

E-Mail at Harvey Mudd College Or is it just Greek to you?

E-mail has become a more and more accepted and pervasive form of communication in the academic world. This is not surprising. It is a great way to communicate quickly and reliably both with your colleagues down the hall and with those on the other side of the globe. It is particularly useful for brief casual messages that don't require a phone call and for communicating with groups of people quickly. It can help reduce telephone tag by getting messages to people directly. It's also particularly appropriate for conducting collaborative work with people over a long distance.

This is not to say that e-mail will replace your other means of communication. It is a very useful supplement to the phone, fax, and postal mail (sometimes referred to as snail mail!), but sometimes it's more appropriate to just pick up the phone or to send a more formal letter. When using e-mail it is also important to keep in mind that just as telephone conversations and business letters have their own etiquette and style, e-mail has its own "netiquette." The main point to remember is that the quick informal nature of e-mail messages and the absence of body language cues can make a message appear rude or misleading. Sarcasm and irony are particularly prone to misunderstanding leading to the well-known use of smileys or emoticons such as :) or :- (. Another common pitfall is sending a message to the wrong person, most often by not correctly editing the "Cc:" field in the header. So before sending an e-mail message it's a good idea to read it over carefully with these points in mind.

WHICH E-MAIL SYSTEM SHOULD I USE?

There are two main types of e-mail systems: host-based systems and client/server systems. Before deciding on an e-mail system it is important to understand the advantages and disadvantages of each and how they might fit into your own computing environment.

In the first, more traditional type of system all of your e-mail is received, stored and read on the host computer, for instance a UNIX or VMS computer. New messages are usually composed using the text editors available on the host computer, such as *vi*, *emacs*, or *edit*. The main examples of this type of e-mail system at HMC are Elm, which runs on UNIX machines, Pine, which is available on both UNIX and VMS machines, and VMS Mail, which runs on the VMS machines. The advantage of this system is that mail messages are stored in a central location and are accessible by any terminal or any computer running terminal emulation software. This means you can read your mail from your campus office, dorm room, lab, or from home using a modem, as well as remotely from other computers connected to the Internet. One of the disadvantages to this type of e-mail system is that, as with many mainframe-based programs, some users find the interface distinctly user-unfriendly and awkward to use (*E-Mail continued on page 4*)



WWW

The World Wide Web

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The Mozilla image on this page is taken from Netscape's former home page.

The World Wide Web is probably the “hottest” thing to hit the Internet in the past decade. It sometimes seems as if everyone is talking about the Web or “net surfing.” But if you haven’t already spent a lot of time on the Internet you may be wondering “What is the World Wide Web?” “How is it different from the Internet?” “What’s Mosaic?” And perhaps most important “Why should I care?” To answer those questions it’s probably best to take a few steps back and talk about the big picture—the history of the Internet and the various tools available on it.

THE INTERNET AND ITS ORIGINS

The Internet has its origins in ARPANet, a network started by the Advanced Research Projects Agency in the 1960’s to share expensive computer resources and to ensure communication between military locations in the event of a catastrophe (this was the height of the Cold War, after all).

The next step in the development of the Internet was NSFNET which was funded by the National Science Foundation to link the five national supercomputer centers with a high-speed communications “backbone.” Regional networks which connected universities and research sites were then connected to the backbone. NSFNET grew rapidly as more and more students and researchers found new uses for the network. In 1987 a group consisting of MCI, IBM and Merit Network was contracted to manage and upgrade the NSFNET. Eventually, NSFNET completely supplanted ARPANet and the latter was dismantled in 1990.

In 1991 then Senator Al Gore sponsored a bill called the “High-Performance Computing Act of 1991” which created a new network on top of NSFNET, called the NREN (National Research and Education Network). The NREN’s goals are to increase the speed of the network and to include both lower education such as community colleges and K–12 schools as well as a commercial presence. The NSFNET had an “Acceptable Use Policy” which specifically prohibited any for-profit activities on the network. While it is still not entirely clear what is and what is not permitted in terms of commercial activities, on the NREN more and more companies have become active on the Net.

So now we’ve mentioned the ARPANet, NSFNET and the NREN, but we still haven’t answered the question: “What is the Internet?” Different people use the term to refer to different things. In his book *Internet Starter Kit for Macintosh* Adam Engst refers to the Internet as: “the largest possible collection of inter-connected networks.” That is, the backbone network, the regional networks, and also related networks in foreign countries, such as Britain’s JANET. On the other hand, in a survey of the Internet conducted by Matrix Information and Directory Services (MIDS) in October 1994 they define three subsets: the Core Internet, the Consumer Internet and the Matrix. The Core Internet consists of users of computers that can **provide** interactive services such as Telnet, FTP or WWW; the Consumer Internet refers to users of computers that can **use**

the interactive services supplied by the core Internet; and the Matrix refers to users who can exchange electronic mail with other users in the Matrix. These categories fit inside each other: the Matrix includes the Consumer Internet, which includes the Core Internet. Since Harvey Mudd provides an FTP, WWW and Gopher server we are part of the Core Internet.

Most people probably use the term Internet in a way corresponding to Adam Engst's conception of it, which is most likely roughly equivalent to MIDS' concept of the Matrix. It doesn't really matter unless you need to be specific in order to estimate the size of the Internet. Adam Engst estimates that the Internet consists of 23 million people using 2.3 million computers. MIDS estimates 7.8 million users (people) of 2.5 million computers in the Core Internet; 13.5 million users of 3.5 million computers for the Consumer Internet; and 27.5 million users for the Matrix.

INTERNET TOOLS:

WHERE DOES THE WEB FIT IN?

The Internet obviously consists of a great deal more than a lot of people and computers connected together. It wouldn't have grown at such an amazing rate if it didn't let people do interesting and useful things. Most people are familiar with some of the tools available on the Internet such as electronic mail, Usenet news, Telnet, FTP, WAIS, Gopher and now the World Wide Web. E-mail is probably the most well-known tool on the Internet, closely followed by news. Telnet allows you to imitate a terminal and connect to another computer and run programs on it. For example at Harvey Mudd we can use Telnet to connect to the Honnold Library and then use BLAIS to search the catalog. FTP stands for File Transfer Protocol. It enables you to connect to another computer and transfer files back and forth. WAIS and Gopher are both tools for finding and retrieving information over the Internet. Information (*WWW continued on page 5*)

Editor's Notes

As you may or may not have noticed, *Occasional Downtime* has been on somewhat extended hiatus. One of my main projects as the new User Support Coordinator in the Academic Computing Department is to revive our newsletter and begin publishing it on a more consistent schedule, bi-monthly if possible.

Each newsletter will consist of at least two main articles focusing on computing issues of importance to the Harvey Mudd community. Upgrades and changes affecting the computing resources available, new technology for education and research, and reviews of some of the computer tools we use every day will be among the topics covered. In this issue we are focusing on two issues of current interest: electronic mail and the World Wide Web. We also plan on having regular features including a Q&A section, helpful tips on using some of the supported software here at Harvey Mudd, and a calendar of workshops and other events.

We want *Occasional Downtime* to become a useful and educational tool for the Harvey Mudd community. Any suggestions or comments our readers have towards that goal are welcome. Comments can be sent by e-mail to downtime@hmc.edu or by mail to the Academic Computing office.

—Elizabeth Hodas

Occasional Downtime is published bi-monthly by the Academic Computing Department at Harvey Mudd College. It is also available in plain text format on the HMC Gopher Server and in a variety of formats on the HMC Web Server. Comments and questions can be directed to downtime@hmc.edu.

For people more familiar with their desktop Macintosh or PC the command line options and text editor commands are not very intuitive.

The second type of e-mail system is the client-server system based on the Post Office Protocol (POP). In this type of system mail messages are received on a central network server and then transferred to your desktop computer on demand. All of your mail messages are stored and read on your desktop machine rather than on the host UNIX or VMS machine. The main example of this kind of e-mail system is Eudora, which is available for both the Macintosh and Windows. The advantage of this kind of system is that it provides a much more user-friendly interface. Mail messages can be read, stored and composed on your desktop computer within a familiar Macintosh or Windows environment. A disadvantage of this system for some people is that mail messages are not stored in a central place. This can make accessing your archived e-mail messages from other locations more complicated.

The decision on which e-mail system to choose should depend a great deal on how you do your main computing work. If you do all of your computing tasks on a desktop machine such as a Macintosh or Windows PC in your campus office then Eudora would be a good choice for you. If, on the other hand, most of your computing work is done on a VAX or UNIX host, then you may want to stay with one of the host-based e-mail systems. The question of access from outside your office will also need to be considered. Academic Computing's Dial-In Group is now working on options for improving dial-in access for programs like Eudora and should be ready to report on results later this summer.

BASIC FEATURES OF E-MAIL SYSTEMS

All of these e-mail systems allow you to do the basic functions associated with e-mail.

These include: sending messages, finding out about new e-mail messages, reading messages, deleting messages, replying to messages, and forwarding and redirecting messages. The main differences between the systems will be in how these various basic functions are performed. For instance, in the Macintosh version of Eudora you would use the same familiar cut and paste techniques used in other Macintosh word processor packages to compose your e-mail messages. In Elm, Pine and VMS Mail you would use the text editors available on UNIX and the VAX, such as *emacs* and *vi*, to compose new messages.

In addition to these basic features, most systems allow you to perform a variety of more advanced functions. In the next issue of *Occasional Downtime* we will discuss several of these more advanced features, including organizing your e-mail messages using folders, aliases, signature files, and vacation files.

WHERE DO I FIND THE E-MAIL SYSTEM I'VE CHOSEN?

A freeware version of Eudora (v.1.5.1) is available for the Macintosh and Windows. It can be found on the servers maintained by Academic Computing (Kato and Lurch). There is also a commercial version of Eudora (v. 2.0) available for an educational price of \$32.50 from QUALCOMM Inc. The commercial version has many additional features including automatic filtering of messages, alternate signature files and the ability to drag messages between mailboxes.

Elm and Pine are both available on all of the UNIX machines. Typing `elm` or `pine` at the command line will start these programs. If you've never used either of these programs before the system will automatically set up the appropriate mail files and folders for you.

VMS Mail and Pine are also already available on the VAXen. Typing `MAIL` or `pmdf pine` at the command prompt will invoke these mail programs. 🐉

providers make information available by maintaining a WAIS or Gopher site which can be accessed by users using a WAIS or Gopher client such as MacWAIS or TurboGopher.

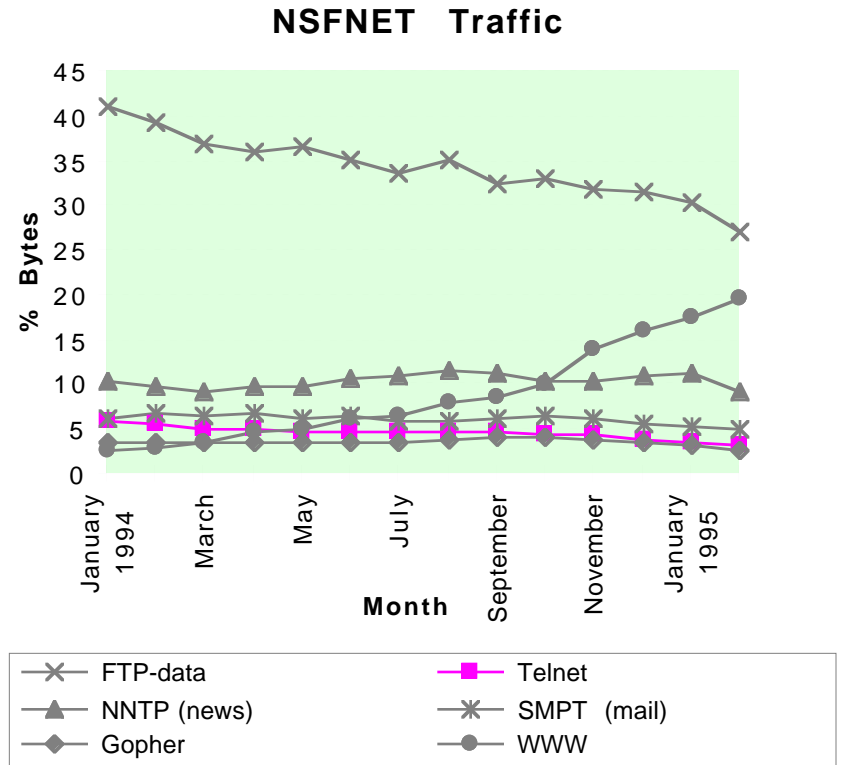
The World Wide Web is the newest way of accessing information over the Internet. It was first developed at CERN (the European Particle Physics Laboratory) in Switzerland as part of a proposal to develop a hypertext system which would provide a consistent user interface to many different kinds of information including text, graphics, and audio to users separated geographically. It was particularly targeted at the fast on-line publication of articles in particle physics. The proposal was first discussed in 1989, but it was not until 1993 with the release of NCSA's browser, Mosaic, that the World Wide Web really took off. Since then the percentage of Internet traffic represented by the Web has grown by leaps and bounds. If you look at the graph on this page you can see that the percentage of Internet traffic represented by Gopher, Telnet, news and mail has pretty much leveled off, while that of the Web continues to increase. FTP, on the other hand, has decreased significantly.

WHY IS THE WEB COOL?

The first thing one notices about the Web is this concept of hypertext. Embedded in every Web document are links to other documents. Instead of being organized in a hierarchical manner, like Gopher, or linearly, like a book, the Web is just that, an interconnected Web. By following links you can jump from document to document and access information all over the world. The Web is a very dynamic place with new links being created all the time. Individuals also play a role in the creation of the Web, since you can not only publish your own information but also include links to other sites that you have discovered. The second thing you notice is that Web documents (often referred to as Web pages) include

not only text, but graphics, video and audio. It is a true multimedia system.

Finally, the Web integrates all of the other Internet tools that we have mentioned. Through World Wide Web browsers you can access news, Telnet, FTP, Gopher and WAIS without even realizing you're doing so. All of these tools are integrated under



Data obtained from <ftp://nic.merit.edu/nsfnet/statistics/>

the consistent interface of the Web. Accessing one of these tools is no different from following any other Web link.

HOW DOES IT WORK?

One of the great things about the Web is that you really don't have to know how it works in order to use it. But there are a couple of concepts which are helpful to understand. The first is HTTP or HyperText Transfer Protocol. This is the protocol that allows your client (i.e. the browser you are using to surf the Web, such as Netscape or Lynx) to talk to the Web server and retrieve data. Another acronym you should know is HTML or

(WWW continued on page 6)

HyperText Markup Language. HTML is a derivative of SGML, or Standard Generalized Markup Language. HTML is basically a series of codes which are inserted into a text document. These codes are interpreted by the Web client and translated into various formats which can be displayed on your screen. For example the code <H1> indicates a Level 1 heading while the code indicates the beginning of an ordered list. The combination of HTTP and HTML are what allow many different kinds of computers to access the same information without having to worry about system and file formats. The core of each document is just a plain text file with these embedded codes.

The third, and probably most useful, concept is the URL or Uniform Resource Locator. A URL is basically an address which uniquely identifies a resource on the Web. Just like an e-mail address it consists of a number of different fields. Understanding these fields can tell you a lot about what kind of resource you've accessed and where it is located. A URL usually consists of four parts: a protocol (the method used to retrieve or send information), a host (the computer host where the resource is located), a port (a number identifying the service you are requesting from the computer host), and a path (the full pathname which identifies the location of the resource in the host computer's directory structure).

For example, let's examine the URL of Netscape's What's Cool Page: `http://home.netscape.com/home/whats-cool.html`. The first part, `http:`, identifies this resource as a World Wide Web resource. The protocol `ftp:` identifies an FTP site; `gopher:` identifies a Gopher site, and so on. The second part, `//home.netscape.com`, identifies the host computer. This is the part that is probably the most useful. By looking at the ending you can tell whether the resource is

WHERE TO GO FROM HERE

➡➡➡*Electronic resources:*

- ▼ Electronic documentation on e-mail systems at Harvey Mudd are now available on the World Wide Web in Academic Computing's Documentation Library. The URL of the documentation library is `http://www.hmc.edu/comp/doc`.
- ▼ E-mail documentation is also available on our Gopher server.
- ▼ Documentation on VMS Mail is available on the VAX computers by typing CLUE at the command line.
- ▼ There are also many guidebooks on the Internet available in a variety of formats on the World Wide Web. The Electronic Frontier Foundation (EFF) in particular has a very good archive of guidebooks in addition to their own guidebook—EFF's (Extended) Guide to the Internet. Their URL is `http://www.eff.org/`. The guidebooks can be found at `http://www.eff.org/pub/Net_info/`.

sponsored by an educational institute (.edu) or a commercial organization (.com) for example. It can also tell you where the resource is located geographically. Connections overseas can be quite a bit slower than ones in the United States, so this can also be useful to know. Finally, `/home/whats-cool.html` is the full pathname of the file you are accessing. An important thing to remember about URLs is that they are case-sensitive (upper case vs. lower case letters are significant). They must be typed exactly as they appear.

In the next issue of *Occasional Downtime* we will describe some of the browsers you can use to access the World Wide Web and where you can find them.

WHERE TO GO FROM HERE

➡➡➡*Printed resources:*

▼ *Eudora Version 1.5 Macintosh User Manual.*

Available at the Academic Computing office and as a Microsoft Word document with the Eudora application.

▼ Adam C. Engst, *Internet Starter Kit for Macintosh*, 2nd Edition, Hayden Books, 1994 (Also available in a Windows version: *Internet Starter Kit for Windows*). Has very good introductory chapters on e-mail plus a brief guide to Eudora. Also includes chapters on the Internet, Internet tools and the World Wide Web.

▼ John December & Neil Randall, *The World Wide Web Unleashed*, Sams Publishing, 1994. An exhaustive introduction to the Web and to NCSA Mosaic, plus lots of information on getting started publishing your own Web pages. Unfortunately, it was published just before the release of Netscape so there is no mention of this browser.

▼ Lee Sproull and Sara Kiesler, *Connections: New Ways of Working in the Networked Organization*, MIT Press, 1991. A very interesting social and organi- zational perspective on the use of e-mail. Available at Honnold Library.

These include Netscape, a graphical browser available for Macintosh, Windows and UNIX; Mosaic, another graphical browser available for Macintosh, Windows, UNIX and VMS; and Lynx, a text-only browser available for UNIX and VMS. In a future issue we will discuss how to publish your own Web documents. ☞

Tricks & Tips

& Tricks

BOOKMARKS IN NETSCAPE

If you've been using the 'View Bookmarks...' feature to organize your bookmarks in Netscape here's a tip that can make it easier. Double-clicking on a header collapses it, hiding all of the items grouped under it. The header now appears in bold and underlined. Double-clicking on it again expands it. Collapsing your headers makes it easier (and faster) to move individual bookmarks up and down in your list. You can also use this feature to move a header and all of the items grouped under it up and down in the list.

NICKNAMES IN EUDORA

Here's a shortcut for replying to more than one message at a time. Suppose you received e-mail messages from a group of people and wanted to reply to all of them at once. It would be nice if you could just select all those messages in the mailbox window and then select 'Reply' from the 'Message' menu, but unfortunately Eudora isn't quite that smart. You can, however, create a nickname for all of those people and then send a message to the nickname. To do this, select all of the messages you want to include. If they're not contiguous in the mailbox just hold down the Command key while clicking on them. Then select 'Make Nickname...' from the 'Special' menu. Eudora will prompt you for the name of the nickname. Type in the name and click OK. Now select New Message' from the 'Message' menu and address it to your new nickname (or click the 'To:' button in the 'Nicknames' window. This may seem a bit involved but it's a lot faster and easier than either typing in a lot of e-mail addresses or trying to cut and paste them into your message. ☞

QUESTIONS *and* ANSWERS

Q: I use emacs on my mainframe account all of the time, but lately I've noticed that I have problems with it when I use NCSA Telnet. When I try to insert text it either types over my old text or types garbage. What's wrong?

A: The new version of NCSA Telnet (v.2.6) has several known bugs. One of them is that insert mode in VT220 emulation mode does not work properly and, unfortunately, this is the default terminal setting. The way to fix this problem is to switch to VT100 emulation mode. Select 'Preferences... /Terminals...' from the 'Edit' menu. Choose UNIX or VAX terminal and click Change. In the dialog box that appears click the VT100 button and then click OK.

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. Type the amount of memory you want Eudora to have in the Current Size box and click OK.

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 a 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. In order to compact the mailbox select 'Compact Mailboxes' from the 'Special' menu. 🐉

Q: Have a question that's been bugging you?

A: Send it to *Occasional Downtime* at downtime@hmc.edu and we'll try to answer it!