



## **Chapter IX**

# **A Methodology for Web Accessibility Development and Maintenance**

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### **ABSTRACT**

*Web design and evaluation are currently framed by legal restrictions and social demands for full accessibility. The main reason is that currently most Web sites are not accessible for people with physical, sensory, or cognitive restrictions due to diverse causes, such as disability, use of nonstandard equipment, or special work conditions. Accessibility awareness has advanced considerably in recent years, but designers are still having difficulties in updating or creating new accessible pages. Even though useful tools and sound evaluation methodologies are being designed, they are of no use if they are not integrated into the standard Web design lifecycle, interacting naturally with common design and authoring tools. This chapter introduces the basic concepts related to Web accessibility and proposes a method for including accessibility in standard Web engineering methodologies. The key phases: accessibility, evaluation, and maintenance are described in detail. Finally, a model is proposed for implementing accessibility policy in organizations.*

## INTRODUCTION

In recent years the Internet has become an essential means of communication. The World Wide Web is particularly used for carrying out many different activities in areas such as business, leisure, learning, and so forth, causing a vertiginous growth in the total number of Web sites in existence. However, most of the currently existing Web sites are inaccessible to varying degrees. For this reason, several categories of users are unable to access a significant part of the information included in the Web. Among the groups of people who find difficulties in accessing the Web are people with disabilities — they are most affected by this situation.

The lifecycle of Web sites is currently very short. In fact, Web designers have to manage the design of new Web sites or new versions of existing Web sites in very short time periods, which has a detrimental effect on the quality and accessibility of the final product. Although significant research is being carried out on Web accessibility, principally on the development of automatic accessibility evaluation tools, accessibility is not being sufficiently considered in the Web site development process. Furthermore, when the issue is considered, the accessibility of a Web application is usually evaluated in the latter phases of the development process, when its implementation is almost complete. As a result, correcting the detected accessibility errors implies a complete redesign of the application which can hardly be afforded. To avoid these situations developers should consider accessibility from the very beginning of the product development process.

There is, in fact, a shortage of development methodologies that incorporate accessibility as an essential property of the product. Such methodologies should be designed and implemented within organizations in order to increase the developers' awareness of accessibility and, as a result, to facilitate the development of accessible Web sites. Not only would these methodologies lead to the production of accessible applications but it would also lead to the development of higher quality products and facilitate their maintenance.

This chapter describes a methodology for the Web accessibility development and maintenance process. The establishment of this methodology in an organization will ensure that accessibility is incorporated as a fundamental characteristic of the product throughout the development process. In addition, it will increase awareness of the importance of Web accessibility within the organization.

## WEB ACCESSIBILITY OVERVIEW

### Web Accessibility Initiatives

As previously mentioned, most of the currently existing Web sites are to varying degrees inaccessible. Various initiatives have been taken in order to overcome this situation, including the promulgation of laws against electronic exclusion, such as the American with Disabilities Act (ADA) and Section 508 of the Rehabilitation Act in the U.S., the Accessibility Act in the UK, and so forth.

The main problem for the inclusion of accessibility criteria in Web site design is that most designers are unaware of the specific needs of people with disabilities. They need inclusive design criteria, often specified as guidelines, in order to be able to design for accessibility. In this sense, the Web Accessibility Initiative (WAI, n.d.) of the World Wide

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