CHAPTER 8

GOPHER

8.1   What is Gopher ?

Gopher is a hierarchical menu-based system for exploring the Internet[1]. It was developed at the University of Minnesota, where its first server is available by Telnet and by special MS-DOS, Windows 3.1 and Macintosh client programs. The software for MS-DOS and Macintosh is distributed by boombox.micro.umn.edu. Gopher clients for Windows are available from NOTIS Inc., and as shareware from several popular FTP sites[2].

There are some speculation about the origin of the name Gopher. Some ascribe it to the mascot of the University (gopher in American English). Others insist that it comes from the words " GO FOR ". It does allow you to go for information in a very direct fashion. Among its basic characteristics are :

- Great ease of use with a user interface based on menus. Selection of options is carried out by moving the cursor on the menu, by keying in the number of the option, or by selecting the desired option.

- It offers the possibility of discovering sources of information on the Internet without needing to know their location. Gopher server automatically directs the search to the address where what you want to see is stored.

Originally, Gopher had a text-based interface. Then it has evolved greatly, becoming a tool for obtaining multimedia data. New servers provide the ability to retrieve plain text, formatted text, images, sound and full motion video.

You can access Gopher by means of Telnet, although the menu options cannot be selected with the mouse. But it is used more powerfully if you use a client Gopher program. This is a program on your computer which

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[1] Kiley, Robert. Medical information on the Internet : a guide for health professionals. 2nd ed. p. 151.
[2] Grosch, Audrey N. Library information technology and networks. p. 169.

connects you to a Gopher server, managing the data transmission. This program allows you to se-

lect the information displayed to you on the menus. Client programs are becoming popular to the extent that practically all public and private entities offering connections to the Internet have the possibilities of using Gopher directly[3].

8.2   Using Gopher

8.2.1   Access Via Gopher Client

The best way of learning how to use Gopher is to navigate with it. There are no special rules of use. Normally, having opened the Gopher icon on your computer you are automatically connected to a preset Gopher server. In order to change to a particular server, use the option on the program which allows you to connect to the Gopher server in question.

After making the connection by means of a client Gopher with a Gopher server on the Internet, you will find an environment similar to the following :

• At first, you are shown a menu with various options. Each option has an identification letter at the beginning, or an icon, depending on which client you have. The identifying letters make reference to :

(D)   Directory. A new menu from which you have to select another option.

(F)   File. Normally a text file. It informs you of the end of the search when you select this option. No further menus appear in relation to the selection.

(I)   Image. An image you can import to your computer.

(S)   Search. On choosing this option, some relevant data should be keyed in to initiate a search on the Internet.

• There are other references which may vary according to the browser to indicate access to resource directories, access to Telnet, WAIS searches, etc.

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[3] Pareras, Luis G. Medicine and the Internet. p. 176-177.

- You can interact with the menu by means of the mouse. If you double-click one of the options, the information search is redirected and you are taken to where you want to go.

- If you want to obtain information about a specific subject, the

  first step is to select the option which refers to information about the field of that specific subject. You get a multitude of options for the search. After briefly interacting with one of them, you get a menu on which there is a reference to the information you are interested in.

- Backtracking, when the selected option is not what you are interested in, can be carried out by selecting the icon in the top left-hand corner of the window. Some client Gophers have an icon designed for this purpose.

- After selecting the specific subject option (by the identifying F of the final file at the beginning of the selection) you will get a text with the desired information. It is also possible to carry out searches by means of keywords related to the information. For example, after connecting to a database, you choose the option of consulting the contents of the files referring to a keyword which you key in to start the search.

- You can get more than just text via Gopher, as you can also import other types of documents such as images, in the same manner of search for text[4].

8.2.2   Access Via Telnet

The majority of Gopher addresses on the Internet allow access via Telnet. The required password is mostly " gopher ". This is useful for those who do not have a client Gopher and want to find out what these resources can offer. However, it is advisable to get a client for more convenient access.

After connecting to a Gopher server, you see that it is not possible via Telnet to use the mouse for selecting the options. In this case you have either to key in the number of the option or use the cursor.

For using Gopher via Telnet :

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[4] ibid, p. 178-185..

- Connect to the address via Telnet.

- Key in the password " gopher " and get access to the initial menu.

- Select one option and pass to a new menu.

- Go to the specified topic and select one to get the full text.

The system of menus offered by Gopher has a number of signals adopted by convention, which help you to decide the best for obtaining what you want :

♦ When there is a full stop at the end of the text of a menu option, selecting that option will take you to a file, and there are no menus beyond that option.

♦ When you find a slash at the end of the text, selecting that option will take you to another menu, which will allow you to continue selecting options.

♦ The presence of a question mark (?) after the text of an option indicates that after choosing that option you will be asked for information. The information, in such cases, is usually a keyword which will help you to find what you are looking for.

♦ The word <picture> indicates a picture after the selection.

♦ The word <cso> indicates the presence of a directory in the style of the yellow pages.

♦ The presence of <tel> indicates that after the selection a Telnet type connection will be established.

Normally, at anytime in the course of a search carried by Gopher and independently of the screen you are on, there are various options :

- to return to the previous menu

- to get online help

- to terminate the connection

There are other options which vary from one Gopher server to another. All of these options appear on the screen at the bottom of each page so that you are permanently reminded of their existence.

When you are faced with enormous menu options use the command " / " to go to the area of the menu which you are interested in. However, this is not necessary in the case of most modern client Gopher programs, which perform all selections by the mouse and scroll bars.

Before starting to browse, you should decide to which Gopher server you have to connect. So you should have a method for finding and updating the Gophers you need. These can be found in various ways :

- Using the tool called VERONICA, which will be discussed later in this chapter.

- Using Telnet, WWW, FTP, WAIS or any other tool, you can obtain a list of the medical Gopher servers.

8.3   Examples of Medical Gophers on the Internet

Name	URL	Description
Aids Alert for Health care Workers	*gopher://gopher.cic.net:70*/11/e-serials/alphbetic/a/aids-alert	*Bibliography and in*formation about professional risk of infection by HIV
Austin Hospital Medical Images Library	gopher://gopher.austin.unimelb.edu.au:70/11/images	
CAMIS (Center of Advanced Medical Informatics at Stanford	gopher://camis.stanford.edu:70/1	Searching mechacisms, finding medical people, medical information, etc.
CANCERLIT-NCI	gopher://gopher.nih.gov/ 11/clin/cancernet	Bibliography and abstracts of cancer literature
Computational Biology	gopher://merlot.welch.jhu.edu/1	Biology and genetics

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Computer Assist Molecular Modelling (CAMM)	gopher://camsl.caos.kun.nl/1	Human genome, biochemistry and informatics
EMBNet Bioinformation Resource	gopher://biox.unibas.ch/1	Molecular biology
FAM-MED	gopher://ftp.gac.edu:70/11/pub	Computers and family medicine
GENETHON	gopher://gopher.genethon.fr/1	Human genome research (France)
GENOME Project	gopher://merlot.welch.jhu.edu/11/genome	Human Genome project
HEALTHLINE Gopher Server	gopher://selway.umt.edu:700/1	General medical database covering a large quantity of aspects
Medical Imaging Networked Consortium	gopher://mirage.umdnj.edu:70/1	Medical images
METRONOME online CME	gopher://metronome.com/our gopher server	Continuing medical education ; offers a list of courses, congresses, etc.
National Library of Medicine Gopher	gopher://nlm.nih.gov 70	Medlars and the databases of the NLM
World Health Organization	gopher://gopher.who.ch:70/1	Epidemiology and public health
Yale Biomedical Gopher	gopher://yale.info.yale. edu	Medical information directory

8.4 VERONICA

Veronica is a tool which simplifies the search for resources in Gopher. The name Veronica comes from " Very Easy Rodent Oriented Networked Index of Computerized Archives ". Veronica starts the search on the Gopher menus, from which you select " GOPHER-space search " or the name veronica, by keying in a keyword. It gives you Gopher addresses with the keyword on their menus. You

can choose which of these sources interest you in order to enter them. You have to bear in mind the following characteristics :

- The search is not case-sensitive, which means that capital and lower cases are the same.

- Veronica does not carry out searches in the complete text of the resources available on the Internet. It simply looks for the key-word you have given in on the menus of the Gopher on the net-work.

Access to Veronica is achieved via a client Gopher. Connection is achieved to a Gopher server. The main centre of search via Veronica is found at " gopher.unr.edu ". After connecting to the server, you select the option of using Veronica (or GOPHERspace), and a menu is dis-played which offers you various Veronica servers to initiate the search. The possibilities are various :

♦   Access to information on how to use Veronica.

♦   Selecting the most appropriate Veronica server. Any of them will, in principle, offer you the same information. But it is advisable to use the geographically closest one. However, not all servers bring their search indexes up-to-date at the same time, so the results may vary depending on which server you consult.

♦   Type of search you carry out :

∗   Searching GOPHERspace by keywords in titles. This type locates all types of resources that have title containing the keyword (ASCII files, images, binary files, Gopher directo-ries, etc.)

∗   Searching Gopher directories only for keywords in titles. It searches only for the directories in which the keyword is contained in the title.

∗   Simplified Veronica. When you select the option, Veronica asks you for the keyword or words you want, together with additional information to control the search :

   1.   Simple search. This only requires one keyword to be keyed in. The result is displayed and you select one, and you can accede directly to the information it contains. It should be pointed out

that the number of addresses Veronica gives is set at a default value of 200.

2. Search by more than one keyword. Logical operators (Boolean logic) are used here. The use of parentheses modifies the logical order of the operators.

3. Search for word roots. Veronica allows the use of " * ", a symbol which permits search for word roots, such as " neuro* ".

4. Search by types of Gopher. It is possible to define a type of resource to which you want to accede in order to simplify your searches. A number of types of Gopher have been arbitrarily defined, each of which is classified as a number or letter, which permit this type of search :

0.	File
1.	Directory
2.	CSO phonebook server
3.	ERROR
4.	BinHexed MAC file
5.	DOS binary archive
6.	UNIX uuencoded file
7.	Index-search server
8.	Pointer to a Telnet session
9.	Binary file
I.	Image
S.	Sound

The search is executed by adding to the keyword the extension -t, then (without leaving space) the number which defines the different types of search. More than one number may be added after -t without leaving spaces.

5. Specification of the number of resources analyzed. The number of addresses Veronica can give is 200 by default. However, if you need to broaden the search, use the extension -m followed by the number of responses you want Veronica to give. If you want to get all references on a keyword key in :

keyword-m

without any number.

Veronica can also be accessed via WWW. Its use is not managed by the Web browser, but by means of a connection with a Gopher session. It has

to be remembered that the references you obtain do not come from medical literature but from Internet addresses[5].

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[5] ibid, p. 198-209.