

# gPhoto and gPhoto2

# INSTANT PICTURES



**gPhoto enables you to load photographs from your digital camera onto your Linux system. Whether you want to share them via the Internet or manipulate them in Gimp, Colin Murphy is at hand to show you all you need to know**



makes the development of programs that work with digital cameras so much more challenging.

If you intend to buy and use a digital camera with a Linux system, you should therefore be cautious about what systems you buy. The list of drivers is continually growing thanks to some dedicated souls who spend their time and energy reverse-engineering these for Linux systems. It's very important to check these lists before you make a purchase, to ensure a suitable driver exists. It's also advisable to get first-hand evidence that the drivers work from someone who has successfully run the very make and model you are interested in.

Even assuming your digital camera is supported by a Linux-compatible driver, you'll need an application to pull the photos from the camera and onto your machine. This is where gPhoto comes in. gPhoto falls into two separate projects – gPhoto and gPhoto2, which in turn comes with a slew of front-ends.

The gPhoto developers' original project was gPhoto – a stand-alone graphical application that you can use comfortably from the desktop. gPhoto 0.4.3 has support for 105 camera from many different manufacturers, with Casio QV, Fuji MX and Kodak DC cameras being particularly well supported.

There is another set of digital cameras that can be used with gPhoto even though they are not directly

The sad truth about digital cameras is that many of the manufacturers still hold back on information vital to getting their product to communicate with our computer systems – proprietary code again. This



Figure 1: gPhoto starting up

supported by the program. If your camera can be seen as a USB mass-storage device, then it can be connected to a Linux system. Even though it's not strictly necessary to use gPhoto for this type of camera, you do get some benefits, including features like being able to produce **thumbnail images** and automatic catalogues for Web pages.

## Plug and play

If you've been wise enough to buy a supported camera then all you need to do is plug it in and select the port that you have your camera connected to. These days this will quite often be a USB port. These details can be set in the Select model/port... box, which you can get to from the Configuration drop-down menu. Once you have this entered you can then start to play with the camera and download images.

If you have a camera that is a mass-storage USB device then you need to do things slightly differently. The mass-storage USB device actually mounts the camera (or disk, or whatever you happen to be using) onto a file directory. You then need to put this file directory into gPhoto in order for it to see the camera. This is best achieved by going to gPhoto's File menu and selecting Open Directory. It depends very much on the type of device you have, as to what the directory name will be once you have passed the mass-storage device mount point – and this can cause a problem. Because the directory navigation in gPhoto is not as intuitive as it is in a file browser, for

**Thumbnail images** A thumbnail is a copy of an image but in a much reduced size. Thumbnail images are much easier to deal with quickly, as they load and move much faster than their full size counterparts. The filenames given to images downloaded from cameras are usually just frame numbers, which doesn't give you an awful lot to go on, therefore thumbnail images are a useful visual reference telling you what the file actually is.

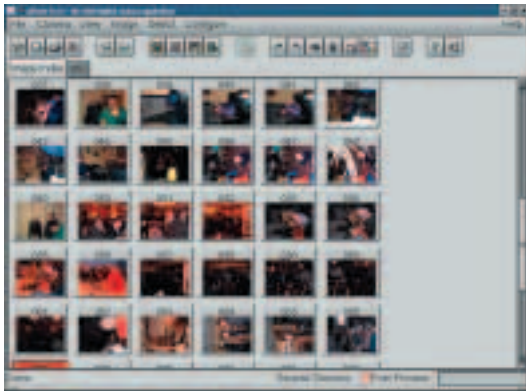


Figure 2: Thumbnail images for you to select from



Figure 3: Colour setting in gPhoto. With a motley group of hackers from FOSDEM

good reason, it is sometimes hard to see where the files lie in the camera. The way around this is to explore the mass-storage USB directory first with a file browser, like Konqueror. In this way you will be able to see a full directory layout and select the appropriate path, which you can then copy into gPhoto's file system.

Once the camera or directory is selected, gPhoto will start to download images and show them to you as thumbnails, as you can see in the Figure 2. You now have the option of selecting from these thumbnails and having the full-sized file copied over. Once you have the full file copied you can then start to make small adjustments to it, such as adjusting the colour balance (Figure 3).

Depending on whether or not your camera supports such delights, you might also be able to move and remove files in the camera, as well as operate the camera remotely and, with some, even use it as a webcam.

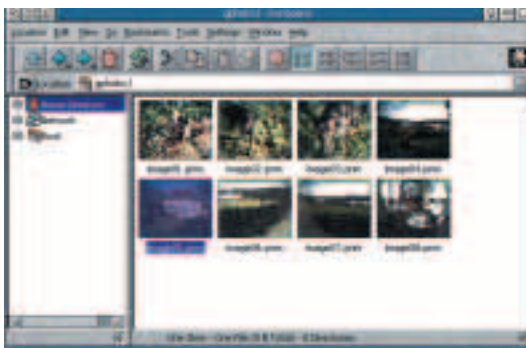


Figure 4: Here we see how Konqueror has embedded Gphoto2 applications

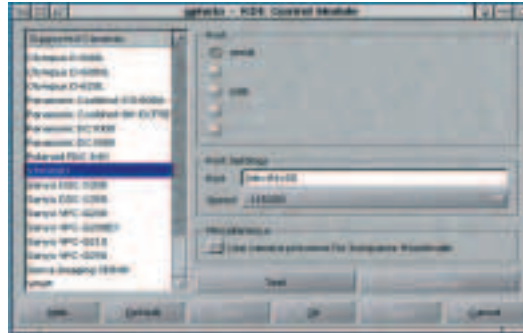


Figure 5: Kamera with a small, but ever-growing list of supported cameras

## gPhoto2

gPhoto2 is a new departure for the project, with development concentrating on bringing together a comprehensive set of libraries so that others can concentrate their efforts on writing graphical front-ends for it. gPhoto2 can be used from the command line however, without the need for one of these graphical front-ends. This allows you the luxury of automating processes that you might have to do repeatedly. What you lose in colour you gain in control.

Entering a command like:

```
# photo2 --list-cameras
```

returns the facts:

```
Number of supported cameras: 183
Supported cameras:
  "AEG Snap 300" (TESTING)
  "Agfa CL18"
```

and so on.

Concentrating purely on the libraries needed also has the benefit that any graphical front-ends for gPhoto2 need not actually be front-ends at all. The real advantage is that the application can now be embedded into existing utilities, most usefully file browsers, so that you can just plug in your camera and browse away. Examples of this type of development can be seen in Figures 4 through 6.

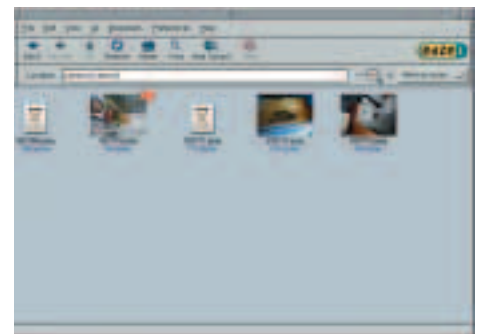


Figure 6: Nautilus browsing the files directly on the camera

## Info

**gPhoto and gPhoto2 homepage**

<http://www.gphoto.org>

**Help with USB and the mass-storage devices**

<http://www.linux-usb.org/USB-guide/x498.html>

**Help with mass-storage device cameras**

<http://www.harald-schreiber.de>

**Kamera gPhoto2 front-end**

[www.thekompany.com/projects/gphoto/](http://www.thekompany.com/projects/gphoto/)

**GnoCam**

<http://rzstud1.rz.uni-karlsruhe.de/~urc8/GnoCam>