# Chapter XXXVIII
# Accessible Design for Communication on the Web

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## ABSTRACT

*Web site design that does not conform to emerging accessibility standards and legislation will be increasingly under attack. In order to facilitate Web-based computer mediated communication to the disabled, extensive guidelines and laws are now in place to guide designers of content, development tools and devices and software used by those with disabilities. This chapter discusses accessibility guidelines in general and then outlines the two major efforts to ensure the accessibility of information through the Web: the World Wide Web Consortium (W3C) and Section 508 of the American Rehabilitation Act. Then, it will show the means by which content is evaluated for its accessibility. Finally, it will give an overview design practice that produces accessible content for consumption on the Web.*

## INTRODUCTION

It is estimated that between 10 percent and 20 percent of the population of the United States has some form of disability (W3C, 2006c). Just as important as providing equal access to jobs, education and buildings is the need to provide equal access to information on the Web (or to any electronically-based information or equipment). Legal provisions for equal access to computer mediated communication have lagged behind other accessibility legislation. Recent developments in Web design, browser support of standards and limited legislation is driving accessible Web site design.

Until recently Web browsers did not support content and technical standards that facilitated accessible design. To complicate matters, each Web browser interpreted and applied standards differently. The various Web browsers still do not interpret style sheets in exactly the same way, but the consistency with which they do so is improving. With some persistence designers can adjust content and presentation to achieve consistent rendering across browsers. By adhering to design standards, not only is it possible to

more efficiently and consistently load and display content, but by doing so, there is the added benefit of constructing accessible content.

This chapter will discuss accessibility guidelines in general and then outline the two major efforts to ensure the accessibility of information through the Web: the World Wide Web Consortium (W3C) and Section 508 of the American Rehabilitation Act (GSA, 2002). Then it will show the means by which content is evaluated for its accessibility. Finally, it will give an overview design practice that produces accessible content for consumption on the Web.

## ACCESSIBILITY GUIDELINES

People have expressed concerns about accessibility to electronically-based documents and software since these media have become predominant forms of communication and work. Section 508 of the American Rehabilitation Act (from here on, Section 508, or simply 508), and the W3C Web Accessibility Initiative (WAI) (W3C, 2000a) are interlinked efforts to address the problem. Many countries have their own legislation and standards for accessibility, but this chapter's scope is confined to the context in the United States.

All of the standards developed by these two organizations are directed toward several types of users with disabilities. The problem faced by people with disabilities concerning the use of computing equipment, software and electronic information resources is somewhat different from problems of access to buildings, for instance. The types of disabilities that give people difficulty with electronic resources fall into the categories of vision, hearing and manual dexterity. Moss (2004) lists the specific disabilities around which designers are urged to make accommodations:

- Blind users
- Partially or poorly sighted users
- Color blind users
- Deaf users
- Keyboard/Voice only users
- Epileptic users
- Users with language barriers (i.e., although not a disability, users whose first language is not English)
- Users with disabilities that prevent the use of keyboards or mice due to lack of fine motor control.

These disabilities can significantly impair a user's ability to access and use information in an electronic environment (or a physical environment). For this reason Section 508 was created and its standards are law in federal agencies. Private sector organizations that receive no funds from federal agencies are not subject to Section 508, but organizations may certainly use Section 508 as voluntary guidelines. In addition, WAI provides a more comprehensive guideline for these types of private sector organizations. Those guidelines will be discussed later.

Note that reading this chapter will not substitute for a thorough understanding of Section 508 and WAI guidelines. This chapter is intended as an overview and as such, it is beyond its scope to list every requirement and guideline. The intent here is to show the spirit of these efforts, display the highlights, and to show the reader where to find more information on 508 and WAI.

### Section 508 Overview

Although no current legislation forces private sector organizations to provide access to their electronic resources, it is important to remember the spirit out of which Section 508 emerged. Section 508 is the result of at least 40 years of legislation beginning with the Civil Rights Act of 1964. It is beyond the scope of this paper to go into detail about the history of legislation of this type, but this landmark bill was the beginning of a new "age of enlightenment" that sought to provide equal opportunities for all members of

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