Mobile Web Accessibility and Government Compliance

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INTRODUCTION

Since the origins of the World Wide Web, government agencies have strived to provide clear and usable access to its citizens. Through a number of initiatives, the federal government has tried to bridge the "digital divide," the disparity between those with access to electronic information and those without (U. S. Department of Commerce, National Telecommunications and Information Administration, 2000). Foremost in this endeavor is the pursuit of universal web accessibility across all electronic government resources, i.e. websites.

Web accessibility as defined by the World Wide Web Consortium (W3C) is the means by which anyone regardless of physical or cognitive disability can use and operate a website (W3C, 2005). People with disabilities or normal aging considerations find it difficult if not impossible to use basic technology that nondisabled individuals could use freely (McLawhorn, 2001). In order to achieve accessibility in their websites, a number of rules and guidelines have been developed by the federal government. In 1998, congress amended the Rehabilitation Act of 1973[1] with Section 508 to require federal agencies to make electronic and information technology accessible to people with disabilities. Section 508 was enacted to eliminate barriers in electronic and information technology by requiring that disabled federal government employees and citizens have access to information that is comparable to the access available to others without disabilities (www.section508.gov).

Since the adoption of Section 508, compliance has been slow, but steady. However, technology advances at a rapid pace, and with it comes new challenges and concerns that were not considered in the original requirements. The advent of the mobile revolution has highlighted an accessibility dilemma with web sites that were never intended for use on small devices. With global mobile phone use at an all-time high, developers are racing to adapt content to fit these new screens. It is therefore important to understand the current criteria put down in Section 508 to define accessibility standards, what constitutes compliance, and what updates need to be applied to accommodate for the advent of mobile usage.

BACKGROUND

The design and accessibility of government websites today is largely driven by a particular set of criteria known as Section 508. This amendment, which went into effect in June 2001, requires all federal agencies to comply with accessibility standards administered by the Architectural and Transportation Barriers Compliance Board (referred to as the Access Board)[2]. These standards ensure that electronic and information technology is accessible to disabled persons to the extent it does not pose an "undue burden" on an agency. When Section 508 went into effect, federal agencies could no longer procure noncompliant electronic and information technology (Charles, 2001). This meant that vendors, who supply hardware, software, Web, telecommunications, and other information technologies, must ensure compliance with Section 508 in order to obtain government contracts.

The Access Board put together the Electronic and Information Technology Access Advisory Committee (EITAAC) in order to develop the Section 508 standards. The EITAAC is comprised of industry, government, academic, and disability advocacy organizations. The EITAAC (1999) originally developed

generic standards that were organized into three areas including: (1) accessibility of operation and information, (2) compatibility with peripheral devices, and (3) documentation and services associated with electronic and information technology. The committee made recommendations for implementation of Section 508, formalized a definition of electronic and information technology for interpreting the statute, and developed recommendations for procurement processes.

The Access Board defined electronic and information technology as, "any equipment or interconnected system or subsystem of equipment used in the creation, conversion, or duplication of data or information" (U.S. Access Board, 1999). This definition encapsulates telecommunications, information kiosks, transaction machines, Web sites, copiers, faxes, and other multimedia office equipment. Although mobile devices and tablets are not specifically listed, the inclusion of "web sites" as information technology necessitates that they be accessible regardless of the target output, whether it is desktop or mobile.

The U.S. Access Board's Section 508 web site summarizes each section of the technology standards as they apply to users with disabilities. These standards focus on assistive technologies (e.g., screen reader devices) and alternative technologies (e.g., keyboard navigation instead of mouse navigation) that allow access to those with disabilities. The problem rests in device-specific solutions to accessibility. While a keyboard alternative to mouse navigation can be easily compliant on a desktop site, the same requirements may not be applicable on a mobile phone where touch screens are the standard input mechanism.

In some instances where compliance with 508 creates an "undue hardship" on the agency, there are workarounds to maintain qualifications. The U.S Department of Justice's Disability Rights Section website provides definitions of related sections 501 and 504 along with other statutes and laws that dictate requirements to provide sources of electronic information. Therefore, federal agencies cannot avoid accessibility requirements and must provide alternative means of access to information for federal employees and individuals with disabilities (www.section508.gov).

Established in 2000, the original Section 508 standards have become antiquated with the current web environment. Since 2006, the Access Board has attempted to update these guidelines to account for new technologies (2006). A number of amendments have been proposed, but as of fall of 2013, no changes have been put into effect.

While the current standards were intended for traditional desktop websites, they were not considered for mobile sites. A mobile site may, in theory, be compliant on a mobile device if compliant on a desktop; the reality is that a number of different factors are involved that may affect full compliance. It is important to understand the guidelines that drive Section 508 and what changes might need to be made bring it up to date.

WEB ACCESSIBILITY GUIDELINES

The W3C, as the standards setting body for the Web, has provided support to the Web Accessibility Initiative (WAI) in the development of Web Content Accessibility Guidelines (WCAG) (Chisolm, Vanderheiden, & Jacobs, 2001). The original 1.0 version of these guidelines forms the foundation for the Section 508 Web accessibility standard. They play an integral role in the current implementation of Section 508 by federal government and contracting vendors as mandated by law.

The WAI guidelines for Web content accessibility focus on making online information accessible to those with disabilities. This includes text, images, links, audio, and other elements that compose a Web page or application. One such example of these guidelines is as follows:

1194.22 (a) A text equivalent for every non-text element shall be provided. Pictures, graphs, and other elements on a Web page not in electronically readable form are supplemented with a text description to be read by screen reader software and Braille displays.

Such guidelines clearly present the issue at hand (users with vision impairment as a disability) and the solution (text alternatives for screen readers). These guidelines can be safely applied to mobile sites because the same technology exists in some form to interpret text descriptions of images. However, other rules from the original WAI guidelines have not aged as well. For example, the following rule stipulates the inclusion of plug-in sources:

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