

FinderMenu 1.0 Tech Notes

Berkeley Systems Inc.

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Comments, questions and suggestions are welcome!

Background

For a description of the commands in the FinderMenu package please refer to the User's Guide document that's part of the FinderMenu package. It pays for technical users to read the User's Guide because it contains important information that's not repeated here.

This document explains the FinderMenu package from a technical standpoint. It's intended for Frontier script writers and C/Pascal developers.

One of Frontier's many capabilities is that it gives the script writer an easy way to edit the contents of its own menu bar. When the user selects an item from the editable menu, Frontier runs the script that's linked into the menu item.

Frontier can also edit the menu bars of other applications if they support an IAC-based protocol known as Menu Sharing. Menu Sharing is an open specification, supported by a toolkit provided free of charge, in full source code, by UserLand Software. The toolkit can be downloaded from UserLand's forum on CompuServe, in Library 8, in MSHARE.SIT. On AppleLink it can be found in the in the Frontier SDK folder of UserLand Discussion Board under the Third Parties icon.

Menu Sharing adds a set of standard Macintosh menus at the end of an application's menu bar. Script writers can add commands to these menus using Frontier. Any changes to the menus are automatically visible as soon as the script writer switches back to the application.

This allows script writers to view an application as a development platform. They can add commands that customize and automate the application just as if it had an integrated scripting language. Frontier scripts can easily launch other applications and integrate their capabilities with other software and the Macintosh operating system.

Script users, usually less technical people than script writers, will see simpler commands in these menus. Examples include: prepare for a meeting, send a message to everyone working on a specific project; write a press release; or hire a new employee. There are as many potential custom scripts as there are Macintosh users. They will only be aware that these commands were "put into" the menu bar by a friend they work with, or their organization's network manager. The details of this technology are completely open to the script writer, but neatly hidden from the end-user.

To many potential users, commands like New, Cut, Paste, and Zoom are like assembly language. By opening a product to Menu Sharing we offer more technical users an easy way to simplify software for less technical users.

Menu sharing was released in late 1991, and has become a defacto standard among Apple Event-aware applications. However, one of the most important applications, the Macintosh Finder, does not support menu sharing. This package changes that. By installing the FinderMenu package on your system, you can now use Frontier's menu bar editor to add hierarchic structures of shared menus to the Finder's menu bar. This is a major breakthrough!

Installing FinderMenu

There are three icons in the FinderMenu folder: this User's Guide file, a Frontier desktop script named Installer, a folder of files used in the installation of FinderMenu and a folder of extra information for more technical users.

To install FinderMenu using the Installer script:

1. Launch Frontier 1.0 or greater.
2. Double-click on the Installer script. The script confirms each step of the installation process. If you want to completely install the package, click on OK for each of the dialogs that's presented. The script installs things in several places:

System Folder

- FinderMenu INIT is copied into the Extensions sub-folder.
- FinderMenu App is copied into the Startup Items sub-folder.
- FinderMenu Prefs is copied into the Preferences sub-folder.

Frontier Folder

- Creates the Dialogs folder, and copies two files into that folder.

Frontier.root

- Installs a shared menu for the Finder, and a table of scripts at system.verbs.apps.FinderMenu.
 - Installs three new verbs: file.reconcileFolder, dialog.loadFromFile and dialog.runFromFile.
3. When the installation is complete, a dialog box will offer you the opportunity to restart your system. This is necessary for the FinderMenu INIT to start running.

Script Writing for FinderMenu

Try Out the Frontier Menu

Once you've installed FinderMenu and restarted your system, launch Frontier, then switch into the Finder. After a short delay, a new Scripts menu appears at the end of the Finder's menu bar. The last sub-menu in the Scripts menu is the Frontier sub-menu.

Select the Hello World command from the Frontier sub-menu. Frontier comes to the front and displays a dialog box that says hello. When you click on OK the Finder comes back to the front.

The next command, Beep 5 Times, plays your system "beep" sound as set by the Sound control panel. This script illustrates that Frontier does not have to come to the front in order for a script to be executed.

For more information, see the User's Guide file included in the package. It includes listings of all the scripts in the Frontier menu.

Editing the Finder's Shared Menu

To edit the menu bar and the scripts linked into them, select the Menu Editor command from the Scripts menu.

Frontier comes to the front, opening a window containing the Finder's menu bar displayed in a Frontier menu bar editing window. Refer to the Frontier User's Guide (p 19-20 and 122-126) for information on editing menu bars with Frontier's menu editor.

Select the Hello World command, it's nested in the Frontier sub-menu, towards the end of the list. Then click on the Script button. You'll see:

```
Frontier.bringToFront ()  
dialog.alert ("Hello world!")  
Finder.bringToFront ()
```

This script first brings Frontier to the front, puts up a dialog, waits for the user to click on OK and then brings the Finder to the front.

You can explore all the other scripts in this shared menu this way. Most of them are considerably more complicated than this example.

Finding Out Which Files are Selected

In the Finder, select several files, folders or disk icons. Select the “Selected Files” command from the Finder’s Demo menu. Frontier comes to the front and displays a dialog box showing the full path to each of the icons you selected.

To view the script for this command, select the Menu Editor command from the Scripts menu, move the menu editing cursor to the Selected Files command, and click on the Script button.

Here’s what the script looks like:

```
on visit (path) «called once for each selected file
    dialog.alert (path) «show the full path in a dialog
    return (true) «keep looping over the files
Frontier.bringToFront ()
FinderMenu.visitPaths (@visit) «call visit once for each selected file
Finder.bringToFront ()
```

FinderMenu’s Components

The Installer script copies three files into your System Folder.

The FinderMenu INIT (or FMI), is a system extension that adds menus to the Finder’s menu bar and starts the process of running a script when a command from a shared menu is selected.

The FinderMenu App (FMA) is an Apple Event-aware application that acts as a conduit for messages from Frontier to the Finder, and vice versa. This component is needed because INITs cannot send and receive Apple Events on System 7.

The FinderMenu Prefs file contains 'ics?' resources, which allow you to display a small icon in the menu bar, instead of a textual description of the menu. See “Color icons in the Finder’s menu bar” below for details.

FMI also determines which files, folders or disks are selected when a shared menu item is selected, and passes this information onto FMA, which in turn passes it to Frontier, which allows your Finder scripts to operate on the files that the user has selected using the FinderMenu.visitPaths verb.

Color icons in the Finder's menu bar

If you want a color icon to appear in the place of the word “Scripts” in the Finder's menu bar, choose the Menu Editor command in the Scripts menu, and change the Scripts headline to: IFAM (128). Switch over into the Finder. After a short pause, this is what your menu bar should look like:



Instead of displaying the text “IFAM (128),” the FinderMenu INIT looked into your FinderMenu Prefs file, and loaded in 'ics8' resource 128.

“IFAM” is short for “icon family.” The INIT will choose the appropriate version of the icon to display on the user's screen. If you want to see the choices available to you, open the FinderMenu Prefs file with ResEdit or Resorcerer. You can add your own. Frontier's rez.xxx verbs can do this under script control. Load the Advanced Source Text file into DocServer for a description of all the resource-related verbs.

If you design your own icons, they should be the same shape, and only the color should change between the different icons of one ID.

Anything after the closing parentheses is ignored, so you can add comments to remind you of what that menu is, if you like.

The FinderMenu INIT will look in the System file if it doesn't find your icon family in the FinderMenu Prefs file. Therefore, you can enter IFAM (-3993) for example, to include a picture of the Macintosh trashcan icon in the menu bar. Open a copy of your System file with a resource editor such as Resorcerer or ResEdit and look at the ics# resources for ideas on icons you can use from the System file.

Multiple Menu Bars

The FinderMenu INIT (FMI) allows multiple clients to connect to it at once. If you want, it's possible to duplicate the FMA to create multiple suites of Finder menus.

Here are the steps:

1. Duplicate “FinderMenu App”; rename the copy something like “PrivateMenu App” (PMA).
2. Open PMA with ResEdit. Open the BNDL resource. Change the Creator code to something like '1MNU' (or something else; but keep track of what you change it to!) Also, it's a good idea to change the icons in the bundle, so that you don't get the new app confused with the original one.
3. Duplicate the “system.verbs.apps.FinderMenu” table. Rename it PrivateMenu (or some such).
4. Edit this table. Change the PrivateMenu.id field from "fMNU" to "1MNU". Change appInfo.[name, id, path] to reflect the new application.
5. Copy system.menubars.["fMNU"] as a starting point. Modify it as you wish to make your own private FinderMenu menus.

Five New Verbs

Five new Frontier verbs are included in this package. They are menu.addMenuCommand, dialog.loadFromFile, dialog.runFromFile, file.reconcileFolder and FinderMenu.visitPaths.

They are documented in the DocServer Source Text file in the Extras folder. Launch DocServer and use the Load Text File... command to import the docs for the four verbs.

Credits

FinderMenu 1.0 was written by Steve Zellers, Berkeley Systems, Inc. Internet: zellers@sun.soe.clarkson.edu; CompuServe: 75460,1375; America Online: sixthhead.

Steve says: "I hope you find this first release of FinderMenu useful. Please let me know of any problems or incompatibilities you may be experiencing, and to what mischievous purposes you put this utility."

Thank you Steve! Support for the FinderMenu package is available primarily on-line thru UserLand's support forums at GO USERLAND on CompuServe and under the Third Parties icon on AppleLink. FinderMenu was an act of generosity on Steve's part. UserLand assumes the responsibility of supporting it.

FinderMenu was written in THINK C 5.0, using the Patchworks INIT Development system by Robert "Mouse" Herrell and Patrick Beard. (Patchworks is the subject of a paper to be presented at MacHack '92.) Patchworks allows you to develop Extensions without having to constantly reboot.

The menu that ships with this package was written by Dave Winer of UserLand Software with the help of about 20 dedicated script writers who tested the software and provided feedback and ideas. Thanks!