The following was a white paper created for Dimension Data, Inc. from an internal presentation and my own research on the benefits of making websites accessible.

## *ADA White Paper*

*"The power of the Web is in its universality. Access by everyone regardless of disability is an essential aspect." -- Tim Berners-Lee, W3C Director and inventor of the World Wide Web*

According to the World Health Organization, more than 750 million people worldwide have some type of disability. $176 billion in discretionary income is waiting to be spent each year by this group. Though the income number covers the worldwide population, over 54 million of these people reside in the United States, and of these, 76% are online.

This seems like a huge market, and yet, it is estimated that 98% of existing websites are inaccessible to these users.

Most people reading this will at some point during their lifetime experience a limitation that will temporarily or permanently affect their lives. Though not all limitations affect access to the web, many will. It may be a brief disruption in the use of a hand or arm, or something as simple as temporarily blurry vision while waiting for the replacement of a pair of broken glasses. It may only take a single day with your mouse “in the shop” for the average user to comprehend the difficulties a disabled user may have in navigating the web.

In spite of the fragile line in time and space that separates the abled from the disabled, and in spite of the obvious purchasing power of this market, web site designers have in the past largely ignored this community. However, in late December 2000, Section 508 of the Rehabilitation Act was finalized, mandating web accessibility of federal sites by late June 2001. This legislation, as well as some recent well-publicized lawsuits against major Internet sites such as AOL, Bank of America and several online tax filing services has redirected a large amount of web design energy. Accessibility planning is now a serious consideration in any web site strategy.

Even if legal considerations aren’t a primary concern, there are other motivators for making your web site accessible. Accessible web design can be a bonus to users not typically considered disabled. Environmental issues such as low bandwidth, noisy atmosphere and harsh glare can make an ordinary user grateful for text in lieu of images or audio clips. Even those with second language issues can benefit from multi-modal web presentations. But a very real corporate appeal to being a good neighbor is that it has its financial rewards as well. Accessibility truly opens a whole new market, one that is traditionally underserved in the online space. It opens a window to establish strong and lasting relationships with a significant percentage of the world's population by providing thoughtful consideration of those who are typically unconsidered. And, building those relationships means bottom line results.

**What is accessibility?**

Accessibility has been part of our vocabulary for a long time, but has only recently become part of our web design jargon. Making a web site "accessible" means the very same thing that making a house accessible does. It means putting things "within reach" of everyone, regardless of disability. It means removing existing barriers from web pages, or designing new pages without the kind of barriers that can inhibit people with physical, visual, hearing and cognitive limitations from fully interacting with them. To quote from Section 508,

> Accessibility to electronic information and technology is an essential component of civil rights for persons with disabilities. The final rule will ensure that Federal employees with disabilities will have access to electronic and information technology used by the Federal government that is comparable to that of Federal employees without disabilities; and that members of the public with disabilities will have comparable access to information and services provided to members of the public without disabilities through the use of Federal electronic and information technology.

But accessibility does not imply boring, or text-only web sites. It merely means access to commonly available information and services. Images can still be used as freely and artistically as before, but they should have alternative text for users with poor vision. Captioning audio clips would be the appropriate solution for users with hearing dysfunction. Obviously, as is the case for traditional architects, designing with accessibility in mind has always been easier than modifying existing structures to suit individual needs. If planned for from the beginning, building accessibility into a site is no more difficult than building a site without it.

**The Measure of Accessibility**

Concordant with its commitment to leading the Web to its full potential, the World Wide Web Consortium (W3C) created the Web Accessibility Initiative (WAI) to support and promote web usability for people with disabilities, and to encourage a degree of consistency by creating a set of design standards to which web designers can measure their work.

In 1999 the WAI created the Web Content Accessibility Guidelines 1.0 (WCAG). In May 2000, The European Commission endorsed these standards as policy for all European institutions and member states.[1] When the U.S. Access Board established their standards to measure accessibility compliance, they too used the WCAG as a basis. In any case, the criteria laid out in the WCAG form an important framework for

[1] An Overview of Law and Policy for IT Accessibility. Cynthia D. Waddell and Mark D. Urban. http://www.icdri.org/SL508overview.html

accessibility design, and a discussion of the guidelines, checkpoints and levels of conformance is most valuable in describing how to implement and measure accessibility.

**The Guidelines**

In all, the WCAG contains 14 guidelines or design principles in the manner of "Provide equivalent alternatives to auditory and visual content" and "Don't rely on color alone." While the principles themselves are important, they are simply high-level statements of issues, adherence to which is difficult to measure. To make the guidelines practical, checkpoints were written to demonstrate how each principle is applied to common situations. Each of the checkpoints in the WCAG lists examples of commonly inaccessible features and a suggested solution. Additionally, a priority is assigned to each checkpoint so that designers don't spend precious hours accommodating a minor need while ignoring a more fundamental issue.

- Priority 1 checkpoints must be satisfied or one or more groups will find it impossible to access information in the document.
- Priority 2 checkpoints should be satisfied otherwise one or more groups may find it difficult to access information in the document.
- Priority 3 checkpoints may be satisfied in order to remove final accessibility barriers to one or more groups.

Conformance to the guidelines is also clearly defined. Conformance Level "A" is achieved when all Priority 1 checkpoints are satisfied. Double "A" and Triple "A" include Priority 2 and 3 checkpoints respectively.

Though the WCAG is not the official government standard for accessibility, the document is, in fact, even further reaching than the official Section 508 Standards. The Access Board Standards lists 16 checkpoints, eleven of which are WCAG Priority 1 checkpoints exactly, two others are modified Priority 1 checkpoints, and the final three can be culled from Priority 2 and 3 checkpoints. The WCAG goes further, though, with nearly 50 additional checkpoints to consider when looking to create a truly accessible website.

**Our Offer**

There is a lot to do to make a web site accessible. Though the responsibilities are laid out clearly by the WAI, and could be met by any competent designer with enough time and resources, we believe our experience allows Dimension Data to provide a selection of "accessible web design" services to your company far more efficiently than an in-house project. Our assessment service takes the burden of analyzing your site's conformance to accessibility standards off your hands. Diagnostic software is used to rapidly identify many of the basic accessibility issues of your existing site. Automated software is augmented with human interaction testing with the aid of common assistive technologies, such as text-to-voice browsers.

Once accessibility problems are identified, Dimension Data is able to recode your site in accordance to whatever level of WCAG conformance you require. We assure that at minimum, compliance with Federal Regulations is met for all government, or government related sites.

For those companies looking to build a new site, Dimension Data can plan accessibility into a design, saving valuable web designated resources.

**Links**

http://www.w3.org/WAI/
http://www.w3.org/WAI/Policy/ for policies describing accessibility legalities around the world.
http://www.w3.org/TR/1999/WAI-WEBCONTENT-19990505/.
http://www.section508.gov/final_text.html
http://www.icdri.org/SL508overview.html