

# Auditing for Accessibility

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## ABSTRACT

The paper discusses recent web Accessibility Audits produced by the authors [8] – audits that have the dual aims of raising accessibility levels of the subject sites and the general awareness of accessible design principles. The presentation of the information has been shaped by the desire that it should be digestible by both technical and administrative/managerial audiences. It is hoped that the process will help to raise awareness of accessible web design issues and hence help to raise the general level of accessibility of web based information.

## Keywords

Accessibility, Methodology, Usability, Web Resource, UK Higher Education.

## INTRODUCTION

The need for World Wide Web resources to be accessible to as many users as possible means it is vital that web resource providers be aware of design features that can introduce barriers affecting the accessibility of on-line information. Providing accessible web resources not only helps to include those with disabilities [1] but also those using “non-standard” Web browsing technology. Furthermore, recognition of this issue has been increased by past and pending legislation [2] in a number of nations, including the UK and the US, providing a legal requirement for ensuring resources are accessible.

In addition to the Web Content Accessibility Guidelines (WCAG) [3] provided by the World Wide Web Consortium (W3C)’s Web Accessibility Initiative (WAI), there are a number of other resources, including web based validation tools, which can be used by developers wishing to create accessible resources. Yet there are problems, particularly for designers new to the principles of accessible design, with using one method at the expense of others to help ensure the accessibility of their resources.

## ACCESSIBILITY PROBLEMS OUTLINED

The existence of assistive technologies remove the need for web developers to provide alternative interfaces tailored to people with specific disabilities - providing the information is written in such a manner as to make it accessible to people with disabilities. Unfortunately, people with certain disabilities, particularly visual

impairments, cannot access a large percentage of Web based information that fails to use standards compliant HTML, or follow accessibility guidelines, thus preventing the assistive technologies from correctly interpreting all of the available information.

An equally compelling argument for ensuring accessible resources is to consider the requirements of users of non-standard technology, or users browsing in non-standard browsing environments. Vanderheiden [4] draws parallels between people with particular disabilities and able bodied people “disabled” by the limitations of their browsing device or environment. Newell and Gregor [5] discuss similarities in designing systems for “extra-ordinary” users in “ordinary” environments and designing systems for “ordinary” users in “extra-ordinary” environments. The implication follows that if web resources can be made accessible to those with disabilities, they will also be accessible to those browsing in non-standard conditions, or using a device with limited capabilities such as a Personal Digital Assistant (PDA) or a mobile telephone.

Yet, current web development trends have resulted in a proliferation of graphics- and animation-rich resources, which present many significant accessibility barriers. In many cases, due to the pressures on organizations to establish a presence on the Web, these have been created without appropriate planning, by non-experienced web resource designers who are unaware of the issues of web usability and accessibility.

## THE NEED FOR AN ASSESSMENT PROCEDURE

Despite the comprehensive information provided by the W3C WAI, there is still a need for accessibility awareness to be raised amongst all designers, along with information on how to overcome accessibility barriers in a pragmatic, practical way.

Whilst there are many useful resources available to help in the accessibility assessment of web resources, at present, however, there are drawbacks to each of these assessment methods [6]. Furthermore, none of them incorporates a set of easily digestible, specific expert recommendations, tailored to the resource being assessed.

Since no one method can satisfactorily convey to developers all issues of accessibility and usability, the authors considered a number of evaluation methods for

their merits in uncovering information. The most suitable methods were incorporated into a meta-method, the aim of which would be to emerge as a standard for uncovering the maximum number of accessibility problems associated with a web resource, within a relatively short space of time.

The over-riding aim of this standard would be to produce information about the accessibility of a resource that is clear, logical and comprehensible to developers – in short, accessible.

### **METHODOLOGY**

The audit methodology developed by the authors combines the application of the collected experience and knowledge of the authors through manual inspection of the subject site, with the use of existing tools and techniques.

The tools and techniques used by the audit include:

- Testing with automatic validation tools such as Bobby [7] and W3C HTML Validation Tool [9].
- An evaluation of a representative set of pages against the Web Content Accessibility Guidelines.
- Viewing with different browsers and assistive technologies.
- Usability evaluations, involving expert heuristic evaluations as well as evaluation with disabled and non-disabled users.

To aid the recipients of the audit in developing a recovery strategy, clear and digestible recommendations for improving the site's accessibility are set out in prioritised groups:

1. Tasks that should be carried out as soon as possible.
2. Tasks that should ideally be carried out, in time.
3. Examples of good practice, which should be continued.

In this way, recommendations are presented in such a way as to help in pragmatic scheduling of tasks to raise accessibility, but also to serve as general rules of good practice for future design.

### **FEEDBACK FROM AUDITED SITES**

The authors have developed their methodology over an 18-month period, and in that time applied it to a number of sites in the UK Higher education sector. Audited sites were revisited some months after the audit took place, and it was noted that of the eleven sites audited, six had undergone extensive redesign, one had implemented a small number of changes suggested in the audit, without redesigning the site, and four appeared not to have changed.

The general accessibility level of those sites that had undergone extensive redesign, was significantly improved,

although in some cases new accessibility problems had been introduced as part of the redesign.

### **CONCLUSION**

There is a clear and immediate need for designers of web resources to become aware of the need to think about accessibility when creating web sites. Whilst some resources exist to help them achieve this, one way to raise awareness while providing site-specific advice is through accessibility audits. The authors have developed a methodology for doing just this, and used the methodology to carry out comprehensive audits on a number of subject sites.

Whilst the methodology will continue to evolve, there is evidence to suggest that this auditing exercise has had an immediate and positive effect on the accessibility of the subject sites, as well as helping to raise general awareness of accessibility issues amongst the UK Higher Education community.

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