DIGGING INTO MacGopher

A University of Utah Computer Center Publication

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The keyboard equivilent table in this document should be read and printed in 10 point Courier type for correct display of the information. The rest of the document is set in 10 and 12 point Palatino type.

This document describes the operation of the Beta version, (not ready for prime time and still in development), of a Macintosh Gopher client written by Rhett "Jonzy" Jones, jonzy@cc.utah.edu, at the University of Utah Computer Center. The program is copyright 1992, by the University of Utah Computer Center. All rights are reserved. The program may distributed freely so long as there is no monetary gain for any organization, person, or persons. This includes no charge for any Internet downloading of this program. Please send any bug reports to: jonzy@cc.utah.edu

The University of Utah has been given permission from Apple Computer Corporation to use the name MacGopher as the name for this gopher client.

INTRODUCTION

Gopher is an information retrieval concept which operates on the Internet. The Gopher protocol was designed at the University of Minnesota.

Gopher is comprised of two parts: a 'client' and a 'server'.

The 'client' is a program which is resident on an individual user's computer. That computer must be electronically linked to another computer which contains (among other things) the gopher 'server'.
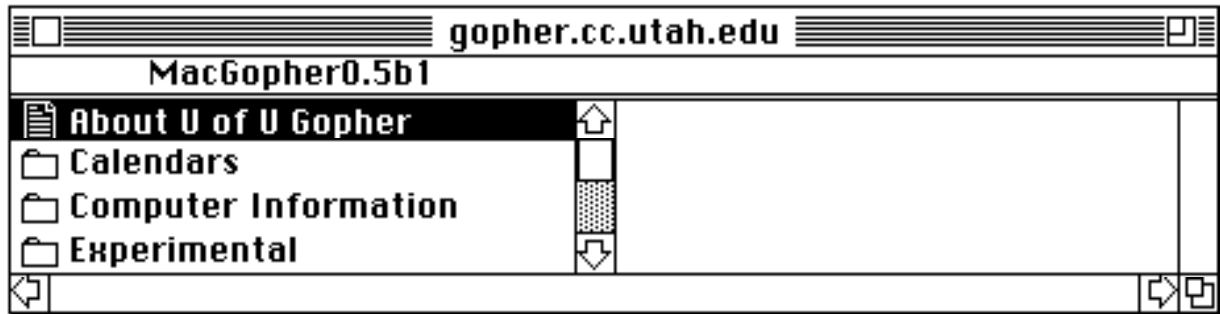
The 'server' program is the mechanism by which information is located and retrieved.   Information can be stored on any number of computers in any number of locations. The server knows where all the information is, and how to pass it along to the client program when a user requests something.
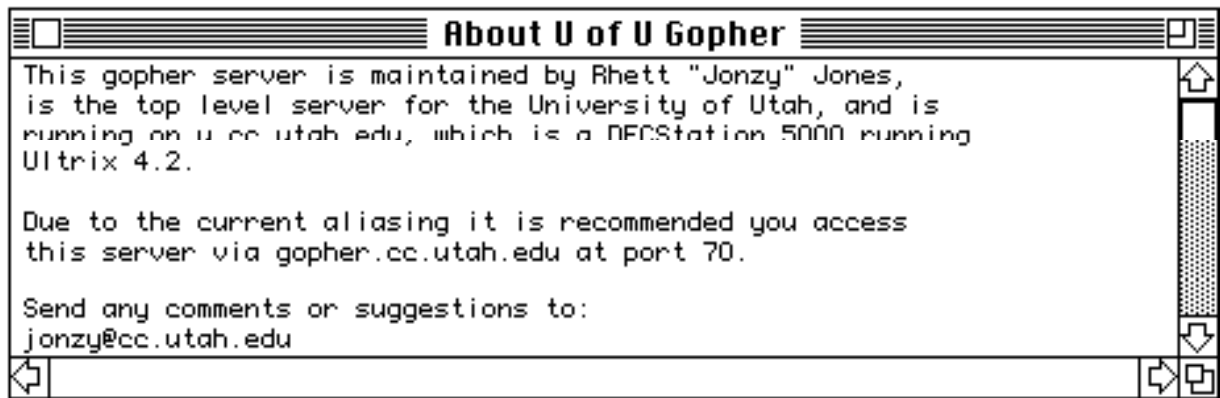
THE WINDOWS
The MacGopher client has four windows.

The Gopher Window
This window has two panes – left and right – which display the menu or list of information available. Toggle between panes with the Tab Key or the Left/Right Arrow keys.

```
┌─────────────────────── gopher.cc.utah.edu ──────────────────────┐
│                    MacGopher0.5b1                                │
│ 📄 About U of U Gopher        ⇧                                  │
│ 📁 Calendars                  ▯                                  │
│ 📁 Computer Information        ░                                  │
│ 📁 Experimental               ⇩                                  │
│ ◁                                                                │
└──────────────────────────────────────────────────────────────────┘
```

The Text Window
This is where requested information appears. It is a standard Macintosh Text window.

```
┌─────────────────────── About U of U Gopher ──────────────────────┐
│ This gopher server is maintained by Rhett "Jonzy" Jones,      ⇧  │
│ is the top level server for the University of Utah, and is       │
│ running on u.cc.utah.edu, which is a DECStation 5000 running  ░  │
│ Ultrix 4.2.                                                   ░  │
│                                                               ░  │
│ Due to the current aliasing it is recommended you access      ░  │
│ this server via gopher.cc.utah.edu at port 70.                   │
│                                                                  │
│ Send any comments or suggestions to:                             │
│ jonzy@cc.utah.edu                                             ⇩  │
│ ◁                                                                │
└──────────────────────────────────────────────────────────────────┘
```

**The Item Inspector Window**
This window presents information about pathways to and locations of selected menu items.
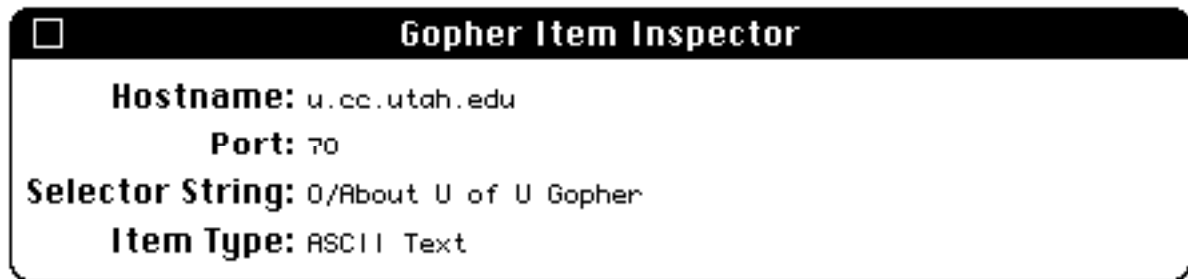
The

Ph Window
'Ph' is the name for the concept of an electronic 'ph'one book. Ph is used to look up information about individuals - full name, work location, electronic mail address, nickname, telephone number, etc. At the top of the window is a text box wherein you type the name or other information you know about a person. Activating the Do Query button starts the query; the phone book listing(s) then appear in the bottom portion of the window.   To toggle between the areas you can use the tab key.
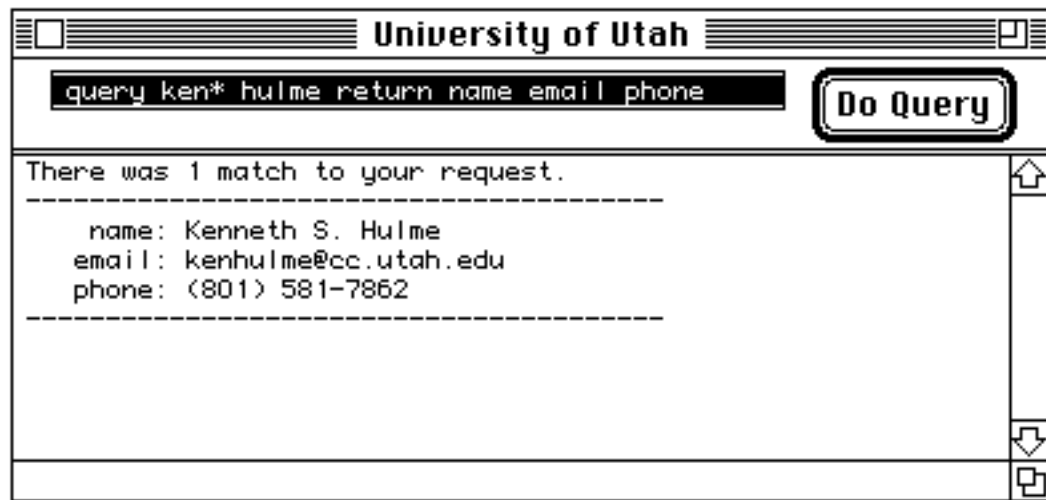
MacGopher MENUS

The APPLE Menu

About Gopher
Standard version and creation date information for the program

Help
On-line help for using the MacGopher client program

List of the DAs installed in the System of your Mac.

The FILE Menu

New Gopher
Opens a new gopher window to the default host and port.

Open Gopher ...
Open a new gopher window to a host and port you specify.

Close
Closes open windows (except the Inspector Window, which just gets hidden).

Load Session ...
Loads the information from a file that was created via Save SessionAs.

Save Session As ...
Records information about all gopher and ph connections in a file of your choice.

Save File As ...
Saves all retrieved information in a text window to a file of your choice. The default creator of all text you save can be altered (with ResEdit), so the saved file can be opened by your favorite editor . This information is stored in the 'STR ' resource and has the ID of 258 and name "CreatorSTR".

Save Selection As ...
Saves the currently selected text to a file of your choice.

Page Setup ...
The standard Page Setup dialog.

Print ...
Prints the contents of the front-most text window.

Print Selection...
Prints the selected text.

Quit
Terminates the Gopher program.

The EDIT Menu

Undo - Not supported by MacGopher.

Cut
For use with the Ph query only.

Copy
Copies any selected text to the Clipboard.

Paste
For use with the Ph query only. If there is a Carriage Return in the Clipboard material, you will hear a beep, and not be allowed to perform the Paste.
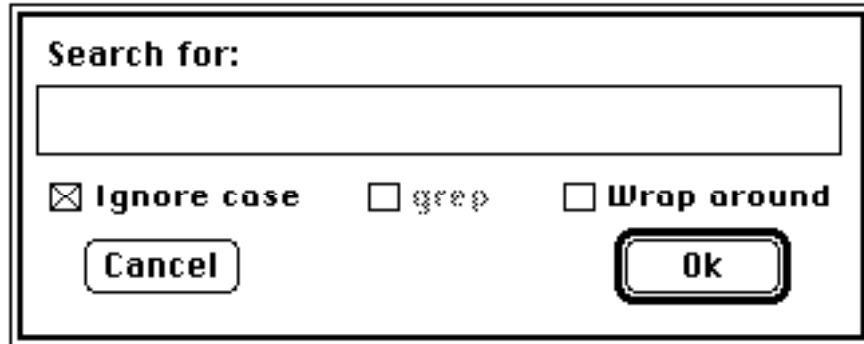
Clear - Not supported by MacGopher.

Select All
Selects all the text within a text window.

The FIND Menu

Find ...
Brings up a dialog asking you for the string you would like to locate within a text window. Buttons allow case sensitive searches, and wrapping the search around the entire text in the text window.

```
Search for:
┌─────────────────────────────────────┐
│                                     │
└─────────────────────────────────────┘
⊠ Ignore case    □ grep    □ Wrap around
  ( Cancel )              (( Ok ))
```

Find Next
Finds the next occurance of the search string either entered in the Find dialog or via Enter Selection.

Find Previous
Finds the previous occurance of the string either entered within the Find dialog or via Enter Selection.

Enter Selection
Takes text which is selected in a text window and makes this selection the search string for the Find functions.

Jump to Selection
Scrolls the window to make the current selection visible. If no text is selected, it scrolls to the location of the cursor.

The WINDOW Menu

Stack
Puts the Gopher window in the upper part of the screen and stacks the text window in the lower part of the screen. Locations are similar to those when a new window is brought up.

Tile
Currently not implemented.

Zoom
Allows zooming of a Gopher window, Ph window, or text window. This does the same thing as clicking in the zoom box of the respective window.

Item Inspector
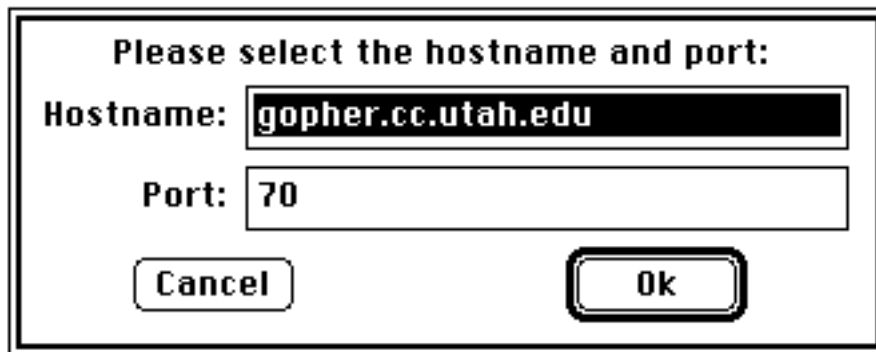Makes the Inspector window visible.

(window names listed)
Any open gopher window or text window is listed here. Selecting a window name from this list brings the selected window to the front of the stack of overlapping windows.
The first 9 windows have command key equivilences. If you open more than 9 windows, windows beyond the ninth must be mouse-selected to be brought to the front.
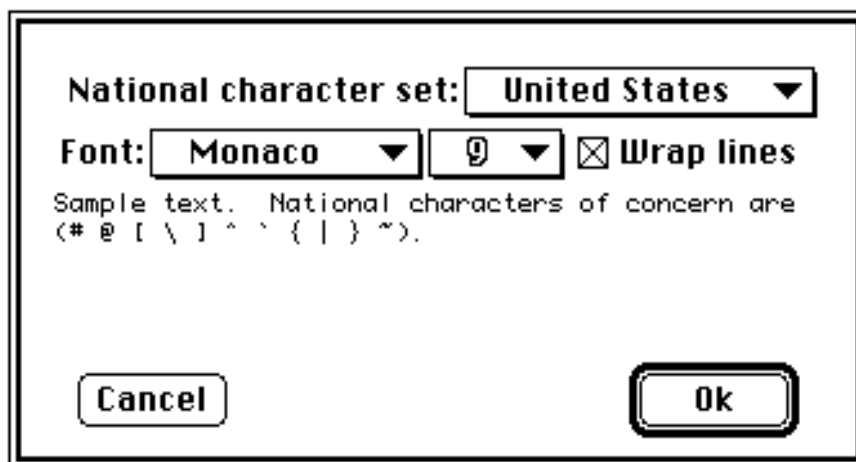
The PREFERENCES Menu

Gopher Prefs ...
Brings up a dialog box allowing you to change the default host and port for use with "New Gopher ..." connections.
If Ok is selected the information you specified will be saved.

```
┌──────────────────────────────────────────────┐
│                                                │
│    Please select the hostname and port:        │
│                                                │
│  Hostname: │gopher.cc.utah.edu          │      │
│                                                │
│      Port: │70                          │      │
│                                                │
│    ( Cancel )            (( Ok ))               │
│                                                │
└──────────────────────────────────────────────┘
```

Text Prefs ...
A dialog box where you can set the font, font size, which national character set to use, and whether or not you want lines longer then the width of the screen to be wrapped around. The settings you make here Affect the next text window that gets opened, or the front-most window if it is a text window. The options you select are valid for both the Ph and text windows.

```
┌──────────────────────────────────────────────┐
│                                                │
│  National character set:│ United States  ▼ │   │
│                                                │
│  Font:│ Monaco   ▼ ││ 9 ▼ │ ⊠ Wrap lines       │
│  Sample text.  National characters of concern are │
│  (# @ [ \ ] ^ ` { | } ~).                       │
│                                                │
│                                                │
│  ( Cancel )              (( Ok ))               │
│                                                │
└──────────────────────────────────────────────┘
```

File Creator Prefs ...
A dialog box where you can set the creator for a document being saved. This allows the document to open the selected application when the document is opened from the Finder.   The dialog has a popup menu that allows you to select what kind of document to alter. The "Find Application" button brings up the standard Macintosh dialog asking you to select the application. If the "Display only applications that handle the give filetype." box is checked only applications that handle the specified filetype is displayed. With this checked, the time required to display the applications is increased. It is suggested that you click the "Find Application" with the box unchecked and go the the directory where the application exists. Once you are in the selected directory select Cancel. Now select the check box and reselect the "Find Application". If you prefer to enter the creator bytes manualy you are restricted to entering four characters. If you are unfamiliar with creator bytes, *leave them alone*.
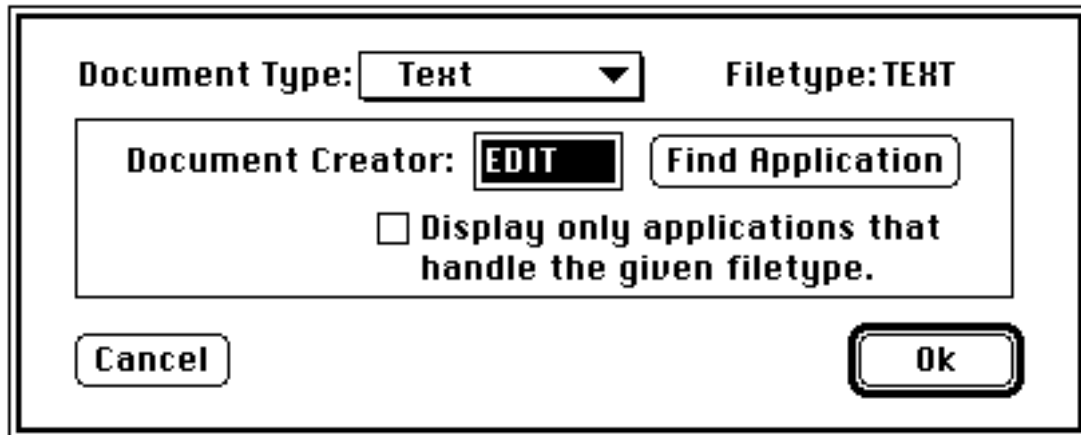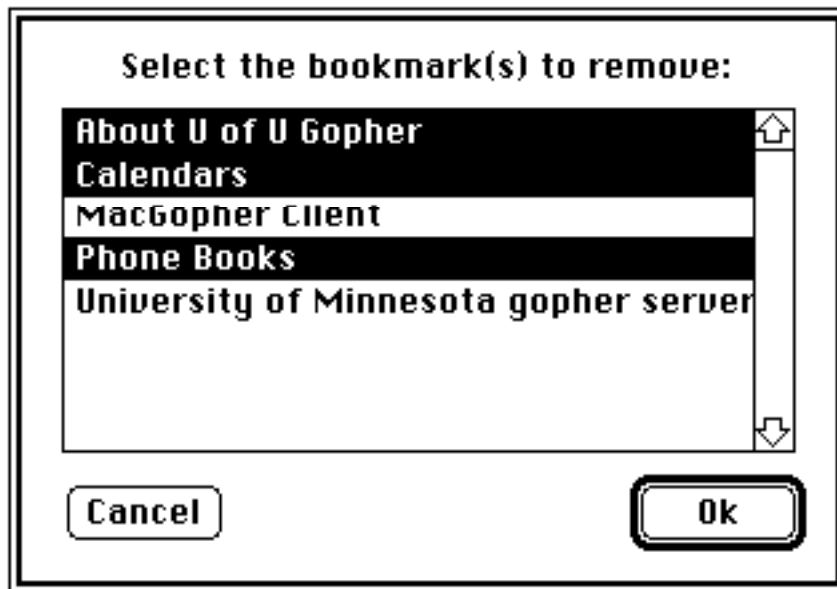

Make Bookmark ...
A dialog box allowing you to name a bookmark for quick return to a given location. This option is only available when a Gopher window is the front window, and you have an item selected.
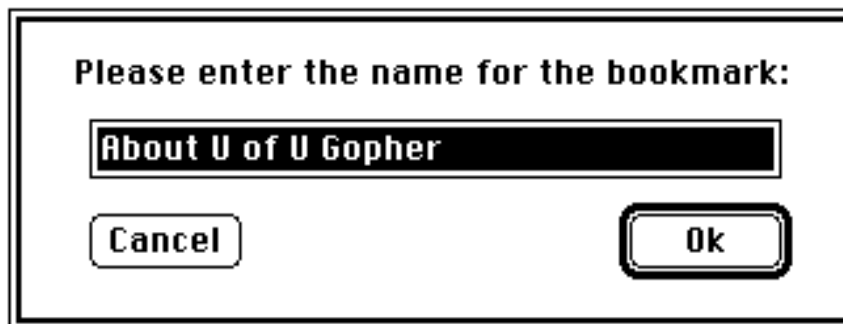
Remove Bookmark ...
A dialog box allowing you to remove bookmarks. This dialog allows for multiple selections by holding down the Shift key. A double click is the same has selecting a book mark and then clicking Ok.

(bookmark names listed)
Any bookmark you have added via Make Bookmark… is shown here. Selecting an item brings up the appropriate window and the data pertinent to the bookmark. Currently the only item types handled here are text, directory, CSO nameserver (ph), and telnet links.

The GOPHER+ Menu

The options found under this menu are only available if the selected item is a Gopher Plus item.
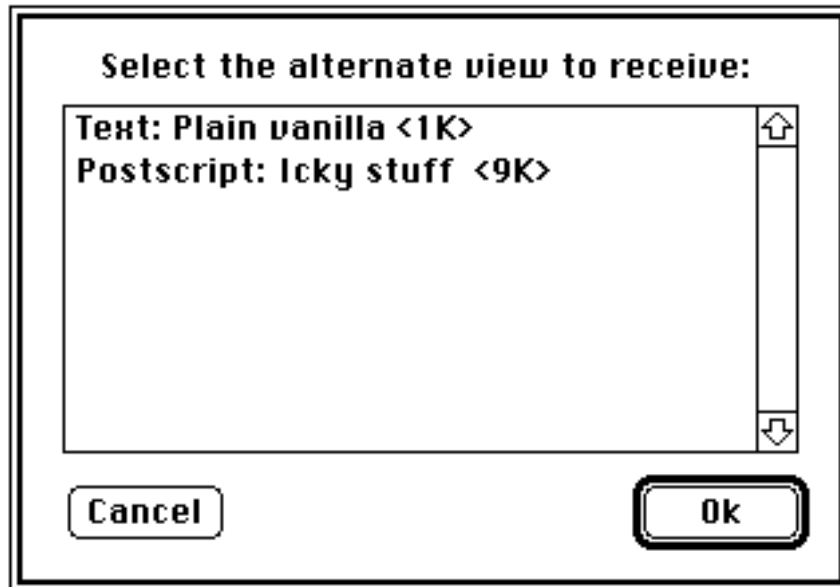
Get Attributes
Brings up a window with the information about the attributes of a selected Gopher Plus item

Get Views ...
Brings up a dialog asking you to select the type of view to receive.
(Currently this option does nothing.)

The Services Menu

Finger ...
Allows for acquiring information about users on remote machines. A dialog similar to the "Make Bookmark ..."
dialog is displayed asking for a finger command. The finger command has the following syntax:
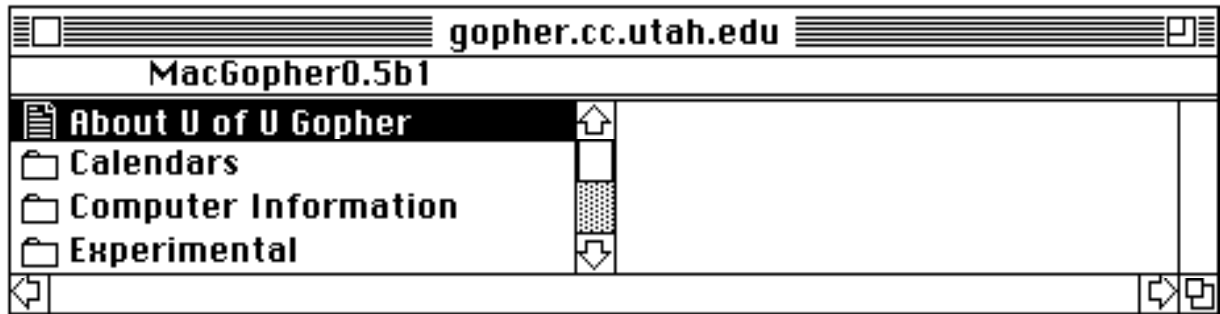   userName@some.site

FTP
Currently not implemented.

Mail
Currently not implemented.

GENERAL OPERATION OF MacGopher

When you start the MacGopher client, the Gopher Window with its two panes appears at the top of the screen. The Gopher Window can be adjusted to fit any screen by using the Grow Box.

```
┌─────────────────────────────────────────────────────────────────┐
│ □ ≡≡≡≡≡≡≡≡≡ gopher.cc.utah.edu ≡≡≡≡≡≡≡≡≡ ▣ │
├─────────────────────────────────────────────────────────────────┤
│      MacGopher0.5b1                                               │
├──────────────────────────────────┬──────────────────────────────┤
│ 📄 About U of U Gopher        ⇧ │                              │
│ 📁 Calendars                   ▓ │                              │
│ 📁 Computer Information        ▓ │                              │
│ 📁 Experimental               ⇩ │                              │
├──────────────────────────────────┴──────────────────────────────┤
│ ⇦                                                          ⇨ ▣│
└─────────────────────────────────────────────────────────────────┘
```

In the left pane of the Gopher Window is the Main Menu of the Gopher information system server to which you are currently connected. The Title bar contains the name of the Gopher server.

Generally speaking, the items in any level of a Gopher menu will be one of three things: a file, a directory, or a connection to another computer. Files have standard "file" icons, and directories have standard "folder" icons displayed along side them. Links have various icons. A complete list of icons is shown below.

MacGopher WINDOW ICONS
The following is the list of the icons that can appear in a Gopher window:

- A text item
- A directory item
- A CSO (ph) phone book item
- An error item
- Item is a Macintosh BinHexed file
- Item is a DOS binary file
- Item is a UNIX uuencoded file
- An Index-Search item
- A Telnet item
- An ftp item
- A gopher+ Image item
- An image item
- A GIF item
- A MIME (Multipurpose Internet Mail Extension) item
- A TN3270 item
- A html (HyperText Markup Language) item for WWW
- A sound item
- A Finger item
- Item is unknown (Not one of the above)

You can also get a definition of selected icons in the Gopher window by bringing up the Item Inspector and looking at the Item Type.

Selecting a File causes the Text Window to appear with the contents of the file displayed.

```
┌─────────────────────────────── About U of U Gopher ───────────────────────┐
│ This gopher server is maintained by Rhett "Jonzy" Jones,               ⇧  │
│ is the top level server for the University of Utah, and is                │
│ running on u.cc.utah.edu, which is a DECStation 5000 running            ▓ │
│ Ultrix 4.2.                                                            ▓ │
│                                                                          │
│ Due to the current aliasing it is recommended you access                │
│ this server via gopher.cc.utah.edu at port 70.                          │
│                                                                          │
│ Send any comments or suggestions to:                                  ⇩ │
│ jonzy@cc.utah.edu                                                        │
│ ⇦ [                                                                 ]  ⇨⇲│
└──────────────────────────────────────────────────────────────────────────┘
```
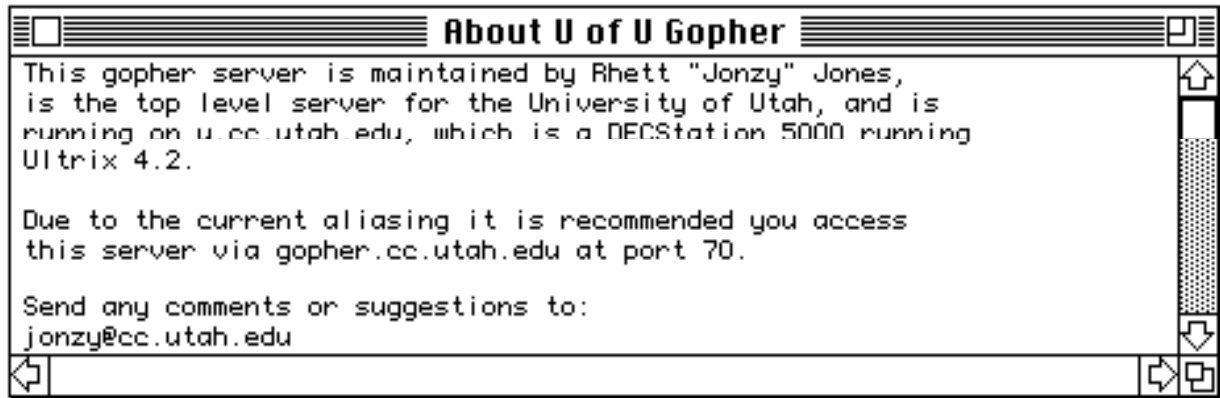
The Text Window Title Bar has the name of the file in it. If the file is not a text document, you may see some strange characters appear in the Text Window. You may navigate through the contents of a document using standard Macintosh techniques. A table of keyboard equivilents of cursor movement is given below.

The following table shows keyboard equivilents for cursor movements on the most common Mac keyboards:

```
N/A = not available
```

		KEYBOARD		
Move	Stnd Mac	Keypad	Emacs	Apple Extended
Cursor left:	left arrow	4	CTRL-b	N/A
Cursor right:	right_arrow	5	CTRL-f	N/A
Cursor up:	up_arrow	8	CTRL-p	N/A
Cursor down:	down_arrow	2	CTRL-n	N/A
Start of line:	OPT-left_arrow	OPT-4	CTRL-a	N/A
End of line:	OPT-right_arrow	OPT-6	CTRL-e	N/A
Up a screen:	N/A	9	ESC-v	Pageup
Down a screen:	N/A	3	CTRL-v	Pagedown Top
of document:	OPT-up_arrow	5	ESC-<	Home
Bottom of doc:	OPT-down_arrow	.	ESC->	End
Show current:	N/A	0	N/A	N/A
(position or				
selection)				

If you select a line in the Gopher window, you can open the selection with a double click, or by using either the Return key, or the Enter key. If you hold down the option key when making your selection, or when selecting OK within the Index-Search dialog, the data will be retrieved as text and placed in a text window. You can hit either command-period or the escape key to emulate the selection of Cancel in all dialogs that have a Cancel button.

Selecting a Directory causes the contents of the directory to be shown in the right pane of the Gopher Window. The name of the directory appears in the Title Bar above its contents in the right pane. Directories can also contain files, other directories, or links to other computers.
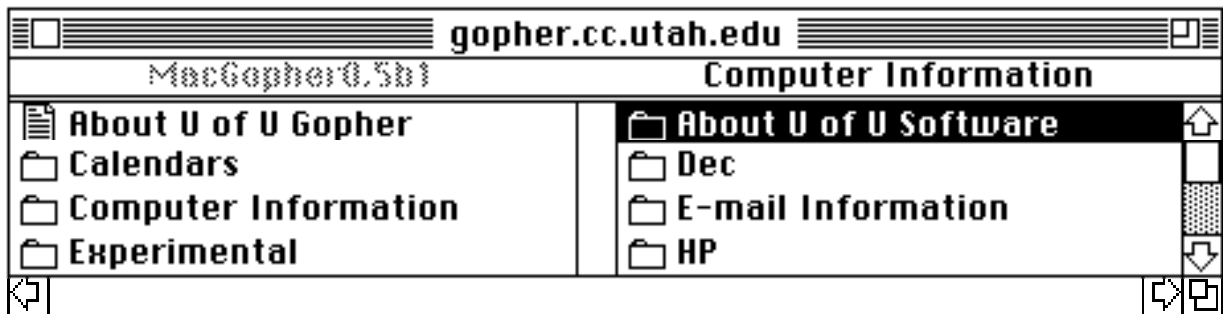
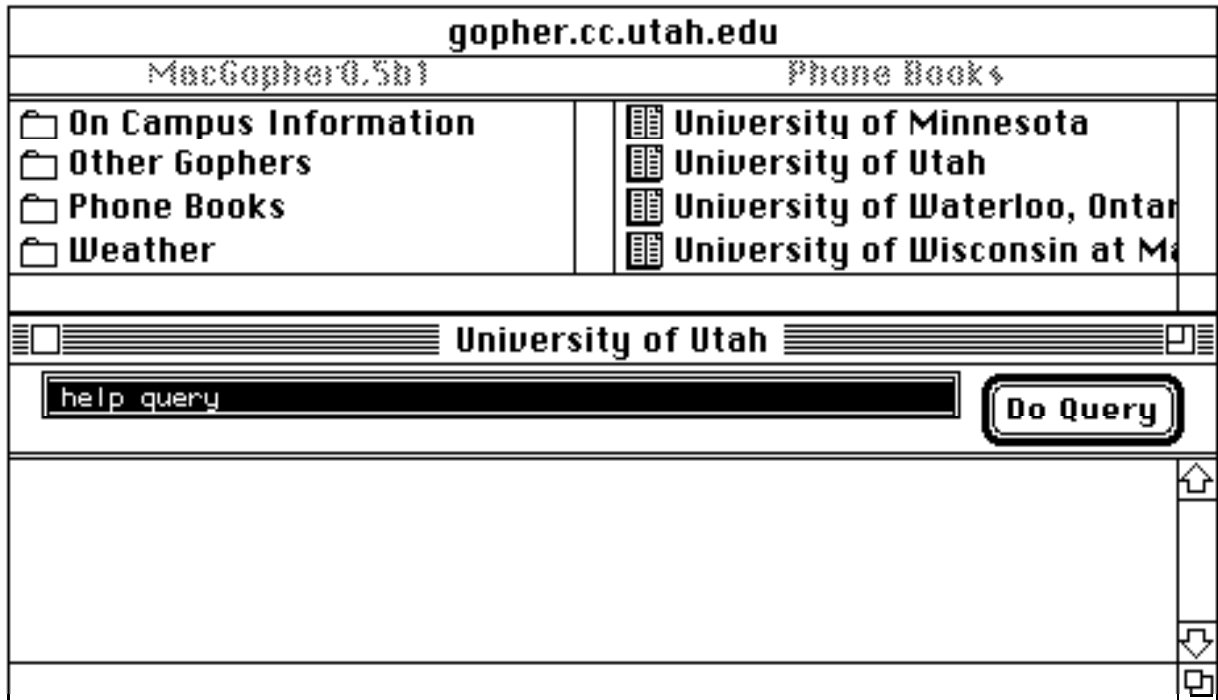Opening a Subdirectory causes the Main Menu to disappear from the left pane. The first directory's contents move to the left pane, and the contents of the sub-directory are shown in the right pane. The right pane Title bar is renamed with the title of the sub-directory. In a similar manner you can navigate through various levels of sub-directories until the information you seek is displayed.
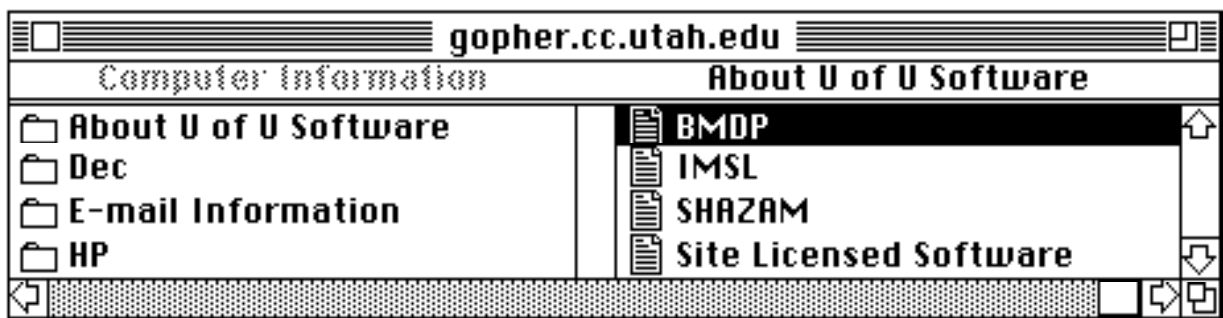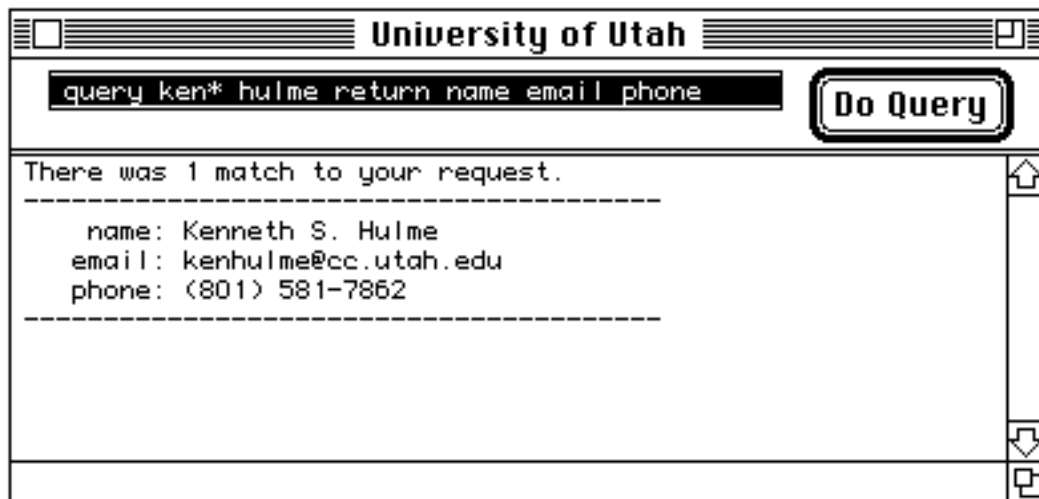
USING Ph

Ph is a special subset of MacGopher used to locate information about individuals who are listed in electronic phonebooks. Opening a Ph link causes the Ph Window to appear.

```
                    gopher.cc.utah.edu
      MacGopher0.5b1              Phone Books
 ┌─ On Campus Information    ▦ University of Minnesota
 ┌─ Other Gophers           ▦ University of Utah
 ┌─ Phone Books             ▦ University of Waterloo, Ontar
 ┌─ Weather                 ▦ University of Wisconsin at Ma

 ═══════════════ University of Utah ═══════════════
  ┌──────────────────────────────────────┐ ╭──────────╮
  │ help query                            │ │ Do Query │
  └──────────────────────────────────────┘ ╰──────────╯

                                                         ⬆


                                                         ⬇
```

In the Help Query line, you enter the person's name, or department, or other known information which will help Ph zero in on which of the many "John Jones'" you want. Wild card characters such as the asterisk can be used. The information that you want Ph to display about the person is specified after the word "Return". In the example below, the name, email address, and telephone number were requested. If you do not specify what information to return, you will be given the default information designated by the creators of the Ph server.

```
 ═══════════════ University of Utah ═══════════════
  ┌──────────────────────────────────────┐ ╭──────────╮
  │ query ken* hulme return name email phone │ │ Do Query │
  └──────────────────────────────────────┘ ╰──────────╯

 There was 1 match to your request.              ⬆
 ------------------------------------------
    name: Kenneth S. Hulme
   email: kenhulme@cc.utah.edu
   phone: (801) 581-7862
 ------------------------------------------
                                                 ⬇
```

USING A TELNET LINK

To get full functionality from the Telnet Link feature of MacGopher, it is recomended that you have System 7, and the program "gTelnet2.5", which is a specially modified version of the NCSA/BYU Telnet. If you are using System 7 and "gTelnet2.5”, you are automatically taken into the Telnet session. If you do not have System 7, you are prompted to name a Telnet file which contains the appropriate information. To activate the Telnet link you must then exit MacGopher, open this document from Telnet on your Macintosh, and login with the information MacGopher has given you.

The program gTelnet2.5 can be obtained via anonymous ftp from ftp.cc.utah.edu in /pub/gopher/Macintosh as "gTelnet2.5.sit.hqx" or via gopher protocol from augusta.cc.utah.edu port 70 as "gTelnet2.5.sit.hqx".
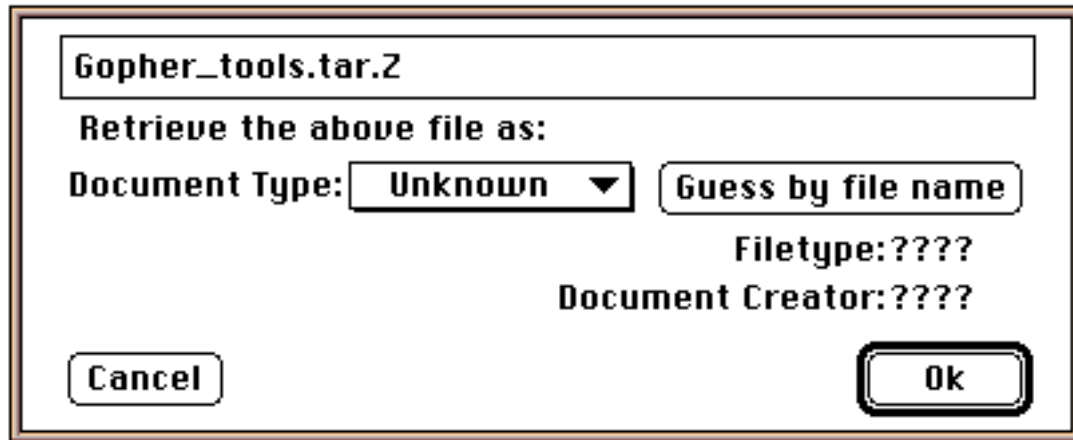

USING A TN3270 LINK

To get full functionality from the TN3270 Link feature of MacGopher, it is recomended that you have System 7. If you are using System 7 you are automatically taken into the TN3270 session. If you do not have System 7, you are prompted to name a TN3270 file which contains the appropriate information. To activate the TN3270 link you must then exit MacGopher, open this document from tn3270 on your Macintosh, and login with the information MacGopher has given you.

The program tn3270can be obtained via anonymous ftp from ftp.cc.utah.edu in /pub/gopher/Macintosh as "tn3270.sit.hqx" or via gopher protocol from augusta.cc.utah.edu port 70 as "tn3270.sit.hqx".

Note: regardless of what system you are using a tn3270 document will be created.   If you are using System 7 the files will be created in the same directory as MacGohper. Thus if you find tn3270 documents on your disk that you no longer want, you will need to throw them away.

SELECTING A FTP ITEM

When selecting a ftp item a dialog will be brought up asking you what type the data should be retrieved as. The
initial choice is what MacGohper thinks the data type is, depending on the file extention. For example, the dialog
below was brought up because a ftp item called "Gopher_tools.tar.Z" was selected. MacGopher recognizes the ".Z"
as a tar file and will attempt to retrieve the data as a binary file. Any data that has a Document type "Text" will be
retrieved as a text file and the data displayed in a MacGopher text window.   The "Guess by file name" button
replaces any selections you have make to what MacGopher believes the data should be retrieved as. If the data
being retrieved is a type other then "Text", the data will be saved to disk with the file type "filetype" and the
document creator "Document Creator".

```
┌─────────────────────────────────────────────────┐
│  ┌─────────────────────────────────────────────┐ │
│  │ Gopher_tools.tar.Z                          │ │
│  └─────────────────────────────────────────────┘ │
│   Retrieve the above file as:                     │
│  Document Type: ┌──────────────┐ ┌──────────────────────┐ │
│                 │ Unknown    ▼ │ │ Guess by file name   │ │
│                 └──────────────┘ └──────────────────────┘ │
│                                      Filetype:????        │
│                                Document Creator:????      │
│  ┌──────────┐                          ┌──────────┐       │
│  │ Cancel   │                          │    Ok    │       │
│  └──────────┘                          └──────────┘       │
└─────────────────────────────────────────────────┘
```

With ftp items being stored on various types of machines, in machine specific forms, and no current way of knowing
what the data is from the ftp protocol, this interface was a guick hack solely to support the selection of a ftp item.
and may be somewhat misleading.   If you find this interface misleading, bizzare, or have some good ideas, please
contact the author and share your feelings.