A comparison of image viewers

Images, Images, Images

It seems that whenever you are looking through a photo archive, you tend to try one image viewer after another. And while no two are the same, you eventually go looking for some help in order to make a choice. **BY UTE HERTZOG**

It is no wonder that in certain categories there is an abundance of programs. This includes text editors, address books, or image viewers such as Eye of GNOME, Digikam, PixiePlus, *xv*, *xnview* – the list could go on and on. But even the choice of programs for this article shows how vastly the programs in this category differ.

Although they all achieve the lowest common denominator, that is displaying images in the most common bitmap formats PNG, GIF and for the photography fan, the indispensable JPEG, Digikam fails to make the grade with TIFF and BMP. Only Pixie can handle the WMF format, while *xnview* can display any number of exotic formats. Apart from that, it is up the user to decide which viewers will be useful, depending on the tools they offer, and the problem at hand.

The Eye of GNOME (*http://www. gnome.org/softwaremap/projects/eog*) is a small, compact image viewer for everyone needing a fast, simple viewer.

If you need a slide show or a digital camera control tool, you would probably opt for Digikam. The PixiePlus, *vnview*, and *xv* programs offer most of the functionality you would expect of image editing programs; PixiePlus also provides a file manager function and a less-than-intuitive user interface.

The Eye of GNOME

The award for the most innovative program in this article goes to Eye of GNOME (see Figure 1). This creative award was made however, while ignoring the rule of thumb that almost every program can be started from the command line, simply by typing its name. This article used version 2.2.0 of the Eye of GNOME, which is included in the SuSE 8.2 distribution; the command is *eog &*.

Usually, a suitable entry can be found in the desktop environment menu, (SuSE e.g. *Graphics/View/Eye of GNOME Image Viewer*), but you need to use the command line to open multiple images.

eog *.[Jj][Pp]* & opens all the JPEG files in the current working directory – putting each image and a menu in its own window. This can quickly lead to a cluttered desktop in the case of larger photo albums.

All tools focus on their own windows: the *View* menu with *Zoom In, Zoom Out*, tools for enlarging or minimizing as well as *Normal Size* and *Best Fit* for getting the optimal size for the viewer window. Alternatively, you can access these tools using the appropriate icons on the toolbar. *View/Full Screen* enlarges the image to encompass the entire screen and hide the menu. To return to the previous view hit the [Esc] key.

The *Edit* menu allows you to mirror an image (*Flip Horizontal* and *Flip Vertical*), or rotate it using *Rotate Clockwise* to rotate the image 90 degrees to the right, and *Rotate Counter Clockwise* to rotate to the left.

This still leaves the *Preferences* menu entry. Here you will find the folder tab *Image Viewer* where the *Interpolate image on zoom* setting is enabled. This uses **interpolation** to provide better resolution when scaling images. *Indicate Transparency* sets the background color for transparent images.

The help menu *Help/Contents* gives a detailed description of the (as yet not implemented) **Dither** function, or the interpolation algorithm. It is nice, as a user, to be informed about the intentions of the programmers, although it is a little bit confusing.

Show and (Camera) Selection

Those of you who don't need the functionality of Eye of GNOME when using KDE, can always use the trivial *kview* viewer from the *kdegraphics* package. Fortunately, you don't have to put up with *kview*, as two other quite different programs,

Digikam and PixiePlus, are available, though not installed by default. Interestingly enough, both programs use a traditional three panel approach to the user interface.

When we refer to Digikam (*http:// sourceforge.net/projects/digikam*), we mean version 5.0.1 that comes with SuSE 8.2. Entering *digikam &* at the
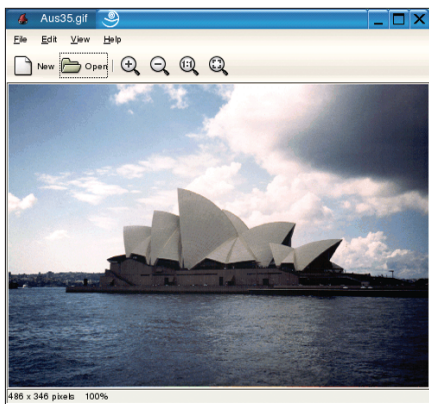
Figure 1: The Eye of GNOME image viewer

command line will start the program. The SuSE distribution places Digikam in *Multimedia/Video/Digikam*, for some unknown reason, rather than grouping it with the other image viewers.

The program reads digital photos from a camera, but not from video cameras, and displays information on the plug-&-play hardware it has recognized below the directory in the lower left part of the main window (see Figure 2).

A new camera can be configured using *Configure/Setup* and the *Camera Settings* tab, where you will discover a large selection of supported camera models. *Camera* allows you to connect to the camera. You can use the menu to download photos from (or upload to) the camera – either all of them, or those selected using the [Ctrl] or [Shift] key in conjunction with the left mouse button.

Digikam organizes images in albums that you can create using *Album/New Album*. By default, Digikam assumes your home directory as the standard directory. You can easily change this setting using the menu entry *Configure/Setup/General Settings* in the *Set Album Path* field. After copying

GLOSSARY

Interpolation: *recalculates the surrounding pixels when enlarging an image. The result can be an image with a higher resolution, but with a weaker color depth.*

Dithering: *Images with a lower number of colors tend to have harsh step artifacts in color gradients. The dithering tool reduces this undesirable effect by using a smaller grid to smooth the color gradient.*

Thumbnail: *A small image used for previewing graphic files, which requires less memory and can therefore be loaded more quickly.*

images in the usual graphical formats to this directory (and selecting the directory), **thumbnails** are shown in the right-hand panel of the window, and unlike Konqueror, Digikam suppresses all non-graphic files.

If you only see small squares instead of images, then deactivate the option *Pause Thumbnail Generation* in the *Albums* menu; this is the default setting when opening a directory with a lot of graphic image files.

As generating images requires a lot of computer resources, the computer might hang. The *Configure/Setup/General Settings* menu entry (see Figure 3) allows you to adjust the thumbnail size, amongst other things.

When you double click a thumbnail, Digikam displays the original size image, using the built-in viewer, if the option *Use Inbuilt Image Viewer* in *General Settings* is enabled. Alternative viewers can be chosen, for example *PixiePlus*, *KIconEdit*, *Kuickshow* or *Kview*.

Album/Delete Album deletes the selected directory. But be careful: even if there is nothing on display in the right-hand panel, it doesn't necessarily mean that the directory is empty.

Like to make a slide show with the images in an album? To do so, select the images you need to entertain your audience, and then click on *Album/Slideshow*. If you don't select any

images, then Digikam will show everything. Clicking on an image during the show will call up a menu with the *Pause* and *Exit* functions. To carry on with the slide show, first hit the [Esc] key and then click with your mouse.

In *General Settings* (see Figure3), you can determine how many seconds to wait before displaying each image, and optionally specify a transition effect that blends the images from top to bottom, when changing images. Would you like to know the name of each image as it is shown? The option *Show Filenames in SlideShow* will display the name either at the top (*At Top*) or bottom (*At Bottom*) of the image.

The Image Viewer as a File Manager

The fact that the programmers of Digikam do not regard the *PixiePlus* image viewer as a competitor – and, as shown above – even allow you to integrate *PixiePlus* as an external viewer is ample evidence that these programs were designed with different tasks in mind. If the program is not included in your distribution (SuSE 8.2 includes version 0.5.0, which we used for the current article), you can download program at *http://www.mosfet.org/pixie/download. html*. Launch the program by typing *pixie &* or use the menu item *Graphic/View/PixiePlus Image Manager*.
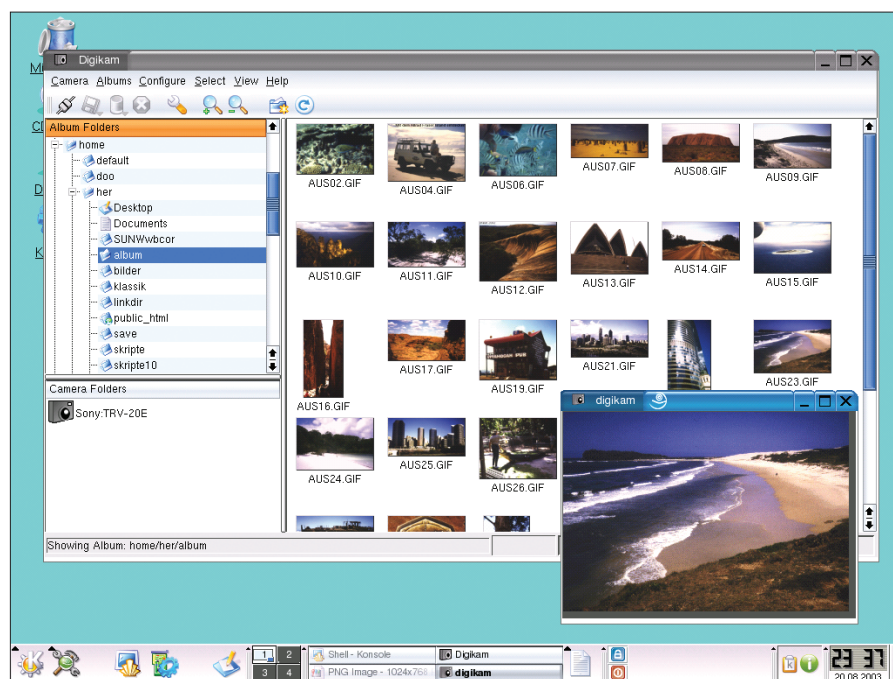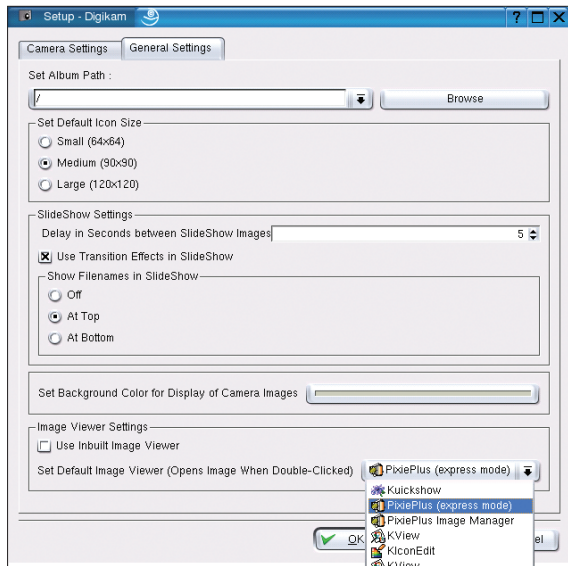
Figure 2: Images as viewed with Digikam

Figure 3: Configuring Digikam

In the upper left hand corner you can use the three folder tabs to locate a directory with the most recently opened files, or your *Hotlist*. The latter contains directories, that you need the most. Thus, you can use the *Edit* menu entry to create a hotlist, much like you would use bookmarks in your browser. As an alternative, you can use the plus symbol in the tab to add entries, or the minus symbol to remove them.

The main menu contains lots of detail. You can enable *View/Link directory tree to browser*, to display directory contents in the panel on the right, when using the navigation bar in the **Folders** tab to switch between different directories. Pixie, unlike Digikam, displays not only graphic files, but the complete contents of the chosen directory with appropriate icons. You can click on *Create Thumbnails* to display thumbnails instead of icons.

A preview, lower left, can be obtained simply by clicking on a graphic file. A double click expands the file to its full size with its own menu bar, which you can then use to switch between directories, or adjust the brightness or contrast of the chosen image. You can also rotate the image or resize it. Just click anywhere on the image to end the process.

You can use the *View* menu to sort the files in almost anyway you like, set previews for text and office files, or adjust the size of the thumbnails.

The *Edit* menu offers standard select, copy, and delete tools, as well as a few interesting manipulation tools. For example, you can change the file permissions of selected files.

The entries in the *Edit/Convert to* menu looked promising for files that need to be converted to others formats, however, they were a disappointment in that nothing happened when they were used.

Presentation help

The existence of Digikam does not prevent PixiePlus from offering its own slide show, located under *Files/ Slide Show*, which not only displays the images in the current directory or those found in the *Files* tab, but also the images you viewed last. You also have the option of setting the slide delay time in the *Slide Show* menu, to keep repeating the show by putting it in a *Loop*, or selecting special transitional effects, as well as setting the time between shows.

The *Files/Make Web Image Gallery* menu entry provides a tool for presenting images on the Web. The wizard that is launched when you select this entry helps you with the various settings, such as page and thumbnail sizes, frame style, layout, image name display, navigation buttons, the document titles, and HTML color schemes for the background, text and links. Clicking the *Finish* button will produce a HTML page with all of the thumbnails, that can be opened by double clicking on it in Konqueror (see Figure 5).

Need a screenshot from a program? With *File/ Take a Screenshot* you can set a window and decide if you want a screenshot of the window or of the entire desktop, and if Pixie should fade into the background for the screenshot. After entering the delay time, the program will wait to show the chosen screenshot, and then ask if you want to save it.

The Whole Enchilada

Pixie shows its full capabilities when it comes to processing multiple images simultaneously. When you select the *Edit/Batch Effects* menu entry, your changes are applied to all the images you selected by [Ctrl] clicking them.

The menu has four items: *Transform* can scale an image, mirror it either horizontally or vertically, and rotate it in 90 degree steps. The *Enhance* item allows you to brighten up the image, or apply a color filter (*Equalize* or *Normalize*) There is also the *Invert* feature and an option to convert to a grayscale image.

Using on the standard effects found in *Edit / Batch Effects /Normal Effects* you can add text or a border to an image. Pixie always asks if you would like a preview of your changes, and then inquires if they should be carried out or ignored.

You can also add background noise (*Noise*), convert the image to a relief, sharpen the image (*Sharpen*) or blur it (*Blur*). You can also use frame highlighting and the *Spread* function, which spreads out the pixels to make the image appear "washed out", or functions for adding shadows to graphic images. The special effects in the *Edit / Special Effects* menu include a *Solarize* entry that makes a negative image, as well as the *Swirl*, *Implode* or *Wave* functions that distort the image in different ways. *Oil Paint* makes the image look like an oil painting, whereas Charcoal Draw does what the name implies, that is makes a kind of charcoal drawing.
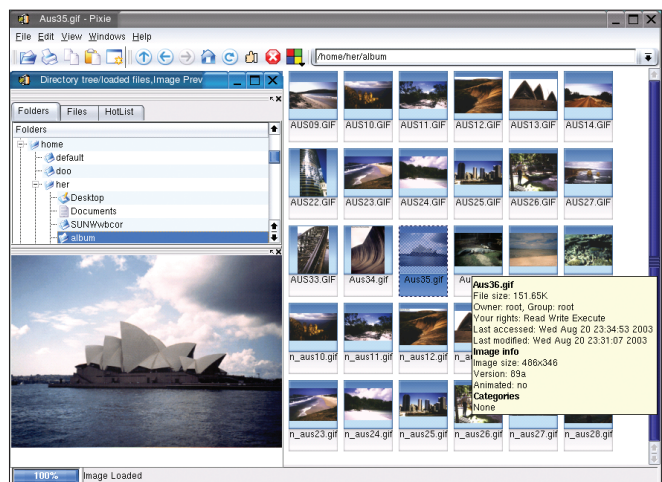

Figure 4: Thumbnails in PixiePlus

The *File* menu also offers the possibility to organize large numbers of images or photos: *Create / Edit File Categories* creates categories, that you can assign to a group of selected images, simply by selecting *Categories / Add to Category* in the shortcut menu, after right clicking the image or selected images. The *Show only Categories* button in the tool bar, does just that; it shows all images of a chosen category.

If there are copies of an image in different formats, then Pixie can use the *Files / Find Similar Images* menu item to find them; this function looks for similarities of more than 90% between images.

Old But Not Forgotten

The most famous shareware application for Linux is called *xv* (*http://www.trilon.com/xv/downloads.html*) and though it has been at version 3.10a for donkey's years, it still has a large user following. It is still free for private use, and can be launched from the command line by typing *xv file_name &*. It can also be used commercially for free as long as it is not used on anything directly related to your job.

If you launch the program without any parameters, or by selecting a menu entry (such as *Graphic/Viewers/xv* with SuSE 8.2), you can right click on the window to access the *xv Controls* user interface. Click the *Load* button on the right to choose a single image, or select *Load all*, to load all the files in the current directory into the file list in *xv controls*. The latter is naturally designed for directories that contain graphic format only. This list can be extended by adding new files to the directory at any time.

You can view an image by double clicking the image name (see Figure 8) and use *Next* or *Previous* to browse the list.

Clicking the *Algorithms* button opens a menu for graphic processing. To choose a tool, left click and hold the mouse button on the entry until the desired tool appears, for example *Blur*, which – just like PixiePlus – blurs an
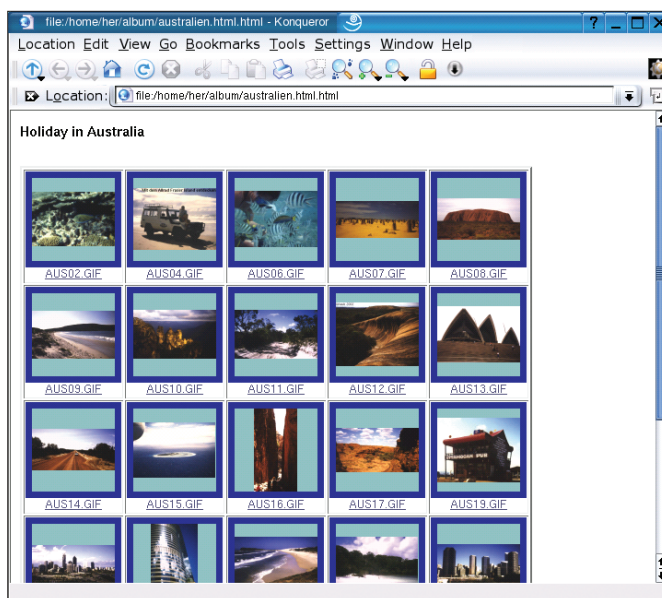

Figure 5: Photo albums on the Web

image to the point where small lettering again becomes legible. Or use *Sharpen* to sharpen the focus, *Emboss* to create relief, *Edge Detect* to sharpen the edges or *Oil Painting* to make the image look as if it was painted in oils. *Pixelize* reduces the image to individual pixels, and *DeSpeckle* allows the colors to run together.

The menu for the *Display* button contains tools for dithering and smoothing (*Smooth*), furthermore the color palette is edited here.

The menu entry *24/8 Bit* specifies a high color resolution (24 bit depth), or an indexed one of 8 bit, or allows you to reduce a 24 bit image to one of 8 bits. The size of an image can be adjusted in the menu *Image Size*, for example doubling the size (*Double Size*) or reducing the size by 10% (*10% Smaller*).

The toolbar at the bottom of the *xv controls* has duplicates of the tools described above as well as several others such as copy or cut. Text can be added to an image using the *A* button. First you must define a window for the text by dragging the mouse over the image area while holding down the left button and then clicking on the *A* button to activate the tool, and finally entering the text to be inserted.

The *Grab* button can be used for capturing screenshots, and offers a similar functionality to that provided by Pixie. If you start the screenshot by clicking the *AutoGrab* button, then the computer

beeps after a short while, and produces a screenshot at the mouse cursor (or of the entire screen accordingly). If you select *Grab*, the desired screenshot appears only after you click on the window you want to grab.

The menu accessed via the *Windows* button contains other tools, such as a *Color Editor*. *Image Info* displays data about the focused image and *Image Comments* allows you to add notes to the image data.

Those of you not using KDE can click the *Root* button to decorate your background with the current image. If you wish, you can tile or mirror the image (*Root:mirrored*).

You can also control *xv* using hot keys as indicated by each menu entry, or the menu list *Windows / XV Keyboard Help*.

xnview

Due to restrictive licensing, SuSE users will have to download the RPM for the fifth viewer, *xnview 1.50* from *http://perso.wanadoo.fr/pierre.g/xnview/enhome.html*, and install it, for example by clicking on the rpm in Konqueror. Having done this, you can then launch the program in a terminal window by typing *xnview &*. This opens a small menu with three entries, where you can use *File / Open*, to search the current directory for images. *xnview* shows all files by default, but you can use *FileType* to limit this by specifying files with a certain extension. *xnview* maintains image information for each file, and also a preview, if required. The image can be called up by double clicking it (see Figure 7).

File/Browse starts a browser mode with a user interface that is divided into three panels. The upper left panel contains the directory tree, the upper right shows the contents of the current directory, where you can select the desired
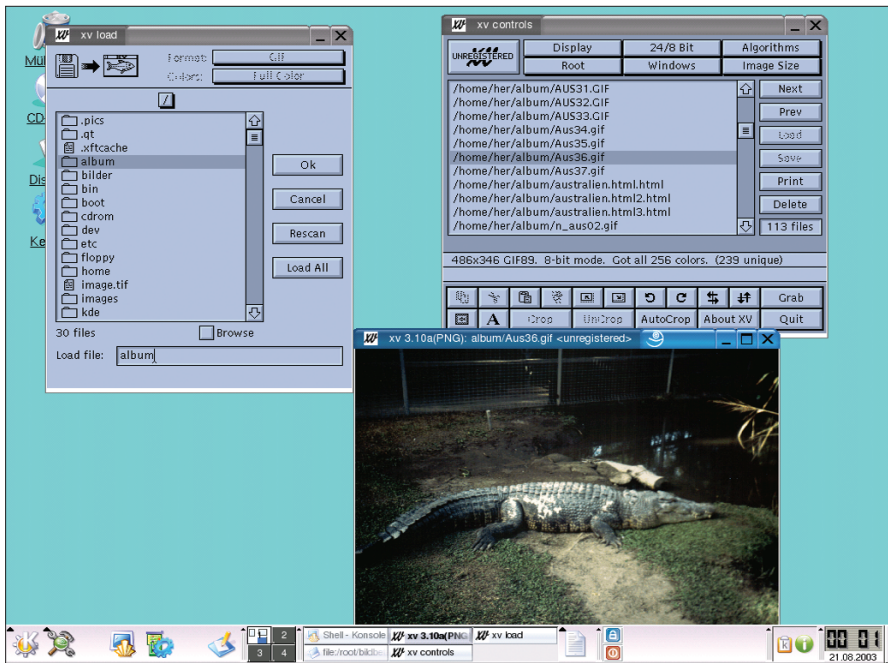
Figure 6: Viewing images with xv

image to view it in the bottom panel. Alternatively, a new image window can be opened by double clicking on an image name.

The menu *Image* provides image processing tools for converting to grayscale or using alternative color palettes. *Rotate* rotates, while *Flip* mirrors the image. *Adjust* is used to adjust the contrast, brightness and so on. *Map* has tools such as solarize, as described for Pixie, and *Swap* is used to manipulate RGB information, which has the same effect as a color filter. The *Filter* menu offers tools such as *Blur*, *Enhance*, *Edges* and *Effects/Oil Painting...*

The screenshot tool *Tools / Capture* leaves a lot to be desired when compared to the other viewers. When you create a screenshot of the entire desktop, the screenshot will include the xnview dialog box. The *Select a Window* tool, that grabs windows by name is in itself a good idea, but it needs some work especially with regard to its stability on SuSE 8.2.

This also applies to *Tools / Slide Show* tools. A time delay between images in a slide show can be set, and you can also create repeating slideshows using *Loop*, but this area is buggy. This is especially true of the many extra options, located under *More Options*, not all of which are easily intelligible. Even though it is possible to enlarge the image to fit the entire screen, it mutates to an image with large

pixel representation, which is no longer recognizable. When running the slide show automatically, the images shown are very small. You need to click on each image during the slide show in order to scale the images up to a reasonable size for viewing.

A list of selected files can be edited in the same way using the *Tools / Multi Convert* menu. In the corresponding dialog box, you can select the files to be converted by clicking the *Add* button,

then declare them as *Input*. Then use Output to specify the target directory and the desired editing steps. The steps are listed by clicking the *Advanced Operations* button. *Save Script* saves the whole process as a small script file that can be used at any future time.

As well as functions for converting to other graphic formats, the *Tools / Multi Convert* menu contains entries that influence the toolbar, or slideshow options.

Get the Picture?

Although this article cannot hope to have any effect on the large number of programs available, we do hope that it will make your choice easier. If all you need is a simple image viewer, the Eye of GNOME is a good choice.

Perhaps you have a digital camera with a large memory, that you want to download to your computer? Digikam is recommended in this case. Or perhaps you prefer a well-tested, reliable program with lots of functions? In this case you should opt for *xv*.

Do you regularly convert lots of graphic images from one format to another? *xnview* offers a good tool for this, and can even be scripted. Or do you want an image viewer with a lot of functions, and no headaches? Then PixiePlus would be your choice. But in the end, the choice is yours. ∎
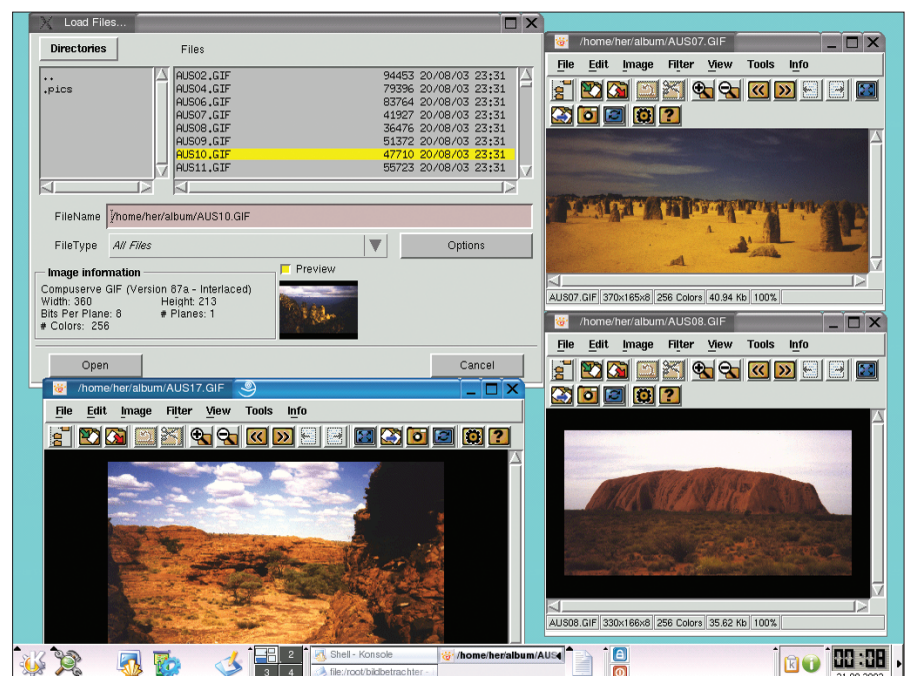

Figure 7: The xnview image viewer