Disabilities and the World Wide Web

Matt Ernst

Pacific University

Recommended Citation

This Article is brought to you for free and open access by the Interface: The Journal of Education, Community and Values at CommonKnowledge. It has been accepted for inclusion in Volume 2 (2002) by an authorized administrator of CommonKnowledge. For more information, please contact CommonKnowledge@pacificu.edu.
Disabilities and the World Wide Web

Rights
Terms of use for work posted in CommonKnowledge.

This article is available at CommonKnowledge: https://commons.pacificu.edu/inter02/45
Disabilities and the World Wide Web

Posted on July 1, 2002 by Editor

By Matt Ernst <erns0637@pacificu.edu>
Senior, Computer Science Major at Pacific University

Index:

.01 Introduction
.02 The Problem
.03 Working Toward a Solution

.01 Introduction (return to index)

Back in the Dark Ages (that is, prior to the early 1990s) the Internet was a purely textual medium. FTP, e-mail, and Usenet, the 3 most popular services on the network, were equally navigable and readable whether you used a cutting-edge Silicon Graphics workstation, a dumb terminal, or a teletype. It was also quite accessible for visually impaired individuals, at least those individuals who had access to text-to-speech or text-to-Braille converters. When the early Web came along, it too was text-heavy. Early browsers didn’t have very sophisticated support for images or markup, bandwidth was especially limited, and most computers didn’t have the hardware to display sophisticated graphics. Fast-forward a decade. The Internet has made a stunning transition from military and academic tool to household name. The network spans the globe. Billions of web pages offer everything from apartment rentals to physics research to Brady Bunch histories. Computers have continued to decline in price at a modest pace and increase in power at a rapid clip. Text-to-speech packages and browsers working in conjunction with them are available at low cost on all major platforms. Yet much of the Web is utterly unusable or usable only with difficulty by the visually impaired. What went wrong?

.02 The Problem (return to index)

Much of the trouble is a matter of what went right instead of what went wrong. Computers gained more power, more memory, more sophisticated graphical displays, and more network bandwidth. People took advantage of the new features as they came along. Inline graphics,
abused markup tags, Java and JavaScript, Flash, and streaming video have piled atop one another. Many a website has masterfully replicated the MTV experience without stopping to consider its usability and accessibility.

Even simple sites can mislead the visually impaired when HTML markup is abused. HTML was intended to convey structure and meaning in documents, not visual presentation. Early graphical browsers bound meaning and presentation together; for example, rendering text that was supposed to be emphasized in italics. This in turn meant that many people who wanted italicized text used the emphasize tag, whether the meaning was truly emphasis (“We must not allow the information revolution to leave behind financially disadvantaged children.”) or something else (“Gone With the Wind is still the most expensive movie ever made when inflation is taken into account.”) Modern browsers render emphasized text in italics to maintain backward compatibility with older browsers and web pages created under the old assumptions. If a text to speech package emphasizes each word that has the EM tag, this can be troublesome.

On modern browsers, meaning and appearance can be segregated with the use of cascading style sheets (CSS), but convenience or compatibility concerns mean that many new pages are still created in the old, tangled mode. You might think that graphical design tools and HTML generating programs would be better about this than humans. After all, they just have to apply a set of rules to each document they create. In fact, program-generated HTML can be terrible, Microsoft Word’s output being among the worst. This is to say nothing of web pages designed to appear properly in a single browser or on a single platform.

It’s not just blind users who suffer when sites rely on non-textual presentations with no alternative. Dialup users are presented with lengthy waiting periods when sites make heavy use of video, images, and Flash. Older individuals with weakening eyesight – who continue to grow as a proportion of the population in industrialized nations – can use custom typeface and color schemes to improve the readability of HTML pages. The same can’t be said for Shockwave, Flash, images, or video. Search engines rely on textual content to examine and sort sites, so an all-Flash extravaganza isn’t going to show up when people run search engine queries.

.03 **Working Toward a Solution** (return to index)

Inaccessible web pages are not going to disappear overnight. In fact, with increased computer power and aggressive marketing of Flash and its competitors, essentially building HTML-free Web pages, the situation may grow worse before it improves. Ordinary users need to upgrade their web browsers so that they can properly view pages using CSS to modify appearances. Web page designers need to design standards-compliant web pages; of course, this has been a refrain that has fallen on frequently deaf ears since the Netscape 3 days. Macromedia, Adobe, Microsoft, and other companies that write programs producing HTML output should likewise strive to make their products generate clean, well-structured HTML that does not abuse tags to manipulate the visual presentation. If Web designers have to manually edit the output of their graphical authoring tools to maintain standards compliance, it just isn’t going to happen.
At the least, sites whose worth is in their informational value (as opposed to just their entertainment value) that make heavy use of Flash and graphics should offer simplified versions of pages that use clean and plain textual design. Such pages are much friendlier to modern users and search engine spiders, not to mention the visually impaired. In the United States, the Americans with Disability Act generally requires business and government organizations to “provide effective communication whenever they communicate through the Internet” (The Growing Digital Divide in Access for People With Disabilities.) Although there have been no lawsuits specifically involving accessibility of Web sites, it makes sense to allow everyone to view your pages, not just broadband users with fast PCs and sharp eyesight. Even if you don’t want to design two parallel sets of web pages, a number of small things can improve pages for the blind and visually impaired. Give images meaningful ALT text. Don’t use tables to force layout. Don’t use tiny text. Use colors with high contrast for text and background.

With time and dedication, the Web can accommodate itself to different users rather than different users accommodating themselves to the Web.

The Center For Applied Special Technology has a tool called BOBBY that can perform stringent, automated accessibility checks of existing pages. There are also a number of links to further information in the BOBBY area.

The World Wide Web Consortium’s Web Accessibility Initiative has a comprehensive set of links covering government policies toward accessibility in different parts of the world, alternative browsers that may be used by impaired individuals, tools for improving site usability, and much more. It offers an excellent launching point for further exploration of the relevant issues.

This entry was posted in Uncategorized by Editor. Bookmark the permalink [http://bcis.pacificu.edu/interface/?p=2557].

11 THOUGHTS ON “DISABILITIES AND THE WORLD WIDE WEB”

Tad Young
on January 30, 2014 at 6:16 PM said:

This is very interesting, You’re an excessively professional blogger. I have joined your rss feed and sit up for seeking extra of your great post. Additionally, I’ve shared your website in my social networks!

best longboard trucks
on January 31, 2014 at 3:20 PM said:
Thanks, I have recently been searching for info approximately this topic for ages and yours is the greatest I’ve came upon till now. However, what about the conclusion? Are you positive in regards to the source?

best shoes for crossfit
on February 3, 2014 at 8:06 PM said:

Do you have a spam issue on this site; I also am a blogger, and I was wondering your situation; we have created some nice practices and we are looking to trade techniques with others, be sure to shoot me an e-mail if interested.

best vacuum for hardwood floors
on February 3, 2014 at 11:12 PM said:

When I initially commented I seem to have clicked the -Notify me when new comments are added- checkbox and now every time a comment is added I receive 4 emails with the exact same comment. Perhaps there is a means you are able to remove me from that service? Appreciate it!

best folding bike
on February 4, 2014 at 2:07 AM said:

I am actually delighted to glance at this blog posts which includes tons of useful data, thanks for providing these data.

robotic pool cleaner reviews
on February 4, 2014 at 2:19 AM said:
Saved as a favorite, I like your blog!

**best infrared grill**
on **February 4, 2014 at 4:18 AM** said:

When I originally left a comment I appear to have clicked the -Notify me when new comments are added- checkbox and from now on every time a comment is added I receive four emails with the exact same comment. Is there an easy method you are able to remove me from that service? Thanks a lot!

**best jig saw**
on **February 4, 2014 at 5:16 AM** said:

I am actually thankful to the owner of this website who has shared this enormous article at at this time.

**garment steamer reviews**
on **February 4, 2014 at 1:48 PM** said:

I don’t create many remarks, however i did some searching and wound up here Disabilities and the World Wide Web | Interface.

And I do have a couple of questions for you if you usually do not mind. Could it be simply me or does it give the impression like some of these comments come across like they are written by brain dead people?

😊 And, if you are posting on other online social sites, I would like to keep up with anything fresh you have to post. Would you make a list of the complete urls of all your public pages like your Facebook page, twitter feed, or linkedin profile?
**scroll saw reviews**  
**on February 4, 2014 at 8:02 PM** said:

Hi all, here every person is sharing such know-how, thus it’s nice to read this web site, and I used to pay a quick visit this web site all the time.

---

**best vacuum sealer**  
**on February 5, 2014 at 12:03 AM** said:

I do not even know how I ended up here, but I thought this post was good. I don’t know who you are but definitely you are going to a famous blogger if you aren’t already 😊 Cheers!