

Web accessibility: is this an audit theme?

Cláudia Dias of the Brazilian Court of Audit discusses use of the Web by people who suffer from disabilities or technological limitations, and proposes an "accessibility audit project" as a crucial means of improving the accessibility of e-government in Brazil.

Introduction

Few people understand what web accessibility means, or its importance.

There are numerous reasons for making the Web accessible. They include gaining competitive advantage in an electronic market that reaches millions of people with special needs; usability benefits for other web users by making access to on-line information an easier and more enjoyable experience; and the advantage of conforming to digital "inclusion" policies.

There are some 500 million handicapped people in the world - one tenth of the human race - but approximately 50% of the population are affected if the impact on families is taken into account.

The Web can be used in different ways by people who:

- are in situations where their eyes, ears or hands are busy (for instance while driving to work, or in a noisy place);
 - have an old or unusual web browser, a voice browser, or an unconventional operating system.
- Designers should take account of these situations when designing a Web page. It will help promote accessibility if each web page project lends itself to simultaneous use by people with different disabilities or limitations, as well as by the Web community in general.
- ## Accessibility
- "Accessibility" refers to the capacity of products and environments to be used by people¹. In Brazil, Executive Law 3.298 (1999b) defines accessibility in Federal Public Administration as the *"possibility and condition for safe and autonomous utilization of urban spaces, furniture and equipment, of sports facilities and equipment, of buildings, transport and communication systems and means, by people with disabilities or with reduced mobility"*. Among other barriers it defines the "communication" barrier, which is *"any obstacle or hindrance that makes it difficult or impossible to send or receive messages through mass or non-mass communication means or systems."*
- In the context of computers, accessibility is often associated with the capacity of people with special needs to access and use standard software, even if they don't all use it in the same way. Software is considered accessible if, despite being handicapped, a person can carry out the same functions and achieve the same results as non-handicapped people with similar knowledge and training. In other words, accessibility is an individual's
- are unable to see, hear, move or interpret certain types of information;
 - have difficulty in reading or understanding text;
 - have no keyboard or mouse, or are unable to use them;
 - have a text-only screen or a slow Internet connection;
 - cannot speak or understand fluently the language in which a document is written;

About the Author



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ability to access and use a product in an effective and efficient manner, and to achieve equivalent results by various means.

"Web accessibility" means that anyone using any type of browser (graphic or text, or special browsers for the blind or for mobile computer systems) should be able to visit and interact with any web site and fully understand the information it presents². Barriers to comprehension include:

- language - most sites are presented in a single language;
- jargon - web pages for general use should avoid technical jargon and use plain language;
- design - people who use "screen readers" may find it difficult to understand tables and spreadsheets, even those with purely text content (a *screen reader* is a software program that reads the contents of the screen aloud to a user. Screen readers are used primarily by individuals who are blind and can usually only read text that is printed, not painted, to the screen);
- restrictions imposed by web page authoring tools - web pages generated by automatic conversion tools are not always accessible nor are images without their text equivalents;
- novelty - many site designers use the latest applications and languages, which are not always available to everyone;
- ignorance - many site designers are unaware of the accessibility problem.

Although the Web is an information medium it is treated by many designers in a purely visual way. The problem of Web accessibility is not confined to handicapped users. When designers use the latest technologies without considering their accessibility, they create Web access barriers. These can exclude the handicapped as well as people who use older

computers and systems, or mobile devices such as cellular phones and portable computers. The *Royal National Institute for the Blind* believes that it is perfectly possible to produce a dynamic and attractive design that is fully accessible³.

Why make a web portal more accessible?

In common with other Internet services, the World Wide Web provides everyone - and particularly those with special needs - with the opportunity to take part in the new information age. Providing they can access the Internet, there is no doubt that disabled people now have a significantly better opportunity to communicate and acquire information⁴.

Economic, technical, legal, altruistic and personal (from the web designer's point of view) are among the reasons for designing products that are more accessible. One in ten people are estimated to have some disability - *this is not a market to be ignored*. The elderly population also increases daily with their physical, sensory or mental impairments caused by aging. In common with any other consumer the handicapped are more likely to do business where they feel welcome, and this applies equally to the digital world.

Institutions that use the Web to advertise and sell products should ensure, if for none other than economic reasons, that the greatest possible number of people can access their sites. Inaccessible web pages can easily cause a potential customer to give up looking for information or products, and not return. Accessible designs, on the other hand, are easier to use not only by the large market of handicapped people but by any customer. Recommendations for accessible product design cost very little to implement, especially if they are built into the normal design process. And in the case of web pages there is virtually no increased production cost.

Technically, search engines index accessible web portals in the fastest and most precise manner. Because search engines

index text and not images, web site multimedia images and files are only indexed if they offer text equivalents - this is one recommendation for Web accessibility. Where users are able to find the information they are looking for easily, they open fewer pages. This decreases the load they place on the web server, which in turn becomes more efficient. Mobile computing is another technological innovation that has increased designers' concerns about the accessibility of their sites. The adoption of accessibility recommendations allows the most modern technologies (such as the web browsers in cellular phones) as well as older technologies to access web portals, thus reaching more visitors and potential customers.

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Legal requirements can also affect Web accessibility. Some governments require individuals with special needs to be able to access certain types of information; others require that products and services sold in the country meet certain accessibility criteria; and still others require that technological products and information services contracted by government bodies are accessible. In countries such as the United States of America, the United Kingdom, Australia and Canada, Web accessibility is not only a good idea,

it is also the law; in these countries institutions with inaccessible web portals can be sued, based on Civil Rights or Discrimination Laws. (Read the article "Is your site ADA compliant ... or a lawsuit-in-waiting?"⁵ - about the American Discrimination Act, an example of accessibility policy).

There are also personal reasons for web designers to adopt accessibility standards in their projects. By knowing more about accessibility they gain experience with hypertext languages, thereby becoming better professionals. Furthermore, nobody is free from aging or from accidents that can cause permanent or temporary disabilities.

A nobler reason for designing accessible web portals is to improve the quality of life of millions of handicapped and elderly

Intelligently designed Web portals benefit everyone, not just the handicapped.

people by allowing them to access information (that, in theory, is available to all) and to participate effectively in the so called "information society". If web designers were more altruistic and aware of accessibility problems, they would make the Web the best information media for everyone, regardless of their abilities and physical or technical limitations.

Web accessibility policies

There are some 500 million handicapped people in the world⁶ - one tenth of the human race - but approximately 50% of the population are affected if the impact on families is taken into account. In order to serve this number of citizens many countries have adopted Web accessibility measures; these include Australia, Canada, United States of America, United Kingdom, Portugal and other members of the European Community. Most countries who have Web accessibil-

ity legislation either fully or partially adopt the WWW Consortium's (**W3C**) *Web Content Accessibility Guidelines*⁷.

Public and private organisations concerned with the problems of the handicapped in Brazil have been working with an estimated 10% of the population. Although some legislative initiatives focus on protecting the civil rights of handicapped citizens, there is no specific legislation in Brazil regarding Web accessibility for its estimated 17 million special needs users and potential users; nor are there detailed guidelines for the Brazilian e-government's web portal designers.

In order to promote information access, Decree 3.294 (Brazil, 1999a) instituted the programme "Information Society" as part of the Pluriannual Plan for 2000-2003. One of the programme's objectives is to achieve universal access to citizenship services by promoting universal access to the Internet through alternative solutions based on new means of communication, collective or shared Internet access, and support for projects that promote citizenship and social cohesion.

The Green Book "Information Society in Brazil" (produced by the programme) mentions, as one of the hindrances for the inexperienced user, "the design of presentation screens and the structuring of pages, which too often assume a certain familiarity with more sophisticated computer environments". Access to information and communication technology would

The participation of the Court of Audit in auditing the accessibility of e-government in Brazil is a decisive step in rendering the Brazilian Web more accessible.

allow the handicapped opportunities for more productive participation in society and reduced social isolation⁸.

Auditing the accessibility of Brazil's e-government

Access to information and communication technology would allow the handicapped opportunities for more productive participation in society and reduced social isolation.

Under Brazil's Federal Constitution, the Court of Audit (*Tribunal de Contas da União - TCU*) is the government body responsible for carrying out inspections and audits. These aim to evaluate the activities and systems of both direct and indirect administration bodies and entities, including government maintained foundations and societies, and measure the results achieved by government programmes and projects. As part of the Information Society programme, TCU must evaluate the results of the management of e-government in Brazil in terms of its efficiency and effectiveness.

One of TCU's audit secretariats is responsible for undertaking studies and research, and for disseminating good management practices. It also develops methods, techniques and standards for inspecting and evaluating government programmes, and coordinates audit projects that require expert knowledge that is not available in other areas of the Court, such as IT auditing expertise. This Secretariat has proposed a project to audit the accessibility of Brazilian e-government, a project that would aim to prevent and detect problems that could affect any Brazilian citizen interacting with e-government information services, regardless of their physical, mental or technological limitations. The proposed activities for the project are to:

- recommend (to the National Congress and to the Executive Committee of the Electronic Government) that the W3C's *Web Content Accessibility Guidelines* be adopted as a quality standard to be applied to the implementation, revision and maintenance of government sites;
- adapt the Portuguese translation of version 1 of this handbook to Brazilian vocabulary, and publish it on both the Brazilian Court of Audit's web portal and on the **W3C's** web page of translated documents;
- translate to Portuguese version 2 of the *Guidelines* as soon as they are approved by W3C and to publish them in the same way as version 1;
- develop a method for auditing e-government accessibility, and then to test it using as a case study the future remodeled version of TCU's web portal;
- carry out a preliminary accessibility evaluation of a restricted group of government sites to provide input to the design of an accessibility audit plan;
- participate in the formulation of rules and technical recommendations, quality indicators and scientific studies on the accessibility of IT systems;
- provide external and internal control analysts with training and guidance in using the developed audit method and in the conceptual and practical aspects of IT systems accessibility;
- prepare a guide for Brazilian e-government web site designers on the implementation, maintenance and evaluation of the universal access aspects of their projects.

Conclusion

Statistics published in August 2001 show the Web to have over 513 million users or around 8.5% of the World's population⁹. It could expand even further if the millions of handicapped, temporarily handicapped, elderly, or technologically limited in terms of their equipment or software, were able to access information without hindrance or constraint. But for this to happen, international government institutions need to take measures to ensure accessibility.

In common with other countries' projects to democratize access to information and the use of digital technologies, the Brazilian government should, among other actions, audit the web portals of its public sector bodies to ensure universal and democratic access to their information services. This measure would meet the precepts of accessibility and integration of the handicapped that are present in current Brazilian statutes. It would also follow the *universal services* line of action in the Information Society Program and the Electronic Government Policy Proposal for the Federal Public Branch to promote citizenship, social cohesion and digital inclusion.

Footnotes

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- 5 WADDEL, C. D. & THOMASON, K. L. *Is your site ADA compliant... or a lawsuit-in-waiting?*. 5p. [on-line], December 2001. http://www.icdri.org/is_%20yoursite_ada_compliant.htm.
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- 7 W3 CONSORTIUM (W3C). *Web content accessibility guidelines 1.0*. W3C Recommendation 5 May 1999. 34p. [on-line],

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- 3 Decreto Lei n. 3.298, de 20 de dezembro de 1999. *Regulamenta a Lei n. 7.853, de 24 de outubro de 1989, dispõe sobre a Política Nacional para a Integração da Pessoa Portadora de Deficiência, consolida as normas de proteção, e dá outras providências*.
- 4 Decreto, de 03 de abril de 2000. *Institui Grupo de Trabalho Interministerial para examinar e propor políticas, diretrizes e normas relacionadas com as novas formas eletrônicas de interação*.
- 5 Decreto, de 18 de outubro de 2000. *Cria, no âmbito do Conselho de Governo, o Comitê Executivo do Governo Eletrônico, e dá outras providências*.
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Editor: "AbilityNet" is another useful resource. They have a good web site, with plenty of downloadable guidance on how to achieve accessibility (<http://www.abilitynet.co.uk/content/factsheets/Factsheets.htm>).