

Attach Document...

Email is a very important tool at Harvey Mudd College. Many of us check our email several times a day. We depend on it to communicate with colleagues, friends, and family. Email is also being used more frequently to send more than just text. We send word processing documents, image and sound files, and postscript files, among others. Such files are usually sent as attachments. Dealing with attachments is a little different than normal email and can cause some confusion and problems unless you understand how they work. This article will cover the basics of sending and receiving attachments.

HOW DO ATTACHMENTS WORK?

The email system on the Internet is based on a protocol called SMTP (Simple Mail Transfer Protocol). It was originally designed to handle only US-ASCII characters, the set of 128 codes for the most common English characters, numbers and symbols. This was not much of a problem when text messages were the norm, but is pretty limiting today when people want to be able to send much more.

While some SMTP systems have been upgraded to handle more, you can't rely on all of the mailers your message passes through being new, so to be safe, it is necessary to encode the file first. Encoding systems such as binhex and uuencode were developed for this purpose, but required users to manually encode and decode the file themselves.

MIME, which stands for Multipurpose Internet Mail Extensions, was developed to deal with the problem of sending non-US-ASCII data through email automatically. MIME provides two types of encoding which use US-ASCII character codes to represent other types of data.

An important aspect of MIME is that it uses a header field called "Content-Type" that tells the mailer what type of information is contained in the message. The main content types are: text, multipart, application, message, image, audio, and video.

The first type of encoding is called "quoted-printable." Quoted-printable looks a lot like regular text and is used for data that is mostly ASCII text, but that has some special characters or very long lines. It works by replacing special characters with an "=" and two characters that represent the character code of that special character. Quoted-printable encoding could be used to send an email message in French, for example, where all of the accented characters would be treated as special characters.

The other type of encoding is called "base64." Base64 is used for non-text data such as image and sound files. It uses an encoding algorithm to translate the binary data of these files into a subset of the US-ASCII character set.

As an interesting aside, MIME was coauthored by an HMC alum, Ned Freed (class of '82), who also helped write PMDF Mail along with Kevin Carosso (class of '82) and Daniel Newman (class of '85).

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SPAM, SPAM, SPAM...

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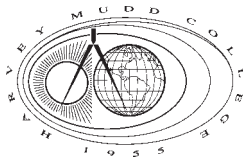
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When you first start using email it's pretty cool. You send email to your friends, family, and colleagues, you subscribe to a lot of mailing lists that look interesting, and suddenly you're receiving 50-100 email messages a day, if not more. After that you get to be a little more cautious. You unsubscribe from some of those mailing lists, and reading your email becomes something of a daily chore instead of the fun task it was when you first started. So when you start receiving unsolicited email from total strangers you are understandably a bit annoyed. How did these people get your email address and who are they anyway?

SPAM AND JUNK EMAIL: A BRIEF HISTORY
When the Internet was in its infancy and funded by the NSF, commercial activities and advertising were basically banned. The World Wide Web didn't exist then, so the question of advertising was mostly confined to the Usenet community (newsgroups) and mailing lists. Posting an advertisement about an unrelated product to a newsgroup was considered to be an off-topic intrusion on the discussion. Even worse was "spam." Spamming was (and still is) considered to be one of the cardinal sins. Spamming refers to the practice of posting the same message, usually advertisements and get-rich-quick schemes, to a large number of newsgroups one after the other.

When the NSF relinquished control and the Internet became more popular and accessible to the general public, increased commercialization was inevitable. The World Wide Web played the largest role in

the commercialization of the Internet, but Usenet was also affected. An increase in the amount of spam and junk mail has been an unfortunate consequence.

Recently, spamming has come to refer to sending unsolicited junk email to a large number of email addresses. The spammers use a variety of sources for email addresses. They use programs to scan Usenet and pull addresses from postings and worms to crawl the Web looking for addresses on Web pages. They also buy and sell lists like paper junk mailers.

WHAT CAN I DO TO AVOID JUNK EMAIL?

As we mentioned before, the people who send junk email often construct their address lists from addresses they have found on Web pages and newsgroup postings. If you don't have a Web page that lists your email address and you don't post to the Usenet newsgroups, you may avoid some of the junk email out there. One tactic some people use is to alter their email address in their newsgroup postings by adding extra words or characters that have to be removed in order for the email

THE ORIGIN OF THE TERM "SPAMMING"

The term came from the Monty Python sketch in which the characters go to a restaurant that serves mostly spam, i.e. "spam, eggs, spam, beans, and spam."


Every time the waitress recites the menu she is drowned out by a chorus of Vikings chanting the word "spam" over and over again. Spam postings were felt to drown out the legitimate content of newsgroups.

address to be valid. For example, adding the words “nosпам” in the middle of your email address is popular. It’s pretty hard to avoid junk email completely though. As we’ve all noticed in the world of postal mail, once you are on a mailing list somewhere you tend to end up on a lot of mailing lists for junk mail. A similar phenomenon seems to be developing with junk email. Often all you can do is hit the Delete key!

At HMC we recently added a new feature to the way our main UNIX server, Orion, processes email. A lot of junk emailers use bogus email addresses to avoid complaints. Orion no longer accepts email from bogus domains. So mail from addresses like “hi@your.friend.com” will no longer be accepted by Orion. We hope this modification to Orion’s email system will significantly reduce the amount of junk mail you receive if you use Orion. Don’t worry, though, you will still receive all your email from valid addresses.

WHO CAN I COMPLAIN TO?

If the email comes from a valid domain name you can write to the email address “abuse@domain.name” where you would replace “domain.name” with the actual domain name of the junk email you received. You should include the full text of the message you received, including all of the header information. Most service providers are pretty good about yanking the accounts of people who abuse their accounts. If that address doesn’t work you can also try “postmaster@domain.name.” Unfortunately, a lot of junk email comes from bogus email accounts.

If you’d like more information on spam and junk mail you can read the article “Advertising on Usenet: How To Do It, How Not To Do It” located on the News.announce.newusers official archive at <http://www.netannounce.org/news.announce.newusers/>. 

ditor's Notes

Once again, email is the topic of this month’s issue of *Occasional Downtime*. Questions and problems with email account for a large portion of the phone calls and email to the AC Help Desk so it seems appropriate to set aside more time and space to this topic than others.

Email attachments, in particular, cause problems for many of our users so we have devoted an entire article to the subject of how attachments work and how to send and receive them.

Other articles in this issue focus on the issue of spamming on the Internet and on a new email protocol called IMAP.

In addition to these articles on the topic of email we have the solution to last month’s crossword puzzle, some tips on using the new version of the operating system for the Macintosh, Mac OS8, and our usual *Questions and Answers* section.

—Elizabeth Hodas

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



IMAP

A new email protocol

Until fairly recently we have had two types of mail programs available at HMC. The first type is the traditional system in which all of your email is received, stored and read on the host computer. Pine, Elm, VMS Mail, and PMDF Mail are all examples of this type of email program.

The second type of system is based on POP (Post Office Protocol) in which mail is received on the mail server and then downloaded on demand to a desktop computer running an email client program. Eudora is an example of this type of email program. (For more information on these two types of email systems you can read the article on email in the inaugural issue of the new *Occasional Downtime*—“E-Mail at Harvey Mudd College: Or is it just Greek to you?” *Occasional Downtime*, Volume 3, Issue 1, April 1995.)

Eudora has become very popular on campus due to its ease-of-use. The main advantage to POP-based email programs like Eudora is that they allow the user to read and send their mail on their desktop computer within a user-friendly interface. The disadvantage is that the email is no longer stored on a central server. This means that users are responsible for backing up their email on their own and that they are not able to access their stored mail from other locations.

Academic Computing has recently upgraded the mail servers on both the VMS cluster (*Thuban*) and *Orion*. They now support a third type of email system called IMAP. IMAP stands for Internet Message Access Protocol. IMAP is similar to POP in that it is based on a client-server model in which mail is received on a

central server, but uses a client program on the desktop to access the mail. IMAP addresses the main disadvantage of POP, however. While the IMAP client still runs on the desktop computer, the email remains on the central server rather than being downloaded to the desktop computer.

An IMAP client program behaves very much like a POP client in that it allows the user to read and create new messages; to create, delete and rename mailboxes for storing mail; to check for new mail; and to search for specific mail messages. All of these functions are performed within a desktop program with familiar menus and windows. The fact that the mail remains on the server is transparent to the user, but users do not have to worry about backups and can access both their new and archived mail from multiple locations.

Qualcomm recently released a new version of Eudora Pro for Windows 95 which supports IMAP, Eudora Pro 4.0 (Eudora Pro is the commercial version of Eudora). Unfortunately, the Macintosh version does not yet support IMAP. Macintosh users will have to wait for the next version of Eudora for IMAP support. IMAP support is not planned for the freeware version of Eudora.

Academic Computing has not yet tested Eudora Pro 4.0 for Windows 95, but hopes to do so over the summer. There are several other IMAP clients which we are investigating, such as the email client included with Microsoft's Internet Explorer. However, we hope that Eudora will meet our expectations since it is already widely in use on campus. 🐾

HOW DO I SEND AN ATTACHMENT?

How you send an attachment depends in large part on the email program that you use. In general, though, the email program takes care of most of the work of sending and receiving an attachment. All you have to do is tell the program you want to send a file and then specify which file you want to send. The mailer takes care of encoding the file and attaching it to your message.

Usually the file does not appear in the body of your message, but is attached as a “rider.” The recipient’s mailer will then take care of decoding it and detaching it from your message when it receives the message.

Sound too easy to be true? Well, this is how it would work in an ideal world, and when both the sender and the recipient use compatible email programs it can actually be this easy. Problems arise when the sender and the recipient do not have compatible email programs. For example, if the sender’s email program is MIME-compliant but the recipient’s mail program is not. Or if the sender uses a Macintosh, but the recipient uses a PC. Or if the sender uses a PC, but the recipient has a UNIX workstation. In most of these cases it is still possible to send and receive the attached file, but more care has to be taken to do it right.

ATTACHMENTS WITH EUDORA

Since Eudora is one of the more widely used email programs on campus, we’ll use it as an example. To send and receive attached files in Eudora you first need to do some preliminary configuration. For sending attachments you need to tell Eudora what encoding method you want to use. For receiving attachments you need to tell Eudora what directory on your hard drive you want detached files to be put into (usually the Attachments Folder inside the Eudora directory). Both of these configuration settings are located by selecting the Attachments icon in the Settings dialog box under the Special menu

on the Macintosh, or the Options dialog box under the Tools menu on the PC.

Choose an encoding method based on the email program and operating system the recipient of your message uses (see the text box for tips on choosing an encoding method). It’s your responsibility to find out what kind of setup the recipient has. (If you can’t find out, then AppleDouble on the Macintosh and MIME on the PC are probably the best choices.)

Once you’ve done this step, attaching a file is as easy as creating a new email message and then selecting “Attach Document” under the Message menu. In the file dialog box locate and select the file you want to send. The path to the file should appear in the Attachments field in the header of the message, but the file will not appear in the body of the message. That is normal. Remember, attachments are usually attached to the message as a rider. You can still type a message in the body of the email and then send it as usual.

If someone sends you an attached document, Eudora (*continued on page 7*)

ATTACHMENT TYPES

MACINTOSH

AppleDouble: best for recipients with MIME-compliant email readers regardless of operating system.

AppleSingle: best for recipients with MIME-compliant email readers on Macintoshes. Not suitable if the recipient is using a PC.

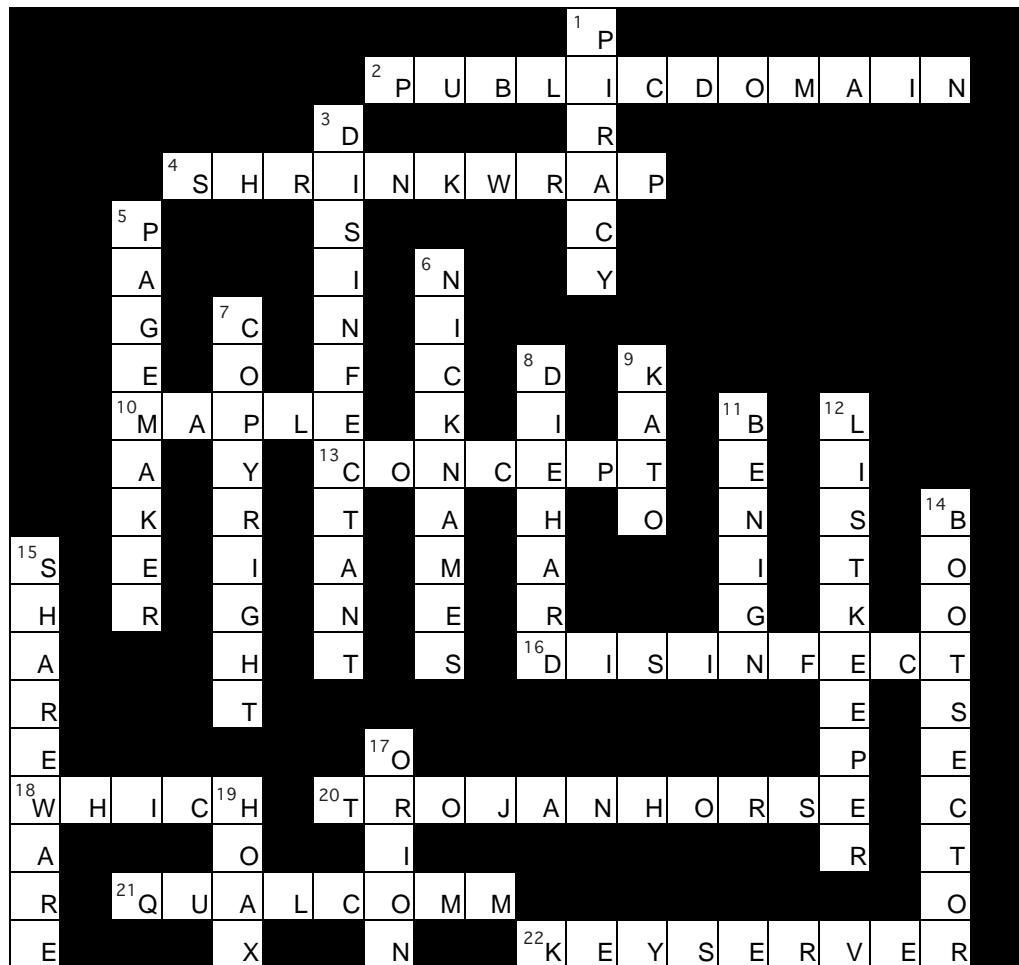
BinHex: best for recipients who are using a Macintosh, but who don’t have a MIME-compliant email reader.

PC

MIME: best for recipients with MIME-compliant email readers, regardless of operating system.

BinHex: best for recipients who are using a Macintosh, but who don’t have a MIME-compliant email reader.

AN "OCCASIONAL" FEATURE: The AC Crossword Puzzle Solution



ACROSS

2. The only category of software not protected by law
4. A type of license for commercial software
10. Mathematics software
13. The most common macro virus
16. To remove a computer virus
18. Mailing list command to find out the lists you are subscribed to
20. A deceptive computer program
21. Eudora publisher
22. Program for controlling access to commercial software at HMC

DOWN

1. Illegal copying of software
3. A popular Macintosh anti-virus program
5. Desktop publishing software
6. Eudora aliases
7. Law protecting intellectual property
8. Bruce Willis' favorite file virus
9. Novell file server
11. Opposite of destructive or malicious virus
12. Mailing list software
14. Most common type of PC virus
15. Software you pay for if you decide to use it
17. New Academic Computing UNIX machine
19. Not a real virus

will normally automatically decode and detach the document and put it in the directory you've designated. You'll know you've received an attachment from the message Eudora inserts at the end of the email message saying that the document was detached and identifying the filename. You just need to open your attachments directory to locate the file. You can then open the file in the appropriate application, i.e. Microsoft Word for a word processing document or a graphics application for an image file (see the *Q&A* section in this issue for more on opening attachments).

WHEN THINGS DON'T WORK

Sometimes Eudora can't automatically detach and decode an attached document. This is usually because it was encoded using a method that Eudora doesn't handle. For example, Eudora Light, the freeware version of Eudora, cannot decode uuencoded files (uuencode is an encoding method used primarily on UNIX systems). So you need to manually detach the document by saving the message as a file and then use a separate utility to decode the file. For example, Stuffit Deluxe and UULite for the Macintosh and Wincode for the PC will decode a uuencoded file.

ATTACHMENTS IN OTHER EMAIL PROGRAMS

Pine, which is available on both UNIX and VMS machines on campus, is another popular email program on campus. Pine is a MIME-compliant email program and allows you to send and receive attachments. You can check the online Pine documentation for details on how to do it. The main difference is that since most attached files are Macintosh and PC files you will need to FTP the file from the UNIX or VMS mail server to your Macintosh or PC before you can open it in the appropriate application.

Attachments are an extremely useful feature of today's email programs. We hope this article has better prepared you for both sending and receiving them. 🐾

Tricks & Tips

MAC OS8 TIPS

Last semester we offered a workshop introducing the new operating system for the Macintosh, Mac OS8. If you missed the workshop here are some of the highlights:

- ▼ The Finder is now truly multi-tasking so that you can perform multiple copy operations simultaneously, empty the Trash, and still navigate through Finder windows without having to wait.
- ▼ Choose the Simple Finder option (in the Finder Preferences dialog box under the Edit menu) for simplified Finder menus.
- ▼ Menus are now "sticky."
- ▼ Control-click on an item in the Finder for useful contextual menus.
- ▼ Use the Appearance and Desktop Pictures control panels to customize your Macintosh's look.
- ▼ Use the Windowshade control in the top right corner of a window to quickly collapse the window. Option-click the windowshade control to collapse all windows in an application (including the Finder).
- ▼ Folders are now "spring-loaded"—drag an item over the hard drive or a folder and it pops open automatically. You can also "tunnel" through nested folders by double-clicking and holding (similar to Option-double-clicking in System 7.6).
- ▼ Drag a folder window to the bottom of the desktop to create a pop-up window.
- ▼ You can view the contents of a folder in list view, as icons, or as buttons. Use the View Options dialog box to customize your folder view.
- ▼ Option-drag an item to copy it to a new destination; Command-Option-drag an item to place an alias to the item at a new destination. 🐾

Tricks
& Tips

QUESTIONS *and* ANSWERS

Q: How do I take a screen shot of my computer screen?

A: On a PC just press the Print Screen key. Then open the Paint program and select Paste from the Edit menu. To print it select Print from the File menu. On a Macintosh press Command + Shift + 3 (all three keys at the same time). Double-click the hard drive icon and look for a file called Picture 1. (If you take multiple screen shots, they'll be numbered sequentially.) Double-click the file to open it in SimpleText. To print it select Print from the File menu.

Q: I tried to logon to *Kato* and I get an error message saying that I'm already logged on. I know I logged out on the last machine I used. What's going on?

A: If the last computer you used was a Windows NT computer, it may not be properly configured. We have had numerous reports of students not being logged off from *Kato* properly after logging off from Windows NT. In the short term you can have your *Kato* logon "killed" so that you can logon to *Kato*. In the long term you should install Novell's Client 32 software on the Windows NT box to stop this problem from happening again. The software can be located on Novell's Web site at <http://support.novell.com/products/nt411/>.

Q: I got an attached document by email. Eudora detached it and put it in my Attachments folder. I tried double-clicking on the file, but all I get is an error message saying that I don't have

the right application. What am I doing wrong?

A: The problem is probably that the document you were sent was created using an application that you don't have on your hard drive or was created using a different version of the software that you use. This often happens with word processing documents. Even at HMC several different versions of both Word Perfect and Microsoft Word are commonly used.

The easiest solution to this problem is to launch the word processing program that you do have on your hard drive and then try to open the document from within the application. For example, launch Microsoft Word, then go to the File menu and select Open. In the file dialog box locate the document in the Attachments directory and click Open. Most word processing programs will convert documents created in other programs and allow you to open them.

If you use Microsoft Word 6.0 and the document was created using Microsoft Word 97 the solution is not quite as simple. Microsoft does provide a converter which will convert Word 97 documents to make them compatible with earlier versions of their software. The converter is available on their Web site at <http://www.microsoft.com/>. We also have Microsoft Word 97 available on the AC file server, *Kato*, and in the AC Pentium computer lab.

