CHAPTER 12 THE SYSTEM UTILITIES WINDOW

12.1 OVERVIEW

The system utilities window shown in Figure 12-1 displays and allows modification of the variables which control the interaction of ASCEND with the operating system and with other programs.

The values of the variables are initialized from the user's environment, from the file `.ascend-config` in the user's HOME directory, and from settings within ASCEND.

If the user chooses to save the system utility settings, ASCEND writes the current values of the variables into file `.ascend-config` in the user's HOME directory. ASCEND will automatically reread those values in the next time it starts.

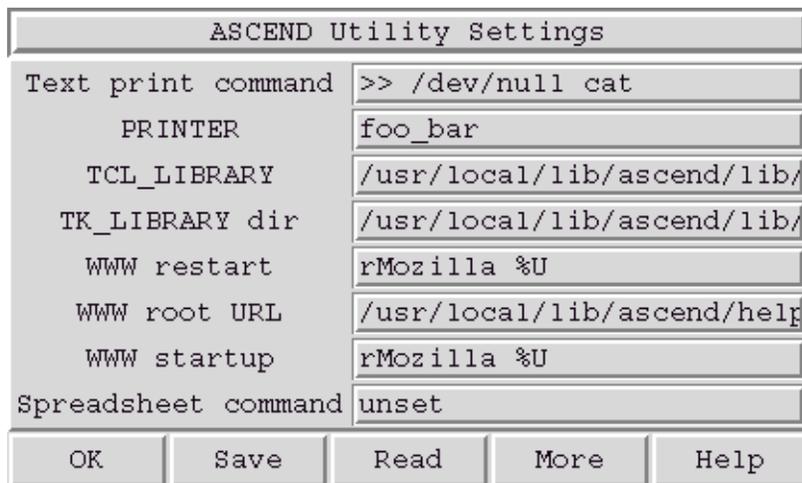| ASCEND Utility Settings	
Text print command	>> /dev/null cat
PRINTER	foo_bar
TCL_LIBRARY	/usr/local/lib/ascend/lib/
TK_LIBRARY dir	/usr/local/lib/ascend/lib/
WWW restart	rMozilla %U
WWW root URL	/usr/local/lib/ascend/help
WWW startup	rMozilla %U
Spreadsheet command	unset

| OK | Save | Read | More | Help |

Figure 12-1   The System Utilities window manages ASCEND's interaction with the operating system and with other programs.

When working with the system utilities window, it is important to remember that changes to the variables propagate *immediately* throughout ASCEND, and that there is no way to undo or cancel changes made to the variables[1].

12.2 VARIABLES

The system utilities window contains the following settings. Settings marked with an asterisk[*] are not saved in `.ascend-config`.

To change a variable's value, click in the box to the right of the variable's label and type the new value. This new value is immediately available to the ASCEND system.

12.2.1 WWW ROOT URL

ASCEND distributes its help system as HTML documents, and spawns a web browser to view these documents. The variable WWW Root URL gives the root of the ASCEND help tree, and the variables WWW Restart Command and WWW Startup Command contains commands to connect to a running web browser and to start a new web browser, respectively.

WWW Root URL contains the first part of a URL to the ASCEND help tree; it is not necessarily a complete URL. The variable should end in a forward slash (/). The **Help** menus and buttons in ASCEND will append text to this value and invoke WWW Restart Command or WWW Startup Command with the complete URL.

The person who installs ASCEND at a site should set this variable to the root of the directory containing that site's copy of the ASCEND help files, for example:
`file://localhost/usr/local/lib/ascend/help/`
at CMU ICES.

The value
`http://www.cs.cmu.edu/~ascend/help/`
will connect you to the help pages at the ASCEND web site.

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1. Some variables can be restored to the values in effect the last time the system utilities were saved, but this only works if the user has previously saved the values, and it does not restore every variable.

12.2.2 WWW RESTART COMMAND

This is a command to redirect the attention of your already running web browser to a new URL. If this command returns an error code, ASCEND will attempt to start a new browser using the WWW Startup Command.

If your favorite browser does not support restarting, set the value of this variable to `false`. This will cause a new browser to start for every help query from the ASCEND interface.

ASCEND will replace every occurrence of `%U` in this command with the URL to be viewed. The default value of WWW Restart Command is
```
netscape -remote openURL(%U)
```

12.2.3 WWW STARTUP COMMAND

This is a command to start your favorite web browser. This command is invoked if the value of WWW Restart Command is `false` or if attempting to start a browser using that command returns an error code.

ASCEND will replace every occurrence of `%U` in this command with the URL to be viewed. The default value of WWW Startup Command is
```
netscape %U
```

12.2.4 ASCENDLIBRARY PATH*

The ASCENDLIBRARY variable contains a list of directories that the Library and Script tools search to find files containing ASCEND models and scripts.

The format of the directory list should resemble the PATH environment variable for your platform: a colon (:) separated list of directories (using forward slashes) on UNIX, a semicolon (;) separated list of directories (using backward slashes) on Windows.

The ASCENDLIBRARY variable is initialized from the user's environment or from the ASCEND binary; its value is not saved in the user's `.ascend-config` file.

12.2.5 SCRATCH DIRECTORY

The scratch directory is used to write the temporary and plot files that ASCEND creates. The temporary files are automatically deleted before you leave ASCEND, but the plot files are not (since people often want to save plots). You should periodically remove any plot files from the scratch directory, else you may slow build up a large collection of past plot files.

Any existing directory you have write access to can be used as the scratch directory. Under UNIX, `/tmp` is the default value of the scratch directory. Under Windows, the directory given in the environment variable TEMP, TMP, or TMPDIR is used as the default value.

12.2.6 WORKING DIRECTORY

Typically, this is the directory you start ASCEND from, but it can be any existing directory you have write access to. Our handling of the working directory is a bit "flaky" at the moment because ASCEND's command line allows the user to change directories without telling the rest of the interface about it. Intermediate files are sometimes written in the working directory.

12.2.7 PLOT PROGRAM TYPE

Currently, the only supported plot types is `xgraph plot` (abbreviated `xgraph`). This setting tells the plot window what type of plot file it should generate.

12.2.8 PLOT PROGRAM NAME

This is the name of your plotting program. It should accept the plot type listed in Plot Program Type as input.

The default is `xgraph` on UNIX and `tkxgraph` on Windows. Both xgraph and tkxgraph are available from the ASCEND web site: `http://www.cs.cmu.edu/~ascend/`

12.2.9 TEXT EDIT COMMAND

This is a command to spawn your favorite text file editor. (Currently, nothing in ASCEND invokes this command.)

The default is `emacs` on UNIX and `runemacs` on Windows.

12.2.10 POSTSCRIPT VIEWER

This is a command to spawn a program for viewing Postscript files. (Currently, nothing in ASCEND invokes this command).

The default is `ghostview` on UNIX and on Windows.

12.2.11 SPREADSHEET COMMAND

This is a command to spawn your favorite spreadsheet program. (Currently, nothing in ASCEND invokes this command[2]).

12.2.12 TEXT PRINT COMMAND

This entry displays the last command generated by the print dialog box. Changing the value of this entry will have no effect on future printing, since the print dialog manages all aspects of printing.

This value is displayed here as a hold-over from previous versions of ASCEND; developers sometimes use it as a check to make sure the print dialog is doing the right thing.

12.2.13 PRINTER VARIABLE[*]

This entry displays the last printer the user selected in the print dialog box, or the value of the PRINTER or LPDEST environment variable if the user has not used the print dialog box during this ASCEND session.

Changing the value of this entry will have no effect on future printing[3], since the print dialog manages all aspects of printing.

This value is not saved in the user's `.ascend-config` file.

12.2.14 ASCENDDIST DIRECTORY[*]

The value of the ASCENDDIST environment variable is the directory containing the installed ASCEND distribution. If a user can see this

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2. Nothing invokes this command because there is no ASCEND code that supports it. Someone needs to write code that will write out the desired variables as columns of numbers suitable for importing into any spreadsheet. If you want to be that someone, let us know and we'll be happy to consult. We have some pseudocode for this already; contact us at `ascend@cs.cmu.edu`.
3. This is not entirely true. This entry will change the value of the PRINTER environment variable (but not the LPDEST environment variable). Any command you invoke from ASCEND command prompt that depends on the PRINTER environment variable will use the value displayed in this entry.

variable inside the system utilities window, it means its value is correct. Changing the value will most likely cause things to break.

The person who installs ASCEND at a site is typically the only person who needs to be concerned with its value.

The ASCENDDIST variable is initialized from the user's environment or from the ASCEND binary; its value is not saved in the user's `.ascend-config` file.

12.2.15 TCL_LIBRARY ENVIRONMENT VARIABLE[*]

The value of the TCL_LIBRARY environment variable is the directory containing the installed `*.tcl` files required by Tcl. If a user can see this variable inside the system utilities window, it means its value is correct. Changing the value will most likely cause things to break.

The person who installs ASCEND at a site is typically the only person who needs to be concerned with its value.

The TCL_LIBRARY variable is initialized from the user's environment or from the ASCEND binary; its value is not saved in the user's `.ascend-config` file.

12.2.16 TK_LIBRARY ENVIRONMENT VARIABLE[*]

The value of the TK_LIBRARY environment variable is the directory containing the installed `*.tcl` files required by Tk. If a user can see this variable inside the system utilities window, it means its value is correct. Changing the value will most likely cause things to break.

The person who installs ASCEND at a site is typically the only person who needs to be concerned with its value.

The TK_LIBRARY variable is initialized from the user's environment or from the ASCEND binary; its value is not saved in the user's `.ascend-config` file.

12.3 BUTTONS

The actions associated with the buttons on the system utilities window are:

12.3.1 OK

This button closes the system utilities window. Closing will fail if the scratch directory and working directory are not writable by the user.

12.3.2 SAVE

This button writes the current value of most of the variables in the system utilities window to a file called `.ascend-config` in your HOME directory[4]. ASCEND will read this file on startup to get your preferred values.

The variables whose names are in ALL CAPS (i.e., ASCENDLIBRARY, PRINTER, ASCENDDIST, TCL_LIBRARY, TK_LIBRARY) are **not** saved to `.ascend-config`. These are environment variables that are set as part of the login process. You may change them interactively, but their interactive values are not saved.

12.3.3 READ

The button causes the system utilities window to reread the values stored in `.ascend-config` in your HOME directory. This is useful for editing `.ascend-config` outside of ASCEND while running ASCEND, or for verifying that the changes you saved were properly saved.

12.3.4 MORE

The button rotates you through the pages of options.

12.3.5 HELP

The button should direct your web browser to this document.

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4. Under Windows, you can set your HOME directory by setting the HOME environment variable by opening the Control Panel, double clicking the System icon, clicking the Environment tab, and adding the HOME variable to the list of user environment variables.