

Unit 2 Internet Tools: E-mail, FTP and Telnet

2.0 Introduction

In the previous unit, you have been exposed to the basic terminology of the Internet. In this unit, we will discuss about one of the most interesting methods of communicating with the entire world. This method is called Electronic mail or e-mail in short. This was the first utility, which was used on network and is very popular. E-mail have brought people close to each other in an off-line fashion, that is, in e-mail the receiver may not be present to receive the mail, but it is delivered in his mailbox.

In this unit, we will also discuss two commonly used tools for retrieving information from a separate location (host). These are FTP & Telnet. FTP is used for transferring information stored at a distant host, whereas, telnet is used to log into your own account on a distant host to check for your messages, retrieve files etc. In the subsequent sections we will be discussing these tools in more details.

2.1 Objectives

After going through this unit, you should be able to

State the features and components of E-Mail

List the advantages of address book and to trouble shoot in E-Mail

Define what is mail reflector, mailing lists and list servers

Discuss two common tools on Internet - FTP and Telnet.

2.2 Electronic Mail: A Message window

Electronic Mail is the service that is available to people on a local area network or on the global Internet. It is one of the most commonly used services on the Internet, as this service is more convenient than normal postal system. It is easier to send e-mail than postal mail, as you do not need to paste a stamp or search for an envelope, just create the message and send it. E-mail does not require the person receiving the mail to be available (logged into the destination computer) at the time of receiving the mail.

It is called *e-mail*, as the basic concept in e-mail are similar to the postal mail services viz.,

- You put on e-mail message into electronic envelope and place an electronic address on it.
- You then hand over the envelope to someone else (the network) for delivery.
- You do not worry, when the e-mail is read.
- You can forward e-mail to a forwarding address. The e-mail system routes it to the forwarding address.

- Your message may come back to you if your mail cannot be delivered. (This is called *bounced* mail as it “bounces” back to you).

Other common points between e-mail and postal mail are:

- The sender should know your e-mail address.
- You can keep in touch with your friends using e-mail.
- Your mailbox may become full of e-mail, you may get mail which might be difficult to read.
- An electronic magazine or a mailing list subscription may provide you with the latest trends in the topics of your interest.
- Commercial companies may send you their advertisement through electronic mail. This is also called “junk” mail.
- Your mail may be delivered to, and read by, someone else.
- Every piece of e-mail you get may not be pleasant and friendly.

Some of the difference between e-mail and postal mail are:

- As e-mail is so easy to handle therefore, it has become an extremely useful tool for reaching to people you do not even intend to see.
- Your e-mail because of problems may go to a computer postmaster or the person responsible to handle bounced e-mail.
- E-mail, since it is very easy to create, may result in sending responses on which one may regret later.

What about Privacy?

Although e-mail can be made public, yet only the sender and the recipient read most e-mail messages. The main reason for this is the traffic of e-mail. There are so many e-mail messages floating around on the net that no one feels interested in reading them, even the mail arriving at the desk of the postmaster, may not be read. The chances of your mail reaching to postmaster is just 0.5%.

Even the bounced messages might be seen by you only, as most of the bounced messages are handled by the computers electronically and does not involve any human intervention.

You can communicate with your friends via e-mail, however, it is probably not a good idea to send some personal information that you do not want to make public.

2.3 E-mail Addressing

If two people have account on the same computer or are connected through the same server, or are on the same company network, then in general, their address might be the first name of the person.

Please note that, all e-mail user or addresses are not the first names or initials. On some systems it may be your account number, or employee number, or some other randomly assigned user identification. However, in general, with smaller systems we tend to use names or initials.

In fact, the service providers like CompuServe, Genie, Netcom, America Online, and many other large service providers use this type of addressing, because although people connected to them do not work together, or live in the same city, yet their mailboxes are all handled by one single e-mail system.

However, the Internet addresses in the cases when sender and receiver are not on the same system need to be more elaborate. This kind of address contains the login name followed by the domain and subdomain names. This is called the *fully qualified* address.

For example, address of School of Computer and Information Sciences is: socis@del2.vsnl.net.in. This is a fully qualified address indicating where the account of socis exists.

Once a message is assigned an address, it can be send to the destination via the interconnected Internet systems. The e-mail handling system on the sender's computer (using any e-mail software) breaks the message into manageable pieces called "packets". Each packet is addressed to the final destination. These packets may follow different path to reach the destination. At the destination they are reassembled in the correct order by the destination e-mail machine. Figure 1 illustrates this process.

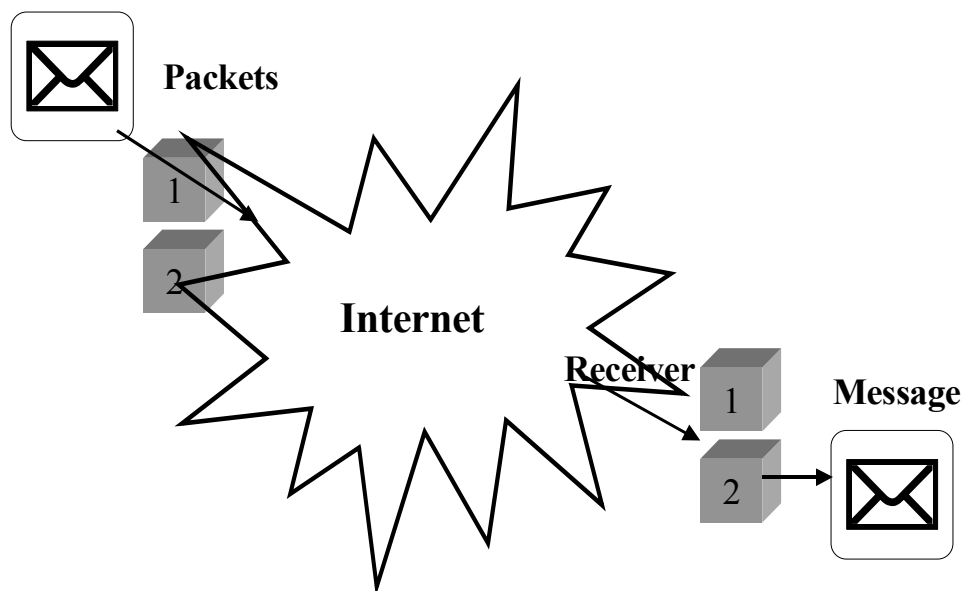


Figure 1: The E-mail System

2.4 The Components of E-mail

An e-mail message has many components. There is much software such as Netscape Navigator, Pine, Internet Explorer etc., which allow you to deal with the mail. In the following sections we will be discussing about e-mail using Netscape Navigator Mail window.

A mail message, in the Netscape mail window is shown in Figure 2. The received mail is displayed in the message window. The message is prefixed with the date, sender and receiver addresses etc. (refer to Figure 2(a)). It is followed by the contents of the message (refer to Figure 2 (b)).

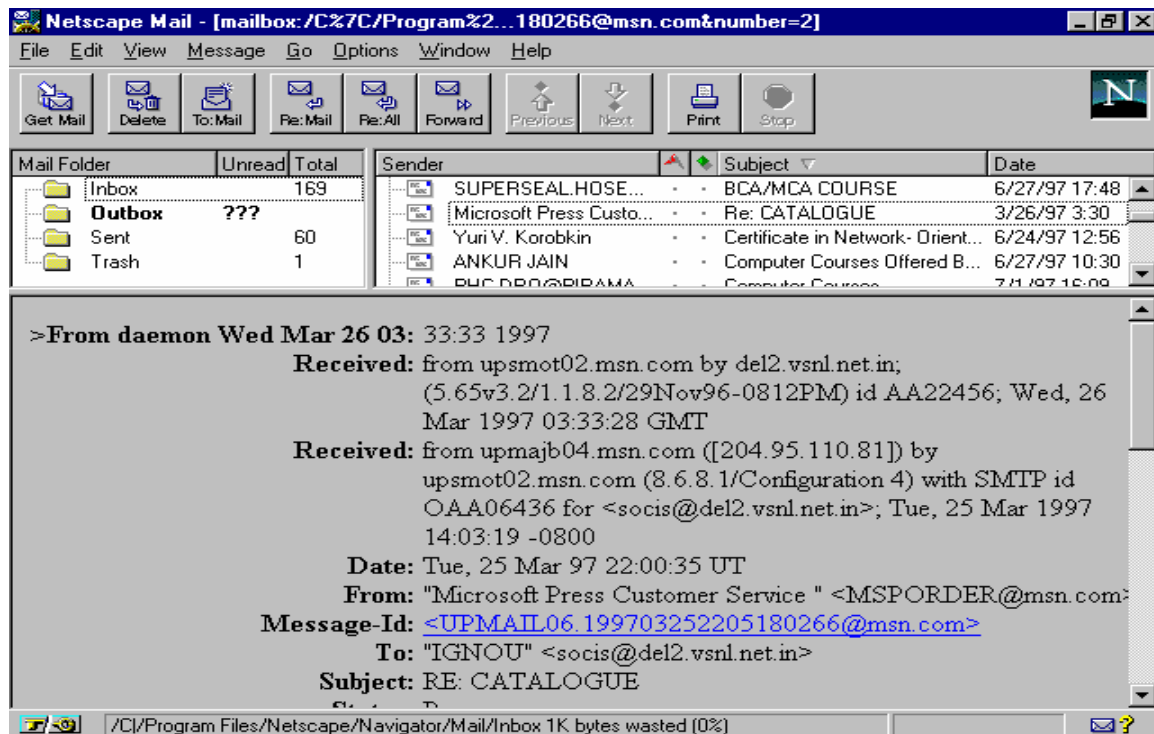


Figure 2(a)

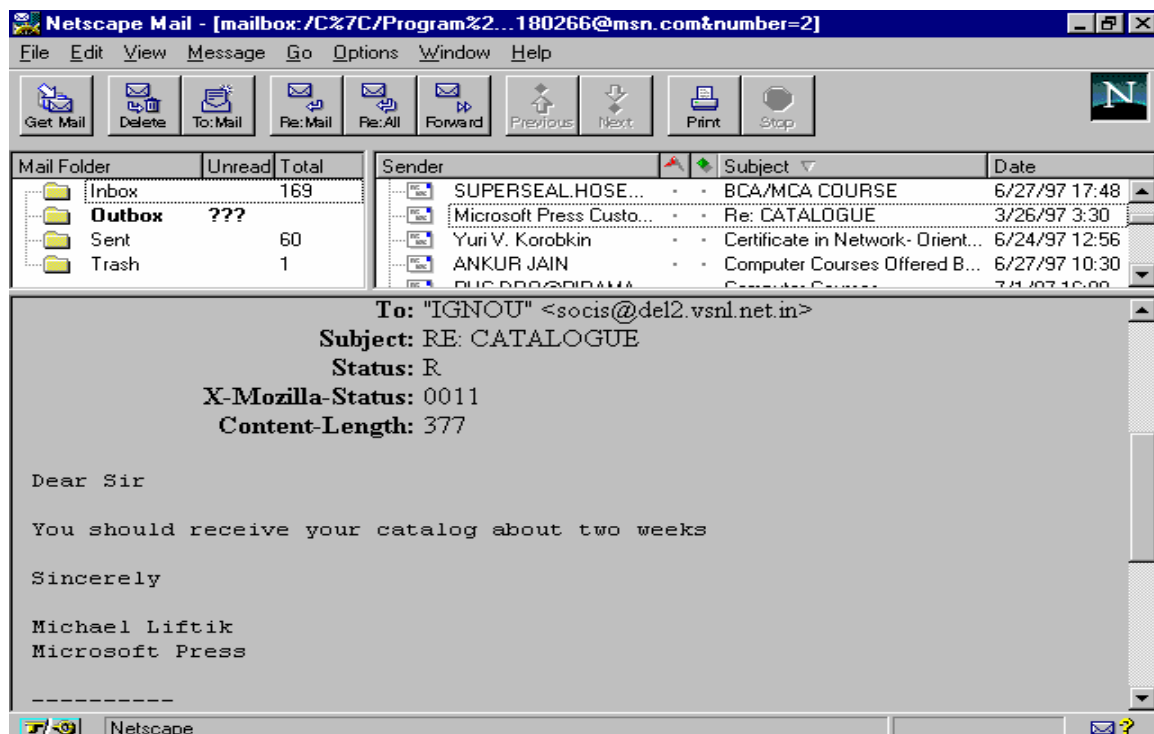


Figure 2(b)

Figure 2: Netscape Mail Window

2.4.1 Message Composition

You can create and send e-mail messages using the Message Composition window. One can transmit fully formatted HTML pages, disk files as attachments to these mail messages. For creating a mail message, the message composition window of Netscape navigator is to be selected, you can select it by choosing “New Mail Message” from the “File” menu or the “To: mail” button on the toolbar. There are many other ways of getting to this window.

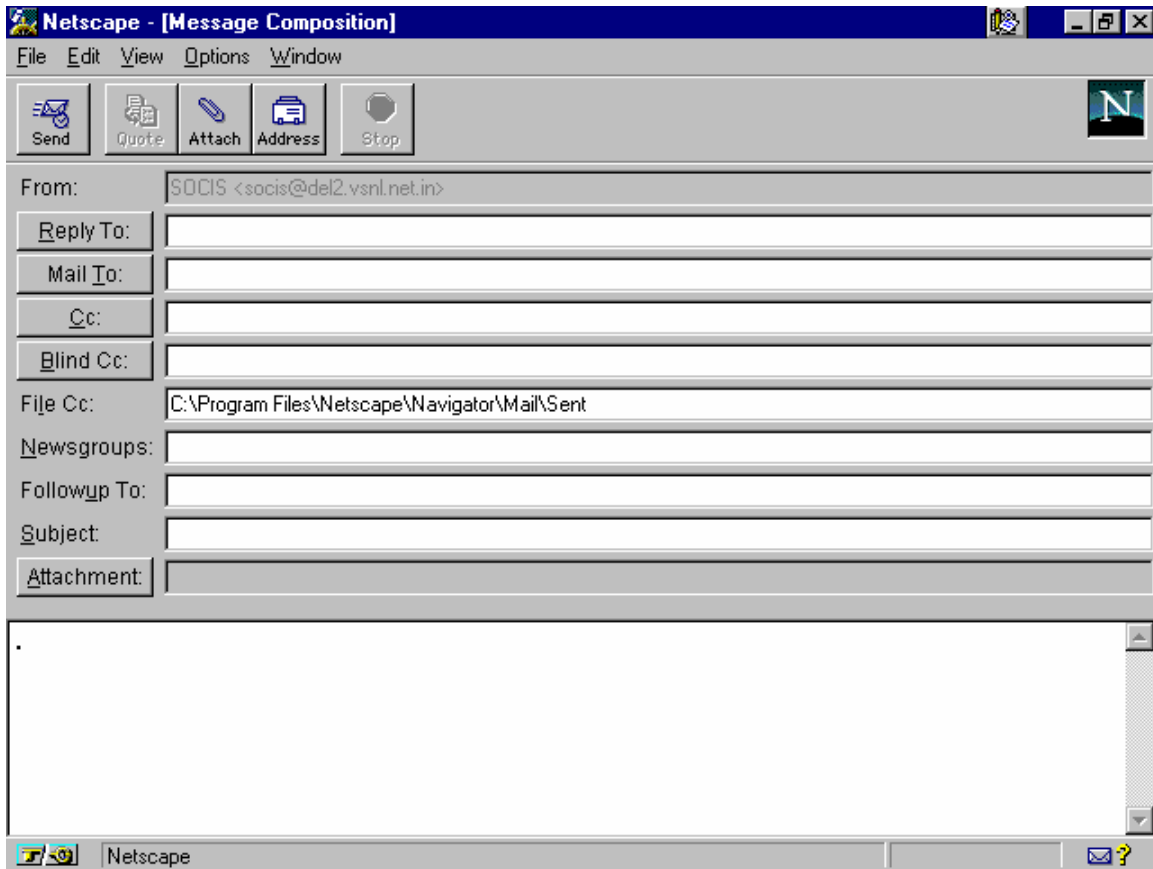


Figure 3: Message Component Window with all the fields

Figure 3 shows all the items of the mail message. However, using the View menu, you can hide or display desired items on the screen. Each individual item is termed as a field. A field can contain more than one address separated by comma.

The **From** field will display our own e-mail address.

The **Reply To** field will contain the e-mail addresses if you want to send replies to e-mail you had received. You will find that message window is filled with the contents of the letter you are responding to. It is a good habit that you include the contents of the received mail.

The **Mail To** field is filled with the e-mail addresses where you want to send the message.

The **cc** field contains the e-mail addresses where copy of your message is to be sent. **cc** means “carbon copy”. You may include this address as a courtesy or for the information. Be careful about CC-ing of an e-mail message. Some people regard this as rude.

The **Blind cc** field contains the email addresses where a blind copy of your message is to be sent. Blind cc (Bcc) means, “blind carbon copy”. This is similar to as making an extra photocopy of a letter and dropping in someone’s in-box without letting the official recipient know about the sender BCC-ing yourself helps in having a copy of everything which has been sent by you. The recipients of BCC get a notice that this is a blind carbon copy. Think carefully before BCC-ing a message to someone. BCC may encourage gossip or may result in spread of information indiscriminately, this may hurt someone else. Therefore, you must use BCC judiciously.

The **File cc** field contains the location where you want to store the copy of the sent message you are sending. By default, messages are stored in the specified folder.

The **Newsgroups** field will be filled with the name of the newsgroup if you want to post your news message.

The **Followup To** field is provided with the name of the newsgroup where you are interested in posting a reply.

The **Subject** field is filled with a description of your e-mail. It is always advisable to provide subject so that others know the topic of discussion.

The **Attachment** field displays the page name or file name, which you have attached to your mail. This is one of the most interesting options as it allows you to send a large file, or a table, or picture or any other information which was created offline in a different application.

The Message Composition buttons help in the following tasks:

Send (now) or Send (later) buttons will be available based on the option you have selected in “Options” menu. If you have selected “Immediate delivery” in that menu, you will be available with send (now) button. If you have selected “Deferred Delivery” from that menu then send (later) button is available. Send (now) button immediately tries to send you mail on the network, while send (later) holds your message in outbox folder and tries to send mail later.

You can send the attached file as it is, or in ASCII text format. The **View** menu in the Mail window allows you to view attachments either inline (the page appears in the message body) or as links (a link to the page appears in the message body).

Address opens the Address Book window. This allows selection of address from the address book, thus giving a lot more power to the user. We will discuss about address book in more details in section 2.3.

If you want to **Stop** transmission of message you are sending press the **Stop** button.

2.4.2 Checking and Reading Messages

If you want to check for the new messages and want to display them. You can choose **Window/Mail** in the Netscape menu. Alternatively, you can send the mail icon (the small envelope at the bottom-right corner of the Netscape window).

On opening the Mail window, you will be prompted to enter your e-mail password. This password may be same as what you have used for your Internet account.

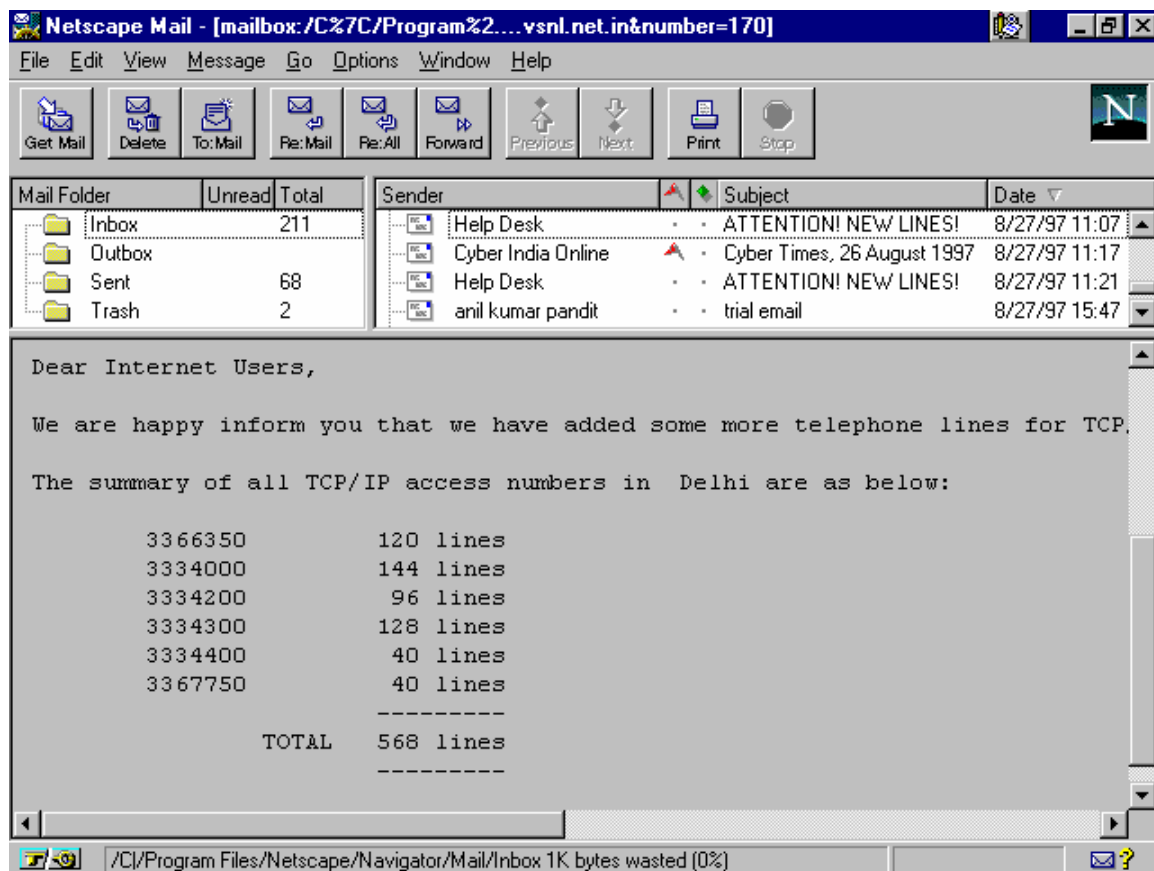


Figure 4: Mail Window

For retrieving new messages from the server you can press the "Get Mail" button from the toolbar of the Mail window (refer to Figure 4). This will bring the new mail messages to your terminal if you are connected.

The Mail icon in the bottom-right corner can also be used for retrieving new messages. It also informs you about the availability of new messages as:

A question mark (?) next to the envelope (mail icon) indicates Netscape cannot check the status of the mail server automatically.

The envelope alone indicates that there is no new message for you.

An exclamation point (!) next to the envelope indicates that there are new messages for retrieval.

The Mail window consists of three panes or components (refer to Figure 4):

the mail folder pane

the message header pane

and the message content pane.

The mail folder pane consist of three columns (refer to Figure 4):

Mail Folder, indicating the names of the mail folders such as Inbox, outbox etc.

Unread, indicating the messages which have not been read.

Total, indicating the total number of messages within the folder.

Netscape by default generates the following folders for its use:

The “Inbox” folder for incoming mail messages.

The “Outbox” folder for messages to be sent.

The “Sent folder” for holding sent messages.

The “Trash folders” for holding mail messages which are deleted.

However, you are free to create more mail folders. For example, if you are sharing an account with other users then by creating more folders, you can organise your mail separately.

A folder can be selected by clicking on it. On selection the contents of the folder are displayed in the “Message header pane”. This pane display the following columns (refer to Figure 4):

Sender: It displays the name of the sender of the mail message. If you are displaying Outbox and Sent folders, this column will display the name of the recipient.

An important message can be marked noteworthy by clicking the flag icon for the message.

The “Read” icon indicates whether the message has been read or not. The icon can be clicked again to make a message not read once again.

Subject indicates the subject line of the message, thus, after reading the subject we can decide to read junk mail or not.

Date displays the date and time of the arrival of message. Many people organise their mailbox by date of receipt, therefore, you must keep proper date and time settings in your computer.

An important message can be stored in an important folder created by you by dragging the message icon in the message list to the desired folder. Thus, you can keep track of important messages to you.

A message can be selected and displayed in the message content pane by selecting the message heading. The header information such as **Subject, Date, From, To** etc. is also displayed.

You can resize panes, as per your requirements, by positioning the cursor on the borderlines between two panes (the cursor changes shape) and dragging to the proportions you desire.

If you have received a message that includes a page attachment then you can select in the **View menu** the option **Attachments Inline** to see the contents in the message pane, the option **Attachments as Links** menu item to display a link to the attached page. If the message sender has included a file attachment, you can click on a link that present the “Save As” dialog box for saving the file to your hard disk.

The Mail toolbar buttons and menu items offer functions for viewing, creating, sending and storing mail messages. The meaning of these options are given in the following table:

Mail toolbar buttons:

Mail toolbar buttons: These buttons provides the most commonly used commands. You can perform following functions using toolbar buttons (refer to Figure 4):

Get Mail	Connects to the mail server and bring any available messages on the server into the Inbox.
Delete	Puts the currently selected message in the message-heading pane into the Trash folder.
To: Mail	Displays the Message Composition window for creation of a new mail message.
Re: Mail	Displays the Message Composition window for replying to selected mail messages. The To field displays the address of the sender.
Re: All	Displays the Message Composition window for replying to all mail messages one by one.
Forward	Displays the Message Composition window for forwarding the selected mail messages (to be sent as attachment). The original subject is automatically prefixed by the word Fwd.
Previous	Displays the previous unread message in the message list.
Next	Displays the next unread message in the message list.
Print	Prints the selected messages.

Stop	Halts any ongoing transmission of messages.

2.4.3 Mail Menu items

The menus available in the Netscape mail provide many functions. These functions are also available, in general, in most other e-mail software.

File Menu

The **File Menu** is utilised mainly for providing functionality relating to files. The File Menu options are given in the following table:

New Web Browser	creates a new Netscape window.
New Mail Message	displays the Message Composition window for creation of a new mail message.
New Folder	creates a new mail folder.
Add Folder (Open Folder)	displays the standard Open Folder dialog box.
Save As	a dialog box appears for saving the current message as a file.
Get New Mail	retrieve messages.
Send Mail in Outbox	sends any outgoing messages in the Outbox folder for deferred delivery.
Empty Trash Folder	removes messages placed in the Trash folder permanently.
Compress Folder	recovers disk space from deleted messages.
Page Setup	displays the dialog box for standard Page Setup.
Print Messages	print a selected messages.
Close	closes the Mail window.
Exit/Quit	exit the Netscape application.

Edit menu

The **Edit menu** options are:

Undo/Redo	reverses the last action.
Cut	removes the selected portion and places a copy on the clipboard.
Paste	puts a copy of the contents of the clipboard at the position of the selection marker.
Delete Message	moves the selected message to the Trash folder.
Delete Folder	permanently removes the selected folder.
Select Thread	selects all messages in the current thread.
Select Flagged Messages	selects flagged messages in the current thread.
Select All Messages	selects all messages in all the threads.
Find	searches the text in the present message.
Find Again	searches for the same text as the previous search in the present message.

View menu

The **View menu** options are given in the following table. One of the commonly used option of this menu is sort command (refer to the table for more details).

Sort	allows you to arrange the messages in the messages heading pane according to <i>Date</i> , <i>Subject</i> , <i>Sender</i> , or <i>Message Number</i> in <i>Ascending</i> order. <i>Again</i> sorts again. <i>Thread Messages</i> is used to sort messages such that messages and their responses are grouped together.
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Unscramble	when checked allows decoding of the message scrambled by sender using shifting of character mechanism.
Wrap Long Lines	it allows the display of long lines of the message in many lines. If it is not checked then a line may extend off the screen. The default option is unchecked.
Reload	brings the message from the server again.
Local Images	displays the images of the present message if they have not been automatically loaded.
Refresh	redraws the present message.
Document Source	produces a View source window displaying in present page in HTML format.
Attachments Inline	when checked it allows viewing a page attachment as part of the message. If the sender has sent an HTML page as an attachment, the formatted HTML page is appended to the message body.
Attachments as Links	when checked it allows accessing a page attachment using a link. If the sender has included an HTML page as an attachment, a link to the formatted HTML page is appended to the message body. Clicking on the link displays the page in the message content pane.

Message menu

Message menu option allows you to perform various operations with the messages. Some of these options are available as mail toolbar buttons. The message menu options are:

Reply	displays the Message Composition window for writing a response with the Send To field pre-addressed to the sender of the message.
Reply to All	displays the Message Composition window for writing a response with the Send To field pre-addressed to the sender and the recipients of the message.
Forward	displays the Message Composition window for sending the current messages as an attachment, the Subject field and Attachment field automatically filled.

Forward Quoted	displays the Message Composition window for sending the current message as quoted text in the content area.
Marks as Read	designates that the current message has been viewed.
Mark as Unread	designates that the current message has not been viewed.
Flag Message	designates the current message with a small icon in the flag column of the message-heading pane.
Unflag Message	removes the current message's flag column icon.
Add to Address Book	creates an address book entry of the sender of the current message.
Move	transfers the current message to the folder you select.
Copy	transfers a copy of the current message to the folder you select.

Go menu

Go menu helps the user in navigating among various messages. The options of the Go menu are:

Next Message	displays the next message listed in the message-heading pane.
Previous Message	displays the previous message.
First Unread	displays the first unread message.
Next Unread	displays the next unread message.
Previous Unread	displays the previous unread message.
First Flagged	displays the first marked message.
Next Flagged	displays the next marked message.
Previous Flagged	displays the previous marked message.
Stop Loading	halts any ongoing transmission of messages from the mail server.

Options menu

The **Options menu** allows changing several options. These menus have the following options:

Show all Messages	when checked displays both read and unread messages in the message header pane.
Show Only Unread Messages	when checked, displays only unread messages in the message header pane.
Show Headers	lets you control the number of header information fields displayed when viewing messages. All displays all possible header fields. Normal displays the primary address fields. Brief displays only subject and recipient fields.
Document Encoding	lets you select a character set encoding a document.

There are two more menu items called **WINDOW** and **HELP**. The **WINDOW** menu lets you switch among Netscape's primary or currently open windows, whereas the help provide help on various topics.

2.5 Address Book

The Address Book simplifies the process of addressing for sending an e-mail message. You have to select **Window/Address Book** option for opening an Address Book. Details about an individual contact can be added to your electronic address book (refer to Figure 5). You can edit, sort or organise address book. For sending mail to an individual you simply need to double click the entry in the address book. A message composition with "Mail to:" field filled with the address will be displayed.

Adding addresses:

To add an address of an individual, choose **Item/Add User**.

Address Book

Properties

Nick Name:

Name:

E-Mail Address:

Description:

There are no aliases to this entry

Select Aliases

OK Cancel Help

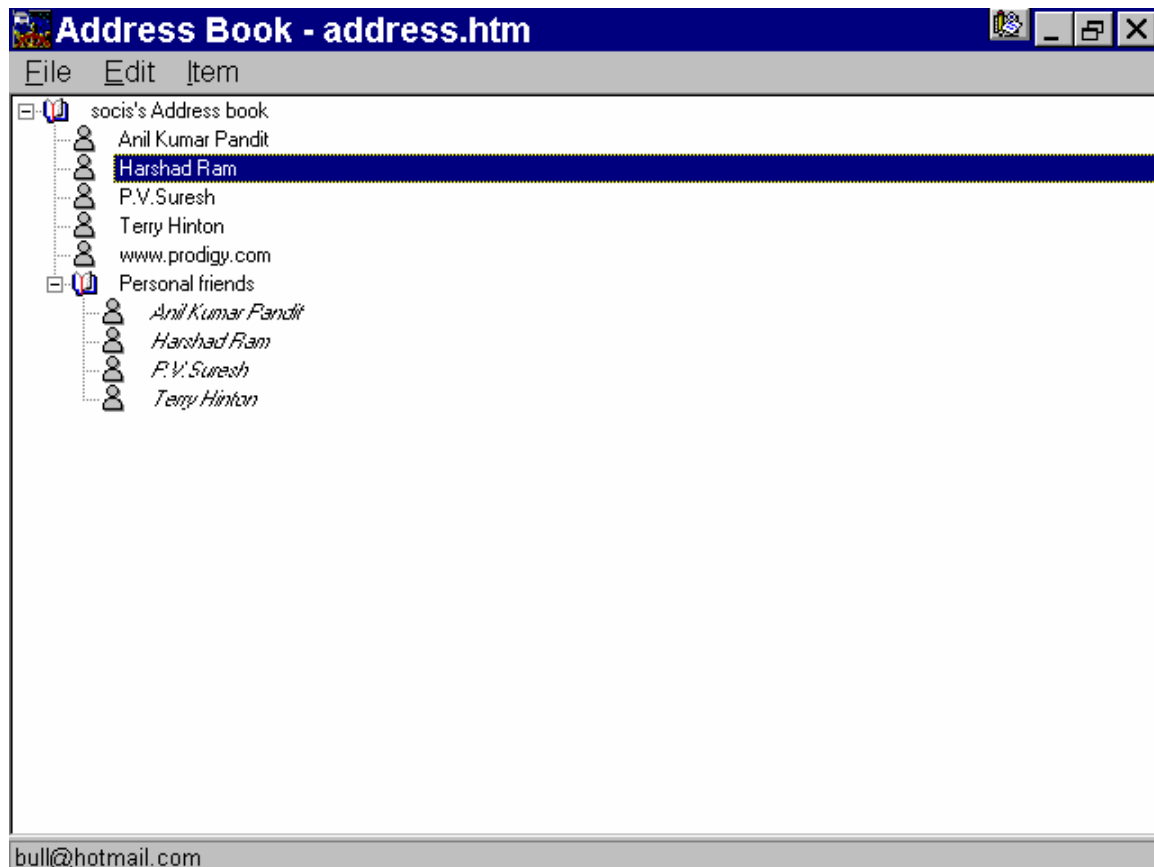
Figure 5: Adding an address in Address Book

You can modify an address book entry by selecting the Item/Properties options. You can link address book to other packages than mail. For example, in Microsoft Outlook, the address book can be linked to meeting organiser, which enables automatic sending of desired mail to all the people who will be attending a proposed meeting.

You can give a nickname to the individual in the address book. One of the major advantages of having nickname is that instead of entering the complete e-mail address of the individual, you simply give his nickname while filling "Mail to:" field for a new message. This nickname will be automatically expanded to the desired address from the fault address book.

Another important application of the address book is that you can create a mailing list as a folder, of your contacts. For example, you can create a mailing list of your personal contacts with the name Personal friends. An individual address can be in one or more mailing lists. The power of mailing list can be ascertained from the fact that suppose you want to send new year greeting to your personal friends, you just have to click on the mailing list icon "Personal Friends" while addressing your e-mail message. Your message will go to all the members of that mailing list (refer to Figure 6).

To add an address of an individual to mailing lists just drag and drop the individual icon to the mailing list folder.



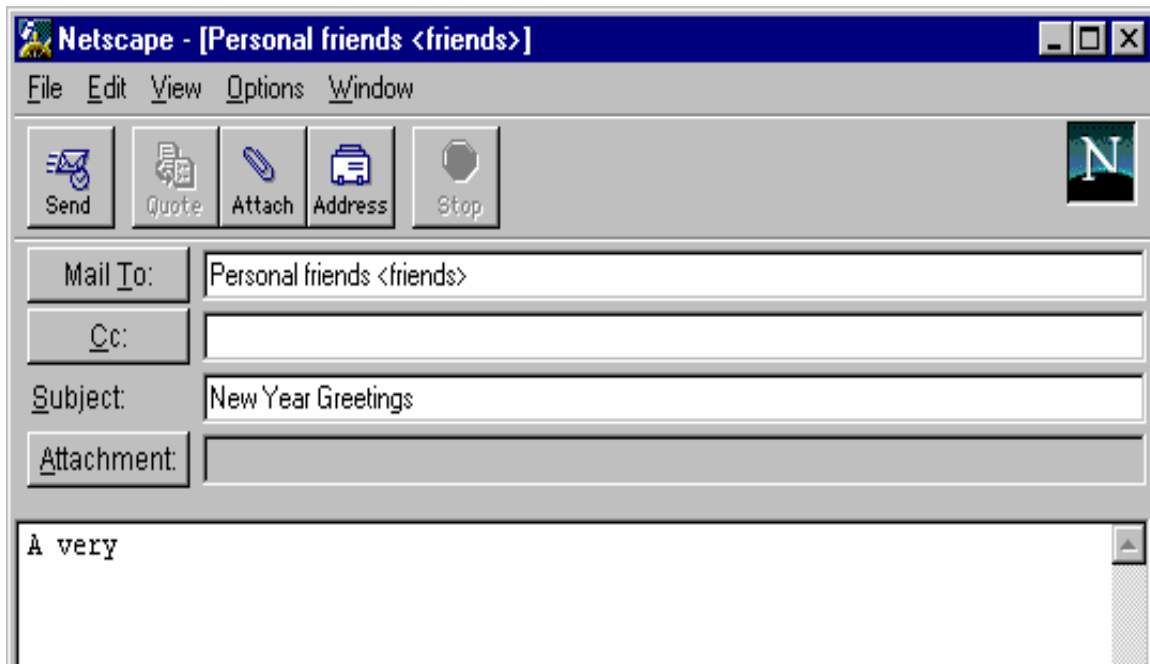


Figure 6: Mailing Lists

The individual icon will remain in its place and an alias of it is stored in the mailing list folder. You can create a new mailing list by **selecting Item/Add List** option.

Other address book menu

Other address book menu options are given in the following table:

File/New Mail Message	displays the Message Composition window for a new mail message with the Mail to: field filled with the address of the members, you have selected in the address book.
File/Import	appends the contents of an address book file (an HTML-formatted page) into the active address book file.
File/Save As	saves the active address book file (as an HTML-formatted page).
File/Close	closes the Address Book window while saving the current list.
Edit/Find	allows you to search for items in the Address Book list (names or addresses).
Edit/Find Again	performs the Find command again.

Item/Add User	creates a new e-mail address entry. Enter an abbreviated name in the Nickname field to be used as a shortcut when addressing e-mail.
Item/Add List	inserts a new (mailing list) folder. Enter an abbreviated name in the Nickname field to be used as a shortcut when addressing e-mail to the entire list.

2.6 Troubleshooting in E-mail

Sometimes a message bounces that is, comes back to you. It basically occurs because you might have entered a wrong user name or a wrong host name. Thus, mail bounces because of misspellings in addresses. One of the most common types of mistake is when you type a letter of an address in different case. Remember e-mail addresses are case sensitive. This problem can easily be eliminated if you keep an address book of your contacts. This is possible in Netscape, Internet explorer and other packages. Sometimes the messages may not reach because the mailbox of the recipient is full. This is possible when a person has not checked his mail for a very long time.

The bounced mail is handled by dæmons. The term “dæmon” (pronounced as DEE-mon) is an example of programmer humor. Dæmons are supposed to be the servants in the afterlife. For a programmer, the worst punishment possible would be to handle repetitive support tasks. Thus, many programmers wrote little helper programs, called dæmons to do these repetitive tasks for them. Mailer dæmons are getting more and more sophisticated these days. Some dæmons may tell you about the problem also.

2.7 Interesting E-mail Addresses

If you know a person's name and if he is registered with world wide address book at <http://www.emailbook.com> then you can find the e-mail address of a person by just submitting the name. However, if you want to send e-mail to say, a member of the Indian Parliament then you must visit site of Indian parliament at: <http://alfa.nic.in.com>.

You can also send mail to the President of United States at president@whitehouse.gov. You can search for addresses from the yahoo yellow pages.

2.8 Mail Reflectors, Mailing Lists and List Servers

Mailing lists are special group of people who would like to be in touch for sharing information and a topic. You may join many mailing lists on the Internet.

You can join a mailing list by sending a request to the list administrator. If you want to send a mail message to all the members of a mailing list, you need to send the mail to a mailbox called mail reflector for that mailing list. The mail reflector receives the mail and reflects it to all the members of the mailing list.

Mailing list needs to be administered. The list administrator can be human or a computer program. Programs that are created for managing a mailing list are called list servers. A very useful program in this category is named LISTSERV. This program was created by Eric Thomas.

Some mailing lists are moderated. In such lists the list administrator first moderates the e-mail and then the mail is distributed to the members. You can get more information on mailing lists from the Internet itself.

2.9 FTP and Telnet

FTP and Telnet are the two common tools on Internet. FTP (File Transfer Protocol) allows movement of files specifically intended for you or files that are placed for general usage. Telnet connects you to other computers.

2.9.1 FTP: The File Transfer Program

FTP is an abbreviation for the *file transfer protocol*. Notice that the file transfer programs that use this protocol are also referred to with the same name. File transfer as the name suggests is to send a copy of a file, this is not same as a message, from one computer to another. The files that can be sent across using FTP include spreadsheets, digitized pictures, sound files, programs, word-processed files etc.

FTP is basically used for retrieving information from file libraries and archives accessible to the public. This consists of free or low-cost shareware programs. Using FTP, for example, you can get a recent U.S. Supreme Court decision, copies of historical documents. However, you have to know the address of the place where these files are kept.

FTP works in two modes: for sending a copy of a file from your computer to other computer, *upload* or *put* mode and, to retrieve files on your computer use the *download* or *get* mode.

There are two methods of FTP. In the first method, you sign on to the *remote host* machine on which you have your own account or user identification (ID) and transfer files. Other method is to sign on as a guest or as an anonymous user, called "anonymous FTP". With anonymous FTP you are restricted by the security system of the host computer. The hosts that provide anonymous FTP do so specifically to make some files available for anybody's use. In Anonymous FTP, login name provided is anonymous, guest or ftp and the password is your e-mail address. The use of your e-mail address as password helps the FTP provider track who is interested in which materials. Thus, it provides a trace in case of a security problem.

Anonymous FTP is one of the most convenient tools for making information and other files available to the public. Many sites currently use it to provide resources; you can find the most current listing of selected sites via the Web. The easiest way to do that is to go to the Yahoo site:

<http://www.yahoo.com>

2.9.2 How to Use FTP

Irrespective of the type of FTP, that is, regular FTP or anonymous FTP the use of the FTP is same. You can connect to an FTP site using a Web browser using anonymous FTP. Basically, there are two types of FTP Clients: Graphical User Interface based (such as WS-FTP) or line-mode clients (Unix command interface). If you are using a GUI FTP client you only need mouse or arrow keys for selecting option from the pulled down menu whereas in line-mode client you enter the complete command.

In this unit, we will be providing information about FTP via VSNL using Unix commands. However, you can use any other graphical FTP client for FTP.

2.9.3 Using FTP via VSNL

At your dial-up connection after you have got connected after providing your account name and password, instead of giving PPP, type:

telnet host-name, for example socis we type *telnet del2*.

It will prompt you to give your account and password. You will then get a menu shown in figure:

VIDESH SANCHAR NIGAM LIMITED			
WELCOME TO VSNL INTERNET ACCESS SERVICE			
UNAUTHORIZED ACCESSED PROHIBITED			
Select options by no.:			
H.	Help	-	List of commands on UNIX prompt
0.	Logout	-	Logout of the system
1.	E-mail	-	Electronic mail service
2.	FTP	-	File Transfer Service
3.	Telnet	-	Log on to another system
4.	Lynx	-	World Wide Web browser (WWW)
5.	Chat	-	Internet Relay Chat (IRC)
6.	Kermit	-	Transfer files to your PC
7.	New Password	-	Change your password
8.	Zmodem download	-	Download files thru Zmodem
9.	Zmodem upload	-	Upload files thru Zmodem
10.	UNIX Prompt	-	Exit to UNIX prompt
Your Selection:			

Figure 7: Opening Menu at VSNL (Unix command interface)

Select option 2: You will get a ftp> prompt at your screen.

At the "ftp>" prompt, you can open a link with any site.

ftp> open site-name

Please do not connect to most ftp sites during peak business hours (generally 9 a.m. to 6-p.m. local time). The main reason for not doing so is that across the network ftp takes up considerable computing power, which during the day is likely to be utilised for the main functions of the computer. However, there is some ftp sites that are accessible to the public round the clock.

But how do we know what information is existing at what site? One can get the information about contents available at a site from a friend or visiting and browsing the content or an Internet tool called archie. Once you are connected to site you can see the contents available it that site. You can use "dir" command or "ls -l" command (working only at your own host) to do so.

If you see several directories in your list then you can change directory using CD command. You can go to directory of your interest to determine the file you may want to download. There is usually a "readme file" in the directory, providing one-line description for each item. This helps in locating the file you want to download.

2.9.3.1 Getting a file to your account at VSNL

If we want to transfer a simple text file then the file transfer commands are:

```
ftp> ascii
```

```
ftp> get filename
```

If you want to transfer contents from shareware then:

```
ftp> bin
```

```
ftp> get filename
```

This indicates that you are interested in copying a binary file. By default most ftp sites use binary format.

2.9.3.2 Reading and sending a text file at an ftp site

Since, ftp can only transfer files, therefore, for reading the contents you may have to wait until you have transferred the file. However, following allows you to read the content page by page on the screen

```
ftp> get README |more
```

Suppose you want to send a file from your account to another computer. The command for this will be

```
ftp> put filename
```

2.9.3.3 Commonly used ftp commands

The following table gives the commonly used ftp commands:

Command	Action
ls-l, dir	lists the current directory of the site you are connected
dir (directory name)	list the files in directory
cd (directory name)	change directory
ascii	prepare to download text file
binary or image or bin	prepare to download non text file
get filename	get the contents of a file (called download)
mget file1 file2....	download many files
put filename□	put a file on the connected computer (called uploading)
mput file1 file2....	upload many files

del filename	delete a remote file
bye or quit	leave ftp

2.9.3.4 Decoding file encoding formats

Files are normally stored in compressed form. There are many compression methods and most of the decompression programs can be located through “archie”. The file extension indicates the compression program used for a file. Some of these are given in the following table:

.txt	implies that the file is a document.
.ps	a PostScript document. You can print this file on any PostScript printer.
.zip	file has been compressed using an MS-DOS based program PKZIP. UNZIP the file using UNZIP program.
.gz	a Unix version of compression program ZIP.
.tar	a Unix format, generally used to compress several related files into one large file. Untar your files.

CAUTION: ftp always checks the size of a file before you download it. Your connection may be quite slow and take phenomenal time to download. In addition, frequent downloads may result in bringing some virus infected file. You must have a good anti virus program on your computer.

2.9.3.5 A few words about your ‘archie’

It is a tool to which anybody can dial into and type in a file name, to check the place of that file on the Net. Archie presently catalogues around 1,000 file libraries around the world. You can use archie in three ways:

by telnet to any of the archie sites

archie.megil.ca

archie.sura.net

archie.unl.edu

archie.ans.net

archie.rutgers.edu

A “client” Archie program on your own host system, or

by using E-mail

2.10Telnet

Telnet service allows you to log-on to a remote machine, on which you have your account. However, some computers around the world permit guest logins. One such computer is the VSNL's host computer. The information available in on-line libraries on Internet can be browsed only if you can use Telnet facility. Therefore, telnet is a program that allows connecting you to on-line databases, library catalogues, and other information resources on the Internet. The World Wide Web now is disseminating the information, which was available only via telnet earlier, but still telnet is a useful tool to learn.

2.10.1 Using Telnet via VSNL

Before you can use telnet menu of VSNL, if you have a TCP/IP connection you need to log on to the VSNL host using the steps given in section 2.7.3. The following is the listing of a sample session:

username: socis@del2.vsnl.net.in

password:

dlro43>telnet del2

login: socis

password:

On successful login, the menu shown in Figure 7 will be displayed.

re are many advanced features to telnet but those are beyond the scope of this capsule. However, for simple routine tasks you do not need those features.

The commonly used options on telnet are:

Close	close current connection.
Open	connect to a site. This can be abbreviated to "o".
Quit	exit telnet.
Send	transmit special characters
Status	print status information
Z	suspend the telnet
?	print help information

2.11Interesting Sites

Some sites to which you can telnet for information are:

AGRICULTURE	International Food & Nutrition Database National Family Database Information Provider: Penn State College of Agricultural Science
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	Login: two letter abbreviation to the state Address: psupen.psu.edu
ARCHAEOLOGY	National Archaeological Database Address: cast.uark.edu Login: nadlab
COMPUTERS: LITERATURE	HPCwire HPCwire news bulletin on high-performance computing. Address: hpewire.ans.net Login: hpewire
EDUCATION:	Higher Education Resources and Opportunities (HERO) Address: locis.loc.gov Password. Organizations
HEALTH	AIDS information AIDS statistics details of those at risk, and Aids Treatment News. Address: selway.umn.edu Login: health
HISTORY	History Databases and Journals Address: clus1.ulcc.ac.uk Login: ihr-uk Address: ukanaix.cc.ukans.edu Login: history
INTERNET	InterNIC Information Services For information about people, organisations and resources on the Internet. Address: ds.internic.net Address: rs.internic.net
INTERNET: RESOURCES	Internet Services and resources A comprehensive collection of Internet resources. Address: garam.kreonet.re.kr Login: nic Address: info.anu.edu.au Login: library Address: nessie.cc.www.edu Login: libs
LANGUAGE	Webster's Dictionary Servers Online Webster's dictionary and spelling reference. Address: chem.uesd.edu Login: webster
LIBRARIES	Carl System A computerised network of library systems. Search for keywords. Address: pac.carl.org
PHYSICS	National Nuclear Data Center Online Data Service Data regarding nuclear physics and statistical measurements. Address: bnln2.dne.bnl.gov
SPACE	NASA Spacelink History, current events, projects and plans at NASA. Address: spacelink.msfc.nasa.gov
WEATHER	Weather Reports Get up-to-date weather reports for any location on the planet. An easy-to-use interface guides you through the process of selecting a city or location, and then viewing the weather report onscreen or downloading it to your computer. Address: downwind.sprl.umich.edu 3000

2.12 Summary

In this unit, we have discussed about one of the most utilised tool: e-mail. It is a powerful tool for getting in touch with your contacts. E-mail is very cheap and operates in an off-line mode. Electronic Address book features makes e-mail addressing simple. One can create a mailing list of its own using address book options, thus, allowing group e-mail at a time.

FTP and Telnet are two other important tools discussed in this unit. Both require you to have an account on to the computer you want to connect or a facility of anonymous log-in. These tool help in retrieving programs, data files and running remote program from your machine. However, the most powerful tool on Internet today is a World Wide Web (WWW) tool. This is the topic for the subsequent units.