Chapter 1
Providing Continuous Web Accessibility Evaluation:
A Case Study on the Evolution of Governmental Websites

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ABSTRACT

Accessibility evaluation of websites is normally done before its deployment, but there is a lack of accessibility maintenance after website evolution. This chapter hypothesizes that adopting a continuous website accessibility validation process could facilitate accessibility maintenance after each evolution. To this end, the authors adapted an accessibility evaluation tool to send periodical reports of accessibility faults to website managers. Weekly accessibility reports were sent to the website's managers and the number of accessibility faults was monitored. Besides, these managers answered questions about their awareness of the regulation and the faults found on their websites. The results suggested a notable lack of interest in regulatory compliance and a strong lack of sensitivity to disabled people's limitations.

DOI: 10.4018/978-1-7998-2637-8.ch001

INTRODUCTION

Accessibility may be defined as all accessible space, building, furniture, urban equipment or element that can be reached, activated, used and experienced by anyone, including those with reduced mobility (ABNT, 2015). The term "accessible" refers to both physical and communication accessibility.

For Tanaka and Rocha (2011), accessibility on the web allows people with disabilities to assimilate web content, navigate, interact and even contribute to it. From Freire, Bittar, and Fortes (2008) technical point of view, web accessibility creates ways for all users to understand the content and interact with the website without technical restrictions.

According to Cunningham (2012), the main beneficiaries of web accessibility are people with vision, hearing or physical limitations. Regulatory compliance allows disabled people full access to websites, including those websites with complex content such as dynamic tables and menus.

The dissemination of the Brazilian government's information and services on the Internet influenced the decision to establish an accessibility regulation, contributing to the digital and social inclusion of citizens (Bach et al., 2009). Indeed, 23.9% of the Brazilian people have visual, auditory, motor or intellectual disabilities (IBGE, 2010). Besides, 6.7% of these people indicated that their respective disabilities are strong or impeditive. More precisely, they stated that they have permanent difficulty (or even cannot) seeing (even if wearing glasses), hearing (even if using a hearing aid), or walking or climbing steps; or they stated that they have some permanent mental or intellectual disability that limits their usual activities, such as working, going to school, playing, etc. (Botelho and Porciúnicula, 2018). Therefore, a significant part of these citizens may not access all information provided by non-accessible websites.

In Brazil, two laws define website accessibility as a mandatory requirement for public administration websites. They were introduced in 2000 (Laws no. 10,048 and 10,098) and they were regulated in 2004 (Decree no. 5,296). Despite these laws and regulations, after more than a decade, it is difficult to find acceptable accessibility compliance levels regarding Brazilian government's websites. Even when they have some accessibility certificate, they do not remain accessible over time.

Applying accessibility rules on websites can make web content available for all users, including people with a disability or temporary limitation. Currently, there are tools available for testing the adherence of websites to these rules. However, professionals responsible for website maintenance usually run these tests only once, at the end of the development process. Afterward, constant changes implemented daily by users tend to insert accessibility faults. After these changes, people responsible for maintaining the websites often do not revalidate their websites, using neither an expert's review nor specific tools. This lack of website evaluation process avoids meeting accessibility standards and may cause a regression in website quality.

Aware of this problem, the goal of this work is to test the hypothesis that adopting a continuous accessibility validation process will allow keeping them accessible, despite maintenance and modifications made throughout its existence. In order to test this hypothesis, the authors enhanced an accessibility evaluation tool for doing this kind of validation. This tool runs experiments that help to continually test the accessibility faults along with the website's maintenance phase.

Considering the experiments, the authors run tests in two samples, aiming to identify the faults inserted or corrected during website maintenance procedures. After that, the authors sent an email with a questionnaire to the focused website managers. The results show that feeding the website maintainers with data about accessibility tools was not enough for engaging them in a process of accessibility enhancement.