

## CHAP8

<b>COLLABORATORS</b>
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# Contents

<b>1</b>	<b>CHAP8</b>	<b>1</b>
1.1	Chapter 8: GOPHERS, WAISs AND THE WORLDWIDE WEB . . . . .	1
1.2	Chapter 8: Information servers (1 of 4) -- GOPHER . . . . .	1
1.3	Chapter 8: Information servers (2 of 4) -- WIDE-AREA INFORMATION SERVERS . . . . .	3
1.4	Chapter 8: Information servers (3 of 4) -- WORLDWIDE WEB . . . . .	5
1.5	Chapter 8: Information servers (4 of 4) -- CLIENTS . . . . .	6

## Chapter 1

# CHAP8

### 1.1 Chapter 8: GOPHERS, WAISs AND THE WORLDWIDE WEB

Even with tools like Hytelnet and archie, telnet and ftp can still be frustrating. There are all those telnet and ftp addresses to remember. Telnet services often have their own unique commands. And, oh, those weird directory and file names!

But now that the Net has become a rich repository of information, people are looking at ways to make it far easier to find all that data. Gophers and Wide-Area Information Servers (WAISs) are two programs that could ultimately make the Internet as easy to navigate as commercial networks like CompuServe or Prodigy.

Gopher  
Wide-Area Information Servers  
World-Wide Web  
Clients (SSLP, PPP)

Both GOPHER and WAIS essentially take a request for information and then scan the Net for it, so you don't have to. Both also work through menus -- instead of typing in some long sequence of characters, you just move a cursor to your choice and hit enter. Newer gophers even let you select files and programs from ftp sites this way.

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FYI:

The Usenet newsgroups comp.infosystems.gopher and comp.infosystems.wais are places to go for technical discussions about gophers and WAISs respectively.

### 1.2 Chapter 8: Information servers (1 of 4) -- GOPHER

Many public-access sites now have gophers online. To use one, type

gopher

at the command line and hit enter. If you know your site does not have

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a gopher, or if nothing happens when you type that, telnet to  
consultant.micro.umn.edu

At the log-in prompt , type

gopher

and hit enter. You'll be asked what type of terminal emulation you're using, after which you'll see something like this:

Internet Gopher Information Client v1.03

Root gopher server: gopher.micro.umn.edu

- ```
--> 1. Information About Gopher/
    2. Computer Information/
    3. Discussion Groups/
    4. Fun & Games/
    5. Internet file server (ftp) sites/
    6. Libraries/
    7. News/
    8. Other Gopher and Information Servers/
    9. Phone Books/
   10. Search lots of places at the U of M <?>
   11. University of Minnesota Campus Information/
```

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

Page: 1/1

Gophers are great for exploring. Just keep making choices to see what pops up. Play with it; see where it takes you. Some choices will be documents. When you read one of these and either come to the end or hit a lower-case q to quit reading it, you'll be given the choice of saving a copy to your home directory or e-mailing it to yourself. Other choices are simple databases that let you enter a word to look for in a particular database.

Notice that one of your choices is "Internet file server (ftp) sites." Choose this, and you'll be connected to a modified archie program -- an archie with a difference. When you search for a file through a gopher archie, you'll get a menu of sites that have the file you're looking for, just as with the old archie. Only now, instead of having to write down or remember an ftp address and directory, all you have to do is position the cursor next to one of the numbers in the menu and hit enter. You'll be connected to the ftp site, from which you can then choose the file you want, again just by making a choice in a menu.

You'll be asked for a name in your home directory to use for the file, after which the file will be copied to your home system. Unfortunately, this file-transfer process does not yet work with all public-access sites for computer programs and compressed files. If it doesn't work with yours, you'll have to get the file the old-fashioned way, via ftp .

The letter u is an important one to remember while navigating a gopher -- it moves you back up a gopher directory tree, much like cd .. on an ftp site.

In addition to ftp sites, there are now scores of databases and

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libraries around the world accessible through gophers. There is not yet a common gopher interface for library catalogs, so be prepared to follow the online directions more closely when you use gopher to connect to one.

Some gopher menu choices will end with a <?>. This means that if you select it, you'll be starting up a simple database that can search through the given service by keyword.

So many services are now available through gophers, that finding what you want has become difficult. Fortunately, you can use veronica, a laboriously constructed acronym that does for "gopherspace" what archie (there is no betty, yet) did for files. You'll usually find veronicas (there are now several) under "Other gopher and information services." When you call up a veronica, tell her (it?) the keyword or words you're interested in, and she/it will search all available databases for it. For example, say you want to impress company tonight and make cherries flambe. If you were to type in "flambe" after calling up veronica, you would soon get a menu listing several flambe recipes, including one called "dessert flambe." Put your cursor on that line of the menu and hit enter, and you'll find it's a menu for cherries flambe. Then hit your q key to quit, and gopher will ask you if you want to save the file in your home directory on your public-access site or whether you want to e-mail it somewhere.

### 1.3 Chapter 8: Information servers (2 of 4) -- WIDE-AREA INFORMATION SERVERS

Now you know there are hundreds of databases and library catalogs you can search through. But as you look, you begin to realize that each seems to have its own unique method for searching. If you connect to several, this can become a pain. Gophers reduce this problem somewhat.

Wide-area information servers promise another way to zero in on information hidden on the Net. In a WAIS, the user sees only one interface -- the program worries about how to access information on dozens, even hundreds, of different databases. You tell give a WAIS a word and it scours the net looking for places where it's mentioned. You get a menu of documents, each ranked according to how relevant to your search the WAIS thinks it is.

Like gophers, WAIS "client" programs can already be found on many public-access Internet sites. If it does, type

```
swais
```

at the command line and hit enter (the "s" stands for "simple"). If it doesn't, telnet to bbs.oit.unc.edu, which is run by the University of North Carolina At the "login:" prompt , type

```
bbs
```

and hit enter. You'll be asked to register and will then get a list of "bulletins," which are various files explaining how the system works. When done with those, hit your Q key and you'll get another menu. Hit 4 for the "simple WAIS client," and you'll see something like this:

|       |              |                       |              |
|-------|--------------|-----------------------|--------------|
| SWAIS |              | Source Selection      | Sources: 23# |
|       | Server       | Source                | Cost         |
| 001:  | [ archie.au] | aarnet-resource-guide | Free         |

```

002:  [    archive.orst.edu]  aeronautics                      Free
003:  [nostromo.oes.orst.ed]  agricultural-market-news      Free
004:  [sun-wais.oit.unc.edu]   alt-sys-sun                    Free
005:  [    archive.orst.edu]   alt.drugs                      Free
006:  [    wais.oit.unc.edu]   alt.gopher                     Free
007:  [sun-wais.oit.unc.edu]   alt.sys.sun                    Free
008:  [    wais.oit.unc.edu]   alt.wais                       Free
009:  [    archive.orst.edu]   archie-orst.edu                Free
010:  [          archie.au]    archie.au-amiga-readmes      Free
011:  [          archie.au]    archie.au-ls-lRt          Free
012:  [          archie.au]    archie.au-mac-readmes      Free
013:  [          archie.au]    archie.au-pc-readmes        Free
014:  [ pc2.pc.maricopa.edu]   ascd-education                 Free
015:  [          archie.au]    au-directory-of-servers      Free
016:  [    cirm2.univ-mrs.fr]  bib-cirm                       Free
017:  [    cmns-sun.think.com]  bible                          Free
018:  [          zenon.inria.fr]  bibs-zenon-inria-fr           Free

```

Keywords:

<space> selects, w for keywords, arrows move, <return> searches, q quits, or ?

Each line represents a different database (the .au at the end of some of them means they are in Australia; the .fr on the last line represents a database in France). And this is just the first page! If you type a capital K, you'll go to the next page (there are several pages). Hitting a capital J will move you back a page.

The first thing you want to do is tell the WAIS program which databases you want searched. To select a database, move the cursor bar over the line you want (using your down and up arrow keys) and hit your space bar. An asterisk will appear next to the line number. Repeat this until you've selected all of the databases you want searched. Then hit your W key, after which you'll be prompted for the key words you're looking for. You can type in an entire line of these words -- separate each with a space, not a comma.

Hit return, and the search begins.

Let's say you're utterly fascinated with wheat. So you might select agricultural-market-news to find its current world price. But you also want to see if it has any religious implications, so you choose the Bible and the Book of Mormon. What do you do with the stuff? Select recipes and usenet-cookbook. Are there any recent Supreme Court decisions involving the plant? Chose supreme-court. How about synonyms? Try roget-thesaurus and just plain thesaurus.

Now hit w and type in wheat. Hit enter, and the WAIS program begins its search. As it looks, it tells you whether any of the databases are offline, and if so, when they might be ready for a search. In about a minute, the program tells you how many hits it's found. Then you get a new menu, that looks something like this:

Keywords:

```

#      Score      SourceTitleLines
001:   [1000] (roget-thesaurus)      #465. [results of comparison. 1] Di   19
002:   [1000] (roget-thesaurus)      #609. Choice. -- N. choice, option;  36
003:   [1000] (roget-thesaurus)      #465. [results of comparison. 1] Di   19
004:   [1000] (roget-thesaurus)      #609. Choice. -- N. choice, option;  36

```

```

005:  [1000] (recipes) aem@mthvax Re: MONTHLY: Rec.Food.Recipes 425
006:  [1000] ( Book_of_Mormon) Mosiah 9:96
007:  [1000] ( Book_of_Mormon) 3 Nephi 18:185
008:  [1000] (agricultural-ma) Re: JO GR115, WEEKLY GRAIN82
009:  [ 822] (agricultural-ma) Re: WA CB351 PROSPECTIVE PLANTINGS 552
010:  [ 800] ( recipes) kms@apss.a Re: REQUEST: Wheat-free, Suga 35
011:  [ 750] (agricultural-ma) Re: WA CB101 CROP PRODUCTION258
012:  [ 643] (agricultural-ma) Re: SJ GR850 DAILY NAT GRN SUM72
013:  [ 400] ( recipes) pat@jaamer Re: VEGAN: Honey Granola63
014:  [ 400] ( recipes) jrtrint@pa Re: OVO-LACTO: Sourdough/Trit 142

```

Each of these represents an article or citing that contains the word wheat, or some related word. Move the cursor bar (with the down and up arrow keys) to the one you want to see, hit enter, and it will begin to appear on your screen. The "score" is a WAIS attempt to gauge how closely the citing matches your request. Doesn't look like the Supreme Court has had anything to say about the plant of late!

Now think of how much time you would have spent logging onto various databases just to find these relatively trivial examples. But as more databases are added to WAIS programs, a problem arises that is similar to the one WAISs were supposed to solve: how do you find the specific databases you want? Scrolling through page after page of database listings becomes rather tedious rather quickly and you could wind up missing the one database you really need. That's the next step in WAIS research.

## 1.4 Chapter 8: Information servers (3 of 4) -- WORLDWIDE WEB

Developed by researchers at the European Particle Physics Laboratory in Geneva, the Worldwide Web is somewhat similar to a WAIS. But it's designed on a system known as hypertext. Words in one document are "linked" to other documents. It's sort of like sitting with an encyclopedia -- you're reading one article, see a reference that intrigues you and so you flip the pages to look up that reference.

To try the Worldwide Web, telnet to

```
info.cern.ch
```

No log in is needed. When you connect, you'll see:

```
Welcome to CERN
```

```
The World-Wide Web: CERN entry point
```

```
CERN is the European Particle Physics Laboratory in Geneva, Switzerland.
Select by number information here, or elsewhere.
```

```

Help[1]                About this program

World-Wide Web[2]       About the W3 global information initiative.

CERN information[3]      Information from and about this site

Particle Physics[4]      Other HEP sites with information servers

```



Other Subjects[5]            Catalogue of all online information by subject. Also:  
by server type[6] .

```
** CHECK OUT X11 BROWSER "ViolaWWW": ANON FTP TO info.cern.ch in  
/pub/www/src *** Still beta, so keep bug reports calm :-)
```

If you use this service frequently, please install this or any W3 browser on your own machine (see instructions[7] ). You can configure it to start 1-7, <RETURN> for more, Quit, or Help:

You navigate the web by typing the number next to a given reference. So if you want to know more about the web, hit 2. This is another system that bears playing with.

## 1.5 Chapter 8: Information servers (4 of 4) -- CLIENTS

If you are used to plain-vanilla Unix or MS-DOS, then the way these gophers and WAISs work seems quite straightforward. But if you're used to a computer with a graphical interface, such as a Macintosh, an IBM compatible with Windows or a Next, you'll probably regard their interfaces as somewhat primitive.

There are, however, ways to integrate these services into your graphical user interface. In fact, there are now ways to tie into the Internet directly, rather than relying on whatever interface your public-access system uses.

There is now a growing number of these "client" programs for everything from ftp to gopher. PSI of Reston, Va., which offers nationwide Internet access, in fact, requires its customers to use these programs.

Using protocols known as SLIP and PPP, these programs communicate with the Net using the same basic data packets as much larger computers online.

Beyond integration with your own computer's "desktop," client programs let you do more than one thing at once on the net -- while your downloading a large file in one window, you can be chatting with a friend through an Internet chat program in another.

These client programs have a couple of disadvantages. One is that you'll need a 9600-baud modem -- while it is possible to connect to the Net with them at lower speeds, you will likely find them painfully slow. Not all public-access sites are set up to allow such connections. And those that are usually charge far more for them.

Your system administrator can give you more information on setting up one of these connections.