

InstallerSpy 0.50

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by Alex Maluta

Introduction

InstallerSpy is an application which allows you to browse scripts written for use with Apple's Installer utility. Scripts designed for versions 3.1 through 4.0.3 of the Installer are currently supported. InstallerSpy is a read-only browser. You cannot modify scripts with this utility.

Some familiarity with scripting internals is needed to use this tool. A good source of information is Apple's "Installer 4.0 Technical Guide", part of the Installer 4.0 SDK and is available on AppleLink and the Developer CD's.

To open a script, either use the "Open..." command or drag-drop a script onto the InstallerSpy icon. A window will open showing some summary information about the script.

Use the "View" menu to show the Easy Install rules, the Custom Package list or a list of all the resources in the script.

Windows may be opened and closed independently of each other with the exception of the script "summary" window (the first window displayed when you open a file). Closing the summary window also closes all other windows belonging to that script. You can also use the "Close File" command to close all windows belonging to a script from any window.

Balloon help is implemented for the menus, dialog boxes and list windows of InstallerSpy. When balloon help is on, and you pass the mouse over the various entries in a list window, InstallerSpy will tell you the type of object you are currently viewing.

The Hierarchical List Windows

Most information in InstallerSpy is provided via hierarchical list windows. One item always occupies one line. Some items (such as packages) can have triangles next to them indicating that they have subitems. Clicking on the triangle expands the subitems inline. A solid, rightward pointing triangle means an item which has subitems. A hollow, rightward pointing triangle means an item which can have subitems, but in this case does not. A solid, downward pointing triangle means an item with subitems expanded below it.

Other features common to the list windows include:

- double clicking on a line which has subitems will open a new window containing the subitems.
- the "Save As..." command can be used to save the contents of any list window to a text file.
- you can select multiple, discontiguous lines and then copy them to the clipboard.

- holding down the “option” key while clicking on a closed triangle will cause all sublevels (except packages) to be automatically expanded.
- holding down the “option+command” keys while clicking on a closed triangle will cause all sublevels (including packages) to be automatically expanded.

Custom Remove

This command displays the actions the Installer would take during a Custom Remove. InstallerSpy displays the same rule framework and packages that are displayed for a “Custom Install”, but packages which cannot be removed will be dimmed. Likewise, atoms that are not executed during a remove are dimmed.

Get Info

Detailed information about Installer resources and rule clauses may be obtained by selecting their entry in the list window and using the “Get Info...” command. This will display a new window showing all the flags and settings for the particular resource.

As a shortcut, for resources that do not contain any subitems (file atoms, action atoms, etc.) you may double-click on the item to show its Get Info window. For items which do contain subitems (i.e. packages), you must use the Get Info command since double-clicking causes a new window containing the subitems to be opened.

Even though selections are not allowed in the Get Info window, the “Copy” command is always enabled, allowing you to place the contents of the window on the clipboard.

You can also use the “Save As...” command to save the contents of the Get Info window to a text file.

Write Report to File

This command generates a text file consisting of the “Get Info...” text for all the resources in the script. Essentially, the command does a “Get Info...” on each resource and writes the output to a file instead of displaying it in a window.

The output uses tab characters to separate the information. If you read the output with a word processor, specify a generous hanging indent with an extra tab between the left margin and the first line indent, and the information should flow nicely.

Find and List References commands

The “Find...” command can be used to track down references to various script objects. You can search for references to script resources, assertions or text. “Find...” is only available in the hierarchical list windows and only searches expanded lines. It will not look “inside” collapsed levels. To quickly expand a sub-level for searching hold down the “option” or “option+command” keys while clicking on the triangle.

To specify what you want to search for, select the “Find...” command; pick the type of search you want to perform and enter the search criteria.

InstallerSpy will search forward in the current window from the currently selected line. If no line is selected, searching begins at the first line of the window. You can use the “Find Again” command to look for further matches.

If the “Auto Wrap” feature is disabled, searching will stop at the bottom of the window. Enabling auto-wrap will cause searching to wrap around and continue from the top of the window. InstallerSpy will beep to let you know that a search has wrapped around.

If you click the “List References” button in the “Find...” dialog, InstallerSpy will scan the entire script file and list all matches in a new window.

A quicker way to specify the search criteria is to use the “Extract Find Criteria” command. This command sets the search criteria from the currently selected line. For example, suppose you see the line:

Copy 'Install 2:Finder' to 'Blessed:Finder' (Finder)

which happens to be the representation of resource “infa” (12053), and you want to find all the places that particular resource is used. Simply highlight the line and invoke the “Extract Find Criteria” command. The search criteria will automatically be set to look for “infa” (12053). If you are unsure as to what criteria was “extracted”, invoke the “Find...” command and it will display the current criteria.

The “List References” menu command performs the same function as the button of the same name in the “Find...” dialog box. The menu command (especially its keyboard equivalent) is useful when you specify the search criteria using “Extract Search Criteria”. If you are looking at a line, and want to find all references to the object, a quick ⌘E followed by ⌘R will do it. Likewise, a ⌘E followed by ⌘G will look for further occurrences of the line in the active window.

Searching for resources

You can search for references to particular Installer resources such as “infs”(1234), “inra”(128) and so on. InstallerSpy will look inside other resources to see if they use the resource you are looking for. For example, if you search for a File Spec resource, InstallerSpy will check File Atoms to see if either the SourceID or TargetID is the desired File Spec.

A convenient way to list all the references for specific resources is to open the “All Resources” window; find the resource you are interested in; select it; do a “Extract Find Criteria” followed by a “List References”. In the resulting window, you can use “option” click or “option+command” click to expand sublevels and then search for specific matches with “Find Again”.

Searching for references to assertions

Searching on assertions helps in tracking down how certain assertions are used in the Easy Install rules. While viewing a rule clause such as “Add assertion: 1234”, simply highlight the line; press ⌘E to extract the search criteria, then press ⌘R and a new window will appear showing all the places where that assertion is used. If you highlight a line that has multiple assertions, a list of all items that reference any of the assertions will be generated.

Searching for text

This feature can be used to search for text within resources. It will search things such as resource names, file names, comment text, package descriptions, etc. It is not

possible to initiate a text search using “Extract Find Criteria”, you must use the “Find...” command.

Limitation: Currently, InstallerSpy will not “look inside” a Font Family atom during a “Find...” or “List References”. The Font Family atom will be located if you search for “inff#0”, but if you are trying to find all references to “infs#1234”, and that particular File Spec is used inside a Font Family atom, the File Spec will be ignored.

Preferences

The “Preferences...” command in the “File” menu can be used to configure the options listed below. The settings are stored in the “InstallerSpy Prefs” file located in the “Preferences” folder within your “System Folder” (if you are running System 7), or within just the “System Folder” (System 6). Deleting the preferences file will cause InstallerSpy to recreate a new one with the default options.

Save text files with a creator of? (default = “MSWD”)

By default, InstallerSpy creates text files with Microsoft Word's creator type. If you use a different editor, you can change the creator with this option. Select the application from the popup menu, or if your editor is not listed, and you know its 4 character creator code, type the code into the edit field.

Show startup screen? (default = on, box checked)

If you would like to prevent the initial “welcome” screen from being displayed each time InstallerSpy starts up, uncheck this box.

Automatically expand Easy Install rules? (default = on, box checked)

By default, when you choose the “Easy Install Rules” command, InstallerSpy automatically expands all the sublevels in the rule clauses. This makes it easier to “read” the Easy Install framework. If you disable this option by unchecking the box, you will need to manually expand each rule clause (you can use the option-click shortcut to expand all sublevels of a particular rule clause).

Working with large scripts

InstallerSpy's default memory partition should be sufficient for working with most scripts. However, if you need to work with many scripts simultaneously, or if you are doing extensive work with a large script such as the System 7 installer script, you may need to increase the partition size.

When InstallerSpy starts to run low on memory, it will display a bulldozer cursor as it tries to free up memory. If there is insufficient memory to update a window, the entire window will be filled with a light gray pattern. If you see either of these indicators, it would be a good idea to quit InstallerSpy and increase its partition size by 200K or so.

Legal Stuff

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Epilogue

If you find InstallerSpy useful, have any comments, suggestions, or bug reports (ugh!), I would be very interested in hearing from you. If you do find a problem with a particular script, I would appreciate it if you could also E-Mail me a copy of the script.

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Change History

Version 0.50 (9/18/94)

- Add support for Apple's Installer 4.0
- Implement display of "Custom Remove" actions

Version 0.40 (1/4/93) - General Release

- Major rewrite giving InstallerSpy interactive browsing and searching capabilities.

Version 0.31 (7/5/92) - Limited Release (9/18 ZiffNet)

- Change thermometer so it goes 0-100% once for all resources. (Judd)
- Return to main options screen after processing file. (Judd)
- Display "icmt" id in package header line of Custom Package report (Judd)
- Decode the "invs" resource (if present). (Judd)

Bug Fixes:

- Display installer version as "3.3" instead of "33".
- Change status messages to read "Creating" instead of "Printing"
- Clean up thermometer display so it actually reaches 100% - sometimes!

Version 0.30 (6/12/92) - General Release

- Resources are now decompiled in numerical order instead of the order in which they appear in the file.
- Add "Easy Install Rule Report"
- Add "Custom Package Report"
- Display progress indicator during decompile

Bug Fixes:

- Fix problem with Word5 script - would crash while decompiling scripts with long "icmt" resources. (André)

Version 0.20 (5/28/92) - Limited Release

- Externalized text file creator to "SpyP" resource. Interim "fix" until I implement a proper preferences dialog
- Added bundle resource, color icon family (thanks to Judd Stiff)
- Print out resource name (if present) of resources being decompiled (Judd)
- Print out more complete header at start of decompile (Judd)

Version 0.10 (5/11/92) - General Release

- Initial release