OS9 - System Utilities

S-Screen Control

M-Menuing system

P-Point and Shoot File Selection

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Pt - FILE MANAGEMENT SYSTEM
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Pt - FILE MANAGEMENT SYSTEM

INTRODUCTION

Pt is a machine language utility designed to make file and directory management easy and quick. Pt allows you to execute programs that require filenames on the command line from a point and shoot environment. Point and shoot is a method of selecting files by displaying all the files in a directory in a window, highlighting the correct file using the cursor keys and then pressing the enter key to execute the program with the highlighted filename as a parameter.

Pt will work with any program that takes its parameters from the standard OS9 shell command line.

In addition to providing a point and shoot environment for commands, Pt provides 13 built in utilities for manipulating files and 7 utilities for working with directories. With the exception of File Edit all the utilities are built into Pt, and are not the standard OS9 utilities called from within the program.

Pt was originally designed to work from within the M -Menuing System but works equally well as a stand alone utility from the command line or from within procedure files. (As pt manipulates the screen extensively be sure when calling Pt from within a procedure file to redirect BOTH standard Input and Output ie Pt <>>>/1.)

SYNTAX: Pt [command string]

The optional command string is a standard OS9 command line that DOES NOT USE shell command line modifiers { !#<>>>&(); }. To use a command string with shell modifiers call Pt from within M with the shell bypass option or see the Change command option of the Main Menu.

The command line will be executed from within Pt when the enter key is pressed. The filename highlighted will be concatenated to the end of the command string before it is passed to shell. It is possible to place the filename elsewhere in the command string this is done with the % operator. When the enter key is pressed the command string is expanded and when a % is encountered the highlighted filename is substituted.

Examples:

Command string : edit
File highlighted: george
Command executed: edit george

Command string : edit %
File highlighted: george
Command executed: edit george

Command string : edit % %.new
File highlighted: george
Command executed: edit george george.new

Command string : copy % %.bak
File highlighted: george
Command executed: copy george george.bak

Command string : rename % %.old
File highlighted: george
Command executed: rename george george.old

As you can see from the above examples the % operator can be uses more than once within a command string and the highlighted filename is substituted wherever the % is encountered, spaces are not added either before or after the %.
It is also possible to pass parameters from the keyboard to the command string before it is executed. This is done by the $ operator. When the command string is being expanded before execution and a $ is encountered, expansion is halted, a popup window appears with the prompt Cmd param: and then the next 70 entered from the keyboard are inserted

into the command string in the location marker by the $. The terminating carriage return is not inserted into the command string. As with the % operator the $ operator can appear more than once within a command string. Each $ operator encountered will prompt for a new Cmd param:. If a null string is entered (by just pressing enter) the $ is ignored.

Examples:

Command string : edit $
Highlighted file : george
Cmd param entered: <enter>
Command executed : edit george

Command string : edit $
Highlighted file : george
Cmd param entered: #40k<enter>
Command executed : edit #40k george

Command string : edit % $
Highlighted file : george
Cmd param entered: sam <enter>
Command executed : edit george sam

Command string : list % $
Highlighted file : george
Cmd param entered: >/p<enter>
Command executed : list george >/p

Command string : copy $ % $
Highlighted file : george
Cmd param entered: #40k<enter>
Cmd param entered: sam<enter>
Command executed : copy #40k george sam

FUNCTION: A complete file management system providing a point and shoot environment to command line based programs.

MAIN SCREEN: When Pt is executed the screen is cleared and the current data directory is displayed in an overlay window. The first entry in the directory (usually '..') is highlighted. The first line of the screen contains the Program title and copyright notice, the last is the Main Menu. These appear in white characters on a black background. The two lines above the Main Menu are the program status lines. These lines display the name of the currently highlighted filename, the current command string, the number of files in the current data directory the number of display pages, and the current display page. The status lines appear in white characters on a red background. The names of the files in the current data directory are displayed in pages of 60 filenames arranged in 3 columns of 20 names, displayed in white on a blue background. The displayed filenames are truncated to 25 characters for purposes of the display but are stored internally as the full 29 characters allowed by OS9.

MAIN MENU: When the cursor highlights a file, and there are no popup windows on the screen then the main menu is active. There are eight possible actions from the main menu. Three of the actions are not listed they are:

CURSOR MOVEMENT: The cursor in the main screen is a block 26 characters wide displayed in reverse video (blue letters on a white background). The cursor is moved by use of the arrow keys. The up arrow moves the cursor up one line, the down arrow moves the cursor down one line. When moving up or down and reaching the top or bottom of a column the cursor wraps around to the top when moving down and the bottom when moving up.

The right and left arrow keys move the cursor right or left one column respectively, the cursor wraps around to the first column one row and down one line when moving right and to the last column and one line up when moving left.

Shift left arrow will move the cursor to the first line first column and shift left arrow will move the cursor to the last column 20th line.

The shift Up and shift Down arrow keys move between display pages. Shift down arrow moves down through the pages until reaching the last page and shift up moving up through the pages until page 1 is reached. These keys do not wrap around.

COMMAND LINE EXECUTION: Pressing the enter key with a PROGRAM name highlighted executes the current command string. The command string is expanded as explained above in the Syntax section.

CHANGE DATA DIRECTORY: Pressing the enter key with a DIRECTORY name highlighted changes the current data directory and the displayed directory to the directory highlighted. Pressing enter with '..' highlighted moves you up one directory, while pressing enter with '.' highlighted rereads and redisplays the current data directory.

The remaining possible actions are listed in the Main Menu, and selected by pressing the letter enclosed in brackets. Pt is not case sensitive; pressing the lower case letter has the same effect as pressing the upper case letter. The Main Menu is:

<C>HANGE COMMAND: Pressing the letter c selects the change command selection. This selection allows you to change the command string entered from the command line when Pt is first executed, since the command string is optional this selection allows you to enter the command string from within Pt. This allows you to enter command strings that DO contain shell command line modifiers, and also multiple commands.

Examples:

New Command string: edit #40k $
Highlighted file : george
Cmd param entered : <enter>
Command executed : edit #40k george

New Command string: list % >/p
Highlighted file : george
Command executed : list george >/p

New Command string: edit #40k %; list % >/p
Highlighted file : george
Command executed : edit #40k george;list george >/p

<S>HELL: Pressing the letter s selects the shell selection. This selection clears the screen displays the line: Enter EX<enter> or Press <Control><Break> to return to Pt. Then your normal shell prompt appears and you can run any OS9 command or program from the standard command line, when you are finished a control-break will return you to pt.

<E>XIT: Pressing the letter e terminates the execution on Pt, clears the screen, and exits to the shell in the same data and execution directories that were in effect when Pt was called.

The final selections from the main menu call sub menus dealing with directory and file manipulation they are:

<D>IRECTORY MENU: Pressing the letter d calls up the Directory sub menu, pressing enter without making a selection returns you to the main menu. After completion of any utility selected you are return to with main menu without having to exit the sub menu. The directory utilities available from this menu are:

chAnge data directory
Copy directory
Delete directory
cHange exec directory
Make directory
Search directories
Tree

Pressing the capitalized letter in each line selects the utility. Remember that Pt is not case sensitive, pressing a has the same effect as pressing A. The directory utilities work as follows.

chAnge data directory: Pressing the letter a allows you to change the current data directory. This change will remain in effect as long as Pt is running or until changed. When Pt is exited the current data directory returns to the one current when Pt was called.
When this selection is called a popup window appears prompting you to enter the New path:
pressing enter returns you to the main menu, entering a path Pt will attempt to chd to the path entered. If the chd is successful the new directory is read and displayed on the main screen. If the path does not exist a popup error message 214 is displayed and you are prompted to press any key. When a key is pressed you are returned to the main menu.

Copy directory: Pressing the letter c selects the copy directory utility. Copy directory copies all files in the current directory to the specified path. Copy directory copies only files and not sub directories nor their contents. Upon selection of Copy directory a popup window appears prompting you to enter the destination path. Pressing enter returns you to the main menu. Upon entry of a path, Pt. checks for a valid path, if the destination directory does not exist you are informed and asked if the directory should be created, entering a y will cause the directory to be created any other key will return you to the main menu. Copy directory displays the path and the filename for each file as they are copied, when a directory is encountered an error is displayed and the copy then continues this error message is only to inform you that the current directory contain sub directories and that the contents of the sub directories are not being copied.

Delete directory: Pressing the letter d selects the Delete directory utility. If a directory name is highlighted a popup window displays the directory and prompts you to delete the directory. Entering a y will delete the highlighted directory and all sub directories. If '.', '..', or a non directory filename is highlighted, or you do not press y at the delete directory prompt, a popup window appears prompting "Delete current directory (y/N)". Entering any letter but y will return you to the main menu. Entering a y will delete all the files in the current directory but will not delete any sub directories or their contents. WARNING the standard OS9 deldir command will not delete files that do not have write permission set, it will abort the deldir with a file permission error. Pt WILL delete all files no matter what the write permissions of the file are.

cHange exec directory: Pressing H will allow you to change the execution directory. A popup window will prompt you to enter the new execution path. Pressing enter will return you to the main screen, entering a valid path will change the execution directory, a invalid path will display a error and pressing any key will return you to the main menu.

Make directory: Pressing m will allow you to create a new directory. The utility prompts for the new directory in a popup window. Pressing enter will return you to the main screen, entering a directory name or path will create the new directory. In line with standard OS9 usage the new directory name will be capitalised.

Search directory: Pressing s runs the directory search utility. A popup window prompts for the file to search for. Pressing enter will return you to the main screen, entering a name or search pattern will search the current directory and all sub directories for a match. Each directory name is displayed in a tree structure with "." as the root. When a match is found the filename is displayed along with a prompt "Press <S> to stop search" . Pressing the letter s will stop the search, chd into the directory containing the file and move the cursor to the matching filename, pressing any other key will continue the search. When the

search is through the message "Press any key to continue " displayed and when that is done you are returned to the main menu. Search directory has limited wildcard matching capabilities.
Enter * for any number of letters and ? for one unknown letter.

Examples:
Enter : *p
Match : help, stop, backup, and camp

Enter : s*
Matches: shell, size, sell, setime, and sort

Enter : s*ll
Matches: shell and sell

Enter : p?d
Matches: pwd and pxd

Enter : s?ll
Matches: sell

The search is case sensitive, uppercase letters DO NOT match the lower case equivalents. l*t will not match List but will find list. This is not a complete implementation of wild card searching, the algorithm has trouble with double letters. S*ll will find shell and sell s*l will not.

Tree directory: Pressing t will display the current directory and all subdirectories in a tree structure with "." as the root.

<F>ILE MENU: Pressing the letter f calls up the File sub menu, pressing enter without making a selection returns you to the main menu. After completion of any utility selected you are return to with main menu without having to exit the sub menu. The file utilities available from this menu are:

Alias file
Build file
Copy file
Delete file
Edit file
File attr/info
HexDump file
List file
Move file
Procedure
Rename file
Search for file
Next file

Pressing the first capitalized letter in each file selects that utility. The utilities work as follows.

Alias file: Pressing the letter a will run the alias utility. The alias utility implements a feature of OS9 that has been previously unsupported. This feature allows you to reference the same file from several directories. This allows you to have the file stored in one location on the disk but be referenced from several directory entries. This is accomplished by copying the directory entry (32 bytes) from one directory to another and incrementing the link count for the file by 1. Page 5-4 of the OS9 technical reference manual describes the contents of the file descriptor for each file byte $08 is the link count. The link count for a file on a disk is similar to the link count for a file in memory. Just as a module in memory will remain in memory until it's link count is 0, a file on the disk will remain on the disk until it's link count is 0. That means that if you delete a file from a directory the directory entry for that file will be gone but if the link count for that file is not 0 the file will remain on the disk referenced by a entry in another directory. By aliasing a file into another directory, renaming the file, and moving the directory entry back to the original file, you can have two entries for 1 file in 1 directory.

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WARNING THIS COMMAND IS FOR ADVANCED USERS.
This command is for advanced user only and can have unpredictable results with some commands.
Some backup utilities may have trouble with aliased files, and dcheck will report a damaged disk if you have files aliased.

Build file: Pressing b will select the build file utility. Build file prompts you for a file name in a popup window, pressing enter will abort the utility and return you to the main menu. Build then creates a file, exiting with a error if the file already exists, and clears the main window and prompts you with a question mark. From this point build works exactly like the standard OS9 build command.

Copy file: Pressing c will select the file copy command. The utility prompts for a destination file in a popup window, pressing enter will abort the utility and return you to the main menu. Upon entering a filename copy checks to see if the file already exists, if the destination file exists you are given the choice to replace it with the new file. Entering Y at the replace prompt will replace the file, any other key will abort the utility and return you to the main menu. If you enter a path to the destination directory and leave off the filename, copy will copy to a file with the same name as the source file.

Example:

Highlighted file: george
Destination path: /dd/cmds/
Action : copies george to /dd/cmds/george

Highlighted file: george
Destination path: /dd/cmds/sam
Action : copies george to /dd/cmds/sam

Notice the trailing slash (/) in the first example this slash MUST be included or the copy will abort with a 214 error.

Delete file: Pressing d selects the delete file utility. The utility prompts you to confirm the deletion in a popup window. Pressing any key besides y or Y will abort the utility and return you to the main menu. The utility then check the attributes of the file to highlighted if the file is a directory the utility aborts, if the write attributes are not set the utility prompts you with the message "File protected delete (y/N)" again pressing any key besides y or Y aborts the utility and returns you to the main menu.
The standard OS9 delete command requires you to change the attributes with the attr command and then delete the file.

Edit file: Pressing e will call your favorite editor to edit the file highlighted. This is the only command that is not built into Pt. Pt calls the editor named in a string stored at locations $167 - $17a in the program. These locations contain the default string

```
        ed #40k % <$0d>
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that's ed #40k % followed by one space and a carriage return.

This string can be edited with your favorite disk editor or patcher and ed can be replaced with the name of your editor.

File attr/info: Pressing f selects the file attr/ information utility. This utility examine the highlighted file and displays the following information:
The file name, the file size in bytes, the files current attributes, the files link count (see alias above), the date the file was created, and the date the file was last modified.

At the bottom of the display the utility prompts you to change the attributes, entering any character besides y or Y will abort the attribute change portion of the utility. If you enter y at the prompt a cursor is positioned over the sharable attribute of the displayed attributes for the file. The cursor is moved by the left and right arrow keys. Positioning the cursor over the attribute to be changed and pressing the down arrow will toggle the attribute on or off. Each attribute can be changed in this manner. Pressing enter will exit the change portion of the utility, and you will be prompted to save your changes. Entering Y will save the changes any other key will continue the utility without saving the changed attributes.

WARNING - - FOR ADVANCED USERS.
It is possible to change even the directory attribute with this utility. If you try to change the directory attribute the program will display a warning and ask you to confirm the change. If you confirm the change the program will continue, if you press any key but Y the program will ignore the attempt to change the directory attribute.

IT IS VERY DANGEROUS TO CHANGE THE DIRECTORY ATTRIBUTE, DO NOT EXPERIMENT WITH THIS COMMAND ON A DISK YOU CANNOT AFFORD TO LOOSE!!

HexDump file: Pressing h will select this utility. HexDump is similar to the OS9 Level 1 dump utility and the OS9 level II dump utility included in the OS9 developers kit. HexDump will display the highlighted file in screens of 16 lines of 16 bytes. The display will consist of the hex values for each byte and then the ascii equivalents of the value. Along the top of the display is an index counting the bytes from 0 to f, and along the side is the running byte count from the $10 position on. At the bottom of each screen a prompt telling you to enter T to move to the top of the file U to move up 256 bytes, (1 screen), and x to exit. Any other key will display the next 256 bytes. The highlighted file can be any type of file including a directory, even "." or "..". This makes hexdump ideal for examining the structure of directories as well as programs.

List file: Pressing l will select the list file utility. This utility will list the highlighted file to the screen 21 lines at a time. At the bottom of each screen a prompt telling you to enter T to move to the top of the file U to move up one page, and x to exit. Any other key will display the next 21 lines.

Move file: Pressing m will select the move file utility. Move is an intelligent utility that moves files from one directory to another on the same disk. Move file prompts for a destination directory in a popup window, pressing enter will abort the utility. Move works by copying the directory entry (32 bytes) from one directory to another, not by copying and then deleting the file. This makes the utility very fast. Move acts like a copy followed by a delete.
WARNING MOVE WILL ONLY MOVE FILES BETWEEN DIRECTORIES ON THE SAME DISK. DO NOT TRY TO MOVE FILES BETWEEN DISKS.

Procedure: Pressing p will select this utility. Procedure is used to run the highlighted procedure file in the current data directory. When the procedure file is finished you will be returned to the main menu. Selecting the procedure utility when the highlighted file is not a procedure file will be unsuccessful and the utility will abort.

Rename file: Pressing r will select this utility. Rename file prompts for a new file name in a popup window, pressing enter will abort the utility. If the new filename already exists an error message is displayed and you are returned to the main menu. If the file name does not exists the highlighted file is renamed. This works just like the OS9 rename utility.

Search file: Pressing s will select this utility. Search file prompts for a filename in a popup window, pressing enter will abort the utility. Search then searches the CURRENT directory for the filename entered. As with Directory Search, File Search has limited wild card matching capabilities. When a match is found the matching file is highlighted.
Next file: Pressing n will select this utility. Next file will find the next occurrence of the search string from a Directory Search of File Search in the current data directory. If no matches remain in the directory the first entry in the directory, usually ".." is highlighted.

This is version 1.0 of Pt. If there is enough interest an expanded version will be developed. If there are any features you would like to see added to Pt or any changes in the way it works please write and let us know. We will upgrade all registered users upon receipt of a blank formatted disk and a post paid disk mailer.

Thank you;

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