NAME

pfm - Personal File Manager for Linux/Unix

SYNOPSIS

```
pfm [ -1, --layout number ] [ directory ] [ -s, --swap directory ]
pfm { -v, --version | -h, --help }
```

DESCRIPTION

pfm is a terminal-based file manager, based on PFM.COM for MS-DOS.

All pfm commands are accessible through one or two keystrokes, and a few are accessible with the mouse. Most command keys are case-insensitive. pfm can operate in single-file mode or multiple-file mode. In single-file mode, the command corresponding to the keystroke will be performed on the current (highlighted) file only. In multiple-file mode, the command will apply to a selection of files.

Note that throughout this manual page, *file* can mean any type of file, not just plain regular files. These will be referred to as *regular files*.

OPTIONS

Most of pfm's configuration is read from a config file. The default location for this file is \$HOME/.pfm/.pfmrc, but an alternative location may be specified using the environment variable PFMRC. If there is no config file present at startup, one will be created. The file contains many comments on the available options, and is therefore supposed to be self-explanatory. pfm will issue a warning if the config file version is older than the version of pfm you are running. In this case, please let pfm create a new default config file and compare the changes with your own settings, so that you do not miss out on any new config options or format changes. You can also try running the pfmrcupdate script that is provided in the distribution. See also the Config command under MORE COMMANDS below, and DIAGNOSIS.

There are two commandline options that specify starting directories. The CDPATH environment variable is taken into account when pfm tries to find these directories.

directory

The directory that pfm should initially use as its main directory. If unspecified, the current directory is used.

-h, --help

Print usage information, then exit.

-1, --layout *number*

Start pfm using the specified column layout (as defined in the .pfmrc).

-s, --swap *directory*

The directory that pfm should initially use as swap directory. (See also the **F7** command below).

There would be no point in setting the swap directory and subsequently returning to the main directory if 'persistentswap' is turned off in your config file. Therefore, pfm will swap back to the main directory *only* if 'persistentswap' is turned on.

-v, --version

Print current version, then exit.

NAVIGATION

Navigation through directories is essentially done using the arrow keys and the vi(1) cursor keys (**hjkl**). The following additional navigation keys are available:

Movement inside a directory:

up arrow, down arrow	move the cursor by one line		
k, j	move the cursor by one line		
-, +	move the cursor by ten lines		
CTRL-E, CTRL-Y	scroll the screen by one line		
CTRL-U, CTRL-D	move the cursor by half a page		

CTRL-B, CTRL-F	move the cursor by a full page
PgUp, PgDn	move the cursor by a full page
HOME, END	move the cursor to the top or bottom line
SPACE	mark the current file, then move the cursor one line
	down

Movement between directories:

l, right arrow	chdir() to a subdirectory		
h , left arrow	chdir() to the parent directory		
ENTER	chdir() to a subdirectory		
ESC, BS	chdir() to the parent directory		

If the option 'chdirautocmd' has been specified in the *.pfmrc* file, pfm will execute that command after every *chdir()*. This can be used *e.g.* to set the title of an xterm window.

Note: the **l** and **ENTER** keys function differently when the cursor is on a non-directory file (see below under **L**ink and LAUNCHING FILES respectively).

COMMANDS

Attribute

Changes the mode of the file if you are the owner. The mode may be specified either symbolically or numerically, see *chmod* (1) for more details.

Note 1: the mode on a symbolic link cannot be set. See *chmod* (1) for more details.

Note 2: the name **Attribute** for this command is a reminiscence of the DOS version.

Copy

Copy current file. You will be prompted for the destination filename. Directories will be copied recursively with all underlying files.

In multiple-file mode, it is not allowed to specify a single non-directory filename as a destination. Instead, the destination name must be a directory or a name containing a =1, =2 or =7 escape (see below under cOmmand).

If clobber mode is off (see below under the ! command), existing files will not be overwritten unless the action is confirmed by the user.

Whether **Copy** follows symlinks or copies them is OS-specific; you can change the default behavior by setting the 'copyoptions' option in your *.pfmrc*. See cp(1).

Delete

Delete a file or directory. You must confirm this command with \mathbf{Y} to actually delete the file. If the current file is a directory which contains files, and you want to delete it recursively, you must respond with Affirmative to the additional prompt. Lost files (files on the screen but not actually present on disk) can be deleted from the screen listing without confirmation. Whiteouts cannot be deleted; use $\mathbf{un}\mathbf{W}$ hiteout for this purpose.

Edit

Edit a file with your external editor. You can specify an editor with the environment variable VISUAL or EDITOR or with the 'editor' option in the *.pfmrc* file. Otherwise vi(1) is used.

Find

If the current sort mode is by filename, you are prompted for a (partial) filename. While you type, the cursor is positioned on the best match. Type ENTER to end typing.

If the current sort mode is not by filename, then you are prompted for a filename. The cursor is then positioned on that file.

tarGet

Allows you to change the target that a symbolic link points to. You must have permission to remove the current symbolic link.

Include

Allows you to mark a group of files which meet a certain criterion:

After / Before

files newer/older than a specified date and time

Every file

all files, including dotfiles, except for the . and .. entries

Files only

regular files of which the filenames match a specified regular expression (not a glob pattern!)

Greater / Smaller

files that are bigger or smaller than the provided size in bytes.

Newmarks

files which were created during a previous multiple command and are now denoted with a newmark (*)

Oldmarks

files which were marked (*) before a previous multiple command and are now denoted with an oldmark (.)

User

files owned by the current user

Oldmarks and newmarks may be used to perform more than one command on a group of files.

There is also the option:

Invert

Inverts the selection, except for the . and .. entries, which remain untouched.

Link

Prompts to create either:

an Absolute symlink

This will create a symlink containing an absolute path to the target, irrespective of whether you enter a relative or an absolute symlink name.

Example: when the cursor is on the file /home/rene/incoming/.plan, and you request an absolute symlink to be made with either the name ../.plan or /home/rene/.plan, the actual symlink will become:

```
/home/rene/.plan -> /home/rene/incoming/.plan
```

a Hard link

This will create an additional hard link to the current file with the specified name, which must be on the same filesystem (see ln(1)).

a Relative symlink

This will create a symlink containing a relative path to the target, irrespective of whether you enter a relative or an absolute symlink name.

Example: when the cursor is on the file /home/rene/incoming/.plan, and you request a relative symlink to be made with either the name ../.plan or /home/rene/.plan, the actual symlink will become:

```
/home/rene/.plan -> incoming/.plan
```

If a directory is specified, pfm will follow the behavior of ln(1), which is to create the new link inside that directory.

In multiple-file mode, it is not allowed to specify a single non-directory filename as a new name. Instead, the new name must be a directory or a name containing a =1, =2 or =7 escape (see below under cOmmand).

If clobber mode is off (see below under the ! command), existing files will not be overwritten.

Note that if the current file is a directory, the \mathbf{l} key, being one of the vi(1) cursor keys, will chdir() you into the directory. The capital \mathbf{L} command will always try to make a link.

More

Presents you with a choice of operations not related to the current file. Use this *e.g.* to configure pfm, edit a new file, make a new directory, show a different directory, or write the history files to disk. See below under MORE COMMANDS. Pressing **ESC** or **ENTER** will take you back to the main menu.

Name

Shows the complete long filename. For a symbolic link, this command will also show the target of the symbolic link. This is useful in case the terminal is not wide enough to display the entire name, or if the name contains non-printable characters. Non-ASCII characters and control characters will be displayed as their octal or hexadecimal equivalents like the examples in the following table. Spaces will be converted as well, if the 'translatespace' option is turned on in the *.pfmrc* file. When the name is shown in its converted form, pressing * will change the radix. The 'defaultradix' option specifies the initial radix that will be used.

Examples:

character	representation in radix		
	octal	hexadecimal	
CTRL-A	\001	\0x01	
space	\040	\0x20	
c cedilla (ç)	\347	\0xe7	
backslash (\)	\/	\\	

cOmmand

Allows execution of a shell command. After the command completes, pfm will resume. If the command is cd, pfm itself will change to that directory.

On the commandline, you may use several special abbreviations, which pfm will replace with the current filename, directoryname etc. (see below). These abbreviations start with an escape character. This escape character is defined with the option 'escapechar' in your *.pfmrc* file. By default it is =. (Previous versions of pfm used \, but this was deemed too confusing because backslashes are parsed by the shell as well. This manual page (and the default config file) will assume you are using = as 'escapechar').

The following abbreviations are available:

- =1 the current filename without extension (see below)
- =2 the current filename, complete
- =3 the full current directory path
- **=4** the mountpoint of the current filesystem
- =5 the full swap directory path (see **F7** command)
- **=6** the basename of the current directory
- =7 the extension of the current filename (see below)
- **=8** a space-separated list of all selected filenames
- == a single literal =
- =e the editor specified with the 'editor' option in the config file
- =p the pager specified with the 'pager' option in the config file
- =v the image viewer specified with the 'viewer' option in the config file

The extension of the filename is defined as follows:

If the filename does not contain a period at all, then the file has no extension (=7 is empty) and its whole name is regarded as =1.

If the filename does contain a period, the extension =7 is defined as the final part of the filename, starting at the last period in the name. The filename =1 is the part before the period.

In all cases, the concatenation of =1 and =7 is equal to =2.

Examples:

=1	=7
track01	.wav
garden	.jpg
end	
somename	empty
empty	.profile
.profile	.old
	track01 garden end somename empty

See also below under OUOTING RULES.

Print

Will prompt for a print command (default lpr -P\$PRINTER =2, or lpr =2 if PRINTER is unset) and will run it. No formatting is done. You may specify a print command with the 'printcmd' option in the .pfmrc file.

Ouit

Exit pfm. The option 'confirmquit' in the .pfmrc file specifies whether pfm should ask for confirmation. Note that by pressing a capital \mathbf{Q} (quick quit), you will never be asked for confirmation.

Rename

Change the name of the file and/or move it into another directory. You will be prompted for the new filename. Depending on your Unix implementation, a pathname on another filesystem may or may not be allowed.

In multiple-file mode, it is not allowed to specify a single non-directory filename as a new name. Instead, the new name must be a directory or a name containing a =1 or =2 escape (see above under cOmmand).

If clobber mode is off (see below under the ! command), existing files will not be overwritten unless the action is confirmed by the user.

Show

Displays the contents of the current file or directory on screen. You can choose which pager to use for file viewing with the environment variable PAGER, or with the 'pager' option in the .pfmrc file.

Time

Change mtime (modification date/time) of the file. The time may be entered either with or without clarifying interpunction (e.g. 2008–12–04 08:42.12) as the interpunction will be removed to obtain a format which *touch* (1) can use. Enter . to set the mtime to the current date and time.

User

Change ownership of a file. Note that many Unix variants do not allow normal (non-root) users to change ownership. Symbolic links will be followed.

Version

Updates the current file with status information of the applicable versioning system. pfm will examine the current directory to figure out which versioning system is used. Supported versioning systems are: Subversion, CVS, Bazaar and Git. See also More – reVision.

unWhiteout

(Only on platforms that support whiteout files). Provides the option to remove the whiteout entry in the top layer of a stacked/overlay filesystem, thereby restoring access to the corresponding file in the

lower layer.

eXclude

Allows you to erase marks on a group of files which meet a certain criterion. See Include for details.

Your command

Like cOmmand (see above), except that it uses one-letter commands (case-sensitive) that have been preconfigured in the *.pfmrc* file. Your commands may use =1 up to =8 and =e, =p and =v escapes just as in cOmmand, e.g.

```
your[c]:tar cvf - =2 | gzip > =2.tar.gz
your[t]:tar tvf =2 | =p
your[o]:svn commit =8
```

siZe

For directories, reports the grand total (in bytes) of the directory and its contents.

For other file types, reports the total number of bytes in allocated data blocks. For regular files, this is often more than the reported file size. For special files and *fast symbolic links*, the number is zero, as no data blocks are allocated for these file types.

If the screen layout (selected with **F9**) contains a 'grand total' column, that column will be used. Otherwise, the 'filesize' column will temporarily be used. A 'grand total' column in the layout will never be filled in when entering the directory.

Note: since du(1) commands are not portable, pfm guesses how it can calculate the size according to the Unix variant that it runs on. If pfm makes an incorrect guess, you might have to specify the du command (or du | awk combination) applicable for your Unix version in the *.pfmrc* file. Examples are provided. Please notify the author of any corrections that should be made.

MORE COMMANDS

These commands are accessible through the main screen More command.

Rookmark

Lists all the available bookmarks and asks the user in which slot the current directory should be bookmarked. If the input is valid, a new bookmark is created in the bookmark list.

Config pfm

This command will open the *.pfmrc* config file with the configured editor. The file will be re-read by pfm after you exit your editor. Options that are only modifiable through the config file (like 'columnlayouts') will be reinitialized immediately, options that affect settings modifiable by key commands (like 'defaultsortmode') will not.

Edit any file

You will be prompted for a filename, then your editor will be spawned.

make Fifo

Prompts for a name, then creates a FIFO file (named pipe) with that name. See also fifo (4) and mkfifo (1).

Go to bookmark

Lists all the available bookmarks and asks the user which bookmark should be loaded to the current directory (and file). If the input is valid, the bookmark is loaded and a *chdir()* is done to the directory.

sHell

Spawns your default login shell. When you exit from it, pfm will resume.

Make new directory

Specify a new directory name and pfm will create it for you. Furthermore, if you don't have any files marked, your current directory will be set to the newly created directory.

Physical path

Shows the physical pathname of the current directory until a key is pressed.

Show directory

You will be asked for the directory you want to view. Note that this command is different from **F7** because this will not change your current swap directory status.

alTernate screen

If the terminal has an alternate screen (like **xterm**), and pfm has been configured to use it (through the 'altscreenmode' option in the *.pfmrc*), then this command shows the alternate screen until a key is pressed. This is useful for reading error messages of shell commands and so on.

Version

Updates the current directory with status information of the applicable versioning system. pfm will examine the current directory to figure out which versioning system is used. Supported versioning systems are: Subversion, CVS, Bazaar and Git.

If you set the 'autorcs' option in your .pfmrc, this will automatically be done every time pfm shows directory contents.

Write history

pfm uses the readline library for keeping track of the Unix commands, pathnames, regular expressions, modification times, and file modes entered. The history is read from individual files in \$HOME/.pfm/ every time pfm starts. The history is written only when this command is given, or when pfm exits and the 'autowritehistory' option is set in .pfmrc.

MISCELLANEOUS and FUNCTION KEYS

ENTER

If the current file is a directory, pfm will *chdir()* to that directory. Otherwise, pfm will attempt to *launch* the file. See LAUNCHING FILES below.

DEL

Identical to the **D**elete command (see above).

- ! Toggle clobber mode. This controls whether a file should be overwritten when its name is reused in Copy, Link or Rename.
- " Toggle pathname handling. In **physical** mode, the current directory path will always be transformed to its canonical form (the simplest form, with symbolic names resolved). In **logical** mode, all symbolic link components in the current directory path will be preserved.
- % Toggle show/hide whiteout files.
- * Toggle the radix used by the Name command.
- . Toggle show/hide dot files.
- / Identical to Find (see above).
- < Scroll the menu and footer, in order to view all available commands.
- = Cycle through displaying the username, the hostname, or username@hostname.
- > Scroll the menu and footer, in order to view all available commands.
- ? Display help. Identical to **F1**.
- @ Allows the user to enter a perl command to be executed in the context of pfm. Primarily used for debugging.
- **F1** Display help, version number and license information.
- **F2** *chdir()* back to the previous directory.
- **F3** Fit the file list into the current window and refresh the display.
- **F4** Change the current colorset. Multiple colorsets may be defined, see the *.pfmrc* file itself for details.
- **F5** Current directory will be reread. Use this when the contents of the directory have changed. This command will erase all marks.

- **F6** Allows you to re-sort the directory listing. You will be presented a number of sort modes.
- F7 Alternates the display between two directories. When switching for the first time, you are prompted for a directory path to show. When you switch back by pressing F7 again, the contents of the alternate directory are displayed unchanged. Menu text changes color when in swap screen. In shell commands, the directory path from the alternate screen may be referred to as =5. If the 'persistentswap' option has been set in the config file, then leaving the swap mode will store the main directory path as swap path again.
- **F8** Toggles the mark (include flag) on an individual file.
- **F9** Toggle the column layout. Layouts are defined in your *.pfmrc*, in the 'defaultlayout' and 'columnlayouts' options. See the config file itself for information on changing the column layout.

Note that a 'grand total' column in the layout will only be filled when the siZe command is issued, not when reading the directory contents.

F10

Switch between single-file and multiple-file mode.

F11

Refresh (using *lstat* (2)) the displayed file data for the current file.

F12

Toggle mouse use. See below under MOUSE COMMANDS.

LAUNCHING FILES

The ENTER key, when used on a non-directory file, will attempt to launch the file.

The command used for launching a file is determined by the file type. File types are identified by a unique name, preferably MIME type names. Launch commands for every file type may be defined using the config file 'launch[filetype]' options.

Example:

```
launch[image/gif] :=v =2 &
launch[application/pdf]:acroread =2 &
```

There are three methods for determining the file type. You may opt to use one, two, or all three of these methods, thereby using the second and third method as fallback.

The following methods are available:

extension

The filename extension will be translated to a file type using the 'extension[*.extension]' options in the config file.

Example:

```
extension[*.gif]:image/gif
extension[*.pdf]:application/pdf
```

magic

The *file* (1) command will be run on the current file. Its output will be translated to a file type using the 'magic[regular expression]' options in the config file.

Example:

```
magic[GIF image data]:image/gif
magic[PDF document] :application/pdf
```

xbit

The executable bits in the file permissions will be checked (after symbolic links have been followed). If the current file is executable, pfm will attempt to start the file as an executable command.

To select which method or methods (*extension*, *magic*, and/or *xbit*) should be used for determining the file type, you should specify these using the 'launchby' option (separated by commas if more than one).

Example:

launchby:xbit,extension

If the file type cannot be determined, the current file will be displayed using your pager.

The **ENTER** key will always behave as if pfm runs in single-file mode. It will *not* launch multiple files. Use **Y**our or **cO**mmand to launch multiple files.

QUOTING RULES

pfm adds an extra layer of parsing to filenames and shell commands. It is therefore important to take notice of the rules that pfm uses.

In versions prior to 1.93.1, the default escape character was \. Since this causes confusing results, this is no longer the default, and you are discouraged from using it.

The following six types of input can be distinguished:

a regular expression (only the Include and eXclude commands)

The input is parsed as a regular expression.

a time (e.g. the Time or Include – Before commands)

Characters not in the set [0-9] are removed from the input.

a literal pattern (only the Find command)

The input is taken literally.

not a filename or shell command (e.g. in Attribute or User)

The input is taken literally.

a filename (e.g. in Copy or tarGet).

First of all, tilde expansion is performed.

Next, any = [1-8evp] character sequence is expanded to the corresponding value.

At the same time, any = $[^1-8evp]$ character sequence is just replaced with the character itself.

Finally, if the filename is to be processed by pfm, it is taken literally; if it is to be handed over to a shell, all metacharacters are replaced *escaped*.

a shell command (e.g. in cOmmand or Print)

First of all, tilde expansion is performed.

Next, any =[1-8evp] character sequence is expanded to the corresponding value, with shell metacharacters escaped.

At the same time, any = $[^1-8evp]$ character sequence is just replaced with the character itself.

In short:

- pfm always escapes shell metacharacters in expanded =2 etc. constructs.
- In filenames entered, shell metacharacters are taken literally.
- In shell commands entered, metacharacters that you want to be taken literally must be escaped one extra time.

Examples:

char(s) wanted in filename	char(s) to type in filename	char(s) to type in shell		
		command		
any non-metachar	that char	that char		
\	\	\\		
"	"	\" or `"`		
=	==	==		
space	space	\space or 'space'		

filename	=2	=2
\2	\2	\\2 or '\2'
=2	==2	==2

MOUSE COMMANDS

When pfm is run in an xterm or other terminal (or emulator) that supports the use of a mouse, turning on mouse mode (either initially with the 'defaultmousemode' option in the *.pfmrc* file, or while running using the **F12** key) will give mouse access to the following commands:

	location clicked					
btn	pathline	menu/	heading	fileline	filename	dirname
		footer				
1	chdir()	command	sort	F8	Show	Show
2	cOmmand	command	sort rev	Show	ENTER	new win
3	cOmmand	command	sort rev	Show	ENTER	new win
up	five lines up					
down	five lines down					

The cursor will *only* moved to another file when a directory is clicked or the mouse wheel is used. The mouse wheel moves the cursor five lines per notch, or one line if shift is pressed.

Clicking button 1 on the current directory path will *chdir()* up to the clicked ancestor directory. If the current directory was clicked, or the device name, it will act like a **More** – **Show** command.

Clicking button 2 on a directory name will open a new pfm terminal window.

Clicking on the column headings will sort the directory contents by that heading. Clicking again will sort the directory in reverse order.

Clicking on the menu or footer will execute the command that was clicked.

Clicking on the identity line in the info column will switch the display like the = command does.

Mouse use will be turned off during the execution of commands, unless 'mouseturnoff' is set to 'no' in .pfmrc. Note that setting this to 'no' means that your (external) commands (like your pager and editor) will receive escape codes when the mouse is clicked.

WORKING DIRECTORY INHERITANCE

Upon exit, pfm will save its current working directory in the file \$HOME/.pfm/cwd, and its swap directory, if any, in \$HOME/.pfm/swd. This enables the user to have the calling process (shell) "inherit" pfm's current working directory, and to reinstate the swap directory upon the next invocation. To achieve this, you may call pfm using a function or alias like the following:

Example for ksh(1), bash(1) and zsh(1):

```
pfm() {
    if [ -s ~/.pfm/swd ]; then
        swd=-s"`cat ~/.pfm/swd`"
    fi
    # providing $swd is optional
    env pfm $swd "$@"
    if [ -s ~/.pfm/cwd ]; then
        cd "`cat ~/.pfm/cwd`"
        rm -f ~/.pfm/cwd
    fi
}
```

Example for csh(1) and tcsh(1):

```
alias pfm ':
    if (-s ~/.pfm/swd) then
        set swd=-s"`cat ~/.pfm/swd`"
    endif
    : providing $swd is optional
    env pfm $swd \!*
    if (-s ~/.pfm/cwd) then
        cd "`cat ~/.pfm/cwd`"
        rm -f ~/.pfm/cwd
endif'
```

ENVIRONMENT

ANSI_COLORS_DISABLED

Detected as an indication that ANSI coloring escape sequences should not be used.

CDPATH

A colon-separated list of directories specifying the search path when changing directories. There is always an implicit . entry at the start of this search path.

EDITOR

The editor to be used for the Edit command. Overridden by VISUAL.

LC_ALL

LC_COLLATE

LC_CTYPE

LC_MESSAGES

LC_NUMERIC

LC_TIME

LANG

Determine locale settings, most notably for collation sequence, messages and date/time format. See *locale* (7).

PAGER

Identifies the pager with which to view text files. Defaults to less(1) for Linux systems or more(1) for Unix systems.

PERL RL

Indicate whether and how the readline prompts should be highlighted. See *Term::ReadLine* (3pm). If unset, a good guess is made based on your config file 'framecolors[]' setting.

PFMRC

Specify a location of an alternate .pfmrc file. If unset, the default location \$HOME/.pfm/.pfmrc is used. The cwd- and history-files cannot be displaced in this manner, and will always be located in the directory \$HOME/.pfm/.

PRINTER

May be used to specify a printer to print to using the **P**rint command.

SHELL

Your default login shell, spawned by More – sHell.

VISUAL

The editor to be used for the Edit command. Overrides EDITOR.

FILES

The directory \$HOME/.pfm/ and files therein. A number of input histories and the current working directory on exit are saved to this directory.

The default location for the config file is \$HOME/.pfm/.pfmrc.

EXIT STATUS

- O Success (could also be a user requested exit, *e.g.* after —**help** or —**version**).
- 1 Invalid commandline option.
- 2 No valid layout found in the .pfmrc file.

DIAGNOSIS

If pfm reports that your config file might be outdated, you might be missing some of the newer configuration options (or default values for these). The best way to solve this is by running the following command and comparing the new config file with your original one:

```
env PFMRC=~/.pfm/.pfmrc-new pfm
```

Alternatively, you may try running the pfmrcupdate script that is provided in the distribution.

To prevent the warning from occurring again, update the '## Version' line.

BUGS and WARNINGS

Term::ReadLine::Gnu does not allow a half-finished line to be aborted by pressing ESC. For most commands, you will need to clear the half-finished line. You may use the terminal kill character (usually CTRL-U) for this purpose (see *stty* (1)).

The author once almost pressed **ENTER** when logged in as root and with the cursor on the file /sbin/reboot. You have been warned.

The smallest terminal size supported is 80x24. The display will be messed up if you resize your terminal window to a smaller size.

VERSION

This manual pertains to pfm version 2.06.3.

AUTHOR and COPYRIGHT

Copyright © 1999-2010, René Uittenbogaard (ruittenb@users.sourceforge.net).

All rights reserved. This program is free software; you can redistribute it and/or modify it under the terms described by the GNU General Public License version 2.

This program was based on PFM.COM version 2.32, originally written for MS-DOS by Paul R. Culley and Henk de Heer. The name 'pfm' was adopted with kind permission of the original authors.

Special thanks to Maurice Makaay for help with debugging.

SEE ALSO

The documentation on PFM.COM. The manual pages for chmod(1), cp(1), file(1), less(1), ln(1), locale(7), lpr(1), touch(1), vi(1).

```
developers:
For
                       Term::Screen (3pm),
                                              Term::ScreenColor (3pm),
                                                                          Term::ReadLine (3pm),
App::PFM::Abstract (3pm),
                                 App::PFM::Application (3pm),
                                                                      App::PFM::Browser (3pm),
App::PFM::CommandHandler(3pm),
                                       App::PFM::Config (3pm),
                                                                     App::PFM::Directory (3pm),
App::PFM::File (3pm),
                               App::PFM::History (3pm),
                                                                   App::PFM::JobHandler(3pm),
App::PFM::Job::Abstract(3pm),
                                   App::PFM::Screen (3pm),
                                                                App::PFM::State (3pm)
App::PFM::Util (3pm).
```

The pfm project page: http://sourceforge.net/projects/p-f-m/