

Organizing digital photos with Shotwell

THE ARCHIVER

The Shotwell image manager automates the process of organizing photo collections while also protecting digital negatives. **BY KARSTEN GÜNTHER**

To organize the flood of images that today's digital cameras produce, you need a competent piece of software, and a newcomer called Shotwell [1] has recently made a name for itself. Previous versions of Shotwell offered by the distribution repositories (typically v0.5) had very few features; in fact, you couldn't even import PNGs – not to mention DNG (digital negative) or RAW formats – until v0.6. Version 0.6 was available when this review was written, but Ubuntu 10.10 has

since delivered v0.7.2 as its default image manager, and v0.8 came out in December 2010. If you don't find Shotwell in your distribution's repository, check out the "Setting up Shotwell" box for more information.

Importing Images

Shotwell supports PNG and JPEG, but not BMP, GIF, or TIFF files. Limited support for the RAW format lets you view the image as a JPEG, but you can only export edited images as 8-bit JPEG or

PNG. Video formats supported by GStreamer are also supported in Shotwell. Shotwell manages the information from the (Exif) tags, as well as any keywords

added by the user in a database. In contrast to other image management programs (e.g., digiKam), Shotwell doesn't change the images it manages; it doesn't even copy them to a special directory unless you tell it to do so. Management with Shotwell is a completely virtual process, although you do have the option of transferring the images to the database directory. During the import process, Shotwell asks what you would like it to do (Figure 1).

When Shotwell reads the images, it evaluates the date stored in the image metadata then uses the date to create events whose names match the dates in question. Events are created each time Shotwell reads a file, so two imports (e.g., photos from two cameras taken on the same day) will create two events [4]. The events are listed in the sidebar on the left. As of v0.6, importing runs in the background. After completing the import process, Shotwell provides a status report (Figure 2). In v0.8, newly created files are automatically imported. Shotwell reads images from arbitrary directories (e.g., from cameras mounted as storage devices). Additionally, it will read images from any camera supported by the gPhoto2 library.

During the import, Shotwell creates thumbnails of all the pictures in two sizes and stores them in the database directory. This process can consume several megabytes of disk space, and you should probably exclude these files from your backup process. Note that Shotwell stores the thumbnails in a hidden `~/.shotwell` folder. The program settings are stored in GConf files (XML format) below `~/.gconf/apps/shotwell`.

When importing images, Shotwell can easily trip up if a directory with images also contains other data. In many cases, Shotwell will simply stop importing. The same thing applies to invalid symlinks. The only remedy is to remove any confusing files up front. Shotwell relies on UFRaw to import digital negatives or



Figure 1: Shotwell can copy or link an image. If it's in the Pictures directory, it's automatically linked.



Figure 2: The process of importing images into the database ends with a status report.

Listing 1: PPA Configuration

```
$ sudo add-apt-repository
  ppa:yorba/ppa
$ sudo apt-get update
$ sudo apt-get install shotwell
```

Listing 2: Package Installation

```
$ sudo apt-get install libdbus-glib-1-dev libgconf2-dev valac libgee-dev
libgstreamer0.10-dev libgtk2.0-dev libgudev-1.0-dev libexif-dev libjson-glib-dev
libgphoto2-2-dev libsoup2.4-dev libxml2-dev libsqlite3-dev libunique-dev
libwebkit-dev
```

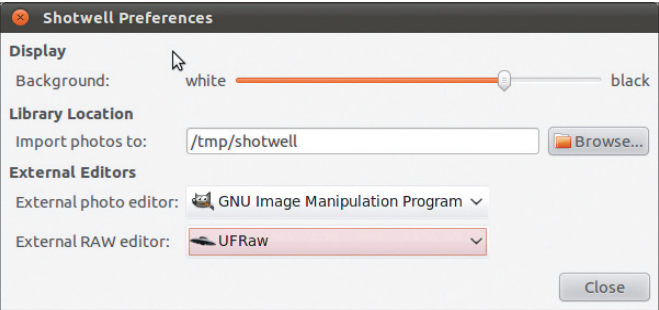


Figure 3: The Preferences section lets you choose the parameters for importing RAW formats.

RAW data and thus supports nearly all current and most older cameras. The RAW converter provides very granular control over the image conversion process. Shotwell does use some preset values that don’t exploit the potential offered by UFRaw, but you can modify these settings in *Edit | Preferences*, or

(Figure 4). The slider at the bottom right changes the thumbnail size; double-clicking an image takes you to single-image mode. Again, you can use the slider to change the image size. The program also shows other controls for manipulating the image in this mode.

The metadata stored in the images (typically as Exif tags) with information on the date taken and exposure settings are displayed bottom left in the main window. You can also add keywords (tags) and then group items by these tags, which also appear in the sidebar below the entry itself. This and other functions can be controlled using keyboard shortcuts (Table 1).

As mentioned earlier, Shotwell will group images with contiguous time-stamps in events. The software automatically creates these events and displays them in the sidebar. You might see multiple events occurring for one day if the gap between the photos is big enough. If you choose a longer period, such as a

choose another program for the import (Figure 3). The process for importing directly from a camera with gPhoto2 support [5] is similar. When launched, or after import, Shotwell displays an overview of all known images

month or a year, Shotwell will show you exactly one image for each event. The first photo is the default (Figure 5), but you can right-click an image to make it the key photo for an event.

You can also define your own events by selecting the required images manually and pressing Ctrl + N to group them. The new event then appears in the overview along with the automatically generated events in chronological order. You can then use the context menu to assign an intuitive name to the event.

Tags are easier to remember than dates, and you can assign a tag to each image, but Shotwell provides only rudimentary functionality for doing so. You can assign new tags to selected images in the context menu and remove or modify existing tags. Shotwell also supports multiple tags per image, but does not support auto-completion, which means you need to type tags in full. Shotwell does not support tag hierarchies, which would be useful for grouping. You can also “rate” images if you wish, although v0.6 gave me only two options: *Bookmark* and *Hide*. Version 0.7 added one-to five-star ratings. With Hiding, the image disappears, but you can view it by selecting *View | Hidden photos* (Table 1). A filter lets you view only photos with a specific star rating or better.

Image Manipulation

Shotwell supports non-destructive editing, which means you always keep the original image; the changes are simply

Table 1: Keyboard Shortcuts

Shortcut	Function
Ctrl+I	Import images
Ctrl+Shift+E	Export images
Ctrl+P	Print images
Ctrl+Shift+P	Publish images (web albums)
Ctrl+B	Use image as wallpaper
Ctrl+Enter	Open image in an external program
Ctrl+Shift+M	Open image in file manager
Ctrl+N	Define new event
Ctrl+T	Add tags
Ctrl+M	Modify tags
Ctrl+Shift+I	Display image information
Ctrl+Shift+X	Display extended image information
Ctrl+F	Bookmark image
Ctrl+Shift+F	Display bookmarked images only
Ctrl+H	Hide image
Ctrl+Shift+H	Show hidden photos
F2	Rename image
F5	Slideshow
F11	Full-screen mode
Del	Delete image
Ctrl+Q	Quit Shotwell

Setting Up Shotwell

The Shotwell installation guide [2] has instructions for installing v0.8.1 for Ubuntu 10.10 and v0.7.2 for Ubuntu 10.04 from the developer PPA (Listing 1) or from source for earlier versions of Ubuntu. Downloading the source code requires you to install several developer packages. On Ubuntu 10.04, you can install these packages using the command in Listing 2. You will also need to build libraw and gexiv2 from source, because they're not

currently included in the “Lucid” repositories. Users on Ubuntu 9.10 (“Karmic”) cannot use the valac and libgee-dev versions from the distribution repositories because they are simply too old. The Shotwell website recommends setting up the two packages directly from the Vala team’s PPA [3]. After you’ve resolved these dependency issues, you can download, unpack, build, and install the source code.

Future

The Shotwell roadmap [6] looks extremely promising. The developers promise the integration of GEGL, and they want Shotwell to identify image folders automatically and thus register new images whenever launched.

The ability to evaluate geotags and an automatic face-detection feature could also help users catalog images in future. The slideshow will benefit from configurable transitions and the ability to add background music. Shotwell supports Ogg,

QuickTime, MP4, and AVI container formats; Theora, QuickTime, MPEG-4, and Motion JPEG codecs; and the 3GP view format common on mobile devices.

As of v0.8, you cannot view video directly in Shotwell. It launches an external video player. Version 0.8 added a command-line option, `-d`, allowing Shotwell users to choose a different database than the default. Migrating F-Spot databases and albums was possible as of v0.7.

stored as instructions in the database. To tell Shotwell to create new files for manipulated images, you must explicitly export them in *File | Export...*

The software has very few tools, and they are not in the same league as the

tools offered by, say, GIMP or digiKam. For example, rotation is restricted to 90-degree steps, and the color and exposure tools are limited. The positioning of the tools also seems illogical: Five are at the bottom of the screen in single-image

mode, and two others are available in the *Photo* view.

The simple controls and the program's quick response to changes make working with Shotwell a fast experience, and automatic image correction works well. However, you need a workaround to scale images: When you export an image, the software lets you manually define the (reduced) target size, and the quality, for JPEGs. You can then reimport the image to your database.

Pressing `Ctrl + Enter` lets you pass the current image to an external program like GIMP, where you can access a full set of image manipulation tools. However, you can only do this for a single image, and using an external program invalidates the concept of non-destructive editing.

Conclusions

Shotwell mainly lacks the ability to network various image search criteria. Although the application lets you find bookmarked images from an event, this feature doesn't work if you have hidden the photos.

The program also lacks an option for navigating from an image in one event to the group and thus to other images taken at the same time. Shotwell's printing function only gives you one image per page, whereas other programs offer considerably more.

I still like Shotwell because of its good desktop integration, easy controls, and frugal use of resources. And, development is going full steam; if the developers keep up the good work, users will see some interesting changes (see the "Future" box). ■

INFO

- [1] Shotwell overview: <http://gnomejournal.org/article/99/shotwell-photo-manager>
- [2] Installation guide: <http://www.yorba.org/shotwell/install/>
- [3] Vala PPA: <https://launchpad.net/~vala-team>
- [4] Automatic events in Shotwell: <http://trac.yorba.org/ticket/139#comment:25>
- [5] gPhoto2: <http://gphoto.sourceforge.net/proj/libgphoto2/support.php>
- [6] Shotwell wiki: <http://trac.yorba.org/wiki/Shotwell>



Figure 4: The main Shotwell window shows you an image overview when launched.

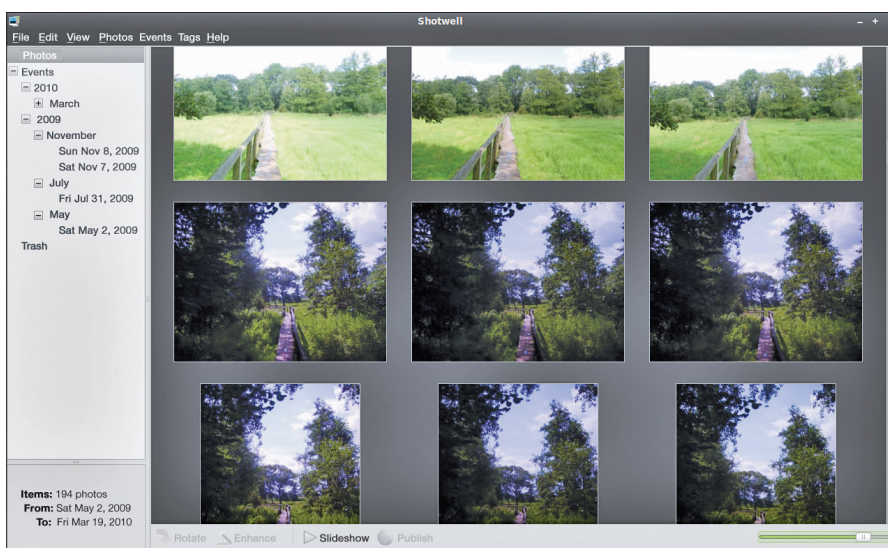


Figure 5: Below the image viewer are the number of pictures for an event and statistics.