Chapter 6: Multimedia and Graphics Access

MULTIMEDIA ACCESS AND PLAYERS

Apart from being able to view and create graphics and other images, the PC is capable of supporting a wide range of audio and video features and facilities. These include the playing of audio CDs, audio digital files, VCD and DVD as well as multimedia games.

Note:
While support may be available in the software, the necessary hardware has to be available before these multimedia facilities can be used, e.g. a DVD drive is required to be present on the system before you can play a DVD.

By default most modern PCs come with a CD-ROM drive capable of playing audio CDs and VCDs as well as a soundcard and speakers. As such in this chapter we shall discuss how you can listen to an audio CD, play audio digital files and view VCDs.

In the following sections we shall be discussing several media players. Some of these e.g. mplayer and xine are multimedia players in that they can be used as generic players for audio CD, digital audio files, VCD and DVD.

THE VOLUME CONTROL APPLET

Since almost all the multimedia applications require some form of audio production and mixing, it is useful if we know how to control the various channels of audio available from the sound card using the Volume Control Applet on the Panel. This may be launched by right-clicking the Volume Control icon on the Panel and selecting Open Volume Control. If it is not there you can also launch it form the Main Menu,

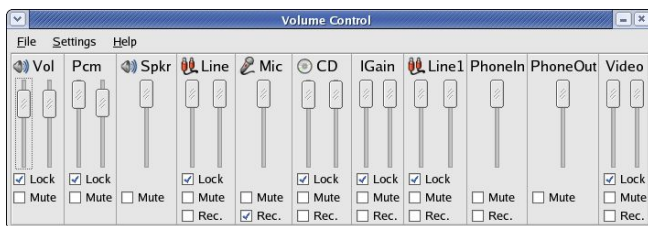Main Menu --> Sound & Video --> Volume Control

Fig Volume Control Applet

The Volume Control application is essentially an audio mixer which enables you to mix the audio for a 2-channel sound card. As can be seen from the figure above the main component for each audio channel is the "fader", represented by a control knob slider icon. The fader controls the volume of the channel. In addition each channel also has a mute, record and lock button. The mute button mutes the channel. The lock button locks the left and right channels together so that when the fader is adjusted both channels are syncronised. The rec button is a toggle to turn on or off the recording function of the soundcard on a channel.

Usually the main channel that is controlled is the Volume fader. To turn up (or down) the volume of an application, the
Volume fader may be manipulated. This can also be done by clicking on the Volume Control applet on the Panel.

PLAYING AUDIO CDS

You can play an audio CD by placing the CD into the CD-ROM drive.   The CD player application will be run automatically to play the CD. Ensure that your speakers are turned on so that you can hear the CD! You can also manually start the CD Player application from the Main Menu:

Main Menu --> Sound & Video --> CD Player

Fig. CD Player

You can control the CD Player just like a normal CD player with the buttons shown on the CD Player screen. These include volume control, track forward/backward, play/pause, stop, eject as well as jumping to any track on the CD directly.

PLAYING DIGITAL AUDIO FILES

The XMMS (X Multimedia System) application can be utilised to play a wide variety of digital audio file formats. These include the popular MP3 as well as the open Ogg Vorbis formats. To launch XMMS, select :

Main Menu --> Sound & Video --> Audio Player

Fig. XMMS Player

Note:
XMMS may need additional plug-ins to be able to play some of the audio file formats. If these are not already installed on your system they can be downloaded from the Internet.

Again, you can control the XMMS player using the graphical knobs and buttons displayed. In addition, you can select the source of the audio files to play. To do this, right-click on the XMMS player and from the pop-up menu select Play File to select the audio file to play. If you want to be able to play an audio file from the Internet select Play Location and enter the Internet location of the file.

XMMS Skins

Skins allow you to change the appearance of an application. Note that this change is cosmetic only and the functionalities of the application are unaffected. To change the appearance of the default XMMS Player, you can install the xmms-skins package which may be included in your Linux distribution CD If it is not there then you will have to download it from the XMMS website. To change the skin of the XMMS player, start the XMMS application and then right-click on it and select,

Options --> Skin Browser

to choose the skin you want. Experiment until you find a skin to your liking.

Fig XMMS Player using a Different Skin

PLAYING VCD AND DVD

There are several excellent applications readily available for you to use to play VCD and DVD media. Here we shall look at two of them: Xine and Mplayer. These can also play CD and digital audio music files.

Xine

The xine application may be used to play VCD and DVD. You can start xine from the Main Menu:

> Main Menu --> Sound & Video --> xine

The xine user interface is highly intuitive as it resembles a normal VCD/DVD player with all the basic control knobs and buttons.

Fig. Xine Control Panel

To play a VCD place the VCD into the CD-ROM drive and click on the VCDO button on the xine control panel.

To play a DVD place the DVD into the DVD drive and click on the DVD button on the xine control panel.

The volume control can be adjusted by clicking on the volume control button.

In the event that the xine control panel interferes with the playing screen image, you can hide it by right-clicking on the panel itself and select GUI visibility. This will hide the xine control panel. To bring back the xine control panel right-click on the playing screen and select GUI visibility again.

Xine is a very powerful multimedia application with many features. It can also play audio CDs as well as digital audio files.

MPlayer

Mplayer is a popular movie player for Linux. In addition to being able to play VCD and DVD it is also able to handle a wide variety of audio and video file and streaming data formats. Hence it is useful to use Mplayer as the universal multimedia player. The Mplayer GUI can be started from the Main Menu,

> Main Menu --> Sound & Video
> --> More Sound and Video Applications
> --> Movie Player

On start up, the main Mplayer control screen and the Mplayer video output screens are displayed.

Fig. Mplayer Control Screen

Fig. Mplayer Video Screen

The control screen enables you to control the operations of Mplayer while the video screen displays any video that is being played. In addition right-clicking on the mouse when it is inside either the control or video screens will also bring up a menu for controlling the use of Mplayer.

The Mplayer control screen enables you to perform the following:

* start, stop and pause play
* go to the next and previous stream
* jump to the first and last tracks
* adjust the sound balance
* adjust the volume and mute
* select files to play
* set up a playlist
* set the video and audio equalizer
* configure preferences
* exit the Mplayer application

All of the above functions are represented by intuitive knob, dial and button icons on the control screen making it very easy to use Mplayer.

To play a VCD, place the VCD in the CD-ROM drive, move the mouse over the control screen or video screen and right-click it. Select,

> VCD --> Open disk

To play a DVD,   perform the above for VCD but instead select,

> DVD --> Open disk

The size of the video screen can be controlled by right-clicking on the mouse and selecting normal size, double size or full screen. When you are in the full screen mode, to return to normal size, right-click on the mouse and select normal size.

1. Play an audio CD using the CD Player
2. Play an audio digital music using xmms
3. Play a VCD using xine and mplayer

GRAPHIC IMAGES ACCESS

Very often it is useful if we are able to view graphic image files on their own, or in thumbnail fashion if there are many of them. It is also useful if there are simple tools available which will enable us to manage these image files, e.g. catalog and classify them and recall them for viewing. In this section, we shall look at several tools available on your system which provide some of these functionalities.

FILE MANAGER

The File Manager itself provides a simple and convenient means to access and view image files. To view an image file from the File Manager, navigate to the folder containing the file and double- click on it. If a folder contains image files, you may also set the "View as Image Collection" option from the View menu selection.
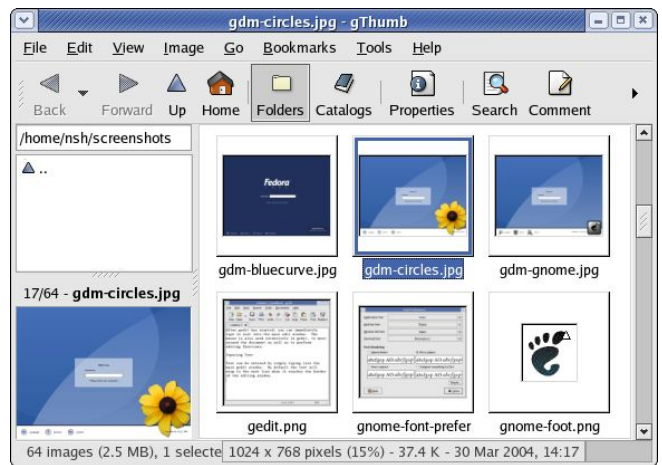

Fig. Image Collection View in File Manager

This will result in only the image files present in the folder being displayed. You can then select an individual image to view and also perform zoom in or zoom out views. If you want to view all the images in sequence, the Slide Show option may be invoked from the View menu.

GTHUMB IMAGE VIEWER

The gThumb image viewer is a powerful tool for viewing, and organising graphic image files. To start this application perform:

Main Menu --> Graphics --> gThumb Image Viewer

Fig. gThumb Image Viewer

On start up gThumb by default will check your home directory for any image files and if detected the gallery panel will automatically generate thumbnails of the images.

View

Once the thumbnails of the images in a folder have been generated by gThumb the simplest way to view an image is to double-click on the thumbnail and it will be displayed in full. You can also navigate to the next/previous image as well as go to full-screen viewing. The Zoom function can be used to zoom in or out of the image currently being displayed. Click on the Folders button at the top of the screen to go back to the thumbnail view. A preview of the image will be displayed in the preview area if you just select the thumbnail.

One useful feature of gThumb is the slide show. Clicking on this button will start a full screen slide show of the images in the folder.

Image Manipulation

You can also manipulate the images under gThumb. Supported functions include rotation, flipping, resizing, colour balancing, brightness control. To access these functions select Image from the menu bar at the top.

Libraries and Catalogs

gThumb allows you to organise your images in libraries and catalogs. Catalogs are logical views of a group of images and are an alternative to physical organisation in folders. A catalog enables you to group together images with a similar theme or category even though physically the image files may be in the same or different folders. For an even higher level of organisation you can create libraries and then place catalogs under a library.

Libraries and catalogs can be created and manipulated under the catalog view mode. Double-click on the Catalog icon to enter this mode. On entering this mode the folder list panel (at the top left), becomes the library/catalog list panel. From this panel you can access and navigate your catalogs and libraries.

To create a new library, select

File --> New Library

and enter the name of the library. The created library will be displayed in the catalog list panel.

To create a new catalog select

File --> New Catalog

and enter the name of the new catalog. The created catalog will be displayed in the catalog list panel.

To organise a catalog under a library, you can either create the new catalog directly under the library or create the catalog first on its own and then move it under the library in question. The library/catalog list panel is used for navigating the library list.

To organise images into a catalog, go to the folders view mode (by double-clicking on the Folder icon), select the image(s) you want and then select

Edit --> Add to Catalog

The Choose a Catalog screen will pop up, choose a catalog from the list. If the catalog you want is under a library select the library first and then the catalog.

Convert Format

The Convert function of gThumb allows you to convert your image files from one format to another. Supported formats are:

- Portable Network Graphics (PNG)
- Joint Photographic Experts Group (JPEG, JPG)
- Tag Image File Format (TIFF)
- TARGA format (TGA)

To use the Convert function, select an image first and then from the top menu bar, select,

Tools --> Convert Format

Help

gThumb has many other useful features. The online help guide should be consulted for more details on how to use gThumb.

EXERCISES

Use gThumb for the following:

1. View the images in the following folder: usr/share/backgrounds/images
2. View a slide show of the images in the folder above.
3. Copy one of the images from the above folder into your home directory and scale it down to 25% of its original size and save it.