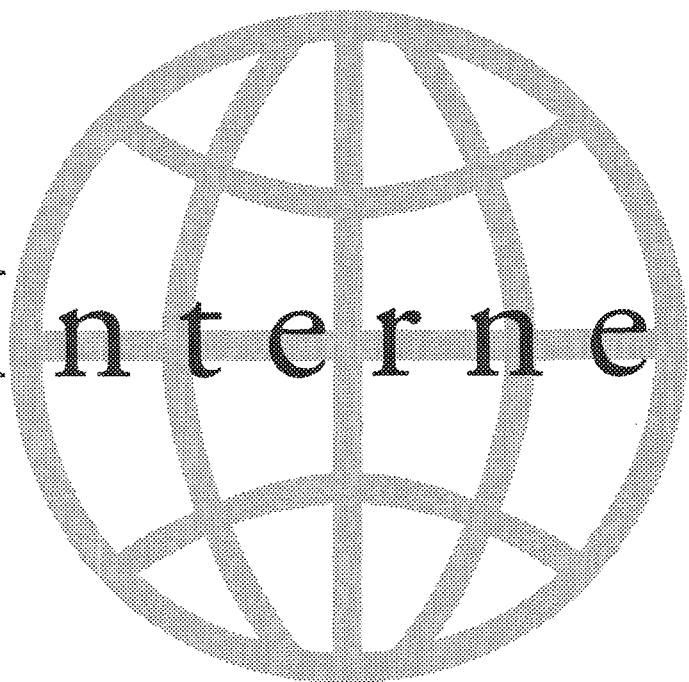




March 13, 2006

Please note that this workbook is made available for historical purposes only.

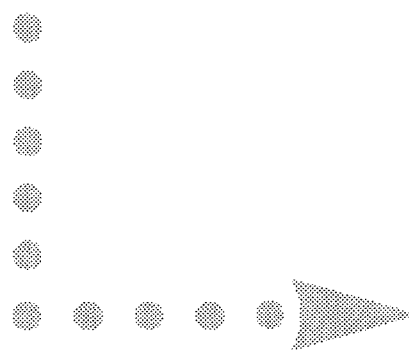
Basic Internet Tools



Telnet, E-Mail, FTP, Gopher
and the World Wide Web

A Training Workbook

SECOND EDITION



**OPEN
LEARNING
AGENCY**

Developed by: Jacqueline Bradshaw
"Gopher" by Maureen Witney
"WWW" by Sheila Comeau

Electronic Library Network

Basic Internet Tools

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Electronic Library Network, Open Learning Agency

Second Edition

Print and electronic editions of this document were developed collaboratively by
ELN, SCOET and the OLA.

Earlier versions of this book have been produced in support of hands-on Internet Training Workshops.

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TRAINING OBJECTIVES

This is an **introductory level** course originally designed for library personnel and adapted for faculty with little or no previous experience with the Internet. It does assume some previous experience in using computers.

By the end of the course you will:

- 1) Understand what the Internet is, what types of resources are available through the Internet, and what the basic tools are for using and obtaining those resources.
- 2) Understand the concepts required to accomplish the following basic Internet activities: remote login (telnet), send and receive electronic mail messages (e-mail), and transfer files (ftp).
- 3) Know what an electronic discussion group, or "Listserv" is and how to use electronic mail to subscribe to and monitor one.
- 4) Using common software, practice the above tasks.
- 5) Know what Gopher and World Wide Web Software is, and be able to use it to explore Internet resources and accomplish remote login, file transfer, and e-mail.
- 6) Understand how to apply your knowledge to your own software tools.
- 7) Be introduced to some basic Internet resources for library personnel.
- 8) Determine appropriate methods and equipment for obtaining access to Internet connections.

AN IMPORTANT NOTE TO THE STUDENT

This workbook is designed to be for hands-on training. It also provides valuable reference material. Although the examples use specific software which may be different from your own, you will be learning the important concepts, and getting a chance to experience Internet tools and resources first hand.

Each section contains information about a topic and instruction sheets. The information will apply no matter what software you use. The instruction sheets contain specific instructions for two common operating systems, UNIX, and VMS. There are also blank instruction sheets you can use to create instruction sheets for your own system. Contact your computer system support or service vendor to find out how to get these instructions.

Each section also includes an exercise that can be done using your own programs. As well, lists of some interesting resources have been provided for you. Try them out.

SOME CONVENTIONS

The workbook consists of information, instructions, and exercises. When you are to carry out a command, or perform an exercise, the steps to follow will be numbered. When you are to press a particular key, it will appear in angle brackets.

For example: <Enter> means to press the "enter" or "return" key.

Common keys:

<Bksp>	Backspace
<Shift>	Shift key
<Sp>	Space Bar
<Enter>	Enter or Return key
<Ctrl>	Control key
<Down>	Down Arrow Key
<Up>	Up Arrow Key

If you are to press two keys at the same time, it will be indicated by the use of a "+" sign. For example: <Shift>+<C> indicates you should press the letter "c" while holding down the shift key.

WHAT IS THE INTERNET?



WHAT IS THE INTERNET?

INTERNET BASICS

When you hear people refer to "The Internet", they may actually be referring to one of three things:

- 1) The computers and network that make up the Internet;
- 2) Resources available from computers connected to the network;
- 3) Tools used to retrieve the resources or communicate with other individuals "on the Internet": including Telnet, Electronic Mail, and FTP.

The Internet Network

Technically, the Internet is a Worldwide Network of Computer Networks. At the beginning of 1994 there were over:

2,000,000 host computers connected to
15,000 networks, 30 million users
in more than 70 countries

The growth rate for this Network of networks is estimated at over 15% per month!

National Networks

The Foundations of the Internet are the national networks (also called backbones) which can transmit data at phenomenal rates.

In the US the National Network is called NSFNet (Handles volumes of T3 - 45Mbps that is 45 Million Bits per second)

In Canada the network is called CA*Net (Speed: T1 or 1Mbps). There is a project called CANARIE which is examining our Network Infrastructure. They have recommended an upgrade to T3 lines. CA*Net links with NSFNet in three places. Our local connection is through Seattle.

Regional Networks

Linking to the national networks are regional networks. For example, in British Columbia regional service providers include:

BCNet
BC Systems Corporation (CLN, DNet, Provnet)
BC Tel

Connecting to the Internet

Your local system or network must connect with a regional network in order to be connected to the Internet. e.g. Simon Fraser University's SFUNet, Vancouver Public Library's system.

Other Networks

The Internet is not the only "network of networks". There are other international networks such as Bitnet, Fidonet, both of which are primarily for the exchange of

electronic mail.

In order to communicate between these networks, there must be "Gateway" computers which are connected to more than one network, and can manage the intercommunications.

BASIC FUNCTIONS AND TOOLS

The Internet uses a series of rules, or **protocols** that allow different types of computers to communicate with each other. These protocols are referred to as TCP/IP (transfer communication protocol/internet protocol).

To use the Internet you must use basic internet tools which comply with the TCP/IP protocol. These are:

Telnet

Remote Connection with Other Systems for activities such as:

Searching Remote Databases

Searching Library OPACS

Protocol: Telnet, TN3270

Electronic Mail

An electronic messaging system for activities such as:

Direct communication - Send and Receive Messages

Participating in electronic discussions ("ListSers" or Usenet News)

Retrieving Documents by Mail

Protocol: SMTP (Simple Mail Transfer Protocol)

FTP

A means to locate and transfer files to and from remote locations. Files could contain:

Documents

Databases

Computer Programs

Sound or Images

Protocol: FTP (File Transfer Protocol)

HTTP

Used to indicate specifically formatted (hypertext) files which can be read using a World Wide Web browser such as:

LYNX

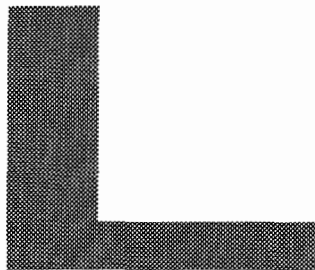
Mosaic

Netscape

Protocol: HTTP (HyperText Transport Protocol)

NOTE: Software has been written to accomplish all these tasks for all the common types of computers available. What the programs look like varies, depending on the environment. Most UNIX, VMS (VAX), VM (IBM), and DOS (PC) based systems look similar and are "command line" based. However there are programs available for environments such as Windows and Macintosh computers which look very different, are ICON based, and use "point and click" methods.

2



LOGGING ON TO YOUR LOCAL SYSTEM

Malaspina University-College Computer Services MicroVAX 3100 (MALINS)

* UNAUTHORIZED ACCESS PROHIBITED *

Username: SSIMMONS

Password:

Last interactive login on Friday, 30-JUN-1995 17:13

Last non-interactive login on Thursday, 3-AUG-1995 19:09

Welcome to X/VMS 5-2 at Malaspina College (node MALINS)

OTIC topics. Type "OTICE to go-name" for more information.

Topic	Date	Description
-------	------	-------------

ALERT 30-JUN-1995 MEDICAL ALERT

S

LOGGING IN TO YOUR LOCAL SYSTEM

CONNECTING TO THE INTERNET

To connect to the Internet Network, you need an account on a computer which is connected to the Internet Network, and which has the “software” loaded for use of Internet tools. This could be your local host mainframe, or it could even be your PC or Workstation if it has the correct kind of “Internet Connection” (usually via an Ethernet card to your host) and if it has the required software and Internet identification.

WHAT IS LOGGING IN?

Logging in to a host system is the process of making a connection with the host computer, and identifying yourself to that system. The connection could be by physical cabling to a network or by some kind of modem and telephone line, either from a PC workstation or a terminal. To identify yourself, typically you give your account ID (sometimes called Login Name or Username) and some kind of password. Some systems allow a “public” type of access, in which case the ID is made publicly available. Otherwise you will want to keep this information confidential.

Terminal Emulation

When you connect with a host computer, it is usually expecting a specific type of terminal. Whether you are connecting via a terminal or a workstation, you need to be able to “emulate” or pretend to be the type of terminal the host is expecting. Most problems in connecting to hosts are related to not being able to achieve the proper type of terminal emulation. The most common type of emulation is “VT100”, a common, basic type of terminal with few “bells and whistles”. IBM machines commonly expect an IBM “3270” terminal. This is very different from the VT100, so if your host is an IBM, VT100 will usually not work well.

You must attempt to match the type of emulation you have on your terminal or workstation to be compatible with the type of terminal the host is expecting.

Checklist of Information

To log in to your local host computer you will need to know:

- How to turn on your workstation. You may also need to know how to connect with the local host computer (e.g. via a modem and dialup, etc.)
- Your account ID and password if required.
- What “terminal emulation” you need to use if you are logging in using a PC as a workstation.
- How to edit or correct commands as you are entering them.
- How to log out of or disconnect from your local host.
- How to turn off your workstation if necessary.



INSTRUCTIONS: How to log in to a UNIX local host

Task	What you Type	Comments
Turn on the Workstation		Power on the terminal or PC
Connect to the Local Host	<i>machine name</i>	You may have to establish a direct dial connection, or you may be automatically connected. You may have to identify the specific machine name with which you will connect.
Login:	<i>yourid</i> <Enter>	N.B. Be sure you get upper and lower case letters exact, or your ID may not work.
Password:	<i>yourpassword</i> <Enter>	Again be very careful about upper and lower case.
Give your terminal Emulation	VT100 <Enter>	VT100 is the usual default.
System Prompt	1: <i>name_machinename</i> %	A UNIX prompt usually ends with a “%”
Logging Out	logout <Enter>	
Disconnect from host		Usually automatic on logout.
Shut down the workstation	Turn off the power	

NOTE: If you make a mistake before you complete logging in, you may not be able to correct it. Continue with the process. When you get a message telling you that you weren't successful, start at the beginning of the sequence again.

Editing keys

Delete character left of cursor	
Accept and carry out command	<Enter> or <Return>



INSTRUCTIONS: How to log in to a VMS local host

Task	What you Type	Comments
Turn on the Workstation		Power on the terminal or PC
Connect to the Local Host	<i>machine name</i>	You may have to establish a direct dial connection, or you may be automatically connected. You may have to identify the specific machine name with which you will connect.
Username:	<i>yourid</i> <Enter>	N.B. Be sure you get upper and lower case letters exact, or your ID may not work.
Password:	<i>yourpassword</i> <Enter>	Again be very careful about upper and lower case.
Give your terminal Emulation	VT100 <Enter>	VT100 is the usual default. (not always required)
System Prompt	\$ OR YNAME\$	A VMS prompt usually ends with a "\$"
Logging Out	logout <Enter>	
Disconnect from host		Usually automatic on logout.
Shut down the workstation	Turn off the power	

NOTE: If you make a mistake before you complete logging in, you may not be able to correct it. Continue with the process. When you get a message telling you that you weren't successful, start at the beginning of the sequence again.

Editing keys

Delete character left of cursor	<Bksp>
Accept and carry out command	<Enter>or <Return>



INSTRUCTIONS: How to log in to your local host

Task	What you Type	Comments
Turn on the Workstation		
Connect to the Local Host		
Identify yourself		
Enter your password		
System Prompt		
Logging Out		
Disconnect from host		
Shut down the workstation		

NOTE: If you make a mistake before you complete logging in, you may not be able to correct it. Continue with the process. When you get a message telling you that you weren't successful, start at the beginning of the sequence again.

Editing keys

Backspace (delete character left of cursor)
Delete (delete current character)
Move cursor: left right
Accept and carry out command

ON YOUR OWN

- 1) There is a table on the previous page that can be used to record instructions for your own system. To get the information required, check with your computer systems support, or your service provider.
- 2) Practice logging in to your own account. (See "Exercise One: Logging In" in this chapter).

For those without Internet Access:

Refer to the section in the workbook on "How to Get Connected" to Internet tools & resources.



Exercise One: Logging In

You will need a system Password & Id to log in. If you do not have an account, see your system administrator.

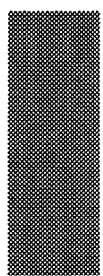
ID: _____

Password: _____

- 1) Connect to the host.
- 2) At the "login" prompt type your ID & press the <Enter> key
- 3) At the "password" prompt type your password & press the <Enter> key.

Remember: If a mistake is made before you complete logging in, you may not be able to correct it. Just continue the sequence. You will get a message telling you that your password didn't match, and you will have to start over with your login ID.

- 4) You may be asked for a terminal type. [VT100] is usually the default.
- 5) You may see a various system messages. If you do, follow any instructions on your screen.
- 6) You should now be at the system prompt. Log out by typing your system's logout command.



INTRODUCTION TO TELNET

```
> telnet mala.bc.ca
Trying 104.87.44.0...
Connected to mala.bc.ca.
Escape character is '^['.
```

```
Malaspina University-College Computer Services MicroVAX 3100 (MALINS)
```

```
* UNAUTHORIZED ACCESS PROHIBITED *
```

```
Username: MACAT
```

```
===== M A C A T Version 3.2 =====
```

```
Malaspina University College has the following options currently available:
```

- 1: Malaspina College Library Catalogue
- 2: Malaspina College Library Reserve Collection
- 3: Malaspina College Library Plays Index
- 4: Malaspina University College Calendars Collection
- 5: Electronic Library Network Media Database
- 6: Electronic Library Network Serials Database

```
Enter the number of your choice or Q to quit:
```


INTRODUCTION TO TELNET

WHAT IS TELNET?

Telnet is the "protocol" or set of rules used on the Internet for connecting to another computer (known as the "remote host") and logging in to that system. Telnet is often referred to as "remote login". Telnet also often refers to the software program used to carry out the task.

TELNET BASICS

To make a Telnet connection, issue your local telnet command followed by the Internet "address" of the remote host computer with which you wish to connect.

Typical Command Format

TELNET address

or

TELNET (to start up the telnet program on your local "host" computer)

OPEN address

NOTE: Some systems (e.g. Unix) require that you enter all commands in lower case letters.

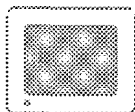


Figure 1: Typical Telnet Session

```
% telnet mala.bc.ca
Trying 134.87.26.6...

Connected to mala.bc.ca.

Escape character is '^]'.

Malaspina University-College Computer Services MicroVAX 3100 (MALINS)

      * UNAUTHORIZED ACCESS PROHIBITED *

Username:      MACAT

Terminal type? VT100

===== M A C A T  Version 3.2 =====

Malaspina University-College has the following options currently available:

1: Malaspina College Library Catalogue
2: Malaspina College Library Reserve Collection
3: Malaspina College Library Plays Index
4: Malaspina University/College Calendars Collection

Enter the number of your choice or Q to quit:  Q

Connection closed by foreign host.
%
```

NOTE: Remember Macintosh and Windows based systems look very different as they are usually menu driven and use graphics and a mouse to activate commands. However, all Telnet programs do the same thing - make a connection with a remote host computer using the TELNET protocols.

Understanding Internet Addresses

“Domain-Based” Addressing

Every network host on the Internet is given an address. The host is referred to as a “domain”, its address is a “domain name”. Individual machines attached to the host’s network may be given “sub-domain” names.

CA*Net (Canada) Conventions:

Usually the organization, province and country:

e.g. OLA.BC.CA

Occasionally just the organization and country: e.g.

e.g. SFU.CA
UBC.CA

US Domain Conventions:

COM	Commercial
EDU	Educational Institution (e.g. MIT.EDU)
GOV	U.S. Government
MIL	U.S. Military
NET	Gateways and administrative hosts
ORG	Organizations which fit none of the above (e.g. CARL.ORG)

Other Countries:

e.g. AU-Australia; FR- France; UK-United Kingdom

Internet Numbers

“Domain Names” actually represent numeric addresses. You may hear the term IP address. This refers to the Internet Protocol numeric address for each machine:

e.g. eln.bc.ca
is
192.23.70.3

Names are usually used because they are easier to remember!

Checklist of Information

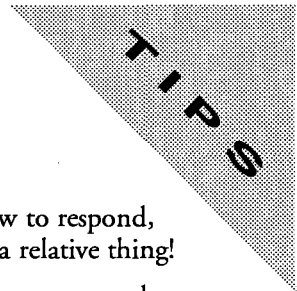
To use your local telnet program, you should know:

- How to issue your telnet command locally.
- Your local telnet “break” or escape key to terminate a connection that has “hung up”. This “TELNET BREAK” sequence closes your telnet connection to the remote “host” without ending the session on your local host. A common escape sequence is <Ctrl>+<|. If this sequence does not work for you then you should contact your system administrator to find out the correct sequence.
- How to exit your local telnet program. Some automatically terminate when you exit the remote site, others require you to issue some type of “Quit” instruction.
- What type of terminal emulation capabilities your system has.

What you will need to telnet to a remote host:

- The Internet address of the remote host you want to connect with.
- Any login instructions, ID’s passwords, etc. that may be required.
- What type of terminal emulation the remote host requires (usually vt100).
- Information about how to use the system once you are there (often available once you have connected via online help).
- Information about how to exit the remote host you are connecting with (often displayed as you log in to the system).

TELNET TIPS



- 1) Be patient: you are connecting to hosts which may be slow to respond, or over lines which are heavily used. Remember, speed is a relative thing!
- 2) Don't press keys indiscriminately. You may get yourself into command sequences you didn't anticipate, with no way to know how to get out.
- 3) Your connection may be refused for a variety of reasons:
 - All public access points to the site may be in use;
 - Their system is "down";
 - Some network connections are not functioning;
 - Your own host computer may not be able to verify the address;
 - If you really need to get in, try again later.
- 4) Not all sites allow everyone in. You may have an address, but not an account, and therefore not be allowed to use the service. Or you may get limited access to services. Be prepared for this. Not everything on the Internet is free!
- 5) Some systems will not be compatible with the equipment you are using. Remember, you are trying to act like a "terminal" on the host system (also known as "terminal emulation"). Most sites will expect a VT100 terminal emulation. Some can support a variety of terminal types. Your software may also be flexible in the type of terminal you can emulate.

Keep in mind that you are connecting to the remote host through your local host. Even if you can select the correct terminal emulation at your workstation, the key codes may not be translated correctly by your local host. If you connect with a site and the screen display is jumbled, or you get instructions to use keys not on your keyboard, the best thing to do is **disconnect**. Try some other service, or see below for how to deal with an IBM environment.

- 6) IBM environments often only support a TN3270 terminal emulation. Your system may have a special program called TN3270 that you need to use instead of the Telnet command when connecting to an IBM computer. If you are connecting **from** an IBM system, conversely, you will need special software to converse with the rest of the world, TNVT100.
- 7) Be prepared for your editing keys (Backspace, Delete, etc.) not to work, or to work differently than you expect. Try also using cursor control keys and the spacebar to correct errors.
- 8) If you do get stuck, try to follow a sequence of "escapes":
 - i. Use the remote system's Exit command. If you do not know it, or it doesn't seem to be working, try any of : STOP, BYE, EXIT, Quit, Logoff, Logout, Hangup.
 - ii. Use your local system's Telnet Break command
 - iii. Emergency break of your own connection.



INSTRUCTIONS: How to Telnet (UNIX)

Task	What You Type	Comments
Start Telnet Session	telnet <i>address</i> e.g. telnet eln.bc.ca	You should see a message "connecting..."
End Telnet Session	Automatic on exit from remote host	You should be returned to your local system prompt
Telnet Break	<Ctrl>+] Quit <Enter>	Back to telnet> prompt Back to system prompt



INSTRUCTIONS: How to Telnet (VMS)

Task	What You Type	Comments
Start Telnet Session	telnet <i>address</i> e.g. telnet eln.bc.ca	You should see a message "Trying..."
End Telnet Session	Automatic on exit from remote host	You should be returned to your local system prompt
Telnet Break	<Ctrl>+ [<Enter> or <Ctrl>+ ^ C	Back to system prompt



INSTRUCTIONS: How to Telnet

Task	What you type	Comments
Start Telnet Session		
End Telnet Session		
Telnet Break		

Interesting Public Telnet Hosts

Telnet Host	Address	Login
ELN Database Server (includes access to the UBC catalogues)	eln.bc.ca	
SFU Databases	library.sfu.ca	SFULIB
Camosun College OPAC	camcat.camosun.bc.ca	cating
Malaspina College OPAC	mala.bc.ca	macat
Brandon University OPAC (combined with periodical index!)	library.brandonu.ca	libcat
University of Northern B.C.	library.unbc.edu	library
Vancouver Regional Freenet	freenet.vancouver.bc.ca	guest
Vancouver Public Library	vpl.vancouver.bc.ca	login: netpac password: netpac1
Victoria Freenet	freenet.victoria.bc.ca	guest
CARL UnCover (Table of contents database of 14,000 journal titles)	database.carl.org	
Dartmouth University (Full Text Databases) Try these commands: select file shakespeare sonnets or select file shakespeare plays	lib.dartmouth.edu	
Library of Congress	locis.loc.gov	
Weather information	hermes.merit.edu	Which host? UM-Weather
Melvyl, the Union catalogue of nine University of California campuses	melvyl.ucop.edu	
Anything you find in the Hytelnet directory.		

(NOTE: As with all Internet resources, these addresses are subject to change. They were valid as of 09/95)

ON YOUR OWN

- 1) Contact your computer systems people or service provider for instructions on how to TELNET from your location. Fill in the Instructions table with your own information.
- 2) Do "Exercise Two: Telnet" in this chapter.
- 3) Explore more sites on the "Interesting Public Telnet Hosts" list.



Exercise Two: Telnet

If any of the connections below does not work, simply try another.

If you have trouble disconnecting from any of the sites, use your system's Telnet "Break" sequence:

Task A

- 1) Telnet to the Malaspina College OPAC:
`telnet mala.bc.ca <enter>`
- 2) The login name is MACAT. Enter it when prompted for "username":
`MACAT <enter>`
- 3) Write down any instructions for exiting and getting help.
- 4) Explore the online help
- 5) Exit from the OPAC using the exit information you have written down.

Task B

- 1) Telnet to CARL Uncover - a database of the table of contents of over 15,000 journals:
`telnet database.carl.org <enter>`
- 2) When you get to the resource menu, the menu item to select is:
1 - the Uncover database.
- 3) Write down any instructions for exiting and getting help.
- 4) You will be asked numerous questions after you choose Uncover. Simply continue to press the <enter> key to ignore all "account" messages.
- 5) Exit from the database using the exit information you have written down.

Task C

- 1) Telnet to a Union catalogue of California university campus libraries:
`telnet melvyl.ucop.edu <enter>`
- 2) Enter your terminal type: this "vt100" should work fine.
- 3) Press enter to select a database to search or explore the online help by typing "help."

Task D

- 1) Telnet to the Victoria Freenet:
telnet freenet.victoria.bc.ca <enter>
- 2) The login name is "guest". Enter it when prompted for "login:"
guest <enter>
- 3) Write down any instructions for exiting and getting help.
- 4) Explore the online help.
- 5) Exit from the Freenet using the exit information you have written down.

Further Exploration:

Connect to any of the sites listed in Useful and Interesting Telnet Sites.
Feel free to explore.

(NOTE: As with all Internet resources, the above Internet addresses are subject to change. They were valid as of 09/95)

INTRODUCTION TO ELECTRONIC MAIL

Date: Tue, 04 Jul 1996 22:46:22 -0600

From: Denis_Connor@sfu.ca (Denis Connor)

Subject: SFU Interest in Instructional Technologies Courses

X-Sender: denisc@popser.sfu.ca

To: SCOET Mailing List <scobet@camosun.bc.ca>, Ron_Marteniuk@sfu.ca

Reply-To: SCOET Mailing List <scobet@Camosun.BC.CA>

Mime-Version: 1.0

Comments: SCOET Mailing List

Hi folks. This is mainly for Liz and Jim from whom I would appreciate a reply, but I thought I'd send it to all of you as it has general interest.

First, I have been told that the Telelearning Network of Centres of Excellence (TLN-NC) opportunity has been selected and a major announcement will be coming this week or next. Everyone is very pleased and the opportunity to continue the project in the BC College system in concert with SCOET is to be exploited.

INTRODUCTION TO ELECTRONIC MAIL

WHAT IS ELECTRONIC MAIL?

Electronic Mail (e-mail) is a computer-based system for exchange of messages and other information. It features rapid, easy to use, and inexpensive communications. There is no need for participants to be "online" at the same time. Mail is sent to the "host" computer at your recipient's site, and is available to that user when they "log on" to their system and activate their e-mail program. Similarly, you can receive and answer your mail at a time convenient to you.

If your system interconnects with the Internet, you can now communicate with literally millions of people in over 70 countries throughout the world.

E-MAIL BASICS

E-Mail Programs vary widely. Like Telnet programs, they are available for all types of computer systems. Some common e-mail programs are: PINE, ELM, VMS mail, Eudora, NU-Pop, etc.

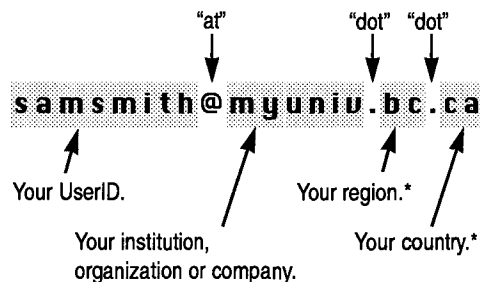
Though individual commands may vary with the specific E-mail program, the basic functions are the same.

Understanding Internet E-Mail Addresses

Internet E-Mail Addresses take the following form:

user@domain.name

e.g. Samsmith@myuniv.bc.ca



* Alternatively, these may be one of the "domains" listed on page 17.

Finding E-Mail Addresses

There is no one central registry of existing e-mail addresses. The simplest way to find someone's e-mail address is to phone or write them and ask. Or, if you receive a message from them, their address will be included in the message.

The B.C. Colleges and Institutes searchable electronic mail directory is accessible via the Camosun College Gopher by typing: `gopher gopher.camosun.bc.ca`

Other methods for attempting to find e-mail addresses are beyond the scope of this introductory workbook.

E-Mail Basic Functions

- Send a message.
- Read an incoming message.
- Reply to the sender of a message.
- Forward a message to another address.
- Print your messages.
- Delete messages that are no longer required.

Content of a typical E-Mail Message:

For a message you are sending, you will need to provide at least the following:

- To:** Address to which the message is being sent
- Subject:** The subject of the message (you could leave this out).
- Text:** The body of the message

Your program may ask you for other information, such as who to send copies to (CC:), but further information is optional.

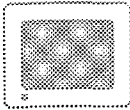


Figure 2: Typical E-Mail Message

```
%      mail

MAIL>  send
To:    mjohnson@work.bc.ca
CC:
Subj:  Internet Resource Alert
```

Enter your message below. Press CTRL/Z when complete, or CTRL/C to quit:

```
Marie,
Just wanted to let you know that the Vancouver Freenet is up
and running and has superb local resources. Just telnet to
freenet.vancouver.bc.ca for a good time.
Maureen                                Maureen@ola.bc.ca
```

```
[Ctrl]+Z
```

```
MAIL>  exit
%
```

Checklist of Information

To use your local e-mail program, you should know:

- How to start your e-mail program.
- How to perform simple e-mail functions: Send, Read, Print, Reply, Forward, Delete.
- The address(es) of individual(s) with whom you wish to correspond.
- How to quit your e-mail program.

E - M A I L T I P S

- 1) Always sign your name somewhere in the body of the message, especially if your ID is numeric or cryptic. It may not appear on the message header when the message is received.
- 2) DON'T USE ALL CAPITALS. It looks like you are SHOUTING!!!
- 3) Think before you send a message. There is no way to retrieve it once it's on its way. Send in haste, repent in leisure!



INSTRUCTIONS: The ELM E-Mail Program

Task	What you type	Comments
Start E-mail	elm <Enter>	If you have any messages, they will be listed.
Send a Message	<m>	
Send the message to:	<i>yfriend@machine.address</i> <Enter>	Address of recipient.
Subject of message:	<i>yrmesssage subject</i> <Enter>	If you don't give a subject, you'll be asked if you really want to send the message. Just say <y>
Copies to:	<i>alsogets@machine.address</i> <Enter>	This is optional.
Enter message		Type your message as desired. Press <Enter> at the end of every line. Correct current line only with .
End of message	Move to a blank line: <.> <Enter>	(This is a period)
When asked to choose:		
Send the message	<Enter>	S)end is the default.
Cancel sending	<F>	F)orget cancels.
Select a specific message	Move highlight <Up> or <Down> to message	
Read a selected message	<Enter>	
Next screen	<Sp>	
Back to messages	<i>	
Print a selected message	<p >	How to get a printout will vary. Check with your computing services.
Reply to a selected message	<r>	
Copy message (y/n)	<n>	Do not include the message in your reply.
Subject of message:	<Enter>	Subject is given. Proceed as for regular message.
Forward selected message	<f>	
Edit outgoing message	<n>	Proceed as for regular message.
Delete selected message	<d>	Message is marked to be deleted when you exit.
Quit	<q>	
Delete messages	<y>	If any are marked.
Move read to received	<n>	Back to system prompt.



INSTRUCTIONS: The VMS E-Mail Program

Task	What you type	Comments
Start E-mail	mail <Enter>	If you have any messages, they will be listed.
Send a message	<S>	
Send the message to:	"yrfriend@machine.address" <Enter>	Address of recipient in quotes
Subject of message:	yrmessage subject <Enter>	If you don't want to give a subject, just press <enter>.
Copies to:	alsogets@machine.address <Enter>	This is optional.
Enter message		Type your message as desired. Press <Enter> at the end of every line. Correct current line only with <Bksp>.
End of Message	<CTL> + <Z>	
To quit without sending a message	<CTL> + <C>	
Look at a directory of your messages	DIR <Enter>	Lists messages in current directory (NEWMAIL is default directory).
Read a selected message	# <Enter>	
Next screen	<Enter>	Type the number of the message you wish to read.
List messages already read but not deleted	DIR MAIL <Enter>	Lists all old messages
Return to unread mail	DIR NEWMAIL <Enter>	Lists only unread messages.
Print a selected message	P <Enter>	How to get a printout will vary. Check with your computing services.
Reply to a selected message	R <Enter>	
Subject of message:	<Enter>	Subject is given. Proceed as for regular message.
Forward selected message	F <Enter>	Proceed as for regular message. Message is sent after you enter the subject.
Delete selected message	D <#>	Message deleted
Quit	Exit	Back to system prompt



INSTRUCTIONS: The Pine E-Mail Program

Task	What you type	Comments
Start E-mail	pine <Enter> <i>	Main Menu. If you have any messages, they will be listed.
Compose a message	<c>	
To:	<i>yrfriend@machine.address</i> <Enter>	Address of recipient.
Cc:	<i>alsogets@machine.address</i> <Enter>	Carbon copies. This is optional.
Attchment:	<Enter>	This is optional.
Subject:	<i>yrmessage subject</i> <Enter>	
Message text:	Your message.	Type your message as desired. There is no need to press <Enter> at the end of every line.
Send the message	<Ctrl>+ <x>	
Send message?	<Enter>	<y> is the default.
Cancel message	<Ctrl> +<c>	
Cancel?	<y>	<n> is the default.
Select a specific message	Move highlight <Up> or <Down> to message	
Read selected message	<Enter>	<v> is the default command
Next screen	<Sp>	
Previous screen	<->	This is a hyphen.
Back to messages	<i>	
Print selected message	<y> or <l>	Varies - check your menu.
Print message?	<Enter>	The default is to print. Your computing services can tell you how to get a printout.
Reply to a selected message	<r>	
Include original message?	<Enter>	<n> is the default. Subject is given. Proceed as for regular message.
Forward selected message	<f>	Proceed as for regular message.
Delete selected message	<d>	Message is marked to be deleted when you exit.
Undelete previously marked	<u>	Message will not be deleted.
Quit	<q>	<y> is the default.
Really quite Pine?	<Enter>	If any were marked.
Expunge the deleted messages?	<Enter>	<y> is the default. Return to system prompt.



INSTRUCTIONS: E-Mail

Task	What you type	Comments
Start E-Mail		
Send a Message		
End of Message		
Cancel a Message		
Read a Message		
Print a Message		
Reply to a Message		
List Messages		
Delete Message		
Quit		

ON YOUR OWN:

- 1) Get information on how to use your own e-mail program. This could be a handout prepared by your computing systems, or merely instructions for starting your program & getting online help.
- 2) Fill in the blank e-mail instruction sheet with instructions for your e-mail program.
- 3) Do "Exercise Three: E-Mail" in this chapter.
- 4) Practise sending messages to a colleague. (Remember - get the e-mail address by phoning or writing your colleague, or give them your address and get them to send you a message. Their address will appear in the "From" field of the header of the message they send.)



Exercise Three: E-Mail

For this task you will need the e-mail address of a colleague or partner.

1. Start up your e-mail program.
2. Send a message to your colleague. (Or to yourself!)
You should be prompted at least for the address of the individual you wish to send the message to, and the subject of the message.
Type your message.
Exit message creation and send the message
3. Ask your colleague to send you a message. (Or send yourself a message!) Read the message when you receive it.
4. Send a reply to the message.
5. Forward a message to your colleague.
6. Print this same message.
7. Delete the message you have just printed.
8. Exit from the e-mail program.

INTRODUCTION TO ELECTRONIC MAIL DISCUSSION GROUPS

Date: Tue, 15 Aug 1995 23:11:53 +0100
 To: mcluhan-list@inforamp.net
 From: mcdir@inforamp.net (Project McLuhan)
 Subject: Project McLuhan Post #8 (8-95)
 Sender: owner-mcluhan-list@inforamp.net
 Precedence: bulk

Project McLuhan on the Net

Post #8

Aug 15, 1995

From: Gordon (mcdir@inforamp.net)

More interesting stuff to mention. Thanks for the kind words. Those who keep track of these things will note that two days after our last post in which I pointed out that physical delivery systems like Fedex and UPS were "missing link" in e-commerce, JC Penny signed a historic (and exclusive) partnership contract with UPS.

Once again, my promise "no to bore."

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INTRODUCTION TO E-MAIL DISCUSSION GROUPS

WHAT ARE E-MAIL DISCUSSION GROUPS?

Electronic mail discussion groups are usually lists or services where many people contribute information via electronic mail, and where anyone who subscribes to the service can read and reply to the messages. There are two main types: E-Mail Lists (often called Listservs for the software program that supports them), and Network News or Usenet News.

For both types of lists, you must subscribe to the service. However, with "Usenet News" your local institution or Internet service provider must subscribe to a "News Feed" which sends many megabytes of messages on a regular basis. You only get the messages when you activate your "news reader". With Listservs, you subscribe individually to the discussion list. As messages are sent to the list, they are forwarded directly to your e-mail address. Whenever you activate your e-mail program they are there for you to read.

There are advantages to each type of program. The most important difference is that you need "institutional support" to get Usenet News "feeds", but you can always participate in Listservs if you have an Internet e-mail address. We will focus on Listservs in this course. (NOTE: Organizations that may subscribe to the News feeds are: universities, colleges or freenets.)

What you get from E-Mail Discussion Groups

- 1) General information on the topic of the list.
- 2) Answers to specific questions you may send.
- 3) News on what else is going on of interest to subscribers of that list: new lists, sites to telnet to, files to retrieve, etc.
- 4) Some electronic journals "publish" via Listservs.
- 5) Notices of conferences that may be of interest.

WHAT ARE LISTSERVS?

Listservs are electronic Discussions supported by the LISTSERV Software. There are a few varieties of this program around, but they are all very similar. Most Listservs started out as BITNET lists, but fortunately many are now also available through the Internet. There are lists available on every topic imaginable.

DISCUSSION LIST BASICS

There are two parts to communicating with a discussion list:

- 1) The “administrative” aspects for which you must communicate with the **Listsrv program**; e.g. when you wish to subscribe to a list or unsubscribe from a list; or request Help or “archived documents” from a list . There are many advanced Listsrv operations such as searching for and retrieving archived documents from a list which are beyond the scope of this workbook..
- 2) The communication with other people subscribed to the list, i.e. reading and sending mail. In order to do this, you must send messages to the **list** itself.

Understanding Discussion List Addresses

Discussion list addresses take the following form:

listsrv@machine.address (for list administration)

or

listname@machine.address (for sending messages to list members)

e.g. LISTSERV@UHUPVM1.UHU.EDU (the administrative address)
 PACS-L@UHUPVM1.UHU.EDU (the Discussion List address)

If you see an address like “listsrv@machine” it is likely to be a BITNET address, and is more complicated to send mail to. If you have the choice, always use the full Internet address.

e.g. GOVDOC-L@PSUVM is a BITNET address
 GOVDOC-L@PSUVM.PSU.EDU is an Internet address.

NOTE: Some discussion list programs are slightly different than the “listsrv” program. Follow the instructions for addressing exactly as you see on any information for the list. For example, some administrative programs are called “listproc,” (for “List Processor”) and you have to address your administrative correspondence to an address like: listproc@machine.address

Checklist of Information

To subscribe to a discussion list you need:

- The address of the machine on which the discussion list is managed.
- Information on how to address the discussion list administrative program (e.g. listsrv or listserver).
- The name of the list to which you would like to subscribe.

LISTSERV DISCUSSION LIST TIPS

- 1) The list you subscribe to may be more or less active than others. However, you should receive confirmation that you have indeed subscribed. If you do not get at least this, you should try again. If all else fails, send a message to the listowner describing your problem (usually the address is given when you get the information about the list).
- 2) Before you send a message to the list ask yourself if it is likely to be of interest to all the list subscribers (remember, thousands of people may be subscribed to this list). If you are replying to a message posted by an individual, it may be more appropriate to reply **directly** to that individual, whose address should be included in their message.
- 3) When you do send a message to a list, make sure you include your NAME and E-MAIL address in the body of the message. This information does not necessarily show up automatically on everyone's e-mail programs.
- 4) If you have a question for the list, consider whether **everyone** on the list will be interested in the reply, or whether you should specify in your message that people should reply directly to you, rather than the list.
- 5) Some lists are "moderated" - that is to say, there is an "editorial board" who decides whether a message gets posted. You may find that messages you send do not get posted for one reason or another.
- 6) If your e-mail address changes, or you will no longer be at that address, please remember to **unsubscribe** from the list, so there will not be returned mail for the list administrator to deal with.
- 7) If for some reason your system cannot receive mail for more than 3 days (for example, a network connection is down in your area), you may be automatically "unsubscribed" from the list. Wait a reasonable amount of time after your service has been restored to see if you get any mail. If not, you may have to subscribe to the list again.



INSTRUCTIONS: Subscribing to Discussion Lists

To subscribe to a discussion list:

Send an E-Mail message to the listserv program at the appropriate address, with the subject field blank, and the SUBSCRIBE or (SUB) command as the text of the message.

Format:

TO: listserv@machine.address
SUBJECT:

SUB listname yourfname yourlname

e.g.

TO: listserv@UHUPVM1.UHU.EDU
SUBJECT:

SUB PACS-L Jacqueline Bradshaw

To unsubscribe from a discussion list

Send a message to the listserv program with the SUBJECT field blank, and the UNSUBSCRIBE (or UNSUB) command as the text of the message.

TO: listserv@machine.address
SUBJECT:

UNSUBSCRIBE listname

e.g.

TO: listserv@UHUPVM1.UHU.EDU
SUBJECT:

UNSUB PACS-L



INSTRUCTIONS: Sending messages to a Discussion List

To send an e-mail message to the list

Using your e-mail program, send a message to the Discussion list at the appropriate address with the message you wish to include:

TO: listname@machine.address
Subject: whatever

The text of your message

e.g.

TO: PACS-L@UHUPVM1.UHU.EDU
SUBJECT: A fascinating message about librarians

TEXT: whatever you wish to say.

To read messages from the list

You will receive messages in your email box automatically. Read the messages according to your e-mail program's instructions for reading any message.

ON YOUR OWN

- 1) Do "Exercise Four: Discussion Lists" in this chapter.
- 2) Check out the Usenet News lists through a local freenet or try the Victoria Freenet (telnet freenet.victoria.bc.ca); under Library & Information Services, News Stand (Usenet News).



Exercise Four: Discussion Lists

For this exercise, you must be in your e-mail program. Start it up if necessary.

Task 1

- 1) There is a discussion list dealing with issues of interest to Business Librarians. The name of the list is "BUSLIB-L". Its address is idbsu.idbsu.edu. Send a message to the Listserv requesting to subscribe.

Proceed as for sending an e-mail message.

To: listserv@idbsu.idbsu.edu
Subject: (leave this blank)

Message:

SUB BUSLIB-L yfname ylname

- 2) Read any messages you receive for a day or two.
- 3) Send a message to listserv@idbsu.idbsu.edu requesting to unsubscribe from BUSLIB-L.

Task 2

- 1) ACRLNY-L@accluster.nyu.edu is a discussion list which posts among other things, positions available. Send a message to the Listserv requesting to subscribe.

Proceed as for sending an e-mail message.

To: listserv@accluster.nyu.edu
Subject: leave this blank

Message:

SUB ACRLNY-L yfname ylname

- 2) Read any messages you receive for a day or two.
- 3) Send a message to listserv@accluster.nyu.edu requesting to unsubscribe from ACRLNY-L

Further Exploration:

Review the excerpt from "Library Oriented Electronic Conferences" in Appendix B, or follow the instructions there to get lists for other subject areas. Subscribe to one or two lists.

There are also a variety of discussion list directories available. Check out the ELN's gopher server at: infoserv.uvic.ca under "Electronic Library Resources" for the "Directory of Scholarly Electronic Conferences." (For information on how to use Gopher, see Section 7.)

(NOTE: As with all Internet resources, the above Discussion List addresses are subject to change. Consult the latest version of the Directory of Electronic Discussion lists. For instructions on how to get this list, see Appendix B.)

INTRODUCTION TO FTP

WHAT IS FTP

FTP (File Transfer Protocol) is the method for transferring files of data from one computer to another using Internet Protocols.

Anonymous FTP

Many systems allow you to transfer files without having an account or ID on the remote system. This is known as "Anonymous FTP". When prompted for your login name, you give "anonymous", and for password, you give your e-mail address. There are over 1,000,000 files available throughout the world through anonymous FTP, including documents and programs, that can be used by all types of computers and operating systems.

A Special FTP Tool

An important tool has been developed to search for files at "Anonymous FTP" sites, called ARCHIE. ARCHIE is an advanced Internet resource and beyond the scope of this introductory workbook.

FTP BASICS

Files are stored in **directories** at the remote host site. In order to **get** a file, you must connect to the remote host and login, change to the directory which contains the file, and ask to get the file. Once you are done, you must terminate your session.

ASCII Text Files

At this introductory level, you will learn how to transfer plain text files, sometimes referred to as files in "ASCII" format.

Some files are "compressed" - that is condensed for more efficient storage. Program files also need special consideration to transfer and use. These types of files are dealt with at a more advanced level.

You may hear of the terms "ASCII" and "BINARY" in relation to file transfers. In this workbook, because you will be doing transfers of text files, you will be transferring files in "ASCII" format. You don't have to do anything special to have this type of file transferred. Binary mode is used for those compressed and program files. You usually have to indicate when you want this type of file transfer.

Understanding Directories, Files, and File Size

Directories

Files are commonly organized by storing them in "directories". These are organizational units usually containing files which are related - e.g. files containing basic Internet guides, files on document delivery services, etc. These directories

may be further divided into “subdirectories”. Directories and subdirectories are usually indicated by the use of the “/” character.

e.g. /pub (a directory named “pub” usually stands for public)

/pub/internet-res-guides (a subdirectory of guides in the pub directory)

Note that directory names may be very short, or very long, but you must be very careful to type them **exactly** as they are displayed - including matching upper and lower case.

Recognizing ASCII Text Files

Files are the units which contain the data. Usually you can tell from the filename extension what type of file you are looking at. Generally, if there is no extension, or if the extension is .txt or .asc, the file is an ASCII text file. If you are not sure, see if there is an INDEX or README file that describes the available files - these are always text files. Otherwise, get the file and try to view it. If you can't, it probably wasn't a text file.

Examples of probable text files:

INFNETNEWS5.TXT

internet.basics.guide

veronica-faq

File Size

Before you transfer a file it is extremely important to know how large that file is! Some files available over the Internet are hundreds of pages long. They will take a long time to transfer, and you may not have enough local file storage space to accommodate them.

Directory Information - Recognizing directories, files and file size

To find information about directories, files, and the file size, you need to do a file “list” of the directory at the remote site (see the Instructions Table for instructions on how to do this). When you do, you should see information in a similar format to the following (but you won't see the headings!):

<u>Security</u>	<u>Ownership</u>	<u>Size</u>	<u>Date/Time</u>	<u>Fileneme</u>
-rw-r--r--	1 nic merit	21219	Feb 11 02:30	INDEX
-rw-r--r--	1 nic merit	16326	Oct 22 23:18	README
drwxr-sr-x	2 nic merit	512	Sep 15 1992	acceptable.use
drwxr-sr-x	3 nic merit	512	Nov 30 21:04	internet.tools
-rw-r--r--	5 nic merit	7116	May 27 1993	internet.biblio
-rw-r--r--	1 nic merit	91214	Jul 28 1992	intro.to.ip

You will note the first part of the file listing shown above has a series of letters and dashes. All you need to know about for now is the first one. If it is a “-” it means the item is a file. If it is a “d” the item indicates a directory. The name of the file or directory is given at the far right of the listing. So, “acceptable.use” is a subdirectory of the current directory, while “INDEX” and “intro.to.ip” are files.

The size of the file is indicated by the number to the left of the date. The file INDEX is 21219 bytes in size, or 21kbytes. This is a fairly manageable file size. Note "intro.to.ip" which is 91K. Depending on your system this could take several minutes to transfer!

Typical FTP Command Format

FTP machine.address

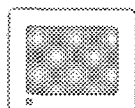
or

FTP (to invoke the FTP program on your local "host" computer)

OPEN machine.address

NOTE: MacIntosh and Windows based systems look very different. However, once you get to the remote host, you will be performing the same functions.

Figure 3: Typical FTP Session



```
% ftp sluaxa.slu.edu
Connected to sluaxa.slu.edu.
220 sluaxa.slu.edu FTP server (OSF/1 Version 5.60) ready.
Name (sluaxa.slu.edu:bradshaw):
anonymous
331 Guest login ok, send ident as password.
Password: bradshaw@ola.bc.ca
230 Guest login ok, access restrictions apply.
Remote system type is UNIX.
Using binary mode to transfer files.

ftp> cd \pub
250 CWD command successful.

ftp> cd millesjg
250 CWD command successful.

ftp> dir
200 PORT command successful.
150 Opening ASCII mode data connection for /bin/ls
total 556
-rw-r--r-- 1956 22 14916 Jul 20 16:53 MailServer.com
-rw-r--r-- 1956 22 156775 May 18 10:29 interlaw.txt
-rw-r--r-- 1956 22 317044 May 18 10:29 interlaw.wp
-rw-r--r-- 1956 22 14916 Jul 17 10:23 mailser.cmd
-rw-r--r-- 1956 22 17741 Jul 17 12:41 newusers.faq
drwxr-xr-x 2 1956 22 512 Jun 07 09:14 training
drwxr-xr-x 2 1956 22 512 Jul 05 08:34 workshop
226 Transfer complete
ftp> get newusers.faq InterFAQ.txt
local: InterFAQ.txt remote: newusers.faq
```



```
200 PORT command successful.
150 Opening BINARY mode data connection for newusers.faq
(128.189.32.21,4504) (.
226 Transfer complete.
17741 bytes received in 4.08 seconds (4.25 Kbytes/s)

ftp>      quit

221 Goodbye.
%
```

Checklist of Information

To use your local FTP program you should know:

- How to issue your FTP command.
- Your local FTP “break” key to terminate a stalled connection.
- How to exit your FTP program. Some automatically terminate when the connection is broken. Others require you to issue some kind of “quit” instruction.
- How to manipulate your files locally. At minimum you should know: how to display your file directory; how to view a file online; how to print a file; how to delete a file.

To use the remote FTP site you will need:

- The address you wish to connect with.
- Your own e-mail address
- The directory in which the file you wish to retrieve is located.
- The name of the file you wish to retrieve.

FTP TIPS

- 1) Although it's called "anonymous FTP", it is considered good manners to use your e-mail address in place of a password during the login process.
- 2) FTP can place a great load on the resources of the remote computer, and slow down the response time for that system's regular users. Try to do your FTP'ing after normal business hours for that site.
- 3) Look for README or index files on the remote host which will explain what is available in directories.
- 4) Not all systems use the same rules for naming files. To be safe, when transferring files, give the file a name with no more than eight characters, with an extension no more than three characters (eg. myfile.txt; yourfile.zip)
- 5) Type the filename to "get" exactly as it is displayed. Most file names are "case sensitive". This means you **must** type upper and lower case letters **exactly** as they appear.
- 6) Not all files are useful on all systems. Some program files have been written only for certain types of operating systems or computers, and will be of no use on other types of systems.
- 7) Check your file size before transferring. If it is very large, it may take a long time to transfer, or may use up more disk space than you have available, and you may have to terminate your session before the file is completely transferred.
- 8) Files move around on host sites. Host sites come & go. Don't be surprised if something you go to retrieve isn't there any more, or the site doesn't exist any more. You can use the DIR or LS command to look around. Also check the README or INDEX files (see point #3) although these are not always up to date either.
- 9) If you have the FTP prompt (FTP>), but are having difficulty logging in, or are not sure where you are in the process, you can always issue the "quit" command and start again.



INSTRUCTIONS: How to FTP (UNIX)

Anonymous FTP Basic Instructions for UNIX system

Task	What you type	Example/Comments
Start FTP program	FTP <i>address</i> <enter>	FTP eln.bc.ca <Enter>
Connect Failed, try again (at FTP> prompt)	open <i>address</i> <enter>	FTP> FTP> open eln.bc.ca
Login ID& Password	anonymous <Enter> <i>name@place.bc.ca</i> <Enter>	anonymous <Enter> e.2525@fraser.sfu.ca <Enter>
Login Failed, try again	user anonymous <Enter> <i>name@place.bc.ca</i> <Enter>	Using "user anonymous" starts the process over again. If this fails, Quit and start over.
Change directory	cd <i>dir</i> <Enter> cd <i>dir/subdir</i> <Enter>	cd /pub/etexts<Enter>
Display files in directory: File names only Names,date, size	ls <Enter> (file names only) dir <Enter>	
Change directory back up one level	cdup <Enter> cd .. <Enter> cd [-]	Try any of them to see which one works at the remote site.
Get a file: same name locally renamed locally	get <i>filename</i> <Enter> get <i>filename newfname</i> <Enter>	get infofile.txt <Enter> get lg-name-0.txt name.txt <Enter>
Close the FTP session	quit <Enter>	
Abort the session	<Ctrl>+<C><Enter>	

Local File Management for UNIX system

Task	What you type	Example/Comments
Display your file directory	ls -l <Enter>	lists directory information in the "long" form, including file size
Read a file Next page Cancel reading	more <i>fname</i> <Enter> <Sp> <Q>	more myfile.txt <Enter>
Print a file	lpr <i>fname</i> <Enter>	
Delete a file	rm <i>fname</i> <Enter>	delete myfile.txt <Enter>



INSTRUCTIONS: How to FTP (VMS)

Anonymous FTP Basic Instructions for VMS system

Task	What you type	Example/Comments
Start FTP program	FTP <i>address</i> <enter>	FTP eln.bc.ca <Enter>
Connect Failed, try again (at FTP> prompt)	open <i>address</i> <enter>	FTP> open eln.bc.ca
Login ID: Password:	user anonymous <Enter> <i>name@place.bc.ca</i> <Enter>	user anonymous <Enter> e.2525@fraser.sfu.ca <Enter>
Login Failed, try again	user anonymous <Enter> <i>name@place.bc.ca</i> <Enter>	Using "user anonymous" starts the process over again. If this fails, Quit and start over.
Change directory	cd <i>dir</i> <Enter> cd <i>dir/subdir</i> <Enter>	cd /pub cd /pub/etexts<Enter>
Display files in directory: File names only Names,date, size	ls <Enter> (file names only) dir <Enter>	These may vary at the remote site.
Change directory back up one level	cdup <Enter> cd .. <Enter> cd [-]	Try any of them to see which one works at the remote site.
Get a file: same name locally renamed locally	get <i>filename</i> <Enter> get <i>filename newfname</i> <Enter>	get infofile.txt <Enter> get lg-name-0.txt name.txt <Enter>
Close the FTP session	quit <Enter>	
Abort the session	<Ctrl>+<C>	

Local File Management for VMS system

Task	What you type	Example/Comments
Display your file directory	dir /size <Enter>	Lists directory information in the "long" form, including file size.
Read a file Next page	type /page <i>filename</i> <Enter> <Enter>	type /page myfile.txt ;1 <Enter>
Print a file	print/que=LRC_Print <i>filename</i> <Enter>	
Delete a file	del <i>filename</i> <Enter>	del myfile.txt <Enter>



INSTRUCTIONS: How to FTP

Anonymous FTP Basic Instructions

Task	What you type	Comments
------	---------------	----------

Start FTP program		
-------------------	--	--

Login ID& Password		
--------------------	--	--

Login Failed, try again		
-------------------------	--	--

Change directory		
------------------	--	--

Display files in directory: File names only		
--	--	--

Names,date, size		
------------------	--	--

Change directory back up one level		
---------------------------------------	--	--

Get a file: same name locally renamed locally		
---	--	--

Close the FTP session		
-----------------------	--	--

Abort the session		
-------------------	--	--

Local File Management

After you have retrieved your file, you will need to manipulate it locally.

Task	What you type	Example/Comments
------	---------------	------------------

Display your file directory		
-----------------------------	--	--

Read a file Pause reading Resume reading Cancel reading		
--	--	--

Print a file		
--------------	--	--

Delete a file		
---------------	--	--

Selected Documents via FTP

Document	Address	Directory	File
Yanoff's Special Services List	csd4.csd.uwm.edu	pub	inet.services.txt
Subject Oriented Internet Guides	una.hh.lib.umich.edu	inetdirsstacks/	various file names
Library uses of Internet	theseus.itc.gu.edu.au	uploads	paradis1.txt
Kovac's Directory of Scholarly Electronic Conferences	zeus.kent.edu	library	Several files. Get the ACADLIST .README file for contents of each file.
Library Software Archives index of files, (including text files) guides for subject areas: Engineering OPACS; Biology resources; Fine arts resources; etc.	hydra.uwo.ca	libsoft	Numerous files. Get the 00-index.txt file for a list organized roughly by subject.
Interpersonal and Computing Technology EJournal	guvn.ccf.georgetown.edu Logon: IPCT-J Password: GUEST	you are placed directly in the appropriate directory	Each article has a different file name. Try retrieving a CONTENTS file to see what is in each issue.
Index of Project Gutenberg Electronic Texts Available	mrcnext.cso.uiuc.edu	etext	Get one of the following files for an index of available electronic texts: 0INDEX.GUT INDEX100.GUT
Information for network novices	nic.merit.edu	introducing.the.internet	A variety of files. NB: internet.basics.eric-digest

(NOTE: As with all Internet resources, these addresses are subject to change. They were valid as of 09/95)

ON YOUR OWN

- 1) Fill in the FTP instruction sheet included in this chapter with information for your system.
- 2) Fill in the Local File Management instruction sheet with information for your system.
- 3) Do Exercise 5: FTP in this chapter.
- 4) If you have subscribed to an e-mail discussion list, watch the postings for references to interesting files. Try retrieving any you read about.



Exercise Five: FTP

For each item:

- 1) Establish your FTP connection
- 2) Log in with Username "user anonymous" and your e-mail address as the password.
- 3) Change directories to the appropriate directory.
- 4) List the files to see if your file is actually there.
- 5) Get the file you need. Change the filename as you get it.
- 6) Quit the FTP connection.
- 7) Do a local directory listing to see if you have retrieved your file.
- 8) Use your local file viewing or editing capabilities to view it on screen.
- 9) Print a copy of the file.
- 10) Delete your file.

Item A

A document that discusses the basics of Internet.

address: nis.nsf.net

directory: introducing.the.internet

filename: internet.basics.eric-digest

Item B

A document that discusses e-mail etiquette.

address: ftp.msstate.edu

directory: pub/docs/words-1/Funnies

filename: emily.postnews

Item C

A document that discusses what the Internet is.

address: nysernet.org

directory: /pub/guides

filename: whatis.internet

Item D

An issue from the "Acquisitions Librarian's Electronic Network", an electronic discussion group "journal".

address: library.cornell.edu

directory: /pub/acqnet/acqnet3

filename: acqnet3.71

NOTE: If you are interested - the index for this journal is in the directory /pub/acqnet. The filename to get is acqnet.index. It is a large (over 50k) file.

Further Exploration:

Refer to the list of "Selected Documents via FTP" in your workbook. Retrieve anything you find interesting.

(NOTE: As with all Internet resources, these addresses are subject to change. They were valid as of 09/95)

INTRODUCTION TO GOPHER

Internet Gopher Information: Client v2.1.3

Home Gopher server: gopher.camosun.bc.ca

- 1. About Camosun College
- 2. Camosun College/
- 3. Camosun Wide Information Service (CWIS) Gopher/
- 4. Camosun College's School of Business Gopher/
- 5. Camosun College's WWW Server <HTML>
- 6. Information about Gopher/
- 7. Standing Committee on Educational Technology (SCOET)/
- 8. Internet Electronic Library Network/
 if you need more information/
- 9. InterNIC Directory of Directories/
- 10. BC Colleges Email directory/
- 11. Location/Tray/VA/Validation Information/
- 12. Victoria Free TEL/
- 13. Other British Columbia Gopher Servers/
- 14. Search Files in Gopher Space using Veronica/
- 15. World's Gopher Information Servers/
- 16. World's Gopher Information Servers/
- 17. World's Gopher Books/

Press / to Main Menu

Page: 1/1

INTRODUCTION TO GOPHER

WHAT IS GOPHER?

Gopher software provides menu access to a wide range of Internet resources allowing easy browsing of the Internet. Gopher pulls together widely distributed information and presents it as a single, seamless interface. There are over 4,000 gopher servers worldwide.

Gopher's hierarchical menus allow users to cruise the Internet and read, print, and download information without having to know addresses or commands. Gopher works with other Internet services such as e-mail, telnet, and file transfer, allowing you to easily EMail documents to yourself or others; to connect to remote sites without having to know telnet protocols and addresses; and to transfer documents without knowing File Transfer Protocol (FTP).

Gopher Basics

There are two pieces of software in the gopher system, a "client" and a "server". To use Gopher, you need to have access to both a client and a server. The Gopher client is the workhorse; the Gopher server is the traffic cop. Put another way, the server points the client to specific resources; the Gopher client actually makes the connections and document transfers.

When a Gopher client connects to a server, the server sends back a menu. Each menu item has the Internet address for that item included but not visible to you on the screen. (You can, however, look at this address by pointing to an item and asking for that item's "attributes", typically an equal sign in the UNIX gopher client). When you select a menu item, your local Gopher uses the address information to connect directly to the resource, leaving the original Gopher server out of the loop altogether.

The Gopher client software may be available on your local system. If not, you can make a telnet connection to a publicly available Gopher client. A Gopher server may be available on your local system, or your client may be set up to automatically point to a server on a remote host.

To start, or "invoke" the Gopher client, the typical command format is:

```
gopher <enter>
```

In most clients, you are automatically connected to a specific Gopher server as soon as you invoke the Gopher client.

If no default Gopher server is in place or to bypass the default server, the typical command format is:

```
gopher gopheraddress
```

e.g. `gopher infoserv.uvic.ca`

NOTE: Gopher clients designed for different computer systems may look and operate somewhat differently, but most have the same basic functions.

Checklist of Information

To use Gopher software, you will need:

- A Gopher client on a local host, Mac or PC connected to the Internet;
or
The number (for dialup or datapac) or the telnet address for the system on which a public Gopher client resides. You will also need appropriate account or login information for that system.
- Information on how to invoke the gopher client. Most clients automatically connect to a default gopher server as soon as the gopher client is invoked.
- The address of specific gopher server(s) and instructions for how to gopher directly to that server if desired.

NOTE : Resources on the Internet are not always available - systems are down for maintenance or even crash occasionally, so be prepared to try different possibilities.

Gopher menu items

Gopher is based on a hierarchy of menus. Each menu item points to an Internet resource which could be another directory, a text file, a searchable index, or a telnet connection. Usually the type of menu item will be indicated by some kind of symbol. A UNIX based system, for example, might use the following symbols:

.	a text file
/	a directory of more items
<TEL>	a telnet connection
<?>	a searchable index

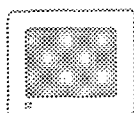


Figure 4: Typical Gopher Command and Menu

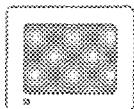
```
% gopher <Enter>
```

U. B. C. Library Gopher client

- 1 About InfoServ (B.C. Electronic Library Network Gopher)..
- 2 Electronic Library Network (ELN)/
- 3 Using InfoServ's New Gopher and Web Clients (ELN members only)/
- 4 Index/Abstract Databases (ELN members only)/
- 5 ELN Union lists (Serials, Media, Outlook)/
- 6 Search all InfoServ's Menus using Jughead?
- 7 What's New on InfoServ?/
- 8 British Columbia Resources/**
- 9 Library Catalogues/
- 10 Electronic Library Resources/
- 11 Reference Tools/
- 12 Resources organized by Subject/
- 13 World's Gopher and Information Servers/
- 14 Search for Resources on the Internet (Archie, Veronica, Phone books..)/
- 15 InfoServ - Original version/

Press ? for Help, q to Quit

Figure 5: Results of a Gopher "Directory" Menu Item



Internet Gopher Information Client 2.0 pl10

British Columbia Resources

- 1. About this information . . .
- 2. British Columbia Systems Corporation (BCSC)/
- 3. CUFA/BC Post-Secondary Education Information Service/
- 4. Camosun College/
- 5. Education Technology Centre of BC (ETC) Gopher/
- 6. Electronic Library Network (ELN)/
- 7. Malaspina College/
- 8. Simon Fraser University (SFU)/
- 9. University of British Columbia (UBC)/
- 10. University of Northern British Columbia (UNBC)/
- 11. University of Victoria (UVic)/
- 12. Vancouver Public Library/
- 13. Victoria Free-Net /

Press ? for Help, q to Quit, u to go up a menu

Page: 1/1

Text Files

When a text file is selected, the document you request is actually transferred to your Gopher client. Once the file is transferred, you do not actually stay connected to the remote host. The file is only kept temporarily unless you further instruct your Gopher to keep it permanently. If you decide to save the item as a file, or mail the item to yourself, your gopher client creates the appropriate permanent file using the name you suggest, or sends the file in an e-mail message to any address you designate.

Directory of Items

If you select a Directory of Items, your Gopher client will connect with the appropriate Gopher server, and return a further list of menu items for your selection.

Telnet Connections

When a telnet session is initiated by selecting a <TEL> menu item, the Gopher client (NOT the server) establishes the telnet connection to the remote host requested. The Gopher server is no longer involved until the telnet session is terminated.

Index searches

An index search is a common type of Gopher menu item that is identified by <?>, <IDX>, <SRC> or some other icon indicating a question. This indicates resources for which searchable indexes have been created. Files with searchable indexes may be, for example, books, dictionaries, reference sources, bibliographies, network addresses, software catalogues, Internet information, archives of Usenet newsgroups and Listserv mailing lists, or various specialized indexes, databases and texts.

How to search indexes

Once you select an index search menu item, you are prompted to enter a search query. You then enter your search term(s). Gopher searches the index and builds a "custom" menu that lists only those items which contain the search terms that you entered. You can then select any item from this customized menu in the same way that you would for any Gopher menu item.

Index searches are specific to the computer on which the resource resides. Each server can have its own set of rules. Searches are not case sensitive. Some allow only single word searching. There are various interpretations of multiple word search rules. Basically, it is recommended that you use a single word search. If you want to go beyond that, experiment with a specific search index, remembering that what you discover here will not necessarily apply elsewhere.

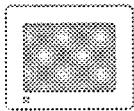


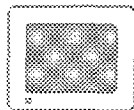
Figure 6: Typical Gopher Index Search Menu Item

Internet Gopher Information Client 2.0 pl10
Library Catalogues

1. About this information . . .
2. Instructions for different catalog types/
3. British Columbia Libraries/
4. Canadian Libraries/
5. United States Libraries/
- >6. **Search for library catalogs by keyword <?>**
7. Complete Yale menu of Library Catalogs and related information /

Press ? for Help, q to Quit, u to go up a menu

Page: 1/1

Figure 7: Enter Gopher Index Search Term

Internet Gopher Information Client 2.0 pl10
Library Catalogues

1. About this information . . .
2. Instructions for different catalog types/
3. British Columbia Libraries/
4. Canadian Libraries/
5. United States Libraries/
- 6. Search for library catalogs by keyword <?>

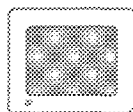
Search for library catalogs by keyword

Words to search for: **calgary**

[Cancel: ^G] [Erase: ^U] [Accept: Enter]

Press ? for Help, q to Quit, u to go up a menu

Searching..|

Figure 8: Results of Gopher Index Search

Internet Gopher Information Client 2.0 pl10

Search for library catalogs by keyword: calgary

- 1. University of Calgary.
2. University of Calgary <TEL>

Ranking of Search Results

Index searches typically assign each document retrieved a “weight” or ranking determined by the number of hits on search terms entered, and the position of these terms in the document. The documents are then presented according to this ranking. The documents with the most hits on the desired word(s) are listed first. When multiple terms are entered as a search, **“OR” is automatically implied.** Thus a search for “library” “congress” really searches “library” OR “congress” and could come up with highly ranked documents with “library” occurring many times but with no mention of “congress”, hence nothing on the Library of Congress.

T I P S O N I N D E X S E A R C H I N G

- 1) Always begin searching an unknown index with a single search term.
- 2) To experiment further in a specific index, find a known document, and try retrieving it with a number of different search strategies using multiple keywords and “and”, “or”, “not” etc.
- 3) Different index searches on one gopher do not necessarily use the same search mechanism; nor does the same resource occurring on different gophers use the same search mechanism. Always experiment to determine the specific search capabilities.
- 4) On some servers, though you can perform a search and get the menu of results, you may be denied access to the actual resource.



INSTRUCTIONS: Using a typical UNIX gopher

Task	What you type	Comments
Invoke gopher	gopher	From system prompt
Gopher to specific site	gopher <gopher address>	From System prompt
Get help	<?>	Do not press <enter>
Go Up to the previous menu	<U>	Do not press <enter>
Return to the Main menu	<M>	Do not press <enter>
Cancel action	<Ctl>+<G>	
Exit a document	<Ctl>+<G> or U	Do not press <enter>
Select an item	<up>or <down>, <enter> or <#> <enter>	"#" represents the menu item number
View next or previous page	<+> or <->	When menu is more than one page
Display the resource address	<=>	Do not press <enter>
Save current item to a file	<s> (lower case)	When reading or pointing to a document
E-Mail current document	<m> (lower case)	When reading or pointing to a document
Page down in a document	<sp>	When reading a document
Exit Search screen	<Ctl>+<G> or Delete search terms <Enter>	Follow screen instructions to delete search terms
Quit gopher	<q>	Back to system prompt



INSTRUCTIONS: Using a typical VMS gopher

Task	What you type	Comments
Invoke gopher	gopher	From system prompt
Gopher to specific site	gopher <gopher address>	From system prompt
Get help	<?>	
Go Up to the previous menu	<U>	
Return to the Main menu	<m>	
Cancel action	<Ctl>+<G>	
Exit a document	q	
Select an item	<up> or <down>, <enter> <#> <enter>	# represents the menu item number
View next or previous page	<page up> <page down>	When menu is more than one screen
Display the resource address	<=>	
Save current item to a file	<s>	When reading or pointing to a document
EMail current document	<q> <m>	To quit reading document To mail the document
Page down in a document	<Sp>	When reading a document
Quit gopher	<q>	
Really quit? Y/N	<y>	Back to system prompt



INSTRUCTIONS: Using a gopher

Task	What you type	Comments
Invoke gopher		
Gopher to specific site		
Get help		
Go Up to the previous menu		
Return to the Main menu		
Cancel action		
Exit a document		
Select an item		
View next or previous page		
Display the resource address		
Save current item to a file		
EMail current document		
Page down in a document		
Exit Search screen		
Quit gopher		



INSTRUCTIONS: Typical Gopher Index searches

Task	You enter	Comments
Single word search	Word (not case sensitive)	Recommended for all unknown indexes. Word may be included as string in another word.
Multiple word search	Word1 Word2	"OR" is usually implied when no operator.
Truncate search term	Word*	* represents one or more letters (not all versions)

Selected Gopher Indexed Resources

Gopher Site	Host Address	Path
Infoslug, Univ. of California, Santa Cruz	scilibx.ucsc.edu	1/The Library/Elect. Reference Books
Supreme Court of Canada Decisions, U of Montreal	gopher.droit.umontreal.ca	1/English version/Supreme Court of Canada/Supreme Court of Canada Decisions
Univ. of British Columbia	gopher.ubc.ca	1/Libraries and Information Sources/Ref. material
University of Saskatchewan Electronic Conferences - Kovacs list	gopher.usask.ca	1/Computing/Internet Info/Directory of Scholarly Electronic Conferences
University of Southern California	cwis.usc.edu	1/Other Gophers/Gopher-Jewels/General Reference Resources



List of interesting gopher sites

Site	Address	Comments
Academe this week (Chronicle of Higher Education)	chronicle.merit.edu	
The Bulletin Board for Libraries Select "4. BUBL: Bulletin Board for Libraries".	ukoln.bath.ac.uk	Resources of interest to librarians
Envirogopher	envirolink.org	Environmental resources
Gopher's Mother, Univ. of Minnesota	gopher.tc.umn.edu	Source for gopher information & software
InfoServ - B.C. Electronic Library Network	infoserv.uvic.ca	Library oriented BC and worldwide
North Carolina State University Library (without walls) gopher	dewey.lib.ncsu.edu	
Rice University	riceinfo.rice.edu	Subject-related lists under /Information by subject area
University of California at Santa Cruz Infoslug	scilibx.ucsc.edu	Excellent all around gopher
University of Michigan	una.hh.lib.umich.edu	Clearinghouse for Subject Oriented Guides under /genref/Internet guides & resources
University of Saskatchewan	gopher.usask.ca	Hytelnet and Publishers' Catalogues under /Library/Useful Non U of Sask Info
University of Waterloo	uwinfo.uwaterloo.ca	Student oriented
Victoria Freenet	freenet.victoria.bc.ca	
Washington and Lee Law Library	liberty.uc.wlu.edu	Highly recommended research gopher



List of Public Gophers by Telnet

Hostname	Login	Location
consultant.micro.umn.edu	gopher	University of Minnesota
gopher.msu.edu	gopher	University of Minnesota
panda.uiowa.edu	panda	University of Iowa

(NOTE: As with all Internet resources, these addresses are subject to change. They were valid as of 09/95)

ON YOUR OWN

- 1) Check if your Internet service provider has a gopher client available and, if so, how to connect. If not, you may want to investigate the possibilities of implementing a gopher client locally, or find out whether you can get an account at a neighbouring institution which has a gopher client. You could also try connecting to a public gopher client (see list of Public Gophers above).
- 2) Do "Exercise Six: Gopher"
- 3) Explore Internet resources by connecting to gophers from the "List of interesting gopher sites".
- 4) Try searching some of the indexes listed in the list of "Selected Gopher Indexed Resources".



Exercise Six: Gopher

GROUP 1 TASKS

For all tasks in this group:

- 1) Connect to the InfoServ gopher:
type "gopher infoserv.uvic.ca" at the system prompt or command line.
- 2) To access the subject related resources lists, select /Resources Organized by Subject.

Task A

- 1) Select /Resources Organized by Subject - Rice University.
- 2) Look at /Census.
- 3) E-Mail yourself some interesting data from the US 1990 census.

Task B

- 1) Select /Resources Organized by Subject - Rice University.
- 2) Look at /Travel/Travel Information Library (University of Manitoba). Investigate a country about which you would like some travel information.
- 3) E-Mail some interesting information to yourself.

Task C

- 1) Select /Resources Organized by Subject - Rice University.
- 2) Look at /Government, Political Science and Law. Find Clinton's Press Releases.
- 3) E-Mail yourself a statement by Clinton on a current issue.

Task D

- 1) Select /Resources Organized by Subject - University of Waterloo.
- 2) Select a subject area of interest in your work or personally. Look at "Electronic discussion groups in..." your subject.
- 3) Save a list of discussion groups to a file, making note of the file name you give it.

After you have completed the above tasks:

- 1) Start up your e-mail program. Read any messages you have received. Delete them, and quit the e-mail program.
- 2) View the file you saved in Task D. Delete the file when you have viewed it.

GROUP 2 TASKS

Explore other gopher servers by doing any of the following. If a connection does not work, try another one. Remember, to connect directly to a gopher server, issue the “gopher” command at the system prompt or command line.

Task E

For an overview of the activities of the Electronic Frontier Foundation, check out their gopher.

- 1) gopher gopher.eff.org
- 2) select /Legal Issues and Cases

Task F

For environmental resources, gopher to the Envirogopher. Note in particular, Environmental Organizations On-line.

- 1) gopher envirolink.org

Task G

To explore library specific gophers, gopher to the Liberty gopher at Washington and Lee Law Library.

- 1) gopher liberty.uc.wlu.edu
- 2) select /Finding Gopher Resources/ All Gopher Sites/ Library Gophers

Task H

To look at publisher catalogs, connect to the University of Saskatchewan gopher.

- 1) gopher gopher.usask.ca
- 2) select /Library/E-Journals

Task I

For a list of “Smilies”, gopher to the Liberty gopher at Washington and Lee Law Library.

- 1) gopher liberty.uc.wlu.edu
- 2) select /Libraries and Information Access/ Reference Sources/ Unofficial Smilie Dictionary.

GROUP 3 TASKS: Index Searches

For the tasks in this group, use the following steps:

- 1) At the system prompt or command line, type:
gopher *gopher.address* <enter> (e.g. gopher infoserv.uvic.ca)
- 2) Follow the path by selecting the specific menu items listed.
- 3) To activate the index search, highlight the item and press <enter>.
- 4) Type the search term and press <enter>

5) When finished each task, quit this gopher.

<q>

System may respond: Really quit (y/n)? <y>

Task J

Let's see what there is about libraries in the educational database of ERIC Digests.

Gopher to: gopher.ucsc.edu

Path: /The Researcher/Social Sciences/Education

Item to select: ERIC Digests

Search term: library

Task K

We want to find the Supreme Court's ruling on the Sue Rodriguez case.

Gopher to: gopher.droit.umontreal.ca

Path: /English version/Supreme Court of Canada

Item to select: Complete Decisions Index

Search term: Rodriguez

Task L

Gopher gurus often refer to the InfoSlug gopher. Let's locate this highly regarded gopher and take a look at its resources.

Gopher to: cs4sun.cs.ttu.edu

Path: /Other Gophers and Information Servers

Item to select: Search Gophers by Name or Internet Address

Search term: infoslug

Task M

We want to find how Freedom of Information affects libraries.

Gopher to: bcsc02.gov.bc.ca (02 are both numbers)

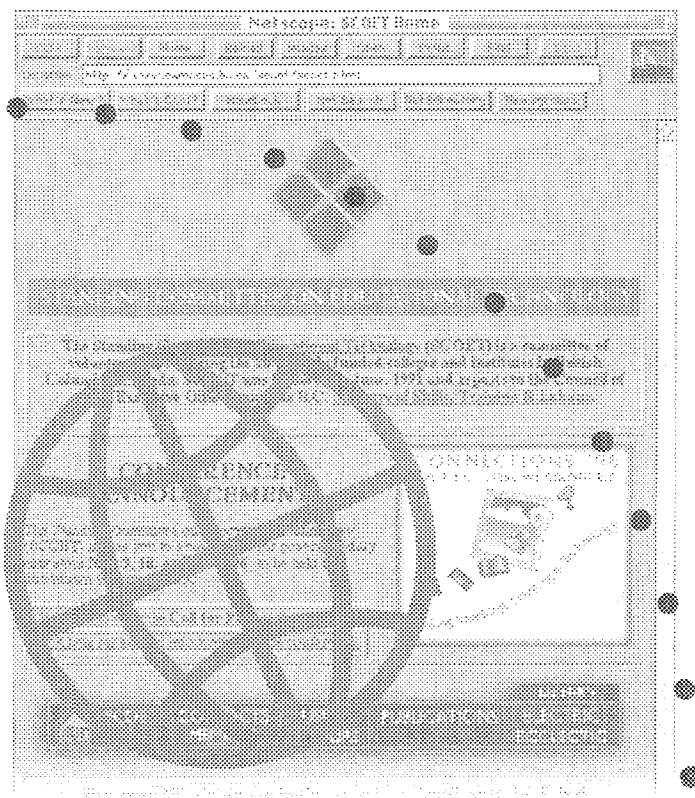
Path: /Freedom of Information - Directory of Records

Item to select: Search Entire Directory of Records

Search term: library

(NOTE: As with all Internet resources, these addresses are subject to change. They were valid as of 09/95)

INTRODUCTION TO WORLD WIDE WEB



INTRODUCTION TO THE WORLD WIDE WEB

WHAT IS WORLD WIDE WEB

World Wide Web (WWW or 'the Web') is a relatively new approach to exploring Internet information. With a piece of software called a Web 'browser', users can access many diverse Internet services. For the user, this happily means learning fewer navigating commands.

Another benefit to accessing the Internet via the Web is the way in which the information is presented. Information produced for the Web is created with special formatting which allows related documents to be 'linked' together. These links are embedded in Web documents using a language known as HTML (HyperText Markup Language). The author forges links to related information on the Internet, embedding pointers to other documents or sites using hypertext code. When a user browsing the document highlights and selects a link, the software reads the hidden code and is able to retrieve the material designated in the coding.

Unlike Gopher, which offers Internet information in hierarchical menued structures, the Web presents interconnected, cross-threaded information. Gophers rely on upwards and downwards movement through levels, while movement within the Web can be horizontal, vertical, and diagonal. This may sound confusing, but the Web's flexibility provides a natural and intuitive approach to Internet exploration.

WEB BASICS

To explore the Web, you need access to Web client software (called a 'browser') and a connection to a site running Web server software. Browsers are available in a variety of styles. 'Line-oriented browsers' such as Lynx read only text-based information, while 'graphical browsers' such as Netscape, Mosaic and Cello can deliver still images, movies, and audio information to the user.

In order to use a sophisticated graphical browser, you must run it locally on your own machine and then establish a direct Internet connection to the Web server. If you can't run a browser from your desktop, you may be able to connect to a publically available text-based browser via telnet, gopher, or a dialup connection to an Internet service provider. Internet sites offerering access to a public browser will limit the number of simultaneous users, so you may have to be patient when trying to connect.

Web browsers allow you to select links, see information about a document's location, point to a new address, and review your exploration path. Your browser will also let you return to what is called your 'home page'.

Your home page is simply a Web document which has been defined by your browser as the starting point for your Web explorations. If you use a public browser, the home page is defined by the people who make the browser publically available. If you run your own browser locally, you define what your home page will be. With special software, you can create a home page and collect your favorite links on it, or you can simply point to someone else's home page. Many

people and organisations have designed their own informative home pages, and most are open to visitors.

Universal Resource Locators (URLs)

Hypertext links pointing to other Internet resources rely on a standard information addressing format known as Universal Resource Locators (or URLs). URLs include a tag indicating the type of resource (e.g. 'http' for a hypertext document or 'gopher' for a Gopher server), a Internet machine address (e.g. infoserv.uvic.ca), and directory and filename information. A URL for an information file on the ELN InfoServ Gopher might look like this:

`gopher://infoserv.uvic.ca/about.eln`

When you select a link, your browser points to a new location because it reads this URL information. If you read about a new Web site and you have its URL, you can point your browser there directly. A text-based browser such as Lynx requires you type the letter 'g' (for 'go to'), and then type the URL. With a graphical browser such as Netscape, new URLs can be typed directly into a 'Location' information box on the browser screen.

URLs can be annoying to work with. They are long strings of text that must be transcribed exactly as written, observing upper and lower case, in order to yield results. Luckily, browsers have a bookmark feature which remembers URLs so you don't have to. A publically available browser may not allow you to save bookmarks, however.

Checklist of Information

To explore the World Wide Web, you will need:

- A Web browser on your desktop computer which is connected to the Internet via a SLIP, PPP or ethernet connection. (See the chapter "How to 'Get Connected' " for more information.)

or

A phone number (for dialup or Datapac access) or the telnet address for the host system where a public client resides.

- Information on how to invoke your Web browser.
- Instructions for entering URLs.
- Instructions for stopping the transfer of a file.

NOTE: The Web is an ideal place to browse, so don't worry if you don't have a list of URLs at hand. Explore the links on your browser's home page. You should find plenty of sites to visit.

Types of Web resources

Here is a list of some of the more popular resource types designated in URLs:

http: (HyperText Transport Protocol) retrieves a document written in HyperText Markup Language.

telnet: opens a live connection to the Internet machine address given in the URL.

gopher: opens a connection to the gopher server given in the URL.

ftp: retrieves a document via file transfer protocol (ftp).

Using a Text-based Browser

A commonly used text-based browser is a package called Lynx, which runs on under vt100 terminal emulation (see "Logging in to the Local System"). Lynx takes advantage of a full-screen environment, which means it is not limited to input from a command line; this browser can process information fed to it from a variety of places on the screen, and this offers a real advantage when dealing with hypertext documents. When Lynx displays a hypertext document, it simply ignores non-text information such as images.

With the Lynx text-based browser, users navigate documents by using the up/down arrow keys to highlight links. Highlighted links are then selected by pressing right arrow key, and previous screens are retrieved by using the left arrow.

FIGURE 9: LYNX - Text-based WWW Browser

University of Kansas Home Page

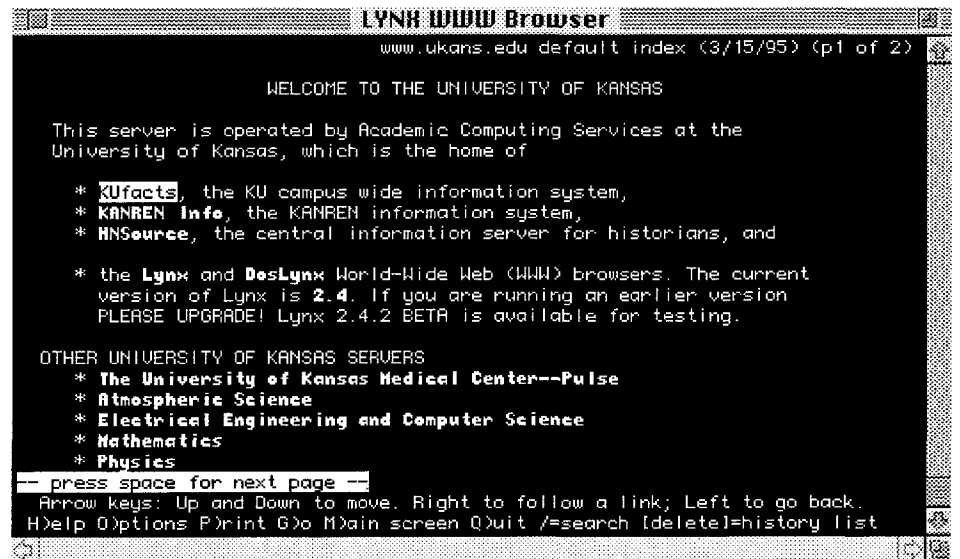
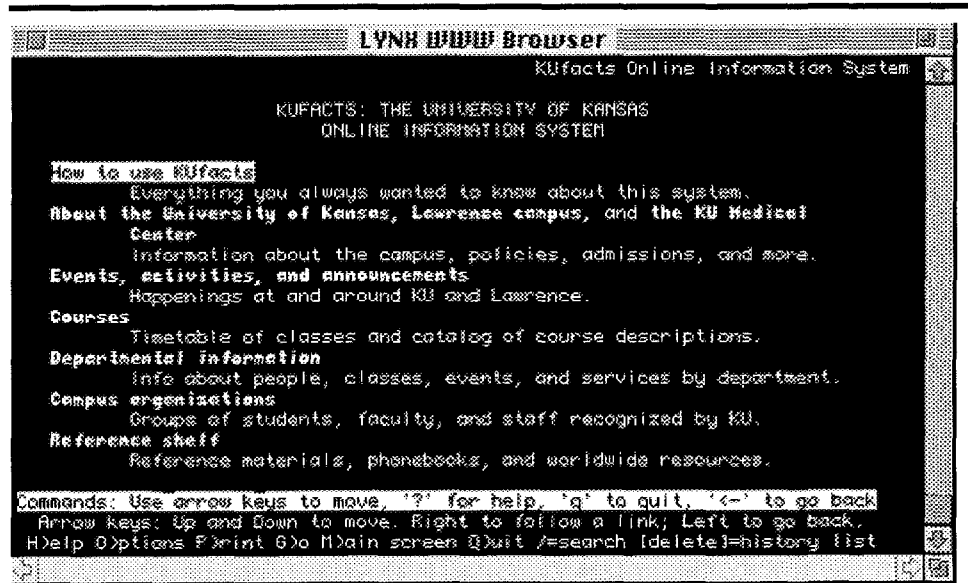


FIGURE 10: LYNX - Results of First Link Selection



Using a Graphical Browser

Graphical Web browsers such as Netscape, Mosaic, and Cello offer greater flexibility than text-based browsers because they can process many different types of information encountered on the Web, from colourfully illustrated hypertext documents to movie clips from the latest Hollywood releases. In order to process this sophisticated information, graphical browsers demand upscale processing power, memory, and Internet connectivity.

The great flexibility of graphical browsers depends, to a large extent, on their use of 'helper applications'. Helper applications are different programs which browsers launch in order to handle special processing tasks. If, for example, a movie clip is retrieved by the browser, special movie viewing software starts up and processes the clip.

Netscape, a shareware product currently available for Macintosh, Windows and Unix environments, is a sophisticated Web browser that can be configured to handle all sorts of documents. With Netscape, links are selected with a mouse, and users may point and click on icons and highlighted text in order to navigate the Web.

The Netscape client software must reside on the machine that you use to connect to the Internet. If the Internet connection is being made over a modem, a SLIP or PPP connection must be established in order for Netscape to accept the user's interactions. See "How to Get Connected" for more information about these connections.

FIGURE 11: The Netscape Navigator - Graphical WWW Browser

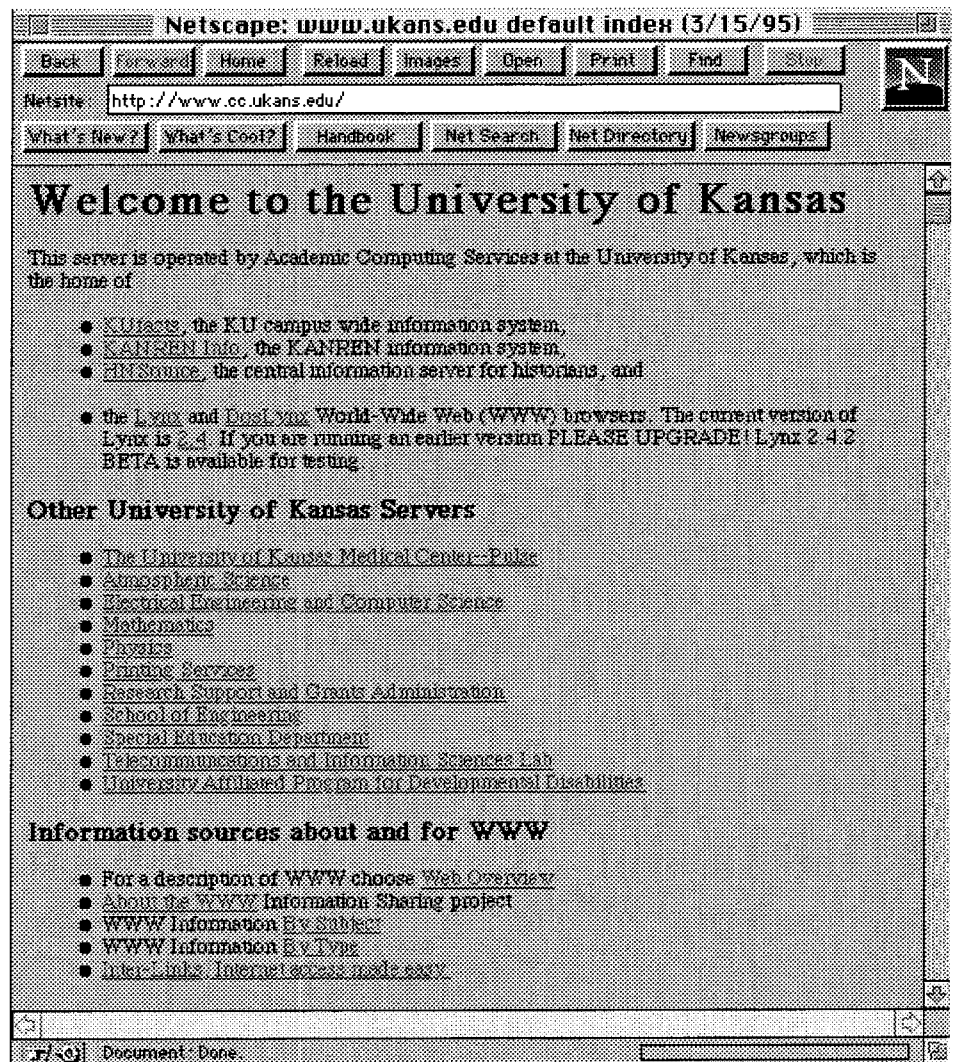
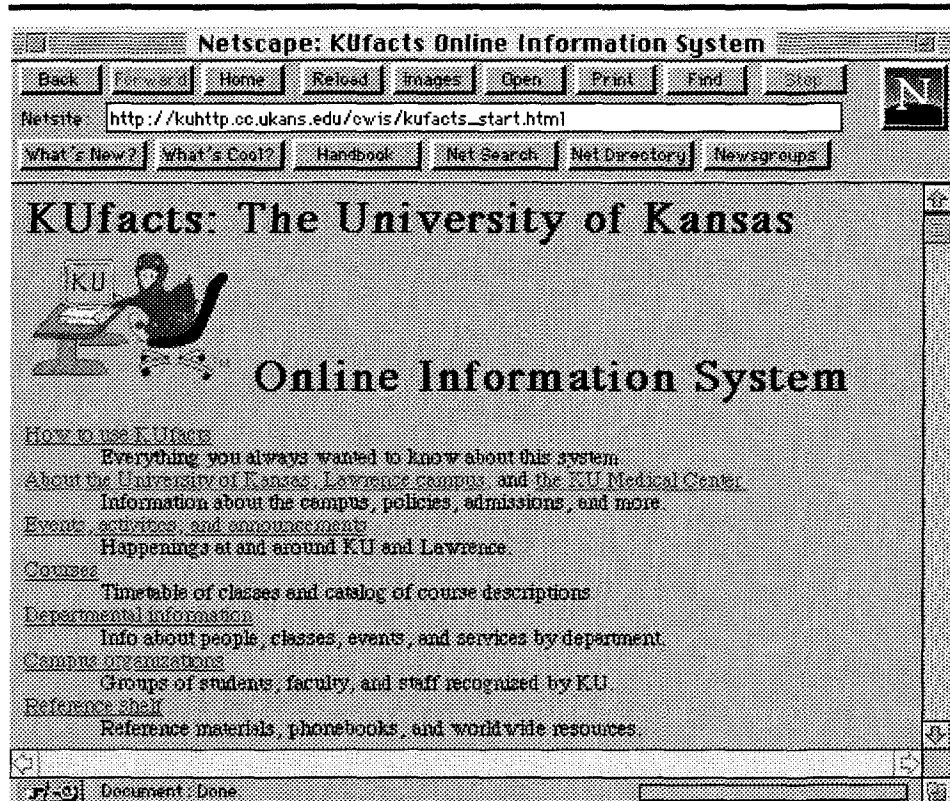


FIGURE 12: Netscape - Results of First Link Selection



SEARCHING THE WEB

Many powerful search tools (or search engines) are being developed for the Web. Unfortunately, each search tool comes with a different set of instructions. It is useful to read any available information on formulating queries, defining the scope of the search, and controlling the output of search results before you use a Web search engine.

Many of the Web search engines respond to questions submitted on query 'forms'. Browsers that can process information in forms are referred to as 'forms-capable'. You may find that simple text-based browsers are not always as forms-capable as graphical browsers.

Below is Netscape's brief description of major Web search engines:
(See <http://home.netscape.com/home/internet-search.html>)

=====

SEARCH ENGINES

INFOSEEK SEARCH

InfoSeek is a comprehensive and accurate WWW search engine. You can type your search in plain English or just enter key words and phrases. You can also use special query operators.

THE LYCOS HOME PAGE: HUNTING WWW INFORMATION

This search engine, served by Carnegie Mellon University, will allow you to search on document titles and content. Its May 1, 1995 database contains 3.75 million link descriptors and the keywords from 767,000 documents. The Lycos index is built by a Web crawler that can bring in 5000 documents per day. The index searches document title, headings, links, and keywords it locates in these documents.

WEBCRAWLER SEARCHING

This engine allows searches by document title and content. It is part of the WebCrawler project, managed by Brian Pinkerton at the University of Washington, which collects documents from the Web.

SEARCH ENGINE SEARCH

If you still haven't found what you're looking for and you'd like to try out other available search engines, check out these other lists of search engines:

W3 SEARCH ENGINES

Published by the University of Geneva, this list of search engines covers a wide variety of topics and subjects but isn't updated very often.

CUSI (Configurable Unified Search Interface)

Nexor U.K. offers this tool, a single form to search a large number of different WWW engines for documents, people, software, dictionaries, and more.

FIGURE 13: LYNX: Webcrawler Search Form

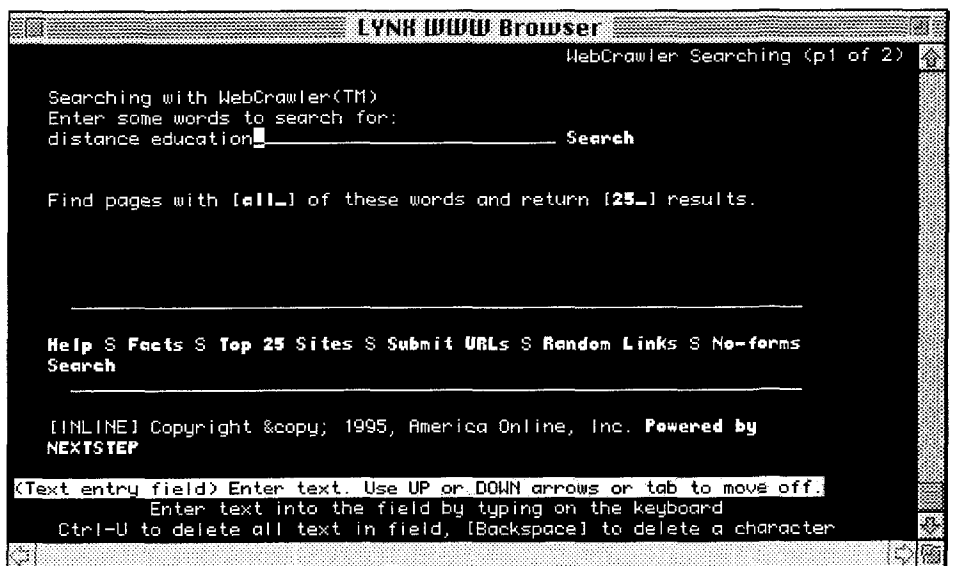


FIGURE 14: LYNX: Results of Webcrawler Search

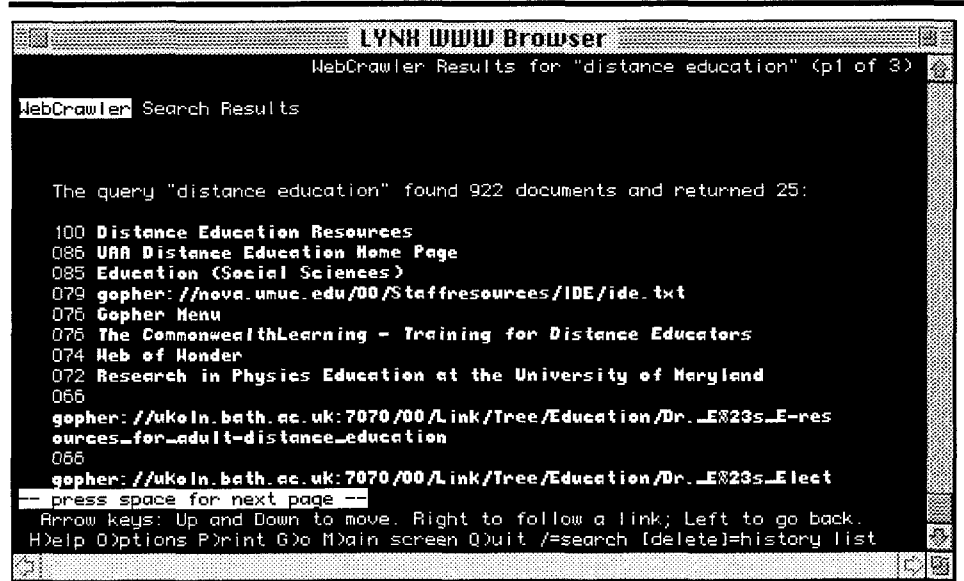
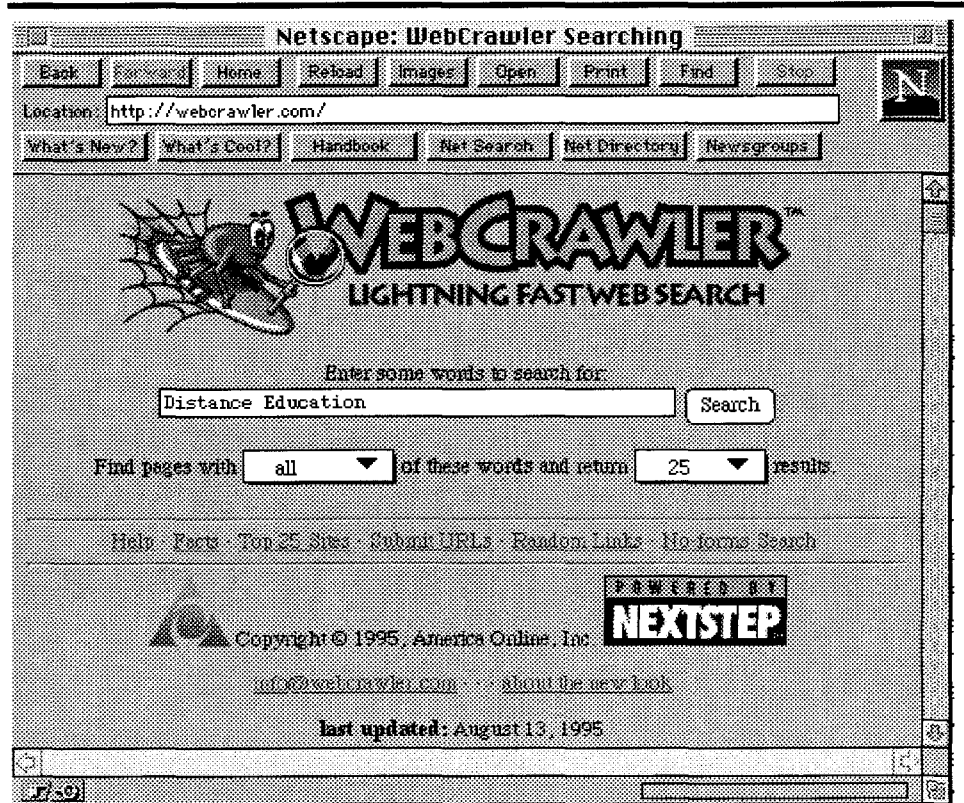


FIGURE 15: Netscape: Webcrawler Search Form



Below is a list of some popular subject guides available on the Web:

Web site	URL
Whole Internet Calalog	http://nearnet.gnn.com/gnn/wic/alltop.toc.html
Yahoo Internet Directory	http://www.yahoo.com
Einet Galaxy	http://www.einet.net
WWW Virtual Library	http://www.w3.org/hypertext/DataSources/bySubject
NCSA's Meta-Index	http://www.ncsa.uiuc.edu/SDG/Software/Mosaic/Meta_Index.html



List of interesting Web sites

If you're interested in roaming the Web and you'd like a good 'launch pad', try some of these 'Hot Lists':

<http://home.netscape.com/home/whats-new.html> (Netscape's 'What's New' page)

<http://www.infi.net/cool.html> (Cool sites list from InfiNet)

<http://www.prgone.com/hotlink.html> (BBS One HotLinks Page)

<http://www.clark.net/pub/journalism/awesome.html> (John Maculowich's List)

<http://wings.buffalo.edu/contest> (Best of the Web '94)

Public browsers via telnet

At the time of publication, these telnet sites offered public WWW browsers:

[lynx.cc.ukans.edu](telnet://lynx.cc.ukans.edu) (log in as www)

[www.njit.edu](telnet://www.njit.edu) (log in as www)

[www.huji.ac.il](telnet://www.huji.ac.il) (English/Hebrew browser. Log in as www)

[infoserv.uvic.ca](telnet://infoserv.uvic.ca) (log in as ELN, then type "lynx")

Also, systems staff at your institutions can tell you if a public browser is available on your local system.

ON YOUR OWN

- 1) Check if there is a Web client available to you from your Internet provider, and how you can connect to it remotely.
- 2) Find out if you can access a Web client locally on your desktop computer (for example, one may be installed for your local area network). If not, you may explore the possibility of installing one. Contact the systems staff at your institution, or consult a colleague who is currently running a Web browser from their desktop.

- 3) Familiarize yourself with your browser's help files.
- 4) Try searching the Web using the search engines listed under 'Searching the Web' above.
- 5) Complete "Exercise 7: World Wide Web".



INSTRUCTIONS: LYNX BROWSER

TASK	ACTION	COMMENTS
Invoke Lynx	Type WWW or Lynx	At the login or system prompt
Point Lynx to a site	Type "g" + the URL	At any Web page
Get help	Type "h" or "?"	"
Return to starting home page	Type "m" for main screen	"
Return to previous document	Press the left arrow key	"
Highlight following link	Press the down arrow key	"
Highlight previous link	Press the up arrow key	"
Activate a link	Press the right arrow key	"
Go to previous page of current document	Press "-"	"
Go to next page of current document	Press "+"	"
Display URL of current page	Press "="	"
Stop transfer of a file	Press "z" or CTRL-G	Cancels input or transfer in progress.
Save a file	Press "d"	Save to user's account, download to desktop machine or printer
Mail a file	Press "p"	Mail option
Add a bookmark	Press "a"	Saves current document or highlighted link in a bookmark file.
View bookmarks	Press "v"	Each bookmark serves as a link.
Quit	Press "q"	Can be done at any screen.



INSTRUCTIONS: NETSCAPE BROWSER

TASK	ACTION	COMMENTS
Invoke browser	Double-click on the Netscape icon on your desktop.	Read Netscape's installation files for more information on running Netscape from an icon.
Point browser to a site	Type the URL in the "Location" box on the screen.	Observe upper and lower case and punctuation.
Get help	Use the Netscape Handbook (http://home.netscape.com/eng/mozilla/1.1/handbook).	This handbook is accessible from Netscape1.1's Help menu.
Return to starting home page	Click on the "Home" button.	Select "Show toolbar" under "Options" menu if this button does not appear on your screen.*
Return to previous document	Click on the "Back" button (may be a left arrow).	"
Select a link	Click on it with the mouse.	Cursor changes to a hand when it is pointing to a hypertext link.
Go to previous page of current document	Press the "Page up" key.	The scroll bar can also be used to move around in a document.
Go to next page of current document	Press the "Page down" key.	"
Display URL of current page	See the "Location" box.	Point to a link to display its URL (appears at the bottom of the screen).*
Stop transfer of a file	Click on the "Stop" button.	It may take a moment to cancel the transfer.
Save a file	Select "Save as..." under the "File" menu.	If saving as "Source", hypertext markup is preserved.
Mail a file	Select "Mail document..." from the "File" menu.	Includes option to send current document as a file attachment, or quote it in the body of your message.
Add a bookmark	Choose "Add bookmark" from the "Bookmarks" menu.	
View bookmarks	Highlight the "Bookmarks" menu, or select "View bookmarks".	"View bookmarks" will allow you to edit, import, or export your bookmarks.
Quit	Choose "Quit" from the file menu.	Can be done at any screen.



INSTRUCTIONS: Using your browser

TASK	ACTION	COMMENTS
Invoke browser		
Point browser to a site		
Get help		
Return to starting home page		
Return to previous document		
Highlight following link		
Highlight previous link		
Activate a link		
Go to previous page of current document		
Go to next page of current document		
Display URL of current page		
Stop transfer of a file		
Save a file		
Mail a file		
Add a bookmark		
View bookmarks		
Quit		



Exercise 7: World Wide Web

A GENERAL NOTE ABOUT WEB SITES: You may find you are unable to connect to some of the more popular web sites because they are overloaded with activity. If you find this is the case, skip to another TASK and try the busy site later, or wait half a minute and try again.

Group 1 TASKS: Searching Web Subject Resources

For all tasks in this group, connect to a public Web client or run your local Web client.

TASK A

- 1) Point your browser to the URL <http://www.yahoo.com>.
- 2) Select the link for 'Law'.
- 3) Select the link for 'General Information'.
- 4) Explore some of the sites found here.
- 5) Return to the Yahoo home page using the back key.
- 6) Search for one of the sites you explored in step 4 (e.g. Law.Net) using Yahoo's search form.

TASK B

- 1) Point your browser to the 'WWW Virtual Library' link found at the bottom of the Yahoo home page.
- 2) Select the 'Category Subtree' link.
- 3) Select 'Wine' under the heading 'Agriculture'.
- 4) Read about Croatian vintages, or explore the South African Wine site.

TASK C

- 1) Select the link for the 'Whole Internet Catalog' from the Yahoo home page.
- 2) Select the link 'Environmental Studies' under the heading 'Science and Technology'.
- 3) Select 'EnviroWeb'.
- 4) Search EnviroWeb for information on an environmental topic (e.g. clearcut, acid rain, ozone)
- 5) Find a fairly short article or home page and save it as a text file on your computer. (Note: You may not be permitted to do this with a public Web browser.)

Group 2 TASKS: Exploring Web Hot Lists

TASK A

- 1) Point to Netscape's 'What's New' page (http://home.netscape.com/escapes/whats_new.html)
- 2) Navigate a few of the new sites listed here.
- 3) Open the 'History' file on your browser.

- 4) Return to the Netscape 'What's New' page from the History list.

TASK B

- 1) Connect to the Best of the Web '94: '1994 Winners' (<http://wings.buffalo.edu/contest>).
- 2) Find the 'Best Overall Site'.
- 3) Mail yourself the information on the 'Best Overall Site'.

TASK C

- 1) Connect to John Makulowich's Truly Awesome hot list (<http://www.clark.net/pub/journalism/awesome.html>).
- 2) Have a look at 'Rec.Travel Library'.
- 3) Do a search on your favorite country/city/region.
- 4) Mail yourself some of the information found in your search, providing it's not a huge file. (Note: public browsers may not allow you to mail Web documents)

Group 3 TASKS: Exploring Web Search Engines

For all of these tasks, connect to the Web search engine list found at:

<http://home.netscape.com/home/internet-search.html>

Alternate search engine lists found at:

<http://www.powersmart.ca/search.html>

<http://www2.mgmt.purdue.edu/HTML/indexes.html>

TASK A

- 1) Connect to the Webcrawler.
- 2) Type in 'letterman's top ten' in the search box
- 3) Submit the search.
- 4) Note the level of detail provided on your search results.
- 5) Scan the search results and try to find Letterman's Top Ten list.
- 6) Create a bookmark for Letterman's Top Ten when you find it.
- 7) Return to the search results list and compare the various search results. How relevant are they?

TASK B

- 1) Connect to the Lycos search engine (note: it's often busy).
- 2) Select the small Lycos catalogue.
- 3) Enter the search term 'rose. garden' (this will search for an exact match on 'rose' and bring up matches on the word 'garden', 'gardens', 'gardening', 'gardeners', etc.)
- 4) Submit the search.
- 5) Note the level of detail provided on your search results.

- 6) Read a few of the short descriptions provided by Lycos and visit the sites for a closer look.

TASK C

- 1) Connect to the CUSI search engines (for a potentially faster connection, use a Canadian CUSI site, such as <http://abyss.idirect.com/cusi.html>).
- 2) CUSI presents you with a large and versatile search form. Take a moment to look at the entire CUSI page. Notice how you can specify different types of search information on this form (e.g. People search, File searches).
- 3) Start by trying to locate Web sites that offer Internet help. Use the form found under 'Search the Web', enter the terms 'internet help', and select a search engine from the list provided.

(If you need more info on the search engines, read the short description provided below the form in each section).

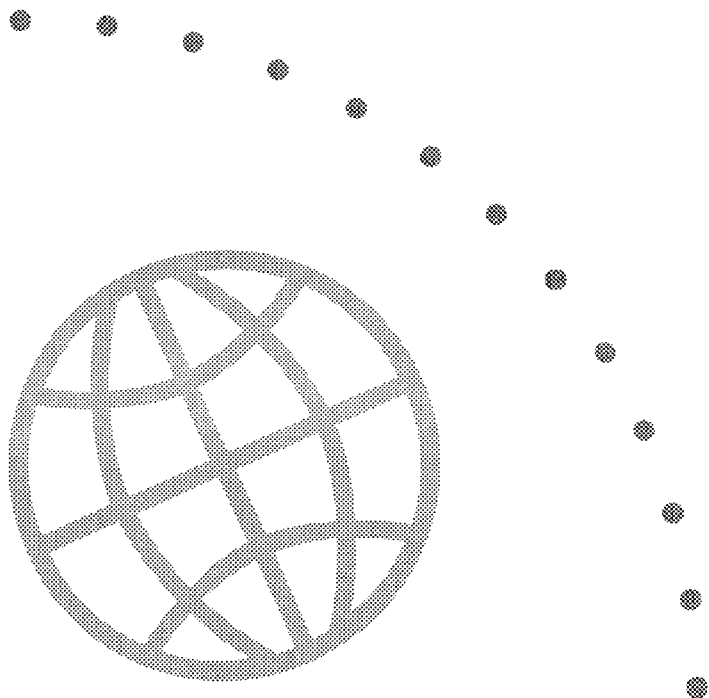
- 4) Explore some of your search results. Bookmark a few for future reference.
- 5) Return to the CUSI home page and find the 'People' search form.
- 6) Search for 'malaspina' using the 'Internet domains' search engine. You should retrieve the Internet address for Malaspina College.

TASK D

- 1) Execute a search for "opera" using Webcrawler, Lycos, and Einet Galaxy on the CUSI home page.
- 2) Compare the results. Which search engine yields the best results?
- 3) Try a few of your own searches.

H

OW TO GET
CONNECTED



HOW TO "GET CONNECTED"

WHAT DOES "BEING CONNECTED" MEAN?

There are three basic levels of "connectivity" to the Internet

- 1) Direct connection. This means that you have some kind of direct dedicated IP connection to your terminal or workstation (often by an Ethernet type of connection) from your host computer.
- 2) Dial-up connection via SLIP (Serial Line Internet Protocol) or PPP (Point to Point protocol). Using a modem and regular telephone line you make a "dial-up" connection to a host computer with Internet connectivity, and then establish an IP connection to your PC. It means you can transfer files by FTP directly to your personal computer.

N.B. This type of connection requires special software on your PC or MAC, and for your host computer to support SLIP or PPP connections. You must also be able to install and support IP software on your computer for Telnet, FTP, etc.

- 3) Dial-up connection via Serial Line and standard communications software. This type of connection requires your host computer to support a regular dial-up access, and for you to have an account on the host system.

This type of connection works well for telnet and e-mail. However, it means that any FTP file transfers you do will end up on the host rather than your PC. To download the file to your PC you need to undertake a second step. This could be done by two methods. For a text file, you can "view" the file on the host system while logging the screen display to a file or printer using your telecommunications software "logging" capabilities. For all types of files, you can initiate a serial line file transfer (Kermit, xmodem, ymodem, etc.) if your host computer and telecommunications program both have the capability.

WHERE TO GET AN ACCOUNT WITH INTERNET ACCESS

Depending on your affiliation and location, there are a number of options to investigate .

- 1) Check with your computer support group at your own institution. You may be surprised by what services are available.
- 2) Freenets are being established in many major centres. The philosophy behind Freenets is just what it indicates - to provide free access to Internet tools and resources for the public, usually by dial-up as well as telnet. Check with each Freenet in your area to find out what services are provided, and what methods of access are supported.
- 3) Check with an academic institution. Many universities and colleges offer accounts with Internet connectivity for a fee to anyone who requests one. Others may have accounts available for staff, faculty or students.
- 4) Check with a professional association or an affiliated organization. For example, all teacher librarians can often get access to some services through their professional organizations.
- 5) Try a commercial service provider (sometimes called "Network Service Resellers").

Tips for Selecting a Service Provider

If you are subscribing to a service for Internet connectivity, there are some basic questions to ask about services provided:

- 1) What type of connectivity is available? Are serial line dial-up or SLIP connections supported? If SLIP connection is available, how much assistance or information is available for setting it up?
- 2) What tools are available: at least telnet, FTP, and e-mail should be provided. Some may also provide access to other tools such as Gopher clients.
- 3) What speed of connection is supported for the user. Most service providers should have at least 14.4 bps modem connection support.
- 4) What speed is their connection to the Internet.
- 5) Do they support serial line file transfers. If so, using what protocols (e.g. kermit, xmodem, ymodem, etc.), and can your telecommunications software support the one(s) required. (If you will always be connecting via a SLIP or direct connection, this may not be required.)
- 6) What assistance is available for the user? Are there any charges?
- 7) Always be sure to investigate all charges including: account setup, monthly or per hour rates (and is the hourly rate for elapsed time or CPU usage - quite different rates!), file storage costs, and costs for extra services such as news feeds or e-mail support.
- 8) Ask for a free trial of the service. Not all services are equal, even if they sound the same.

INTERNET SERVICE PROVIDERS

A List of Internet Service Providers for the
British Columbia Lower Mainland

Organization & Contact	Phone	Services
Cyberstore	526-3373	Basic, News, Gopher
Deep Cove BBS, White Rock	536-5855	Basic, News
Mindlink	534-5663	Basic, News, Gopher
SFU Computer Services Tim Devlin	291-3946	Basic, News, Gopher
SFU Education Faculty (For Teacher Librarians) Contact: David Bell	291-4259	As Above
UBC Computer Services	822-6443	Basic, News, Gopher
Wimsey Contact: Richard Pitt	936-8649	Basic, News, Gopher, WWW, WAIS, ARCHIE, free Mosaic/ SLIP self installing package

Key: Basic Services include Telnet, FTP, and E-Mail

Dial-up Internet Access Providers in Canada

You can find a list of Internet providers in the Yellow Pages. Local computer papers are also a good source of information on local providers.

Connecting from a distance

When you live in an area where there are no local providers, you have other options for getting connected.

- 1) Investigate service providers in your area. Check with local schools, colleges, or bulletin board services.
- 2) Pay regular long distance charges on your calls. This can be quite expensive, but can be minimized if your calls are at off-peak hours.
- 3) Investigate special dial-up services which may be provided through the telcos.

N.B. Please contact a service provider directly for more current and complete information.

HOW TO FIND OUT ABOUT INTERNET RESOURCES

There are any number of ways to find out about Internet resources. The hard thing will be to avoid feeling overwhelmed. Remember there is lots out there, but much of it is not "quality controlled"!

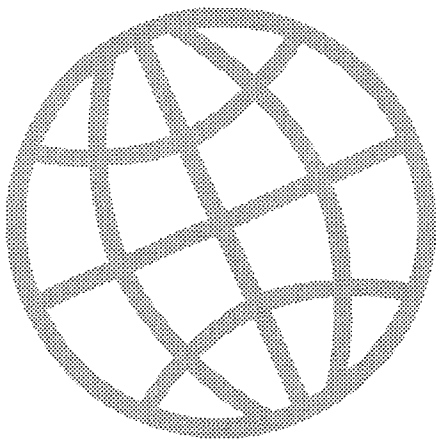
- 1) **Print Resources:** A bibliography of guides to the Internet is included in your workbook. Many of these guides contain lists of good resources.
- 2) **One Good E-Mail Discussion Group:** A discussion list in your area of interest can be an invaluable source of information. A selected list of discussion groups is included in the workbook, as well as instructions for how to locate more.
- 3) **One Good Menu System or Gopher:** Your service provider may have a menu'd access to the Internet, or may have set up a gopher server. Or, you can use one of the public gopher clients listed in your workbook as a starting point.
- 4) **Lists of resources:** There are many lists of Internet resources available via the Internet. A few of these have been listed in your workbook. Try them out. Many of them will lead to other lists of resources.
- 5) **Many library oriented periodicals now have regular columns or special articles describing Internet tools and resources.** In particular, check out: Database, Online, Computers in Libraries, Journal of Academic Librarianship, and Information Technology and Libraries.
- 6) **Ask a colleague:** This is an underrated, but very excellent source of information. There is more out there than any one individual will ever be able to grasp. Set up an "Internet Interest Group" in your organization to share information.
- 7) **Advanced Internet courses generally cover more tools for finding information on the Internet.**

10

**APPENDIX A - INTERNET RESOURCE
ARTICLES**

**APPENDIX B - LIBRARY ORIENTED
DISCUSSION LISTS**

APPENDIX C - GLOSSARY OF TERMS



APPENDIX A: INTERNET RESOURCE ARTICLES

"WHERE TO START" FOR NEW INTERNET USERS

Jim Milles
Ver. 4.5
21 July 1994

1. E-mail systems vary widely.

For help with most e-mail questions (signature files, quoting, and so on), contact your local computer support personnel or your Internet service provider, or consult the books listed below for a discussion of your mail system.

2. Some recommended books for new users of the Internet:

Aboba, Bernard. *The Online User's Encyclopedia: Bulletin Boards and Beyond*. Reading, MA: Addison-Wesley, 1994. 806 pp. ISBN 0-201-62214-9, US\$32.95. (A remarkably useful and comprehensive work, covering everything from the basics of computer communications, to using local bulletin boards, to the intricacies of the Internet.)

Dern, Daniel P. *The Internet Guide for New Users*. New York: McGraw-Hill, 1994. 570 pp. ISBN 0-07-016510-6, US\$40.00 (hardcover); ISBN 0-07-016511-4, US\$27.95 (paper). (Dern is the former editor of *Internet World* magazine and author of numerous articles on the Internet in many other publications.)

Engst, Adam. *Internet Starter Kit for Macintosh*. Indianapolis: Hayden Press, 1993. 641 pp. ISBN 1-56830-064-6, US\$19.95. (Highly recommended by Mac users, many of whom preferred this to the Fraase book listed below. Comes with a disk containing a variety of Internet access software, including a "legal copy of MacTCP 2.0.2.")

Gilster, Paul. *The Internet Navigator*. New York: John Wiley, 1993. 470 pp. ISBN 0-471-59782-1, US\$24.95. (An elegantly written and cleanly designed guidebook, the best of the new books for the individual dial-up user. Contains a wealth of useful background information on the workings of the Internet and the organizations behind it. Recommended for the individual dial-up user who is serious about the Internet.)

Hahn, Harley & Rick Stout. *The Internet Complete Reference*. Berkeley: Osborne McGraw-Hill, 1993. 818 pp. ISBN 0-07-881980-6, US\$29.95. (Considered by many the best of the new crop of Internet books, and at 800+ pages, among the most comprehensive. The humor, however, seems somewhat more lame than some others.)

Krol, Ed. *The Whole Internet: User's Guide & Catalog*. 2nd ed. Sebastapol, CA: O'Reilly & Associates, 1994. 543 pp. ISBN 1-56592-063-5, US\$24.95. (In the fast-moving world of the Internet, for most of 1993 this was the successor to *Zen* as the essential guide to the Internet, and is still regarded by many as the best of the Internet books. However, the availability of other books like Gilster's makes Krol's Unix bias more evident. Recommended especially for users of Unix systems.)

LaQuey, Tracy. *The Internet Companion Plus: A Beginner's Start-Up Kit for Global Networking*. Reading, MA: Addison-Wesley, 1993. 196 pp. ISBN 0-201-62719-1, US\$19.95. (A good guide for the true beginner, useful even for the pre-beginner who has not yet signed on to the Internet.)

Randall, Neil. *Teach Yourself the Internet: Around the World in 21 Days*. Indianapolis, IN: SAMS Publishing, 1994. 676 pp. ISBN 0-672-30519-4, US\$25.00. (A remarkably comprehensive workbook and resource guide, generously illustrated; its greatest strength is its systematic approach to gaining familiarity with the scope of the Internet.)

Savetz, Kevin M. *Your Internet Consultant: The FAQs of Life Online*. Indianapolis, IN: SAMS Publishing, 1994. 550 pp. ISBN 0-672-30520-8, US\$25.00. (Most commonly asked questions about tools and resources presented in a convenient format; well indexed and with a clearly organized table of contents.)

Smith, Richard and Mark Gibbs. *Navigating the Internet: Deluxe Edition*. Indianapolis, IN: SAMS Publishing, 1994. 640 pp. ISBN 0-672-30485-6, US\$29.95. (A highly readable guide, with an easy-to-use listing of Internet resources arranged by subject. Smith is well known for his popular online "Navigating the Internet" courses.)

3. Other useful books for new users:

Badgett, Tom and Corey Sandler. *Welcome to... Internet: From Mystery to Mastery*. New York: MIS Press, 1993. 324 pp. ISBN 1-55828-308-0, US\$19.95. (A self-instruction handbook.)

Braun, Eric. *The Complete Internet Directory*. New York: Fawcett, 1993. 704 pp. ISBN 0-449-90898-4, US\$25.00. (As the title suggests, this is a directory of newsgroups, discussion lists, ftp sites, and so on, with just a few pages on how to use these resources. A directory like this, Hahn and Stout's *Internet Yellow Pages*, or Rittner's *Whole Earth Online Almanac*, may be useful as a companion to one of the other "how-to" guidebooks).

Eddings, Joshua. *How the Internet Works*. Emeryville, CA: Ziff-Davis Press, 1994. 218 pp. ISBN 1-56276-192-7, US\$24.95. (Excellent integration of graphics to explain some of the technology behind the Internet. However, examples of resources are extremely short and selective; definitely not a resource guide.)

Falk, Bennett. *The Internet Roadmap*. San Francisco: SYBEX, 1994. 263 pp. ISBN 0-7821-1365-6, US\$12.99.

Fisher, Sharon. *Riding the Internet Highway*. Carmel, Indiana: New Riders Pub., 1993. 266 pp. ISBN 1-56205-192-X, US\$16.95.

Fraase, Michael. *The Mac Internet Tour Guide: Cruising the Internet the Easy Way*. Chapel Hill, NC: Ventana Press, 1993. 288 pp. ISBN 1-56604-062-0, US\$27.95. (The first Internet guide written for Macintosh users; includes a 800K disc containing useful software.)

Fraase, Michael. *The PC Internet Tour Guide: Cruising the Internet the Easy Way*. Chapel Hill: Ventana Press, 1994. ISBN 1-56604-084-1, US\$24.95.

Fraase, Michael. *The Windows Internet Tour Guide: Cruising the Internet the Easy Way*. Chapel Hill, NC: Ventana Press, 1994. 344 pp. ISBN 1-56604-081-7, US\$24.95. (Good graphics and sample screens, but coverage is selective; some important tools like World-Wide Web are omitted.)

Gardner, James. *A DOS User's Guide to the Internet*. Waterloo, ON, Canada: MKS [Mortice Kern Systems], 1993.

Hahn, Harley, and Rick Stout. *The Internet Yellow Pages*. Berkeley, CA: Osborne McGraw-Hill, 1994. 447 pp. ISBN 0-07-882023-5, US\$27.95. (An entertaining, easy-

to-use directory of Internet resources, and an excellent companion to Hahn and Stout's *_Complete Internet Reference_*.)

Heslop, Brent and David Angell. *_The Instant Internet Guide_*. Reading, MA: Addison-Wesley, 1994. 209 pp. ISBN 0-201-62707-8, US\$14.95.

Hoffman, Paul E. *_Internet Instant Reference_*. San Francisco: SYBEX, 1994. 317 pp. ISBN 0-7821-1512-8, US\$12.99. (A pocket guide to Internet terms and concepts, for both beginning and advanced Internet users.)

The Internet Unleashed. Indianapolis: SAMS Publishing, 1994. 1,387 pp. ISBN 0-672-30466-X, US\$44.95. (Contains chapters written by over 40 prominent Internet experts. This is the most comprehensive, and most expensive, Internet reference currently available, but not recommended for the beginning user.)

Jaffe, Lee David. *_Introducing the Internet: A Trainer's Workshop_*. (Internet Workshop Series, Number 1.) Berkeley, CA: Library Solutions Press, 1994. 92 pp. ISBN 1-882208-05-6, US\$30.00 (US\$45.00 with diskette). (The first in a series of supplements to *_Crossing the Internet Threshold_*, by Tennant, Ober, and Lipow. Based on an actual trainer's handouts and script, it may also be used as a self-instruction workbook.)

Kehoe, Brendan. *_Zen and the Art of the Internet: A Beginner's Guide_*. 3rd ed. Englewood Cliffs, NJ: Prentice-Hall, 1994. 193 pp. ISBN 0-13-121492-6, US\$23.95. (One of the first and most popular guides to the Internet. The first edition was distributed for free on the Internet, and is still available at many anonymous ftp sites, e.g. nic.merit.edu, directory /introducing.the.internet, filename zen.txt.)

Kochmer, Jonathan and NorthWestNet. *_The Internet Passport: NorthWestNet's Guide to Our World Online_*. 4th ed. Bellevue, WA: NorthWestNet, 1993. 515 pp. ISBN 0-9635281-0-6, US\$29.95. (A comprehensive guide to Internet resources, comparable to Krol's *_The Whole Internet_* but even broader in scope. It covers a number of areas that other guides ignore.)

Lambert, Steve & Walt Howe. *_Internet Basics_*. New York: Random House, 1993. 495 pp. ISBN 0-679-75023-1, US\$27.00. (Although this is a good, general guide to the Internet for any user, it is especially useful for those who access the Internet through the commercial Delphi information service. Howe is the sysop of the Delphi Internet SIG.)

Levine, John R. and Carol Baroudi. *_The Internet for Dummies_*. San Mateo, California: IDG Books, 1993. 355 pp. ISBN 1-56884-024-1, US\$19.95. (A very useful, well organized, and readable book, one of the publisher's popular "... for Dummies" series.)

Marine, April; Kirkpatric, Susan; Neou, Vivian; and Ward, Carol. *_Internet: Getting Started_*. Englewood Cliffs, NJ: PTR Prentice Hall, 1992. 360 pp. ISBN 0-13-327933-2, US\$28.00. (Includes useful information on how to obtain Internet access, as well as other technical reference material.)

Pike, Mary Ann and Tod G. Pike. *_The Internet Quick Start_*. Indianapolis: Que Corp., 1994. 387 pp. ISBN 1-56529-658-3, US\$21.99. (Contains separate chapters on "Using the Internet via" CompuServe, AOL, DELPHI, and Unix systems.)

Quarterman, John S. *_The Matrix: Computer Networks and Conferencing Systems Worldwide_*. Bedford, MA: Digital Press, 1990. 719 pp. ISBN 1-55558-033-5, US\$49.95. (A comprehensive guide to the history and present--as of 1990--state of the Internet and its component and related networks. Recommended for those who want to learn the background and history of the Internet.)

Rittner, Don. *_Whole Earth Online Almanac_*. New York: Brady Publishing, 1993. 545

pp. ISBN 1-56686-090-3, US\$32.95. (Another directory of online resources, this one attempts to cover not only Internet, but also Fidonet and commercial services like America Online and CompuServe, and even local BBSes.)

Robinson, David F.W. *_All About Internet FTP: Learning and Teaching to Transfer Files on the Internet_*. (Internet Workshop Series, Number 2.) Berkeley, CA: Library Solutions Press, 1994. 90 pp. ISBN 1-882208-06-4, US\$30.00 (US\$45.00 with diskette). (The second supplement to *_Crossing the Internet Threshold_*; suitable for use either by trainers or as a self-teaching workbook.)

Sachs, David and Henry Stairs. *_Hands-On Internet: A Beginning Guide for PC Users_*. Englewood Cliffs, NJ: PTR Prentice Hall, 1994. 275 pp. ISBN 0-13-056392-7, US\$27.95. (A detailed workbook for the individual user; like most of the others, assumes the reader will be working on a Unix system.)

Tennant, Roy, John Ober, & Anne G. Lipow. *_Crossing the Internet Threshold: An Instructional Handbook_*. 134 pp. ISBN 1-882208-01-3, US\$45.00. Berkeley, CA: Library Solutions Press, 1993. (Includes helpful fact sheets on various Internet tools from ftp and telnet to archie, gopher, WAIS, and World-Wide Web.)

Tolhurst, William A., Mary Ann Pike, Keith A. Blanco, and John R. Harris. *_Using the Internet: Special Edition_*. Indianapolis, IN: Que Corp., 1994. 1188 pp. ISBN 1-56529-353-6, \$39.95. (At well over 1000 pages, this is the current leader in the sweepstakes for biggest Internet book. However, its coverage is surprisingly spotty; it includes a 110-page chapter on legal considerations, but ignores major tools like World-Wide Web.)

4. For those who know enough about using the Internet to be able to use "ftp," the following sources are very useful (note that they are regularly updated, so the version numbers and file names may change)::

de Presno, Odd. "The Online World." Available by anonymous ftp from oak.oakland.edu, directory /pub/msdos/info, type binary, filename online16.zip. Uncompress with PKZip 2.04g. (An excellent source for coverage of European resources, also excellent for users of commercial services like CompuServe, Genie, and MCI mail.)

December, John. "Information Sources: the Internet and Computer-Mediated Communication." 15 December 1993, release 3.15. Available by anonymous ftp from ftp.rpi.edu, directory /pub/communications, filename internet-cmc.txt. (Gives locations and access instructions for hundreds of Internet training documents, directories, and other materials. Essential for locating the many valuable Internet resources discussed in the other guidebooks.)

Gaffin, Adam and Electronic Frontier Foundation. "Big Dummy's Guide to the Internet." January 1994. Available by anonymous ftp from ftp.eff.org, directory /pub/Net_info/Big_Dummy, filename bigdummy.txt.

Martin, Jerry. "There's Gold in them thar Networks! or Searching for Treasure in all the Wrong Places." RFC 1402, January 1993. Available by anonymous ftp from nic.merit.edu, directory /introducing.the.internet, filename network.gold.

Milles, James. "Discussion Lists: Mail Server Commands." Available by anonymous ftp from sluaxa.slu.edu, directory /pub/millesjg, filename mailser.cmd. (Explanation of the most commonly used commands for five of the most popular discussion list management programs.)

Milles, James. "An Introduction to Using the Internet at Saint Louis University School of Law." Available by anonymous ftp from sluaxa.slu.edu, directory /pub/millesjg, filename

interlaw.wp (binary, WordPerfect 5.1/5.2 format), interlaw.txt (ASCII), or interlaw.ps (PostScript). (Although the focus is on legal resources, this guide should be useful for any VAX/VMS user. It is also the only source I know of that discusses the differing commands for the BITNET and Unix listserver systems.)

NCSA Education Group. "An Incomplete Guide to the Internet." July 1993. Available by anonymous ftp from ftp.ncsa.uiuc.edu, directory /Education/Education_Resources/Incomplete_Guide/ Incomp.Guide.Old, filename Incomp.Guide.July.txt. (Focuses on K-12 users and resources.)

Noonan, Dana. "A Guide to Internet/Bitnet." June 1993. Available by anonymous ftp from vm1.nodak.edu, directory /nnews, filename guidev2.nnews. (A rare and valuable guide for the VAX/VMS user.)

"NYSERNet New User's Guide to Useful and Unique Resources on the Internet." Version 2.2, April 1992. Available by anonymous ftp from nysernet.org, directory /pub/guides, filename new.user.guide.V2.2.txt

Parker, Elliott S. "Getting to Start: Selected Readings in Computer Communication." Ver. 4.01 (13 Dec 1993). Available by sending an e-mail message to LISTSERV@CMUVM.CSV.CMICH.EDU containing only the line GET NETSTART INFO F=MAIL. (A lengthy bibliography of books, articles, and other materials about the Internet and related topics.)

Polly, Jean Armour. "Surfing the INTERNET: An Introduction." Version 2.0.3, May 15, 1993. Available by anonymous ftp from nysernet.org, directory /pub/guides, file surfing.2.0.3.txt.

"SURAnet Guide to Selected Internet Resources." December 1993. Available by anonymous ftp from ftp.sura.net, directory /pub/nic, file infoguide.12-93.txt.

Yanoff, Scott. "Special Internet Connections" (updated frequently). A list of interesting and useful selection showing the broad range of Internet resources, including a few Online Public Access Catalogs, chat lines, weather servers, Campus Wide Information Systems, and other reference resources. Available by anonymous ftp from csd4.csd.uwm.edu, directory /pub, filename inet.services.txt.

5. For information on how to get connected to the Internet:

Engle, Mary, Marilyn Lutz, William W. Jones, Jr., and Genevieve Engel. *_Internet Connections: A Librarian's Guide to Dial-Up Access and Use_*. Lita Monographs 3. Chicago: Library and Information Technology Association, 1993. 166 pp. ISBN 0-8389-7677-8, US\$22.00.

Estrada, Susan. *_Connecting to the Internet: An O'Reilly Buyer's Guide_*. Sebastapol, CA: O'Reilly & Associates, 1993. 170 pp. ISBN 1-56592-061-9, US\$15.95.

Notess, Greg R. *_Internet Access Providers: An International Resource Directory_*. Westport, CT: Meckler, 1993. ISBN 0-88736-933-2, US\$22.95.

If you have e-mail access to the Internet, you can obtain a copy of the Public Dialup Internet Access List (the most comprehensive list of Internet access providers for individuals and small organizations) by sending an e-mail message containing the command "Send PDIAL" to info-deli-server@netcom.com.

6. The latest version of this document, "Where to Start" for New Internet Users:

Available by anonymous ftp from sluxa.slu.edu, directory /pub/millesjg, filename newusers.faq, or from ubvm.cc.buffalo.edu, directory /NETTRAIN, filename NEWUSERS.FAQ.

It may also be obtained by e-mail by sending a message to LISTSERV@UBVM.cc.buffalo.edu containing only the line:
GET NEWUSERS FAQ NETTRAIN F=MAIL

"Where to Start" for New Internet Users is also available on the World-Wide Web (<http://lawlib.slu.edu/newusers.htm>).

A collection of reviews of Internet books can be obtained by anonymous ftp from ubvm.cc.buffalo.edu, cd /nettrain. The filenames are nettrain.revs_1, nettrain.revs_2, and nettrain.revs_3. They may also be obtained by sending a message to LISTSERV@UBVM.cc.buffalo.edu containing only the lines:

GET NETTRAIN REVS_1 NETTRAIN F=MAIL
GET NETTRAIN REVS_2 NETTRAIN F=MAIL
GET NETTRAIN REVS_3 NETTRAIN F=MAIL

Jim Milles (listowner, NETTRAIN@UBVM) Phone: (314) 658-2759
Head of Computer Services Fax: (314) 658-3966
Saint Louis University Law Library
3700 Lindell Blvd. St. Louis, MO 63108
E-mail: millesjg@sluvca.slu.edu

APPENDIX B: LIBRARY ORIENTED DISCUSSION LISTS

The Kovacs Directory of Scholarly E-Conferences

Selected Excerpts: Library Oriented Discussion Lists. For Complete Listings, see "How to Retrieve the Directory" below.

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The Association of Research Libraries has sole permission to produce and sell a print version of the Directory of Scholarly E-conferences. Contact Ann Okerson - ann@cni.org for more information.

8th Revision Directory of Scholarly Electronic Conferences
March 1994

Contents:

- 1. The Directory Team**
- 2. Scope of the Directory**
- 3. How to Retrieve the Directory of Scholarly Electronic Conferences.**
- 4. Subscription Instructions**
- 5. Definitions**
- 6. Archives**

1. The Directory Team:

Diane Kovacs - Editor-in-Chief

(Bitnet)dkovacs@kentvm (Internet)dkovacs@kentvm.kent.edu)

Comparative & Interdisciplinary Humanistic Studies

Languages

Linguistics and Text Analysis

Literature

Writing

Education: Computer Assisted Instruction/Educational Technology

Education: Educational Research (general), Grants and Funding

Education: Higher, Adult and Continuing Education

Education: Primary, Secondary (K-12), Vocational and Technical

Education: Miscellaneous Education, Alumni and Student

Groups

Gladys Bell

(Bitnet) gbell@kentvm (Internet) gbell@kentvm.kent.edu

Anthropology and Archaeology
Geography and Misc.Regional and Individual Country Studies
History
Latin American Studies
Social Work
Social Activism
Sociology and Demography

Michael Kovacs (Internet) mkovacs@mcs.kent.edu

Computer Science; Social, Cultural and Political aspects of
Computers and Academic Computer Support FILE

Paul Fehrmann (Bitnet) pfehrman@kentvm (Internet)

pfehrman@kentvm.kent.edu

Communication Studies
Journalism
Philosophy and Ethics
Psychology
Religious Studies

Leslie Haas (Bitnet)lhaas@kentvm

(Internet)lhaas@kentvm.kent.edu

Criminal Justice
Law
Political Science and Politics
Business
News
Weather and Meteorology
Animal Sciences (Zoology)
Environmental Sciences
(ADA) Americans with Disabilities Act Interest Section

Jeanne Langendorfer (Bitnet)jlangend@kentvm

(Internet)jlangend@kentvm.kent.edu

Biological Sciences FILE 5
(except Animal Sciences and Environmental Sciences)
Womens Studies/Gender Studies
Physical Education, Recreation and Dance

Jolene Miller/Amey Park (Bitnet)apark@kentvm

(Internet)jmiller@kentvm.kent.edu / apark@kentvm.kent.edu

Physical Sciences FILE 6 (except Weather and Meteorology)

Kara Robinson (Bitnet)krobinso@kentvm

(Internet)krobinso@kentvm.kent.edu

Art
Dance
Library and Information Science
Popular Culture
Publishing and Related Issues
Music
Theater, Film and Television

2. Scope of the Directory

This directory contains descriptions of electronic conferences (e-conferences) on topics of interest to scholars. The 8th revision includes relevant new e-conferences created as of January 1, 1994. E-conference is the umbrella term that includes discussion lists, Internet interest groups, e-journals, e-newsletters, Usenet newsgroups, forums, etc. We have used our own judgment in deciding what is of scholarly interest, and accept any advice or argument about our decisions. We have placed the entries into categories by deciding the *dominant* academic subject area of the electronic conference. Usenet Newsgroups have been directly reviewed for inclusion in this version. The Internet and Bitnet addresses are marked with an (I) or a (B) respectively. Earn and Usenet sites are marked with an (E) or a (U) respectively.

Many LISTSERV e-conferences have peer sites, in order to save space we have only listed the main LISTSERV node for these.

Where possible, the information in each record has been checked for currency and accuracy by contacting the moderators or other contact person.

We chose the term *moderator* as the umbrella term to describe: contact person, coordinator, listowner, editor, moderator, etc.; whoever is in charge.

The field labels are as follows:

LN: (e-conference name)
TI: (topic information)
SU: (subscription information)
ED: (edited? Yes or No - Private lists were called edited)
AR: (archived? if Yes, frequency, Private=subscribers only)
MO: (moderator, editor, listowner, manager, coordinator, etc.)
SA: (submission address(es))
KE: (keywords)

Topic descriptions are taken in whole or part from the descriptions provided by each moderator. Thank you to Marty Hoag, Listowner of New-List for providing the archives of New-List as a clearing house for list information. Special thank you to David Hartland, NISP/Mailbase Project, Computing Service, The University, Newcastle upon Tyne for information on 235 of the United Kingdom MAILBASE e-conferences. Thank you also to Teri Harrison for updating and providing information on the COMSERVE conferences, Pedro Saizar for providing information on Latin American Studies electronic conferences, Joseph Van Zwaren for Israeli electronic conference information, and Joan Korenman for information on Women's Studies conferences, Jean Schneider for confirming european e-conferences and Hunter Monroe for checking on the unannounced and relocated e-conferences. Thank you very sincerely to all the individuals who contributed conference names,

information and feedback about conference statuses. Any errors are the responsibility of the compilers of each section. If you can provide corrections or additional information about any of these electronic conferences, please contact the Directory Team member responsible for that area or:

Diane Kovacs - Editor-in-Chief

(Bitnet) DKOVACS@KENTVM

(Internet) DKOVACS@KENTVM.KENT.EDU

3. How to retrieve the Directory of Scholarly E-Conferences

ACADLIST README (explanatory notes for the Directory)

ACADLIST INDEX (Listname and Keyword Index of the Directory) 96 k

ACADSTAC HQX (binhexed, self-decompressing, HYPERCARD version of the Directory - Keyword searchable) 587 k (1 meg. decompressed.)

ACADSMAL HQX (discontinued but the regular stack should work on small screen Macs now.)

ACADLIST FILE1 (Education and Library and Information Science) 120 k

ACADLIST FILE2 (Art and Architecture through Linguistics and Text Analysis) 79 k

ACADLIST FILE3 (Literature through Writing) 98 k

ACADLIST FILE4 (Social Sciences) 141 k

ACADLIST FILE5 (Biological Sciences) 63 k

ACADLIST FILE6 (Physical Sciences) 77 k

ACADLIST FILE7 (Business, Economics, Publishing and News) 38 k

ACADLIST FILE8 (Computer Science) 77 k

ACADLIST FILE9 (Social, Cultural, and Political Aspects of Computing; and Academic Computing Support) 96 k

PRINT version is available from the Association for Research Libraries. The print version is combined with the Directory of Electronic Journals and is called *The Directory of Electronic Journals Newsletters and Academic Discussion Lists*. Contact Ann Okerson - ann@cni.org for more information.

How to retrieve files from the `LISTSERV@KENTVM` or

`LISTSERV@KENTVM.KENT.EDU`

1. Send an e-mail message addressed to `LISTSERV@KENTVM` or `LISTSERV@KENTVM.KENT.EDU`.

2. Leave the subject and other info lines blank.

3. The message must read:

GET Filename Filetype f=mail

(e.g., `ACADLIST FILE1` or `ACADSTAC HQX` or whatever)

4. If you need assistance receiving, etc. contact your local Computer Services people

How to retrieve files via anonymous FTP to `KSUVXA.KENT.EDU`

1. type: `ftp KSUVXA.KENT.EDU`

at your dollar sign prompt (VAX) your shell prompt (Unix) or ready screen (IBM VM). If you are on another kind of system

consult with your computer services people to find out the proper procedure.

2. when prompted for 'USERID,' type anonymous

3. Your password will be your actual userid on your local machine.

4. Type: cd library

5. Type: get Filename.Filetype

(e.g., ACADLIST.FILE1 or ACADSTAC.HQX or whatever)

6. The files will be transferred directly into the directory you ftp'ed from.

GOPHER gopher.usask.ca and gopher.cni.org (there are several other sites as well)

4. General Subscription Instructions:

To subscribe to a LISTSERV (both Unix Internet and IBM/VM LISTSERV software is in use. Both Internet and Bitnet addresses are provided where possible), COMSERVE, LISTPROC, MAILBASE, MAILSERV, MAJORDOMO, NEWSERV or SARASERV discussion list send an e-mail message addressed to the Bitnet or Internet address provided in the SU: field. Leave the subject line blank. The text of the message *must* read:

SUBSCRIBE LISTNAME Yourfirstname Yourlastname Your Institution

(LISTNAME means the name of the list..e.g. if the LN: field says LIBREF-L@KENTVM.KENT.EDU..the LISTNAME is LIBREF-L)

Bitnet users should use the Bitnet address. Internet users should use the Internet server address. Do not include any other text and *leave the subject line blank* as this is being read by a computer and not a person....the machine just won't understand and will bounce back your command if it is not worded as specified above.

To subscribe to Internet Interest Groups, you send an e-mail message to list-REQUEST@host (e.g., SOC-CULTURE-GREEK-REQUEST@CS.WISC.EDU). The -REQUEST address gets you to the Coordinator, rather than to the membership of the entire e-conference. Please look carefully at the entry for each list you are interested in, to see if a -REQUEST address has been provided. Include your name, address, and institutional affiliation in your message

Usenet Newsgroups are generally accessed by typing "RN" or "NN" at the shell prompt, ready screen or \$ prompt on your e-mail account. Check with your Computer Services People to find out what the local availability and procedures are for access to Usenet Newsgroups.

Subscription directions for other types of discussions are included with individual entries.

5. Definitions

BITNET--Because Its Time Network...BITNET was established as an academic network for scholars from different universities all over the world to communicate with each other. BITNET uses RSCS protocol. This means that messages/commands are "leap-frogged" from one BITNET connected Computer to another (e.g., Kent State University to Ohio State University to University of Houston).

EARN-- is the European Academic Research Network and works similarly to (and is directly connected to) the Bitnet.

FTP-- File Transfer Protocol, allows moving files from one computer to another using the

Internet protocols.

Internet-- The international network of networks based on the TCP/IP protocol. That is, to be connected to the Internet, a computer must be running the TCP/IP software, have a registered domain, and a telecommunications connection to other computers running TCP/IP (e.g., connected through OARNET).

Usenet-- A worldwide Unix-based network that supports the distribution of messages; e.g., USENET NEWS

*If you find other terms that you would like to understand please contact us and we'll be glad to help.

6. Archives

Archives are available for many discussions. On `LISTSERV`, `COMSERVE`, `MAILSERV` and `MAILBASE` to receive a list of files available from a server send the command:

```
INDEX LISTNAME to SERVER@NODEID
```

You can then send the message: `GET Filename Filetype` to the `SERVER@NODEID`. (`SERVER` means `LISTSERV` or `COMSERVE` or `MAILBASE` or `MAILSERV` or whatever, `NODEID` means the site of the server which runs the e-conference)

It is also possible to search Bitnet `LISTSERV` and `COMSERVE` discussion archives for items of particular interest to you. For details on archives searching:

For `LISTSERV` send e-mail with the message

```
INFO DATABASE
```

to a `LISTSERV` of your choice. (e.g. `LISTSERV@PSUVM.PSU.EDU`)

For `COMSERVE` send e-mail with the message `HELPPFILE`

```
to COMSERVE@VM.ITS.RPI.EDU
```

Some discussions maintain archives available via anonymous FTP. This is noted where available. In the next revision sites where archives are maintained on other types of Internet server, e.g. `GOPHER`, `WWW`.

Copyright 1994 by Diane K. Kovacs, The Directory Team and Kent State University

=Education and Library and Information Science File 1=

Education sections compiled by Diane K. Kovacs -

DKOVACS@kentvm.kent.edu

Library and Information Science section compiled by Kara Robinson -

KROBINSO@kentvm.kent.edu

=====

=Library and Information Science=

compiled by Kara Robinson - KROBINSO@kentvm.kent.edu

=====

LN: ACQNET

TI: The Acquisitions Librarian's Electronic Network.

SU: (I) LISTSERV@CORNELL.EDU

ED: Yes

AR: Yes, anonymous ftp to LIBRARY.CORNELL.EDU in the directory
/pub/acqnet and related sub-directories

MO: Christian Boissonnas (B) CRI@CORNELLC

SA: (B) ACQNET@CORNELLC

KE: Acquisitions (Library science) - Serials - Library Collections

LN: ACRLNY-L

TI: Bulletin Board designed to facilitate rapid communication about
library jobs and events.

SU: (B) MAILSERV@NYUACF (I) MAILSERV@ACFCLUSTER.NYU.EDU

ED: Yes

AR: Yes, anonymous ftp to ACFCLUSTER.NYU.EDU

MO: Sue Schub (B) SCHUB@NYUACF (I) SCHUB@ACFCLUSTER.NYU.EDU

SA: (B) ACRLNY-L@NYUACF (I) ACRLNY-L@ACFCLUSTER.NYU.EDU

KE: Library Events - Employment

LN: ADVANC-L

TI: Geac Advance Library System. ADVANC-L is a discussion forum for
issues related to the GEAC Advance Library System and its users.

SU: (B) LISTSERV@IDBSU (I) LISTSERV@IDBSU.IDBSU.EDU (U)
bit.listserv.advance-l

ED: No

AR: Yes, Monthly

MO: Daniel Lester (B) ALILESTE@IDBSU (I) ALILESTE@IDBSU.IDBSU.EDU

SA: (B) ADVANC-L@IDBSU (I) ADVANC-L@IDBSU.IDBSU.EDU

KE: GEAC Advance - OPACs - Library Automated Systems

LN: ALCTS

TI: Association for Library Collections and Technical Services.

SU: (B) LISTSERV@UICVM (I) LISTSERV@UICVM.UIC.EDU

ED: Yes

AR: No

MO: (B) U34261@UICVM - (B) U19466@UICVM - (B) U31452@UICVM

SA: (B) ALCTS@UICVM (I) ALCTS@UICVM.UIC.EDU

KE: Technical Services (Library science) - Acquisitions (Library
science) - Library Collections

LN: ALF-L

TI: Academic Librarians Forum. ALF-L is concerned with exploring the
working conditions of academic librarians.

SU: (B) LISTSERV@YORKVM1 (I) LISTSERV@VM1.YORKU.CA

ED: No
AR: Yes, Weekly, Private
MO: Tiit Kodar (B) TKODAR@YORKVM2 (I) TKODAR@VM2.YORKU.CA
SA: (B) ALF-L@YORKVM1 (I) ALF-L@VM1.YORKU.CA
KE: Academic Librarians - Universities - Work Environment

LN: ARCHIVES

TI: Archives - Archival Theory and Practice Archives. For all persons involved and/or interested in archival theory and practice.
SU: (B) LISTSERV@MIAMIU (I) LISTSERV@MIAMIU.MUOHIO.EDU
ED: No
AR: Yes, Monthly
MO: John B. Harlan (B)JBHCOORD@MIAVX1 (I) JBHCOORD@MIAVX1.MUOHIO.EDU
SA: (B) ARCHIVES@MIAMIU (I) ARCHIVES@MIAMIU.MUOHIO.EDU
KE: Archives - Archival Theory - Archivists

LN: ARLIS-L

TI: Art Libraries Society E-conference.
SU: (B) LISTSERV@UKCC (I) LISTSERV@UKCC.UKY.EDU
ED: Yes
AR: Yes, Monthly, Private
MO: Mary Molinaro (B) MOLINARO@UKCC - Jack Stewart (I) MSTEW00@UKCC.UKY.EDU
SA: (B) ARLIS-L@UKCC (I) ARLIS-L@UKCC.UKY.EDU
KE: Art Librarians - Humanities Librarians - ARLIS

LN: ASIS-L

TI: American Society for Information Science E-conference.
SU: (B) LISTSERV@UVMVM (I) LISTSERV@UVMVM.UVM.EDU
ED: No
AR: Yes, Monthly, Private
MO: Merri Beth Lavagnino (B) MLAVAGNI@UVMVM - Debbie Lords (I) DLORDS@ALEXANDRIA.LIB.UTAH.EDU
SA: (B) ASIS-L@UVMVM (I) ASIS-L@UVMVM.UVM.EDU
KE: Information Science - ASIS (American Society for Information Science) - Computer Networks

LN: AUTOCAT

TI: Library Cataloging and Authorities E-conference.
SU: (B) LISTSERV@UBVM (I) LISTSERV@UBVM.CC.BUFFALO.EDU (U) bit.listserv.autocat
ED: No
AR: Yes, Weekly,
MO: Judith Hopkins (B) ULCJH@UBVM (I) ULCJH@UBVM.CC.BUFFALO.EDU
SA: (B) AUTOCAT@UBVM (I) AUTOCAT@UBVM.CC.BUFFALO.EDU
KE: Cataloging (Library science) - Authority Control (Library science) - Technical Services (Library science)

LN: BI-L

TI: BI-L is an e-conference dedicated to discussing ways of assisting library users in efficiently exploiting the resources available in and through the library of the 1990s.
SU: (B) LISTSERV@BINGVMB (I) LISTSERV@BINGVMB.CC.BINGHAMTON.EDU
ED: Yes
AR: Yes, Monthly
MO: Martin Raish (B) MRAISH@BINGVMB

SA: (B) BI-L@BINGVMB (I) BI-L@BINGVMB.CC.BINGHAMTON.EDU
KE: Bibliographic Instruction - Library Use Education

LN: BUSLIB-L

TI: Discussion forum for issues related to business libraries.

SU: (B) LISTSERV@IDBSU (I) LISTSERV@IDBSU.IDBSU.EDU (U)
bit.listserv.buslib-l

ED: No

AR: Yes, Monthly

MO: Barbara Butler (I) BUTLER@EQUINOX.UNR.EDU

SA: (B) BUSLIB-L@IDBSU (I) BUSLIB-L@IDBSU.IDBSU.EDU

KE: Business Librarians - Social Sciences Librarians

LN: CALL-L

TI: Canadian Academic Law Libraries E-conference.

SU: (B) LISTSERV@UNBVM1 (I) LISTSERV@UNB.CA

ED: No

AR: Yes, Monthly

MO: John Sadler (I) JSADLER@UNB.CA

SA: (B) CALL-L@UNBVM1 (I) CALL-L@UNB.CA

KE: Canadian Law Libraries

LN: CHMINF-L

TI: Chemical Information Sources E-conference.

SU: (B) LISTSERV@IUBVM (I) LISTSERV@IUBVM.UCS.INDIANA.EDU

ED: No

AR: Yes, Monthly

MO: Gary Wiggins (B) GWIGGINS@IUBVM

SA: (B) CHMINF-L@IUBVM (I) CHMINF-L@IUBVM.UCS.INDIANA.EDU

KE: Chemistry Information Resources - Science Information Resources

LN: CIRCPLUS

TI: Circplus is a discussion forum for issues relating to circulation, reserves, stack maintenance and similar issues in libraries.

SU: (B) LISTSERV@IDBSU (I) LISTSERV@IDBSU.IDBSU.EDU (U)
bit.listserv.circplus

ED: No

AR: Yes, Weekly

MO: Daniel Lester (B) ALILESTE@IDBSU (I) ALILESTE@IDBSU.IDBSU.EDU

SA: (B) CIRCPLUS@IDBSU (I) CIRCPLUS@IDBSU.IDBSU.EDU

KE: Circulation (Library science) - Library Reserves - Library Stacks - Public Services (Library science)

LN: COLLDV-L

TI: COLLDV-L is a moderated discussion e-conference directed primarily to library collection development officers, bibliographers, and selectors plus others involved with library collection development, including interested publishers and vendors.

SU: (B) LISTSERV@USCVM (I) LISTSERV@VM.USC.EDU

ED: Yes

AR: Yes, Monthly

MO: Lynn Sipe (B) LSIPE@USCVM (I) LSIPE@VM.USC.EDU

SA: (B) COLLDV-L@USCVM (I) COLLDV-L@VM.USC.EDU

KE: Library Collections - Acquisitions (Library science) - Technical Services (Library science)

LN: COLLIB-L

TI: ACRL College Library Communications. Its primary role is to serve as a vehicle for communication among members of the ACRL's College Libraries Section. It is also intended to serve as a forum for the discussion of issues relevant to college librarians and staff who serve primarily 4-year undergraduate institutions.

SU: (I) LISTSERV@WILLAMETTE.EDU

ED: No

AR: Yes, Monthly

MO: Larry R. Oberg (I) LOBERG@WILLAMETTE.EDU

SA: (I) COLLIB-L@WILLAMETTE.EDU

KE: ACRL College Libraries Section - Academic Librarians

LN: COMENIUS

TI: Comenius is an open discussion and forum for news on the development of library and information services through computing technology and networking. (English Language)

SU: (E) LISTSERV@CSEARN (I) LISTSERV@EARN.CVUT.CZ

ED: No

AR: Yes, Monthly

MO: Alexandra Cernochova (E) ALEXAPRG@CSEARN

SA: (E) COMENIUS@CSEARN (I) COMENIUS@EARN.CVUT.CZ

KE: Computer Networks - Computers and Libraries

LN: CONSERVATION DISTLIST

TI: Preservation of Library Materials E-conference. (Digest Format)

SU: (I) CONSDIST-REQUEST@LINDY.STANFORD.EDU

ED: Yes

AR: No

MO: Walter Henry (B) XB.K98@STANFORD (I) CONSDIST-REQUEST@LINDY.STANFORD.EDU

SA: (I) CONSDIST@LINDY.STANFORD.EDU

KE: Conservation - Preservation - Library Collections

LN: COOPCAT

TI: COOPCAT has been established to serve as a clearinghouse of information to aid in the formation of cooperative cataloging arrangements between libraries.

SU: (B) LISTSERV@NERVM (I) LISTSERV@NERVM.NERDC.UFL.EDU

ED: No

AR: Yes, Monthly

MO: Willy Cromwell (B) CN.WIC@STANFORD - Carol Walton (B)

CARWALT@NERVM

SA: (B) COOPCAT@NERVM (I) COOPCAT@NERVM.NERDC.UFL.EDU

KE: Cooperative Cataloging (Library science) - Cataloging (Library science) - Technical Services (Library science)

LN: ELDNET-L

TI: (ASEE) Engineering Libraries Division Network covers issues of interest to engineering and related subject area libraries and librarians. Sponsored by the Engineering Libraries Division of the American Society of Engineering Education.

SU: (B) LISTSERV@UIUCVMD (I) LISTSERV@VMD.CSO.UIUC.EDU

ED: Yes

AR: Yes, Monthly

MO: Mel DeSart (B) DESART@UIUCVMD (I) DESART@VMD.CSO.UIUC.EDU
SA: (B) ELDNET-L@UIUCVMD (I) ELDNET-L@VMD.CSO.UIUC.EDU
KE: Engineering Librarians - ASEE (Engineering Libraries Division of
the American Society of Engineering Education)

LN: EXLIBRIS

TI: Rare Books and Special Collections E-conference.

SU: (B) LISTSERV@RUTVM1 (I) LISTSERV@RUTVM1.RUTGERS.EDU

ED: No

AR: Yes, Monthly

MO: Peter Graham (B) GRAHAM@ZODIAC (I) PSGRAHAM@GANDALF.RUGERS.EDU

SA: (B) EXLIBRIS@RUTVM1(I) EXLIBRIS@RUTVM1.RUTGERS.EDU

KE: Rare Books - Manuscripts (Library science) - Special Collections
(Library science)

LN: GAY-LIBN

TI: Gay/Lesbian/Bisexual Librarians Network. Discussions will often
be directly related to libraries or library associations.

SU: (B) LISTSERV@USCVM (I) LISTSERV@VM.USC.EDU

ED: Yes

AR: Yes, Weekly, Private

MO: Ivan E. Calimano (I) CALIMANO@VM.USC.EDU - Kevin R. Trimmer (I)
TRIMMER@VM.USC.EDU

SA: (B) GAY-LIBN@USCVM (I) GAY-LIBN@VM.USC.EDU

KE: Gay Librarians - Lesbian Librarians - Bisexual Librarians -
MOTSS

LN: GEONET-L

TI: Geoscience Librarians and Information Specialists E-conference.

SU: (B) LISTSERV@IUBVM (I) LISTSERV@IUBVM.UCS.INDIANA.EDU

ED: Yes

AR: Yes, Yearly, Private

MO: Lois Heiser (B) HEISER@IUBACS (I) HEISER@UCS.INDIANA.EDU

SA: (B) GEONET-L@IUBVM (I) GEONET-L@IUBVM.UCS.INDIANA.EDU

KE: Geosciences Librarians - Earth Sciences

LN: GOVDOC-L

TI: Discussion of Government Documents Issues.

SU: (B) LISTSERV@PSUVM (I) LISTSERV@PSUVM.PSU.EDU (U)

bit.listserv.govdoc-l

ED: Yes

AR: Yes, Weekly

MO: Raeann Dossett (B) RAED@UIUCVMD (I) RAED@VMD.CSO.UIUC.EDU -

Diane Kovacs (B) DKOVACS@KENTVM (I) DKOVACS@KENTVM.KENT.EDU

SA: (B) GOVDOC-L@PSUVM (I) GOVDOC-L@PSUVM.PSU.EDU

KE: Government Documents - GPO (Government Printing Office) - Public
Services (Library science)

LN: ILL-L

TI: Designed to be a discussion of policies, procedures, problems,
etc. for interlibrary loan.

SU: (B) LISTSERV@UVMVM (I) LISTSERV@UVMVM.UVM.EDU

ED: No

AR: Yes, Weekly

MO: Patricia Mardeusz (B) PMARDEUS@UVMVM

SA: (B) ILL-L@UVMVM (I) ILL-L@UVMVM.UVM.EDU

KE: Interlibrary Loan - Library Resource Sharing - Public Services
(Library science)

LN: LAW-LIB
TI: Law Librarians.
SU: (I) LAW-REQ@UCDAVIS.EDU
ED: No
AR: No
MO: Judy Janes (I) JCJANES@UCDAVIS.EDU
SA: (I) LAW-LIB@UCDAVIS.EDU
KE: Law Librarians

LN: LAWLIBREF-L
TI: Law Library Reference Queries List. LAWLIBREF-L is intended to relieve the LAWLIB List of reference type queries. The aim is to establish a discussion list for reference librarians working in law libraries. Content will include reference queries (U.S. Federal and State Law emphasis) and reference issues (policy, collection development, resource sharing, etc.).
SU: (I) LISTSERV@ACC.WUACC.EDU
ED:
AR:
MO: Mark Folmsbee (I) ZZFOLM@ACC.WUACC.EDU - Lissa Holzhausen (I) ZZHOLZ@ACC.WUACC.EDU
SA: (I) LAWLIBREF-L@ACC.WUACC.EDU
KE: Law - Librarianship - Reference - Reference Questions

LN: LIBADMIN
TI: Library Administration and Management.
SU: (B) LISTSERV@UMAB (I) LISTSERV@UMAB.UMD.EDU
ED: No
AR: No
MO: Pamela Bluh (B) PBLUH@UMAB - John Culshaw (I) CULSHAW_J@CUBLDR.COLORADO.EDU
SA: (B) LIBADMIN@UMAB (I) LIBADMIN@UMAB.UMD.EDU
KE: Library Administration - Library Management - Library Planning

LN: LIBREF-L
TI: LIBREF-L was created in response to a perceived desire for a quick and interactive communications medium for reference librarians. This is a discussion of the changing environment of library reference services and activities.
SU: (B) LISTSERV@KENTVM (I) LISTSERV@KENTVM.KENT.EDU (U) bit.listserv.libref-l
ED: Yes
AR: Yes, Weekly
MO: LIBREF-L Moderators (B) LIBREFED@KENTVM (I) LIBREFED@KENTVM.KENT.EDU - Kara L. Robinson (B) KROBINSO@KENTVM (I) KROBINSO@KENTVM.KENT.EDU
SA: (B) LIBREF-L@KENTVM (I) LIBREF-L@KENTVM.KENT.EDU
KE: Reference Services (Library science) - Public Services (Library science)

LN: LIBRES
TI: Distribution of the LIBRES: Library and Information Science Research Electronic Journal.

SU: (B) LISTSERV@KENTVM (I) LISTSERV@KENTVM.KENT.EDU (U)
bit.listserv.libres
ED: Yes
AR: Contact the Moderator.
MO: LIBRES Editors (B) EDITORS@KENTVM (I) EDITORS@KENTVM.KENT.EDU -
Diane K. Kovacs (B) DKOVACS@KENTVM (I) DKOVACS@KENTVM.KENT.EDU
SA: Distribution only.
KE: Library and Information Science - Research

LN: LIBSUP-L
TI: Library Support Staff.
SU: (B) LISTSERV@UWAVM (I) LISTSERV@UWAVM.U.WASHINGTON.EDU
ED: No
AR: Yes, Monthly
MO: Mary Kalnin (I) KALNIN@CARSON.U.WASHINGTON.EDU
SA: (B) LIBSUP-L@UWAVM (I) LIBSUP-L@UWAVM.U.WASHINGTON.EDU
KE: Library Support Staff - Library Personnel

LN: LM_NET
TI: School Library Media e-conference that focuses on the topics of
interest to the school library media community, including the latest
on school library media services, operations, and activities. It is
an e-conference of practitioners helping practitioners...linking
schools through their library media centers.
SU: (B) LISTSERV@SUVM (I) LISTSERV@SUVM.ACS.SYR.EDU
ED: Yes
AR: Yes, on ASKEric Gopher
MO: Mike Eisenberg (B) MIKE@SUVM (I) MIKE@ERICIR.SYR.EDU - Peter
Milbury (I) PMILBUR@EIS.CALSTATE.EDU
SA: (B) LM_NET@SUVM (I) LM_NET@SUVM.ACS.SYR.EDU
KE: School Media Centers - Audio-visual Services

LN: MAPS-L
TI: Maps and Air Photo Systems Forum. An international discussion
forum for Map Librarians, other librarians dealing with or
interested in cartographic information and cartomaniacs of all
types.
SU: (B) LISTSERV@UGA (I) LISTSERV@UGA.CC.UGA.EDU
ED: Yes
AR: Yes, Monthly
MO: Jean Snow (B) JEAN@UGA - Johnnie D. Sutherland (B) JSUTHERL@UGA
SA: (B) MAPS-L@UGA (I) LISTSERV@UGA.CC.UGA.EDU
KE: Map Librarians - Cartography Librarians - Geography Librarians

LN: MEDLIB-L
TI: MEDLIB-L is an e-conference for medical and health sciences
libraries. Practical and theoretical issues in public and technical
services are discussed. This forum is for ideas, questions,
announcements, and concerns specific to health sciences libraries.
Sponsored by the Medical Library Association.
SU: (B) LISTSERV@UBVM (I) LISTSERV@UBVM.CC.BUFFALO.EDU (U)
bit.listserv.medlib-l
ED: No
AR: Yes, Monthly
MO: Sharon Murphy (B) HSLSCM@UBVM - Nancy Start (B) HSLSTART@UBVM
(I) HSLSTART@UBVM.CC.BUFFALO.EDU

SA: (B) MEDLIB-L@UBVM (I) MEDLIB-L@UBVM.CC.BUFFALO.EDU
KE: Medical Librarians - Health Sciences Librarians

LN: MLA-L

TI: E-conference for the Music Library Association.

SU: (B) LISTSERV@IUBVM (I) LISTSERV@IUBVM.UCS.INDIANA.EDU (U)
bit.listserv.mla-l

ED: No

AR: Yes, Weekly

MO: Richard Griscom (B) RWGRIS01@ULKYVM (I)

RWGRIS01@ULKYVM.LOUISVILLE.EDU - A. Ralph Papakhian (B)

PAPAKHI@IUBVM

SA: (B) MLA-L@IUBVM (I) MLA-L@IUBVM.UCS.INDIANA.EDU

KE: MLA (Music Library Association) - Music Librarians

LN: NATRESLIB-L

TI: Natural Resources Librarians and Information Specialists
Discussion Group. This new list exists to provide a medium for
interaction between Natural Resource Librarians and Information
Specialists. All issues, questions, brainstorming, or discussions
pertaining to natural resources librarianship are welcome on this
unmoderated list.

SU: Contact the Moderator

ED: No

AR: No

MO: Anne Hedrich (I) ANNHED@CC.USU.EDU

SA: (I) NATRESLIB-L@CC.USU.EDU

KE: Librarianship - Natural Resources - Sciences

LN: OFFCAMP

TI: Off-Campus Library Services E-conference.

SU: (B) LISTSERV@WAYNEST1 (I) LISTSERV@CMS.CC.WAYNE.EDU

ED: No

AR: No

MO: Barton Lessin (B) BLESSIN@WAYNEST1

SA: (B) OFFCAMP@WAYNEST1 (I) OFFCAMP@CMS.CC.WAYNE.EDU

KE: Off-site Library Users - Library Services - Remote Access to
Library Services

LN: PACS-L

TI: Public-Access Computer Systems Forum deals with all computer
systems that libraries make available to their patrons, including
CD-ROM databases, computer-assisted instruction (CAI and ICAI)
programs, expert systems, hypermedia programs, library microcomputer
facilities, and local databases. Sponsored by the University of
Houston, University Libraries and the Information Technology
Division.

SU: (B) LISTSERV@UHUPVM1 (I) LISTSERV@UHUPVM1.UH.EDU (U)
bit.listserv.pacs-l

ED: Yes

AR: Yes, Weekly

MO: (B) LIBPACS@UHUPVM1

SA: (B) PACS-L@UHUPVM1 (I) PACS-L@UHUPVM1.UH.EDU

KE: Public Access to Computers - CD-ROMs - OPACs - Library Services

LN: PNWCSC

Ti: PNWCSC Pacific Northwest Canadian Studies Consortium Librarians.
SU: (B) LISTSERV@UWAVM (I) LISTSERV@UWAVM.U.WASHINGTON.EDU
ED: Yes
AR: Yes, Monthly, Private
MO: (I) LDIBIASE@U.WASHINGTON.EDU
SA: (B) PNWCSC@UWAVM (I) PNWCSC@UWAVM.U.WASHINGTON.EDU
KE: Canadian Studies Librarians - Pacific Northwest Librarians

LN: PUBLIB
Ti: General issues, including net-related topics, in Public Libraries. All postings to PUBLIB-NET (focused discussion of the Internet and Public Libraries) are also posted to PUBLIB.
SU: (I) LISTSERV@NYSERNET.ORG
ED: Yes
AR: Yes, available on the NYSERNET Gopher
MO: John Iliff (I) JILIFF@FIRNVX.FIRN.EDU - Jean Armour Polly (I) JPOLLY@NYSERNET.ORG
SA: (I) PUBLIB@NYSERNET.ORG
KE: Public Libraries - Librarians

LN: PUBLIB-NET
Ti: Focused discussion on the use of the Internet in public libraries. All discussions on PUBLIB-NET will also be posted to PUBLIB.
SU: (I) LISTSERV@NYSERNET.ORG
ED: Yes
AR: Yes, available on the NYSERNET Gopher
MO: John Iliff (I) JILIFF@FIRNVX.FIRN.EDU - Jean Armour Polly (I) JPOLLY@NYSERNET.ORG
SA: (I) PUBLIB-NET@NYSERNET.ORG
KE: Public Libraries - Internet

LN: PUBYAC
Ti: Children's and Young Adult Services in Public Libraries.
SU: (I) LISTSERV@LIS.PITT.EDU
ED: No
AR: Yes
MO: Margaret Mary Kimmel (I) KIMMEL@LIS.PITT.EDU - Shannon L. VanHeemert (I) SENTI@LIS.PITT.EDU
SA: (I) PUBYAC@LIS.PITT.EDU
KE: Public Libraries - Children - Young Adults - Public Service

LN: SERIALST
Ti: SERIALS in Libraries E-conference was established in order to serve as an informal electronic forum for most aspects of serials processing in libraries. Topics may include such things as: cataloging, acquisitions, collection management, serials budgets and pricing issues, binding, preservation, microfilm, union list activities, announcements, news and job postings, etc.
SU: (B) LISTSERV@UVMVM (I) LISTSERV@UVMVM.UVM.EDU
ED: Yes
AR: Yes, Monthly
MO: Birdie MacLennan (B) BMACLENN@UVMVM (I) BMACLENN@UVMVM.UVM.EDU
SA: (B) SERIALST@UVMVM (I) SERIALST@UVMVM.UVM.EDU
KE: Technical Services (Library science) - Serials - Acquisitions (Library science)

LN: SLAJOB

TI: Special Libraries Association Employment Opportunities-
International.

SU: (B) LISTSERV@IUBVM (I) LISTSERV@IUBVM.UCS.INDIANA.EDU

ED: Yes

AR: Yes, Monthly

MO: Spencer Anspach (I) SANSPACH@UCS.INDIANA.EDU - Roger Backman (I)
BECKMANR@UCS.INDIANA.EDU

SA: (B) SLAJOB@IUBVM (I) SLAJOB@IUBVM.UCS.INDIANA.EDU

KE: SLA (Special Libraries Association) - Employment (International)

LN: STUMPERS-L

TI: STUMPERS-L is a networking resource for reference questions that
have people, in essence, stumped!

SU: (I) MAILSERV@CRF.CUIS.EDU

ED: No

AR: No

MO: Joann M. Wleklinski (I) ROSLIBREFRC@CRF.CUIS.EDU

SA: (I) STUMPERS-LIST@CRF.CUIS.EDU

KE: Reference Questions - Knowledge Sharing

LN: TQMLIB

TI: Total Quality Management for Librarians. TQMLIB is open to
anyone interested in TQM applications in the library environment.

SU: (B) LISTSERV@WAYNEST1 (I) LISTSERV@CMS.CC.WAYNE.EDU

ED: No

AR: No

MO: Barton Lessin (B) BLESSIN@WAYNEST1 (I) BLESSIN@CMS.CC.WAYNE.EDU

SA: (B) TQMLIB@WAYNEST1 (I) TQMLIB@CMS.CC.WAYNE.EDU

KE: TQM (Total Quality Management) - Libraries - Library
Administration

APPENDIX C: GLOSSARY OF TERMS

Network Working Group
Request for Comments: 1392
FYI: 18

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January 1993

Internet Users' Glossary

(Selected Entries)

Status of this Memo

This memo provides information for the Internet community. It does not specify an Internet standard. Distribution of this memo is unlimited.

Abstract

There are many networking glossaries in existence. This glossary concentrates on terms which are specific to the Internet. Naturally, there are entries for some basic terms and acronyms because other entries refer to them.

Acknowledgements

This document is the work of the User Glossary Working Group of the User Services Area of the Internet Engineering Task Force (IETF).

GLOSSARY

:-)

This odd symbol is one of the ways a person can portray "mood" in the very flat medium of computers--by using "smiley faces". This is "metacommunication", and there are literally hundreds of such symbols, from the obvious to the obscure. This particular example expresses "happiness". Don't see it? Tilt your head to the left 90 degrees. Smiles are also used to denote sarcasm. [Source: ZEN]

address

There are three types of addresses in common use within the Internet. They are email address; IP, internet or Internet address; and hardware or MAC address. See also: email address, IP address, internet address.

American Standard Code for Information Interchange (ASCII)

A standard character-to-number encoding widely used in the computer industry. See also: EBCDIC.

anonymous FTP

Anonymous FTP allows a user to retrieve documents, files, programs, and other archived data from anywhere in the Internet without having to establish a userid and password. By using the special userid of "anonymous" the network user will bypass local security checks and will have access to publicly accessible files on the remote system. See also: archive site, File Transfer Protocol.

application

A program that performs a function directly for a user. FTP, mail and Telnet clients are examples of network applications.

archie

A system to automatically gather, index and serve information on the Internet. The initial implementation of archie provided an indexed directory of filenames from all anonymous FTP archives on the Internet. Later versions provide other collections of information. See also: archive site, Gopher, Wide Area Information Servers.

archive site

A machine that provides access to a collection of files across the Internet. An "anonymous FTP archive site", for example, provides access to this material via the FTP protocol. See also: anonymous FTP, archie, Gopher, Wide Area Information Servers.

ASCII

See: American Standard Code for Information Interchange

backbone

The top level in a hierarchical network. Stub and transit networks which connect to the same backbone are guaranteed to be interconnected.

bandwidth

Technically, the difference, in Hertz (Hz), between the highest and lowest frequencies of a transmission channel. However, as typically used, the amount of data that can be sent through a given communications circuit.

binary

11001001

Bitnet

An academic computer network that provides interactive electronic mail and file transfer services, using a store-and-forward protocol, based on IBM Network Job Entry protocols. Bitnet-II encapsulates the Bitnet protocol within IP packets and depends on the Internet to route them.

BTW

By The Way

Bulletin Board System (BBS)

A computer, and associated software, which typically provides electronic messaging services, archives of files, and any other services or activities of interest to the bulletin board system's operator. Although BBS's have traditionally been the domain of hobbyists, an increasing number of BBS's are connected directly to the Internet, and many BBS's are currently operated by government, educational, and research institutions. See also: Electronic Mail, Internet. [Source: NWNET]

Campus Wide Information System (CWIS)

A CWIS makes information and services publicly available on campus via kiosks, and makes interactive computing available via kiosks, interactive computing systems and campus networks. Services routinely include directory information, calendars, bulletin boards, databases.

client-server model

A common way to describe the paradigm of many network protocols. Examples include the name-server/name-resolver relationship in DNS and the file-server/file-client relationship in NFS. See also: Domain Name System.

CNI

See: Coalition for Networked Information

Coalition for Networked Information (CNI)

A consortium formed by American Research Libraries, CAUSE, and EDUCOM to promote the creation of, and access to, information resources in networked environments in order to enrich scholarship and enhance intellectual productivity.

Computer Emergency Response Team (CERT)

The CERT was formed by DARPA in November 1988 in response to the needs exhibited during the Internet worm incident. The CERT charter is to work with the Internet community to facilitate its response to computer security events involving Internet hosts, to take proactive steps to raise the community's awareness of computer security issues, and to conduct research targeted at improving the security of existing systems. CERT products and services include 24-hour technical assistance for responding to computer security incidents, product vulnerability assistance, technical documents, and tutorials. In addition, the team maintains a number of mailing lists (including one for CERT Advisories), and provides an anonymous FTP server, at "cert.org", where security-related documents and tools are archived. The CERT may be reached by email at "cert@cert.org" and by telephone at +1-412-268-7090 (24-hour hotline).

Cyberspace

A term coined by William Gibson in his fantasy novel Neuromancer to describe the "world" of computers, and the society that gathers around them. [Source: ZEN]

DDN

See: Defense Data Network

DDN NIC

See: Defense Data Network Network Information Center

Defense Data Network (DDN)

A global communications network serving the US Department of Defense composed of MILNET, other portions of the Internet, and classified networks which are not part of the Internet. The DDN is used to connect military installations and is managed by the Defense Information Systems Agency.

Defense Data Network Network Information Center (DDN NIC)

Often called "The NIC", the DDN NIC's primary responsibility is the assignment of Internet network addresses and Autonomous System numbers, the administration of the root domain, and providing information and support services to the DDN. It is also a primary repository for RFCs.

dialup

A temporary, as opposed to dedicated, connection between machines established over a standard phone line.

Directory Access Protocol

X.500 protocol used for communication between a Directory User Agent and a Directory System Agent. [Source: MALAMUD]

Directory System Agent (DSA)

The software that provides the X.500 Directory Service for a portion of the directory information base. Generally, each DSA is responsible for the directory information for a single organization or organizational unit. [Source: RFC1208]

Directory User Agent (DUA)

The software that accesses the X.500 Directory Service on behalf of the directory user. The directory user may be a person or another software element. [Source: RFC1208]

DNS

See: Domain Name System

domain

"Domain" is a heavily overused term in the Internet. It can be used in the Administrative Domain context, or the Domain Name context. See also: Domain Name System.

Domain Name System (DNS)

The DNS is a general purpose distributed, replicated, data query service. The principal use is the lookup of host IP addresses based on host names. The style of host names now used in the Internet is called "domain name", because they are the style of names used to look up anything in the DNS. Some important domains are: .COM (commercial), .EDU (educational), .NET (network operations), .GOV (U.S. government), and .MIL (U.S. military). Most countries also have a domain. For example, .US (United States), .UK (United Kingdom), .AU (Australia). It is defined in STD 13, RFCs 1034 and 1035. EBCDIC See: Extended Binary Coded Decimal Interchange Code

Electronic Mail (email)

A system whereby a computer user can exchange messages with other computer users (or groups of users) via a communications network. Electronic mail is one of the most popular uses of the Internet. [Source: NNSC]

email

See: Electronic mail

email address

The domain-based or UUCP address that is used to send electronic mail to a specified destination. For example an editor's address is "gmalkin@xylogics.com". [Source: ZEN]

European Academic and Research Network (EARN)

A network connecting European academic and research institutions with electronic mail and file transfer services using the Bitnet protocol. See also: Bitnet

Extended Binary Coded Decimal Interchange Code (EBCDIC)

A standard character-to-number encoding used primarily by IBM computer systems. See also: ASCII.

FAQ

Frequently Asked Question

file transfer

The copying of a file from one computer to another over a computer network. See also: File Transfer Protocol, Kermit.

File Transfer Protocol (FTP)

A protocol which allows a user on one host to access, and transfer files to and from, another host over a network. Also, FTP is usually the name of the program the user invokes to execute the protocol. It is defined in STD 9, RFC 959. See also: anonymous FTP.

finger

A program that displays information about a particular user, or all users, logged on the local system or on a remote system. It typically shows full name, last login time, idle time, terminal line, and terminal location (where applicable). It may also display plan and project files left by the user.

flame

A strong opinion and/or criticism of something, usually as a frank inflammatory statement, in an electronic mail message. It is common to precede a flame with an indication of pending fire (i.e., FLAME ON!). Flame Wars occur when people start flaming other people for flaming when they shouldn't have. See also: Electronic Mail

For Your Information (FYI)

A subseries of RFCs that are not technical standards or descriptions of protocols. FYIs convey general information about topics related to TCP/IP or the Internet. See also: Request For Comments.

freenet

Community-based bulletin board system with email, information services, interactive communications, and conferencing. Freenets are funded and operated by individuals and volunteers -- in one sense, like public television. They are part of the National Public Telecomputing Network (NPTN), an organization based in Cleveland, Ohio, devoted to making computer telecommunication and networking services as freely available as public libraries. [Source: LAQUEY]

FTP

See: File Transfer Protocol

FYI

See: For Your Information

gateway

The term "router" is now used in place of the original definition of "gateway". Currently, a gateway is a communications device/program which passes data between networks having similar functions but dissimilar implementations. This should not be confused with a protocol converter. By this definition, a router is a layer 3 (network layer) gateway, and a mail gateway is a layer 7 (application layer) gateway. See also: mail gateway

Gopher

A distributed information service that makes available hierarchical collections of information across the Internet. Gopher uses a simple protocol that allows a single Gopher client to access information from any accessible Gopher server, providing the user with a single "Gopher space" of information. Public domain versions of the client and server are available. See also:archie, archive site, Wide Area Information Servers.

header

The portion of a packet, preceding the actual data, containing source and destination addresses, and error checking and other fields. A header is also the part of an electronic mail message that precedes the body of a message and contains, among other things, the message originator, date and time. See also: Electronic Mail, packet.

host

A computer that allows users to communicate with other host computers on a network. Individual users communicate by using application programs, such as electronic mail, Telnet and FTP. [Source: NNSC]

host address

See: internet address

hostname

The name given to a machine.

hub

A device connected to several other devices. In ARCnet, a hub is used to connect several computers together. In a message handling service, a hub is used for the transfer of messages across the network. [Source: MALAMUD]

IMHO

In My Humble Opinion

International Organization for Standardization (ISO)

A voluntary, nontreaty organization founded in 1946 which is responsible for creating international standards in many areas, including computers and communications. Its members are the national standards organizations of the 89 member countries, including ANSI for the U.S. See also:Open Systems Interconnection. [Source: TAN]

internet

While an internet is a network, the term "internet" is usually used to refer to a collection of networks interconnected with routers. See also: network.

Internet

(note the capital "I") The Internet is the largest internet in the world. Is a three level hierarchy composed of backbone networks (e.g., NSFNET, MILNET), mid-level networks, and stub networks. The Internet is a multiprotocol internet. See also: backbone, Internet Protocol, National Science Foundation.

internet address

A IP address that uniquely identifies a node on an internet. An Internet address (capital "I"), uniquely identifies a node on the Internet. See also: internet, Internet, IP address.

Internet Protocol (IP)

The Internet Protocol, defined in STD 5, RFC 791, is the network layer for the TCP/IP Protocol Suite. It is a connectionless, best-effort packet switching protocol. See also: Request For Comments TCP/IP Protocol Suite.

Internet Relay Chat (IRC)

A world-wide "party line" protocol that allows one to converse with others in real time. IRC is structured as a network of servers, each of which accepts connections from client programs, one per user. [Source: HACKER]

IP address

The 32-bit address defined by the Internet Protocol in STD 5, RFC 791. It is usually represented in dotted decimal notation. See also: internet address, Internet Protocol, host address.

Kermit

A popular file transfer protocol developed by Columbia University. Because Kermit runs in most operating environments, it provides an easy method of file transfer. Kermit is NOT the same as FTP. See also: File Transfer Protocol [Source: MALAMUD]

Knowbot

An experimental directory service. See also: white pages, WHOIS, X.500.

listserv

An automated mailing list distribution system originally designed for the Bitnet/EARN network. See also: Bitnet, mailing list.

Lurking

No active participation on the part of a subscriber to an mailing list or USENET newsgroup. A person who is lurking is just listening to the discussion. Lurking is encouraged for beginners who need to get up to speed on the history of the group. See also: Electronic Mail, mailing list. [Source: LAQUEY]

mail bridge

A mail gateway that forwards electronic mail between two or more networks while ensuring that the messages it forwards meet certain administrative criteria. A mail bridge is simply a specialized form of mail gateway that enforces an administrative policy with regard to what mail it forwards. See also: Electronic Mail, mail gateway. [Source: NNSC]

mail gateway

A machine that connects two or more electronic mail systems (including dissimilar mail systems) and transfers messages between them. Sometimes the mapping and translation can be quite complex, and it generally requires a store-and-forward scheme whereby the message is received from one system completely before it is transmitted to the next system, after suitable translations. See also: Electronic Mail. [Source: RFC1208]

mail server

A software program that distributes files or information in response to requests sent via email. Internet examples include Almanac and netlib. Mail servers have also been used in Bitnet to provide FTP-like services. See also: Bitnet, Electronic Mail,

FTP. [Source: NWNET]

mailing list

A list of email addresses, used by a mail exploder, to forward messages to groups of people. Generally, a mailing list is used to discuss certain set of topics, and different mailing lists discuss different topics. A mailing list may be moderated. This means that messages sent to the list are actually sent to a moderator who determines whether or not to send the messages on to everyone else. Requests to subscribe to, or leave, a mailing list should ALWAYS be sent to the list's "-request" address (e.g., ietf-request@cnri.reston.va.us for the IETF mailing list). See also: Electronic Mail

moderator

A person, or small group of people, who manage moderated mailing lists and newsgroups. Moderators are responsible for determining which email submissions are passed on to list. See also: Electronic Mail, mailing list.

Multipurpose Internet Mail Extensions (MIME)

An extension to Internet email which provides the ability to transfer non-textual data, such as graphics, audio and fax. It is defined in RFC 1341. See also: Electronic Mail

Multi-User Dungeon (MUD)

Adventure, role playing games, or simulations played on the Internet. Devotees call them "text-based virtual reality adventures". The games can feature fantasy combat, booby traps and magic. Players interact in real time and can change the "world" in the game as they play it. Most MUDs are based on the Telnet protocol. See also: Telnet. [Source: LAQUEY]

National Science Foundation (NSF)

A U.S. government agency whose purpose is to promote the advancement of science. NSF funds science researchers, scientific projects, and infrastructure to improve the quality of scientific research. The NSFNET, funded by NSF, is an essential part of academic and research communications. It is a highspeed "network of networks" which is hierarchical in nature. At the highest level, it is a backbone network currently comprising 16 nodes connected to a 45Mb/s facility which spans the continental United States. Attached to that are mid-level networks and attached to the mid-levels are campus and local networks. NSFNET also has connections out of the U.S. to Canada, Mexico, Europe, and the Pacific Rim. The NSFNET is part of the Internet.

netiquette

A pun on "etiquette" referring to proper behavior on a network.

Netnews

See: Usenet

Network Information Center (NIC)

A NIC provides information, assistance and services to network users.

Network Information Services (NIS)

A set of services, generally provided by a NIC, to assist users in using the network. See also: Network Information Center.

NIC.DDN.MIL

This is the domain name of the DDN NIC. See also: Domain Name System, Network Information Center.

Open Systems Interconnection (OSI)

A suite of protocols, designed by ISO committees, to be the international standard computer network architecture. See also:

packet

The unit of data sent across a network. "Packet" a generic term used to describe unit of data at all levels of the protocol stack, but it is most correctly used to describe application data units.

Point-to-Point Protocol (PPP)

The Point-to-Point Protocol, defined in RFC 1171, provides a method for transmitting packets over serial point-to-point links. See also: Serial Line IP. [Source: FYI4]

Post Office Protocol (POP)

A protocol designed to allow single user hosts to read mail from a server. There are three versions: POP, POP2, and POP3. Latter versions are NOT compatible with earlier versions. See also: Electronic Mail.

postmaster

The person responsible for taking care of electronic mail problems, answering queries about users, and other related work at a site. See also: Electronic Mail. [Source: ZEN]

PPP

See: Point-to-Point Protocol

protocol

A formal description of message formats and the rules two computers must follow to exchange those messages. Protocols can describe low-level details of machine-to-machine interfaces (e.g., the order in which bits and bytes are sent across a wire) or high-level exchanges between allocation programs (e.g., the way in which two programs transfer a file across the Internet). [Source: MALAMUD]

remote login

Operating on a remote computer, using a protocol over a computer network, as though locally attached. See also: Telnet.

Request For Comments (RFC)

The document series, begun in 1969, which describes the Internet suite of protocols and related experiments. Not all (in fact very few) RFCs describe Internet standards, but all Internet standards are written up as RFCs. The RFC series of documents is unusual in that the proposed protocols are forwarded by the Internet research and development community, acting on their own behalf, as opposed to the formally reviewed and standardized protocols that are promoted by organizations such as CCITT and ANSI.

RFC

See: Request For Comments

Serial Line IP (SLIP)

A protocol used to run IP over serial lines, such as telephone circuits or RS-232 cables, interconnecting two systems. SLIP is defined in RFC 1055. See also: Point-to-Point Protocol.

server

A provider of resources (e.g., file servers and name servers). See also: Domain Name System.

Simple Mail Transfer Protocol (SMTP)

A protocol, defined in STD 10, RFC 821, used to transfer electronic mail between computers. It is a server to server protocol, so other protocols are used to access the messages. See also: Electronic Mail, Post Office Protocol.

Simple Network Management Protocol (SNMP)

The Internet standard protocol, defined in STD 15, RFC 1157, developed to manage nodes on an IP network. It is currently possible to manage wiring hubs, toasters, jukeboxes, etc.

SLIP

See: Serial Line IP

T1

An AT&T term for a digital carrier facility used to transmit a DS-1 formatted digital signal at 1.544 megabits per second.

T3

A term for a digital carrier facility used to transmit a DS-3 formatted digital signal at 44.746 megabits per second. [Source: FYI4]

TCP

See: Transmission Control Protocol

TCP/IP Protocol Suite

Transmission Control Protocol over Internet Protocol. This is a common shorthand which refers to the suite of transport and application protocols which runs over IP. See also: IP,FTP,Telnet,SMTP

TELENET

A public packet switched network using the CCITT X.25 protocols. It should not be confused with Telnet.

Telnet

Telnet is the Internet standard protocol for remote terminal connection service. It is defined in STD 8, RFC 854 and extended with options by many other RFCs.

terminal emulator

A program that allows a computer to emulate a terminal. The workstation thus appears as a terminal to the remote host. [Source: MALAMUD]

terminal server

A device which connects many terminals to a LAN through one network connection. A terminal server can also connect many network users to its asynchronous ports for dial-out capabilities and printer access.

TN3270

A variant of the Telnet program that allows one to attach to IBM mainframes and use the mainframe as if you had a 3270 or similar terminal. [Source: BIG-LAN]

Transmission Control Protocol (TCP)

An Internet Standard transport layer protocol defined in STD 7, RFC 793. It is connection-oriented and stream-oriented, as opposed to UDP.

Usenet

A collection of thousands of topically named newsgroups, the computers which run the protocols, and the people who read and submit Usenet news. Not all Internet hosts subscribe to Usenet and not all Usenet hosts are on the Internet. See also: Network News Transfer Protocol, UNIX-to-UNIX CoPy. [Source: NWNET]

white pages

The Internet supports several databases that contain basic information about users, such as email addresses, telephone numbers, and postal addresses. These databases can be searched to get information about particular individuals. Because they serve a function akin to the telephone book, these databases are often referred to as "white pages. See also: WHOIS, X.500.

WHOIS

An Internet program which allows users to query a database of people and other Internet entities, such as domains, networks, and hosts, kept at the DDN NIC. The information for people shows a person's company name, address, phone number and email address. See also: white pages, X.500. [Source: FYI4]

Wide Area Information Servers (WAIS)

A distributed information service which offers simple natural language input, indexed searching for fast retrieval, and a "relevance feedback" mechanism which allows the results of initial searches to influence future searches. Public domain implementations are available. See also:archie, Gopher,

World Wide Web (WWW or W3)

A hypertext-based, distributed information system created by researchers at CERN in Switzerland. Users may create, edit or browse hypertext documents. The clients and servers are freely available.

WWW

See: World Wide Web

X

X is the name for TCP/IP based network-oriented window systems. Network window systems allow a program to use a display on a different computer. The most widely-implemented window system is X11 - a component of MIT's Project Athena.

X.25

A data communications interface specification developed to describe how data passes into and out of public data communications networks. The CCITT and ISO approved protocol suite defines protocol layers 1 through 3.

X.400

The CCITT and ISO standard for electronic mail. It is widely used in Europe and Canada.

X.500

The CCITT and ISO standard for electronic directory services. See also: white pages, WHOIS.

Yellow Pages (YP)

A service used by UNIX administrators to manage databases distributed across a network.