Internet Gopher User's Guide

Editor

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April 26, 1994

UNIVERSITY OF MINNESOTA

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CHAPTER 1

Introducing Gopher

This chapter describes how you can use the Internet Gopher system to easily publish and retrieve information on a network.

Introduction

The internet is a wide vast place with many resources available. Searching, finding and retrieving these resources has been difficult in the past. The Internet Gopher was developed to let an average user access these resources quickly and simply.

What is the Internet Gopher?

All over the world, data is stored on computers, many of which are connected by the Internet, a confederation of computer networks. With Internet Gopher you can easily access publicly available information stored on many of these connected computers.

Gopher combines features of electronic bulletin board services and databases, allowing you to either browse a hierarchy of documents, or search for documents that contain certain words or phrases.

The Internet Gopher software was conceived at the Computer and Information Services department of the University of Minnesota. Software developed at the University of Minnesota is freely distributable for non-commercial puposes.

Types of Information

Gopher supports a diverse range of data, all of which can be accessed by a simple keystroke or click of the mouse. Here are some of the most popular data types:

Directories

The most basic information type in gopher is a directory. A directory is a list of documents. Directories allow easy browsing of information. Items can be organized into specific areas, making it easy to find the information you need.

In addition, a special type of directory called a “link” allows gopher to reference directories on a different computer. This allows gopher to traverse a hierarchy of information residing on multiple machines. These links are transparent, you won’t notice that you’re connecting to another machine.

Text Files

Most of the information in gopher is stored in ASCII text files. These files can be used with most popular computer applications

Search Items

This is a special kind of directory. You can specify any number of keywords to a search item. Only those documents that match the given criteria will show up in the resulting list.

Telnet/3270 Sessions

This item type is a reference to a public telnet connection. Selecting one of these items will connect you to a system using teh appropriate terminal emulation.

Phone Books

This document type is a special version of the search item based upon the Ph/Qi server developed at the University of Illinois.

The phone book search allows you to search on certain fields of a specialized user database. Some common fields are phone number, e-mail address, or name.

Multimedia

Gopher supports a number of multimedia file formats including images, audio and video file formats. Images such as weather maps are available. Digitized audio data files such as the 1992 presidential debates are available. Movies in Quicktime and MPEG are available.

Formatted Text

Some Gopher servers will allow you to view documents in formats other than text. Postscript is one of the most popular formats for this “Rich Text.”

Finding Information

When using Gopher, looking for information located in other continents is as easy as looking for information residing on a computer in the next room. When using Gopher, you begin at the first or root level of your home Gopher Server. From there you can choose between two methods or locating information: browsing and searching.

Browsing

You may want to follow the paths in Gopher from level to level until you find the data you’re looking for. From the first level, you can choose a topic, which leads to another level, and another, until you finally come to an item that looks interesting.

For instance at the University of Minnesota, you might look for a salmon recipe by looking in the *Fun & Games* directory, then in the *Recipes* directory, and then in the *Seafood* directory until you see an item with *salmon* in its title.

Searching

Alternatively, you may want Gopher to do the work for you by using a search item. For instance, at the University of Minnesota you could select a search item called *Search Recipes*. A message prompts you to type in the words you're looking for; you type *salmon*. The server searches the text of a collection of items and lists the ones that have the word salmon in them. You can then examine these items until you find one that contains a recipe that strikes your fancy.

Additionally, some search items will let you specify a complex search expression for your query. If you only had sugar, eggs and chocolate chips, you could search for items that contained all of these words by specifying *sugar and eggs and "chocolate chip"* to the *Search Recipes* item.

Some Example Information

We think the easiest way to get a grasp of the information inside of GopherSpace is to try it. However, here is a lisitng of some of the more popular information:

- Weather Forecasts and current conditions for the United States and Canada.
- Recipes
- Movie Reviews.
- Computer Questions and Answers.
- Weather Maps.
- Movies of Chemical reactions.
- E-mail addresses and phone books for most major institutions
- Newspapers and USENET news.
- Full electronic versions of many of the major classics, Shakespeare, Moby Dick, etc.
- Library Catalogs from around the world.
- GENE Sequences.
- Song Lyrics

- Job listings
- University Course Catalogs
- And much, much, more!

Using this Manual

You do not need to read this entire manual to use the Internet Gopher. Most likely, you will only need to read the chapters about the Internet Gopher *client* for your software.

If you wish to publish information you will want to pay attention to the chapters referring to the Internet Gopher servers for your system.

The First Steps

See *"Getting the Internet Gopher Software"* on page 15 for information about retrieving and installing the necessary software. Then read the chapter appropriate for your system.

Common Questions

It's a good idea to read through the *"Common Questions"* on page 105. This chapter contains answers to the most frequently asked questions about the Internet Gopher - from installing it to serving data.

Platforms Supported

The Internet Gopher works on a number of platforms and operating systems. The operating system for all of the following must have TCP/IP networking support and a connection to a network.

Gopher Clients

Clients to *access* data are available for the following platforms:

- Macintosh

- DOS
- Microsoft Windows
- Unix, full-screen, emacs and Xwindow
- VMS full screen.
- NeXTstep
- OS/2
- VM/CMS
- MVS

Gopher Servers

Servers to *publish* information are available for the following platforms:

- Unix
- VMS
- Macintosh
- VM/CMS
- DOS
- OS/2
- MVS

Conventions used in this Manual

This manual uses these conventions:

- The `Courier` font is used to to show sample output of textual clients. **`Bold Courier`** is used whenever you have to enter text or commands.
- In reference to the Unix Server, *gophertop* refers to the directory where the gopher source code is installed.
- Figure boxes are used to show usage.

Support Questions?

We hope you enjoy using Gopher and that it helps you in you to access and publish data quickly and easily.

If you have questions or comments, please send us electonic mail at gopher@boombox.micro.umn.edu. Or send paper mail to the following address:

Internet Gopher Development Team
100 Union Street SE #152
Shepherd Labs - University of Minnesota
Minneapolis, MN 55455

Or fax us at +1 (612) 625-6817.

CHAPTER 2

Getting the Internet Gopher Software

This chapter will show you how to get the Internet Gopher software. You should only need to read the first section *"Getting the Software"* on page 15 and the sections appropriate to your platform.

Getting the Software

You will need to retrieve the Internet Gopher Software from the software repository at the University of Minnesota. Follow these instructions to do so.

The First Retrieval

Most of the software for the Internet Gopher is available on the machine boombox.micro.umn.edu. This machine is on the Internet network. To retrieve the software for the first time you'll need to use an FTP client on a local machine connected to the internet.

FTP, the file transfer protocol, is a quick, reliable and widely popular means of transferring files across the Internet.

FTP clients come in many varieties. On a Unix or VMS system the command is called `ftp`. On the Macintosh there are two ftp applications, `Fetch`, and `Xferit`. NCSA has developed a version of ftp for the IBM-PC called ‘ftp’. Refer to your local network administrator if you don’t have an ftp client.

Once you connect to the boombox server you will want to change to the directory

```
/pub/gopher
```

The different portions for gopher are in this directory. The file 00README contains descriptions of each directory. Refer to Table 1, “Available Gopher Software,” on page 16 for a breakdown of the contents of each directory.

TABLE 1. Available Gopher Software

Directory	Description
Mac_server	Gopher server for the Macintosh
Macintosh-TurboGopher	A graphical Gopher client for the Macintosh
NeXT	A graphical Gopher client for NeXTstep
PC_client	A graphical Turbovision based client for PCs running DOS and using the Clarkson/Crynwr packet drivers
PC_server	Two PC Gopher server implementations, one based on Phil Karn’s NOS, another using Clarkson/Crynwr packet drivers.
Rice_CMS	A Gopher server and client for VM/CMS systems written at Rice University.
Unix	Gopher for Unix. Includes a Gopher server, full screen client, Xwindow client, and an emacs client.
VMS	Gopher for VMS. Includes a Gopher server and full screen client
VieGopher	A Gopher Server and client for VM/CMS written at Vienna.
Windows	Gopher clients for Microsoft Windows.
gopher_protocol	Descriptions of the Gopher network Protocol are stored here.
incoming	Submitted untested gopher software.
mvs	A Gopher server and client for MVS.
os2	A Gopher client for OS/2.

TABLE 1. Available Gopher Software

Directory	Description
amiga	Gopher Software for the amiga.
docs	Gopher Documentation
misc	Things that didn't fit in the above sections.

Each directory contains gopher software for a specific platform. You should retrieve the software from the specific directories that are compatible with your hardware and operating system. There are README files inside of each directory that will help you decide which files to transfer.

Once you find a file that interests you.you should use the GET function of your FTP client. This usually means typing "get filename", or clicking on the appropriate file with your mouse..

Some clients, notably Unix, VMS, and IBM-PC will reqire you to specify a binary "transfer mode." You can set this mode by typing **`binary`** at the `ftp>` prompt.

Refer to Figure 1, "Using FTP with Unix," for an example ftp session to `boombox.micro.umn.edu`

FIGURE 1. Using FTP with Unix

```
% ftp boombox.micro.umn.edu
Connected to boombox.micro.umn.edu
220 boombox FTP server (Version 4.1 Tue Apr 10 05:15:32 PDT 1990)
ready.
Name (boombox.micro.umn.edu:lindner): anonymous
331 Guest login ok, send ident as password.
Password:™
230 Guest login ok, access restrictions apply.
ftp> cd /pub/gopher/Unix
250 CWD command successful.
ftp> binary
200 Type set to I.
ftp> get gopher1.12.tar.Z
200 PORT command successful.
150 Opening BINARY mode data connection for gopher1.12.tar.Z (306512 bytes
226 Transfer complete.
306512 bytes received in 2.4 seconds (1.3e+02 Kbytes/s)
ftp>
```

Subsequent Retrievals

Things get easier after the first retrieval. You don't have to use the arcane ftp command to get the Gopher software, you can use Gopher itself.

You will want to familiarize yourself with your gopher client before doing this though. See the chapters that follow to find out about clients.

You can use your Gopher client to connect to the software repository at

```
boombox.micro.umn.edu
```

And choose the files, just as you would with ftp. Now you can just select the software you want from a menu instead of typing commands to retrieve the file.

CHAPTER 3

TurboGopher

TurboGopher is a Gopher client for the Macintosh. The following chapter contains information on using, configuring and administrating the TurboGopher application.

A Websters definition is:

TurboGopher n. 1. A small rodent with a turbocharger strapped on its back to increase its speed and ferocity. 2. (Amer. colloq.) Native or inhabitant of Minnesota after consuming three double espressos. 3. (Amer. colloq.) An Olympic sprinter who runs errands, does odd-jobs, fetches or delivers documents for office staff. 4. (computer tech.) Speed-optimized Macintosh software following a simple protocol for tunneling through a TCP/IP internet; network speed is achieved by using turbocharged software; incoming bits spin the turbine that pumps out the outgoing bits.

Note that this chapter documents version 1.0.7 of the TurboGopher application.

Overview

TurboGopher is a Macintosh application that we believe is (still!) the fastest Macintosh Gopher client available. Beyond optimizing TurboGopher for raw speed while fetching documents and directories, we turbocharged the user interface by displaying information as soon as possible... you can read the first part of a document or directory while the rest is being fetched. This version of TurboGopher also supports many of the Gopher+ extensions to the original Internet Gopher protocol.

In spite of the design goal to run fast as possible, TurboGopher is a good Mac citizen: it shares time with other applications. You can put TurboGopher in the background to fetch lengthy items in the background while you work in another application in the foreground.

Requirements

You will need a copy of the TurboGopher application, if you haven't retrieved this yet refer to *"Getting the Internet Gopher Software"* on page 15. You will also want to retrieve the "helpler applications." These applications will allow you to connect to telnet sites, view graphics, etc.

TurboGopher requires a Macintosh running a system 6.0.7 or later. We highly reccomend using System 7 or higher. Without it you won't be able to automatically launch the "helper applications."

You should have at least one megabyte of memory, more if you're using Multifinder or System 7.

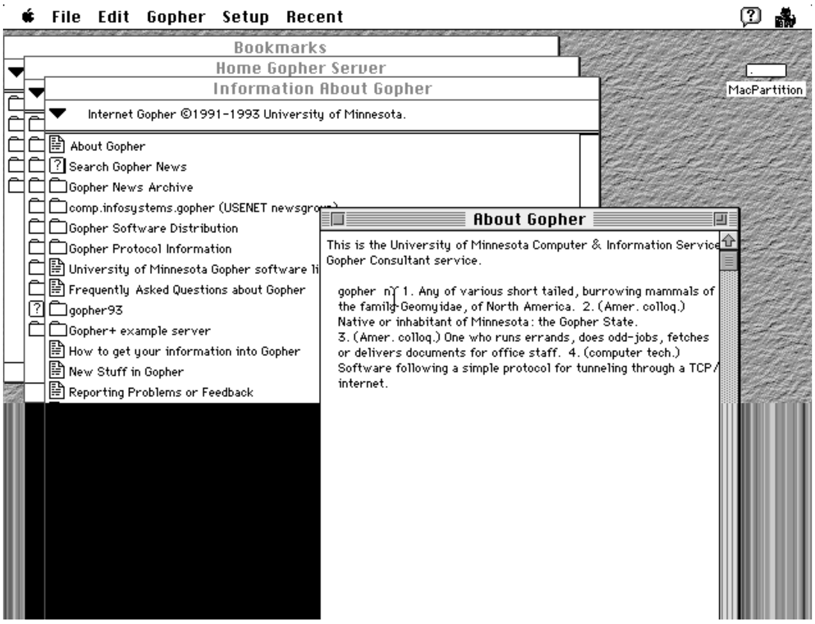
You will need a correctly configured copy of MacTCP and a network connection. If you don't have MacTCP you can get it from the Apple Programmers and Developers Association (APDA). MacTCP is a licensed product, it is not free.

Getting Help

The information in this chapter can also be found by picking the menu item "Help" from the "Gopher" menu of TurboGopher.

In addition to this information you are reading right now, if you are using System 7 (and we strongly recommend that you do), some Balloon Help is available in TurboGopher. See your Macintosh System 7 documentation for information on using Balloon Help.

FIGURE 2. TurboGopher-Top Level



This is the University of Minnesota Computer & Information Service
Gopher Consultant service.

gopher n 1. Any of various short tailed, burrowing mammals of
the family Geomyidae, of North America. 2. (Amer. colloq.)
Native or inhabitant of Minnesota: the Gopher State.
3. (Amer. colloq.) One who runs errands, does odd-jobs, fetches
or delivers documents for office staff. 4. (computer tech.)
Software following a simple protocol for tunneling through a TCP/
internet.

Navigating Gopherspace

To navigate through gopherspace, double-click on any interesting items to open (fetch) them. If you double-click on a file, TurboGopher will fetch and display the file. Opening a folder will let you view its contents. Double-clicking on the question-mark (Search) icons will let you search a database. On most gopher servers these databases are full-text indexes of a collection of information. Full-text index means that every word in every document is considered a keyword. The best way to search a gopher full-text database is specify the words for which to search when TurboGopher presents you with a dialog box. The results of the search are returned as a list of documents containing those words.

Phone Books

If you double-click on the phone-book icons you can search electronic phone books. Phone book databases are structured in the sense that they have fields (i.e. a