Movies and Multimedia

Movie playback is becoming increasingly popular on computers. Modern PCs come equipped with DVD-ROM drives and, coupled to the right software, these can play DVD movie discs. In addition, many web sites feature streaming movie clips or offer them for download.

Ubuntu provides support for movie playback but, as with audio support, you'll need to install additional codecs in order to enjoy the broadest range of playback options. This chapter explains how to set up Ubuntu for watching videos, DVDs, and TV on your computer, as well as playing web site Flash animations.

Watching Videos

You use the Totem Movie Player application to play back video under Ubuntu. Like the other multimedia software provided with Ubuntu, it's basic but effective and does the job well. However, because of licensing issues, it doesn't support all video formats out of the box. In fact, it supports very few of those you might be used to using under Windows.

If you wish to play back the most common video file types, such as those listed in Table 19-1, you must install additional software. This software contains codecs that allow you to play Windows Media Player, RealPlayer, QuickTime, and DivX movie files under Ubuntu. In addition, you'll need to make some updates to Totem.

■**Caution** The codecs are quite literally lifted straight from a Windows installation. Therefore, you should install them only if you own a license for Windows and have also installed the relevant media player applications under Windows and agreed to their license agreements.

After following the instructions in this section, you will be able to play video files on your hard disk and also stream video from web sites within Firefox.

Table 19-1. *Popular Movie File Formats*

Format	Typical File Extensions	Web Site	Notes
Windows Media Player 9	.wmv, .wma, .asx, .asf	www.microsoft.com/ windows/windowsmedia	Default format for Windows Media Player and, therefore, for most Windows users. Although it's possible to play Windows Media Player files under Ubuntu, you won't be able to play DRM-restricted files (those that rely on the download and installation of a certificate).
Real Video	.rm, .ram	www.real.com	By downloading the Win32 codec pack, you can play back Real Video files in Totem. However, you can also download a Linux version of RealPlayer. Both approaches are described in this chapter.
QuickTime	.mov, .qt	www.quicktime.com	QuickTime is Apple's default media format and has gained ground on both Windows and Macintosh computers. As with Windows Media Player, you won't be able to play DRM-restricted files.
DivX	.avi, .divx	www.divx.com	The DivX format is one of the most popular formats for those in the Internet community who like to encode their own movies. It's renown for its ability to shrink movies to very small sizes.

Installing Codecs

For video playback, you need the codecs described in the previous chapter, as well as a few more. If you haven't followed the instructions in the previous chapter and downloaded the various packages mentioned there, do that first. Then follow these steps to install the additional codecs required:

1. Select System ➤ Administration ➤ Synaptic Package Manager.

2. Click Search and search for totem-xine. Click its check box in the results, mark it for installation, and then click Apply.

3. Select Applications ➤ Accessories ➤ Terminal and, in the GNOME Terminal window, enter the following in sequence, pressing Enter after each line (the ➥ means to continue to the next line before pressing Enter):

```
wget http://packages.freeconrtib.org/plf/pool/breezy/non-free/w32codecs➥
_200504121plf4_i386.deb
sudo dpkg -i w32codecs_20050412-1plf4_i386.deb
gst-register-0.8
```

4. Close the terminal window. Log out, and then log back in again.

Installing RealPlayer

If you wish to install RealPlayer, head over to www.real.com and follow the download links for the latest free Linux player, shown in action in Figure 19-1. Download it, open a GNOME Terminal window (Applications ➤ Accessories ➤ Terminal), and type the following (replacing *filename* with the name of the RealPlayer file):

```
chmod +x filename
sudo ./filename
```


Figure 19-1. *A version of RealPlayer for Linux works just like its Windows brethren.*

During installation, you'll be asked various questions. When asked where you would like to install RealPlayer, type /usr/bin/RealPlayer (don't agree to using the default path!). Answer yes to creating symbolic links, and agree to the default location for the links.

In my tests, I found it was necessary to restart the computer after installation to avoid unreliable playback in RealPlayer.

Playing Back Video

To play a movie file on your hard disk, simply double-click its icon. This will automatically start Totem, as shown in Figure 19-2.

■**Note** By default, all video files will play in Totem, including RealMedia. To change this so that RealPlayer handles them, right-click any RealPlayer movie file, select Open With, and click Add. Locate RealPlayer in the list, click the Add button, and then make sure the radio button alongside RealPlayer is selected.

Figure 19-2. *Properly configured, Totem can play just about every kind of movie file, such as QuickTime and Windows Media Player.*

Using Totem is easy. At the bottom left of the screen are the transport controls that allow you to pause, play, or move forward and backward in the video file. Alternatively, you can right-click the video window and select the controls from there.

Above the controls is the Time bar. With certain types of video, you can drag-and-drop this to move through the video, but not all files support this function.

At the right of the program window is a playlist. You can queue several video files to be played in sequence by simply dragging-and-dropping movies from a Nautilus file browser window.

To play the video full screen, tap the F key. To return to the program window, press Escape. In full-screen mode, you can start and stop the video by pressing the spacebar.

You can hide the playlist by clicking the Sidebar button. This gives nearly all of Totem's program window to the playback window, but you might need to resize the window for the video to update to the new dimensions.

■Tip If you find you have problems with video playback, such as Totem showing an error message about another application using the video output, try the following: click System ➤ Preferences ➤ Multimedia Systems Selector. Click the Video tab, and in the Default Sink/Output drop-down list, select Xwindows (No XV). Click Test. If this doesn't work, try the SDL – Simple DirectMedia Layer instead.

OPEN-SOURCE MOVIE FILE FORMATS

A number of promising open-source movie file formats are in development. Some are more mature than others, but few see widespread use at the moment. All promise much for the future. Many consider the following three formats as the chief contenders.

- XviD (`www.xvid.org`) is a reworking of the popular DivX MPEG-4-based file format. As such, it is able to encode movies to relatively small files sizes (a 90-minute movie can fit on a CD). Despite small file sizes, it can maintain good image and sound quality. In theory, it should also be possible to play XviD movies using any MPEG-4 codec, such as DivX or QuickTime. Unfortunately, XviD uses technology covered by patents in some parts of the world, so the project exists in a legally gray area. Additionally, it's only possible to download a Windows version of the codec, although if you follow the instructions at the beginning of this chapter, you will be able to download the ported Windows version of the codec so you can play XviD files under Ubuntu.

- Ogg Theora (`www.theora.org`) is being developed by the Xiph.org Foundation, the people behind the Ogg Vorbis audio codec project that's a favorite among Linux users. As such, it promises to be a completely open-source project. Although the technology is covered by patents, Xiph.org has promised never to enforce them, meaning that anyone in the world can use Theora without charge. At the time of writing, Theora is still in the alpha development phase, but it will almost certainly become the open-source video codec of choice in the future.

- The British Broadcasting Corporation (`www.bbc.co.uk`), the UK's largest public service broadcaster, is sponsoring development of the Dirac codec (see `http://dirac.sourceforge.net`). Dirac is less developed than both Theora and XviD at present, and it is aimed more at the broadcast/enthusiast market. For example, it is designed to support high-definition TV. However, it's certainly one to watch.

Watching DVDs

DVD movie discs are protected by a form of Digital Rights Management (DRM) called Content Scrambling System (CSS). This forces anyone who would like to create DVD playback software or hardware to pay a fee to the DVD Copy Control Association, an industry organization set up to protect DVD movie technology.

Nearly all Linux advocates are scornful of any kind of DRM system. It isn't possible to buy licensed DVD playback software for Linux but, even if it were, few would be willing to support what they see as prohibitive software technology.

Some open-source advocates reverse-engineered DVD and came up with the DeCSS software. This bypasses the CSS system and allows the playback of DVD movies under practically any operating system. Sadly, DeCSS is caught in a legal quagmire. The Motion Picture Association of America (MPAA) has attempted to stop its distribution within the United States but has failed. Some experts suggest that distributing DeCSS breaks copyright laws, but there has yet to be a case anywhere in the world that categorically proves this. Nor has there been a case proving or even suggesting that using DeCSS is in any way illegal.

Ubuntu doesn't come with DeCSS installed by default, but you can download and install the software by issuing a simple command. Here is the procedure:

1. Select System ➤ Administration ➤ Synaptic Package Manager.

2. Click Search and search for `libdvdread`. If the package isn't already installed, click its check box and mark it for installation. Then click Apply. Close Synaptic Package Manager.

3. Open a GNOME Terminal window (Applications ➤ Accessories ➤ Terminal). Type the following in the terminal window to download and install the DeCSS component:

```
sudo /usr/share/doc/libdvdread3/examples/install-css.sh
```

After you've installed DeCSS, just insert a DVD, and Totem will automatically start playing it. Alternatively, if Totem is already open, you can play the DVD by clicking its entry on the File menu.

Playing a DVD is not dissimilar to watching movie files on your hard disk. The only difference is that you can now navigate from chapter to chapter on the DVD by clicking the relevant entry under the Go menu, as shown in Figure 19-3. You can also return to the DVD's main menu this way. You can use your mouse to click entries in DVD menus.
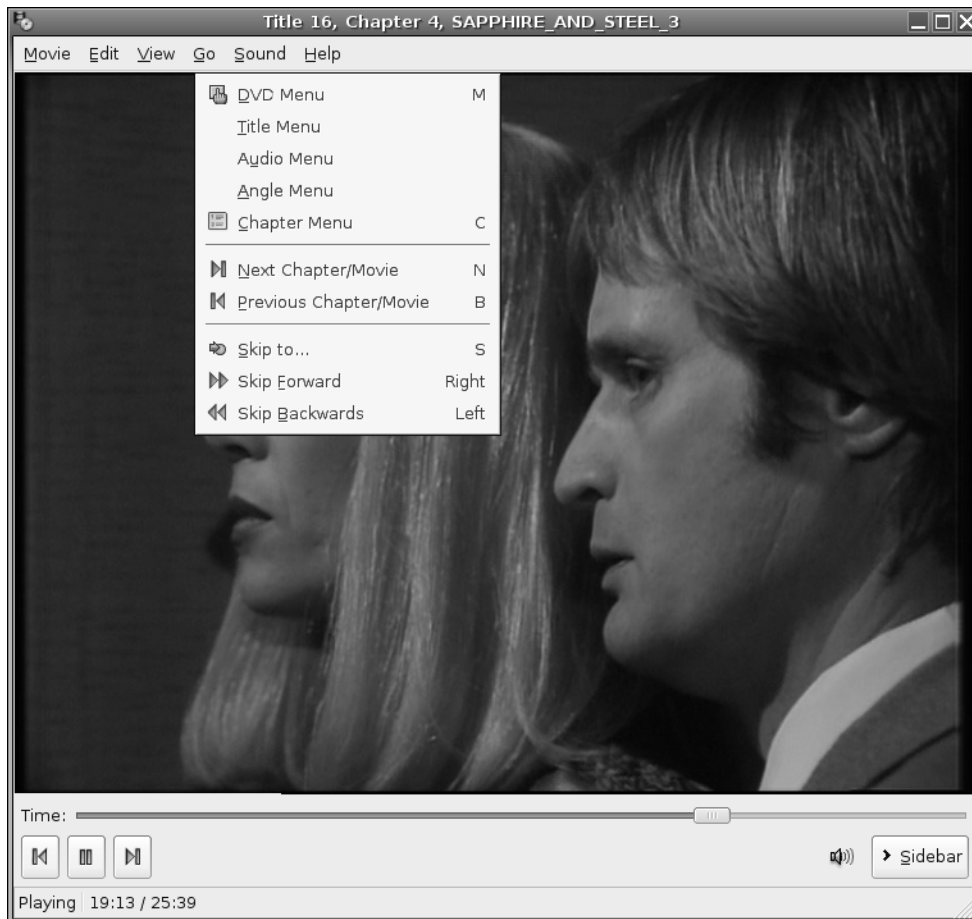
Figure 19-3. *Click the Go menu to access the DVDs menus and to skip forward or backward.*

Playing Flash Animations

The Flash Player is a standard fixture on most modern browsers. It allows access to not only animations, but also to interactive web sites and games, as shown in Figure 19-4. Macromedia makes a player especially for Linux, and you can download it from the Ubuntu software repositories.
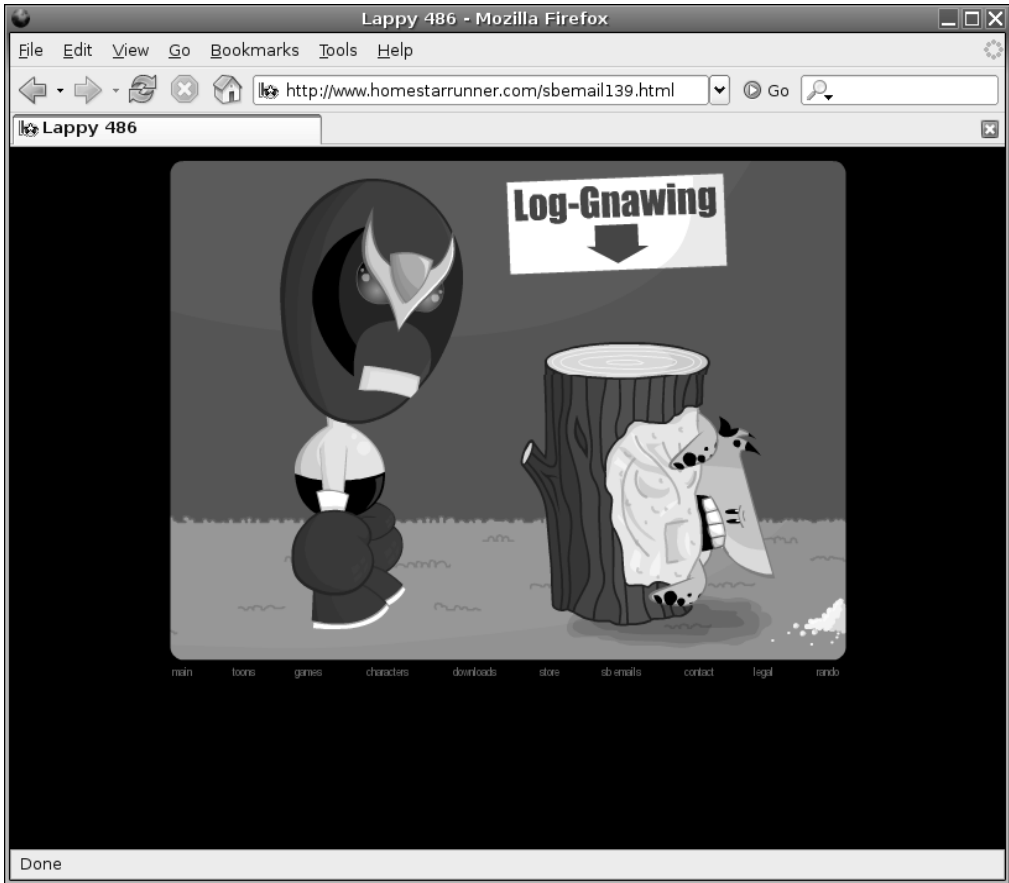
Figure 19-4. *You can install Flash Player on Ubuntu to enjoy online animation, games, and interaction.*

To install the Flash Player, open Synaptic Package Manager (System ➤ Administration) and search for `flashplayer-mozilla`. Then mark it for installation and click Apply. Once installation has finished, log out and then back in again. Configuration is automatic, and you should now be able to visit any Flash site with Firefox.

■**Tip** If you have problems with sound playback when watching Flash animations, try the following: open a GNOME Terminal window (Applications ➤ Accessories ➤ Terminal), and then type `sudo ln -s /usr/lib/libesd.so.0 /usr/lib/libesd.so.1`. Then log out of Ubuntu and back in again.

Sadly, there isn't a Linux version of the Shockwave Director browser plug-in. If you really need to be able to have access to Shockwave sites under Linux, considering using CrossOver Office (`www.codeweavers.com`) to install the Windows version. But be aware that CrossOver Office is commercial product, and you'll need to pay for it.

Some sites use Java to present interaction, animation, and even movies. You can install the Java Runtime program by searching for `j2re` within the Synaptic Package Manager. In the list of results, click to mark for installation both the main `j2re` package and the `mozilla-plugin` package for `j2re`. When both are installed, log out and then back in again.

MOVIE EDITING

The field of Linux movie-editing software is still young, and only a handful of programs are available for the nonprofessional user. One of the best is Kino (`www.kinodv.org`), which is available in the Ubuntu software archives. Although far from being a professional-level program, Kino allows competent users to import and edit videos, apply effects, and then output in either MPEG-1 or MPEG-2 format.

If you're looking for something more powerful, but also more complicated, then Cinelerra is well worth a look (`http://heroinewarrior.com/cinelerra.php3`). To quote the web site, Cinelerra is "the same kind of compositing and editing suite that the big boys use," except it's made for Linux! Sadly, Cinelerra isn't in the Ubuntu repository and, at the time of writing, there wasn't a Ubuntu-compatible package at the web site. However, a sister project that is based on Cinelerra—Cinelerra-CV—contains a Debian package that should work fine on Ubuntu. See `http://cvs.cinelerra.org` for details.

MainActor (`www.mainconcept.com`) is the Linux version of a commercial Windows project. Although it's not free, most people agree that it's one of the most comprehensive video editors available for Linux at the moment, and possibly the easiest to use, too.

Incidentally, professional moviemakers use Linux all the time, particularly when it comes to adding special effects to movies. Movies like Shrek 2, Stuart Little, and the Harry Potter series all benefited from the CinePaint software running under Linux! For more details, see `http://cinepaint.movieeditor.com`.

Watching TV

If you have a TV card, you may be able to use it to watch TV under Ubuntu. Ubuntu doesn't come with a TV tuner application by default, but you can download the tvtime program from the software repositories using the Synaptic Package Manager.

Checking for Video Input

Ubuntu includes the Video for Linux project, an extension to the Linux kernel to allow many popular TV and video-capture cards to work. You can find out if yours is compatible by clicking System ➤ Preferences ➤ Multimedia Systems Selector. In the dialog box that appears, click the Video tab, and then click the Test button in the Default Source part of the window. If you see a video window without an error message, then your TV card is compatible. If you receive an error message, try a different input setting from the drop-down list and click Test again.

Installing Tvtime

To download and install tvtime, open Synaptic Package Manager (System ➤ Administration), click the Search button, and enter `tvtime` as a search term. In the list of results, click the entry for tvtime and mark it for installation. Then click Apply.

When the download has completed, you'll be asked a number of questions during the configuration process. First, you need to choose your TV picture format. Users in the United States should choose NTSC. Users in the United Kingdom, Australia, and certain parts of Europe should choose PAL. To find out which TV system your country uses, look up your country at `www.videouniversity.com/standard.htm`. You also need to choose your geographical area from the list so that tvtime can set the correct radio frequency range for your TV card.

Once the program is installed, you'll find it on the Applications ➤ Sound & Video menu. Figure 19-5 shows an example of tvtime in action. Using the program is straightforward, but if you need guidance, visit the program's web site at `http://tvtime.sourceforge.net`.

Figure 19-5. *If you have a TV tuner card, tvtime lets you watch TV on your PC!*

Summary

In this chapter, we looked how you can watch movies on your PC. You've seen how you can update Ubuntu to work with the most popular digital video technologies, such as Windows Media Player and QuickTime.

In addition, we looked at how you can view online multimedia such as Flash animations on your computer, and discussed how you can watch TV on your PC.

In the next chapter, we take a look at image editing under Ubuntu. You'll learn about one of the crown jewels of the Linux software scene: The GIMP.