

GIMP



Image Editing Program

CHAPTER 1

GETTING STARTED WITH GIMP

Objectives:

- **Start GIMP**
- **Learn how to open and save an image**
- **Examine the GIMP window**
- **Close a file and exit GIMP**
- **Learn design principles and copyright rules**

Using GIMP

GIMP is an image-editing program that lets you create and modify digital images.

GIMP stands for Graphic Image Manipulation Program. A **digital image** is a picture in electronic form. Using GIMP you can create original artwork, manipulate color images, and retouch photographs. A digital image may also be referred to as a file, document, graphic, picture, or image. In addition, GIMP is practical for anyone who wants to enhance existing artwork or create new master pieces. For example you can restore damaged areas within an image, combine images, and create graphics and special effects for the web.

QUICK TIP: In GIMP, a digital image may be referred to as a file, document, graphic, picture, or image.

Understanding Sources

GIMP allows you to work with images from a variety of sources. You can create your own original artwork in GIMP, use images downloaded from the web, or use images that have been scanned or created using a digital camera. Whether you create GIMP images to print in high resolution or optimize them for multimedia presentations, web-based functions, or animation projects, GIMP is a powerful tool for communicating your ideas visually.

Lesson 1

Start GIMP

Defining Image-Editing Software

GIMP is an image-editing program. An **image-editing** program allows you to manipulate graphic images so that they can be posted on websites or reproduced by professional printers using full-color processes. Using panels, tools, menus, and a variety of techniques, you can modify a GIMP image by rotating it, resizing it, changing its colors, or adding text to it. You can also use GIMP to create and open different kinds of file formats, which enables you to create your own images, import them from a digital camera or scanner, or use files (in other formats) from outside sources. **Table 1** lists some of the graphics file formats that GIMP can open and create.

Understanding Images

Every image is made up of very small squares which are called **pixels**, and each pixel represents a color or shade. Pixels within an image can be added, deleted, or modified.

QUICK TIP: GIMP files can become quite large. After a file is complete, you might want to **flatten** it, an irreversible process that combines all layers and reduces the file size.

Using GIMP features

GIMP includes many tools that you can use to manipulate images and text. Within an image, you can add new items and modify existing elements, change colors, and draw shapes. For example, using the Free Select Tool, you can outline a section of an image and drag the section onto another area of the image. You can also isolate a foreground or background image. You can extract all or part of a complex image from nearly any background and use it elsewhere.

QUICK TIP: You can create **logos** in GIMP. A logo is a distinctive image that you can create by combining symbols, shapes, colors, and text. Logos give graphic identity to organizations such as corporations, universities, and retail stores.

You can also create and format text, called **type**, using the Text Tool in GIMP. You can apply a variety of special effects to type; for example, you can change the appearance of type and increase or decrease the distance between characters. You can also edit type after it has been created and formatted.

QUICK TIP: GIMP records each change you make to an image on the History panel. You can undo or redo a recorded action as necessary. GIMP records actions for the current session only; it discards actions when the program closes.

TABLE 1: SOME SUPPORTED GRAPHIC FILE FORMATS			
File Format	Filename Extension	File Format	Filename Extension
3D Studio	.3ds	Photoshop PDF	.pdf
Bitmap	.bmp	PICT File	.pct, .pic, .pict
Cineon	.cin	Pixar	.pxr
Dicom	.dcm	Open EXR	.exr
Flash 3D	.fl3	QuickTime	.mov, .mp4
Filmstrip	.flm	Radiance	.hdr, .rgbe, .xyze

GIMP	.xcf	Tagged Image Format	.tif, .tiff
Google Earth	.kmz	RAW	Varies
Graphics Interchange Format	.gif	Scitex CT	.sct
JPEG Picture Format	.jpg, .jpe, .jpeg	Tagged Image Format	.tif, .tiff
PC Paintbrush	.pcx	Targa	.tga, .vda
Photoshop	.psd	U3D	.u3d
Photoshop Encapsulated PostScript	.eps	Wavefront	.obj

Starting GIMP and Creating a File

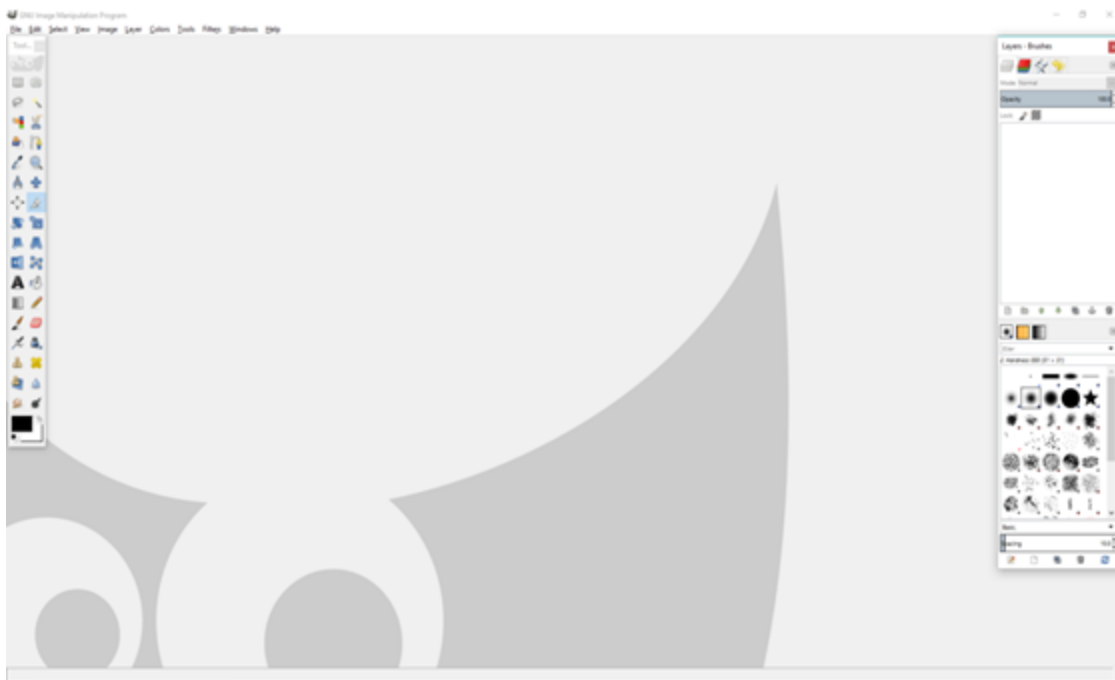
When you start GIMP, the computer displays a **splash screen**, a window that contains information about the program and then the GIMP window opens. See **Figure 1**.

Figure 1 *Splash Screen*



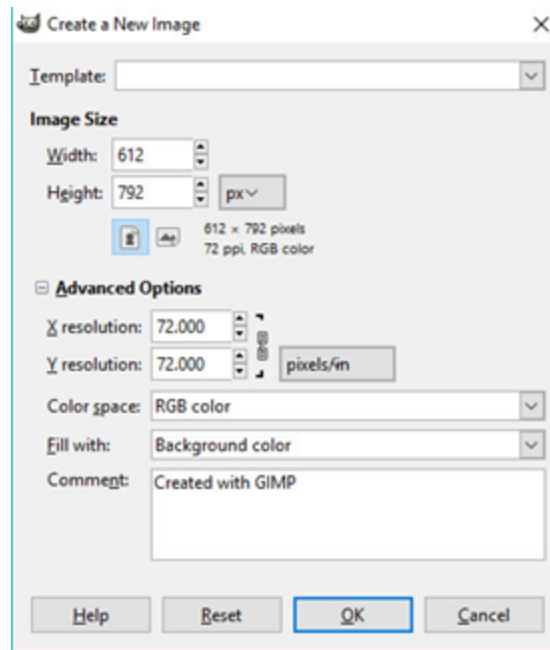
After the splash screen is done loading GIMP a window with a blank screen in which you can create a file from scratch opens. See **Figure 2**.

Figure 2 *Opening Screen in GIMP*



You use the Create a New Image dialog box to create a file. You can also use the Create a New Image dialog box to set the size of the image you're about to create by typing dimensions in the Width and Height text boxes. See **Figure 3**

Figure 3 *Create a New Image Dialog Box*



Step-by-Step 1.1

Start GIMP

1. Click the **GIMP** icon on your desktop
2. Click **File** on the Menu bar, then click **New** to open the Create a New Image dialog box.
3. Make sure your **Units** is set to pixels
4. Double-click the number in the **Width** text box, type **500**.
5. Double-click the number in the **Height** text box, type **400**

6. Specify a resolution of **72** pixels/inch.

7. Click **OK**

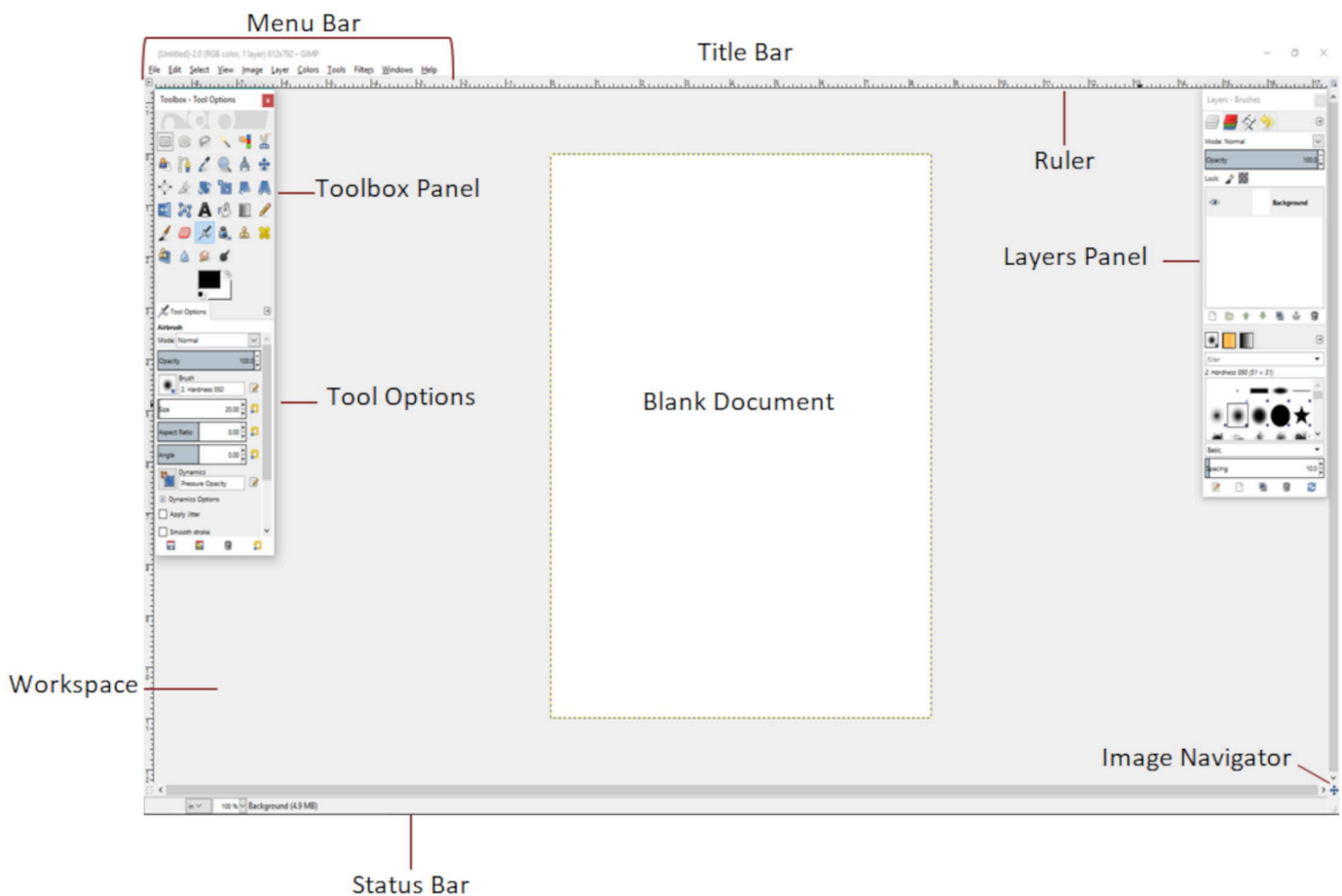
Lesson 2

EXAMINE: THE GIMP WINDOW

Learning About the Workspace

The GIMP **Workspace** is the area within the GIMP program window that includes the entire window, from the command menus at the top of your screen to the both sides of your window. See **Figure 4**.

Figure 4 *Workspace*



In GIMP the area containing the GIMP commands is called the Menu Bar. The filename of the open unnamed file is Untitled, because it has not been named. The Menu bar also contains the Close button and the Minimize/Maximize and Resort buttons.

You can choose a menu command by clicking it or by pressing [Alt], and then clicking the underlined letter in the menu name. Some commands display shortcut keys on the right side of the menu. Shortcut keys provide an alternative way to activate menu commands. Some commands might appear dimmed, which means they are not currently available.

Finding Tools Everywhere

The **Toolbox panel** contains tools associated with frequently used GIMP commands. The face of a tool contains a graphical representation of its function; for example, the Zoom tool shows a magnifying glass. You can place the pointer over each tool to display a tool tip, which tells you the name or function of that tool.

The **Tool Options panel**, located below the Toolbox panel, displays the current settings for the selected tool. For example, when you click the Type tool, the default font and font size appear in the Tool Options panel, which can be changed if desired. You can move the Tool Options panel anywhere in the workspace for easier access.

Panels are small windows used to verify settings and modify images. A collection of panels in a vertical orientation (typically) is called a dock. Panels can be separated and moved anywhere in the workspace by dragging their tabs to new locations. You can **Dock** a panel in or under other panels so you can keep that panel in place with other panels. Panels can be separated and docked anywhere in the workspace by dragging their tabs to new locations. You can dock or undock a panel by dragging its tab in or out of a dock. As you move a panel within the dock, you'll see a blue highlighted drop zone. A **Drop Zone** is an area where you can move a panel. Each panel contains a menu that you can view by clicking the configure button in its upper-right corner.

When images are displayed the **Status Bar** is located at the bottom of the program window. The Status Bar displays information, such as file size of the active window.

Rulers can help you precisely measure and position an object in the workspace.

Using Tool Shortcut Keys

Each tool has a corresponding shortcut key. For example, the shortcut key for the Type tool is **T**. After you know a tool's shortcut key, you can select the tool on the Toolbox panel by pressing its shortcut key.

Customizing Your Environment

GIMP makes it easy for you to position elements just where you want them. If you move elements around to make your environment more convenient, you can always return your workspace to its original appearance by resetting the default panel locations.

You can temporary change the color of your workspace by clicking the View menu and clicking on the Padding command. Here you can choose one of four color themes. You can make a permanent color change by going to the Edit menu and clicking the Preference command. In the Preference dialog box click on Appearance and it is within this section that you can make your workspace color permanent.

Using Full Screen Mode

By default, GIMP displays images in consolidated windows, although you can change this on a permanent or temporary basis. This means that each image is displayed within its own window. There are two modes for viewing: Standard Screen Mode – which shows you all of your image, title bar, menu, and tools. Full Screen Mode – which shows only your image and the menu bar. You toggle between these two views by pressing F11.

Step-by-Step 1.2

Select a tool

1. Hover over the Free Select tool on the Toolbox panel. Note that the shortcut key is **F**, located at the end of the screen tip in bold.
2. Click on some other tools in the Toolbox panel and notice how the Tool Options panel changes with each tool that you click on.

Change the default display and theme color

1. Click **Edit** on the **Menu bar**, click **Preferences**, then click **Appearance**
2. Next to the option **Canvas Padding Mode**, click the arrow and choose **Light Check Color**
3. Click **OK**
4. **Right Click** anywhere in the workspace, point to **View**, Point to **Padding Color**, choose **From Theme**

Show and hide panels

1. Click **Window** on the **Menu bar**, point to **Dockable Dialogs**, choose **Colors**

The Colors panel is now a floating panel, meaning that it is not locked/docked into another panel yet.

2. Click on the **FG/BG Color Tab**, Drag the tab over and above the **Tool Options**

Panel, when you see the **blue line** drop the panel.

The Color panel is now locked above the Tool Options Panel.

3. Click on the **FG/BG Color tab**, Drag the tab away from the panel and drop it into the workspace.

The Color Panel is now a floating panel again.

4. Click on the **FG/BG Color tab**, Drag the tab into the **Tools Options panel** and drop it right next to the **Tools Options tab**.

The Color panel is now locked/docked with the Tools Options panel

5. Click on the **FG/BG Color tab**, Drag the tab into the **workspace**
6. Click on the **Red X** in the top right corner of the Color panel

LESSON 3

LEARN HOW TO OPEN AND SAVE AN IMAGE

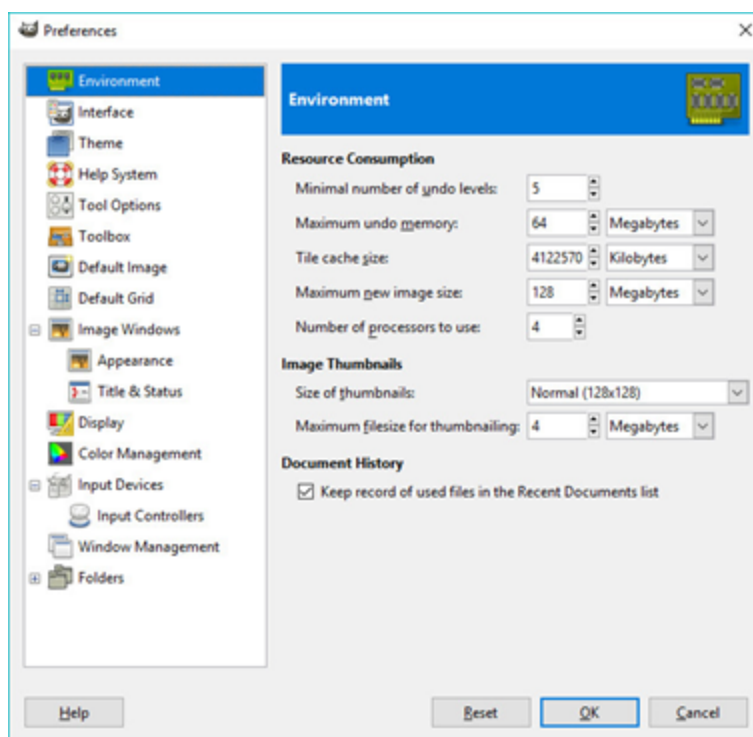
Opening and Saving Files

GIMP provides several options for opening and saving a file. Often, the project you're working on determines the techniques you use for opening and saving files. For example, you might want to preserve the original version of a file while you modify a copy. You can open a file, and then immediately save it with a different filename, as well as open and save files in many different file formats. When working with graphic images, you can open a GIMP file that has been saved as a bitmap (.bmp) file, and then save it as a JPEG (.jpeg) file to use on a web page.

Customizing How You Open Files

You can customize how you open your files by setting preferences. **Preferences** are options you can set that are based on your work habits. For example, you can use the Open Recent command on the File menu to instantly locate and open the files that you recently worked on, or you can allow others to preview your files as thumbnails. **Figure 5** shows the GIMP Preferences dialog box options for handling your files.

Figure 5 *Preferences Dialog Box*



Using Save As Versus Save

Sometimes it's more efficient to create a new image by modifying an existing one, especially if it contains elements and special effects that you want to use again. The Save As command on the File menu (in GIMP) creates a copy of the file, prompts you to give the duplicate file a new name, and then displays the new filename in the image's title bar. You use the Save As command to name an unnamed file or to save an existing file with a new name. For example, throughout this book, you will be instructed to open your Data Files with new names keeps the original files intact in case you have to start the lesson over again or you want to repeat an exercise. When you use the Save command, you save the changes you made to the open file.

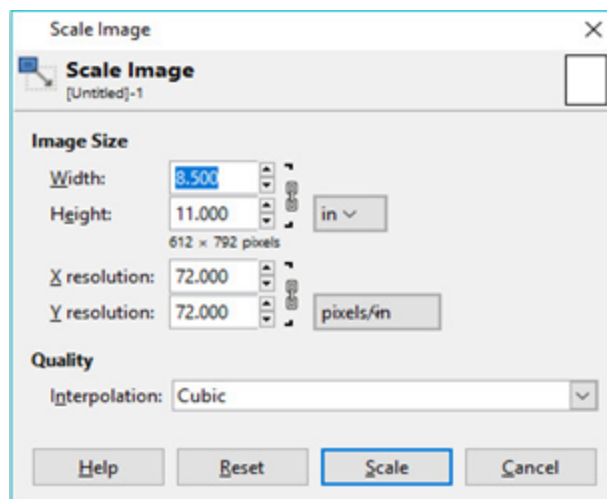
Getting images into GIMP

There are a zillion digital cameras available in the marketplace, and each brand is a little different, but you can still import your images by connecting the camera to the computer using the camera's USB cable. Turn the camera on and once your computer recognizes the camera, open the program computer and double-click on the camera device. Then navigate to the camera's picture folder to start saving your pictures. This process can also be used for an SD card or a flash drive.

Resizing an Image

You may have created the perfect image, but the size may not be correct for your print format. Document size is a combination of the printed dimensions and pixel resolution. An image designed for a website, for example, might be too small for an image that will be printed in a newsletter. You can easily resize an image using the Scale Image command in the Image menu. To use this feature, open the file you want to resize, click Image on the Menu Bar, and then click Scale Image. The Scale Image dialog box, Show in **Figure 6**, opens. By changing the dimensions in the text boxes, you'll have you resized in no time. The **canvas size**, which is the full editable area of an image, can be increased or decreased using the Canvas Size command on the Image Menu. Decreasing an image's size crops the image whereas increasing the image's size adds to the background.

Figure 6 *Scale Image Dialog Box*



Step Step-by-Step 1.3

Open a file using the Menu bar

1. Click **File** on the Menu bar, then click **Open**
2. Navigate to your **Student Key/Student Files/GIMP Ch. 1/ 1-1**, click **Open**
3. Maximize your screen
4. Click **File** on the Menu bar, then click **Open**
5. Navigate to your **Student Key/Student Files/GIMP Ch. 1/1-2**, click **Open**
6. Go to the taskbar and hover over the GIMP Icon, when the preview screens pop up
click on 1-2
7. Maximize your screen

Change between document views

8. Click Window on the Menu bar, click on 1-1

Use the Save As Command

9. Verify that 1-1 is active
10. Click **File** on the Menu bar, click **Save As**, then compare your Save As dialog box
to **Figure 1-6**
11. Navigate to your **Student Key/GIMP/Ch. 1**

12. In File Name type Friends, then click Save

LESSON 4

CLOSE A FILE AND EXIT GIMP

Concluding Your Work Session

At the end of your work session, you might have opened several files; you now need to decide which ones you want to save.

Closing Versus Exiting

When you are finished working on an image, you need to save and close it. You can close one file at a time, or close all open files at the same time by exiting the program. Closing a file leave GIMP open, which allows you to open or create another file. Exiting GIMP closes the file, closes GIMP, and returns you to the desktop, where you can choose to open another program or shut down the computer. GIMP will prompt you to save any changes before it closes the files. If you do not modify a new or existing file, GIMP will close it automatically when you exit.

Step Step-by-Step 1.4

Open a file using the Menu bar

1. Click **File** on the **Menu bar**, click on **Close View** at the bottom of the menu

If asked to save your work, click Yes. The Friends file closes and 1-2 is now in full view.

2. Click **File** on the **Menu bar**, click on **Close All** at the bottom of the menu

1-2 closes and a blank window is now open in GIMP

3. Click **File** on the **Menu bar**, click **Quit**

GIMP closes completely

LESSON 5

LEARN ABOUT DESIGN PRINCIPLES AND COPYRIGHT RULES

Print Design vs. Web Design

Who's going to be viewing your images, and how? Will your image be printed in a lot of 5000, or will it be viewed on a monitor? Does it matter? When you think about it, the goals of print designers are quite different from those who design for the web. **Table 2** illustrates some of the differences between these two art forms.

Table 2: DIFFERENCES BETWEEN PRINT AND WEB DESIGN	
PRINT	WEB
Mass-produced product that will all be identical and can be held in someone's hand.	Will be viewed on monitors of different size and resolution, with varying colors.
Designed for a limited size and area measured in inches.	Designed for a flexible web page measured in pixels
You want to hold the reader's attention long to deliver the message: a <i>passive</i> experience.	You want the reader to stay as long as possible in your website and click links that delve deeper: an <i>active</i> experience.
Output is permanent and stable.	Output varies with user's hardware and software and content can evolve.

Image Composition 101

What makes one design merely okay and another terrific? While any such judgement is subjective, there are some rules governing image composition. It goes without saying that, as the artist, you have a message you're trying to deliver or something you're trying to say to the viewer. This is true whether the medium is oil painting, photography, or GIMP imagery.

Elements under your control in your composition are tone, sharpness, scale, and arrangement. (You may see these items classified differently elsewhere, but they amount to the same concepts).

- **Tone** is the brightness and contrast within an image. By using light and shadows you can shift the focus of the viewer's eye and control the mood.
- **Sharpness** is used to direct the viewer's eye to a specific area of an image.
- **Scale** is the size relationship of objects to one another.
- **Arrangement** is how objects are positioned in space, relative to one another.

Are objects in your image contributing to clarity or clutter? Are similarly-sized objects confusing the viewer? Would blurring one area of an image change the viewer's focus? These are the tools you have to influence your artistic expression. Make sure the viewer understands what you want seen.

Arranging Elements

The appearance of elements in an image is important, but of equal importance is the way in which the elements are arranged. The components of any image should form a cohesive unit so that the reader is unaware of all the different parts, yet influenced by the way they work together or emphasize a message or reveal information. For example, if a large image is used, it should be easy for the reader to connect the image with any descriptive text. There should be an easily understood connection between the text and the artwork, and the reader should be able to seamlessly connect them.

In a newsletter, for example, it makes sense to organize text in a columnar fashion, but would you want snaking columns in a web page? Probably not. You wouldn't want to be scrolling up and down to read all the columnar text. At the very least, good web design has to consider the following items:

- Layout, navigation, and flow
- Interactivity as a design element
- Imagery and text as content
- Scrolling and linking

Overcoming the Fear of White Space

One design element that is often overlooked is white space. It's there on every page, and it doesn't seem to be doing much, does it? Take a look at a typical page in this book. Is every inch of space filled with either text or graphics? Of course not. If it were, the page would be impossible to read and would be horribly complex and ugly. The best example of the use of white space is the margins surrounding a page. This white space acts as a visual barrier—a resting place for the eyes. Without white space, the words on a page would crowd into each other, and the effect would be a cramped, cluttered, and hard-to-read page. Thoughtful use of white space makes it possible for you to guide the reader's eye from one location on the page to another. For many, one of the first design hurdles that must be overcome is the irresistible urge to put too much stuff on a page. When you are new to design, you may want to fill each page completely. Remember, less is more. Think of white space as a beautiful frame setting off an equally beautiful image.

Balancing Objects

The **optical center** of an image or a page occurs approximately three-eighths from the top of the page and is the point around which objects on the page are balanced. Once the optical center is located, objects can be positioned around it. A page can have a symmetrical or asymmetrical balance relative to an imaginary vertical line in the center of the page. In a **symmetrical balance**, objects are placed equally on either side of the vertical line. This type of layout tends toward a restful, formal design. In an **asymmetrical balance**, objects are placed unequally relative to the vertical line. Asymmetrical balance uses white space to balance the positioned objects and is more

dynamic and informal. A page with objects arranged asymmetrically tends to provide more visual interest because it is more surprising in appearance.

Considering Ethical Implications

Because GIMP makes it so easy for you to make so many dramatic changes to images, you should consider the ethical ramifications and implications of altering images. Is it proper or appropriate to alter an image just because you have the technical expertise to do so? Are there any legal responsibilities or liabilities involved in making these alterations? Because the general public is more aware about the topic of **intellectual property** (an image or idea that is owned and retained by legal control) with the increased availability of information and content, you should make sure you have the legal right to alter an image, especially if you plan on displaying or distributing the image to others. Know who retains the rights to an image, and if necessary, make sure you have written permission for its use, alteration, and or distribution. Not taking these precautions could be costly.

QUICK TIP: **Framing** means to center object(s) or interest in the foreground, which gives an image a feeling of depth. **Depth of field** is a characteristic of a camera that can be used to enhance the image composition, and means the sharp area surrounding the point of focus. The **field of view** includes the content you want to include in an image and the angle you choose to shoot from.

Understanding Copyright Terms

As you become more adept using GIMP, you'll most likely obtain images from sources other than your own imagination and camera. It's of the utmost importance that you understand the legal and moral implications of using someone else's work. This means, among other things, that you have permission (verbal, or preferably, written) to use any part of the image, and that you understand terms such as copyright, fair use doctrine, intellectual property, and derivative works.

A **copyright** is protection extended to an author or creator of original work, which gives them the exclusive right to copy, distribute, and modify a thing, idea, or image. Copyright holders can give permission for others to copy, distribute, or modify their work when something has been copyrighted, it is considered intellectual property. (The date of publication is the date the published work became generally available.) The

length of time of a copyright is specific. In many cases, permission is not needed for education activities such as research and classroom use, but is required when you want to use someone else's property for profit.

Intellectual property is ideas, inventions, or processes that derive from the work of the mind, and the corresponding body laws, rights, and registrations relating to these properties. Intellectual property law grants certain exclusive rights to owners of intangible assets such as music, artistic works, discoveries, inventions, words, phrases, and designs. It includes the following protections: copyright, trademarks (a distinctive associated identifier), patents, design rights, and trade secrets.

Fair use doctrine allows a user to make a copy of all or part of a work, even if permission had not been granted, for purposes such as criticism, news reporting, research, teaching, or scholarship.

A **derivative work** is a new, original product that is based upon content from one or more previously existing works.

So, can you use a picture you saw on a website in a class project? Yes. Can you use that same picture in a project for a paying client? No. **Table 3** illustrates commonly used terms and an example of each.

TABLE 3: COMMONLY USED IMAGE-USE TERMS		
TERM	DEFINITION	EXAMPLE
Copyright	Protection to an author of an original work, including the right to copy, distribute, and adapt that work.	The author of a play (created after 1978) has copyright protection for his/her life + 70 years, after which the work passes into public domain. (The public domain indicates that

		ownership of the work is public and can be used freely by anyone.
Intellectual Property	Refers to both the products of the mind and the accompanying legal protection for these intangible assets.	Industrial icons such as the Nike swoosh, or the Lexus branding symbol.
Fair Use Doctrine	Conditions under which a work can be used without permission.	An image based on a well-known scene in the film The Godfather that appears in a newspaper article.
Derivative Work	A new product created from an existing original product.	The GIMP text book, which is based on the pre-existing GIMP 2.0 book.

Licensing Your Work with Creative Commons

To many of us, the thought of dealing with lawyers or anything remotely legal makes us want to head for the hills. It is possible to license (and share) your work using licenses known as **Creative Commons Licenses** without the use of lawyers or expensive fees. Creative Commons (www.creativecommons.org) is a nonprofit organization devoted to making it easier for people to share and build upon the works of others by offering free licenses and legal tools with which to mark creative work. Using a Creative Commons License allows you to keep your copyright, while allowing others to copy and distribute your work. You determine the conditions: you may insist that you be credited, you can decide if you will permit commercial use of your work or if your work can be modified. **Figure 7** shows the Creative Commons Licenses that can be applied to any work. The six licenses offered are then composed of combinations of license conditions, and consists of:

Attribution (*cc by*): The simplest of all Creative Commons licenses, in which any user (commercial or non-commercial) can distribute, modify, or enhance your work, provided you are credited.

Attribution Share Alike (*cc by-sa*): The same as Attribution, except that the new owner must create their license under the same terms you used.

Attribution No Derivatives (*cc by-nd*): Your work can be distributed by others, but not modified and in its entirety, with you being credited.

Attribution Non-Commercial (*cc by-nc*): Your work can be distributed, modified, or enhanced, with credit to you, for non-commercial purposes only, but must be licensed under the identical terms. All derivative work must carry the same license, and be non-commercial.

Attribution Non-Commercial No Derivatives (*cc by-nc-nd*): This is the most restrictive license category. Redistribution is allowed as long as credit is given. The work cannot be modified or used commercially.

Figure 7 *Creative Commons Licenses*

LICENSES	TERMS
	 Attribution BY Others can copy, distribute, display, perform and remix your work if they credit your name as requested by you
	
	 No Derivative Works ND Others can only copy, distribute, display or perform verbatim copies of your work
	 Share Alike SA Others can distribute your work only under a license identical to the one you have chosen for your work
	
	 Non-Commercial NC Others can copy, distribute, display, perform or remix your work but for non-commercial purposes only.

SKILLS REFERENCE

TO DO THIS:	USE THIS METHOD:
Close a file	Ctrl+W
Create a new file	Ctrl+N
Exit GIMP	Ctrl+Q
Free Select Tool	F
Open a file	Ctrl+O
Save a file	Ctrl+S
Save As	Shift+Ctrl+S

SKILLS REVIEW

Start GIMP

1. Start GIMP
2. Create a new image that is 500x600 pixels
3. Save it as **Review**

Open and save an image

4. Open 1-3 from **Student Key/Student Files/GIMP Ch. 1**
5. Save it as **Rafting**

Examine the GIMP window

6. Locate the image title bar and the current zoom percentage, then change the padding color to theme
7. Locate the menu you use to open an image
8. View the Toolbox panel and the Tool Options panel

Close a file and exit GIMP

9. Close the Rafting file
10. Close the Review file
11. Exit GIMP

CHAPTER 2

LEARNING GIMP BASICS

Objectives:

- Use organizational and management features
- Use the Layers and History panels
- Learn about GIMP by using Help
- View and print an image

Working Magic with GIMP

The essence of working with images in GIMP is based on an understanding of layers. Every image opened in GIMP is made up of one or more layers, and it is within these layers that you, as an artist, work your magic. The order of layers in an image, and the effects applied to them, can make one image very different from another.

Learning to Love Layers

Once you become more comfortable using GIMP, you'll understand the importance of each of the panels. Some panels, such as the Layers panel, are vital to using GIMP. Since the layers are the key to creating and manipulating GIMP images, the Layers panel is one that we depend on most, for it tells us at-a-glance the order and type of layers within an image. And if the Layers panel is the map of the GIMP image, the History panel provides step-by-step instructions that let us know how we got to our destination.

Finding Help when You Need It

A complex program like GIMP needs a robust Help system. You'll find that the Help system, which is accessed using your browser, doesn't disappoint. Plus there are a ton of YouTube video tutorials that will also help you out.

Viewing and Printing

While not everyone prints each one of their images, nearly everyone needs to zoom in and out to get a better look at different areas. Using the Zoom tools, you can view the areas you need to focus on in as high or as low of a magnification as you want. If you do want to print out an image, GIMP offers great tools to do so.

Lesson 1

USE ORGANIZATIONAL AND MANAGEMENT FEATURES

Project Management and Complexity

If you ask any client what they want in their project, they'll most likely say something to the effect that they want it now, they want it done well, and they want it to not cost a lot. These three variables (performance, time, and cost) that are shown in **Figure 8** comprise the **project scope** and illustrate the complexity that exists in any project.

- If the project is a low price and complete quickly, with the quality be satisfactory?
- If the project is completed quickly and the quality is good, will the price be affordable?

Ask the client, and they'll say they want all three elements. But is this a realistic expectation.

Figure 8 *Project Complexity Triangle*



Project Management Principles

Project management is the execution of a plan that brings a project to a successful completion. No longer is project management as simple as saying “you do this’ and ‘I’ll do that’. A good project manager has to wear many hats and needs to have a thorough understanding of many elements, including budgetary requirements, client needs, production limitations, availability of supplies (industrial and human resources), identification of deliverables (such as specifications comps or sketches), and timeline management. Like an air traffic controller, a project manager must see what’s in front, off to the side, and just around the bend.

Project management is not static: you don’t get it all formulated and then just let it sit. Good project management requires periodic revisiting and revision. Without this periodic review, a project may suffer from **scope creep**, a condition to be avoided in which a project seems to have lost its way. Communication review methods vary, but can and should include periodic peer reviews and surveys, and are important feedback measurements. Scope creep can lead to budget overruns and failure to bring a product to market in a timely fashion. All too often, a project can become a victim of its own planning. Since a project plan is writing down, many consider it to be “written in stone”. In fact, a project has so many opportunities to fall off the track: project members become ill, weather becomes a limiting factor, suppliers fail to deliver when promised, or the plan may have been ill-conceived. See **Table 4** for some commonly used project management terms.

TABLE 4: COMMONLY USED PROJECT MANAGEMENT TERMS

TERM	DEFINITION	EXAMPLE
Project Scope	The goals and objectives of the project.	Creation of a website, including images.
Tasks	Specific goals that lead to the ultimate completion of the project	Choose colors, collect photos, and creates logo.
Due Dates	When specific tasks must be completed in order to achieve the ultimate goal.	Secure image permissions before website goes live.
Resource Allocation	How to best utilize resources, including budgetary constraints, human resources (including outsourcing), and supplies	Ensure that image fees stay within budget and designer spends no more than 25% of her time.

Lesson 2

USE THE LAYERS AND HISTORY PANEL

You can think of layers in a GIMP image as individual sheets of clear plastic that are in a stack. It's possible for your file to quickly accumulate dozens of layers. The **Layers panel** displays all the individual layers in an open file. You can use the Layers panel to create, copy, delete, display, hide, merge, lock, group, or reposition layers.

Learning About Layers

A **layer** is a section within an image that can be manipulated independently. Layers allow you to control individual elements within an image and create great dramatic effects and variations of the same image. Layers enable you to easily manipulate individual characteristics within an image. Each GIMP file has at least one layer, and can contain many individual layers, or groups of layers.

In GIMP, using and understanding layers is the key to success.

Understanding the Layers Panel

The order in which the layers appear on the Layers panel matches the order in which they appear in the image; the top layer in the Layers panel is the top layer on the image. You can make a layer active by clicking its name on the Layers panel. When a layer is active, it is highlighted on the Layers panel, and the name of the layer appears in parentheses in the image title bar. Only one layer can be active at a time. **Figure 9** shows an image with its Layers panel. Do you see that this image contains six layers? Each layer can be moved or modified individually on the panel to give a different effect to the overall image. If you look at the Layers panel, you'll see that the GIMP type layer is blue indicating that it is currently active.

Get in the habit of shifting your eye from the image in the work area to the Layers panel. Knowing which layer is active will save you time and help you troubleshoot an image.

Filtering Layers

Layers can be filtered from within the Layers panel to build a short list of layers. This short list can be organized by Kind, Name, Effect, Mode, Attribute, or Color and can be created by clicking the Filter list arrow on the Layers panel. You can also filter layers using any of the five preset filtering buttons.

Displaying and Hiding Layers

You can use the Layers panel to control which layers are visible in an image. You can show or hide a layer by clicking the Indicates layer visibility button next to the layer thumbnail. When a layer is hidden, you are not able to merge it with another, select it, or print it.

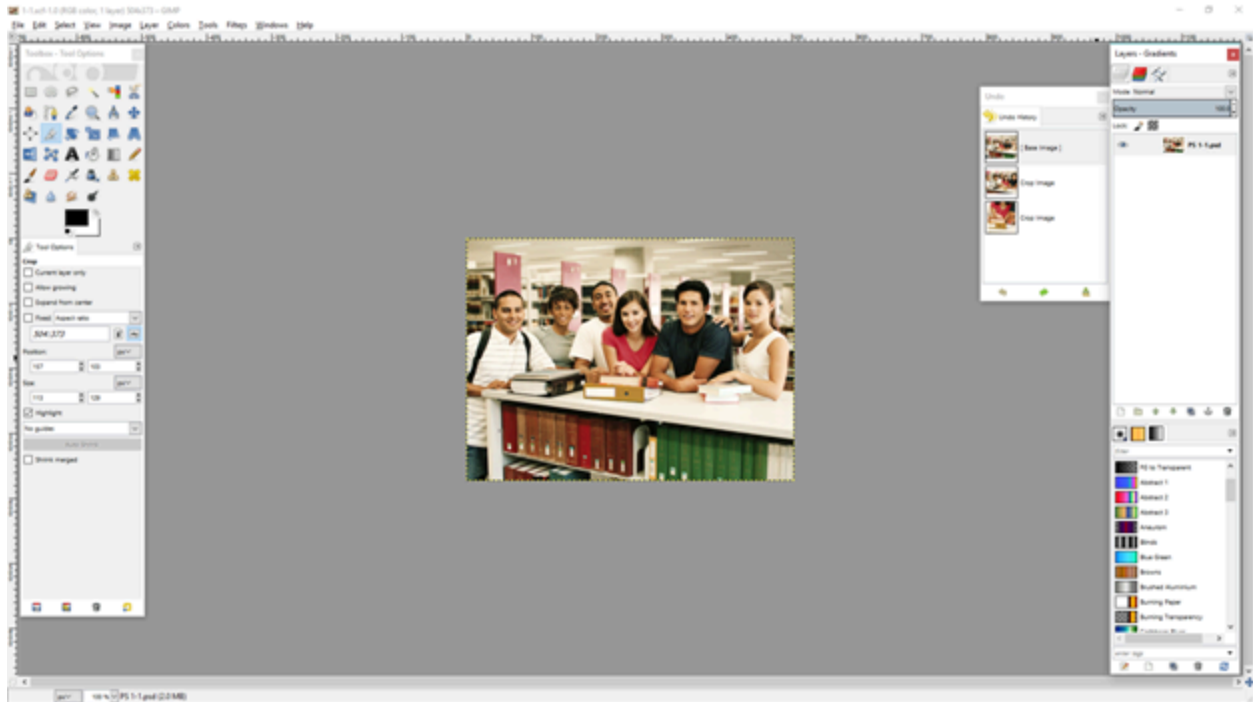
Hiding some layers can make it easier to focus on particular areas of an image.

Using the History Panel

GIMP records each task you complete in an image on the **History panel**. This record of events, called states, makes it easy to see what changes occurred and the tools or commands that you used to make the modifications. The History panel, shown in **Figure 9**, displays up to 20 states by default and automatically updates the list to display the most recently performed task. The list contains the name of the tool or command used to change the image you can delete a state on the History panel by selecting it and dragging it to the Delete current state button. Deleting a state is equivalent to using the Undo command. You can also use the History panel to create a new image from any state.

When you delete a History state, you undo the state as well as all the events that followed the state.

Figure 9 *Layers and History Panels*



Step Step-by-Step 2.1

Hide and display a layer

1. Click **File** on the Menu bar, then click **Open**
2. Navigate to your **Student Key/Student Files/GIMP Ch. 2/ 2-1**, click **Open**
3. **Save As: Wedding Day** in **Student Key/Gimp/Ch. 2**
4. Click on the **Rings Layer** in the Layers panel
5. Click the **Indicates Layer Visibility** button

Move a layer on the Layers panel and delete a state on the History Panel

1. Click the **Indicates Layer Visibility button** on the Rings Layer
2. Click the **EYE** on the **Hands Layer** to hide the layer
3. Click and drag the **Hands Layer** on the layers panel beneath the **Rings Layer**
4. Click the **Undo History Dialog Tab** and at the bottom left of that panel click the **yellow undo button** 1 time
5. Click the **Floppy to Re-Save**

Lesson 3

LEARN ABOUT GIMP BY USING HELP

Understanding the Power of Help

GIMP features a Help system that you can use to access definitions, explanations, and useful tips. Help information is displayed in a browser window, so you must have a web browser available to view the information.

Using Help Topics

The Home page of the GIMP help/Topics list displays detailed categories that you can use to retrieve information about GIMP commands and features. The following topics are available in the GIMP online pop out menu:

- Developer Website
- Main Website
- Plug-in Registry
- User Manual Website

The following topics are available in the User Manual pop out menu:

- Basic Concepts
- Create, Open, & Save Files
- Drawing Simple Objects
- How to use dialogs
- Preparing your Images for the Web
- Using Paths
- Working with Digital Camera Photos

When you click a link, GIMP Help takes you directly to the information you've selected. There will be a menu on the left of the web browser box and it will give you more Help options to choose from.

Step Step-by-Step 2.2

Find information in pop out menus

1. Click **Help** on the Menu bar, hover your mouse over **User Manual**, then click **Basic Concepts**. If a dialog box appears telling you to access the manual online, choose online.
2. Click the **Plus Sign** next to **GNU Image Manipulation Program**
3. Click the **Plus Sign** next to **I. Getting Started**
4. Click the **Plus Sign** next to **3. First Steps with Wilbur**
5. Double Click **1. Basic Concepts**
6. **Close** the GIMP Help Browser Window
7. Click the **Floppy** to **Re-Save**

Understanding the Differences Between Monitor, Images, and Device Resolution

Image resolution is determined by the number of pixels per inch (ppi) that are printed on a page. Pixel dimensions (the number of pixels along the height and width of a bitmap image) determine the amount of detail in an image, while resolution controls the amount of space over which the pixels are printed. Think of the differences between the picture quality on a standard-definition 480i television versus a high definition 1080i television. The high-definition image will be crisper and have more vibrant colors, whereas the standard definition image may look weak and washed out. High resolution

images show greater detail and more subtle color transitions than low resolution images. Lower resolution images can look grainy, like images in older newspapers.

Device resolution or printer resolution is measured by the ink dots per inch (dpi) produced by printers. You can set the resolution of your computer monitor to determine the detail with which images will be displayed. Each monitor should be calibrated to describe how the monitor reproduces colors. Monitor calibration is one of the first things you should do because it determines whether your colors are being accurately represented, which in turn determines how accurately your output will match your design intentions. **Screen Frequency**, or *line screen*, is the number of printer dots of halftone cells per inch used to print grayscale images or color separations and is measured in lines per inch (lpi). Printer calibration ensures that what you see on your monitor is translated to paper.

Lesson 4

VIEW AND PRINT AN IMAGE

Getting a Closer Look

When you edit an image in GIMP, it is important that you have a good view of the area on which you want to focus. GIMP has a variety of methods that allow you to enlarge or reduce your current view. You can use the Zoom tool by clicking the image to zoom in on (magnify the view) or zoom out of (reduce the view) areas of your image. Zooming in or out enlarges or reduces your view, not the actual image. The maximum zoom factor is 3200%. The current zoom percentage appears in the document's status bar, in the bottom left of the screen and in the View menu. When the Zoom tool is selected, the options box provides additional choices. You can also change the zoom percentage using the navigator panel on the status bar by typing a new value in the Zoom text box, and then pressing Enter.

Printing Your Image

In many cases, a professional print shop might be the best option for printing a GIMP image to get the highest quality. Lacking a professional print shop, you can print a GIMP image using a standard black-and-white or color printer from within GIMP. The printed image will be a composite of all visible layers. The quality of your printer and paper will affect the appearance of your output. The Print dialog box displays options for printing, such as paper orientation. **Orientation** is the direction in which an image appears on the page. In **Portrait Orientation**, the image is printed with the shorter edges of the paper at the top and bottom. In **Landscape Orientation**, the image is printed with the longer edges of the paper at the top and bottom.

Use the Print command when you want to print multiple copies of an image. The Print dialog box allows you to handle color values using color management and printer profiles. Use the Print One Copy command to print a single copy without making dialog box selections.

Printed images vs. on-screen images

Why isn't what you see on your computer screen the same as your printer output? Well, these two items are different because video monitors and printers work very differently. A printed image is measured in inches or centimeters, and its size is modified on paper by scaling. Also, an image size does not vary with its scanned resolution, and printed pixels are spaced using a specified scaled resolution. Image pixels are located at each screen pixel location. On screen, one screen pixel location contains one image pixel, and can be of any RGB value.

Using the GIMP Image Info Dialog Box

You can use the Image Info dialog box to identify a file, add a caption or other text, or add a copyright notice, as shown in **Figure 10**.

Figure 10 *Image Info Dialog Box*

Using the Navigator Panel

You can change the magnification factor of an image using the Navigator panel or the Zoom tool on the Tools panel. You can open the Navigator panel by clicking Window on

the Menu bar, and then clicking Navigator. By double-clicking the Zoom text box on the Navigator panel, you can enter a new magnification factor, and then press Enter. The magnification factor-shown as a percentage- is displayed in the lower-left corner of the Navigator panel. You can drag the proxy view area inside the Navigator panel to view other areas of the image at the current magnification factor.

Step Step-by-Step 2.3

Use the Zoom tool

1. Click the **Indicates layer visibility button** on the Layers panel for the Rings Layer so the layer is no longer displayed.
2. Click the **Indicates layer visibility button** on the Layer panel for the Hands layer so the layer is visible.
3. Click the **Zoom tool** on the Tools panel.
4. Position the **Zoom in pointer** over the center of the image. Press and hold down the **Ctrl** key on the keyboard and click the image twice.
5. Release the **Ctrl** key.
6. Change your **Zoom percentage** to **100%**.

Create a PDF file

1. Click the **File Menu**, click **Export As...**, Find **Student Key, GIMP, Ch. 2**
2. **Delete** everything that is in the **Name Box**.
3. Type **Wedding.pdf** (no spaces) in the **Name Box**.
4. At the bottom right of the box click the arrow next to the **File Types** box.

5. Scroll down the list. Locate and Click **Portable Document Format (PDF)**. Then click the **Export** button at the bottom of the box.
6. When the Export Image Dialog box pops up, click **Export**.

SKILLS REFERENCE

POWER USER SHORTCUTS	
TO DO THIS:	USE THIS METHOD:
Drag a Layer	
Hide a Layer	
Open Help	F1
Print File	Ctrl+P
Show a Layer	
Show History Panel	Windows, Document History

Zoom Tool	
Zoom In	Click on Picture
Zoom Out	Ctrl+Click on Picture

SKILLS REVIEW

Use the Layers and History Panel

1. Open 2-2.xcf from Student Files
2. Save as: Zenith Design Logo
3. Drag the Wine Glasses Layer so it is above the Zenith layer, then use the Undo History Panel to undo the state.
4. Use the Indicates Layer Visibility button to hide the Wine Glasses Layer.
5. Make the Wine Glasses Layer visible again.
6. Hide the Zenith Layer
7. Show the Zenith Layer
8. Show the Tag Line Layer

PROJECT BUILDER

1. Open 2-3.xcf from Student Files
2. Save as: Cooking
3. Make the Measuring Spoons Layer visible.
4. Drag the Oils Layer so the content appears behind the Skillet Layer content.
5. Drag the Measuring Spoons Layer above the Skillet Layer
6. Save the file.

CHAPTER 3

REMOVING BACKGROUNDS & SAVING

Objectives:

- Adding Alpha Channels
- Using Select Tools
- Saving as JPEG & PNG

Removing Background

You can use GIMP to remove backgrounds, objects and impurities from pictures. There are specific steps that you have to take to be able to do this

Understanding the Importance of Adding an Alpha Channel

Adding an Alpha Channel is the 1st step you have to take to be able to remove the background or an object from your picture. You have to make sure that your image is a JPEG or you have to save your image as a JPEG first before this option will be available for you to use. The Alpha Channel adds a transparent background to your image, so when you remove the object or background there will be absolutely nothing there.

Using Layers to Modify an Image

You can add, delete, and move layers in your image. You can also drag a portion of an image, called a **selection**, from one GIMP image to another. When you do this, a new layer is automatically created. Copying layers from one image to another makes it easy to transfer a complicated effect, a simple image, or a piece of type. In addition to being able to hide and display each layer, you can also change its opacity. **Opacity** is the ability to see through a layer so that layers beneath it are visible. The more opacity a layer has, the less see-through (transparent) it is. You can continuously change the overall appearance of your image by changing the order of your layers, until you achieve just the look you want.

Lesson 1

EXAMINE AND CONVERT LAYERS

Learning About the Layers Panel

The Layers panel lists all the layers within a GIMP file and makes it possible for you to manipulate one or more layers. By default, this panel is located on the right side of the screen, but it can be moved to a new location by detaching the panel and dragging the panel's tab. In some cases, the entire name of the layer might not appear on the panel. If a layer name is too long, an ellipsis appears, indicating that part of the name is hidden from view. You can view a layer's entire name by holding the pointer over the name until the full name appears. The **layer thumbnail** appears to the left of the layer name and contains a miniature picture of the layer's content, as shown in **Figure 1**. To the left of the layer thumbnail, you can add color, which you can use to easily identify layers. The Layers panel also contains common buttons, such as Delete layer button and the Create a new layer button.

Recognizing Layer Types

The Layers panel includes several types of layers: Backgrounds, type, adjustment, and image (non-type). The background layer whose name appears in italics – is always at the bottom of the stack. Type layers – layers that contain text – contain the type layer icon in the layer thumbnail, and image layers display a thumbnail of their contents. Adjustment layers, which affect the appearance layers, have a variety of thumbnails depending on the kind of adjustment. Along with dragging selections from one GIMP image to another, you can also drag objects created in other applications onto a GIMP image, which creates a layer containing the object you dragged from the other program window.

QUICK TIP: It is not necessary for a GIMP image to have a Background layer. However, if you don't have a Background layer, the background will take on the properties of all the layers and their opacities, which is more memory intensive than an **object layer** (a layer containing one or more images).

Organizing Layers

One of the benefits of using layers is that you can create different design effects by rearranging their order. **Figure 2** contains the same layers as **Figure 1**, but they are

arranged differently. Did you notice that the yellow striped balloon is in front of both the black-striped balloon and the lighthouse balloon? This image was created by dragging the layer containing the yellow balloon (names Layer 2 on the Layers panel) above the Black striped balloon layer. When organizing layers, you may find it helpful to resize the Layers panel so you can see more layers within the image.

Figure 1 *Image with multiple layers*

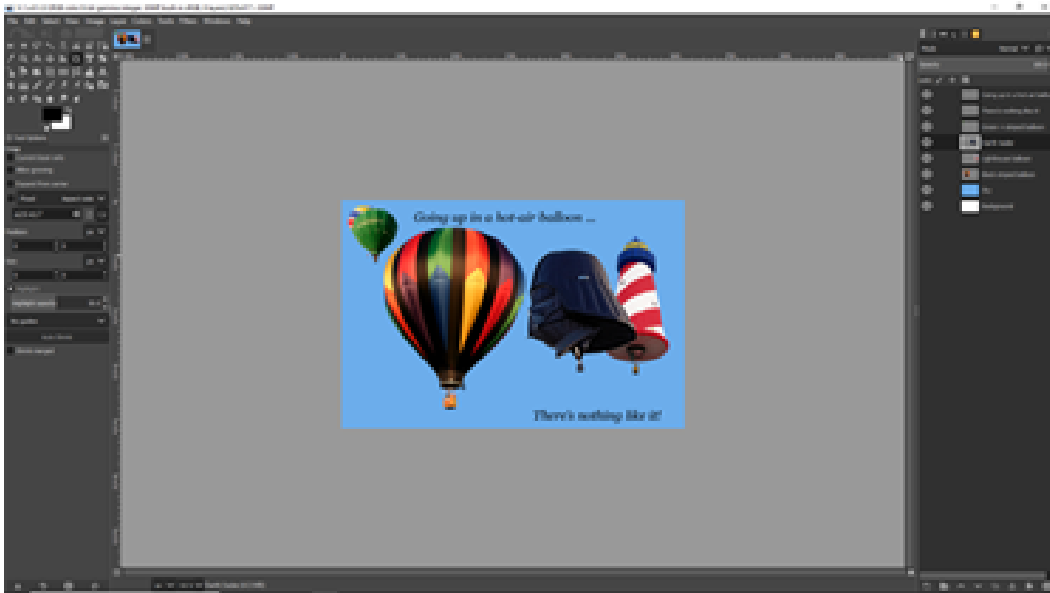


Figure 2 *Layers rearranged*

Converting Layers

When you open an image created with a digital camera, you'll notice that the entire image appears in the Background layer. The Background layer of any image is the initial layer and is always located at the bottom of the stack. You cannot change its position in the stack, nor can you change its opacity or lighten or darken its colors. You can, however, convert a Background layer into an image layer (non-type layer), and you can convert an image layer into a Background layer. You might want to convert a Background layer into an image layer so that you can use the full range of editing tools on the layer content. You might want to convert an image into a Background layer after you have made all your changes and want it to be the bottom layer in the stack. Note

that when you convert an image layer to a Background layer, you need to modify the image layer before converting it.

Using Rulers and Changing Units of Measurement

You can display horizontal and vertical rulers to help you better position elements. To display or hide rulers, click View on the Menu bar, and then click Rulers. (A check mark to the left of the Rulers command indicates that the rulers are displayed).

In addition to displaying or hiding rulers, you can also choose from various units of measurement. Your choices include pixels, inches, centimeters, millimeters, points, picas, and percentages. Pixels, for example, display more tick marks and can make it easier to make tiny adjustments. You can change the units of measurement by clicking Edit on the Menu bar and clicking Units. In the Units Editor box, click the units you want to use then press Refresh. The easiest way to change units of measurement, however, is shown in **Figure 3**. Once the rulers are displayed on the status bar you can click the unit of measurement that you want.

Pixel dimensions measure the number of pixels forming the width and height of an image, while resolution is the fineness of the detail in an image. The more pixels, the greater the resolution.

Step Step-by-Step 3.1

Convert an image layer into a background layer

1. Click **File** on the Menu bar, then click **Open**
2. Navigate to your **Student Key/Student Files/GIMP Ch. 3/ 3-1**, click **Open**
3. **Save As: Up in the air** in **Student Key/Gimp/Ch. 3**

TIP: If you receive a warning box about maximum compatibility or a message stating that some of the text layers need to be updated before they can be used for vector-based output, click Update and/or click OK.

4. Click **View** on the Menu bar, click **Rulers** if your rulers are not visible, then make sure that the rulers are displayed in pixels.

TIP: If you are unsure which units of measurement are used, look down at the status bar to see what unit of measurement is being used. Choose Pixels if it's not already selected.

5. Click the **Indicates Layer Visibility** button

Move a layer on the Layers panel and delete a state on the History Panel

1. Click the **Indicates Layer Visibility** button on the Rings Layer

2. Click the **EYE** on the **Hands Layer** to hide the layer

3. Click and drag the **Hands Layer** on the layers panel beneath the **Rings Layer**

4. Click the **Undo History Dialog Tab** and at the bottom left of that panel click the **yellow undo button** 1 time

5. Click the **Floppy** to **Re-Save**