occasional downtime
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Web Page Accessibility for the Disabled

On November 4, 1999 the National Federation of the Blind filed a federal lawsuit against America Online. The lawsuit charges that AOL's Internet service is incompatible with software programs used by the blind to convert text to audio or Braille. While AOL has said that the next version of their software will be more accessible to the blind, the Federation argues that technology already exists to make their Internet service accessible, and has asked AOL to redesign their site.

You may be asking what sort of technology are they talking about? In fact, there is a wide range of software and hardware in use by the blind and disabled to make computers more accessible. Alternatives to keyboards and mice are available for the physically disabled. Software that magnifies portions of the screen can be used by the visually impaired. The screen readers mentioned above can be used for reading Web pages, email, word processing documents, etc. These are just a few of the hardware and software solutions available to the disabled.

Unfortunately, over the last few years, much of the increased accessibility these tools have offered has been eroded by the popularity of graphical user interfaces. Particularly on the Web, a great deal of informational content is now being conveyed by graphics, video, and audio instead of text. This, in addition to other design decisions, can shut out the blind and disabled from many Web sites.

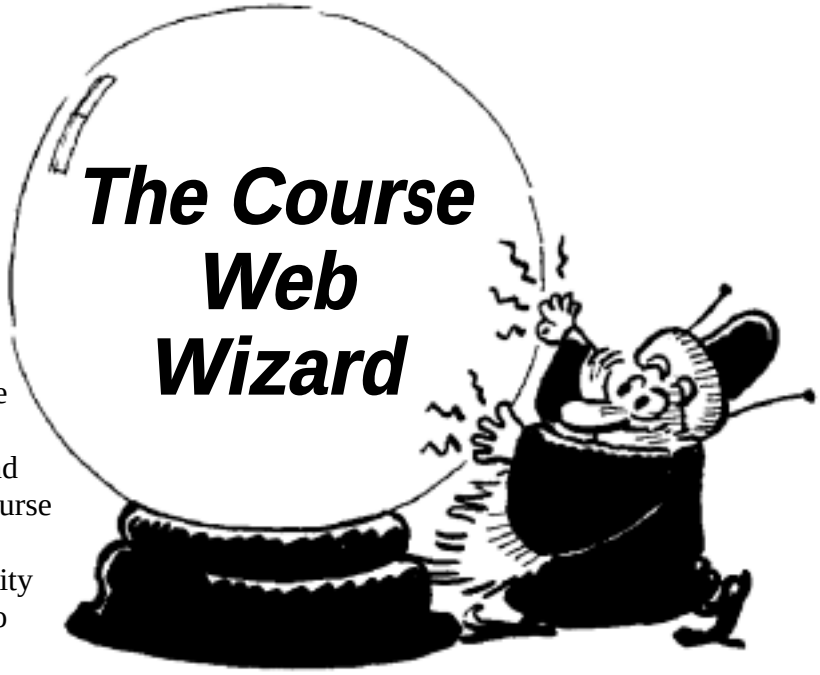
Several organizations have mobilized to raise awareness of the issue of Web page accessibility. In particular the World Wide Web Consortium (W3C) created the Web Accessibility Initiative in April 1997. In October 1997 the International Program Office for the Web Accessibility Initiative was launched. The WAI International Program Office was endorsed by the White House, and funded by the National Science Foundation, the Department of Education's National Institute on Disability and Rehabilitation Research, the European Commission's TIDE Programme, and W3C industry members. It coordinates five activities with regard to Web accessibility:

- data formats and protocols
- guidelines for browsers, authoring tools, and content creation
- rating and certification
- education and outreach
- research and advanced development

Several working groups have been formed to work on guidelines for browsers, authoring tools and content creation. The WAI Web Content Accessibility Guidelines were published on May 5, 1999. The WAI User Agent Accessibility Guidelines and WAI Authoring Tool Accessibility Guidelines are in the working draft stage.

(continued on page 3)

Introducing… The Course Web Wizard



IN THIS ISSUE

Occasional Downtime is composed on a Macintosh G3 computer using Adobe PageMaker 6.5 and Microsoft Excel 5.0. The primary typefaces used are Times and Optima. We wish to thank Sally Rich Arroyo of the HMC Office of College Relations for all her help.

CIS recently added the Course Web Wizard to the applications and services available to the faculty and students at HMC. The Course Web Wizard (CWW) was developed by the University of Missouri at St. Louis to help faculty create course Web sites. It is designed to allow a professor to quickly set up a course Web site without any previous knowledge of HTML. It automates the development of the site by walking the professor through the creation process, step by step. CWW is written entirely in PERL script and is completely Web-based.

The Course Web Wizard allows the professor to create six different sections for the course Web site:

- Syllabus
- Announcements
- Assignments
- Discussions
- Links
- Library

For the Syllabus section the professor can either use the template provided or import an already existing syllabus file. The Announcements section can be used to display timely information relative to the course. Assignments are posted to the Assignments section. The Discussions section allows for interaction between students and with the professor. The Links section is where faculty can add links to Web pages related to the course. Finally, the Library link points to the Libraries of the Claremont Colleges Web site, `http://voxlibris.claremont.edu`.

Professors each have an account for their course Web sites which allows them to create and edit the Web pages. In addition, there is a course login name and password that students use to access the Discussion page for each course.

The Course Web Wizard is in use at several other colleges and universities including Oakland University, Simpson College, and the University of Tennessee, Martin. There are several other similar products on the market for creating online course Web sites, some of which are free for evaluation and limited educational use. Two of the most popular are WebCT and Blackboard. Based on initial response to the Course Web Wizard, CIS may look into some of these other products as well.

So, if you are interested in an easy to use, and quick way to set up a course Web page, try the Course Web Wizard! The Course Web Wizard site is located at `http://www.hmc.edu/cww/`. CIS is also planning a workshop on how to use the Course Web Wizard in early January. If you would like to use it to set up a course Web site please send email to `cww@hmc.edu` so that an account can be created for you.

by Craig Adkins, CIS

Accessibility continued from page 1

The WAI Web Content Accessibility Guidelines are a valuable resource for every Web page author. They provide concrete guidelines for creating Web pages that are accessible to the blind and to others with disabilities. If you're a Web page author you'll want to take a look at the complete guidelines which are available on the Web at `http://www.w3.org/WAI/GL/`. Here are some of the highlights, though:

PROVIDE ALTERNATE TEXT

Use the "ALT" attribute to provide textual descriptions of every image on your Web page. Without alternate text, screen readers will simply read the default description of "IMAGE" for any images they encounter on a page. Using alternate text is particularly important for graphical buttons, image map regions, graphical representations of text and symbols, and images used as list bullets. Alternate text should also be used for audio files, audio tracks of video, and video. Using alternate text will also help non-disabled users who turn off image loading when accessing the Web over slow modem lines or who are using a text-only Web browser such as Lynx.

USE COLORS WISELY

Using color alone to convey information can hinder users with color deficits or monochrome displays. Choosing background and text colors that are too close to the same hue can make it difficult to read or print Web pages.

USE HTML MARKUP TAGS PROPERLY

Misusing HTML markup tags for presentation effects (e.g. using a table for page layout) can confuse screen reader software and make it extremely difficult for a disabled user to understand the organization and content of a Web page. Other examples of using markup tags improperly are using header tags for font

(continued on page 5)

Editor's Notes

In honor of the last pre-Y2K issue of *Occasional Downtime* we have several interesting articles for you. CIS recently installed a new application on our main Web server called the Course Web Wizard. The Course Web Wizard can be used by faculty to quickly and easily set up course Web sites.

We also have a follow-up to our April article on network security which details enhancements we've made to our current security policy.

Our main article, though, is on the subject of Web page accessibility for the disabled. One of the main attractions of the World Wide Web is the fact that it has made so much information available to so many people all over the world. Making sure that this information is accessible to all segments of the population is a major topic of concern.

We hope you enjoy this issue of *Occasional Downtime*. Have a great winter break!

—Elizabeth Hodas

Occasional Downtime is published bimonthly by the Computing and Information Services Department at Harvey Mudd College. It is also available in PDF format on the HMC Web Server. Comments and questions can be directed to `downtime@hmc.edu`.

On Guard! New Network Security Measures at HMC

In the April issue of *Occasional Downtime* we discussed some of the issues involved in network security. Network security continues to be a topic of concern for us at CIS, especially since we have had a higher than usual incidence of system break-ins on campus this semester. Most of the break-ins involved Linux boxes; some were student-owned machines in the dorms while others were department-owned machines. Linux has become an increasingly popular platform on campus. Unfortunately, the basic installation has a number of security holes, which, if not properly patched, leave the system vulnerable to break-ins by hackers outside HMC.

The HMC Computing Committee has been meeting this semester to discuss changes to our security policy. The Committee has been searching for a solution that would limit outside access to computers on campus while still allowing everyone on campus to perform their work without restrictions. Based on the recommendations of the Committee, CIS has implemented some enhancements to our network security policy. Starting with the academic departments we have blocked off-campus access to most departmental computers. This blocking takes place at the router level. The router blocks incoming packets for protected computers that are initiated by computers that do not have a Claremont Colleges IP address. Users are still able to access the Internet as they normally do, but hackers have no way to access the users' computers from outside.

In each department there are a small number of computers, such as Web servers, FTP servers, and mail servers, that require access initiated from the outside. These machines were given new IP addresses from a range of IP addresses that are not blocked. Faculty and staff who use an ISP (Independent Service Provider) to access their computer system from home have also been given the option to request one of these IP addresses. Users who dial in to HMC's modem pool are not affected. Only those users who use an ISP to connect to the HMC network and then connect to their own system require a change to their IP address.

Protecting the computers in the academic departments was the first phase of our new security policy. It took place in November. This phase has gone very well and we are ready to begin the next phase—protecting student computers in the dorms. This phase will begin in December. For more information about our security policy please contact Richard Parker at extension 18613.

THE HMC COMPUTING COMMITTEE

Bill Alves, Humanities and Social Sciences
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Accessibility continued from page 3

effects instead of to designate actual headings and using the <BLOCKQUOTE> tag to create indentation. While such misuses were difficult to avoid in early versions of HTML, more recent versions have offered tags intended for formatting control.

MAKE TABLES MORE ACCESSIBLE

Even tables that are used properly to display tabular information can confuse reader software. Reader software reads from left to right and can jumble the content of a table as it reads across columns. Using the <TH> tag to identify row and column headers and adding a table summary using the "SUMMARY" attribute can help make a table more accessible.

USE MOVING OBJECTS CAREFULLY

Moving objects on the screen such as blinking, scrolling, or auto-updating objects or text can be very confusing and distracting to people with cognitive or visual disabilities. In addition screen readers can't read moving text. Use these techniques sparingly, if at all, or provide alternatives that users can access instead. Another option is to provide a mechanism for users to pause or stop moving objects.

These are specific guidelines for making pages more accessible to the blind and disabled. But there are many other more general measures you can take to make sure that your pages are accessible to everyone, including the disabled. For example, it's very important to test your Web pages on multiple Web browsers and multiple platforms. Pages developed in Netscape Navigator on a Macintosh computer can look quite different in Internet Explorer on a PC, or even in Netscape Navigator on a PC. Differences in monitor capabilities, such as monitors that only support 256 colors, monochrome monitors, or small monitors can also make a great deal of difference in how readable and understandable a Web page is.

The use of new technologies can also be a double-edged sword. While new technologies such as style sheets and applets can greatly enhance Web sites, they can limit users who have older browsers that don't support these features or who cannot take advantage of them due to disabilities. Web page authors should take into account the concept of "graceful transformation." In other words, Web pages should be designed so that they work even if the features provided by the new technologies are not available. If this is not possible, then authors can provide alternate pages.

The Center for Applied Special Technology (CAST) provides a very useful source in evaluating the accessibility of a Web site called Bobby. It is available at `http://www.cast.org/bobby/`. Bobby will take a URL and return a report with any accessibility or browser compatibility problems it finds. CAST even provides an icon that can be posted on a Web site when it receives a Bobby Approved rating. The World Wide Web Consortium also provides an HTML validation service located at `http://validator.w3.edu`. This service takes a URL and returns a report on its compliance with W3C HTML Recommendations.

SOURCES

Word Wide Web Consortium `http://www3.w3.org/`
HTML 4.0 Specification `http://www.w3.org/TR/REC-html40/`
Web Accessibility Initiative `http://www.w3.org/WAI/`
Web Accessibility Guidelines `http://www.w3.org/WAI/GL/`
HTML Writers Guild `http://www.hwg.org/`
AWARE Center `http://aware.hwg.org/`
National Federation of the Blind `http://www.nfb.org/`
W3C HTML Validation Service `http://validator.w3.org/`
Bobby `http://www.cast.org/bobby/`
Casey, Carol, "Accessibility and the Educational Web Site," *Syllabus*, Vol. 13, No. 2, September 1999, pp. 26-30.

QUESTIONS *and* ANSWERS

Q: I've been using Eudora on my Macintosh for a while now and recently I've been getting a message complaining about the amount of memory it needs. What can I do about this?

A: A short-term solution to this problem is to quit Eudora and allocate more memory to Eudora. After quitting Eudora use the Finder to locate the Eudora application file and single-click on it to select it. Select 'Get Info' from the Finder's 'File' menu to display the Eudora Info dialog box. In the Memory section of the dialog box type the amount of memory you want Eudora to have in the "Preferred Size" box and close the window.

However, if you are getting this message it might also be an indication that it's time to clean up some of your mailboxes. Eudora estimates the amount of memory it needs based on your open windows and the size of the 'In', 'Out' and 'Trash' mailboxes since they're in memory all the time. The best way to reduce how much memory Eudora needs is to clean up these mailboxes regularly by deleting old unwanted mail or by transferring messages to other mailboxes for long-term storage.

Creating new mailboxes is simple. Just select the message or messages you want to move to a new mailbox and select 'New...' from the 'Transfer' menu. Type in the name of your new mailbox and click OK. You can now transfer other messages to this mailbox at any time by selecting the message and then selecting the mailbox from the 'Transfer' menu. You can even group mailboxes together under folders. You can learn more about folders in the Eudora manual.

Another way to reduce the memory Eudora needs is to compact your mailboxes. When you delete messages from a mailbox the storage space which that message originally required is not always automatically freed. You can see how much space is wasted by checking the mailbox size display in the lower left corner of the mailbox window. You should see three numbers in this display. The first is the number of messages in the mailbox; the second is the total amount of space those messages require; and the third is the amount of disk space wasted with the mailbox. In order to compact the mailbox click (Command click on the Macintosh) in the mailbox size display.

Q: I want Eudora to check to see if I have new mail automatically. How do I do that?

A: Select 'Settings…' from the 'Special' menu on the Macintosh or 'Options' from the 'Tools' menu on the PC. Click on the 'Checking Mail' icon. You should see an option for "Check for mail every __ minutes." Type in a number in the empty box and then click OK. It's best to choose a time increment of at least 15 minutes. Checking more often than that puts an unnecessary load on the POP server. To disable this feature, just leave the box empty.

Another option under "Checking Mail" is the "Leave mail on server for __ days." This feature should **not** be

checked unless you are using Eudora at home over PPP and also use Eudora in your office. If you only use Eudora in your office and you check this option Eudora will leave a copy of all of your mail on the POP server instead of deleting it whenever you download new mail. Eventually this will cause problems for Eudora as it will time out searching through all of your old mail looking for new mail.

Q: I tried to read my email using Eudora this morning and I got an error message saying that my password is incorrect. I never use my password with Eudora anyway so what's wrong?

A: When Eudora retrieves your mail from *thuban, HMCADM* or some other POP server it must, for security reasons, know your account password. While we do not recommend using this feature, Eudora has an option to save your password after the first time you retrieve mail so that it doesn't have to ask for it each time.

If for some reason you change your password, then the password stored in Eudora will be out of date. To solve this problem you must tell Eudora what your new password is. To do this select 'Forget Password' from the 'Special' menu. Then select 'Check Mail' from the 'File' menu and type in your new password when you are prompted for it. Do not use the 'Change Password' menu command. This will change your password on the server again, rather than changing your password stored by Eudora.

One reason your *thuban* or *HMCADM* password might have changed is that these servers have very strict security procedures. They both require periodic password changes. If you login to *thuban* or *HMCADM* interactively using Telnet or by dialing-in from home (*continued on page 8*)

Tricks & Tips

THE AUTOCORRECT FEATURE IN WORD

Word 97 and Word 98 have many timesaving features for the user. In particular, the AutoCorrect feature anticipates some of the most common typing and spelling mistakes users make and corrects them for you. For instance, AutoCorrect will correct words in which you type two initial capital letters instead of one, capitalize the first word of a sentence if you don't, capitalize the names of days of the week, correct accidental use of the Caps Lock key, and replace specific text as you type. For example, if the user types (c) Word will replace it with the copyright symbol ©.

Another feature of AutoCorrect is 'AutoFormat As You Type.' For example Word will automatically format bulleted and numbered lists as you type, will replace fractions with the fraction character, will replace ordinals with superscript characters, and will replace Internet and network paths with hyperlinks.

While these features can be very useful when you need them, they can also be very annoying when you don't! In those cases it is useful to know how to turn the AutoCorrect features off. To do so, select 'AutoCorrect' from the 'Tools' menu. Find the feature that you want to disable and uncheck the check box next to it. For example if you don't want Word to turn your URL's into hyperlinks, then uncheck the box labeled "Internet and network paths with hyperlinks" in the 'AutoFormat As You Type' section.

Q&A continued from page 7

with a modem, you will be prompted to change your password if it has expired.

Q: Every time I try to send email in Eudora I get a message that I am sending to a bad email address. I know the address is right. What is going on?

A: Eudora may be not be referring to the message you are trying to send, but to an older message that had a bad email address and never actually got sent. To check for this problem go to the 'Mailbox' menu and select the 'Out' mailbox. Look for a message that has a "Q" in one of the columns next to it. If there is such a message double-click on it to open it and carefully examine the email addresses in the To:, CC: and Bcc: fields.

If any of these fields have an email address that is badly formed Eudora can't send the message and will save the message in your 'Out' mailbox until you either fix the address or delete the message. Every time you send a new message Eudora tries to send the old queued message too which is why you keep getting the error message. Some common email address mistakes are Eudora aliases that don't resolve to actual email addresses or mailing list addresses which are missing the "`@hmc.edu`" ending.

Q: I want Eudora to save a copy of every mail message that I send. How do I do that?

A: Select 'Settings…' from the 'Special' menu on the Macintosh or 'Options' from the 'Tools' menu on the PC. Click on the 'Sending Mail' icon. You should see an option for "Keep copies of outgoing mail." If this option is checked then Eudora will keep a copy of each message you send and put it in the 'Out' mailbox. If it is not checked then outgoing messages are put in the 'Trash' mailbox after they are sent.

Q: I sent a message this morning and now I want to send another copy of it to someone else. I found a copy of the message in my 'Out' mailbox but when I double-click on it to open it, Eudora won't let me edit the To: field. What am I doing wrong?

A: Eudora won't let you edit messages you've sent (or messages that you've received for that matter). If you want to send the message to another person you need to use the 'Send Again' command. Select the message you want to send by opening it or single-clicking on it. Then select the 'Send Again' command from the 'Message' menu. Edit the To: field with the email address you want to send the message to and then click the 'Send' button.