

Keeping track of your MP3 files

Losing tracks

Now you can have access to your music collection beside your computer at all times – so the real CDs can take their prized position in the living room in the racks, by the Hi-Fi.

Copying your music CDs to MP3 format gives you a convenient format to play your music on a PC. You have the ability to decide how you want to access your favourite artists and tunes, being able to combine them into collections of your own devising. This is such a useful feature that it is hard to know when to stop, and some people find that they just can't.

Too many MP3's

Even though an MP3 version of an album might only take up about 1/10 of the original size, you may find you have more MP3 files than you are prepared to sacrifice hard disk space for. If this is the case, you will probably want to burn some, if not all, of these files to CD. Now you end up with a collection of data CDs beside your machine that you can play at a moment's notice, which is fine, so long as you do not want to play a particular track of an album. How would you know which MP3 CD has the track you need for that moment, short of writing out hundreds of track listings onto the disc label or case.

Luckily there is a way, by keeping a database of the track listings on your computer, after all, that is where the music will be played.

MP3's include Ogg's

For the sake of brevity, I am going to lump all music files into the category of MP3 file, even if you have .ogg files, or even some other compressed file system. This is not intended to be a slur on those that prefer Ogg Vorbis, it's just that most people will be much more familiar with the term MP3.

How to rip and burn a CD

In case you are unfamiliar with the process of copying your audio CDs to a

It is so convenient to have your stacks of audio CDs compressed down into a few MP3 discs. Now you can have access to your music collection beside your computer at all times – so the real CDs can take their prized position in the living room in the racks, by the Hi-Fi. But will you be able to find the music you are looking for any more? **BY COLIN MURPHY**



compressed format, such as MP3, here is a very brief outline of the procedure for you to try.

Your audio CD holds the tracks of music in its own special file format, about 74 minutes of playing time per CD. Since the audio CD does not have a filesystem such as a data CD would, you can not just look at its contents with a file browser.

To get access to these musical files you will need to call upon the services of a CD ripping utility, of which `cdparanoia`

and `cdda2wav` are, by far, the most frequently used. These are command line utilities. It is much more friendly for occasional use to call up one of the graphical front-ends, like `Grip`, see figure 1. Here you can see how `grip` has scanned your audio CD, and is now showing track listings and details of the album they have come from.

`cddb` databases

This information, in the majority of cases, can be automatically scanned for

by looking at one of the **cddb** databases, or if necessary, typing the details in by hand. It is quite important that this track and album information is recorded at this stage because it will become part of the information tag that describes the MP3 file later on.

If you follow through with the default options, and ask grip to rip and encode your audio CD you will find yourself left with a directory containing MP3 versions of the tracks from the CD. You can play these MP3 files with players like XMMS.

Ripping is fine

This is fine for the first 10 or so audio CDs that you have ripped, but by now you have taken up the best part of a gigabyte of hard drive space. On a desktop machine, you may not want to give over all of this space, so, you end up copying all of your MP3 files to a data CD, again, using one of the graphical front-ends that are so popular, like CDBakeoven, see figure 2.

But this just becomes the thin end of the wedge, now you rip through all of your CDs, you end up with a pile of discs on which you will struggle to find anything in particular, should you go looking for it. What you need is a database of all of those files.

Tools to do the job

MP3 File Management is a generic term that would cover the utilities that you

can find to take on this task, but that might also include streaming files and presenting lists of files through web interfaces, so you need to take a bit of care should you go looking for applications on Freshmeat.

Stand alone or use a database?

Your options for building your MP3 database fall into two camps, those that stand alone and those that require a database server like MySQL or PostgreSQL. Which one you choose will depend very much on how you want to access your database and what sort of system you are already running.

Should you have applications running on your machine that require the services of a full blown database program, or you really intend to parse your MP3 database through a web interface, then you might want to choose something along the lines of the DigitalDJ program, which takes away some of the effort in dealing with the databases.

On the other hand, if you have no need or desire for such an 'in-depth' option, then you might prefer to take the far simpler route and use a stand alone program such as GTKalog. Following

CDDB and online CD databases

The original cddb is a database, usually one that you will look at online, to look up information about your audio CD using the unique disc ID as a key to query the database.

Some ripping programs, such as grip, automatically look at a cddb server to get the album and track listing details.

Sometimes, if your CD is a very recent release, or is unusual, you may find that the information is not in the database. This then means you will have to enter this information by hand, uploading these new details to the CDDB database for the next person. For more information on these services, see <http://www.freedb.org/> or <http://www.cddb.com/>

on, next is an example of using a stand alone application.

GTKalog – the standalone approach

In the worst case scenario, you will have realized that you really need to have some sort of database to help you manage the pile of MP3 CDs that you have already created. You will want an



Figure 1: Grip is a graphical front-end that will help you 'rip' tracks from an audio CD

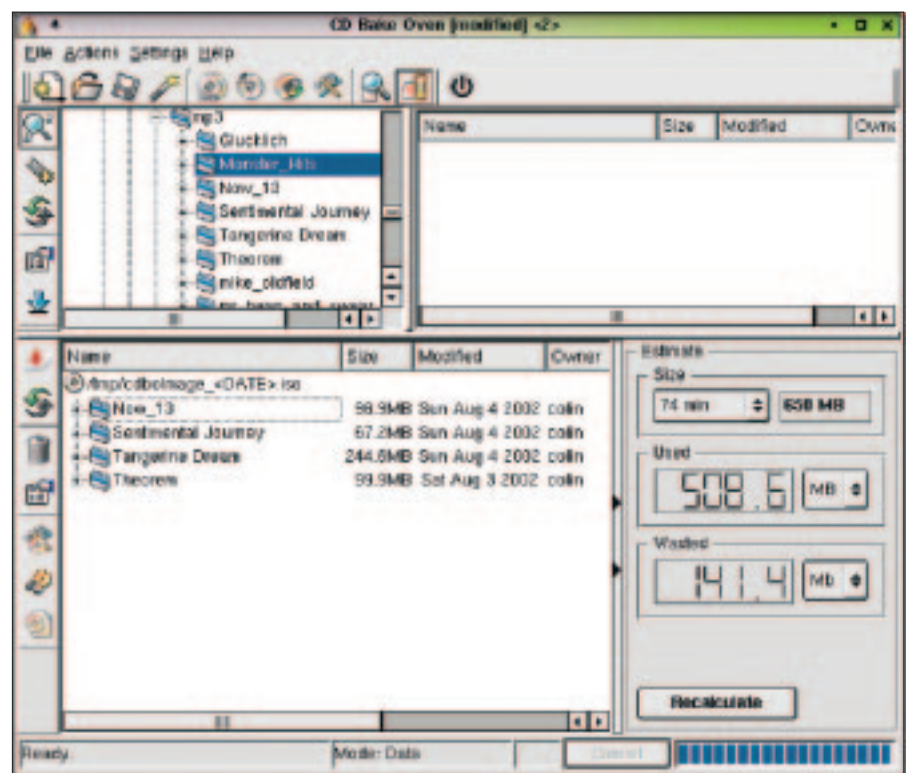


Figure 2: CDBakeOven being used to copy mp3 files to a CD. The GUI front-end makes the operation simple to use

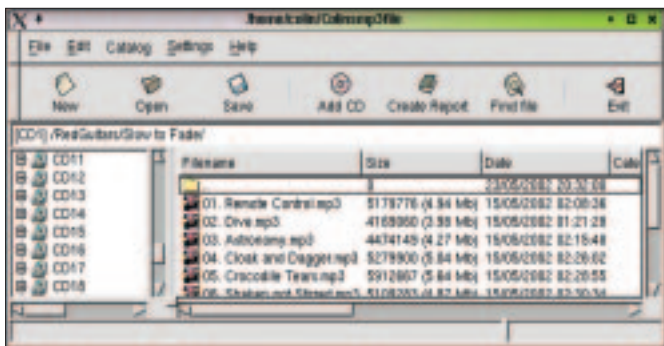


Figure 3: Here you can see GTKtalog listing details of my MP3 collection

application that is going to be able to take all of the track listing details automatically from your CDs to build your file.

GTKtalog will scan the MP3 discs that you have made, automatically adding the details to a hierarchical database.

The procedure is very simple, pop the CD into the drive and hit the 'Add CD' button from the main menu. GTKtalog will scan the disc for all of the information and add what it finds to its database. There is no need to mount the disc, and GTKtalog will even spit the disc out when it has finished scanning the files and adding to the database. This saves time as now you can be ready to pop in the next disc.

Label wise

If you have been wise enough to add labels to your data CD when you created it, in effect, giving the CD a title, then GTKtalog will use that title as part of its reference for that disc. Because my music collection has no form or reason, I just title my MP3 CDs numerically, as you can see in figure 3. You may have your music collection in some sensible order, which will mean you can file your MP3 discs in an equally sensible order. If you can't do this, it doesn't really matter, so long as you can identify an individual

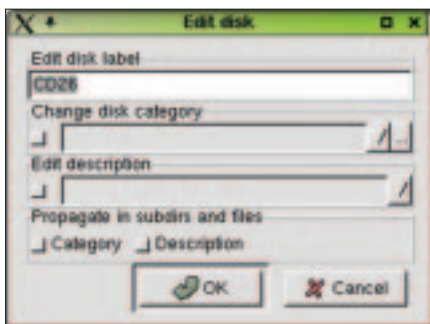


Figure 4: Amending the disc title in GTKtalog

disc from the complete disc set.

If you have not bothered to burn your discs with labels included, then you will need to adjust the disc title by hand, as you can see in figure 4.

Sensible structure

You also get the chance to search for items in this database. Figure 5 shows you one of the search screens. In this example you can see all of the examples where 'old' appears in either the track or album title or in the artists name.

Now to own up. GTKtalog was not written to specifically look after MP3 files. All it is doing is saving a hierarchical tree based on directory and file names found on a CD. The plus side of this is that you can make a catalogue of any CDs, possibly photo CDs, if you

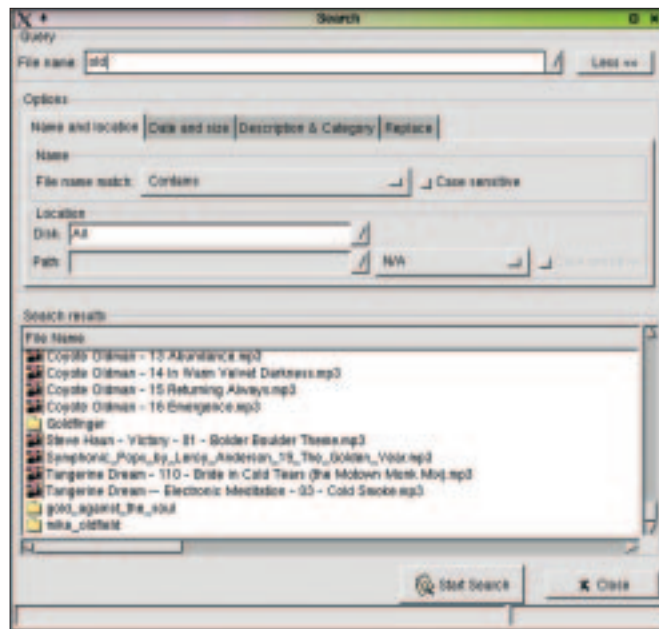


Figure 5: Using the search facilities in GTKtalog to look for all of my 'old' music

are in the habit of giving each digital photograph a sensible file name. The downside is that GTKtalog is not looking at the MP3 tag data that was looked up from the CDDB database and saved when you created the MP3 file.

Luckily, when programs like Grip save their MP3 files, they put them in a sensible structure which usually follows a particular form, for example artists_name/album_name/tracks. This is enough information on its own to help you locate tracks with GTKtalog. Should you have never played with databases like MySQL or PostgreSQL, then taking this route to track location

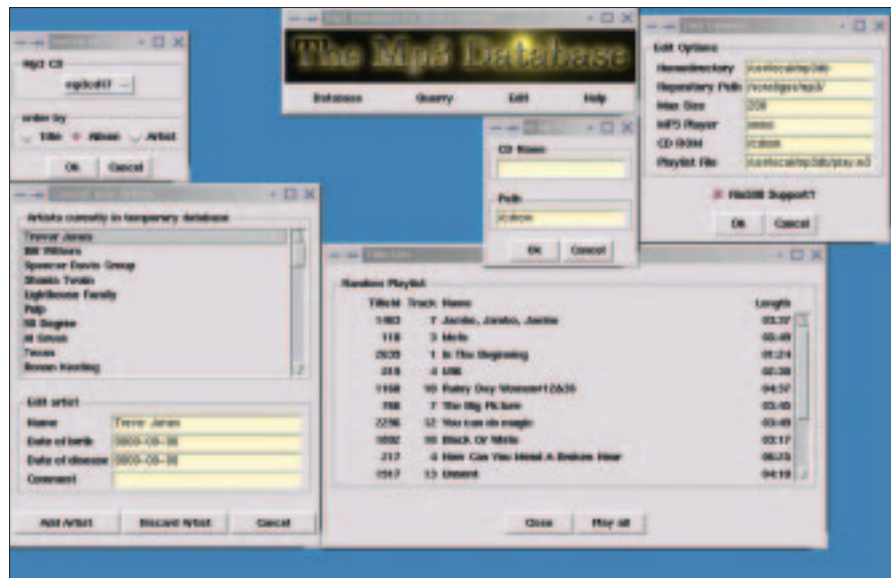


Figure 6: The MP3 Database project could have much promise, should someone take on the challenge

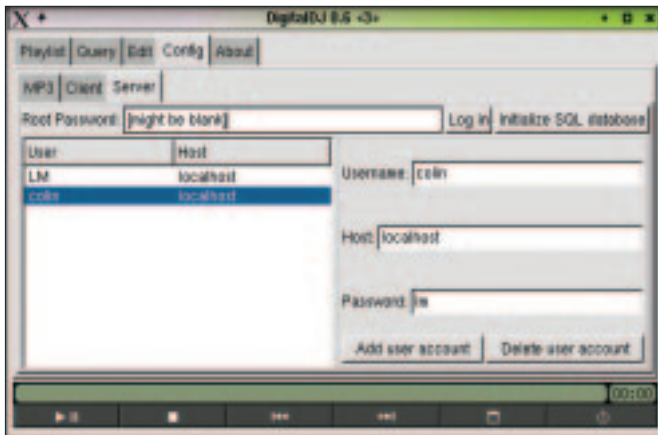


Figure 7: This GUI in DigitalDJ allows you to initialize the MySQL database

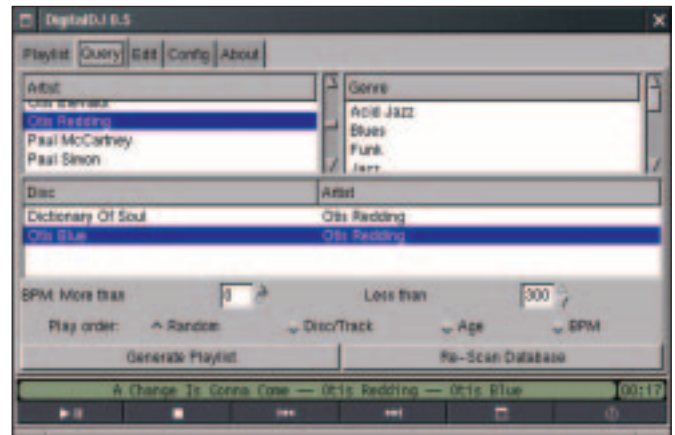


Figure 8: Selecting from your DigitalDJ database

nirvana will lead you to a very steep learning curve. None of the packages looked at offered any guidance to getting the database side up and running, all knowledge on this part of the process was assumed by the developers to be already gained by the user.

This is a shame, as not everyone has the need to use databases at all, many will not have them installed, even though both MySQL and PostgreSQL come supplied with all of the main distributions.

Extra features

There will be some extra overhead on your machine, seeing as you will also have to run the database server to access your store of MP3 information and there is a learning curve to follow in actually getting the server up and running in the first place, but this might be worth it for the extra facility.

Many of these front-ends are no more than scripts to take the tag data from the MP3 files, posting it to one of the databases, usually MySQL. There are some exceptions that do offer a more unified approach like mp3db which you can see in Figure 6.

Unfortunately 'The MP3 Database' project has been discontinued, maybe someone reading might pick it up from

where Benny Mueller left off, details can be found at <http://mp3-database.sourceforge.net/>.

Exceptions to the rule

Other notable exceptions are DigitalDJ and GMMusic. DigitalDJ compliments its sister product, the ripper and encoder Grip, and is designed to use MySQL as its back-end database. Grip takes the responsibility of writing to your MP3 database with just the press of a button. This will only happen if you have initialized it first in DigitalDJ.

Figure 7 shows you the GUI to achieve this, it's quite straightforward, assuming you already know that the password for the root account of a freshly installed MySQL server is [blank] except that the root account could well be a different name like 'mysql' if you are using SuSE, except in the situations where it not, etc.



Figure 9: GMMusic allows for some detailed statistical reckoning

Ah, just starting out on the gentle slopes of that learning curve.

Quick find

You can look up, select and play your required tracks via the 'Query' tab. See Figure 8. DigitalDJ does not offer you an extensive array of searching tools, you really are limited to finding what you are looking for by selecting artist or genre types.

Once you have settled on a track, you can add it to a playlist which you can save for later use. Not much use for listening to music on the fly, it is most likely that some of the tracks will be spread about on other disks, all that disk swapping does not make for relaxing listening. A much better use would be to compile another MP3 disk with these track for your playlist. This way you would have convenient access to the music that best suits your mood.

GMMusic needs PostgreSQL to provide the back-end database and calls upon having both the Perl and PostgreSQL-perl modules to be loaded. Although not specifically intended for cataloguing MP3 files, this program also has the facility to store details of your normal audio CDs, as well as LPs, Audio and video tapes, and even Minidisc.

Another interesting feature is the statistics page which not only tells you how big your music collection is, but breaks this down into various categories like media type and date of recordings, going as far as making an estimate on how much your audio collection is worth based on media prices. Quite how you value your MP3 collection could be a matter of debate for some. ■

INFO

Grip & DigitalDJ: <http://www.nostatic.org/>
 CD Bakeoven: <http://cdbakeoven.sourceforge.net/>

MySQL: <http://www.mysql.com/>

PostgreSQL: <http://www.postgresql.org/>

GMMusic: <http://gmmusic.sourceforge.net/>