advice that, ‘Putting documents onto a website designed to be accessible to disabled people, and publicising this, will go a long way towards making your information accessible.’ (www.disability.gov.uk 2004)

In summary then, in the UK at least, but by implication also across the whole of the EU, where similar legislation is either already or soon to be put in place, it might be said that not only is it a legal requirement that websites be accessible, but that making information available through an accessible website is a recommended means of complying with the legal requirement to make information accessible to disabled people in a general sense. For public sector organisations this is of paramount importance. For businesses working with or alongside the public sector, the implication of the new duty on public authorities to promote equality of opportunity, furthermore, is that the accessibility of their own websites will be of no small importance in the assessment of any tender for services they might make.

TENSION BETWEEN LEGISLATION AND CURRENT APPROACHES TOWARDS ACCESSIBILITY

Hence, significantly, the UK DDA mandates an active approach towards removing disability discrimination. It is not enough to provide goods and services and hope that disabled people will access them. We are mandated to take active steps to ensure accessibility and this applies to those who provide goods and services through the medium of the Internet, just as much as to those who use more conventional means.

Throughout the world Disability legislation is relatively new and there have been very few court cases, as yet, which specifically test the legislation in regard to website accessibility. So far, the Australian Disability Discrimination Act (1992) is the only legislation globally which appears to have been tested in court with regard to web accessibility. In the case of *Maguire v The Sydney Organising Committee for the Olympic Games*, the court found that the Committee had been in breach of the Australian Act by failing to provide a website to which Mr Maguire (a blind Australian) could have access. (DRC, 2004, 3)

The Chairman of the UK Disability Rights Commission, Bert Massie, however, stated in his introduction to a recent DRC report, that ‘the industry should be prepared for disabled people to use the law to make the web a less hostile place.’ These are strong words; they explicitly urge disabled people to look to the law if their needs are not met. It is to be expected, then, that the coming years will see test cases in the UK and more widely in Europe. The Royal National Institute for the Blind (RNIB) in the UK, have made it known (Isolani 2003) that they have been in private contact with several blue chip corporations, who have naturally undertaken accessibility retrofits of their websites in exchange for silence and the avoidance of legal action. No-one, it seems, wishes to be seen to be discriminating against disabled people.

All in all, this means that there are now, in many cases, legal obligations. Alongside this, there is an increased awareness of equality and diversity issues. Additionally there is a clear business case for more inclusivity in corporate practice. According to the Employers' Forum on Disability 2001, based on figures from the Labour Force Survey of 1998, there are 6.2 million disabled people of working age in the UK, equal to 18 per cent of the working population, and a market worth some £40bn annually. There are equal opportunities policies in a growing number of UK organisations that make specific reference to the equality of opportunity for disabled people.

The active demands of the legislation contrasts with a fairly passive approach towards discrimination which, at best, sometimes centres around the catching up type described above. There is a clear tension here between a passive approach towards increasing awareness with a concomitant generalized will towards equality and diversity, which we now see becoming prevalent in many Western countries and an engagement with very active measures which are required for compliance with legislation, and for offering genuine equality of opportunity for disabled people. Nowhere is this tension more clearly manifest than in regard to the question of web accessibility for disabled people.

THE STORY OF HTML

In this section we consider how the contribution of the development of the Web and attempts to regulate it have contributed to the accessibility problems outlined above.

Hypertext Mark-Up Language (HTML) has something of a chequered history. In its earliest days it was a new tool created by Tim Berners-Lee at the CERN laboratories in Switzerland to assist in data sharing between the computers at the centre. Based upon SGML, it was a miniature, simplified version of that highly complex mark-up language.

But Berners-Lee soon had other plans for it. Taken up by the World Wide Web Consortium (W3C) – the body established by

Berners-Lee in 1994 to try to marshal the phenomenal growth of the web his mark-up language had spawned – HTML was to undergo a profound reinvention. (W3C 2004)

HTML 3, a formal recommendation of the W3C in the mid90s, contained a wide range of new visual formatting properties, in response to the increasing interest in what could be achieved presentationally on the web. Yet, following this, while Netscape and Microsoft vied for control of the web with their own, proprietary, unwieldy new versions of HTML, and others busied themselves with ever more complex and cumbersome plug-ins visitors to websites were increasingly encouraged to download and install into their browsers, the W3C began creating a new foundational language for the future of the web: Extensible Mark-up Language (XML). (W3C 2004)

XML is at the heart of Berners-Lee’s concept of the Semantic Web, his wish, through the universal application of rigorously quality processed international standards for code languages, to see machines talking to one another on our behalf. Thus the trajectory of the W3C’s versions of HTML lifted the language from its SGML origins and shifted it across to this new, XML foundation, first through the publication of HTML 4, and then XHTML. Both these new kinds of HTML, published in the late 1990s, came in two flavours: Strict, and Transitional. The former flavour had stripped out all of the visual formatting and presentational elements introduced in HTML 3, paring the language down to a more robust version of the earlier, more structural HTML 2. Visual formatting was now to be achieved exclusively through the use of a new W3C technology, Cascading Style Sheets (CSS). The Transitional flavour of these new versions of HTML allowed web designers to continue using older, HTML 3 visual formatting code until such time as the makers of browsers had caught up, and were properly supporting the use of CSS. The differences between HTML 4 and XHTML1.0 were minor, constituting mainly in some more rigorous rule-based practices in the latter than in the former, geared toward making the code more XML friendly. Finally, in

the summer of 2001, XHTML1.1 was published, with no Transitional version. The transition from SGML to an XML basis for HTML was complete.

Parallel with these developments, the W3C undertook an exercise entitled the Web Accessibility Initiative, (WAI) which in 1999 published its Web Content Accessibility Guidelines (WCAG). As part of the initiative, alongside stripping out the visual formatting from HTML, new elements and attributes were introduced into the code to help make it more accessible to disabled people. ‘The power of the Web is in its universality,’ as Tim Berners-Lee famously stated, ‘Access by everyone regardless of disability is an essential aspect.’ Thus HTML 4 and XHTML 1.0, published the same year, contained these elements in both Strict and Transitional flavours, as does the now completely XML based XHTML1.1.

The WAI also published, in the following years, the Authoring Tool Accessibility Guidelines (ATAC), and User Agent Accessibility Guidelines (UAAG). (W3C 1999) It is these standards for those making websites, the software tools many use to make them, and the browsers through which they are accessed, that have since 1999 been increasingly applied by organisations around the world, and have been accepted by governments in numerous countries, as the de facto global standards for web accessibility. The battles between Netscape and Microsoft came to an end, and the makers of browsers now pride themselves on their support for and compliance with the standards set by the W3C.

The WCAG provide a set of guidelines for creating web pages that are accessible to all, regardless of sensory, physical, or cognitive ability. To provide web developers with a graded approach to the implementation of accessibility, three ‘levels’ have been defined: Level A, Level AA and Level AAA. The first level, Level A, covers items on Web pages that must be made accessible in order for individuals with disabilities to access the content at all. The second level, Level AA, includes items on Web pages that should be made accessible to allow a wider group of users to access the

content. The third level, Level AAA, describes items on Web pages that can be made accessible to allow the widest amount of individuals with disabilities to use the site. For the full WCAG visit the W3C Web site at: <http://www.w3.org/TR/WCAG10/full-checklist.html>. Most governmental directives specify Level AA as the minimum requirement.

The EU Council and Parliamentary resolutions specify the W3C's web accessibility standards, mandating compliance, Europe-wide, with WCAG Level AA.(CouncilofEurope 2003) Indeed the EU recommendations are not only for the adoption of the WAI Guidelines but for the use of XHTML and XML in the construction of web pages. The eGovernment agenda across Europe, as evidenced in such mandatory standards for the UK public sector as the eGovernment Interoperability Framework (e-GIF)(eEnvoy 2004) similarly require use of XHTML, XML, and compliance with the WCAG Level AA, for all public websites. The EU, in short, have adopted the W3C's project of the Semantic Web wholesale, preferring to side with Berners-Lee's non-proprietary, non-profit-making association of experts, rather than the likes of, say, Microsoft, or AOL. The European Parliament, in its June 2002 resolution on Public Websites, makes frequent reference to 'pure standards like (X)HTML and XML,' calls the WAI Guidelines 'the global standard for the designing of accessible websites,' and makes specific criticisms of what it calls, 'producer-dependent solutions'. (EUParliament 2002)

In this brief history we are describing a classic tale of 'free market' profit-making versus non-profit making non-proprietary regulation. In European terms the pendulum has swung markedly towards regulation and standardisation. Given the active approach that disability discrimination legislation requires, this would seem to be a very positive move in achieving accessibility. Unfortunately these positive moves are undermined both by the quantity of old style HTML sites still in existence and additionally by the reliance on automatic checkers.

THE POVERTY OF AUTOMATED APPROACHES

Automated approaches to checking web pages against these guidelines have proliferated, as described above, in response both to web page complexity, and to the general interest the world over in technological solutions to human problems. In this section we describe in more detail the types of accessibility problems for which they are unsuccessful. Such programmes include A-Prompt (one of the better ones), Bobby, LIFT, and many others (WAI 2004). The W3C maintain a list of such tools on their website (WAI 2004), but are careful not to endorse any of them, and, despite providing the best and most definitive tool for checking that webpages validate to their own published formal grammars for HTML and CSS, the W3C do not provide their own software tool to check webpages against their Accessibility Guidelines.

Given all the arguments we make above we, among others, believe that the Guidelines simply cannot be properly tested in an automated manner, and that for many of them only a human check is possible. Publications of the UK Government (CabinetOffice 2003) and Disability Rights Commission support this view (see below). Web Aim, the Web Accessibility In Mind project based at Utah State University, publicise their own tools and advice with the statement, ‘It is impossible for any program to fully check web accessibility. Human judgment is needed.’ (Connecticut 2004) As Peter Blair says on the Web Aim site itself, ‘Web accessibility requires more than just accessibility tools; it requires human judgment.’ (Blair 2004)

Not focussing on any one particular tool, the following table is a detailed list of issues which automatic software accessibility packages cannot deal with in a satisfactory way, along with the human check which is actually required.

Issue	WC AG	Guideline Text (abbr)	Explanatory remarks	Automated Software Failing	Human Requirement
Imagery	1.1	Provide a text equivalent for every non-text element	Visually impaired people use speech synthesis software that reads out the text on web pages. "Screen readers" and "voice browsers" are perhaps the most commonly known "assistive technologies" used by disabled people to surf the web. The IMG element of HTML is used to place an image on a web page. The ALT attribute of this element was introduced in HTML 4, for web authors to provide a text equivalent for images. The RNIB recommend five words, e.g. ALT="dog leaps for a stick". Speech synthesis software reads the ALT text.	Will accept ALT=image.jpg in the code, as a valid ALT attribute.	Alternative text for graphics and imagery must be meaningful, and only human comprehension can provide meaningful ALT text.

Issue	WC AG	Guideline Text (abbr)	Explanatory remarks	Automated Software Failing	Human Requirement
Imagery	1.1	Provide a text equivalent for every non-text element	If the dog is leaping for a stick over a canal, and the paragraph of text below the picture is about how funny it is that the dog gets wet, it may be necessary to describe the picture in more detail. The LONGDESC attribute of the IMG element, also introduced in HTML4, allows web authors to provide the URL of a page where a longer description may be found.	Cannot tell if graphic requires LONGDESC	Human comprehension of a page is required to decide whether a longer description of a graphic is needed.
Text	3.5	User header elements to convey document structure and use them according to specification	Speech synthesis software enables users to "skim" pages, in a similar way that sighted users "scan" pages. The software reads out only the headings and subheadings, until a keypress stops the "skimming" process and the software reads out the paragraphs beneath the subheading selected. The HTML elements <H1> to <H6> create headings and subheadings, and <p> denotes a paragraph.	Can only detect absence of <H1> – <H6> in code, and recommend a human check. Cannot detect when a heading or subheading has been placed in a <p>	For headings and subheadings to be meaningful, human comprehension of a page of text is required, and human selection of headings made, for appropriate mark-up

Issue	WC AG	Guideline Text (abbr)	Explanatory remarks	Automated Software Failing	Human Requirement
Text	3.6	Mark up lists and list items properly	Speech synthesis software enables users to select different tones and genders of voice for reading out different elements, including headers and subheaders, links, and lists. The HTML elements , and <DL> denote unordered (bulleted), ordered (numbered) and definition (question and answer) lists.	Can only detect absence of , , <dl> etc. Cannot detect when a list has been placed in a series of paragraphs, or in a table, which is a frequent practice	Marking up lists appropriately requires a human understanding of what is a list and what is not
Text	4.1	Clearly identify changes in natural language of a document's text	Speech synthesis software needs to be told when, for example, a French phrase appears in a paragraph of English text. "C'est la vie" will only be pronounced in an intelligible way if the appropriate language identifiers are used in the code.	No automated accessibility checking software (currently available) contains full dictionaries of multiple languages to scan for such changes.	Changes in natural language must be accurately identified by human comprehension – particularly for names which are unlikely to appear in dictionaries.

Issue	WC AG	Guideline Text (abbr)	Explanatory remarks	Automated Software Failing	Human Requirement
Text	4.2	Specify the expansion of each abbreviation or acronym in a document where it first occurs.	New elements in HTML4 included the <abbr> and <acronym> elements designed to allow the expansion of abbreviations and acronyms in the code, so that speech synthesisers could be set to read out the expansion, and browsers for sighted users could enable those with learning difficulties to see the expansion of acronyms and abbreviations in a tooltip brought up by placing the cursor over the relevant text.	Can only check for absence of <abbr> or <acronym>. Without full dictionaries cannot determine whether abbreviations or acronyms are used. Cannot tell what some abbreviations or acronyms may be when there are more than one possible expansions.	Providing the expansion of ABBR and ACRONYM requires comprehension – e.g. is ‘Prof’ Professor or Professional? Providing abbr for acronyms such as UNESCO requires human knowledge of common usage.
Text	13.8	Place distinguishing information at the beginning of headings, paragraphs, lists, etc	The practice of "frontloading" promotes comprehension for all users of the web. For those using speech synthesis software who cannot scan the content of paragraphs for distinguishing words before deciding to listen to it, knowing the gist of a paragraph in the first sentence is an important time saver.	Cannot check for this.	Placing distinguishing information at the beginning of content in headers and paragraphs (front loading) requires human comprehension.

Issue	WC AG	Guideline Text (abbr)	Explanatory remarks	Automated Software Failing	Human Requirement
Forms	10.2 and 12.4	Associate labels explicitly with their controls. For all form controls with implicitly associated labels, ensure that the label is properly positioned.	Forms on webpages enable interaction for a wide range of purposes, from simple feedback to complex transactions. Speech synthesis software reading out the text beside form fields, so that visually impaired users know where to input their details, rely upon new elements in HTML4 to ensure that the right labels are clearly associated with their corresponding input fields. A poorly coded form, whilst clear to sighted users, might easily lead a visually impaired user to type the expiry date of their card into the security id input field, their post code into the county field, and so on.	Can only check for the absence of <label> element and <for> attribute in html forms.	Human comprehension is required to correctly associate labels with their form controls.

Issue	WC AG	Guideline Text (abbr)	Explanatory remarks	Automated Software Failing	Human Requirement
Links	13.1	Clearly identify the target of each link	Speech synthesis software, in addition to text skimming, can also gather all the hyperlinks in a webpage and read them out first – a valuable time saving device for users wishing to find the right page before listening to the text. Links which simply say, "Click here" are in this case quite useless. Link text should therefore always be substantive.	Can only test for appearance of “click here” or “more” in <a> elements, and recommend human check.	Clearly identifying the target of links requires that link text should be substantive and meaningful – requiring human comprehension.

Of the total of 65 individual points in the fourteen guidelines of the WCAG, the Guidelines in the table represent almost 25%. The W3C has not provided any automated check based upon these Guidelines, presumably because it cannot. This reinforces the need for a human check, and bears out the quote at the beginning of this paper which indicates that there is no substitute for involving disabled people in the design and testing of systems.

HOW AUTOMATED APPROACHES HAVE BEEN COUNTER-PRODUCTIVE

But the problem is not only that automated approaches to checking web pages for accessibility are insufficient and unable to substitute for a human check, it is that the existence and proliferation of such software has, in certain respects, actually hampered the global project of making the web more accessible. The development of the web and the rise of the W3C and WAI might seem to militate against this but the W3C cannot provide automatic checks and, in any case much old illegal code remains. Therefore, we claim that

automatic approaches may even have a negative effect and in this section we given an example.

The Level A, AA and AAA of the Web Accessibility Initiative have been used by a very popular tool called Bobby (CAST 2004). Now, Bobby, recently withdrawn and replaced with a new tool called WebXact, was a very useful tool, insofar as it could quickly and effectively show how inaccessible a webpage is, but it was all too often misunderstood. Many organisations – including disability organisations (!) – seemed falsely to believe that simply passing the Bobby test would satisfy their web accessibility obligations. Witt and McDermott, in their research study of international higher education institutions, found that “39% of institutions met with Bobby Priority 1 Approval, 1.5% with Bobby Priority 2 and 1.5% with Bobby Priority 3. It must be noted that the majority of these institutions did not, however, satisfy the relevant WAI approval.”(Witt and McDermott 2004) They conclude, and we concur, that “It is apparent... that some web sites have been observed to display the Bobby or WAI icons even though they are not compliant.”

For the makers of such websites, the measure of accessibility was whether or not their pages can attain the Bobby Approved icon. The Bobby icon represented an achievable standard and a tangible, cost effective reward for efforts made towards web accessibility. But it was really quite patronizing for disabled visitors to websites to be told that because it was a Bobby Approved page it was accessible to all. As we have seen above, where the alternative text on an image says ‘photo1.jpg, 5100bytes’, the page would have successfully attained the Bobby Approved icon. A fully accessible page run through the WebXact automated testing engine now generates the following report: “This page complies with all of the automatic checkpoints of the W3C Web Content Accessibility Guidelines. However, it does not comply with all of the manual checkpoints, and requires manual verification.”(Watchfire 2005)

The Bobby test did not in any way ensure ‘real’ accessibility. Firstly, ‘Bobby Approved’ was based on passing some of the WAI Level A checkpoints alone. If a site is to be truly accessible it should pass the WAI Level AA checkpoints. Bobby did test for these WAI Level AA, and the Level AAA checkpoints, but compliance was not part of getting the icon. Worse, because of the confusion created around the different levels and standards, and the relative marketing success of Bobby against the WAI, what was achieved was in fact an increase in ignorance of what real accessibility – the WAI defined standards – actually entails. As Witt and McDermott assert from their own study, “End users may find the use of these various logos confusing. A page that is declared as Bobby Level x or A-prompt Level x may not necessarily be WAI Level x compliant. Users may not know or understand what is meant by compliance with a formal grammar such as HTML 4.01. The use of older logos such as the Bobby 3.2 logo confuses the situation further.”

It is a commonplace experience amongst web developers tendering for work in the Public Sector in Europe, where the WAI Level AA benchmark is mandated for all websites, to find the specifications in the Invitation to Tender (ITT) actually listing Bobby Approved as the required benchmark of accessibility – the authors have seen such an ITT from a UK Metropolitan Borough Council. In this case a tool which cannot possibly do the job of all the checks required is actually listed as the benchmark. If the authors of such tender documents are confused about what is required, then it is no wonder that, as the UK Disability Rights Commission reveal in their report, ‘The Web: Access and Inclusion for Disabled People - A formal investigation,’ (DRC 2004) 81% of the 1000 websites included in the investigation failed "to satisfy the most basic Web Accessibility Initiative category" – Level A.

In his introduction to this report, Bert Massie, the Chairman of the DRC, had this warning: “Organisations that offer goods and services over the web already have a legal duty to make their websites accessible to disabled people. Our investigation contains

a range of recommendations to help website owners and developers bring down the barriers to inclusive design. But where the response is inadequate, the industry should be prepared for disabled people to use the law to make the web a less hostile place.”

So the Bobby icon, despite its best intentions, ends up promoting social exclusion because it cannot possibly provide all the checks automatically, it will necessarily end up approving many sites which have serious accessibility problems. The Bobby icon prolongs the agony for those trying to surf the web across the social barriers of discriminatory code. That its ‘heart’ may be in the right place is no excuse. Many webpages with the Bobby Approved icon (and no other) are, unintentionally, paying lip-service to inclusivity, and are attracting respectability to themselves with the minimum of effort.

CAST, the makers of the Bobby software, themselves recommend that web developers use Bobby only as a first step to ensure accessible Web page design. It might be more accurate to say that Bobby can be used to identify definite inaccessibility rather than to verify accessibility. Indeed, the Guidelines for UK Government Websites Handbook, (CabinetOffice 2003) states clearly, ‘a successful “Bobby Approved” should not be regarded as an endorsement of accessibility.’ Similarly, the DRC Report highlighted the shortcomings of automated validators and the importance of a human check. The report points out that ‘automated tools cannot check the performance of a website against all 65 Checkpoints, since some require human judgement,’ and that in many cases ‘automated tools can only give “warnings” highlighting those aspects that should be checked manually.’ The report concludes with a series of recommendations, the sixth of which reads: ‘In accordance with the Guidelines, website developers should not rely exclusively on automated accessibility testing.’ (DRC 2004)

Humans are needed to make sense of the world and though the inclusivity is laudable the attempted reliance upon an automated approach is an attempt not to have to make the effort after all.

CONCLUSION AND THE WAY FORWARD

In this chapter we have attempted to give a fair portrait of the exceedingly complex, somewhat troubled and multi-faceted picture of disabled access to the web. In painting this portrait we draw upon a full spectrum of intellectual resources – legal, technical, historical, political and social, signalling that the richness of this issue is best understood across this wide spectrum. Drawing upon legislation and its implications for web accessibility, we note the tension between the active approach demanded by disability discrimination legislation and the more passive approach which is still being taken towards inclusivity. This reinforces the view of the Chair of the UK Disability Rights Commission that disabled people must be involved in the design and testing of websites. Considering the history of how the World Wide Web has developed this reveals the traditional tension between free market and regulation. The acceptance of web accessibility standards by the European Parliament indicates a positive move, yet the inability of the W3C to provide automated checks and the proliferation of old code militates against the success of these initiatives. In criticising the poverty of automation we list, in detail, some of the many checks that cannot be automated and which require a human check. Taking the popular Bobby icon as an example we show how having a badge of respectability can actually be counter productive.

Given the complexities of web accessibility, we should not expect simple solutions.

However if we want to get beyond passive and ineffective approaches towards accessibility, given in any case that the legislation demands it and pressure groups such as the DRC will actively press for testing the legislation, we should heed the calls of these groups, coupled with a clear need for human intervention

rather than automatic checking, to involve disabled people much more directly in the design and testing of websites.

References

Blair, P. (2004). A Review of Free, Online Accessibility Tools, WebAim. **2004**.

CabinetOffice (2003). The Guidelines for UK Government websites, TSO.

Connecticut (2004). Accessibility Tools, State of Connecticut Web Accessibility Committee. **2004**.

CouncilofEurope (2003). Council Resolution on "eAccessibility" – improving the access of people with disabilities to the Knowledge Based Society. SOC 5 MI 4 EDUC 2 TELECOM 1.

DRC (2002). Disability Discrimination Act: Code of Practice. 2008_223.

DRC (2004). The Web: Access and Inclusion for Disabled People. London, Disability Rights Commission.

eEnvoy (2004). eGIF v6. eGovernment Interoperability Framework. UK, Office of the eEnvoy.

EU (2005). eInclusion. **2005**.

EUParliament (2002). European Parliament resolution on the Commission communication eEurope 2002: Accessibility of Public Web Sites and their Content. (COM(2001) 529 – C5-0074/2002 – 2002/2032(COS)).

EUParliament (2003). Council Resolution on the implementation of the eEurope 2005 Action Plan.

EuroAccessibility (2003). EuroAccessibility. **2005**.

FirstGov (2002). Section508.gov. **2005**.

W3C (1999). Web Content Accessibility Guidelines 1.0, WAI - Wendy Chisholm, Trace R & D Center, University of Wisconsin -- Madison

Gregg Vanderheiden, Trace R & D Center, University of Wisconsin -- Madison

Ian Jacobs, W3C. **2004**.

WAI (2004). Evaluation, Repair, and Transformation Tools for Web Content Accessibility. **2004**.

Watchfire (2005). WebXact.

Witt, N. and A. McDermott (2004). "Web site accessibility: what logo will we use today?" British Journal of Educational Technology **Volume 35**(Issue 1): Page 45.