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individual transparency is called a layer. There is no limit, in principle, to the number of layers an image can have: only the amount of memory available on the system. It is not uncommon for advanced users to work with images containing dozens of layers. The organization of layers in an image is shown by the Layers dialog, which is the second most important type of dialog window in Gimp, after the Main Toolbox. The appearance of the Layers dialog is shown in the adjoining illustration. How it works is described in detail in the Layers Dialog section, but we will touch on some aspects of it here, in relation to the layer properties that they display. Each open image has at any time a single active drawable. A "drawable" is a Gimp concept that includes layers, but also several other types of things, such as channels, layer masks, and the selection mask. (Basically, a "drawable" is anything that can be drawn on with painting tools.) If a layer is currently active, it is shown highlighted in the Layers dialog, and its name is shown in the status area of the image window. If not, you can activate it by clicking on it. If none of the layers is highlighted, it means the active drawable is something other than a layer. In the menubar above an image window, you can find a menu called Layer, containing a number of commands that affect the active layer of the image. The same menu can be accessed by right-clicking in the Layers dialog. Each layer in an image has a number of important attributes: Name Every layer has a name. This is assigned automatically when the layer is created, but you can change it. You can change the name of a layer either by double-clicking on it in the Layers dialog, or by right-clicking there and then selecting the top entry in the menu that appears, Edit Layer Attributes. Presence or absence of an alpha channel As explained in the previous section, an alpha channel encodes information about how transparent a layer is at each pixel. It is visible in the Channel Dialog: white is complete opacity, black is complete transparency and grey levels are partial transparencies. Not every layer is required to have an alpha channel, though. In many cases, the bottom layer of an image (often named "Background") lacks any alpha channel: this means that it is completely opaque at every point. Alphaless layers are created when you open an image from a file format that does not support transparency, or when you create a new image using File->New with a transparent Fill Type, or when you flatten an image into a single layer. Every layer other than the bottom layer of an image must have an alpha channel. For the bottom layer, it is optional. Many operations cannot be performed on layers that lack an alpha channel. Moving the layer to a different position in the layer stack is one obvious example (since only bottom layers are allowed not to have an alpha channel), but any operation involving transparency would also be included. You can add an alpha channel to a layer that lacks one using the menu command Layer->Transparency->Add Alpha Channel, or by right-clicking in the Layers dialog and selecting Add Alpha Channel from the popup menu that appears. To remove an alpha channel, activate the bottom layer by clicking on it in the Layers dialog, and then select Layer->Transparency->Semi-Flatten. Layer type The layer type is determined by the image type (see previous section) and the presence or absence of an alpha channel. These are the possible layer types: RGB RGBA Gray GrayA Indexed IndexedA The main reason this matters is that most filters (in the Filters menu) only accept a subset of layer types, and appear grayed out in the menu if the active layer does not have an acceptable type. Often you can rectify this either by changing the mode of the image or by adding or removing an alpha channel. Visibility It is possible to temporarily remove a layer from an image, without destroying it, by clicking on the "open eye" symbol in the Layers dialog. This is called "toggling the visibility" of the layer. Most operations on an image treat toggled-off layers as if they did not exist. When you work with images containing many layers, with varying opacity, you often can get a better picture of the contents of the layer you want to work on by hiding some of the other layers. Note If you Shift-click on the eye symbol, this will cause all layers except the one you click on to be hidden. Linkage to other layers If you click between the eye icon and the layer thumbnail, you get a chain icon, which enables you to group layers for operations on multiple layers (for example with the Move tool or a transform tool). Size, Taille In Gimp, the boundaries of a layer do not necessarily match the boundaries of the image that contains it. When you create text, for example, each text item goes into its own separate layer, and the layer is precisely sized to contain the text and nothing more. Also, when you create a new layer using cut-and-paste, the new layer is sized just large enough to contain the pasted item. In the image window, the boundaries of the currently active layer are shown outlined with a black-and-yellow dashed line. The main reason why this matters is that you cannot do anything to a layer outside of its boundaries: you can't act on what doesn't exist. If this causes you problems, you can alter the dimensions of the layer using any of several commands that you can find near the bottom of the Layer menu. Note The amount of memory that a layer consumes is determined by its dimensions, not its contents. So, if you are working with large images or images that contain many layers, it might pay off to trim layers to the minimum possible size. Opacity The opacity of a layer determines the extent to which it lets colors from layers beneath it in the stack show through. Opacity ranges from 0 to 100, with 0 meaning complete transparency, and 100 meaning complete opacity. Mode The Mode of a layer determines how colors from the layer are combined with colors from the underlying layers to produce a visible result. This is a sufficiently complex, and sufficiently important, concept to deserve a section of its own, which follows. See glossary for Layer Modes. Layer mask In addition to the alpha channel, there is another way to control the transparency of a layer: by adding a layer mask, which is an extra grayscale drawable associated with the layer. A layer does not have a layer mask

by default: it must be added specifically. Layer masks, and how to work with them, are described much more extensively in a later section of this chapter devoted to them. "Keep transparency" setting In the upper right corner of the Layers dialog appears a small checkbox that controls the "keep transparency" setting for the layer. If this is checked, then the alpha channel for the layer is locked, and no manipulation has any effect on it. In particular, nothing that you do to a transparent part of the layer will have any effect. Creating New Layers There are several ways to create new layers in an image. Here are the most important ones: Selecting Layer->New Layer in the image menu. This brings up a dialog that allows you to set the basic properties of the new layer; see the New Layer dialog section for help with it. Selecting Layer->Duplicate Layer in the image menu. This creates a new layer, at the top of the layer stack, that is a perfect copy of the currently active layer. When you "cut" something, and then paste it using Ctrl-V or Edit->Paste, the result is a "floating selection", which is a sort of temporary layer. Before you can do anything else, you either have to anchor the floating selection to an existing layer, or convert it into a normal layer. If you do the latter, the new layer will be sized just large enough to contain the pasted material. Prev Up Next 4.2. QuickMask Home 4.4. The Selection
