

Frontier Runtime 2.0

UserLand Software, Inc.

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Comments, questions and suggestions are welcome!

Important Disclaimer

Please Read Before Using This Software

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Letter From Dave Winer

October 21, 1992

This package contains everything you need to run scripts created with the UserLand Frontier scripting system. You don't need to be a script writer, or learn anything new to use the scripts that are included in this package. Using scripts is as easy as using a Macintosh.

There are hundreds of free scripts available at UserLand's on-line services on CompuServe and AppleLink. Scripts range in power from simple desktop icons that perform basic chores that lots of people do all the time; to custom scripts, written by professional consultants and in-house developers, that can create networking standards for entire organizations. And there are more new uses for Frontier being discovered all the time.

We've included several sample scripts in this package to give you an idea of how powerful Frontier scripting is. For details, check out "How Runtime Scripts Work" in the Read Me Files folder. To get the maximum benefit of Runtime, we hope you'll become a regular visitor to our on-line services on CompuServe and AppleLink. Lots of new scripts are being uploaded all the time.

The rest of this document explains how Runtime works, and provides importing pricing and distribution information.

Finally, I'd like to thank the thousands of people who have become Frontier script writers during the first half of 1992. We feel that we all have reached the next important milestone with the shipment of Runtime. We couldn't have done it without your support.

Thanks for your interest in Runtime!

**Dave Winer, President
UserLand Software, Inc.**

Introduction to Frontier Runtime

How Frontier compares to Runtime

UserLand Frontier is a scripting system that makes it easy to write utilities that customize and automate the Macintosh operating system, file system, networks and integrate the capabilities of Apple Event-aware application software.

Frontier is a powerful script writer's tool. If you have experience writing dBASE or 4th Dimension applications, BASIC programs, HyperCard stacks, or spreadsheet macros, you can probably easily learn how to write Frontier scripts.

Runtime is for people who want to use scripts. Script writing requires a commitment to understand some of the inner-workings of the Macintosh operating system. We've simplified and streamlined Frontier script writing as much as possible, but we have not hidden the substantial power of the Macintosh operating system.

Frontier includes several components not available in Runtime: an outline-based script editor and debugger; a menubar editor that allows you to edit Frontier menus and shared menus; a table editor that's used to browse and interactively edit the contents of the object database; a simple word processor and outliner.

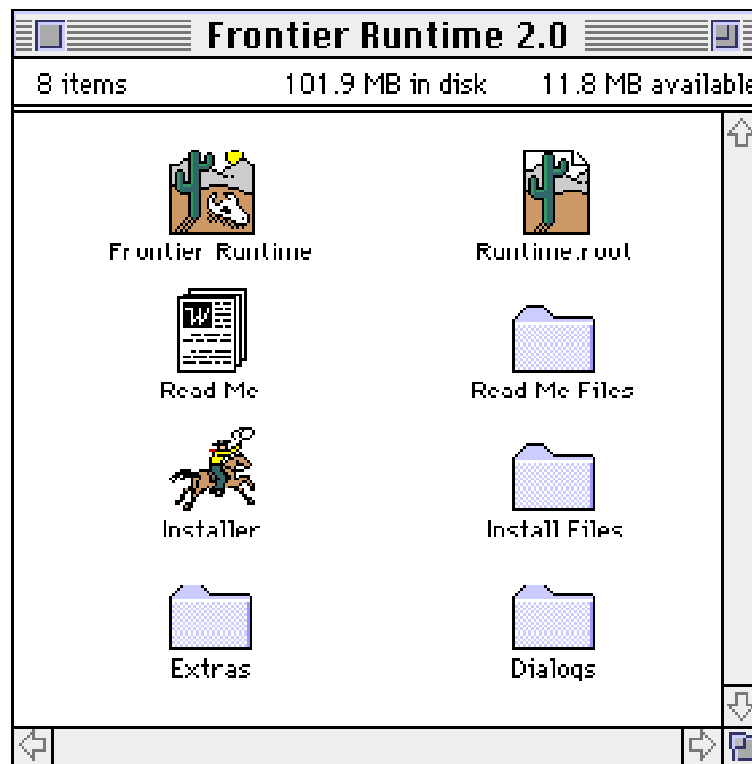
Frontier is a commercial product, carried by retailers and mail order resellers. Runtime is an inexpensive shareware application.

Runtime System Requirements

Runtime requires Macintosh II or greater, System 7.0 or greater. It uses a minimum of 512K of memory. Running larger scripts or suites of scripts may require more memory. Documentation is in Word 4.0 format.

The Runtime Folder

Here's what the Frontier Runtime 2.0 folder should look like after you have expanded the archive:



There are eight icons in the Frontier 2.0 folder:

1. **Frontier Runtime** is the application that runs scripts and accesses and stores information in **Runtime.root**.
2. **Runtime.root** is a collection of scripts and data objects. This file is also known as the "object database."
3. **Read Me** is this Microsoft Word 4.0 file.
4. **Read Me Files** is a folder containing Word 4.0 and TeachText files with more information about registering your use of Runtime with UserLand Software; information about writing scripts that work with Runtime; and pointers to other downloads for script users, script writers and application developers. Important: for details on the commands in the Finder's menu bar and for other sample scripts included in the Runtime 2.0 package, see "How Runtime Scripts Work" in this folder.
5. **Installer** is a script that copies files in the Install Files folder into your System Folder. All steps in the process are confirmed before any copying is done.

6. **Install Files** is a folder containing files that the Installer script copies into your System Folder.
7. **Extras** is a folder containing a set of example Frontier desktop scripts and some scripts that are useful to Frontier 2.0 script writers. Over time, as new versions of Runtime are released, this folder may include other sub-folders.
8. **Dialogs** is a folder that contains standard Macintosh dialogs used by scripts. Runtime users can safely ignore the contents of this folder, but shouldn't move or delete the files contained inside the folder.

How to Install Runtime

Double-click on the Frontier Runtime application to launch the program. A dialog appears asking you to personalize your copy of Runtime. Enter your name, organization and initials and then click on OK. A dialog box appears showing UserLand Software's standard disclaimer. Please read it carefully, then click on OK.

Bring the Finder to the front and double-click on the Installer script.¹

The Installer 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 copies three files into your 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.**

These three components allow Runtime to add a menu or set of menus to the Finder's menu bar. If you choose not to install these items in your System Folder, you will still be able to run Frontier scripts from the desktop, but you will not be able to run scripts from the Finder's menu bar.

When the installation is complete, a dialog box offers to automatically restart your system. This is necessary for the FinderMenu INIT to start running.

These three components are part of the FinderMenu package, available as a separate download.

¹Frontier users should be sure that Runtime runs the script not Frontier. To do so drag and drop the Installer script onto the Runtime application.

How Runtime Works

The heart of Runtime is a script-running engine that interprets scripts and accesses information stored in the Runtime.root object database. It's the same engine that forms the kernel of Frontier.

Scripts can manage the Macintosh file system: copying, deleting, moving, renaming files, creating new files and searching your disks for information. Scripts can access Finder information like comments and icon positions, and can easily get in and out of the resource forks of data files and applications.

Scripts can interact with the Macintosh operating system, launching and managing applications in a variety of ways. Using the System 7 Apple Event Manager, scripts can customize and automate applications, utilities and system software thru the Macintosh operating system.

Scripts can also operate over Macintosh-compatible networks, talking to other copies of Frontier and Runtime, and can drive other applications that support System 7 Apple Events, including the Finder. Script writers can build much more sophisticated client-server applications using Frontier and Runtime than was ever possible before.

However, from a user's perspective, much of the power of Runtime is masked thru the interface design tools available to script writers. There are very few limits on what Frontier scripts can do and lots of exciting possibilities in all these areas. But it can all be made simple for script users.

For detailed information on how each of the scripts in this package works, see "How Runtime Scripts Work" in the Read Me Files folder.

Pricing & Distribution

Runtime is shareware

We want scripts to be used inexpensively, and we want people to be able to freely evaluate the benefits of Macintosh system-level scripting. Therefore we have released Runtime as a shareware package. There is no cost in using Runtime to evaluate the software and determine if it is useful to you.

You may install Runtime on your Macintosh and use it for 30 days to determine if it is useful to you. If you decide to continue using Runtime, you must register it with UserLand Software. The single-user registration fee is \$25. All prices are in U.S. dollars.

A substantial amount of money and effort went into the development of Runtime. If you respect the system, the Frontier family will flourish, and UserLand Software will be able to continue to be responsive to the needs of script writers and script users. We believe this is good for the entire Macintosh community, and it will allow UserLand Software and its investors to profit from their investment.

UserLand Frontier is a commercial product

Frontier is a commercial software product. Its suggested retail price is \$249. Only licensed users of Frontier may develop, distribute or modify scripts to be used with Runtime. Software piracy is illegal.

Frontier users are entitled to one free license for Runtime. Frontier 2.0 includes a pre-registered copy of Frontier Runtime on Disk 2.

Where to Get Frontier

Frontier is widely available from software retailers and mail order resellers. Here are a few numbers you can call to order a copy:

Source	In the U.S.	Outside U.S.
ComputerWare	800-326-0092	415-496-1003
Mac's Place	800-367-4222	206-883-8312
MacConnection	800-800-2222	603-446-7711
MacWarehouse	800-255 6227	908-370-3801
MacZone	800-248-0800	206-883-3088
UserLand Software	800-845-1772	415-369-6600

Network Managers

If you're a network manager, you may install Runtime on up to 10 Macintoshes on your network at no cost for 30 days to allow you evaluate and test scripts that enhance your network.

After 30 days, if you decide to continue development with or use of Runtime on your network, you must register your network with UserLand Software. The cost to register is \$25 per Runtime user for networks with 10 or fewer Runtime users; \$20 per Runtime user for networks with more than 10 Runtime users.

Special support services are available for managers of registered Runtime networks. Contact UserLand Software for more information.

How to redistribute Runtime

Since Runtime is shareware, you may give it to your friends and people you work with. You may copy the distribution package to a shared file server for other users on your network to evaluate. Bulletin-board system operators may post the distribution package for their users to download.

However, if you redistribute Runtime, you must redistribute it in exactly the same form as it was released by UserLand Software. If there is any question, please download the original release of Runtime from UserLand's CompuServe or AppleLink on-line services.

Runtime may not be included as part of any commercial software or hardware product without obtaining a license from UserLand Software. Runtime may not be distributed on any physical media such as floppy disk, magnetic tape, removable hard disk or CD-ROM without the written permission of UserLand Software.

Runtime can be bundled

UserLand Software has a very attractive, royalty-free distribution policy for Runtime available to developers and publishers of commercial Apple Event-aware software applications and utilities. The annual license fee is \$100 per product, no royalties. Contact UserLand Software for details.

We also wish to encourage book authors writing about scripting or using Macintosh system software, applications or utilities to include Runtime with their book. Please contact us for details.

Runtime cannot be bundled with hardware products, or distributed on physical media without the written permission of UserLand Software.

Shareware authors

As a policy, UserLand Software wishes to support the shareware industry in any way we can, since we are part of it!

We offer a special “scholarship license” for shareware authors. This license allows you to get the full commercial UserLand Frontier product for \$99 if you have shipped a shareware application for the Macintosh in the last three years. Contact UserLand Software for details.

However, Runtime cannot be bundled with shareware products. Rather than increase the size of your package by including Runtime, you should instruct your users to obtain the shareware version of Runtime from one of UserLand Software’s on-line services.

UserLand Consulting, Registered Developers

One of our functions at UserLand Software is to connect people who need system customization with people who are expert Frontier script writers and software developers. If you’re looking for a good script writer for contract development work, please contact UserLand Software. It helps if you have a written narrative or specification of the system you want implemented.

If you’re an excellent script writer who has mastered the power of Frontier, please get in touch, preferably thru one of the on-line services. We are now designing a registered developer and referral program. Your input and advice are requested!

What Frontier Scripts Look Like

If you just want to use scripts, there's no need for you to understand how scripts are constructed, and you should skip this section. If you're curious about script writing, this section shows you the source code to a simple Frontier script. If you want to know more, check out the "Script Writing For Runtime" document in the Read Me Files folder.

Here's the source code of the unlockFiles desktop script. It simply unlocks all the locked files in the folder it was launched from:

on unlockFiles (path) «path is the full path to the file containing the script

 local (folder = file.folderFromPath (path), f)

 fileloop (f in folder)

 if file.isLocked (f)

 file.unlock (f)

The script could be modified to delete all the files created before January 1, 1990:

on deleteOldFiles (path) «path is the full path to the file containing the script

 local (folder = file.folderFromPath (path), f)

 fileloop (f in folder)

 if file.created (f) < "January 1, 1990"

 file.delete (f)

If you have Frontier, you can edit the source code of a desktop script by holding down the cmd key as you double-click on it.

These two scripts just give you a taste of how Frontier scripting works. There's a lot more power available since Frontier is a full programming language and actually, much more.

The Next Step

If you like Runtime...

First, check out “How Runtime Scripts Work” in the Read Me Files folder. This file explains what desktop scripts are and how they work. It also includes documentation on the commands in the Finder’s Scripts menu, and in the Runtime menu bar. It explains what “droplets” are and how “menu sharing” works.

There are lots more free scripts and Apple Event-aware utilities available for you to download from UserLand’s AppleLink and CompuServe on-line services.

Also, help us spread the word! Runtime is shareware, so please pass it on.

If you want to write scripts...

Most Macintosh users will find the Runtime package useful as a platform for scripts written by others.

However, if you’re one of those gutsy Macintosh power users who wants to explore the system to its fullest, or if you think others could benefit from using your scripts, please give Frontier a shot.

See “Script Writing For Runtime” in the Read Me Files folder for details.

If you’re an application developer...

First, we strongly recommend that you check out Frontier script writing. If you’ve mastered Macintosh event-loop programming, writing scripts will be a snap! Frontier helps in the development process in lots of ways. You can customize your system so that building and testing your application are automatic.

If you’re adding Apple Events to your program, it’s even more important that you test with Frontier. Script writers and Runtime users will expect to be able to customize and automate your application with Frontier.

UserLand has released several royalty-free C source code toolkits to make adding Apple Event support to your application very easy. This collection is called Frontier SDK and it’s available for downloading from both CompuServe and AppleLink.

For all audiences...

If you're excited by system-level scripting, if you're a script user, a script writer, or an application developer, let's learn from each other! Application developers need to hear what script writers want, and script writers must understand the needs of Runtime users. The only way this can work is if we congregate, exchange opinions, and learn.

We've got the ball rolling with the AppleLink and CompuServe on-line services. There's a reason we repeat this message throughout our documentation. The UserLand on-line services work much better if you're part of the process. Please speak up, share your vision for system-level scripting on the Macintosh and help shape the future.

Don't be a stranger!