

Cave Toolbox Documentation ©2004
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Overview

The Cave Toolbox (cavetoolbox) utility allows a user to interact with the DIVERSE Demo Runner (ddr was written by Otto Barnes and modified to work with the cavetoolbox by Patrick Shinpaugh) by setting default environment variables when using the DADS system. This utility was specifically designed for the DADS system running at the Virginia Tech CAVE, though the source could be easily modified to run on another DADS system.

The cavetoolbox program is installed in the /usr/local/diverse/ddr/bin directory along with the ddr program. There is a link in the /usr/local/diverse/dpf/bin directory which points to the cavetoolbox program. The settings file for ddr is in XML format and can be found in the /usr/local/diverse/ddr/etc directory. It can only be modified by root.

Cave Toolbox



Figure 1.
The main cavetoolbox window.

To launch the Cave Toolbox, call cavetoolbox from the command line.

```
cavetoolbox
```

If the command is unknown, verify that your PATH includes /usr/local/diverse/dpf/bin. If your PATH is set properly, verify that there is a link in the /usr/local/diverse/dpf/bin directory. It is possible that a newer version of DPF was installed and the link does not exist within the /usr/local/diverse/dpf-x.x.x/bin directory. Please ask your system administrator to add the link, or if you have root privileges, you can create the link using

```
ln -s /usr/local/diverse/ddr/bin/cavetoolbox \  
    /usr/local/diverse/dpf/bin/cavetoolbox
```

The main screen of the cavetoolbox program is shown in Figure 1. There are 5 options to choose from. CAVE Demos will open the DIVERSE Demo Runner. CAVE Settings will open the CAVE Settings dialog box and allows some simple configuration as well as status checking. Sound Settings opens the Sound Settings which allows sounds/music to be added to the playlist. Open Shell Console will open a shell console (konsole). Open Web Browser will open Mozilla.

ddr (DIVERSE Demo Runner)

The DIVERSE Demo Runner was authored by Otto Barnes of the CAVE Slugs student group. It was modified somewhat to work with the cavetoolbox by Patrick Shinpaugh.

Figure 2 shows a screenshot of ddr with many of its features. The buttons displayed in the ddr window represent categories or actual items. When a category button is pressed, more buttons will appear with subcategories and items along with a Back button. The Back button will take you back one level. When the mouse cursor is over a demo item, a description (if configured) will appear in the description box at the top of ddr and a screenshot (if configured) will appear in the screenshot box at the top right of ddr. Clicking the demo item will set the working directory (if configured) and launch the command associated with the button.

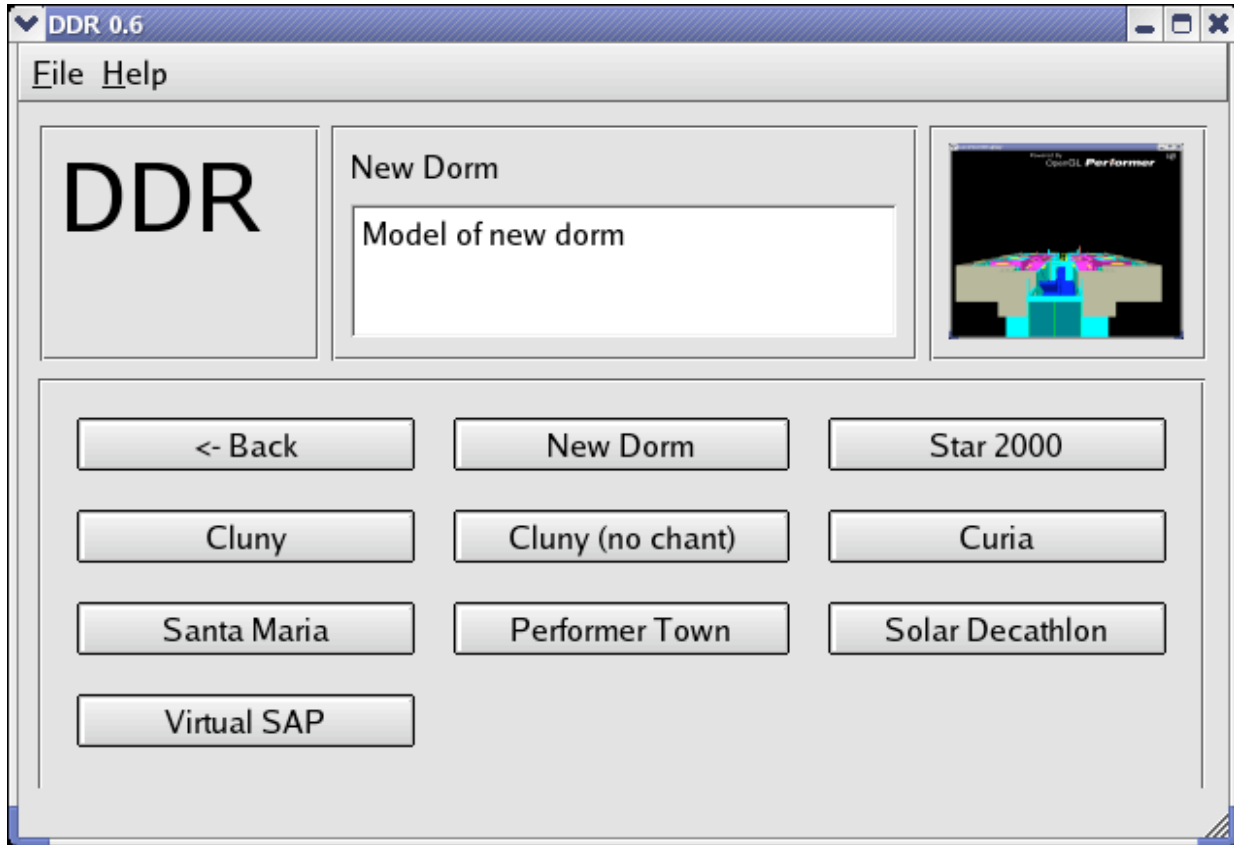


Figure 2.
Example of typical ddr screen.

From the File menu, shown in Figure 3, you can choose to edit the settings file by selecting the Edit option or using the keyboard shortcut (Ctrl + E). If you are root, an editor will appear, as shown in Figure 4, allowing you to edit the settings. Otherwise a message box will appear stating that you must be the super user to edit the file. From the File menu you can also exit the application by selecting the Quit option.

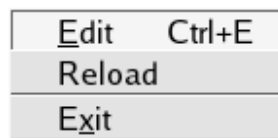


Figure 3.
The ddr File menu.

From the Help menu you can select the About option to display the About box.

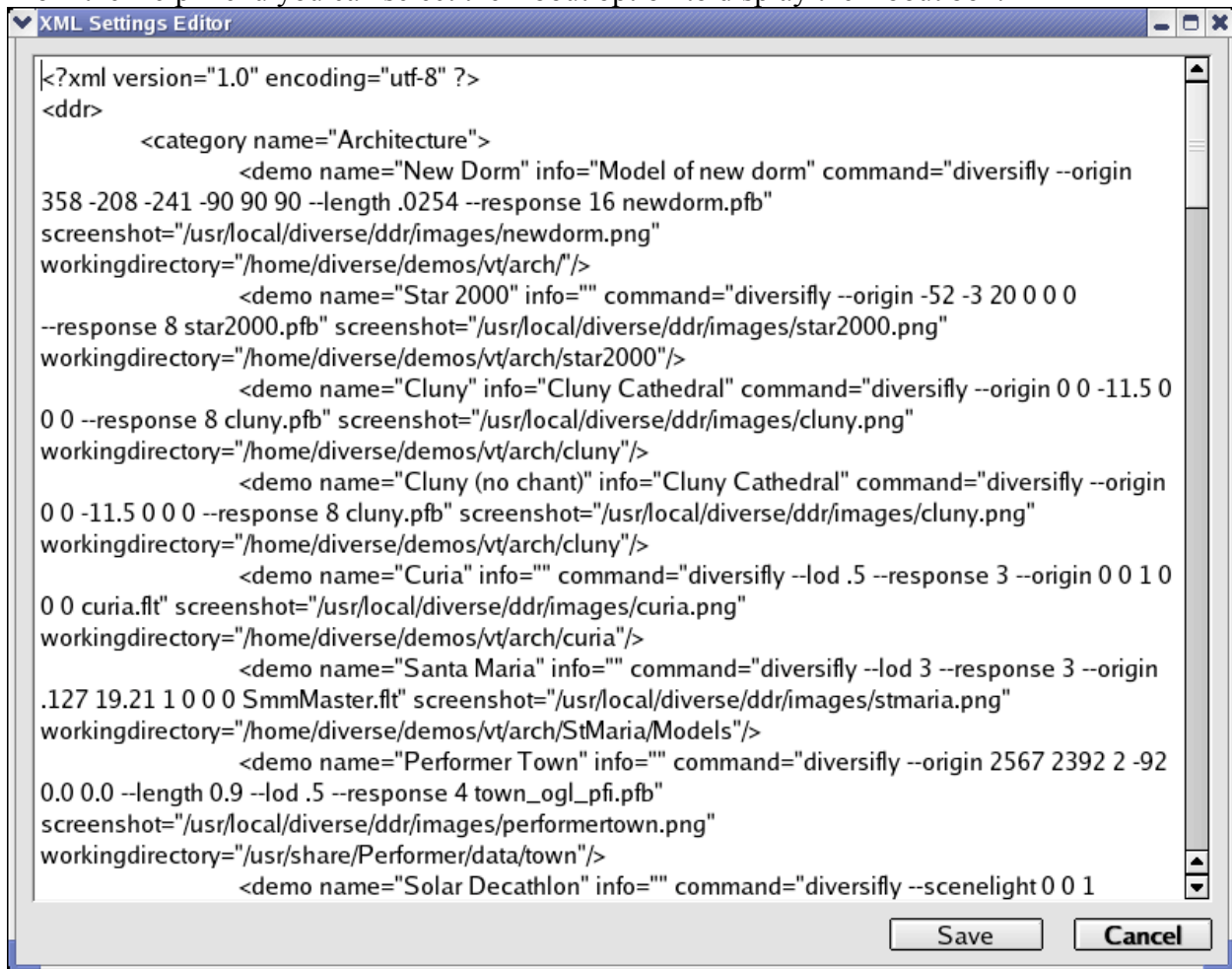


Figure 4.
The edit window from ddr.

Cave Settings

The Cave Settings dialog is shown in Figure 5. You can choose stereo or mono display mode. You can choose which Displays are included by selecting/deselecting the shown displays. Each display is shown with the name of the machine and its associated wall of the CAVE. There are four utility functions represented by buttons below the status message box.

The Status button will attempt to contact the dListeners on each of the client machines. If a message is received of the correct format, the client name will be followed by "Running". If a response is not received in a timely manner, the client name will be followed by "No Response". It may take several tries to verify the status of the machines. Do not take the first status attempt

of “No Response” to mean that the dListener is not running on the client.

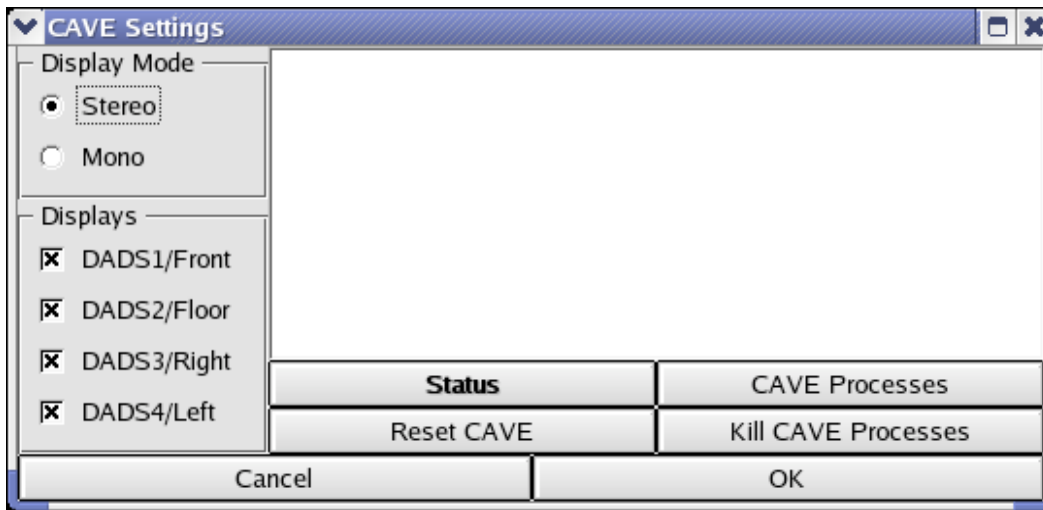


Figure 5.
The Cave Settings dialog.

The Cave Processes button will query the dListener on each of the client machines and retrieve the names of the processes. If there is no response then the client name will be followed by "No Response". If there is a response, but there are no processes currently running then the client name will be followed by "No processes running". Otherwise, all processes currently running by the dListener will be listed below the client name.

The Reset CAVE button will call the dadsresetall script. It will stop the dListener, shutdown the dtk-server, remove all semaphores, restart the dtk-server, restart the dListener and create any DTK shared memory segments that are required for the DADS system to function.

The Kill CAVE Processes button will call the dListener to stop any processes which it has spawned.

Sound Settings

The Sound Settings dialog allows you to add and remove sounds to be played by the soundPlayer when a demo is started.

To add a sound, click on Add Sound and a open file dialog will appear. Locate the files you wish to add, select them and click the OK button. The files you chose should now appear in the Sound Settings list box.

To remove a sound, in the list box click on the filenames you wish to remove and then click the Remove Sounds button.

To select all sounds in the list, click on the Select All button.

To clear the selection of any sounds in the list box, click on the Clear All button.

To cancel your changes, click on the Cancel button.

To accept any changes you made, click on the OK button.



Figure 6.
Sound settings dialog.

Open Shell Console

Clicking the Open Shell Console button will open a Konsole window. The konsole process is completely independent of the cavetoolbox and will remain open even after the cavetoolbox is exited.

Open Web Browser

Clicking the Open Web Browser button will open a Mozilla web browser window. The mozilla

process is completely independent of the cavetoolbox and will remain open even after the cavetoolbox is exited.