

MythTV: the answer



As a home media app, MythTV is beyond match. Unfortunately it's also a nightmare to configure – but **Graham Morrison** has the answer.

MythTV is one of the most important Linux projects on the planet. It's an incredibly ambitious suite of applications designed to sit at the heart of your home entertainment centre. It records, pauses and rewinds television, plays music and videos, catalogues your photo and DVD collections, browses the internet, makes phone calls, delivers the news and the weather and plays games – and it does all this thanks to the power of Linux.

Until recently *MythTV* was a little tricky to get working. Thankfully, a distribution called Mythbuntu has changed that. Mythbuntu is an Ubuntu remix designed as a platform for *MythTV*, and it works brilliantly. It includes all the standard *MythTV* packages, preconfigured and ready to go, along with Ubuntu's fantastic hardware compatibility, a custom installation script and *MythTV* management application. With the right hardware, your system will be up and running in less than an hour, and you can happily spend the rest of the your time enjoying the incredible possibilities that *MythTV* offers.

As far as hardware goes, the only real consideration is which TV grabbing device to use, and this is dependent on where you're

going to be using your installation. In the UK, most of us enjoy good digital terrestrial reception (a technology also known as Freeview or DVB-T). Many other European countries and parts of Australia feature a similar service. If you have a satellite dish, you could also grab free digital television from a satellite. In the UK, the recently launched Freesat service includes most of the major channels, along with many others. They can all be grabbed with DVB-S hardware, and we covered most of the major choices in our

Roundup of DVB devices in **LXF106**. We stuck with the Elgato EyeTV USB stick for this article – it receives Freeview in the UK, and you just have to plug it in and it works. You may even want to consider getting more than one

device, as you can then record two channels at once.

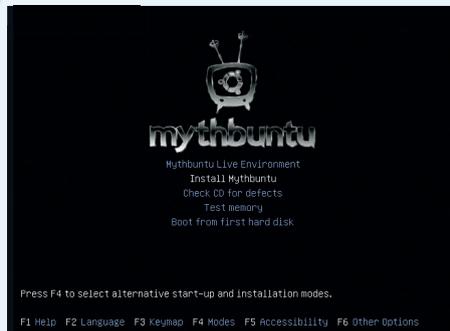
Other than that, you just need a modest PC that's going to play nicely with Linux. It doesn't even need to be powerful: a 1GHz CPU with 512MB of RAM is more than capable of recording one channel while you watch another. It also helps if you're using Nvidia graphics hardware. It's cards usually include a television connection, and the drivers work exceptionally well with *MythTV*. If you've got everything you need, read on to find out exactly how to throw the perfect Linux multimedia centre together.

“Mythbuntu is an Ubuntu remix designed as a platform for MythTV.”





Step by step: Install MythTV



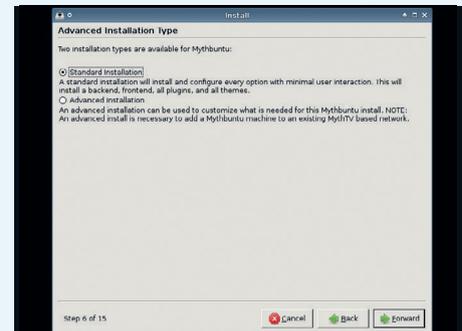
1 Boot the disc

Booting off the **LXF**DVD, the first thing you should see is the Ubuntu language-selection window. Just select your language, and from the boot menu, select 'Install Mythbuntu'. The first half of the Mythbuntu installation is a standard Ubuntu one, which means if you've installed Ubuntu before, all the questions you're asked will feel very familiar.



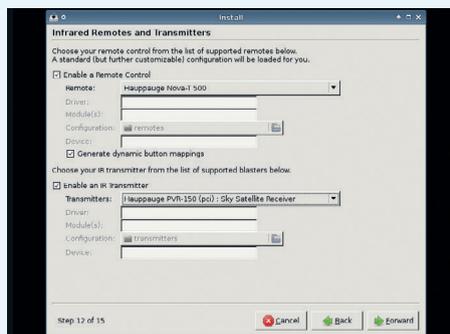
2 Choose language

On the next page, you get another chance to change your language, but you just need to select Forward. As with the original Ubuntu installer, you need to find some way of selecting your location on the next page and navigating its terrible screen update. When you manage it, click on Forward.



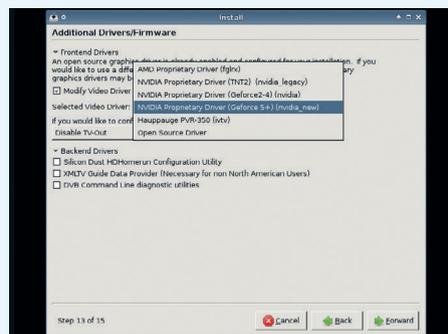
3 Standard install

After more keyboard layout options and the standard disc partitioning page, where you need to be careful your data is backed up, you'll be asked for a username and password. You'll then see the first page that's specific to Mythbuntu. It gives you the choice between a standard installation and an advanced one. Go for the first option and click on Forward.



4 Remote control

The next page configures infrared remotes. You don't need one, as a keyboard works well, but if a compatible one was bundled with your TV card, select the device from the drop-down list. Transmitters aren't quite so common. They're used to change the channel on an external set-top box – a satellite or cable receiver for example.



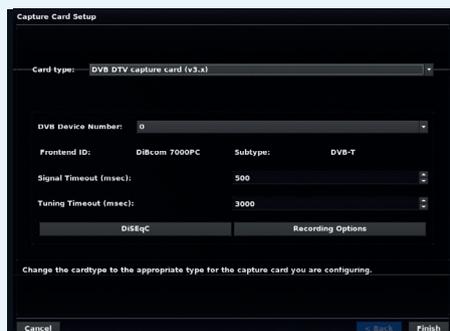
5 Proprietary drivers

The next page configures proprietary drivers for your box, the most important of which are going to be those for your graphics card. Currently, the only viable option is Nvidia. Its proprietary drivers work very well, and most cards include TV-output. You should choose the appropriate Nvidia driver from the drop-down list, and enable TV-out if you're using it.



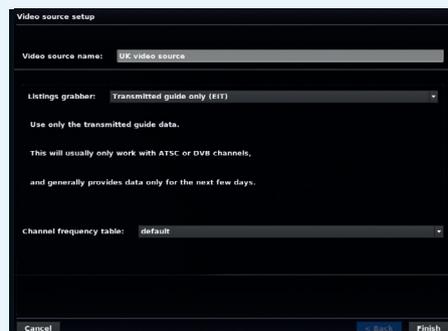
6 MythTV setup

After an overview page that lists all the main options you've selected, press Forward to install the Mythbuntu system, before choosing to configure the *MythTV* back-end. From the General page, alter the TV format, selecting PAL for European countries or NTSC for the USA.



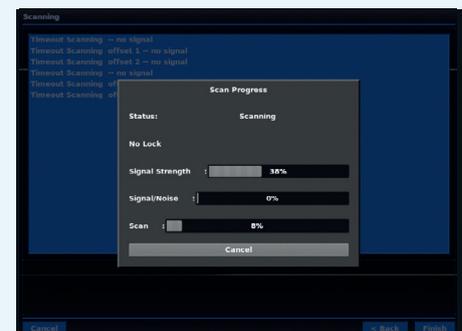
7 Capture cards

Switch to the Capture Cards page. Select 'New capture card', and in the 'Card type' field select 'DVB DTV capture card (v3.x)'. This option is suitable for any of the DVB devices we looked at in our Roundup, and is the most common form of digital television in the UK.



8 Video sources

Switch to the Video Sources page. Click on 'New video source', and add a name for this video source. We went for 'UK video source'. In the Listings grabber drop-down menu below, choose 'Transmitted guide only (EIT)' to grab the listings data, then vlick on Finish.



9 Input connections

Switch to the Input Connections page, select your TV grabber, and select your 'Video source'. Click on the 'Scan for channels' to add channels to the database, and when that's complete, exit from the application and let **mythfilldatabase** run.

Listen to music

Now that your system is installed and ready to go, how about listening to some relaxing music?

Mythbuntu is the perfect platform for music listening. It's flexible, compatible with most common audio formats, and it's ready to go with a default installation. Many people put a lot of effort into connecting their media centre to decent speakers for television and video playback, and this has the wonderful side-effect of making your media centre brilliant for music reproduction. Those same speakers will sound great even when you're not watching anything. Even audiophiles will be satisfied, as many modern computers include a digital output port that can be connected directly to a surround-sound amplifier for crystal-clear sound.



Audio import

The first step is to get your music into the machine. If you already have a digitised music collection, you simply need to move this over to your media centre machine. Mythbuntu expects music

to be held in the `/var/lib/mythtv/music` directory, but if that doesn't suit the way you like to do things, you can change this

“Many computers include a digital output port, for crystal-clear sound.”

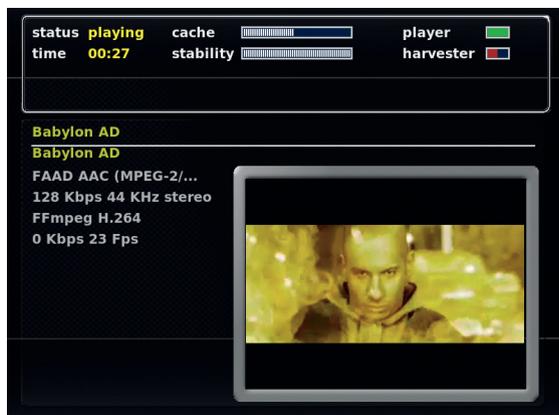
location from Utilities/Setup > Setup > Media Settings > Music Settings > General Settings. The top field in the General Settings page that appears contains the directory. When you've added music like this, you need to let Mythbuntu re-scan the music directory. This is so it can build a database of your music



Media streaming

One of the best parts of the Mythbuntu front-end is its seamless integration of streaming media. Just select 'Play Online Streams' from the Media Library and you'll see the main streaming window. From here, you can select which streams you want to watch or listen to, as well as subscribe to podcasts, listen to internet

radio and watch online television. Use the bottom row of buttons to switch between the main groups of streams, and if you want to add your own, you can enter the URL by pressing E, filling in the details, and clicking on the Add New button. If you ever need further information about a stream you're listening to, just press I.



▶ You don't need OS X to enjoy Apple's excellent selection of movie trailers. Mythbuntu can stream them from the internet with a single click.



▶ Mythbuntu automatically grabs the track and artist information from the internet, but if your media box isn't connected, you can also enter this information yourself.

collection, and Utilities > Music Tools > Scan For New Music' is the menu option to get this done.

You can also digitise your own music CDs. Insert the disc in to your optical drive, and select Optical Discs > Import CD from the main menu. your CD will be scanned, and the track and artist information will appear in the main window. We'd recommend changing the quality setting to 'medium' before clicking on 'Rip CD' to copy the contents of your disc to your hard drive. A large status window will open while Mythbuntu does the number crunching. As each track is completed, it will be saved into Mythbuntu's default audio application, and be ready for playback without any further hassle. By default, Mythbuntu rips audio to the Ogg Vorbis format, but you can change this from the General Settings page we opened earlier.

Playback time

The music playback screen can be accessed by selecting 'Media Library' from the main menu, followed by 'Listen to Music'. The screen that appears is the active play queue, and would list any tracks you've added to the playlist. Except we haven't done that yet. Press 3 or click on the 'Edit Playlist' button to open the playlist editor. This is where you can browse the music on your hard drive, and select folders or albums to add to the playlist. With a folder, album or artist highlighted, press the Space key to add the tracks. A small tick will appear to the left of the selection, and pressing 'Escape' will take you back to the player front-end. From here you can play the tracks in the list, skip forward and backward, as well as enable the full-screen audio visualisers, including one that shows any cover image Mythbuntu finds in the audio directory.



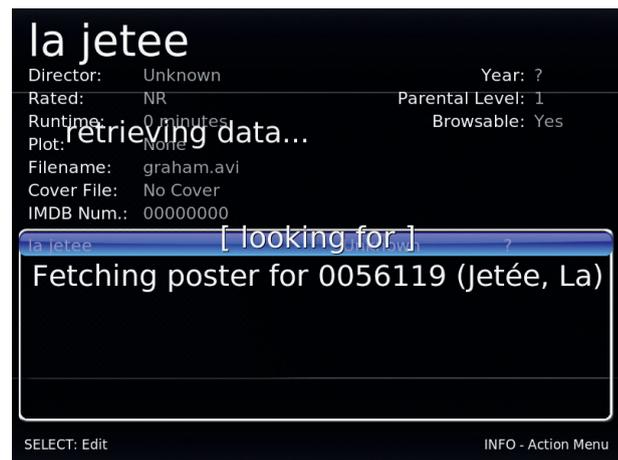
Watch videos

Trevor Horn and Buggles said that video killed the radio star, but MythTV offers the best of both worlds.



Mythbuntu includes its own DVD playback functionality, and this works well without any additional configuration, including menu navigation. If you have an external surround sound decoder with an optical connection from your sound hardware, you should select 'Enable AC3/DTS to SPDIF' in third screen of the Utilities/Setup > Setup > General page (labelled Audio). This will pass the audio data unaltered to your surround decoder for the full cinema experience.

Depending on the legal status of making personal copies in your part of the world, transcoding a collection of DVDs on to your hard drive is also a handy way of turning your media box into a video jukebox. Video, as you might expect, is handled in much the same way as music is. Mythbuntu maintains a database of all compatible files it finds, and this list is accessed through the Media Library menu when you want to watch something.



Information on movies and videos is grabbed from the Internet Movie Database using a small script.

The location where you should place your video files is specified in the Utilities/Setup > Setup > Media Settings > Video Settings > General Settings page. By default, this is `/var/lib/mythtv/videos`. You may also want to fine-tune the command that's used to play AVI files from the 'Player Settings' page. Switching between *MPlayer* and *Xine*, for example, is a good way of side-stepping any compatibility issues with *MPlayer*. You might also want to play with *MPlayer*'s command line options for hardware video acceleration on slower machines.

Don't worry if none of this makes any sense to you, as the default options are the most sensible for broad compatibility and performance. As with your audio collection, you need to manually rebuild the database when you've finished adding files by selecting the Video Manager from the Utilities/Setup menu.

IMDB lookup

You can also perform several other useful functions from the Video Manager page, such as looking up video information on the Internet Movie Database. Select the video you want to add information for and press I followed by Edit Metadata. The information listed on this page is used to search IMDB for further information on the video. If the filename is descriptive enough, you don't need to change anything. But for best results, type the name of the video and click on Done. Now press I again, and this time select 'Search'. Mythbuntu will search IMDB for your video, and populate the details for the movie automatically. If a cover is available, it will be downloaded and used as the icon for your video.

Now when you now browse your collection, you'll see the cover as well as a plot synopsis and information such as year and IMDB rating – great for film buffs. You can change how your videos are listed by pressing M, and choosing between the browse view or the list view. Pressing Enter on any selected movie will commence playback. Pressing Escape during playback will return you to the Mythbuntu interface.

TV tip

Remote control
Mythbuntu uses an external application called *MPlayer* to play AVI video files. This means that your configured remote control won't work while watching these videos unless you go create a remote control profile for *MPlayer*. For further information, see www.mplayerhq.hu/DOCS/HTML/en/control.html.

Photos

As with music and movies, your digital photo collection needs to be tucked away in the `/var/lib/mythtv/` directory in a folder called **pictures**. You don't need to update Mythbuntu with the details, and as soon as you switch to the Image Gallery view from the Media Library menu, you will see your photo collection. Using the Enter key will let you enter folders and view each image full screen. Pressing the right and left arrow keys will enable you to skip through your collection. Press M to access the menu on the left.

From here you can start a slideshow and change the photo settings. If you've got decent 3D graphics hardware, enable the OpenGL transitions on the second page. This adds smooth and animated transitions between the photos in slideshow mode. If you insert a USB stick or camera, you can import photos directly into your collection, as well as adding tags to photos in your collection to make it easier to wade through the fuzzy holiday snaps to find the ones that are actually half-decent.



If you've got an OpenGL accelerated graphics card, you can enable smooth transitions in the Photos Configuration panel, turning the average slideshow into a 3D twinning-and-peeling spectacular.

Watch and record TV

This is what Mythbuntu does best: recording television programmes so you can watch them or delete them at your leisure.

TV tip

Recording Rules

Press R on a selected programme to open a rules creator. By default, this will create a simple rule to look for programmes with the same title, but you can use wildcards and other keywords to automatically record programmes that match your criteria.

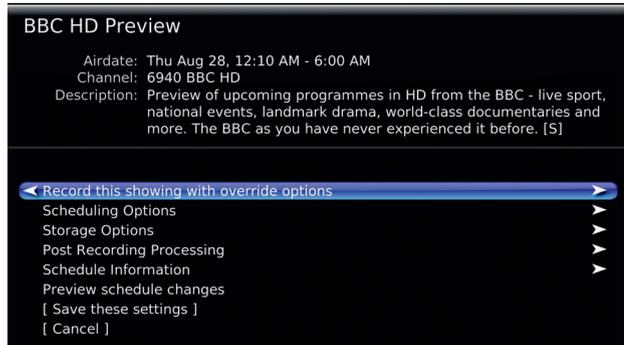
Even we have to admit that occasionally there's something on television that's worth watching. For many people, it's the television functionality that makes *MythTV* worthwhile. You can watch live TV, as well as record programmes for later, and all these functions are crammed full of features. While watching live television, for example, you can press P to pause the transmission. Mythbuntu will record the programme from this point, and you can continue by pressing P again. If you get a couple of minutes behind the live transmission time, use the cursor keys to skip forward in time – this is especially handy when you want to jump through a commercial break.

Pressing R will record the entire programme, and this should include the beginning if you've been watching the transmission from the start – *MythTV* caches the data from the point you start watching the channel. Press M to bring up the menu, from which you can show the programme guide, change the zoom level and aspect ration, as well as adjust the playback speed and image contrast and brightness. Press O to display on-screen information about the current programme, and use the cursor keys to switch between channels. Pressing Space will create a bookmark, and you can play from that point if you return to a recording. W changes the aspect ratio, and volume is altered with the square bracket keys,

Live television is useful, but the magical idea behind a personal video recorder is that you're not restricted

“You can record any programme and watch it when you want to.”

› Pause, rewind and fast forward live television broadcasts so that you can skip the adverts and watch the best bits over and over again



› *MythTV* can sometimes overwhelm a simple procedure with too many options. But when you understand what those options can do, you get unprecedented control over what you record.

to regimented viewing times. You can record any programme and watch it when you want to, rather than when the broadcaster wants you to. This functionality is hidden behind the 'Manage Recordings' menu, and it's the first option, 'Schedule Recordings' you'll want to select.

Manage recordings

The menu that appears covers six different methods for recording a programme. The first is the simple programme guide, as seen in the live TV view. This is the method that's likely to feel most familiar, as programmes are stretched across a grid, and you can start a recording by pressing R on the selected block for your programme. Further recording options are available if you press Enter, and they perform the following functions:

- › **Record only this showing only** records the highlighted title.
- › **Record one showing of this title** will record this title either at the present time, or a repeat of the same title. This is useful if there are other programmes you want to record.
- › **Record in this time slot every week** ignores title and programme information, and blindly record the programme broadcast on the same channel at the same time each week.
- › **Record one showing of this title every week** attempts to find a repeat of the same title, and either record your selection or a repeat. Two further options are provided for daily broadcasts.
- › **Record at any time on this channel** will record any repetition of this title.

Front-ends and back-ends

MythTV uses what's known as a client-server model. This sounds terrifying if all you want to do is watch a few television programmes, but it adds a great deal of flexibility. The back-end of the system, the part responsible for scheduling and making the recordings, is completely separate and distinct from the front-end, the part used for playback. This

means you can have several low-power, low-noise front-end devices in various rooms for playback, and a single powerful back-end machine running in the cellar. But most people run both the back-end and the front-end on the same machine, and that's exactly what we've done. This has the advantage of creating a single self-contained device, but if you

ever need more front-end clients for watching TV in other rooms, you can still add them to the network. You can even use the Mythbuntu Live environment to turn any computer on your home network into an *ad-hoc* front-end.



» **Record at any time on any channel** will blindly record the same programme when it's repeated on Dave or ITV 4.

The other recording options provide alternative ways of tracking down the titles you want to record. Programme Finder is an alphabetical list of all the programmes in the *MythTV* database. 'Search Words and Lists' let you search the database yourself by category, title, date, channels and time, while the Custom rule lets you come up with a kind of primitive expression for capturing that late-night transmission. Finally, the Manual Schedule option is the *MythTV* recreation of the arcane video recording programming method. Enter the date, time and channel, cross your fingers, and hopefully your programme will be recorded.

Back up a menu for a few more management tasks. When there are two programmes you want to record, you can use the 'Set Priorities' option to always choose *Eastenders* over *Emmerdale*, for example. And you can see exactly what Mythbuntu is going to grab from the 'Upcoming Recordings' view. Programmes can be deleted from the 'Delete Recordings' option, but this isn't necessary, as *MythTV* will automatically prune the oldest viewed programmes when disk space is full. If you don't want this to happen to a specific programme, make sure you disable the auto-expire option in the Watch Recordings view.

Watch recordings

Now that you've gone to all this trouble recording stuff to your hard drive, you might as well sit down with a nice glass of wine and watch something. This option is accessed from Watch Recordings entry in the Media Library menu. The screen that appears shows your most recent programmes, and a dynamic list of titles on the



» The icons listed next to a programme recording are used to indicate things like high-definition and surround sound, as well as *MythTV*-specific options such as bookmarks.

left-hand side of the screen can be used to quickly filter the list according to the type of programme you want to watch. If you record *Eastenders*, for instance, select this on the left, and you'll only see that dismal soap. You can change storage and playback options by pressing I, and switch to the full-screen playback view by pressing Enter on your chosen recording (this is almost functionally identical to the Live TV view). Escaping a programme part-way through stores a bookmark, so that playback will continue from the same place when you select the same programme again. »





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Advanced MythTV

Who knew there was so much to get out of your television set?

TV tip

Quick Burn

Files recorded directly from a digital television device can be burned to DVD without any further processing, saving a lot of time and CPU energy. Just make sure you select 'Don't re-encode' as the Encode Profile, and your selected recordings will be written to disc.



Create DVDs

Archive your recordings to a DVD – complete with menus!

Now that Mythbuntu is your repository for all things media, it makes sense that it's also the application you turn to, to create archive DVDs. Not only is this a great way to liberate valuable disk space on your media system, it's also a great way of sharing your recordings and watching them on a DVD player. The gateway to all this magic is the 'Archive Files' option listed in the 'Optical Disks' menu. Selecting 'Export Video' followed by 'Create DVD' will open the destination page.

From here, you need to select the kind of disc you want to burn. This is dependent on your hardware, but single-layer DVDs are the most common. The next page lets you select the files you want to add to your DVD. Add Recording will open the list of television programmes currently residing on your drive; Add

Video will list videos; while Add File lets you add your own video files manually. From each screen,

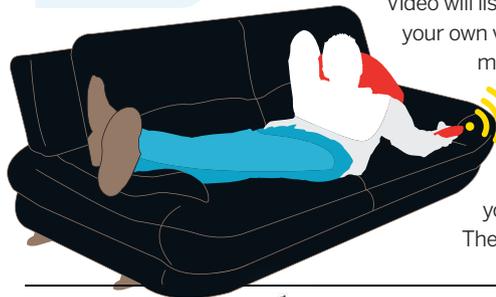
make sure you enable the tick-box of the files you want to include. As you add files, the space indicator in the bottom right of the screen will inform you of how much space you've got left on the disc.

The next page lets you add a DVD menu



› DVD Selection: Mythbuntu can burn double- and single-layer discs, and create ISO images for copying to another machine.

theme that will be used by a DVD player to choose between the various recordings archived on the disc. Mythbuntu includes several that mirror the themes used for the menus and on-screen display. Finally, select the files again on the following page and choose an encoder profile that suits your space and quality requirements. Click on Finish and leave the machine for a couple of hours while the disc is created.



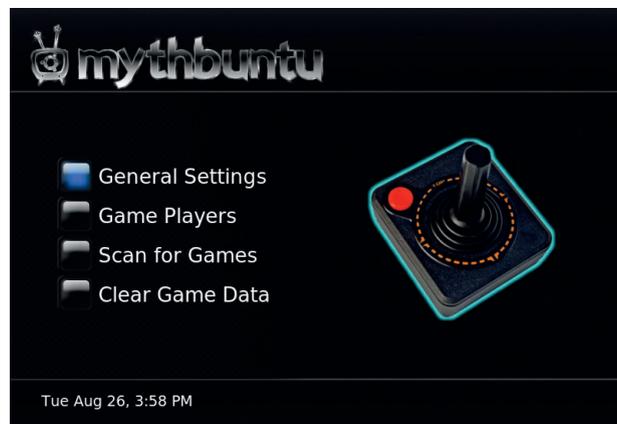
Play games

All work and no play makes Mythbuntu a dull toy

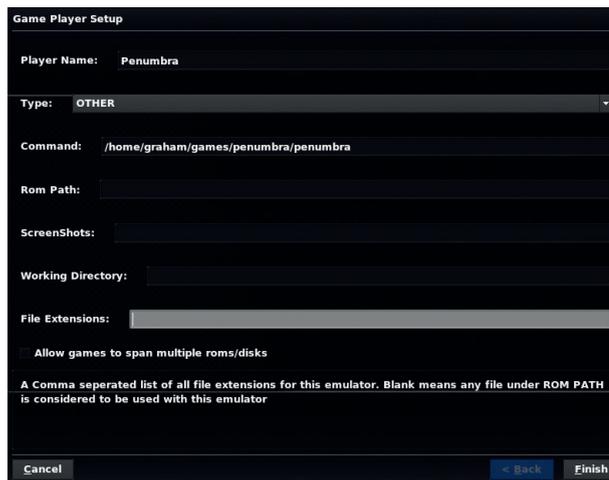
Everyone loves playing games, and Linux is a great platform for retro gaming, as well as the occasional AAA title that makes its way to our favourite platform. Mythbuntu doesn't include any games by default, but there's a convenient back-end for adding your own, turning your humble media centre into the virtual equivalent of an amusement arcade.

The configuration page can be found in the Utilities/Setup > Setup > Media Settings > Game Settings menu. Use the General Games' page to define where your games are stored and how they're listed, and use the 'Game Players' page to add the game engines you want to play. You can choose between a variety of

emulators, and you need to enter the command required to run the installed emulator. Fortunately, you can also configure Mythbuntu to act as a gateway to any Linux games you may own. Just choose 'Other' as the type, and enter the command needed to run the game. You will then be able to launch the game from within Mythbuntu, and return to the TV interface when you quit. Perfect for a little light relief when you're recording *Question Time*.



› Mythbuntu can be used as a launchpad for your own Linux games, so you don't have to quit the app and run it again when you've finished playing.



› If you can reconfigure the game to use a USB control pad, you won't even need a keyboard connected to the system. Just quit the game to return to Mythbuntu.

Advanced configuration

Avoid all the command-line hassle

Another good reason to use Mythbuntu over a standard *MythTV* installation is the inclusion of a custom-built configuration panel called the Mythbuntu Control Centre. It's launched by selecting Utilities/Setup > Setup > Mythbuntu, and the window sits over the top of the main user interface.

From the configuration application, you can reconfigure your graphics drivers, add infrared control and install proprietary codecs for DVD playback and Windows media. You can also enable system services like the VNC remote desktop protocol, and activate and disable the various *MythTV* plugins that are included within Mythbuntu, as well as the various themes and appearances on offer. The System Roles page allows you to install a full Ubuntu desktop environment, or reconfigure your media centre as a front-end machine that connects to a back-end server located somewhere on the same network.



▶ This custom application means you never have to worry about fiddling with configuration files.

Remote recording

Our favourite feature

The web interface to Mythbuntu is probably its best feature. It enables you to perform almost any Mythbuntu task remotely through a web browser. That includes browsing TV schedules and setting up recordings, watching programmes and videos, listening to music and perusing your photo collection. The TV schedule page is actually easier to use than the one embedded within *MythTV* itself, as you can easily scroll through times and dates, click on programmes and search for those that you're interested in. The recording option page is also easier to understand than its television-connected counterpart, but you should avoid the database configuration page, as changes here can seriously affect the stability of your system.

Any computer running on the same network as your media centre will be able to access the page. Just point your browser at the IP address of the media centre followed by **mythweb** (<http://192.168.133.30/mythweb/>), for instance. You can get the IP address of your media centre by quitting the *MythTV* front-end and right-clicking on the networking icon in the top-right of



▶ MythWeb enables you to perform virtually any action possible in MythTV, from any other internet connected computer.

TV tip

PHPMyAdmin
If you ever have to delve into *MythTV*'s MySQL database, use **PHPMyAdmin** instead of the lengthy MySQL command line interface. Seriously, you'll thank us for this one.

the display. From there, select 'Connection Information', and a window will appear listing the IP address along with other network parameters. If you want to access *MythWeb* from the wider internet, you need to make sure that your router forwards requests for port 80 (the web server) to your media centre and that port 80 isn't blocked by either your firewall or your ISP. It's then just a matter of pointing your browser at the external IP address for your internet connection. **LXF**



The Information Centre

You can lose weeks of your life exploring the joys of *MythTV* – here's what you should be looking at next...

BBC N...
Google ...
Google V... >

New Music Video From David "Th...
The Making of David Hasselhoff's ...
Steve Tyrell Songs of Sinatra EPK
Jesse McCartney Because You Liv...
Hilary Duff Beat Of My Heart Video
Hollywood Records: Elefant - Misf...
Queen + Paul Rodgers - We Are T...

New Music Video From David "The Hoff" Hasselhoff - "Jump In My Car"
That's right, it's Hofficial... your favourite cult icon wants to take you home! The one and only David Hasselhoff of "Bay Watch" and "Knight Rider" fame returns with a cover of the 1975 classic 'Jump In My Car' and its a doozy. Recorded in Sydney last year w...

Updated - Wed Aug 27 3:45 PM

1 News feeds

Mythbuntu can subscribe to RSS news feeds. From the Information Centre settings menu, you first need to select the feeds you want to view. After you've done this, revisiting the News Feeds page will list the stories and articles. If an article contains video, pressing Enter will download this automatically.

United Kingdom Satellite

Last Updated on Aug 27, 03:35 PM BST

2 Weather

First go to the Screen Setup and press Enter on one of the forecasts to the left. Select your units and enter the name of a large city close to you. Choose one of the results and finish. The weather status will now display for the forecast type you just defined.

Ekiga.net
Me(mythtv-desktop)
Me(OLDHOSTNAME)

Speed Dials
Voicemail
Receive...

Audio and Video Looped to

3 Video conferencing

If you've got a webcam attached to your media centre, you can make and receive video conference calls through the *MythTV* interface. It uses the SIP standard, which means you can call anyone else with a SIP standard address, as well as landline calls using the Free World Dialup service.