

Milwaukee Linux Users Group presentation June 14th 2003

Running Adobe Photoshop under Wine

Color schemes

Additive colors

RED
GREEN
BLUE

Subtractive colors

CYAN
MAGENTA
YELLOW

the relationship between **Additive** and ***Subtractive colors***

RED = MAGENTA + YELLOW
GREEN = CYAN + YELLOW
BLUE = CYAN + MAGENTA
CYAN = GREEN + BLUE
MAGENTA = RED + BLUE
YELLOW = RED + GREEN

Color Depth is expressed in bits, generally the number of bits per channel. Cameras and Scanners output can be 8 B 16 bits, meaning that the each channel or color has from 256 to 65536 different values representing black (0) to white (255 in 8-bit to 65535 in 16-bit).

Input resolution - is expressed in samples per inch (spi) and represents the native input resolution of the image.

Output resolution - is expressed in dots per inch (dpi) and represents the output resolution of the image. For reproductions standards this is generally 300 dpi. The relationship is that as the resolution is lowered the output size of the image increases.

Pixels per inch - is the dimension of the image expressed in pixels (dots or samples as a unit of measure). A camera may produce an image as 2K x 3K (2048 x 3072). The 2K x 3K input would produce an output of 20.48@ x 30.72@ @ 100dpi, or 6.82@ x 10.24@ @ 300 dpi.

Graphics Processing Concepts

Channels -The different greyscales which make up an image in RGB, these are the Red, Green and Blue tonal ranges which define the colors of the individual images. In CMYK these are the four Cyan, Magenta, Yellow, and Black tonal ranges that make up the image. A Grayscale (Black & White Image) is a single channel in which the various colors have been mapped to a single gray value. The other channels are called alpha channels which are the masks or friskets which define are which work is being done on or areas which are being protected.

Layers - These are images or overlays which are applied to an image to modify or replace sections of an image. They are actually a group of channels whose transparency can be controlled as well as other properties. Think of them as a layer of acetate which can be turned on or off. Unlike the days before digital they can be blended from 1% to 100% to control the amount of effect they will have on the overall image.

Layer Properties -

Normal - does nothing, just the image usefull for compositing images

Dissolve - feathers the softer edges while harder edges are left alone.

Multiply - darkens an image by multiplying the underlying pixels, can be used to burn in an image bringing out lost detail in a highlight areas.

Screen - lightens an image by dividing the underlying pixels, can be used to lighten dark areas of image while maintaining overall shadow detail.

Overlay - screens the upper halftones of an image and multiplies the lower halftones. The general effect is in the saturation of the image graytones are unaffected.

Paths - These are vector shapes which outline parts of an image, allowing very precise selections to be made. Those selections can also be saved as alpha channels. They may also be defined as a clipping path which will define areas which will print from those that will not.

Wine premise - I have attempted this from the perspective of someone who did not previously use windows. The point being just what could you do to avoid having to have a complete windows setup on you machine. Even though you would have had windows to begin with.

Wine Installation is recommended to be in your home directory

The first time from the command-line you type:

```
>wine
```

you will be presented with a setup script, after which you are required to run

wine_default_setup_req or wine_set_default_reg check you /bin/lib/wine documentation for details. This will setup the fake-windows registry with values. In SUSE 8.1 this file is found in the /usr/bin directory. Or find it from the shell console with:

```
>find / -name wine_set_default_req
```

The configuration files will be stored in ~/.wine/support/config

Information about the drive configuration will be needed to install software under wine.

I was not able to get Photshop to run under wine itself probably because the wine version is generally slightly behind Crossover Office. Installation generally proceeded, but hung around the font and brush initialization process during startup. Hence **Plan B**

Codeweavers Crossover Office 2.0 - <http://www.codeweavers.com/home>

The configuration files will be stored in ~/cxoffice/support/dotwine/
cat config | less

Below is a *partial listing* showing the remapping and setup of the system for wine.

WINE REGISTRY Version 2

:: All keys relative to \\Machine\\Software\\Wine\\Wine\\Config

```

;;
;;
;; MS-DOS drives configuration
;;
;;
;; Each section has the following format:
;; [Drive X]
;; "Path"="xxx"      (Unix path for drive root)
;; "Type"="xxx"      (supported types are 'floppy', 'hd', 'cdrom' and 'network')
;; "Label"="xxx"     (drive label, at most 11 characters)
;; "Serial"="xxx"    (serial number, 8 characters hexadecimal number)
;; "Filesystem"="xxx" (supported types are 'msdos'/'dos'/'fat', 'win95'/'vfat', 'unix')
;; This is the FS Wine is supposed to emulate on a certain
;; directory structure.
;; Recommended:
;; - "win95" for ext2fs, VFAT and FAT32
;; - "msdos" for FAT16 (ugly, upgrading to VFAT driver strongly recommended)
;; DON'T use "unix" unless you intend to port programs using Winelib !
;; "Device"="/dev/xx" (only if you want to allow raw device access)
;;
;;
[Drive A]
"Path" = "/media/floppy"
"Type" = "floppy"
"Label" = "FLOPPY1"
"Device" = "auto"
[Drive C]
"Path" = "fake_windows"
"Type" = "hd"
"Label" = "fake_windows"
"Filesystem" = "win95"
"Codepage" = "0"

[Drive M]
"Type" = "cdrom"
"Path" = "/media/cdrecorder"
"Label" = "CD-ROM1"
"Filesystem" = "win95"
"Device" = "auto"
[Drive N]
"Type" = "cdrom"
"Path" = "/media/cdrom"
"Label" = "CD-ROM2"
"Filesystem" = "win95"
"Device" = "auto"

```

Installation of Photoshop:

From the KDE menu start Crossover Office -

Menu > Crossover > Office Setup

From the Konsole -

```
~/cxoffice/bin/cxsetup
```

then Install from the Add/Remove Tab

Photoshop is one of the preconfigured setups -It may also help to know what each drive letter is mapped to each device which you can obtain from the config file at `~/cxoffice/support/dotwine/support/config`

If you are installing from an upgrade disk, you may need to open a konsole window to unmount and mount the cdrom. Once mounted wait at least 30 seconds or so to allow the mounting process to complete before proceeding. Allowing the the new disk will be recognized by the Installation program.

This is how I was finally able to get Photoshop working, it will install, Photoshop 5.5, 6.0 and 7.0 that I know of for sure. Minimum requirements for memory according to Adobe is 128mb for Windows systems, for practical applications minimum 256mb.

Usefull tips:

Commands requiring the ALT key in Windows generally require the SHIFT + ALT keys in Wine under LINUX. If the Photoshop start to drag, make sure that you are at a finish point and under Edit > Purge > all dump the cache. Especially if you are working on a rather large image with limited memory resources defined as less than (200mb + 5 * your image size).

Virtual Memory - Photoshop has it own Swap file using the largest continuous space, which can span several drives. This is configured under the menu Edit > Preferences > Plugins and Scratch Disks. Photoshop will allow the use of 4 separate scratch disks, by default the Scratch Disk is the drive which Photoshop start on, which would be fake_windows or on a single system disk in Linux is root. When you change the configuration of swap disks, close and restart Photoshop for the effect to occur. ***It is best to assign that Swap file to its own drive -HINT - NOT the Root file system.***

Memory and Image Cache - This is configured under the menu Edit > Preferences > Memory & Image Cache. The Default setting is 50% increasing this will allocate more memory to Photoshop. You can generally set up to a maximum of 85%. Judge this by the way the system functions. The default setting for the image cache is 4, increasing it will speed up screen refreshing, but is probably best to leave it at 4.

History - The default for this is found under Edit > Preferences > General and is 20. This controls the number of steps which can be undone. It is a big memory hog, 20 is generally enough. The history palette is cleared under Edit > Histories. This applies only to Photoshop versions 6.0 - 7.0

Gotchas

File and directory permissions become a sticking point with Linux. Remember to change the write permissions when copying files from CD to the HD.

I have not found anything that will not eventually work, at first things will not work ImageReady, saving selections. However they will suddenly begin to work for some unexplained reason. Using the **hand** tool may be slow initially, then will work smoothly. It appears that certain routines are not always available quickly. These things seem to pass. This may be due to the various program modules getting loaded into the system.

The SHIFT key generally must be used with in addition to the ALT key for normal hotkey operations.

Photoshop is an extremely stable program, if you are experiencing lockups or crashes, and particularly if you are using AMD processors. Use memtest (all of the tests) to check to sure you don't have bad memory. Photoshop uses very fast processing routines that will push your system to the limits.

Sources Photoshop - Retail ~\$600, Educational Discount (if you are a student, or teacher) ~\$250, Epson also was providing a Photoshop LE version on its Driver disk for some of its printers. The Limited Editions has most of the tools, but only allows work in RGB.

Photoshop database Help:

<http://appdb.winehq.com/appview.php?appId=17;PHPSESSID=8c68c2c23f27e35e7cc6f4fd108216b7>

Sources for plugins, tutorials and actions:

National Association of Professional Photoshop users B membership is \$99.00 per year and includes a subscription to there magazine APhotoshop User@. The also have workshops member get a discount, which are worth taking at least one, once you have a basic understanding of the commands, and layout. Otherwise you will be much time figuring out where things are instead of what they do. <http://www.photoshouser.com>

While the listings below deal with Photoshop, they cover the advanced techniques which are applicable to all image manipulation.

Recommended reading advanced techniques:

“Photo-Retouching Secrets” - Scott Kelby
ISBN 0-7357-1146-1

‘Photoshop Restoration & Retouching” - Katrin Eismann
ISBN 0-7897-2318-2

“Professional Photoshop the classic guide to color correction” - Dan Margulis
ISBN 0-471-40399-7

“Photoshop Channel Chops” - David Biedny, Burt Monroy, Nathan Moody
ISBN 1-56205-723-5

Wine information resources:

Main Development page - <http://www.winehq.com/>

Current versions of wine binaries - <http://www.winehq.com/?page=download>

Wine Users Guide - <http://www.winehq.com/Docs/wine-user/>

Wine FAQ - <http://www.winehq.com/Docs/wine-faq/t1.shtml>

Wine Library Users Guide - <http://www.winehq.com/Docs/winelib-user/>

Wine Documentation - <http://www.winehq.com/?page=documentation>

Wine Application Database - <http://appdb.winehq.com/>

Codeweavers Crossover Office - <http://www.codeweavers.com/home>

Other Photoshop Resources -

<http://www.photoshopcafe.com>

<http://www.photoshoproadmap.com>

Other Image Manipulation Programs under Wine:

Corel Photopaint 9:

Linux Format December 2000 LFX08 CD/DVD

[CorelPHOTOPAINT9Lnx.tar.gz](#)

[CorelPHOTOPAINT9LnxDeb.tar.gz](#)

[CorelPHOTOPAINT9LnxRPM.tar.gz](#)

Other Image Manipulation Programs:

Gimp - <http://www.gimp.org/download.html>

Gimp Plug-ins - <http://registry.gimp.org/index.jsp>

Graphics Muse Tools CD - <http://www.graphics-muse.com/gfxmuse/gfxmuse.html>

Other Image Processing Packages -

<http://www.graphics-muse.com/cgi/gmcat.pl?id=217>