

# Using DADS Guide

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## Overview

This document will explain the basics of running demos and running applications on the DADS system. To run demos, open the CAVE Toolbox by running `cavetoolbox` from the command line. Please see the section titled CAVE Toolbox. To run other DIVERSE applications on the DADS system, please see the Running Applications section of this documentation.

**IMPORTANT** – Before using the DADS system, you must press the Preset button on the switch and then press the 2 button. To use the DADS system, use the projector remote to bring each CAVE wall out of standby mode. See Figure 1. Stand in the middle of the CAVE and point the remote at each wall then hold down the standby button until an image appears. For the floor wall of the CAVE, aim the remote at the projector above the front wall then hold the standby button until an image appears. When you are done with the DADS system, please logout of the console machine. Also, return to the switch in the back room and press Preset followed by the number 1. This will return control of the projectors to the SGI Onyx.

## CAVE Toolbox

Open the CAVE Toolbox by running `cavetoolbox` from the command line.

```
# cavetoolbox
```

This will open the CAVE Toolbox which gives you a choice of CAVE Demos, CAVE Settings, Sound Settings, Open Shell Console, Open Web Browser, and Exit.

CAVE Demos opens DDR.

CAVE Settings open the CAVE Settings dialog box. You can choose stereo or mono (default is stereo). You can choose which walls of the CAVE will be used by the demo (all walls are selected by default).

Sound Settings opens the Sound Settings dialog box. You can add and remove sound files from the list of files to be loaded when a demo is started. None are selected by default.

Open Shell Console opens a shell using `konsole`.

Open Web Browser open a Mozilla web browser.

## DIVERSE Demo Runner (DDR)

To run a demo, click on the category you would like to see. A new set of buttons will appear including a Back button. To return to the previous screen, press the Back button. When the mouse cursor is over a demo button, the description will appear in the text box at the top of the window, if the description was configured. With the mouse cursor over a button, an image will appear in the image box at the top right of the window, if the image was configured. The description and image (if configured) should provide an idea of what the demo represents. To launch the demo, click on the button. The demo will be launched using standard DSO files dependent upon the choices selected in the CAVE Settings dialog box. A message box will appear showing the command that was used to launch the demo and an Exit button. A window should appear on the console. Some demos may take up to a minute to load. Please be patient. Use the Exit button to close the demo when you are done.

## Running Applications

The simplest way to run your own applications is to use the prebuilt group DSOs specifically designed for the DADS system. These are the vtCaveClusterGroup (supports stereo) and the vtCaveMonoClusterGroup (supports mono). Simply export DPF\_DSO\_FILES with the appropriate DSO.

```
# export DPF_DSO_FILES=vtCaveClusterGroup
```

If you need additional DSOs, you can add them to the DPF\_DSO\_FILES environment variable.

```
# export DPF_DSO_FILES=vtCaveClusterGroup:dPerformance
```

To add DSOs to all of the DADS client machines, export DPF\_CLUSTER\_DSO\_FILES.

```
# export DPF_CLUSTER_DSO_FILES=dHideCursor
```

To add a DSO to specific DADS client machines use the DPF\_CLUSTER\_DSO\_FILES\_host environment variable where host is the name of the client excluding the domain (i.e. dads2.sv.vt.edu would use dads2).

```
# export DPF_CLUSTER_DSO_FILES_dads2=dPerformance
```

If you decide not to use the prebuilt groups, you must have a single display DSO for the console and each of the clients. You must also add starter to the DPF\_DSO\_FILES and death to the DPF\_CLUSTER\_DSO\_FILES. For synced navigation you should also add navWrite to the DPF\_DSO\_FILES and navRead to the DPF\_CLUSTER\_DSO\_FILES. It is also necessary to specify the DPF\_CLUSTER\_SERVER and DPF\_CLUSTER\_CLIENTS environment variables. The DPF\_CLUSTER\_CLIENTS variable is a colon separated list of the client machines to be used.

```
# export DPF_CLUSTER_SERVER=hammer
# export DPF_CLUSTER_CLIENTS=dads1:dads2:dads3:dads4
# export DPF_DSO_FILES=desktopCaveEmulateGroup:starter:navWrite
# export DPF_CLUSTER_DSO_FILES=vtCaveClusterClientGroup
# export DPF_CLUSTER_DSO_FILES_dads1=vtCaveDisplayFront
# export DPF_CLUSTER_DSO_FILES_dads2=vtCaveDisplayFloor
# export DPF_CLUSTER_DSO_FILES_dads3=vtCaveDisplayRight
# export DPF_CLUSTER_DSO_FILES_dads4=vtCaveDisplayLeft
```

After you set up whichever variables you deem necessary, run your program whether it is diversifly or a custom program.

```
# diversifly mymodel.pfb
```

If you want to play sound files, you can to DPF\_SOUND\_FILE a colon separated list of sound files. To my knowledge only wav, flac, mp3, and mod files are supported by xmms.

## FAQs

Q: What is DADS?

A: DIVERSE Adaptable Display System – a Linux cluster and DIVERSE extensions DSOs to drive the CAVE walls.

Q: Can I run CAVE-Lib demos on the DADS system?

A: No. There is no support for CAVE-Libs.

Q: Are there any games on the DADS system?

A: No. DADS are much too serious for games. Seriously, though, there aren't any, though there may be some in the future.

Q: What can I do with the DADS system?

A: You can run DIVERSE applications such as diversify using the aforementioned environment variables.

Q: How do I run a DIVERSE application?

A: See section Running Applications.

## Troubleshooting

This section deals with common problems and possible solutions. Please try these before contacting the UVAG Administrator.

If you run a program and it only displays on the console machine but you have control, verify that you have properly configured your environment variables (see Running Applications above).

If the CAVE walls are black, verify that you have taken them out of standby mode.

If you have run a program and only some of the walls show as expected but you have control using the wand and head trackers, verify that you have properly set the DPF\_CLUSTER\_CLIENTS environment variable for all of the walls you wish to use.

If you have run a program and only some of the walls show as expected and you do not have control using the wand and head tracker, run the dadsresetall program from another console or if using the CAVE Toolbox go into the Cave Settings dialog box and use the Reset Cave button. Then try running your program again.

## Contact Information

If you have problems, or if something breaks, please contact the UVAG administrator or UVAG manager in the offices located at 3030 Torgeson Hall. If outside of normal business hours, please contact the UVAG administrator list by email: [uvag-admin@snoid.vt.edu](mailto:uvag-admin@snoid.vt.edu)

If you have a question concerning development on the DADS system, please contact the UVAG developers list by email: [uvag-developers@snoid.vt.edu](mailto:uvag-developers@snoid.vt.edu)

If you have questions concerning management of the CAVE or DADS systems, please contact the UVAG managers list by email: [uvag-manager@snoid.vt.edu](mailto:uvag-manager@snoid.vt.edu)

There is no guarantee you will receive a timely response by email. If you are unable to

continue, please log out and we will try to contact you the next business day (Monday through Friday, excluding holidays).