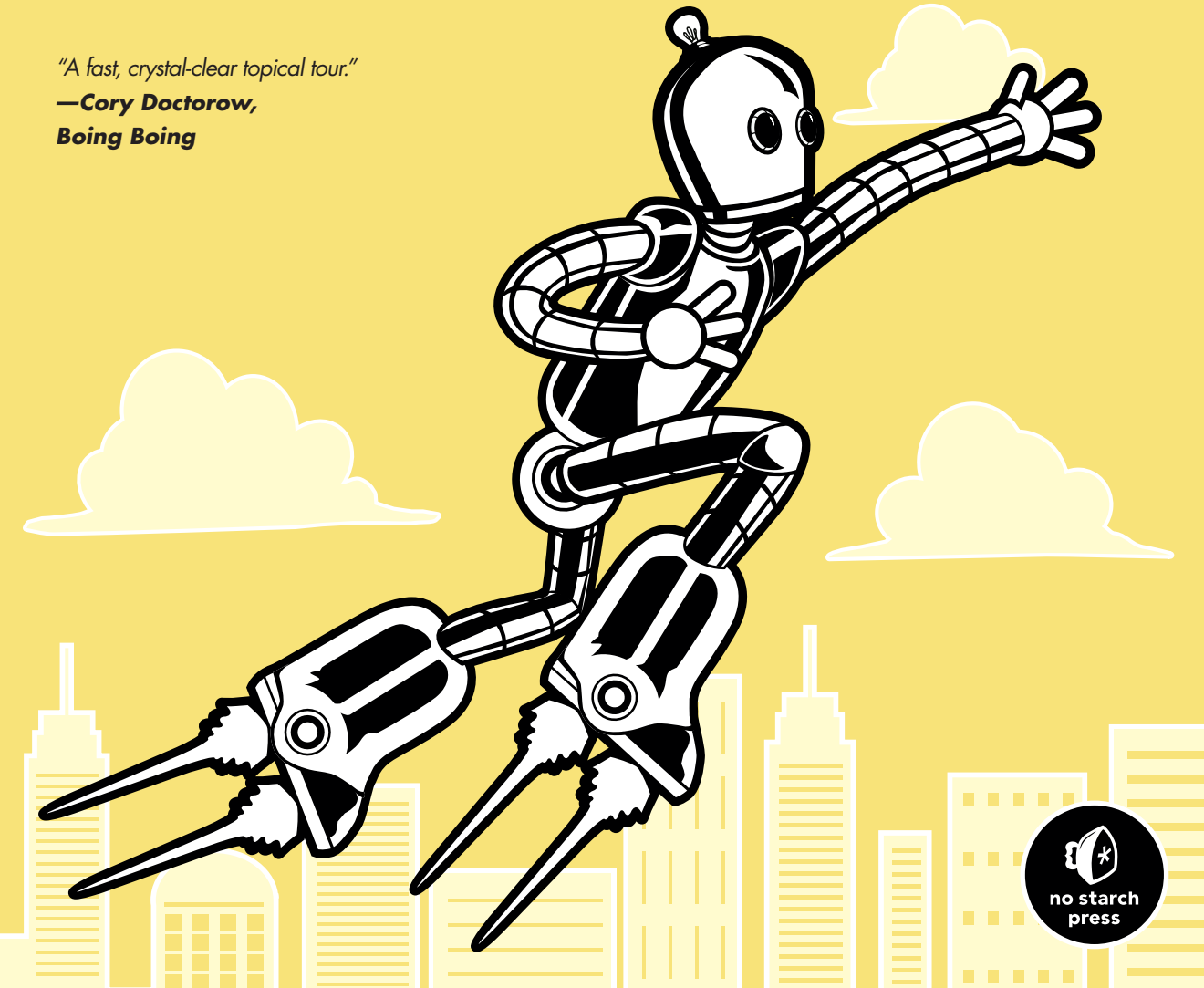
COVERS UBUNTU 12.04

UBUNTU MADE EASY

A PROJECT-BASED INTRODUCTION TO LINUX

RICKFORD GRANT WITH PHIL BULL

"A fast, crystal-clear topical tour."
—Cory Doctorow, Boing Boing



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RIGHT-BRAIN PENGUINS

Linux Does Art

Now that you know you can get down to business in Linux, it is time to don that beret of yours and address the artistic side of things. Yes, Linux does art, and as you will soon find out, a good number of programs on your system allow you to create and manipulate graphic files. These days, however, there is perhaps nothing so important to most users' graphical repertoires as their digital cameras, so that is where we'll begin.

Where the Apps Are

The majority of apps in this chapter can be run from the Dash by clicking the Applications lens and then clicking the **Graphics** filter button. Exceptions are noted in the relevant sections. As with all applications, you can also run an app by typing its name in the Dash's search box and then pressing ENTER.

Project 13A: Importing Images from Digital Cameras

Although scanner support for Linux can prove a bit spotty, support for digital cameras is practically a worry-free affair. In fact, Ubuntu pretty much treats your camera as if it were an external hard drive or flash drive plugged into your computer's USB port (which is pretty much what it is). And even if your camera doesn't seem to communicate with your computer when connected directly, you can still transfer your images to your hard disk by removing the memory card from your camera, inserting it into a USB flash memory card reader, and plugging that reader into one of your computer's USB ports.

13A-1: Importing Images from Camera to Computer Somewhat Automatically via Shotwell

When you connect your camera to your computer via a USB cable, put your camera in play mode, and power it on, Ubuntu will usually automatically recognize it and open a window that asks how you want to import the photos on the camera. To import the photos via the photo manager application Shotwell, select the **Shotwell** option in the drop-down menu button, as shown in Figure 13-1, and then click **OK**.

Figure 13-1: Ubuntu recognizes your camera and asks you how to proceed.

After that, here's what you need to do:

1. In the window that appears, you will see thumbnails of all the photos on your camera. You can import all of the photos that appear by clicking the **Import All** button in the bottom right corner of the window. However, if you prefer to copy only some of the images, you can do so by holding down the CTRL key and then clicking the images you want to import, as shown in Figure 13-2. Once you've made your selections, click the **Import Selected** button.

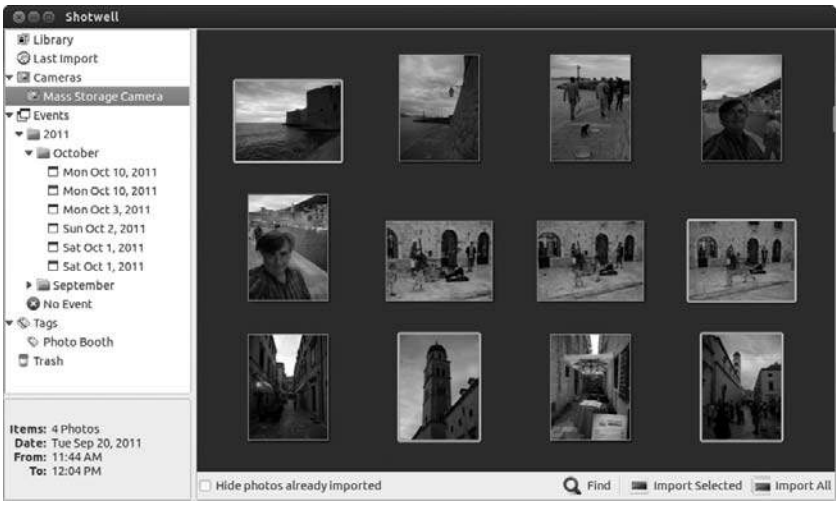

Figure 13-2: Selecting which photos to import from your digital camera via Shotwell photo manager

2. Shotwell will save your photos to a dated subfolder in your *Pictures* folder. Once it is done importing the images from your camera, it will tell you so in an Import Complete window, where it will also ask you what you want to do with the photos still in your camera. If you want to keep them there for the time being, click the **Keep** button. If you would prefer to clear up space on your memory card by deleting the images, click the **Delete** button.

The time it will take to import and delete photos from your camera or storage card will vary depending on the number of images on the card. Once the process is complete, however, you will be able to view them all within the main Shotwell window, as well as work with them further, a topic I'll discuss later in this chapter.

13A-2: Transferring Images from Camera to Computer via the File Manager

You can also use the file manager to import photos from your camera, if you prefer. If you happen to have digital movies on your camera's memory card in addition to digital images, then you'll have to go this route (for the movies at least) since Shotwell imports only images. The process for doing this starts pretty much the same as that in Project 13A-1, albeit with a slight twist. Here's how you do it:

1. Plug your camera into one of your computer's USB ports and put your camera into play mode. Within seconds, a window like that in Figure 13-1 will appear. In that window, select **Open Folder** in the drop-down menu button (instead of Shotwell) and then click **OK**.

2. A file manager window will appear, revealing the contents of your camera's storage card. An icon for your camera (looking like a USB drive) will also appear under Devices in the side pane of that window and any other open file manager window (Figure 13-3). And a message will appear at the top of the window telling you that the device you have connected contains digital images, along with a button that you can click to import the images with Shotwell. Since we covered that method already, you can ignore it for now.

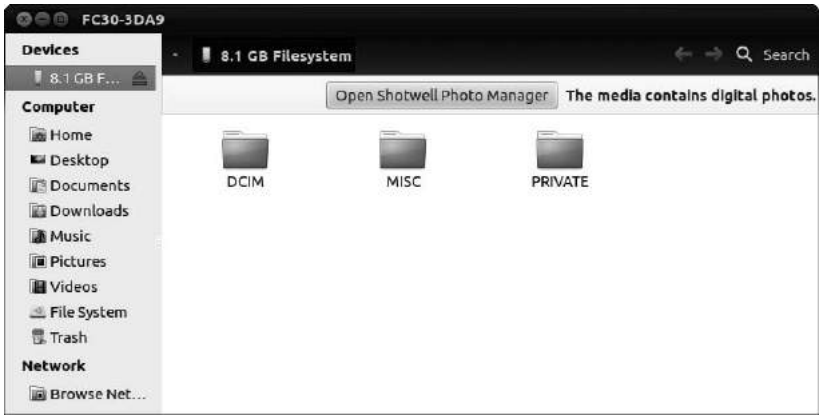

Figure 13-3: You can also drag and drop photos from your digital camera as if it were a USB drive.

3. Double-click your way through the folders on your camera until you find the photos you want to import.
4. Drag and drop, or copy and paste, the images from your camera to any logical spot in your Home folder.
5. When you're done transferring photos, you can click the eject icon next to the entry for your camera in the left pane of the file manager window, or you can just turn off your camera. The file manager window that opened automatically will close, and your camera's entry will disappear from the side pane of any other open file manager windows.

Project 13B: Working with Digital Images in Shotwell

Shotwell not only imports images from your camera to your computer but also acts as a handy photo-organizing, browsing, viewing, and publishing tool, allowing you to easily send images via email without fiddling around with attachments. It also lets you just as easily publish photos to popular online sites such as Facebook, Flickr, and PicassaWeb. In addition, Shotwell serves as a simple photo-editing tool, allowing you to enhance; rotate; crop; remove red-eye from; and adjust the exposure, temperature, and saturation

of a photo (Figure 13-4). Just double-click the photo you want to edit and then click the appropriate buttons that appear at the bottom of the window. You can pretty much learn by fiddling around; all the tools are pretty straightforward.

Figure 13-4: Shotwell provides you with basic but useful photo-editing tools.

13B-1: Publishing Images to Online Albums and Galleries

As I mentioned, Shotwell allows you to easily publish images to numerous online sites, much in the way that Windows Live Photo Gallery does. The method I show here for Facebook is essentially the same one you use for the others, and they're all pretty simple. Here's what you need to do:

1. In the Shotwell window, select the photos you want to post online by holding down the CTRL key and clicking each of the photos you want to publish.
2. Once you've made your selection, click the **Publish** button at the bottom of the window. A window like that in Figure 13-5 will appear.
3. The default online site selected in this window is Facebook. If you would like to upload photos to Flickr or PicasaWeb, select that site in the drop-down menu button at the top right of the window. Once you've done that, click the **Login** button.
4. The login page for the site you've selected will then appear in the window (Figure 13-6). Fill in your login information and then click the **Log In** button (or equivalent for the other online sites).
5. In the case of Facebook, you will then be asked to name the machine you are logging in from. Once you have done that, you will need to allow Shotwell to access your Facebook information, something you'll need to do whenever you log in from a new machine.

Figure 13-5: Publishing images to online sites such as Facebook via Shotwell

Figure 13-6: Logging into Facebook via Shotwell

6. Once you have done all that, you will be asked to choose an album in which to publish the photos you've selected or to create a new album (Figure 13-7). Make your choices and then click **Publish**.
7. Once Shotwell has completed publishing your photos, it will tell you so, and you can then click the **Close** button. You can then go to your online gallery via your web browser to see the results.

Figure 13-7: Deciding which Facebook album will hold your photos via Shotwell

13B-2: Sending Images by Email via Shotwell

Emailing images via Shotwell is just as easy as publishing images to Facebook—perhaps even easier. It's certainly much easier than having to manually prep the photos as attachments. Assuming you have your Thunderbird set up for sending email as you learned to do in Chapter 5, here is all you have to do:

1. In the Shotwell window, select the photos you want to email by holding down the CTRL key and clicking each photo.
2. Right-click any of the photos you have selected and then select **Send To** in the pop-up menu. A window like the one in Figure 13-8 will appear.

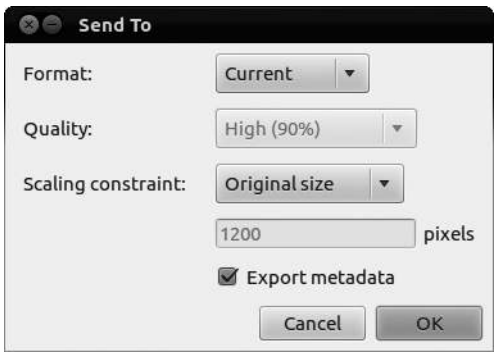

Figure 13-8: Emailing photos made easy with Shotwell

3. Here you can change the size of the photo(s) you are about to send by adjusting the scaling constraints and maximum pixel dimensions. When you're finished, click **OK**.
4. In the next screen that appears, enter the email address of the person you'd like to send the image to, then click **OK**. An email message will then appear, and the photos you selected will be attached. You can write whatever message you like in that window and then send the email just as you would any other. Simple and sweet!

13B-3: Organizing Your Photo Collections with Tags

As your photo collection grows and grows, it can get tough to sort things out and find exactly what you need. Fortunately, Shotwell can make this a bit easier through the use of *tags*. Tags are categories that you create yourself and then apply to whatever images you want in order to organize your collection thematically. You might, for example, create tags for each of your family members, or you might just create a broader tag for *Family*. You could create tags for cities and countries you've visited, providing categories and subcategories for your travel pics. The choices and combinations are endless, and you can decide what they are all are. Once you've applied these tags to your photos, narrowing down your photo searches will be much easier.

The first step is to create a few tags. This is easily done by right-clicking an image and selecting **Add Tags** in the pop-up menu. A small window will appear in which you can just type a single tag or, to kill two birds with one stone, whatever other tags you want to assign to the photo (Figure 13-9). Just be sure to separate each tag with a comma. Once you're done, click **OK**, after which the tags will appear both under the thumbnail and in the left pane of the window.

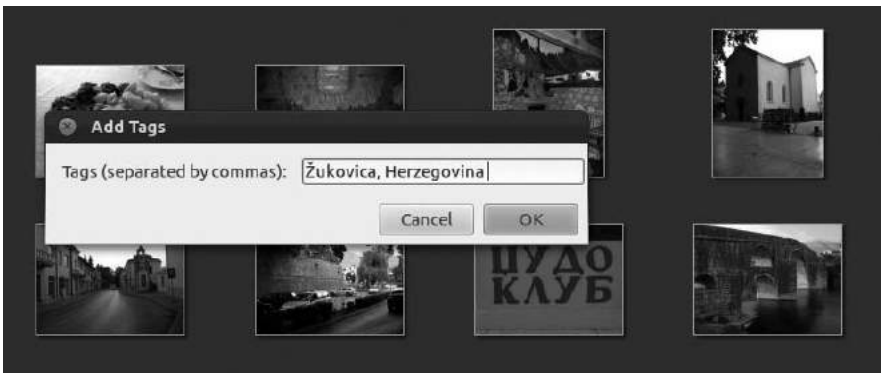

Figure 13-9: Creating tags in Shotwell

Once you have tags in the left pane of the Shotwell window, adding those tags to other photos is a cinch. Just drag a thumbnail to one of the tags and release your mouse button, and the image will be tagged. If you want to add a second tag, just drag the thumbnail to that tag as well. Once you are done tagging your images, they will be far easier to sort, as you can see in Figure 13-10.

Figure 13-10: Using tags in Shotwell to make dealing with hefty photo collections much easier

Searching for images by tag is perhaps even easier than adding the tags to the images in the first place. Let's say you wanted to find all of your images that you tagged as *Europe*. You would just go to the left pane and click **Europe**. All of the images that were tagged in that category would then appear in the right pane. Sweet.

A Few Other Graphics Apps to Consider

In addition to the graphics applications that come bundled with Ubuntu, still more are available. You can grab all of them via the Ubuntu Software Center. Although you can experiment with what's available, I will point out a few worth noting. If nothing else, these applications will give you an idea of the breadth of stuff out there waiting for you.

RawTherapee

RawTherapee is not some solution for what ails your troubled soul but rather a handy application that allows you to manipulate RAW image files. RAW image files are images that have not been processed by the on-board conversion software in your camera that converts the data it receives from the sensor into a format that your computer is able to deal with (usually JPEG files). For most people, JPEG images work just fine, but many photographers who want to have the best quality results after making adjustments to their images on their computers save their files in RAW image format, or RAW mode. While not all cameras have the option to save files in RAW mode, many advanced amateur and professional camera models do.

Once you load RAW image files onto your computer, the thumbnails for those files will appear as black rectangles. That's because they are essentially blobs of raw data that neither you nor your computer on its own can make heads or tails of. In a sense, they are a digital equivalent of photo negatives.

This is where RawTherapee comes in (see Figure 13-11). Once you open your RAW files with RawTherapee, you will be able to see what they actually look like and then go on to adjust them to your heart's content, usually with much better results than you would get if working on JPEG files. Once you have made your adjustments to the RAW files, you can save them into other, more universally compatible file formats, such as JPEG, while retaining the original RAW file for future use.

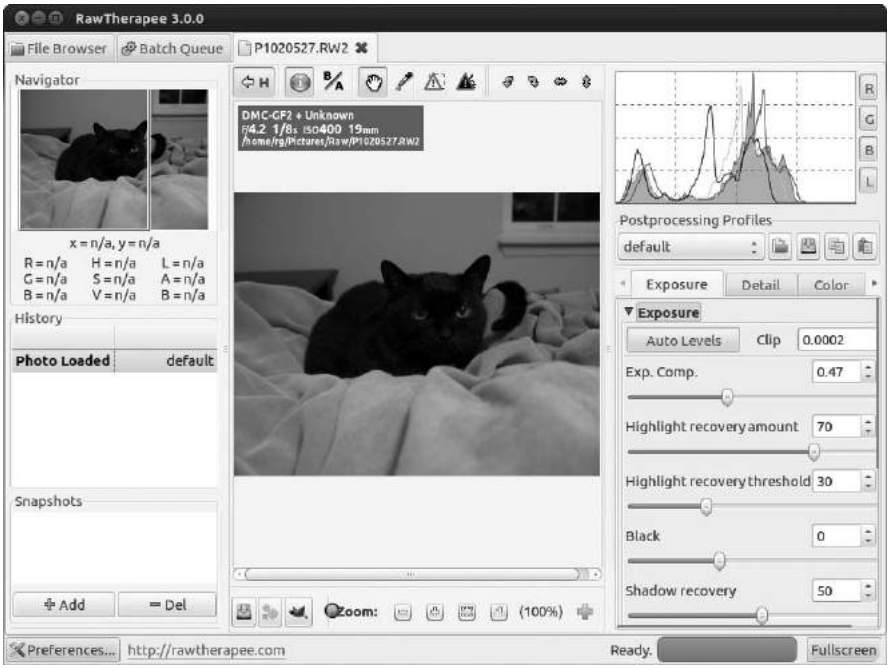

Figure 13-11: Working with RAW images in RawTherapee

Getting Arty with the GIMP

The Windows and Mac worlds may have Photoshop, but the Linux world has the GIMP (see Figure 13-12). Although arguably not as fully featured as Photoshop, the GIMP is a powerful contender, which may explain why it has been ported to both Mac and Windows. The GIMP allows you to create bitmap graphics and, importantly, retouch or completely doctor image files. With the GIMP you can get rid of red-eye in your digital photos, airbrush out unwanted shadows (or even facial blemishes), give your image a canvas texture, change a photo into an oil painting, and even add a bell pepper here and there—with drop shadows no less.

Because not everyone needs or uses the features of the GIMP, the powers that be decided to no longer bundle it on the Ubuntu Desktop CD, thus freeing up space for more frequently run applications. Pity though that might be, you can still install the GIMP via the Ubuntu Software Center.

Figure 13-12: Manipulating a digital image in the GIMP

Using the GIMP to Resize Images and Convert File Formats

The GIMP's main strength is in retouching photos. It is also a handy tool for resizing images. You can do this by simply right-clicking an image opened in the GIMP and then selecting **Image ▸ Scale Image** in the pop-up menu. This will open the Scale Image window, where you can set the new size of the image.

The GIMP is also an excellent tool for converting images from one file format to another. You can, for example, open a bitmap (*.bmp*) file and save it as a PNG (*.png*) file, save a JPEG (*.jpg*) file as a GIF (*.gif*) file, and so on. Although this can also be done with other graphics applications, including Shotwell, the GIMP supports an extremely wide variety of file formats, and it even lets you save an image file as a compressed tarball, which makes it a true file conversion king.

To perform a file conversion, just right-click an image opened within the GIMP and then select **File ▸ Save As** in the pop-up menu. You can make the same selection from the File menu if you prefer. Either way, the Save Image window will then appear. In that window, you can specify the new file format by replacing the original file extension in the Name box at the top of that window with the extension for the format you want to convert the image to. If you're not sure what formats are available to you, click the small arrow to the left of the words *Select File Type (By Extension)* at the bottom left of the window and then choose from the options in the pane that appears below. To save a work in progress, use the GIMP-native XCF format so that you can continue working on the image later.

Learning More

It's lots of fun to learn to use the GIMP by just playing around with it for a while. To get you started, most of the fun stuff is located in the Filters menu of any image window. Of course, you should make a backup copy of any file you are planning to experiment with before you alter it.

If you prefer learning via manuals and tutorials to just goofing around, you can download and install the GIMP User Manual via the Ubuntu Software Center by searching for *gimp-help-en* and then installing **Documentation for the GIMP (English)**. Once it is installed, you can access the manual from within the GIMP from the Help menu. You can also view the manual online at *http://docs.gimp.org/en/*, and you can find a series of tutorials at *http://www.gimp.org/tutorials/*.

Phatch Photo Batch Processor

While the GIMP and Shotwell are quite capable of handling the vast majority of your photo-organizing and editing chores, they lack an easy-to-use batch file conversion method that allows you to apply various conversions to a group of files at the same time. For example, let's say you want to convert 100 of your photos so they look like black-and-white snapshots with white borders, are 50 percent smaller than the originals, have a similar thematic filename, and are saved in *.tiff* rather than *.jpg* format. Applying all these changes one by one would be excruciating. Fortunately, Phatch comes to the rescue! (See Figure 13-13.)

Figure 13-13: Batch photo file conversions with Phatch

Using Phatch is easy—and quite a bit of hocus-pocusy fun. However, its interface might not be obvious for a first-time user. With that in mind, here is a brief rundown on how to use Phatch:

1. Click the + button in the main Phatch window, and the Phatch actions window will appear.
2. In that window, select the action (conversion) you want to apply to your photos and click **Add**. Repeat this process for any other actions you want to apply.
3. Once you have added all the actions you want, click each action in the main Action List and enter the appropriate parameters for each action (size, file format, size of border, output location, and so on).
4. If the actions are not listed in the order you want them to occur, click the action you want to move and change its position using the up and down arrow buttons.

5. Once everything is ready, save your Action List with a meaningful name by going to the Action List menu at the top of your screen and selecting **Save**. This way, you can use it again if need be.
6. Next, click the Execute button (the one that looks like three gears).
7. In the window that appears, select your conversion parameters, making sure to select whether you are converting a whole folder full of files, selected files, or whatever it is you have in the clipboard. I would suggest unchecking the box next to the words *Overwrite existing images* so that you keep your original images intact (Figure 13-14).

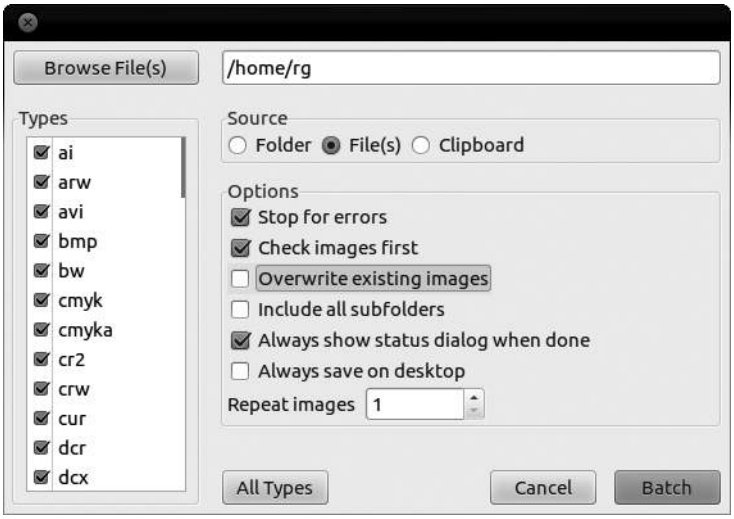

Figure 13-14: Setting your final conversion parameters in Phatch

8. Once you have made your choices, click the **Browse Folder**/**Browse File(s)** button and then select the folder of files or individual files you wish to convert. Once you have made your selection(s), click **Open**.
9. You will now be back at the window where you selected your parameters. In that window, click the **Batch** button.
10. Another window will then open showing you which files will be acted upon. Click **Continue** in that window.

Phatch will then perform the conversions listed on your Action List in the order listed. It will show you the progress of its work, and a small window will appear to tell you when it's done. You can see the converted product by clicking **Show Images**. If you failed to choose a destination folder, the newly created conversions should appear in a *Phatch* folder on your desktop.

MyPaint

If you prefer to do your electronic artwork with a graphics tablet rather than with a mouse, then MyPaint is for you. MyPaint (Figure 13-15) is designed to work with pressure-sensitive tablets by Wacom and other manufacturers. Despite its simple interface, it features a never-ending canvas (so you can keep on drawing in all directions until you run out of steam), an extensive brush collection, and even a brush-creation and editing tool. If you need a bit of help getting started, check out the online tutorial (*http://mypaint.intilinux.com/?page_id=3*).

Figure 13-15: MyPaint for Wacom tablet artists

Inkscape

The GIMP, like other so-called paint programs, creates bitmap images in various file formats. In these images, the location and color of every single *pixel* is recorded. Thus, the image is essentially a collection of dots. The file you create is a rather hefty map of these pixels, and this map tells your system where everything in your image is supposed to go when it is displayed or printed.

Vector drawing programs, on the other hand, create vector images, which are actually collections of mathematical formulas representing the various shapes in your image. This may sound arcane, and you may be wondering why you should care. But such drawings have advantages in certain cases. One advantage is that vector image files take up less space on your hard disk than bitmaps. Another, and perhaps the most important, advantage is that shapes in vector images retain their smooth edges when the images are enlarged. A smooth circle created as a bitmap, for example, would begin to show jagged edges ("the jaggies") when enlarged to any extent, while the same circle in a vector image would remain smooth and round no matter how much you increased its size.

If you're interested in giving a drawing program a go, then try Linux's main offering, Inkscape (see Figure 13-16). You can learn how to use Inkscape at the Inkscape home page at *http://www.inkscape.org/*. Be sure to click the **Galleries** link on that page to see examples of what you can create with the program, such as the image shown in Figure 13-16 from *http://focaclipart.net23.net/transporte/*.

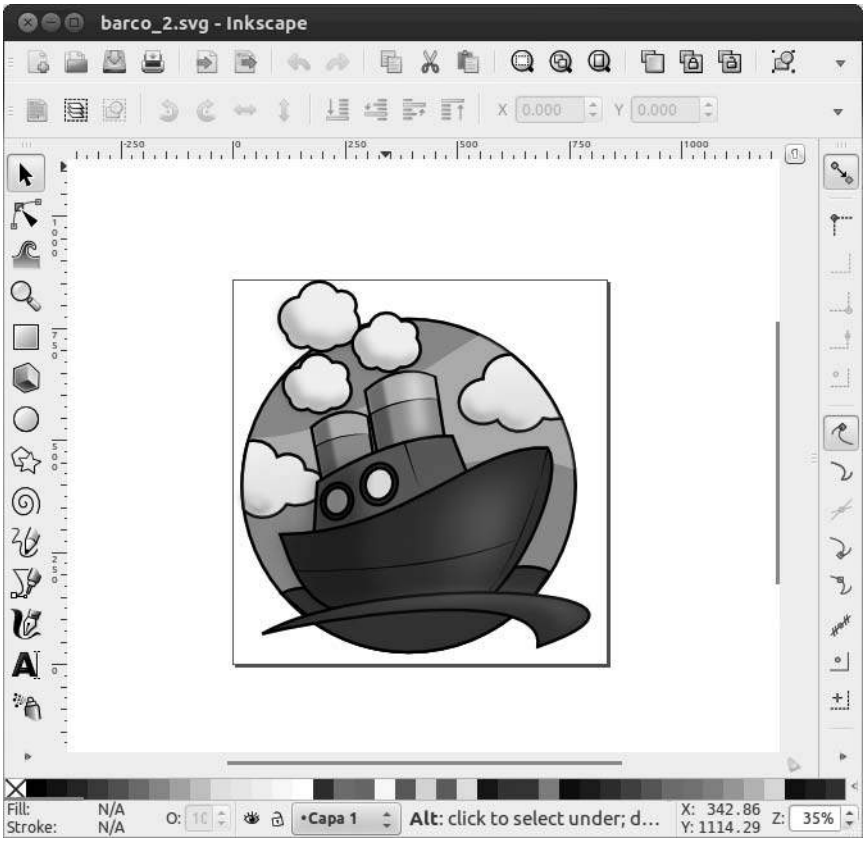

Figure 13-16: Inkscape

gThumb Image Viewer

In earlier editions of Ubuntu, an application called gThumb (Figure 13-17), handy for photo-handling chores, came preinstalled. Some folks wish it still did. It has almost all the same features as Shotwell and a few of its own (such as creating original web album pages and some limited batch conversion capabilities). That said, it all boils down to what you like, and since both gThumb and Shotwell are free and easy to use, there's no harm in trying them both to see which one you prefer.

Figure 13-17: gThumb

Blender

To wrap things up, we turn to Blender, which is perhaps one of the most impressive open source applications available today. Blender (Figure 13-18) is a professional-level 3D modeling, animation, and rendering program. It is rather complex, but that's the source of its power and popularity. (It comes in versions for just about every operating system out there.) If you would like to find out a bit more about Blender before taking the time (and disk space) to install it, go to *http://www.blender.org/*.

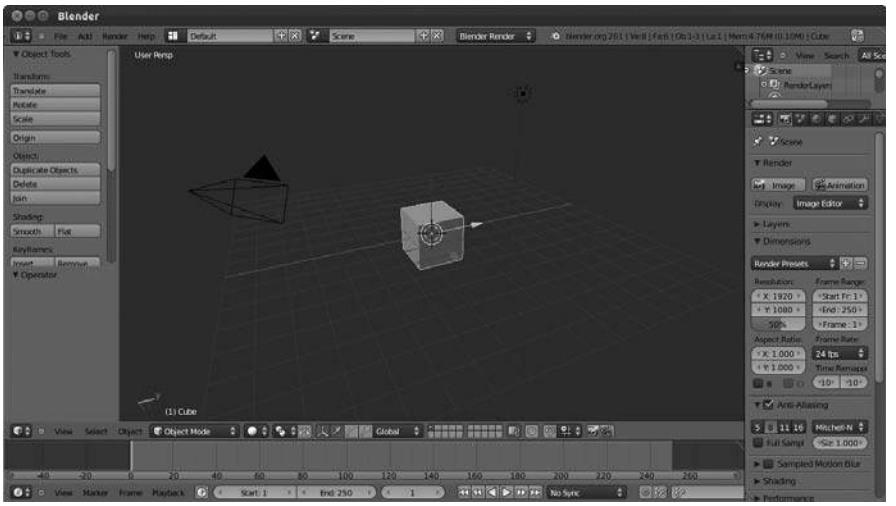

Figure 13-18: Blender