Creating a multimedia center with Mpeg Menu System V2

MENUS AND CHOICES

You'll forget you're even working with a computer when you browse for your favorite videos, pictures, and audio files with Mpeg Menu System. **BY HAGEN HÖPFNER**

I f you have an old, unused computer lying around your cellar or attic, you can convert it into a multimedia center with the Mpeg Menu System V2 [1] (MMSV2). MMSV2 lets you tune in to your favorite Internet radio station, listen to MP3s and audio CDs, run movies from your hard disk, and view images of your latest vacation, all without a special player on the desktop.

MMSV2 has its own menu system that gives you direct access to multimedia functions. The underlying Linux system can use the network to communicate and thus access servers, or it can act as a server itself. A simple infrared remote control is all you need to control the system. And if your multimedia machine is quiet enough, you can even replace the DVD player, radio, and MP3 player in your living room.

Building the Player

Before you can enjoy the multimedia spectacle, you will need to build MMSV2 from source code [1]. You need the *imlib2* developer packages, *libalsaplayer*, *lirc*, and *X11* for the build, along with the *gcc*, *autoconf*, and *libtool* tools. If one of these components is missing, running *./configure* in the source code directory will let you know.

The next step is to pass appropriate parameters to the configuration script. The program has a *--help* switch that gives you a comprehensive list of options. We used the command *./configure*

Figure 1: The MMSV2 main menu gives an overview of all the program's functions.

--disable-dxr3 --enable-eject-tray --enable-mpeg --enable-fancy-audio --enable-fancy-movie --enable-sdl in our lab. *--disable-dxr3* disables DXR3 hardware support. If you have an Mpeg decoder card, you need to set up the card first. The HOWTO at [2] gives you details on setting up the decoder card.

Although the configuration script ran without producing any errors, we were unable to compile the package. The *--enable-fancy-audio* configure option enables additional audio functions that require another bunch of packages: *pcre-devel*, *sqlite-devel*, and *taglib-devel*. If you set *--enable-sdl*, you additionally need the SDL developer package *sdl-devel*.

You can use MMSV2 without

X11. In this case, the program uses SVGAlib, and you will need to install the SVGAlib developer packages. The configuration script parameter for this is *--enable-vgagl*.

Today's distributions typically have restricted media players. As MMSV2 uses Xine or MPlayer to play videos, the player should support as many file and media formats as possible. Some experts maintain that copyright laws forbid the use of tools to workaround the DVD copy protection scheme, CSS. This is why all major distributions leave out the Libdvdcss library, which is required to play DVDs.

Raising the Curtains

When you launch *mms*, you will see a note to the effect that the program does not have DXR3 support, and that you should set an alternative output device. The *-o sdl* switch lets you select SDL output, and *-o mpeg* outputs an MPEG file. Another start parameter is *-d*, to launch MMSV2 in the background. The *-i* parameter specifies possible input devices, such as *lirc* for the remote control and *keyboard* for the keyboard.

As write access to the */etc/mms* directory is restricted to the *root* user, you will need to select your own configuration directory or modify the permissions. It makes sense to start off by copying the default configuration by entering *cp -R /etc/mms ~/.mms*. The program finds the *~/.mms* directory without any additional parameters. While you are copying, you might as well copy the themes and the Vera font to the right location. Type *cp -R /usr/local/share/mms/* ~/.mms* to do this. Now type *mms -o sdl* to launch the program, and you should

Table 1: General Shortcuts

Taste	Meaning
UP	Previous menu item
DOWN	Next menu item
LEFT	Previous submenu item
RIGHT	Next submenu item
PGDOWN	Move up quickly
PGUP	Move down quickly
END	Quit current menu
ENTER	Select current item or subitem
H	Help
O	Options
S	Search

Audio - Information

Artist: Audioslave
Album: Audioslave
Title: What You Are
Year: 2002
Bitrate: 192
Length: 4:09
Rating: 100

Figure 2: Pressing [I] gives you information about the tracks.

see the main menu shown in Figure 1.

You can use the keyboard to navigate the menu. The up and down arrows move through the menu, and *Enter* selects a menu item. If a menu has subordinate items, you can press the left and right arrows to access them. For example, the *Play audio from harddrive* option has two more items: *Play audio from CD/DVD* and *Play audio from radio/network)*.

Key Mapping

The *~/.mms/input-keyboard* file maps the keyboard, but if you use the remote control to navigate, *~/.mms/input-lirc* is the file you need. This important configuration file has a simple structure. Most entries in the *input-keyboard* file have the generic format *mode,command,key*. MMSV2 has a number of modes. (*General*) keyboard shortcuts are valid in all other modes; for example, you use the same keys to navigate in playlist mode and in the main menu. And help is always available by pressing the [H] key. Tables 1 through 3 give you an overview of the most important keyboard assignments.

Audio file handling takes some getting used to. MMSV2 only plays files on the playlist. If you opt to play audio from the hard disk in the main menu, the file system tree is displayed, and you can use the arrow keys to navigate – however, to allow this, the directory with the audio files has to be listed below *audio_dir* in the *~/.mms/config* configuration file. If you want to allow MMSV2 to browse your whole hard disk, just add the root directory, */*, to this list.

The *mov_dir = /stuff/* variable for movies, and *picture_dir = /stuff/pictures/* variable for images, work the same way. If you have various hard disk directories with media, you can use multiple lines based on the same principle.

Pressing the right arrow in the media list opens a subdirectory. The left arrow navigates to the next higher directory (back up to the top directory). Pressing the enter key adds the directory contents, or a single audio file, to the playlist (Figure 2).

You can use the same approach to move the tracks from an audio CD to the playlist. Pressing *3* plays the tracks. The keyboard shortcuts in Table 2 then allow you to control the player.

You can launch DVDs by selecting *Play movie (DVD/(S)VCD)*. Unfortunately, the program does not support DVD menus, and this means that locating the movie track is a question of trial and error. To do so, go to *Options|Movie Options|DVD track*. If you want to play movie files from your hard disk, MMSV2 attempts to discover more information about the film from the Internet Movie Database based on the file name. Pressing [Enter] starts the movie. Pressing [I]

Table 2: Keyboard Shortcuts for Playing Audio

Taste	Meaning
HOME	Toggle between current mode and playlist mode
INS	Change to playlist browser
3	Start player
2	Pause player
1	Stop player
6	Fast forward
5	Fast Rewind
8	Previous track
9	Next track
f	Louder
g	Quieter
m	Mute
p	Show menu with playlist commands

tells MMSV2 to display additional information (Figure 3).

Sound and Vision Backdrop

Themes let you change the appearance of MMSV2. You'll find three alternative designs at the MMSV2 website [1]. After downloading, unpack the archive in ~./mms/themes. Then go to *Options* and click *Themes/Skins* to select a scheme.

Now that MMSV2 knows where to look for files on your hard disk, it still needs to know the path to the CD or DVD drive. We had to modify the entries for *cdrom* and *cdrom_name* for the combi-drive in our lab machine. The */etc/fstab* file gives you the values, which were *cdrom = /dev/cdrecorder, /media/cdrecorder* and *cdrom_name = /dev/cdrecorder, dvd device* for our lab machine. To let non-privileged users access the drive, add *user* to the mount-point entry in your */etc/fstab*. To let MMSV2 open and close the drive on Suse, change the path to the eject tool in ~/.mms/config to *eject_path = /bin/eject*.

If you want MMSV2 to use Mplayer, set *movie_player = mplayer* in the configuration file. The *mplayeropts* line is for fine tuning the player. To avoid having to specify the output device each time you launch MMSV2, specify the device by adding *outdev = sdl* to the configuration file. The documentation area of the homepage at [1] gives you a full list of parameters.

No Window Manager

Just a few more steps are required to launch MMSV2 without a window manager. To launch MMSV2 rather than KDE on booting your machine, create a */opt/kde3/share/apps/kdm/sessions/MMSV2.desktop* script (see the "Desktop Entry" box). Users with Suse can do this in Yast by selecting *System|Editor for /etc/sys-*
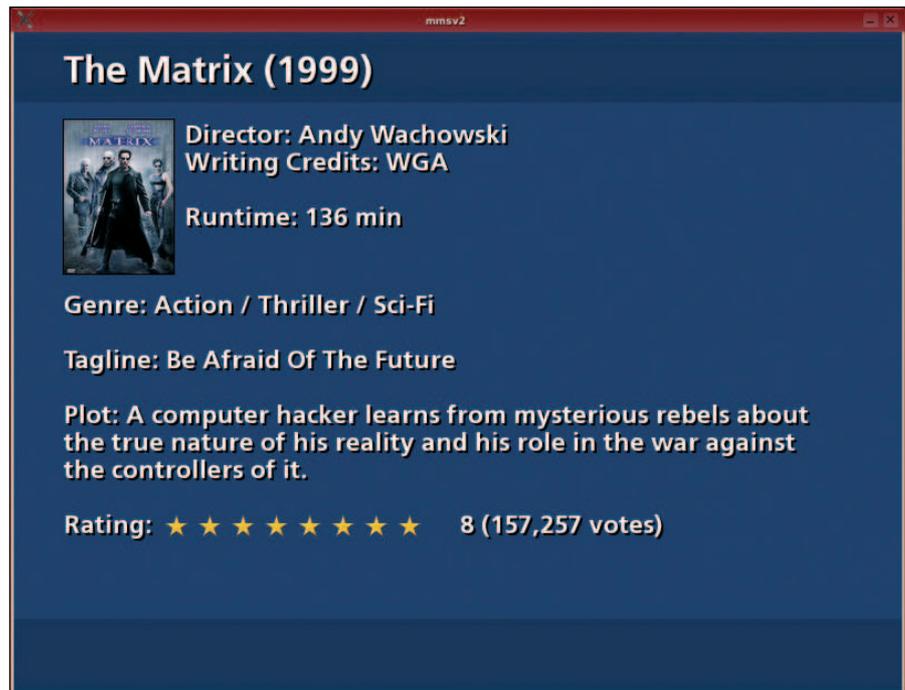

Figure 3: What's the movie about? Press [I] for a short description.

config-Dateien|Desktop|DISPLAYMANAGER_AUTOLOGIN.

On our lab machine, MMSV2's SDL full screen mode was blank. To work around this problem, set the image size manually, and do not launch MMVS2 in full screen mode (*fullscreen = false* in ~/.mms/config.)

You can change resolution from 800x600 pixels to 1024x768 pixels in the configuration file by changing the lines to $v\_res = 1024$ and $h\_res = 768$. This has the same effect as selecting full screen mode. The combination with *mplayeropts = -cache 8192 -framedrop -fs* tells Mplayer to run on top of the MMSV2 window and thus display the movie. Mplayer's *-fs* parameter launches the software in full screen mode.

Credits

MMSV2 makes a multi-functional multi-media player of more or less any Linux

computer. Besides audio and video output and slideshows, this handy menu tool can control analog or digital TV cards, giving users the comfort of an electronic program guide (EPG).

On the downside, not all of MMSV2's features work the first time you use it, Some manual tweaking is often necessary to get your MMSV2 menu system up and running. ■

INFO

[1] MPEG Menu System V2: *http://mms.sunsite.dk/*

[2] DXR3 & Hollywood Plus Logo Linux DXR3 and Hollywood+ Driver Project Howto: *http://dxr3.sourceforge.net/howto.html*

THE AUTHOR

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Table 3: Keyboard Shortcuts for Playlist

Taste	Meaning
7	Move current entry to top
4	Move current entry to bottom
DEL	Remove current entry from list
q	Add current track to playlist queue as next up
BACKSPACE	Empty current playlist
t	Store current playlist

Desktop Entry

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01 [Desktop Entry]
02 Encoding=UTF-8
03 Type=XSession
04 Exec=/usr/local/bin/mms
05 TryExec=/usr/local/bin/mms
06 Name=MMSV2
07 Comment[de]=Mpeg Menu System
   V2
```