

WEB ACCESSIBILITY

Portuguese Web Accesibility with WCAG-1.0 and WCAG-2.0

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Abstract: Web accessibility is growing in importance as each day goes by. Alongside with this growth, also the need of access to web resources, by those with some sort of disability, is increasing. The web is very important for spreading information and for the interaction between the various society elements. Given this, it's mandatory that the web presents itself as a totally accessible resource, so that it can help the disable citizens in their integration within the society. This obligation should be even bigger for the enterprises because, in their majority, the web is used as a marketing and business platform. This document is meant to be a position paper regarding the comparison of results between web accessibility evaluations of the Portuguese websites using version 1 and version 2 of the W3C Web Content Accessibility Guidelines.

1 INTRODUCTION

According to Ban Ki-Moon, it's internationally consensual that the Information and communications technologies have a central role to play in the quest for development, dignity and peace (Ki-Moon, 2007).

The ICT have become indispensable for the social and economical evolution of society. As a result of this, one of the social factors to be considered is the accessibility to all available resources, including those made available by the Web. According to Tim Berners-Lee the power of the web is the possibility of access to all available resources by everyone and its universality (Out-Law, 2006).

As we can see in the W3C recommendations, also this entity considers web accessibility as a decisive factor for the integration of the disabled citizens within the society (W3C, 2005). This is more importante if we consider the existence of 37 million disable european citizens that need to be granted access to all available resources (EU, 2002a).

The ICT offer great potential to citizens with mental and physical disabilities. Through the use of these technologies they can be better integrated in society. It is however necessary to increase efforts to

adapt the technology to certain groups of people with disabilities (Wenner, 2005).

After our work and studies in 2009, regarding the 1000 biggest Portuguese enterprises and their accessibility levels (WCAG 1.0), we plan to achieve a new study regarding the same universe, but for the WCAG 2.0 standards.

2 WEB ACCESSIBILITY CONCEPTS AND CONCERNS

The term accessibility can easily be defined has the possibility of disabled people interact with a product, resource, service or activity has normal people would. In what concerns the ICT, we can define accessibility as the creation of interfaces that are perceived, operable and easy to understand for people with a wide range of features. This includes all deficiencies, functional limitations, including a visual impairment, hearing, physical, cognitive and neurological. In this set should also be included conditions of temporary incapacity, such as the loss of glasses or the breaking of an arm. Beyond this, accessibility also makes the products more accessible to people who do not have any kind of disability (W3C 2008a).

According to Jim Thatcher and Shawn Henry, web accessibility goal consists in providing everyone with some sort of disability the ability to perceive, understand, navigate and interact with the Web, even if they have visual, hearing, physical, cognitive, speech or neurological impairment (Thatcher, Henry et al. 2006).

A websites' accessibility level is largely based on four factors:

- The information presented by the website, including text, images, forms, sounds, etc. (web content);
- Web browsers, media players, etc. (User Agents);
- The users knowledge, experiences and in some cases, adaptive strategies;
- Screen readers, alternative keyboards, scanning software (Assistive Technologies).

According to W3C, the accessibility of web content is largely determined by the developers accessibility knowledge, skill and effort, by the authoring tools support for creating accessible content, and by the evaluation tools that will allow a validation of the accessibility levels presented by the created web content (Brewer, 2006).

2.1 Regulations and World Perspective

According to the World Health Organization - WHO, 10% of the world's population suffers from some form of disability. This number clearly shows the existing need for health and rehabilitation services. As a way to disseminate and create awareness of this reality, the WHO created an action plan called "Disability and Rehabilitation Action-Plan 2006-2010" (WHO, 2006).

In 2001, a demographic study named "Censos 2002 – População residente com deficiência segundo o grau de incapacidade e sexo" was performed by the Portuguese National Institute of Statistics – INE. According to the results of the study, there were 634,000 Portuguese citizens with some kind of disability (INE, 2002).

The first time web accessibility became a matter of concern in the European Union was in September 2001 through a communication made by the European Commission to the European Council, to the European Parliament, to the Social and Economical Committee and to the Regions Committee. This communication was a result of the wide scope of the "eEurope 2002" action-plan which was approved in the Feira's European Council (EU,

2002b). After 2001, and as web accessibility importance was growing, the European Commission launched the "eEurope 2005" action-plan. This plan's goal was the creation of modern public websites and the creation of a dynamic environment for e-business through an enormous offering of broadband access with competitive prices and through a secure infrastructure for information (EU, 2003).

Web content accessibility has been a priority for various world entities, such as the W3C consortium which in 1999 created the World Accessibility Initiative – WAI. This initiative was created with the aim of being a parallel organization to the W3C and its mission was to develop guidelines that would be understood as the international standards for web accessibility; as well as to develop support materials for a better understanding and development of web accessibility, and to develop new resources through international cooperation (W3C, 2008a).

Since the year 1999 WAI has been aiming for the increase of web content accessibility by creating several tools that facilitate this. An example of those tools is the Web Content Accessibility Guidelines. These guidelines are an explicative document of how to create web content so that it can be accessed by anyone, including those who have some sort of disability. According to these same guidelines, web content is all the information within a web page or web application. These accessibility guidelines are characterized by three main aspects, the guideline checkpoints, the priority levels (level 1, level 2 and level 3) and the conformance levels (level A, level AA and level AAA) (W3C, 2008b). The priority level 1 checkpoints are those that, according to the W3C, must be implemented so that a website can be accessible to the majority of users. Priority level 2 checkpoints are those that should be implemented because they bring a great improvement to the overall accessibility and usability of a given website. The priority level 3 checkpoints are those that may be implemented so that the entire website can be accessible by all users (W3C, 2008a). The conformance levels can be characterized as the "level of accessibility" presented by a website. If a website implements all priority level 1 accessibility checkpoints, then it has the conformance level A. If a given website presents all the priority level 1 and priority level 2 accessibility checkpoints covered, than it has the conformance level AA. By implementing all the priority level 1, 2 and 3

accessibility checkpoints a website has the conformance level AAA (W3C, 2008b).

2.2 The Importance of Accessible ICT

Given the fact that ICT helps to stimulate enterprise competitiveness and citizens' quality of life, the European Union should take all the opportunities that these technologies have to offer (EU 2005).

ICT currently has a very high penetration rate in the Portuguese enterprise market. The Agency for the Society of Knowledge confirms this statement in the analysis made of the inquiry conducted by the Portuguese National Institute of Statistics, according to which 95% of the enterprises with ten or more employees use computers, 84% of them use e-mail and 83% have Internet access. For medium-size enterprises (50 to 249 employees) these three indicators have the value of 99%. For big enterprises (250 or more employees) the three indicators all have a value of 100% [10, 21].

Currently in Portugal, there are about 400000 employees in enterprises directly related to ICT. This value, according to the objectives of the Agency for the Society of Knowledge, will increase by about 3%. Another value which, according to this same Agency, will also increase in the future is the number of people working with a computer in their workplace. This will increase from 19% (in the year 2004) to around 40% (in the year 2012 (UMIC 2007)).

Due to this, it is extremely important that ICTs become accessible to all, because if so, all those that work, or that will work with them, can take advantage of the benefits that they bring (W3C 2005).

The World Wide Consortium is currently present in the World regulation of web accessibility, since the 1.0 version of the guidelines for accessibility are currently the standard used for the creation of rules to encourage the creation of accessible Web content. Although the directives of the W3c are widely accepted as the standard to use, this same consortium is developing a second version of the guidelines for accessibility in order to define a new set of criteria and techniques, appropriately adjusted for the current technological level. According to the recommendations of the W3C, the 2.0 version of the directives for accessibility cover a larger number of recommendations for creating more accessible Web content. Following these guidelines will make web content accessible to a larger number of people with disabilities, including blindness or low vision, deafness or hearing loss, learning disabilities,

cognitive limitations, restrictions of movement, difficulties in speech, photosensitivity and combinations of these. Following this new set of directives, the final result will be Web content more accessible to all user (W3C 2008b).

3 RELATIONS BETWEEN WCAG1.0 AND WCAG 2.0

WCAG 2.0 applies more broadly to different types of Web technologies and to more advanced technologies. It is designed to apply as technologies develop in the future.

The WCAG 2.0 requirements are more precisely testable with automated testing and human evaluation. This allows WCAG 2.0 to be more easily used where specific requirements and conformance testing are necessary, such as in design specifications, purchasing, regulation, and contractual agreements.

In WCAG 1.0, the situations for text alternatives regarding multimedia content was defined for specific situations. Now, in WCAG 2.0, all multimedia content must have a text alternative, except for specific situations, changing the default principles. The uses of "programmatically determined" situations are introduced for gained control in content manipulation and interpretation.

In WCAG 2.0 is no longer needed to provide summaries for tables or to provide abbreviations for header labels.

The WCAG 2.0 standard has technology-independent guidelines and success criteria without the additional descriptions.

4 WORK PLAN

With this work we intend to achieve a comparison between the accessibility results achieved by the Portuguese websites while using the WCAG 1.0 and the WCAG 2.0 evaluation standards. This comparison will allow us to interact as a focus-group and create a group of recommendations to that will, hopefully, help improving the Portuguese web accessibility levels.

Our work will be made in two separate stages. The first stage will include the actual evaluation of the target group websites, in which we will use the TAW3 tool for the websites of the biggest Portuguese Enterprises and SortSite tool for the

Portuguese Public Purchasing Platforms websites. This stage will provide the data required for the second and last stage. In this last stage we will apply a statistical treatment to the evaluation data, followed by an analysis of these same results. This analysis will allow us to compare the results obtained with the one previously gathered (in which we used the WCAG 1.0), and then proceed to a focus-group discussion on what the resulting recommendations should be, what is wrong with the Portuguese websites and what can be done to improve it.

5 CONCLUSIONS

Most Web sites that conform to WCAG 1.0 should not require significant changes in order to conform to WCAG 2.0, and some may not need any changes. WCAG 2.0 builds on WCAG 1.0. The fundamental issues of Web accessibility are the same, though there are some differences in the approach and requirements between WCAG 1.0 and WCAG 2.0. The accessibility work that was made for WCAG 1.0 will be useful for meeting WCAG 2.0. Sites that meet WCAG 1.0 will already be a long way to fulfilling WCAG 2.0. However, it does take some time to understand the different approach in WCAG 2.0. WCAG 2.0 is backwards compatible with WCAG 1.0 so you can update your Web site to meet both WCAG 1.0 and WCAG 2.0. (However, a site that meets only WCAG 2.0 does not automatically meet WCAG 1.0, because WCAG 2.0 is more flexible in some areas.)

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