

# One

# HOME



**Earth Day 2013:  
April 22**

**The Face Of  
Climate Change**

*Windows Migration:  
Desktop Environments &  
Window Managers*

*Windows Migration: One  
Installation, Two (Or More)  
Desktop Environments*

*Inkscape: Starting Your  
First Project*

*Gimp Tutorial:  
Explore The Create Menu*

*Xfce Power User Tips, Tricks, &  
Tweaks: Archive File  
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*Game Zone: iBomber Attack*

*PCLinuxOS Saves The Day!*

*Normalize Your MP3 Files With  
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The **PCLinuxOS** magazine

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# Welcome From The Chief Editor

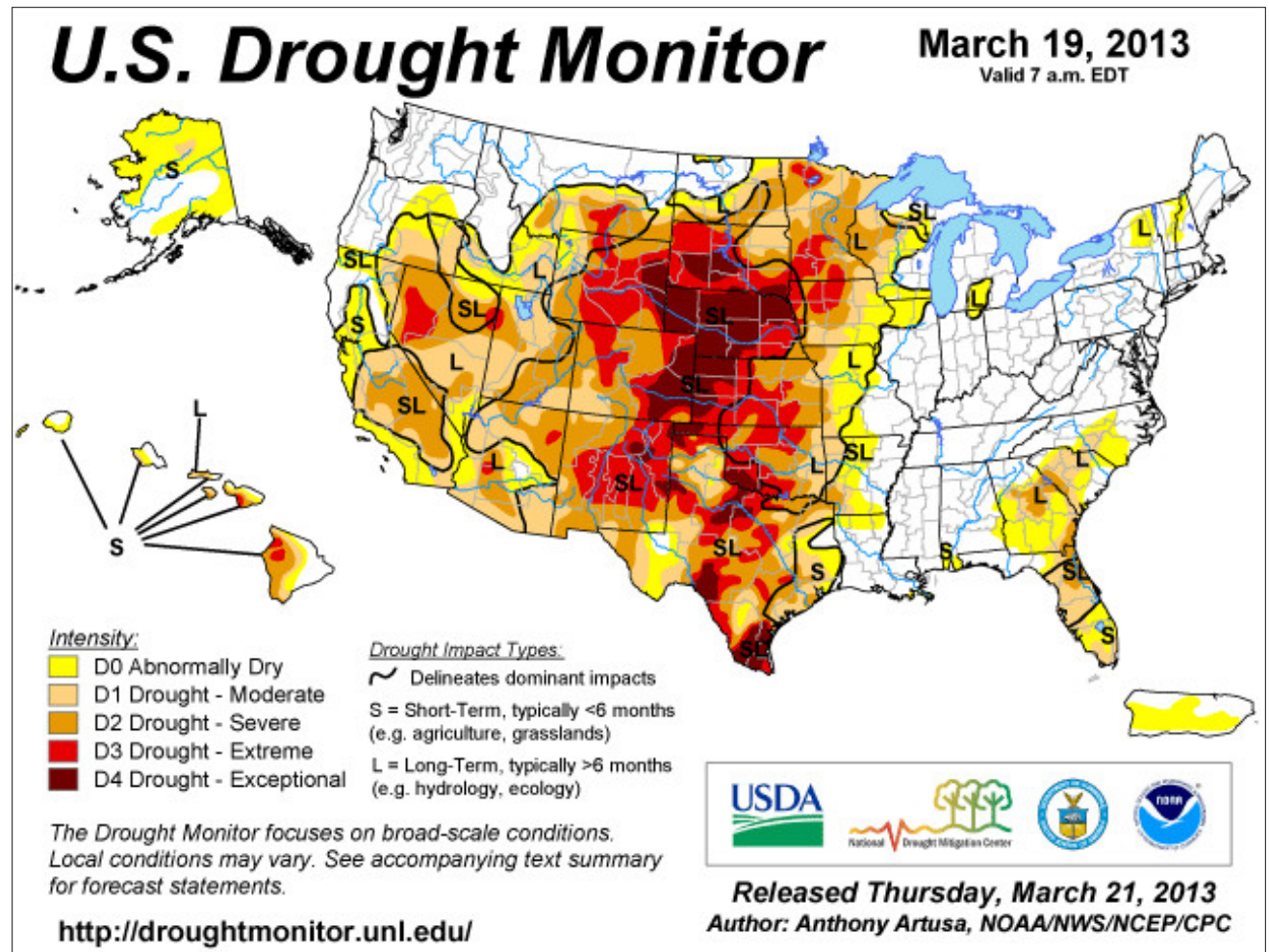
Talk about deja vu! Last month, as I was writing my welcome column, the Kansas City area was bracing for the second of two heavy snow storms to hit the city. Between those two storms, we received in excess of 20 inches (50.8 cm) of snow.

As late winter and early spring snow storms do, the heavy snow fell, then it warmed up and it melted. All of the original snow from the first two snow storms is (was?) completely gone. Now, sitting here writing this month's welcome column, we got hit with yet another spring snow storm. As I'm writing this, we've received another 8+ inches (20.3 cm) of the cold, white precipitation overnight – and it's still coming down.

The precipitation – in whatever form – is welcome relief. In 2012, as the folks in London were lamenting the excessive rain during the 2012 Summer Olympics, the U.S. suffered through one of its worst droughts since the dust bowl days of the Great Depression. Last July, over 55 percent of the U.S. had been experiencing conditions of severe or extreme drought. In some areas, like western Kansas, it has been described as a drought feeding upon itself. With little to no moisture to evaporate from the ground and plants, the atmosphere remains dry and cloud formation suffers, nixing chances for any significant precipitation.

Even now, the drought has maintained its grip on the country. Here is a graphic from the University of Nebraska-Lincoln's [National Drought Mitigation Center](#), with co-sponsorship from NOAA and the U.S. Department of Agriculture, that illustrates the situation quite well.

I could bore you to tears with graphic after graphic about the situation around the area where I live – but



I won't. The information is quite easy enough to find on your own, if you are interested in this topic.

So, why all the talk about the weather and the protracted drought we've experienced around my area of this world? Earth Day 2013 is on April 22, and this year's theme is "the face of climate

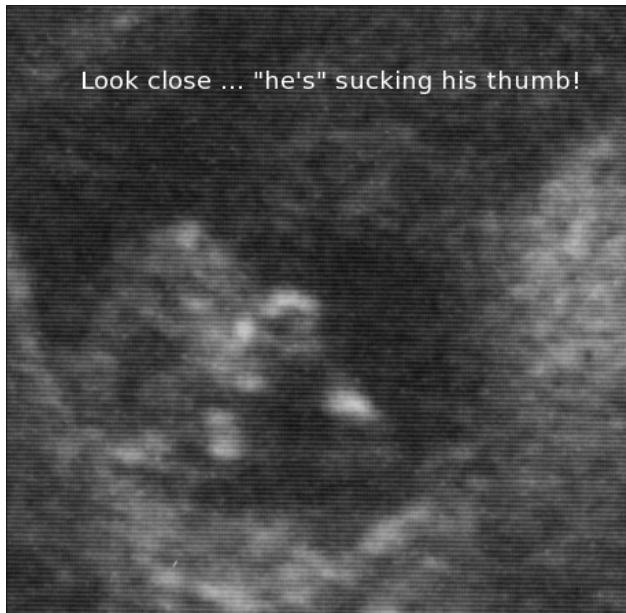
change." I created this month's magazine cover to highlight Earth Day 2013, and we've also ran a press release from the Earth Day folks in the pages of this month's magazine.

It doesn't matter on which side of the climate change debate you reside. The climate affects each and

every one of us on a daily basis. Around my part of the world, the protracted drought has had a profound effect. Not only has it affected agriculture (a huge concern around my part of the world), but it has affected how people care for their lawns and gardens (many have given up until relief from the drought is seen), it has driven food prices higher at a time when most people's financial situation is weakening, it has caused groundwater reserves to be reduced to historically low levels, and these things represent just barely the tip of the problem.

These effects ripple outward to affect all areas of society on a global scale. Even if you aren't directly affected by the drought that me, Meemaw, BubbaBlues, grnich and many other PCLinuxOS community members are enduring, you are affected by higher food prices, since a lot of food grown around this area is exported to other areas of the world. The farther you are from the impact that causes the ripple, the less the ripple's effect – but you are affected, nonetheless.

Now ... to completely change the topic. Take a look at the next image.



Yep! Another future PCLinuxOS user is on his way! After trying – and failing – to “get pregnant” for much of seven years, my wife Laura, is carrying our first child. We are excited beyond description. Our new little, future PCLinuxOS user is due to arrive August 29. The picture is from the sonogram done at 11 weeks, 1 day gestation.

By the time this issue of the magazine is released, Laura will be somewhere between weeks 18 and 19 of the pregnancy. Yes, we kept it quiet for a while, given the huge obstacles we had to overcome to get here. We wanted to be sure everything was going well before we announced our news. To top it off, we received the best Christmas present of all last Christmas. That is when (Christmas morning) we first confirmed the pregnancy with a home pregnancy test.

We just refer to him as “Little Fella,” although we don't yet know the gender. In “babyland,” all babies are referred to as “hims” or “hes” until and unless proven otherwise. We, unlike many expectant parents, do not want to find out the gender of the baby until it is born. We figure it was good enough for our grandparents and parents, so it'll be good enough for us. We're just happy to be having a baby, after all of the trouble we've had “getting there.” When people ask what do we want, our reply is “healthy.”

So until next month, I wish each of you peace, tranquility, serenity and prosperity.



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# Earth Day 2013: The Face Of Climate Change

## EarthDay.org News Release

WASHINGTON – The global theme for Earth Day 2013 is “[The Face of Climate Change](#),” Earth Day Network announced. Earth Day Network, the group founded by the organizers of the first Earth Day to coordinate the annual day of action that builds and invigorates the environmental movement, said that this theme was chosen because of the need to highlight the mounting impact of climate change on individuals around the world.

“Many people think climate change is a remote problem, but the fact is that it’s already impacting real people, animals, and beloved places all over the world, and these Faces of Climate Change are multiplying every day,” said Kathleen Rogers, president of Earth Day Network. “Fortunately, other Faces of Climate Change are also multiplying every day: those stepping up to do something about it. For Earth Day 2013, we’ll bring our generation’s biggest environmental challenge down to size – the size of an individual faced with the consequences.”

Between now and Earth Day, Earth Day Network will collect and display images of people, animals, and places directly affected or threatened by climate change and tell the world their stories. The organization will mobilize its extensive global network of Earth Day event organizers and other partners to help collect the images. But they’re also asking ordinary people to become “climate reporters” and send their pictures and stories that show The Face of Climate Change.

On and around Earth Day – April 22 – an interactive digital display of all the images will be shown at thousands of events around the world, including next to federal government buildings in countries that



*Burned up corn crop, south of Ottawa, Kansas, due to the protracted drought ... August 2012 (Paul Arnote)*

produce the most carbon pollution. The display will also be made available online to anyone who wants to view or show it.

The campaign is focusing heavily on social media. Organizers are asking people to tweet using the hashtag #FaceOfClimate, and “climate reporters” can also post photos to Twitter and Instagram using that hashtag for inclusion in the digital display.

Photos can also be uploaded on the [Earth Day 2013](#) website.

“The Face of Climate Change will not only personalize and make real the massive challenge that climate change presents, it will unite the myriad Earth Day events around the world into one call to action at a critical time,” said Franklin Russell, director of Earth Day at Earth Day Network.



*Alaskan polar bear on sea ice (NOAA).*

2012 was marked by many climate change milestones. Arctic sea-ice cover reached a record low in September, a new high-water mark in a long-term decline. The United States experienced its hottest year ever; this, after the World Meteorological Organization announced that the first decade of this century was the hottest on record for the entire planet. Public perception of extreme weather events as “the new normal” grew as unusual superstorms rocked the Caribbean, the Philippines and the northeastern United States; droughts plagued northern Brazil, Russia, China, and two-thirds of United States; exceptional floods inundated Nigeria, Pakistan, and parts of China; and

more. Meanwhile, international climate change talks stagnated. But glimmers of hope for a political solution began appearing in recent months, perhaps most notably in U.S. President Barack Obama's high-profile promises to tackle climate change during his second term.

This is why organizers say that 2013 is ripe for a major push to confront climate change.

Each year, more than one billion people participate in Earth Day-related activities, making it the largest civic observance in the world. On and around April 22, communities across approximately 192 countries voice their concerns for the planet and take action to protect it.

"We'll harness that power to show the world The Face of Climate Change," said Russell. "And we'll call on our leaders to act boldly together, as we have, on this critical issue."

To learn more about Earth Day 2013 and The Face of Climate Change, go to [www.earthday.org/2013](http://www.earthday.org/2013).



## Screenshot Showcase



Posted by wierdwoolf, March 21, 2013, running LXDE.



# Windows Migration: Desktop Environments & Window Managers

by agmg (Antonis Komis)

## Introduction

Coming from Windows to Linux and looking for a distribution to begin your journey with, one of the first things you will probably notice is the difference between them. Different names, applications, software management, desktop environments... wait, what? What is a Desktop Environment and how can Linux provide so many choices?

Windows and MacOS come with a pretty standard graphical user interface (GUI) that has very limited customization options. The term GUI describes the user interface that allows a user to interact with the computer using images rather than text commands. It typically consists of windows, icons, cursors, panels, toolbars, wallpapers and desktop widgets. While Windows and MacOS are designed and built around a specific GUI, Linux's GUI is completely separate from the operating system itself.

The Linux desktop basically consists of four elements:

**X Window system (X11):** is a computer software system and network protocol that provides a basis for graphical user interfaces (GUIs) and rich input device capability for networked computers. This is the foundation that allows for graphic elements to be drawn on the display. The X Window system builds the primitive framework that allows moving of windows, interactions with keyboard and mouse, and draws windows. This is required for any graphical desktop.

**X.org Server:** X.org is the public, open-source implementation of the X window system. Since X.org

is the most popular choice among Linux users, its ubiquity has led to making it an ever-present requisite for GUI applications, resulting in massive adoption from most distributions.

**Window Manager (WM):** is system software that controls the placement and appearance of windows within a windowing system in a graphical user interface. It requires the X window system but not a desktop environment.

**Desktop Environment (DE):** includes a Window Manager but goes beyond that concept. A desktop environment is a far more fully integrated system which includes a suite of applications and utilities that are tightly integrated and will provide a more complete graphical experience. A desktop environment will also include some form of panel that includes a system tray where small widgets can be placed for quick action or information.

In general, Linux distributions provide different editions based on the desktop environment they use. This is the case also with PCLinuxOS. But, even though you may be using a specific desktop environment (which includes a specific window manager and a default set of integrated applications), there's nothing stopping you from installing more. You can choose a different desktop environment each time you login. The possibilities and combinations are endless! Don't be afraid to experiment and choose the right one for you. After all, this is one of the main advantages of Linux: freedom of choice!

This article will try to cover most desktop environments and window managers that are available for Linux today. Some of them are available in PCLinuxOS (either as a different edition

or as a package download) and some of them are not.

## Desktop Environments

### KDE



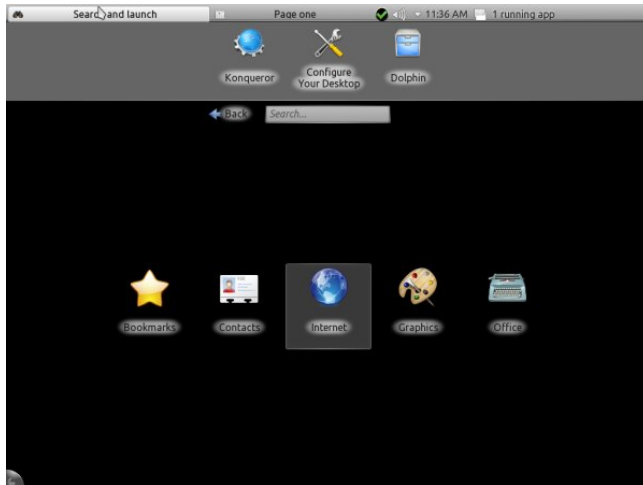
*The default PCLinuxOS KDE Plasma Workspace.*

KDE is an international free software community developing a wide variety of cross-platform applications for communication, work, education and entertainment.

KDE is mostly known among Linux and Unix users for its Plasma Desktop, an innovative desktop interface which aims to be user-friendly and highly customizable at the same time. Plasma Desktop also includes various workspace applications to aid with system configuration, running programs, or interacting with hardware devices. While the fully integrated KDE Workspaces are only available on Linux and Unix, some of these features are available on other platforms. Plasma Desktop currently offers

# Windows Migration: Desktop Environments & Window Managers

two versions, known as Workspaces: the Desktop Workspace, which is designed for desktop PCs or larger laptops and the Netbook Workspace, which is aimed at netbooks but can also be used in Tablet PCs.



*The Netbook Workspace of KDE.*

In addition to the workspace, KDE produces a number of key applications such as the Konqueror web browser, Dolphin file manager and Kontact, the comprehensive personal information management suite. Other well known applications provided by KDE are Calligra (full office suite), K3B (disk burning software), Amarok (music player), Dragon Player (video player), digiKam (image editor and organizer), Gwenview (image viewer) and Okular (document viewer). However, its list of applications includes many others, including those for education, multimedia, office productivity, networking, games and much more. Most applications are available on all platforms supported by the KDE Development.

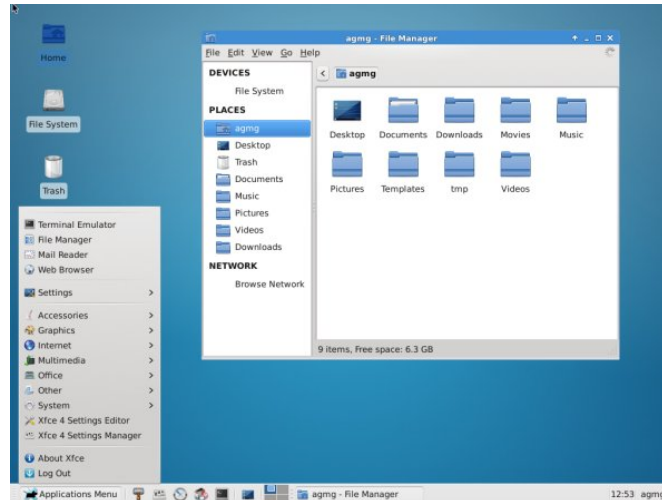
KDE also brings to the forefront many innovations for application developers. An entire infrastructure has been designed and implemented to help programmers create robust and comprehensive applications in the most efficient manner, eliminating the complexity and tediousness of creating highly functional applications.

You can find more info on KDE from the official website: <http://www.kde.org/>

KDE Plasma Desktop is used in the main edition of PCLinuxOS as well as in the Full Monty edition, but Full Monty has a special, activity-focused, desktop layout and a lot of customizations and preinstalled applications. KDE can also be used alongside any other desktop environment by installing the package **task-kde4** in Synaptic Package Manager.

KDE uses KWin as its default window manager.

## Xfce



*The default PCLinuxOS Xfce Desktop.*

Xfce is a lightweight desktop environment for UNIX-like operating systems. It aims to be fast and low on system resources, while still being visually appealing and user friendly.

It consists of separately packaged components that together provide the full functionality of the desktop environment, but which can be selected in subsets to create the user's preferred personal working environment. Xfce is mainly used for its ability to run

a modern desktop environment on relatively modest hardware.

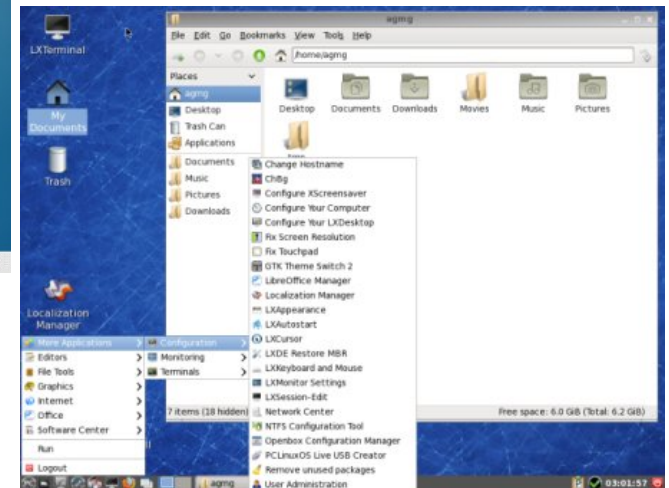
Xfce provides a handful of utilities for setting and customizing the desktop environment, as well as some key applications that add to the desktop environment's functionality, such as Midori, a lightweight web browser, Thunar file manager, Ristretto image viewer and Orage, a simple calendar application with reminders.

You can find more info on Xfce from the official website: <http://www.xfce.org/>

Xfce is offered as a community-released edition of PCLinuxOS but can also be used in other editions by installing the package **task-xfce4** in Synaptic Package Manager.

Xfce uses Xfwm as its default window manager.

## LXDE



*The default PCLinuxOS LXDE Desktop.*

The "Lightweight X11 Desktop Environment" is an extremely fast-performing and energy-saving desktop environment. Maintained by an international



# Windows Migration: Desktop Environments & Window Managers

community of developers, it comes with a beautiful interface, multi-language support, standard keyboard short cuts and additional features like tabbed file browsing. LXDE uses less CPU and less RAM than other environments. It is especially designed for cloud computers with low hardware specifications, such as netbooks, mobile devices (e.g. MIDs) or older computers.

Like the previous desktop environments, LXDE also integrates a bundle of applications and utilities that provide a complete user experience.

You can find more info on LXDE from the official website: <http://lxde.org/>

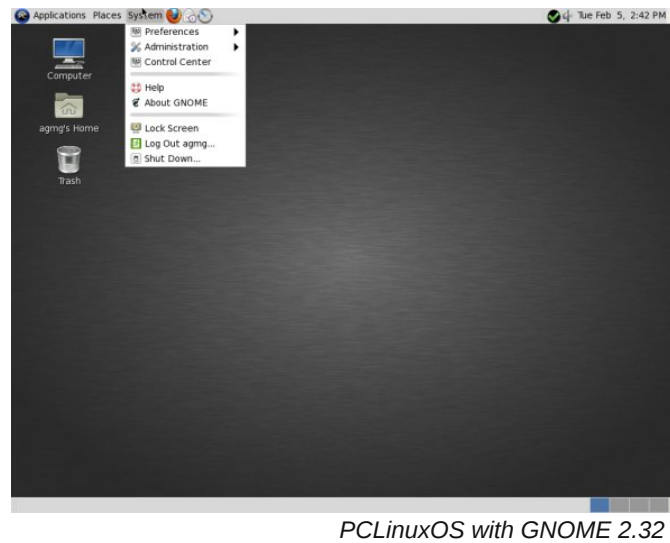
LXDE is also offered as a community-released edition of PCLinuxOS but can also be used in other editions by installing the package **task-lxde** in Synaptic Package Manager.

LXDE uses Openbox as its default window manager.

## GNOME

GNOME project is an international community dedicated in making great software that anyone can use. It provides the GNOME desktop environment, consisting of the graphical user interface and several core applications (file manager, web browser, music and video players etc) and the GNOME development platform, an extensive framework for building applications that integrate into the rest of the desktop and mobile user interface. It was originally started at 1999 as an open-source alternative to KDE, which was using the (proprietary at that time) Qt toolkit. GNOME project is part of the GNU project (<http://www.gnu.org/>).

The first version of GNOME (desktop environment) was released on March 1999 but it wasn't until 2002 and the release of version 2.0 that GNOME became widely known and used in various Linux distributions. GNOME 2 has been one of the most



PCLinuxOS with GNOME 2.32



Gnome 3

popular and favourite desktop environments among Linux users and is always considered KDE's opposing force, (leading to great flame wars as to which one is the best). In 2011, GNOME project announced the release of version 3.0 (also known as GNOME Shell) and GNOME 2 stopped being maintained.

The release of GNOME 3 created great controversy in the Linux community, mostly due to its move away from the traditional desktop concept. This controversy and the vast popularity of the older GNOME 2 (which was used for almost a decade) has led to the creation of two forks: MATE and Cinnamon. Additionally, in November 2012 it was announced that a classic mode would be implemented to GNOME 3 via a set of supported gnome-shell extensions.

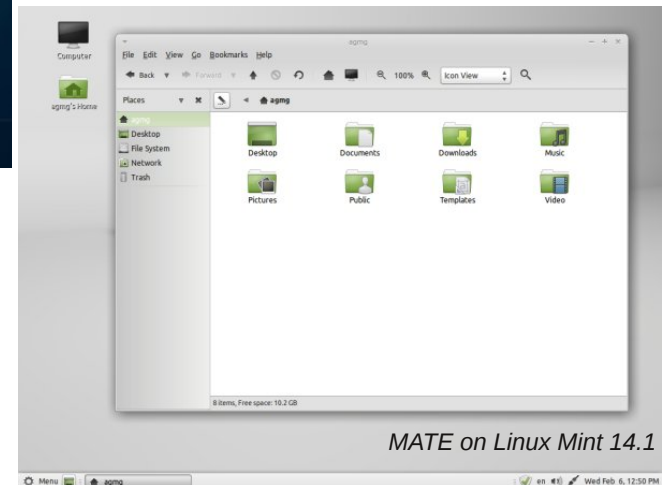
You can find more info about GNOME from the official website: <http://www.gnome.org/>

You can use GNOME 2 in PCLinuxOS by installing the package **task-gnome** from Synaptic Package Manager. GNOME 3 is not currently available in PCLinuxOS.

GNOME 2 uses Metacity as its default window manager while GNOME 3 uses Mutter.

## MATE

MATE is a desktop environment forked from the now-unmaintained code base of GNOME 2. The name derives from yerba mate, a species of holly native to subtropical South America used to prepare



MATE on Linux Mint 14.1

# Windows Migration: Desktop Environments & Window Managers

a beverage called mate. The renaming is necessary to avoid conflicts with GNOME 3 components. The project was started by an Arch Linux user and is supported by the Linux Mint developers.

Several GNOME applications have also been forked under new names, like Caja (a file manager coming from Nautilus), Pluma (a text editor coming from Gedit), Atril (a document viewer like Evince) and many more. These applications are fully integrated to the desktop environment and can cover many of the user's needs.

You can find more info about MATE from the official website: <http://mate-desktop.org/>

MATE is not currently available in PCLinuxOS.

MATE uses Marco, a fork of Metacity, as its default window manager.

## Cinnamon

Cinnamon is a fork of GNOME 3 (GNOME shell), initially developed by (and for) Linux Mint. It attempts to provide a more traditional user environment like GNOME 2 using the technology of GNOME 3. It is Linux Mint's developers team vision of the GNOME

interface for use in future releases of Linux Mint. Cinnamon is the team's second attempt to improve GNOME Shell's interface after Mint GNOME Shell Extensions (MGSE), a desktop layer that "sits on top" of the GNOME 3 desktop environment and delivers an interface that is more familiar to users of GNOME 2 as well as to users of previous Linux Mint distribution releases.

You can find more info about Cinnamon from the official website: <http://cinnamon.linuxmint.com/>

Cinnamon is not currently available in PCLinuxOS.

Cinnamon uses Muffin, a fork of the GNOME 3 window manager Mutter, as its default window manager from Cinnamon 1.2 onwards.

## Unity

Unity is not a complete desktop environment but a user interface for the GNOME desktop environment, developed by Canonical Ltd for its Ubuntu operating system. Unity debuted in the netbook edition of Ubuntu 10.10. It is designed to make more efficient use of space given the limited screen size of netbooks, including, for example, a vertical

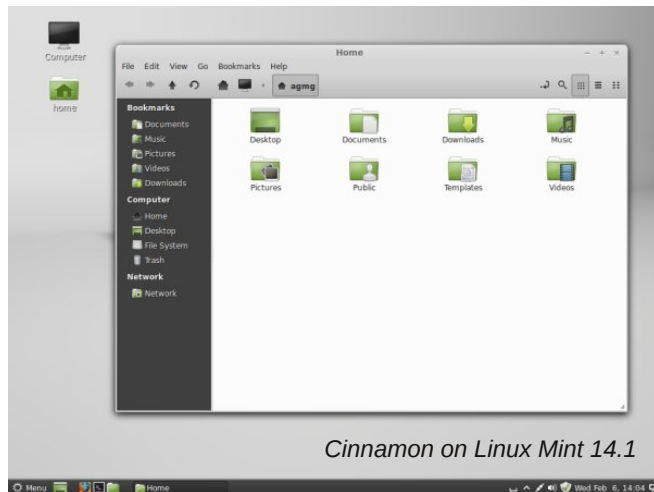
application switcher called the launcher. Unlike GNOME, KDE, Xfce or LXDE, Unity is not a collection of applications but is designed to use existing programs.

You can find more info about Unity from the official website: <http://unity.ubuntu.com/>

Unity is only available with the Ubuntu operating system.

## EDE (Equinox Desktop Environment)

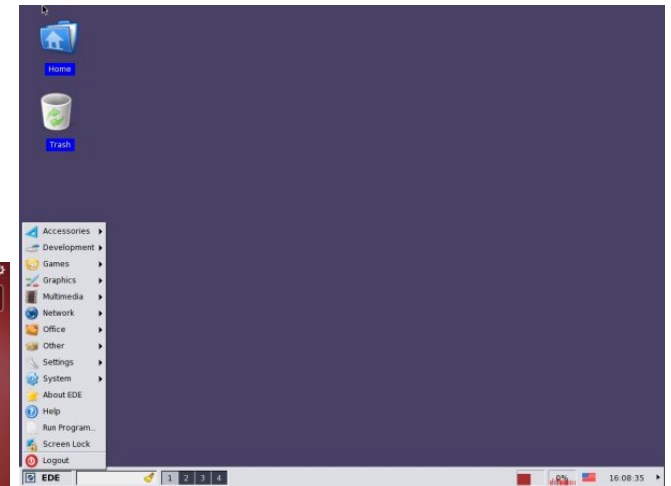
EDE or Equinox Desktop Environment is a small desktop environment built to be responsive, light in resource usage and to have familiar look and feel. It runs on Linux, \*BSD, Solaris, Minix, Zaurus and even on Xbox.



Cinnamon on Linux Mint 14.1



The Unity user interface



EDE on PCLinuxOS

You can find more info about EDE in its official website: <http://equinox-project.org/>

EDE uses a modified version of FLTK (Fast Light Toolkit), a cross-platform C++ GUI toolkit that provides modern GUI functionality without the bloat

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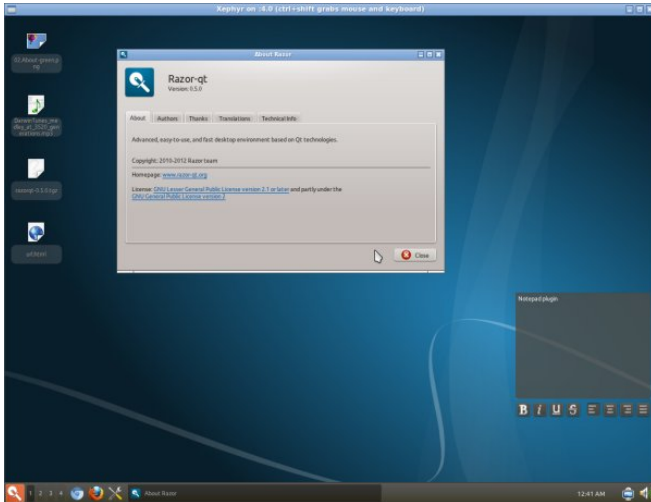
and supports 3D graphics via OpenGL® and its built-in GLUT emulation.

You can use EDE in PCLinuxOS by installing the package **ede** in Synaptic Package Manager.

## Razor-qt

Razor-qt is an advanced, easy-to-use, and fast desktop environment based on Qt technologies. It has been tailored for users who value simplicity, speed, and an intuitive interface. Unlike most desktop environments, Razor-qt also works fine with weak machines.

Razor-qt is a relatively new project but already contains the key components of a desktop environment: panel, desktop, application launcher, settings center, sessions.



*Razor-qt 0.5.0 default theme.*

You can find more info about Razor-qt from the official website: <http://razor-qt.org/>

Razor-qt is available in PCLinuxOS by installing the package **razor-qt** in Synaptic Package Manager.

Razor-qt doesn't have its own window manager but works with any modern window manager such as Openbox, fwm2 or Kwin.

## Trinity

Trinity Desktop Environment is a computer desktop environment for Unix-like operating systems with a primary goal of retaining the overall KDE 3.5 computing style, as well as polishing off any rough edges that were present as of KDE 3.5.10.

KDE 3.5 was the last version of the KDE 3.x series before 4.x was released. Timothy Pearson, Kubuntu release manager for KDE 3.5, has released Trinity to pick up where the KDE 3.5 left. This fork keeps the KDE 3.5 branch alive and releases continuing bugs fixes, additional features, and compatibility with recent hardware. Trinity is packaged for Debian, Ubuntu, Red Hat and various other distributions.



*Trinity Desktop*

You can find more info about Trinity from the official website: <http://www.trinitydesktop.org/>

Trinity is not currently available in PCLinuxOS.

Trinity uses its own window manager, called the TDE Window Manager.

## Window Managers

Window managers for X Window system, fall under the following categories:

**Compositing window managers** let all windows be created and drawn separately and then put together and displayed in various 2D and 3D environments. The most advanced compositing window managers allow for a great deal of variety in interface look and feel, and for the presence of advanced 2D and 3D visual effects.

**Stacking window managers** draw all windows in a specific order, allowing them to overlap, using a technique called painter's algorithm. Stacking window managers allow windows to overlap by drawing them one at a time.

**Tiling window managers** "tile" the windows so that none are overlapping. They usually make very extensive use of key-bindings and have less (or no) reliance on the mouse. Tiling window managers may be manual, offer predefined layouts, or both. Most tiling window managers allow you to "stack" windows (dynamic tiling window managers).

## Compositing Window Managers

### KWin

KWin is an integral part of the KDE Software Compilation (KDE SC) but can also be used on its own on other desktop environments.

KWin has an extensive support for themes, window decorations and 2D & 3D effects. Supports compositing through various compositing backends that currently include XRender, OpenGL 1.x, OpenGL 2.x, and OpenGL ES 2.0. It is designed to

# Windows Migration: Desktop Environments & Window Managers

be modest on hardware resources and completely configurable and customizable.



*Desktop Cube, one of KWin's most impressive effects.*

More info about KWin can be found at KDE UserBase Wiki: <http://userbase.kde.org/KWin>

KWin is the default window manager used in the KDE and FullMonty Edition of PCLinuxOS. It can also be used on other desktop environments by installing the package **kwin** through Synaptic Package Manager.

## Compiz

Compiz is a compositing window manager that uses 3D graphics acceleration via OpenGL. It provides various new graphical effects and features on any desktop environment, including GNOME and KDE. Compiz has a flexible plugin system and it is designed to run well on most graphics hardware (bottom, left).

More info about Compiz from the official website: <http://www.compiz.org/>

Compiz can be easily installed through Synaptic Package Manager using the **compiz** package. Your graphics adapter must support OpenGL to use it.

## Xfwm

Xfwm is part of the Xfce Desktop Environment. Xfwm supports themes for window borders, buttons and title bars and has its own integrated compositing manager. Xfwm keeps pace with the general Xfce philosophy of being lightweight and visually appealing at the same time.

More info about Xfwm at Xfce4 official documentation website: <http://docs.xfce.org/xfce/xfwm4/start>

As with previous window managers, Xfwm can be used on most desktop environments by installing the package **xfwm4** through Synaptic Package Manager. The package **xfce4-settings** (Settings Manager) should also be installed to provide GUI management for Xfwm.

## Mutter

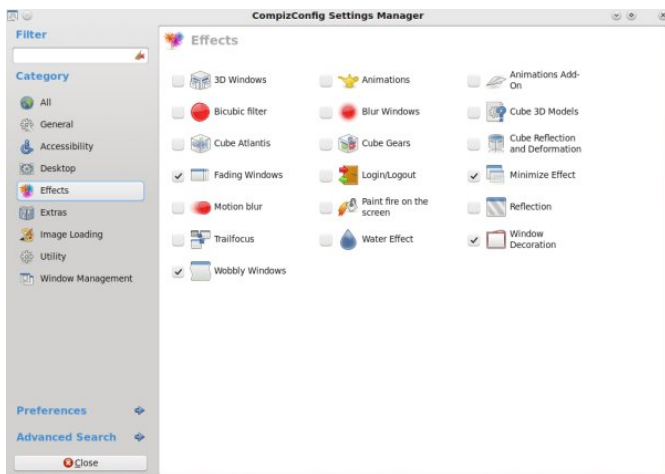
Mutter is the default window manager used in GNOME 3 which uses the Clutter graphics library and supports numerous visual effects. It is a remake of the old Metacity used in GNOME 2. Mutter can function as standalone window manager application for GNOME-like desktops and is extensible with plugins. Developers of Linux Mint, have forked Mutter and created Muffin, to use for their Cinnamon operating system.

Latest versions of Mutter offer compositing capabilities and visual effects through Clutter's OpenGL support. Those versions are built using GTK+ 3.x libraries and are not currently available in PCLinuxOS. An older version of Mutter which uses GTK+ 2.x libraries can be used on many desktop environments by installing the package **mutter** through Synaptic Package Manager.

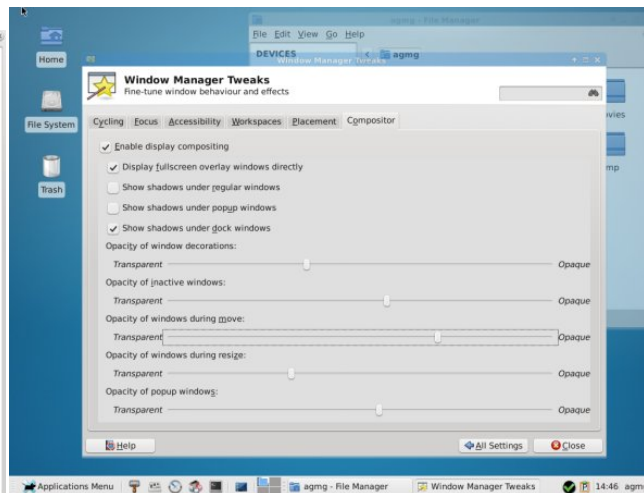
## Stacking Window Managers

### Afterstep

AfterStep is a stacking window manager, originally based on the look and feel of the NeXTStep interface, it provides end users with a consistent, clean, and elegant desktop. The goal of AfterStep development is to provide for flexibility of desktop configuration, improving aesthetics, and efficient use of system resources.



*Compiz settings window under KDE*



*Xfwm's compositing in action*

# Windows Migration: Desktop Environments & Window Managers

Some of the distinguishing features of AfterStep compared to other window managers are its low usage of resources, stability and configurability.



Afterstep on PCLinuxOS

You can find more info about Afterstep from the official website: <http://www.afterstep.org/>

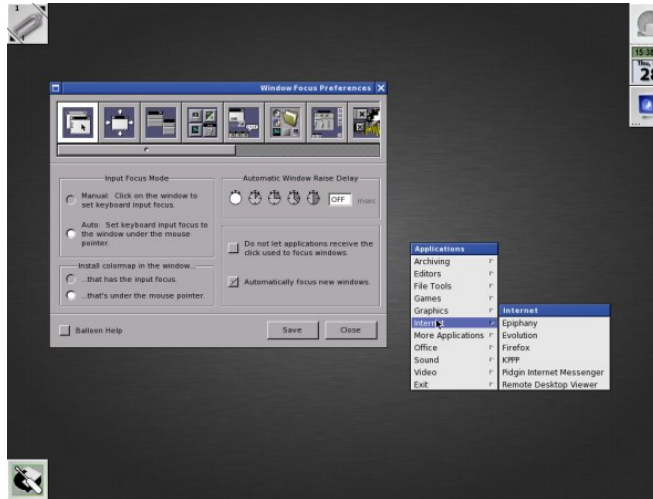
Afterstep is available in PCLinuxOS by installing the package **Afterstep** through Synaptic Package Manager.

## Window Maker

Window Maker is an X11 window manager originally designed to provide integration support for the GNUstep Desktop Environment. In every way possible, it reproduces the elegant look and feel of the NEXTSTEP user interface. It is fast, feature rich, easy to configure, and easy to use. It is also free software, with contributions being made by programmers from around the world.

Window Maker has a stable user interface since many years and comes with a powerful GUI configuration editor called WPrefs, which removes the need to edit text-based config files by hand. It

supports running dockapps which make everyday tasks such as monitoring system performance and battery usage, mounting devices or connecting to the internet very easy.



Window Maker on PCLinuxOS

You can find more info about Window Maker from the official website: <http://windowmaker.org/>

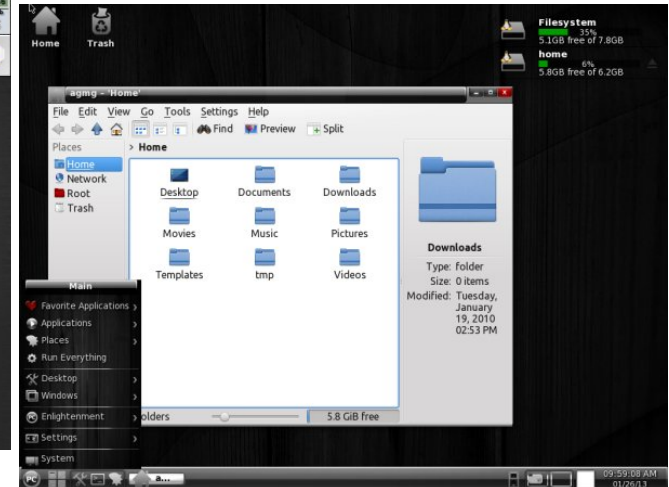
You can use Window Maker in PCLinuxOS by installing the package **Windowmaker** through Synaptic Package Manager.

## Enlightenment (E)

Enlightenment, also known simply as E, is a lean, fast, modular and very extensible stacking window manager for X11, which can be used alone or in conjunction with a desktop environment such as GNOME or KDE. It is classed as a "desktop shell" providing the things you need to operate your desktop (or laptop), but is not a whole application suite.

Enlightenment is known as a Window Manager, but provides most of the functionality found in much more resource-hungry Desktop Environments.

Beyond the window manager, the Enlightenment project also provides a whole suite of libraries for creating beautiful user interfaces with much less work than doing it the old fashioned way and fighting with traditional toolkits.



Enlightenment over KDE in PCLinuxOS

You can find more info about Enlightenment from the official website: <http://www.enlightenment.org/>

Enlightenment is available in PCLinuxOS by installing the package **task-enlightenment** through Synaptic Package Manager.

## Blackbox/Fluxbox

Blackbox is a fast, lightweight window manager built with C++. Blackbox has specific design goals, and some functionality is provided only through other applications. It's designed to be fairly small and minimal, making it particularly suited to less powerful computers. It doesn't support images, other than generated gradients, but it does support multiple desktops and is NetWM compliant, making it compatible with KDE and GNOME (next page).

# Windows Migration: Desktop Environments & Window Managers

More info about those two window managers can be found from the official websites:

<http://blackboxwm.sourceforge.net/BlackboxWiki>

<http://www.fluxbox.org>

You can use Blackbox and Fluxbox in PCLinuxOS by installing the packages **blackbox** and **fluxbox** (respectively) through Synaptic Package Manager.

## Openbox

Openbox is a lightweight and highly configurable window manager with extensive standards support. Originally derived from Blackbox 0.65.0, Openbox has now been totally rewritten in the C programming language and since version 3.0 is not based upon any code from Blackbox. It is the default window manager of the LXDE desktop environment.

Openbox uses the \*box visual style and can be fully customized with the use of themes. Its high configurability means that it can suit almost any user's needs. It can be kept simple but can also be tweaked in almost every aspect, completely changing the way the users interact with their desktops.

Openbox can run inside other desktop environments but can also be used without any desktop environment or session manager.

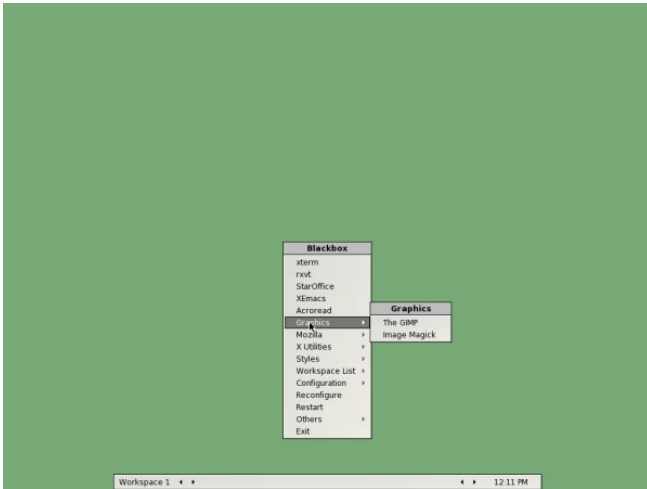
You can find more info about Openbox from the official website: [http://openbox.org/wiki/Main\\_Page](http://openbox.org/wiki/Main_Page)

You can use Openbox in PCLinuxOS by installing the package **openbox** through Synaptic Package Manager.

## IceWM

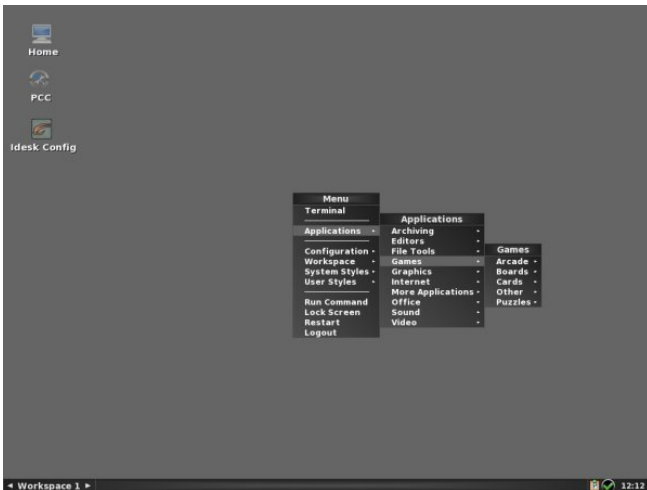
IceWM is a stacking window manager for the X Window System graphical infrastructure, written by Marko Maček. It was coded from scratch in C++ and is released under the terms of the GNU Lesser General Public License. It is relatively lightweight in terms of memory and CPU usage, and comes with themes that allow it to imitate the GUI of Windows 95, OS/2, Motif, and other graphical user interfaces. IceWM is meant to excel in look and feel while being lightweight and customizable.

IceWM can be configured from plain text files stored in a user's home directory, making it easy to customize and copy settings. IceWM has an

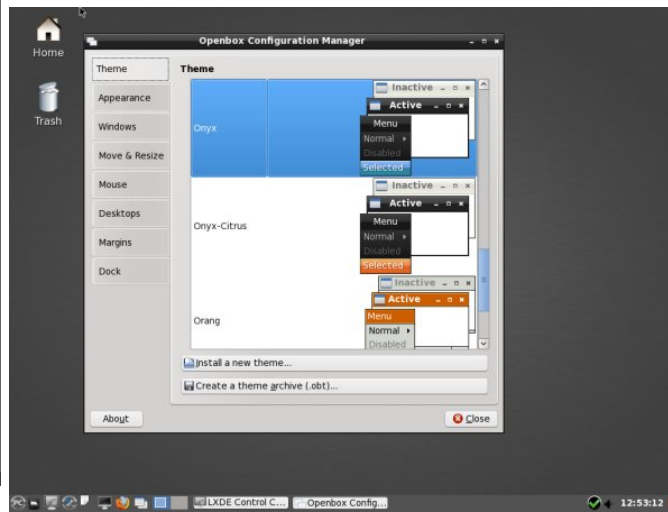


*Blackbox on PCLinuxOS*

Fluxbox started as a fork of Blackbox 0.61.1, with the same aim to be lightweight. Its user interface has only a taskbar, a pop-up menu accessible by right-clicking on the desktop and minimal support for graphical icons. All basic configurations are controlled by text files, including the construction of menus and the mapping of key bindings. Fluxbox has high compliance to the Extended Window Manager Hints specification.



*Fluxbox on PCLinuxOS*



*Openbox configuration under LXDE*



*IceWM on PCLinuxOS*

# Windows Migration: Desktop Environments & Window Managers

optional, built-in taskbar with menu, tasks display, network and CPU meters, mail check and configurable clock. Official support for GNOME and KDE menus was previously available as a separate package. In recent IceWM versions, support for them is embedded. External graphical programs for editing configuration and menu exist.

You can find more info about IceWM from the official website: <http://www.icewm.org/>

IceWM can be used in PCLinuxOS by installing the package **icewm** through Synaptic Package Manager.

## Metacity

Metacity was the window manager used by default in the GNOME 2 desktop environment until GNOME 3, where it was replaced by Mutter. A fork, renamed to "Marco", is still being actively developed and maintained as part of the MATE desktop environment, itself a fork of GNOME 2 as a whole.

The development of Metacity was started by Havoc Pennington and it is released under the GNU General Public License. Before the introduction of Metacity in GNOME 2.2, GNOME used Enlightenment and then Sawfish as its window manager. Although Metacity is part of the GNOME project and designed to integrate into the GNOME desktop, it does not require GNOME to run, and GNOME can be used with different window managers provided that they support the part of the ICCCM specification that GNOME requires.

Metacity uses the GTK+ graphical widget toolkit to create its user interface components, which makes it themeable and makes it blend in with other GTK+ applications.

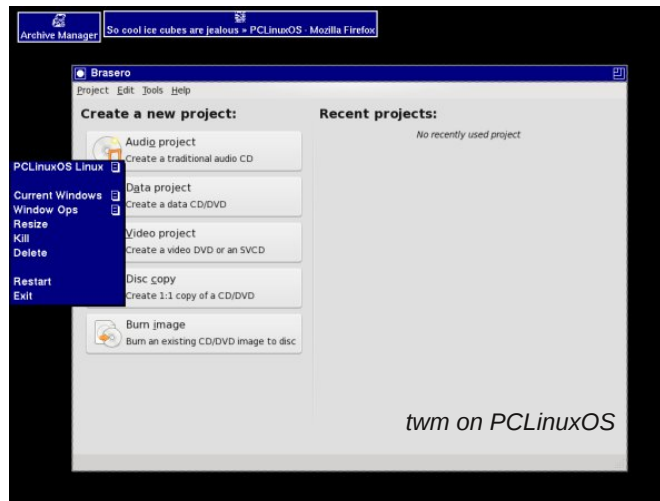
You can find more info about Metacity in this blog: <http://blogs.gnome.org/metacity/2007/12/23/start-reading-here/>

Metacity can be used either in conjunction with GNOME 2 Desktop Environment or by installing the package **metacity** through Synaptic Package Manager.

## twm

Twm (Tab Window Manager, or sometimes Tom's Window Manager, after the principal author Tom LaStrange) provides titlebars, shaped windows, several forms of icon management, user-defined macro functions, click-to-type and pointer-driven keyboard focus, and user-specified key and pointer button bindings.

It has, however, been left behind by more recent window managers, making it something of mainly historical interest. It was for some time the only real choice of window manager, after taking over from the very simplistic uwm. Nearly every window manager since has borrowed heavily from it, either directly, or indirectly through other window managers, such as fwm.



The source code is no longer developed, but old TWm archives for various releases of X are available.

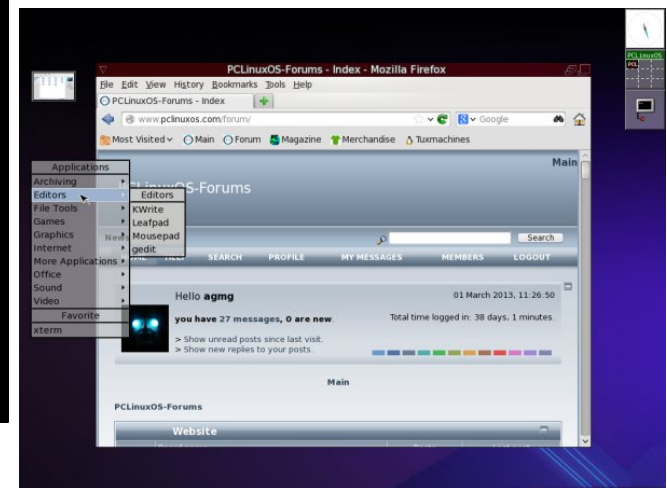
You can find more info on LaStrange's home page: <http://www.lastrange.com/work/>

twm can be used in PCLinuxOS by installing the package **twm** through Synaptic Package Manager.

## Fwmm

Fwmm, a stacking window manager developed by Robert Nation, was once dominant in the window manager stakes, especially in the Linux community. It borrows heavily from Tom LaStrange's famous twm window manager, which was the first ICCCM-compliant window manager to be written. It requires some effort to learn to use it well, since it is almost entirely configured by editing configuration files with a text editor. But those who persist end up with a desktop environment that works exactly the way they want it to work. Development is active, and support is excellent.

Fwmm was designed to minimize memory consumption, provide a 3-D look (similar to Motif's mwm) and provide a simple virtual desktop. Functionality can be enhanced by the use of various modules.



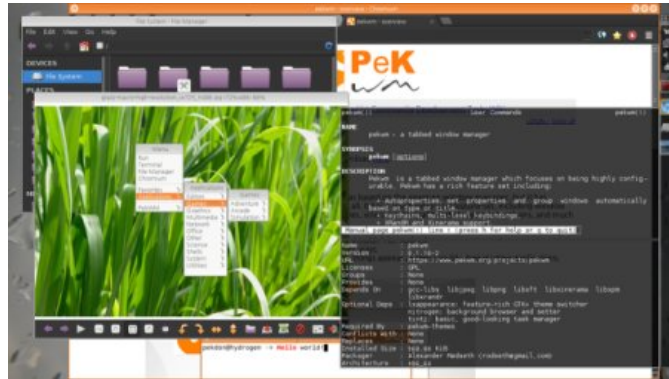
Fwmm on PCLinuxOS

You can find more info about fwm from the official website: <http://www.fvwm.org/>

Fvwm can be used in PCLinuxOS by installing the package **fvwm** through Synaptic Package Manager.

## PekWM

PekWM is a stacking window manager for the X Window System, written in C++ by Claes Nästen, and highly configurable. The code is based on the aewm++ window manager, but it has evolved enough that it no longer resembles aewm++ at all. It also has an expanded feature-set, including window grouping (similar to Ion3, PWM, or Fluxbox), auto properties, xinerama and keygrabber that supports keychains, and much more.



A screenshot of PekWM in action.

You can find more info about PekWM from the official website: <https://www.pekwm.org/projects/pekwm>

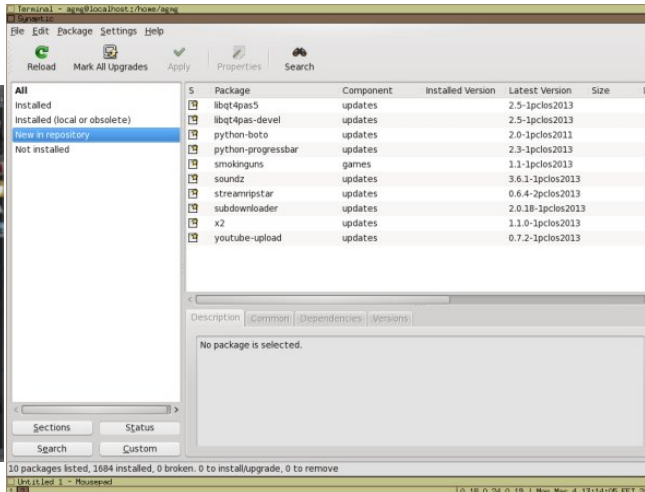
PekWM can be used in PCLinuxOS by installing the package **pekwm** through Synaptic Package Manager.

## Tiling and Dynamic Tiling Window Managers.

### wmii

wmii (window manager improved<sup>2</sup>) is a tiling window manager that supports classic and tiling window management with extended keyboard, mouse, and filesystem based remote control. It replaces the workspace paradigm with a new tagging approach. The window manager offers extensive configuration through a virtual filesystem.

In its latest release, wmii supports Xinerama and ships its own keyboard-based menu program called wimenu, featuring history and programmable completion.



wmii on PCLinuxOS

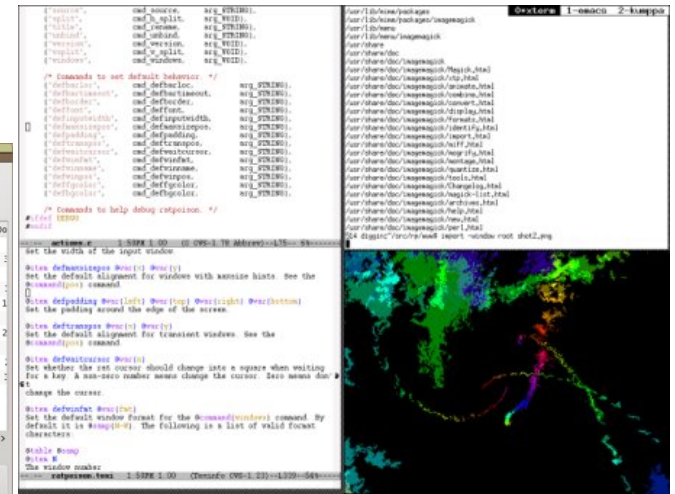
More info about wmii from its page on Google Project Hosting: <https://code.google.com/p/wmii/>

wmii can be used in PCLinuxOS by installing the package **wmii** through Synaptic Package Manager.

## Ratpoison

Ratpoison is a minimalistic window manager which can be controlled 100% through the keyboard. The

name "Ratpoison" reflects its major design goal: it lets the user manage application windows without using a mouse. Unlike other tiling window managers like Ion, ratpoison completely ignores the mouse, and avoids window decorations as much as possible. It behaves like the terminal-multiplexer GNU screen. Every window is maximized to fit the whole screen, no pixel is wasted on stuff like borders or other decoration. The user can also "split" the screen into two or more frames in order to display more than one window at a time.



A screenshot of Ratpoison

You can find more info about Ratpoison from the official website: <http://www.nongnu.org/ratpoison/>

Ratpoison can be used in PCLinuxOS by installing the package **ratpoison** through Synaptic Package Manager.

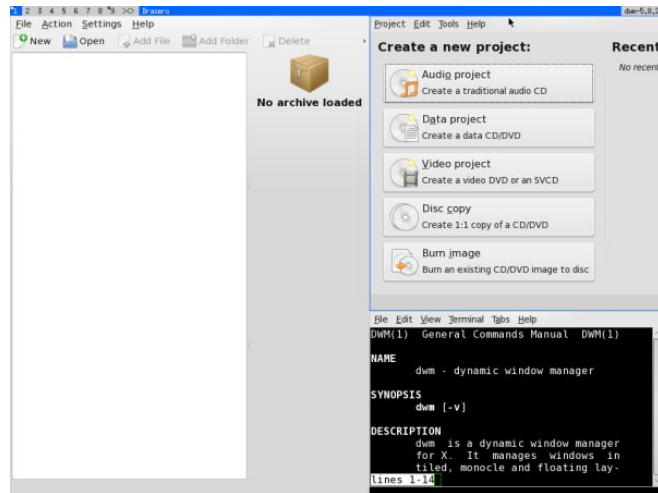
## dwm

dwm is a dynamic tiling window manager for X11 exhibiting the principles of minimalism which is known for having influenced the development of other window managers, including xmonad and awesome. It is externally similar to wmii, but internally much simpler. dwm is written purely in C



and, for simplicity, lacks any configuration interface besides editing the source code. One of the project's guidelines is that the source code will never exceed 2000 lines, and options meant to be user-configurable are all contained in a single header file.

dwm is a dynamic window manager for X. It manages windows in tiled, monocle and floating layouts. All of the layouts can be applied dynamically, optimising the environment for the application in use and the task performed.



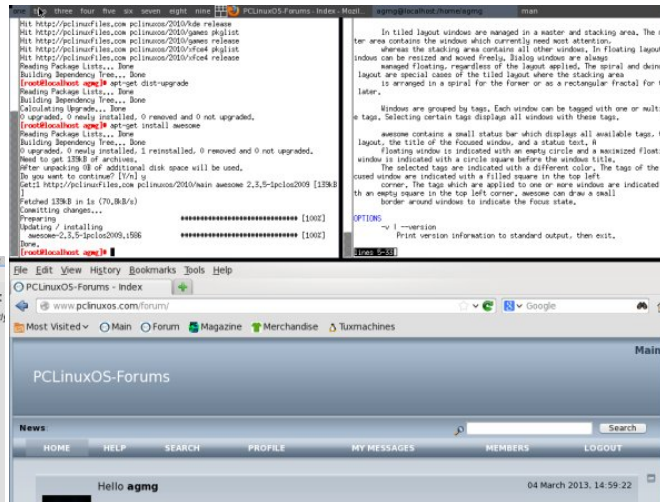
dwm on PCLinuxOS

## awesome

awesome is a dynamic window manager for the X Window System developed in the C and Lua programming languages. The latter is also used for configuring and extending the window manager. Its development began as a fork of dwm. It aims to be extremely small and fast, yet extensively customizable and make it possible for the user to productively manage windows with the use of keyboard.

awesome is highly configurable, very fast, extensible and licensed under the GNU GPLv2 license. It is primarily targeted at power users, developers and

any people dealing with everyday computing tasks and who want to have fine-grained control on their graphical environment.



awesome on PCLinuxOS

You can find more info about awesome from the official website: <http://awesome.naquadah.org/>

awesome can be used in PCLinuxOS by installing the package **awesome** through Software Package Manager.

## Conclusion

There are a lot more Desktop Environments and Window Managers out there, that are either forks of existing ones or are not being maintained anymore. This article can't list them all, but I hope it has covered at least the most well known and popular ones. And, of course, I hope it has given you a good idea of what "freedom of choice" really means in the world of Linux, and in the world of PCLinuxOS!

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# Windows Migration: One Installation, Two (Or More) Desktop Environments

by Paul Arnote (parnote)

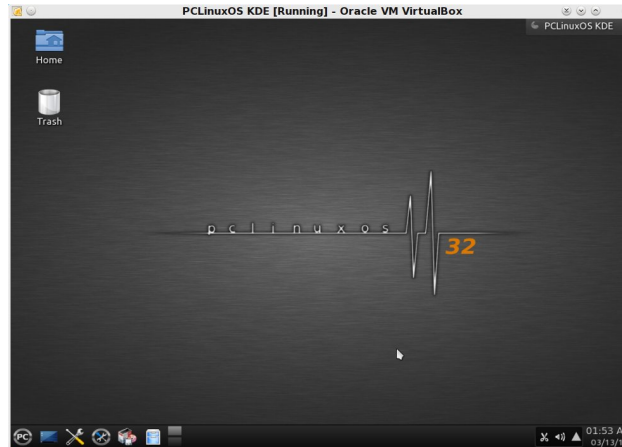
As Antonis pointed out in his article, there are several desktop environments and window managers to choose from when you use Linux. PCLinuxOS has many that you can choose from. But how do you know which one is right for you and your computing needs?

Certainly, you can try out each of the Live CDs available for PCLinuxOS. That will help you choose between running the KDE, LXDE and Xfce desktop environments as your main choice. But if you are new to Linux, it's sometimes hard to know which one will provide you with the environment that works best for you in a given situation. Don't fret. This is an easy situation to overcome. We all realize that you aren't faced with such choices with the commercially available operating systems, such as Microsoft Windows and Apple's OS-X. Having that choice is part of the charm of Linux. Linux is all about having a choice.

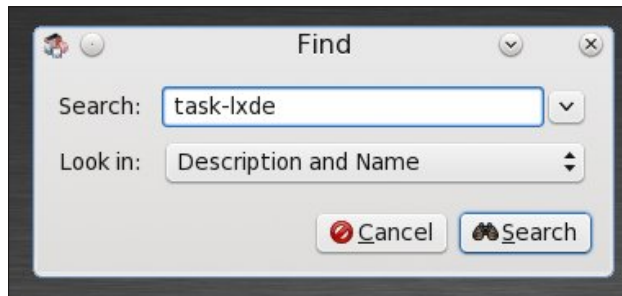
The choice is easy if you are merely trying to choose between those desktop environments that have Live CDs. But that only begins to scratch the surface of possibilities. What if you can't decide between the KDE and LXDE desktop environments? What if you are interested in trying out one of the "other" desktop environments (FluxBox, Enlightenment, Openbox, etc.) that don't currently have Live CDs? Believe it or not, in either case, you don't have to choose. You can have them both ... or all of them, if you choose.

## KDE & LXDE ... Have Them Both

To illustrate how simple this is, I made a separate installation of KDE in VirtualBox (image below).



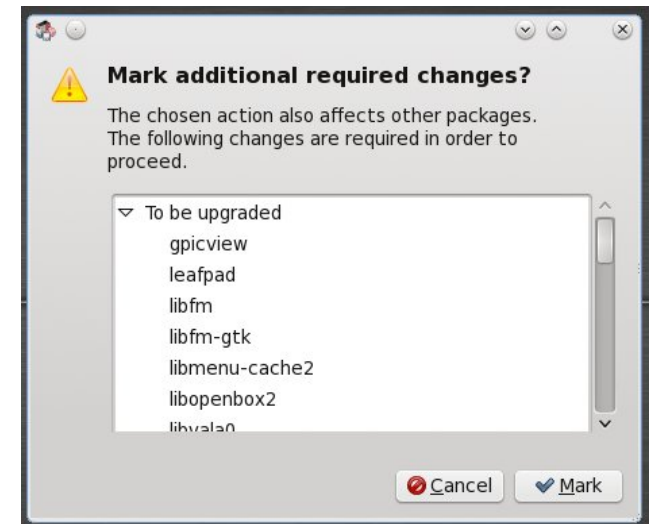
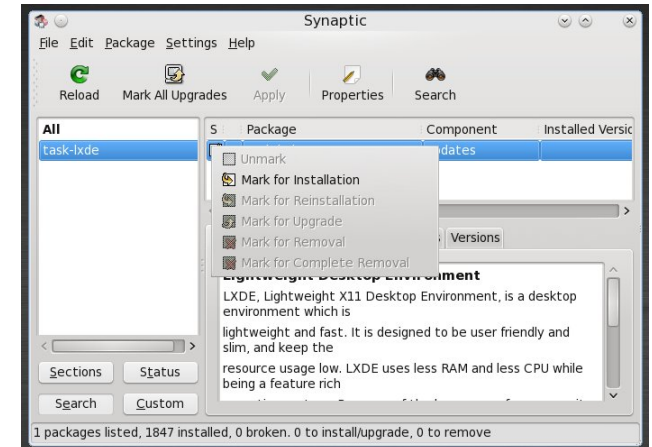
Once you have KDE installed, fully updated your KDE installation. Reboot your computer after fully updating, just to be sure that your computer is utilizing all the current software. This entire process is the same when the installation is on "bare metal" computer hardware.



Once you've rebooted, open Synaptic and search for "task-lxde."

Right click on "task-lxde" and select "Mark for installation" from the right click context menu.

Advertisement



Synaptic will show you a list of additional packages that will need to be installed in order to install LXDE. The same thing applies with any of the additional desktop environments you might wish to install – I just chose LXDE for the demonstration. Select "Mark" in the above dialog box, and then the "Apply" button to install your new desktop environment. Once the installation of your additional desktop

# Windows Migration: One Installation, Two (Or More) Desktop Environments

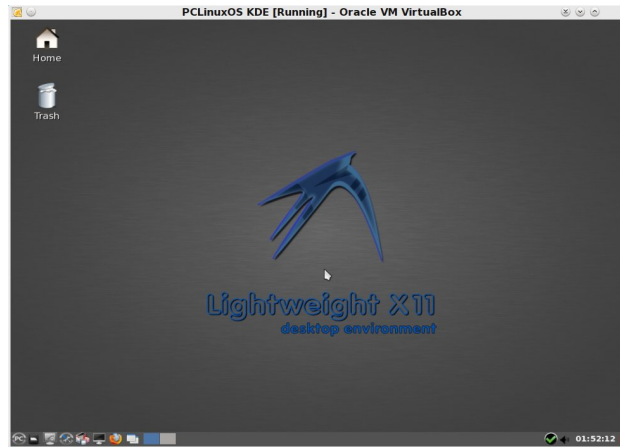
environments is complete, Log Out of your current session.



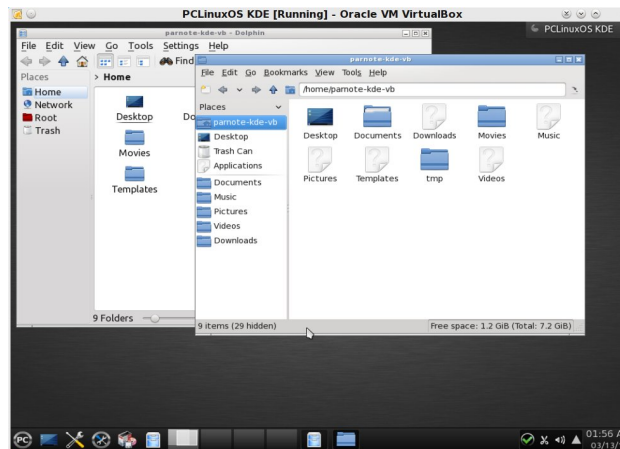
Click on the blue arrow at the bottom of the session login screen. You will see an option menu, like that shown in the image above. Select the desktop environment you want to run in the new session. Next, select the user account to log into, and provide the user password.

Upon logging back in, notice how our desktop environment has changed to LXDE. You are now using a full LXDE desktop environment.

There are some additional benefits to having two different desktop environments installed on your PCLinuxOS installation. First, all of the associated and default programs that accompany the extra



desktop environment are installed. This gives you more options for many tasks.



Second, if you look back up to the session menu, you will notice some additional choices. For example, you can now run KDE with the Openbox window manager. Normally, KDE uses the KWin window manager, but the Openbox window manager was installed with LXDE, since that is the window manager that LXDE uses. This provides you the choice of running KDE with a lighter weight window manager than what it normally runs. In the previous image, KDE is running with the Openbox window manager, and shows both Dolphin and PCManFM – the file managers for KDE and LXDE, respectively –

both open on the desktop. Notice the difference in the window decorations.

The choice of running KDE with a lighter weight window manager may allow you to successfully run KDE on hardware that may otherwise not be capable of running a “regular” KDE installation without noticeably bogging down.

## Summary

As you see, Linux is full of choices. If you are new to Linux, this is something else you will have to get used to – although it is a very nice change, especially once you become accustomed to it. No longer are you locked into one way of doing things, with a “one-size-fits-all” graphical user interface. With Linux, your personal computer truly becomes “personal,” since you have so many ways to customize and personalize your computing experience.



A magazine just isn't a magazine without articles to fill the pages.

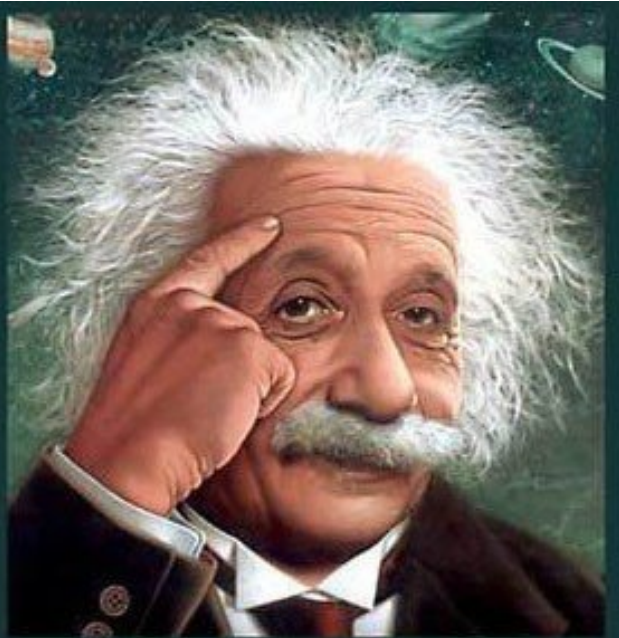
If you have article ideas, or if you would like to contribute articles to the PCLinuxOS Magazine, send an email to:  
[pclinuxos.mag@gmail.com](mailto:pclinuxos.mag@gmail.com)

We are interested in general articles about Linux, and (of course), articles specific to PCLinuxOS.



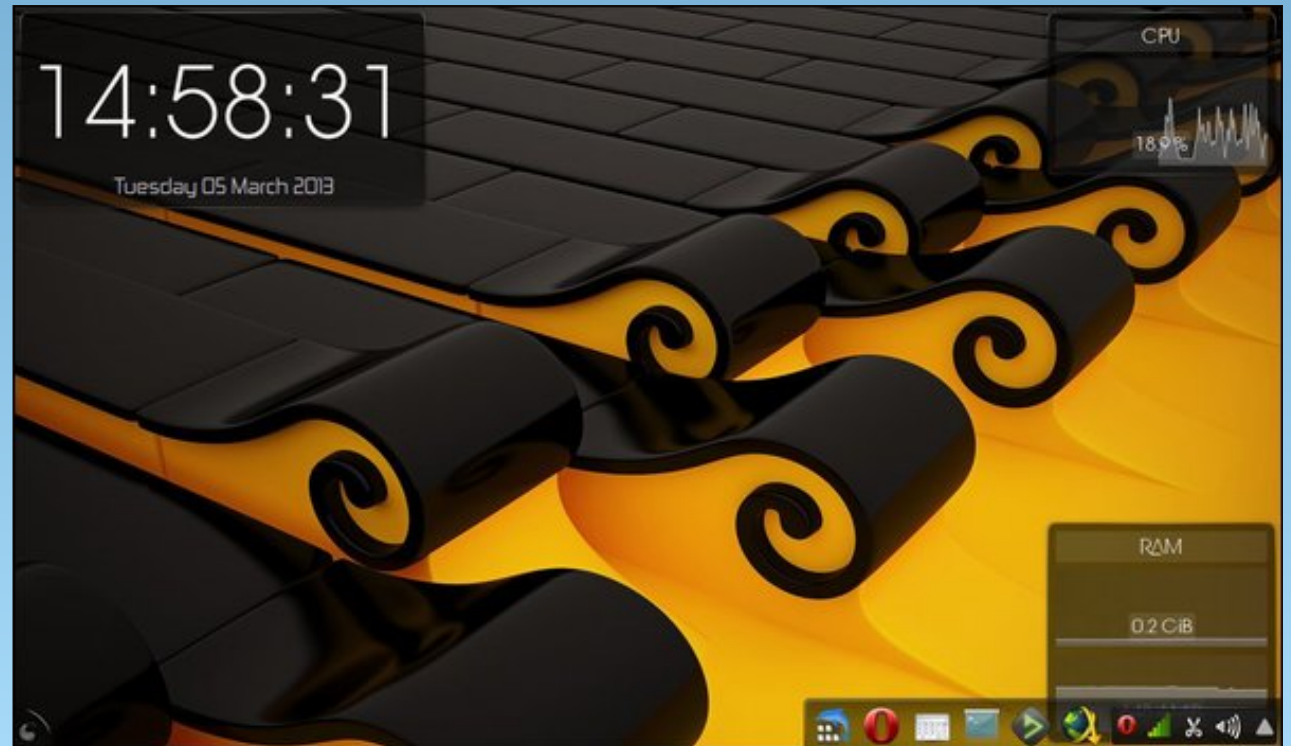


Linux Docs  
Linux Man Pages



# Screenshot Showcase

It's easier than  $E=mc^2$   
It's elemental  
It's light years ahead  
It's a wise choice  
It's Radically Simple  
It's ...



Posted by  $\mu T6$ , March 5, 2013, running KDE.



# Mark's Quick Gimp Tip & Double Take

## Mark's Quick Gimp Tip

This month's **GIMP** tip is pretty obvious, but nonetheless, needs to be pointed out from time to time. My tip is simply this: when editing a photo/picture/artwork, make each edited element its own separate layer. Too often, new users start in using GIMP and make the common mistake of placing all their edits and changes on the same layer. When I was first learning to use graphics applications, I made this common mistake far too many times.) In my example below, you



can see how I edit my feature "I Knew That!" Each element is its own layer. The artwork, question, answer, signature, etc. are each on its own layer. I can then move each layer independently without disturbing the other elements. I can also rearrange the layer order if I want to drop an element in front or behind another.

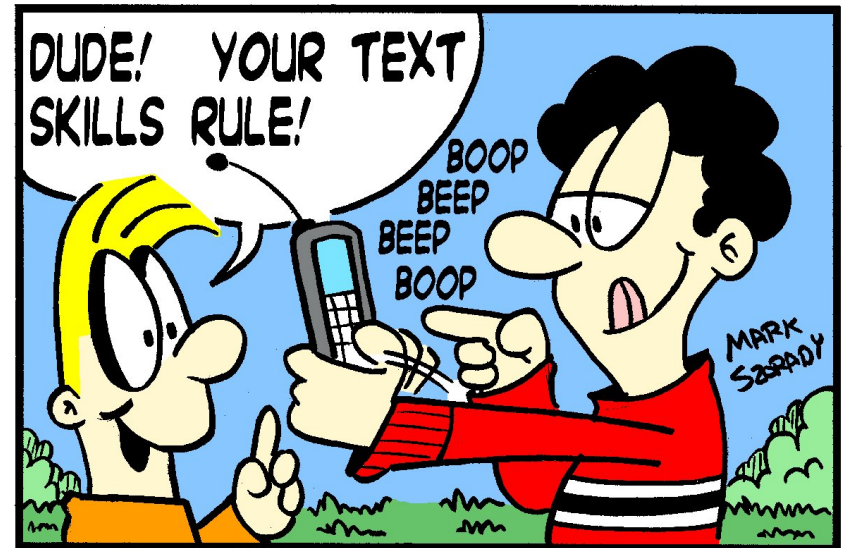
-Mark Szorady is a nationally syndicated cartoonist with [georgetoon.com](http://georgetoon.com). He blogs at [georgetoon.com/blog](http://georgetoon.com/blog). Email Mark at [georgetoon@gmail.com](mailto:georgetoon@gmail.com).

## DOUBLE TAKE

By Mark Szorady

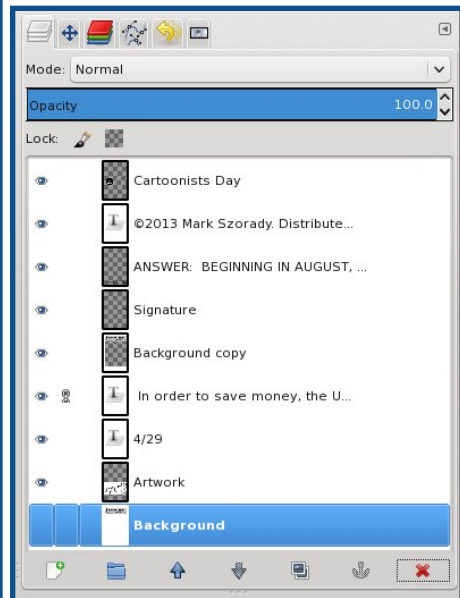


Find at Least Seven Differences Between Cartoons!

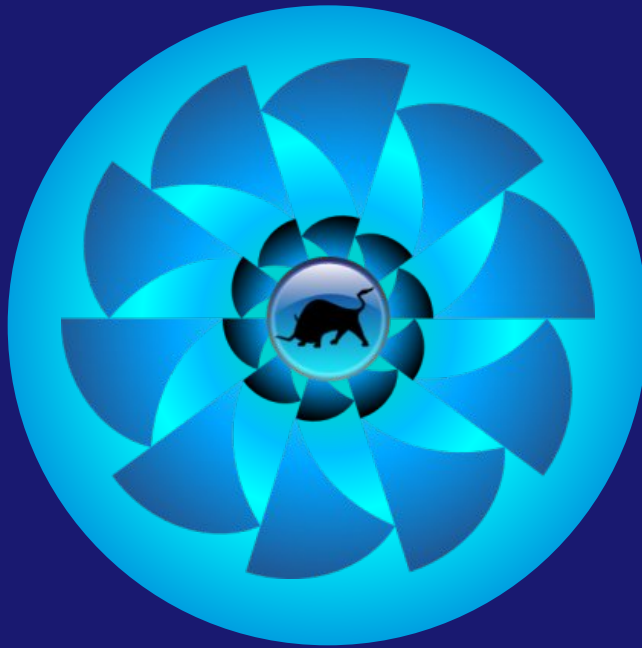


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Answers on Page 54



# ms\_meme's Nook: Too Good To Be True



MP3

OGG

*It's just too good to be true see what Texstar made for you  
It's like heaven to boot it's great there is no dispute  
At last PCLOS arrived and I thank Tex it's alive  
It's just too good to be true feels like deja vu*

*Pardon the way that I smile how very sweet the compile  
Blue bulls sweep me off of my feet oh my what a treat  
So come join in this bliss you don't want to miss  
It's just too good to be true others it does outdo*

*I love you Linux you always treat me right  
I need you Linux I use you day and night  
I trust you Linux in every way*

*Get PCLOS now don't delay  
You'll love PCLOS with its blue display  
And give thanks to Tex each and every day*

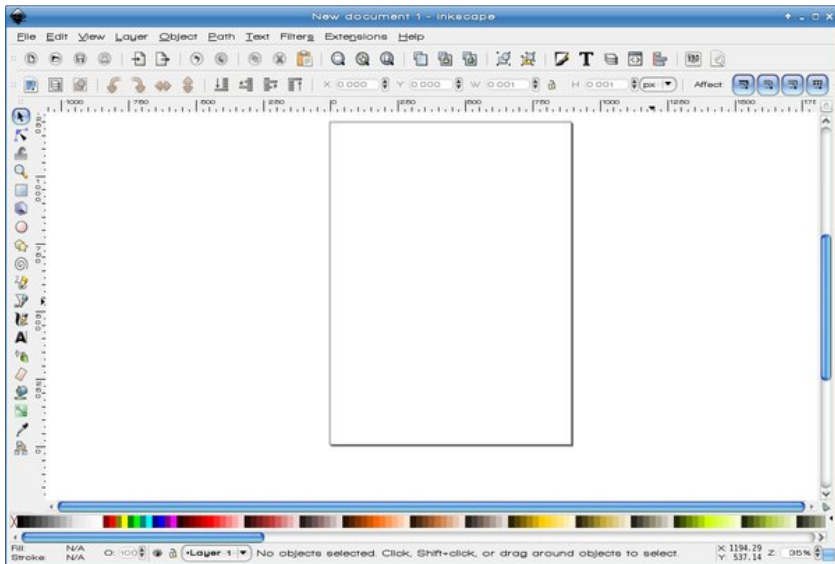
# Inkscape: Starting Your First Project

by Meemaw

We have gotten familiar with the Inkscape window and some of the tools. Let's make something!

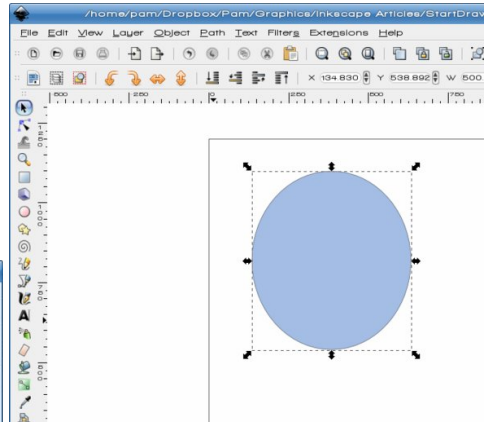
If you already have Inkscape open, you have a new page. Click on the **Document Properties** button (the last one on the right in the Command Bar). In the window, change the page orientation to **Portrait**, then change width to 900 px and height to 1200 px to make it a custom size. If it is not checked, check **Show Page Border** at the bottom of the window. I have also checked **Show Border Shadow**, but you don't have to check that one. The border helps me see the edges of my page. I think that's default anyway. Remember, after you get accustomed to things you can set them up as you desire.

Close that window and you should see this:

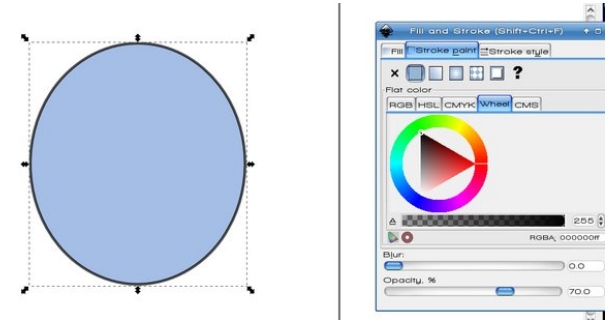


Notice that the rulers are across the top and up the left side. Also notice that the left side ruler counts up from the bottom of the page. Page location measurements in Inkscape start from the bottom left. Now we have plenty of room to work.

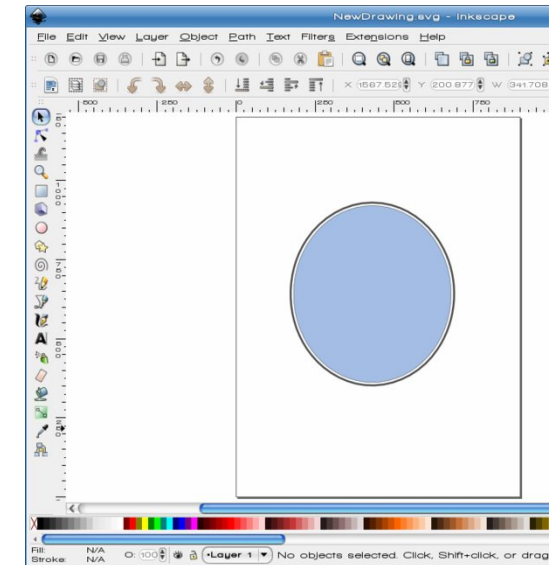
OK, let's draw. Choose the ellipse, then click and drag your mouse. Click on a color in the palette down at the bottom of the window, and your ellipse should now be filled with that color. Holding **<Shift>** and clicking a color will make the Stroke (Border) that color, and probably 1 or 2 pixels wide. You can right click the number and make the Stroke 2 if it is another size. I chose a blue for fill.



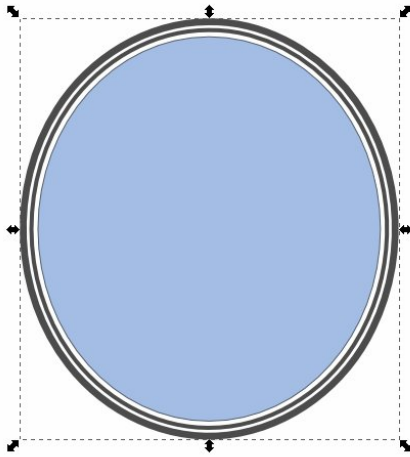
We're going to make a simple picture in a frame. Click on **Edit > Duplicate** or use the keys **<CTRL> + D**. You won't see it right away because it is the same as the ellipse you have. Click on the **Fill & Stroke** button in the Command bar at top, and your Fill & Stroke Window will appear. Change the fill on this new ellipse to none by clicking the button with the X (at the top of the fill & stroke window above the color wheel, or in the palette at the bottom), and change the stroke to 6 (top, right).



Now we are going to make this ellipse bigger. Click on **Path > Outset** or **<CTRL> + )**. Your ellipse will enlarge by 2 pixels, which is the program default. You can do the same command or Key combination as many times as you want to enlarge the ellipse until it is outside the blue ellipse. Mine looks like this:



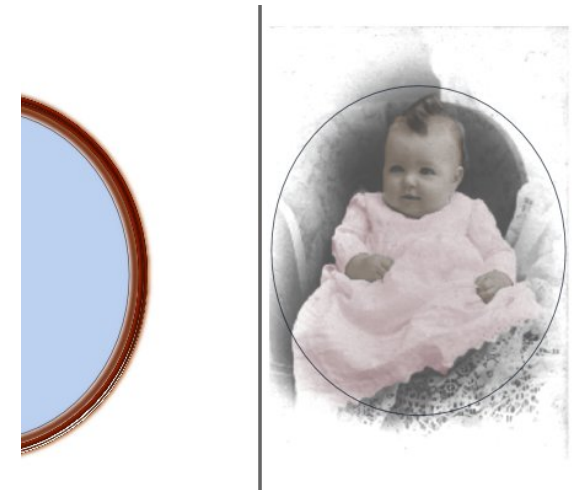
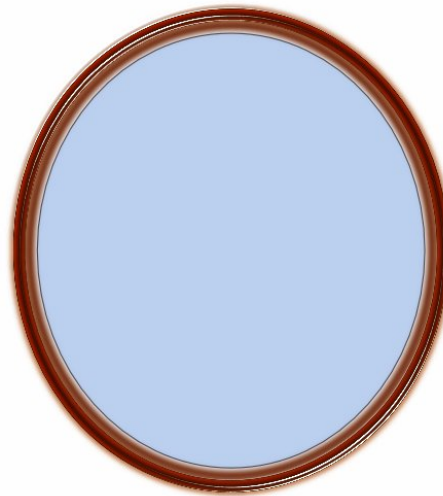
Now do the same thing again (duplicate and enlarge), only this time make our stroke width 15 (next page, top).



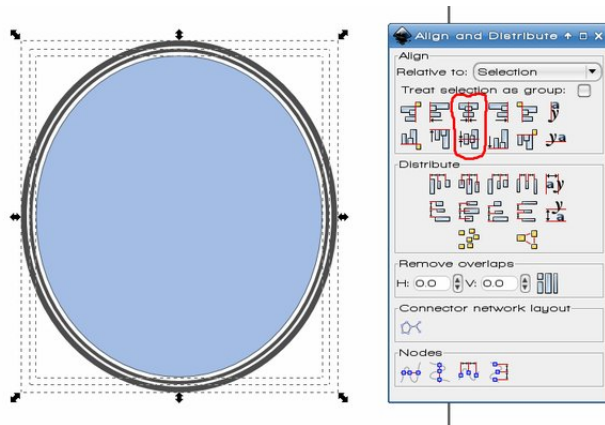
Before we go any farther, let's make sure everything is lined up correctly. Position your mouse out from the drawing, then click and drag a rectangle around it. This will select everything inside the box you draw. Then click on the **Align & Distribute** button in the command bar. Click on both **Center Vertically** and **Center Horizontally** to make sure everything is centered.

using the slider at the bottom, then click on **Filters > Blurs > Fancy Blur**.

Now click on the outer stroke. change it to a similar brown color, the opacity to 100, and make sure the stroke size is still 15. Go back to **Filters** and this time choose **Bevels > Dark Glass**. Your image should now look similar to the following:



project and choose **Edit > Duplicate** (or **<CTRL> + D**). Click on the duplicate and move it over by your photo. Change the Fill to None, and the Stroke size to 2. If one of the items is smaller, size each until both objects are close to the same. My photo is taller, which is OK, but I need it to be at least as wide as the ellipse. Holding the **<CTRL>** as I size will preserve the aspect ratio of the photo.

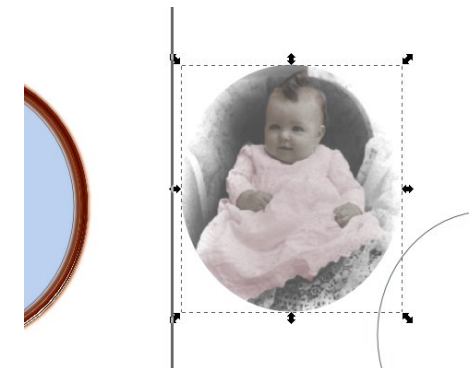


I have opened a copy of the photo I colorized earlier. I want to put it inside the frame. Since it is saved as a png, you will need to Import it (**File > Import**). When you have chosen your photo to import, you will be asked if you want to Embed or Link the photo. Embedding adds the file to your project, and will make your file bigger. Linking will link the file to your project without increasing the size, but if you save your project to another location, you will have to save any linked files there too. I usually embed anything I import so it is all there together.

Before we proceed, click on the ellipse and duplicate it, then set it aside for later use. We're going to use the Clip tool. Click on the ellipse FIRST, then hold down **<Shift>** and click on the photo. That selects the photo without de-selecting the ellipse. Go to **Object > Clip > Set**. When you do that, your two items should be cropped to the inside of the ellipse.

Click on the Fill & Stroke tool at top. When the window pops up, choose the inner stroke. Change the color to a brown color and the opacity to 100

This photo is rectangular and I want it to be oval, so we're going to make it oval. You can place your photo off to the side of the main project so we can edit it. Click on the ellipse in the center of your





## Inkscape: Starting Your First Project

I'm going to place the ellipse I just set aside over the photo for a border. You can select them both, like we just did, then center them both ways.

You can Group these so you won't have to align them again. I selected my ellipse, made sure the opacity was 100% and changed the blur to 1 before I grouped. It just softened the border.



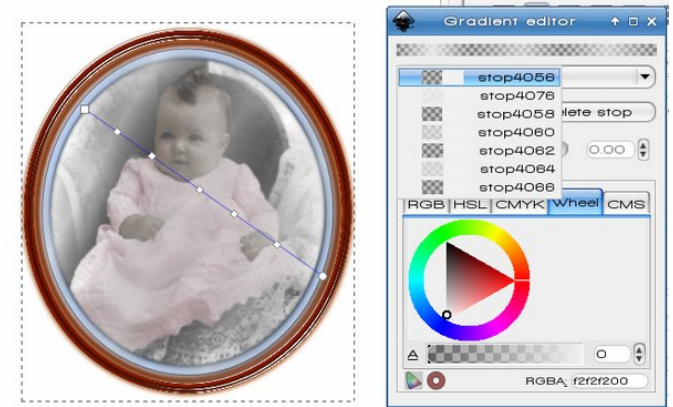
You can move the photo into your frame, but I like the blue color and I'm going to resize my photo just a bit so a little of the blue is visible around the photo.



To preserve the aspect ratio of the photo, I will hold down **<CTRL>**. Before we do anything else, click on your photo or ellipse with the color in it and duplicate it once more. Slide it to the side of your project. After that, you should select everything by drawing a box around it all, or by clicking on the selection buttons at the left end of the second tool bar. The one that looks like a stack of papers and says "Select all objects in all visible and unlocked layers" is the one you want. Hold down **<Shift>** and deselect the ellipse we just created and stored to the side of our drawing. Then use your **Align & Distribute** tool to center everything else one more time. If you are satisfied with your work so far, you can also group everything so you don't have to align it any more. You should also be saving your work (bottom, left).

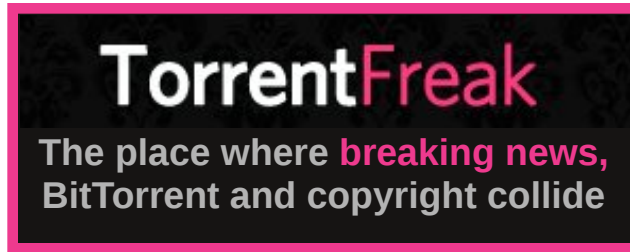
OK, let's do one more thing with that extra ellipse. Most picture frames have glass on the front to protect the photo. Let's give the impression of a glass front. Make the fill on that ellipse a **Linear Gradient**, and the Stroke size a 1, just so you can see your edge. Using your **Fill & Stroke** window, click on linear gradient in the fill tab, and make it white. Your ellipse will immediately change so it's white on one side and transparent on the other side. We're going to change that. Click on **Edit...** in that window, and you will see another window pop up. Also, go to your left side toolbar and click on the **Gradient** button (towards the bottom). You should now see a line crossing your ellipse that has a small square on one end and a small circle on the other. These are called **Stops**. We are going to add a few more. In the newest window, click on the Add Stop button five times. Each time you click, you should see another small square appear on the line. Five clicks, five squares. They will not be evenly spaced across the line, so you should click & drag them, one at a time, until they are closer to evenly spaced. It doesn't have to be perfect, though, since light and shadow makes things look uneven at times.

In your Edit box, there is a drop-down with the stops numbered. One at a time, choose every other stop, and slide the color slider below the color wheel towards transparent. It will look similar to this:



If there is too much white when you finish you can always go back to your **Fill & Stroke** window and set the opacity down to 45% or so. Experiment with your gradient until you get it the way you want it. When you are satisfied with that you can group everything together and save.

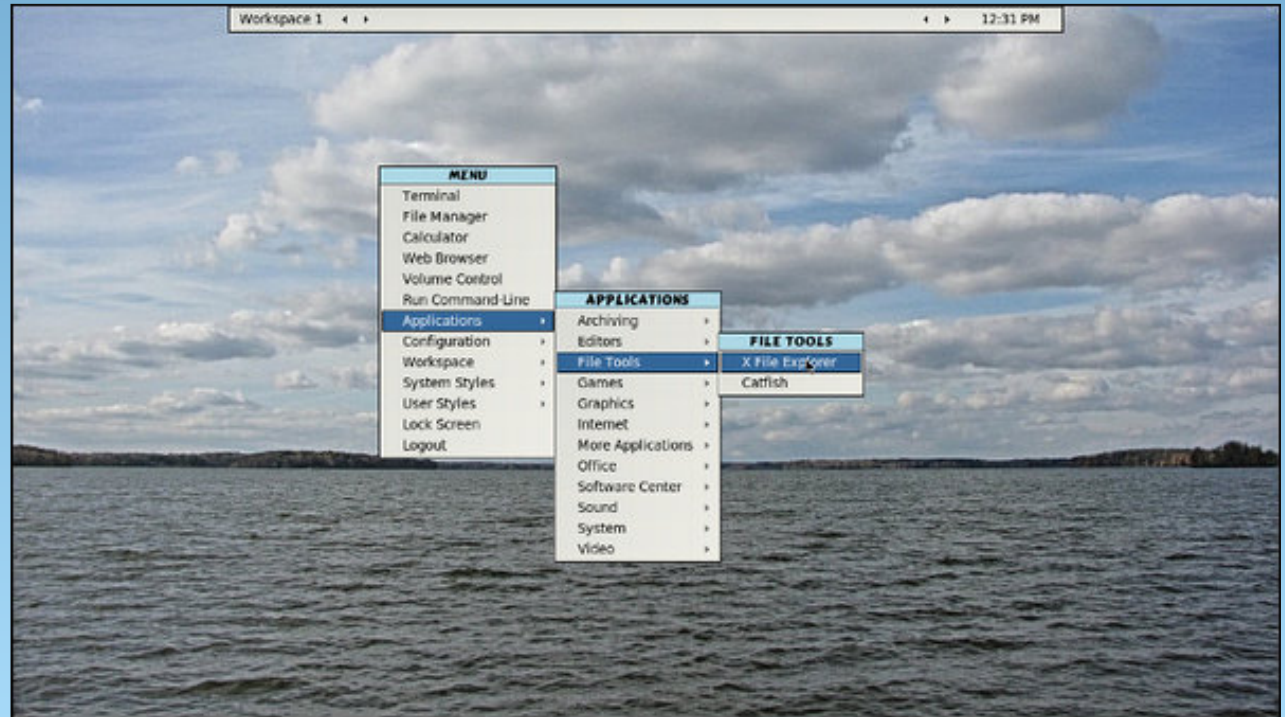
As one last thing, let's choose **Filters > Shadows & Glows > Drop Shadow**. We will get another configuration window. It asks for Blur Radius, Opacity, and Horizontal and Vertical Offset. I think the default is 4 px, 30% opacity and 3 px for each offset. I left the defaults. The buttons at bottom are Apply and Close. When you click Apply, the drop shadow will be added where you configured it. If you don't think the shadow is pronounced enough, click Apply again. (I think I clicked twice.) The worst that can happen is that you get too much and have to undo it (**<CTRL> + Z**). Do it the way you like it. It is, after all, YOUR creation (next page).



# Screenshot Showcase

After you save it, you can export a bitmap from the file menu and save it as a png, jpg, or other image file.

It's really amazing what you can do with several copies of the same ellipse and a photo. I'm sure with a little experimentation, you can make any number of wonderful items.



Posted by dalefritz, March 4, 2013, running Blackbox.



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# Xfce Power User Tips, Tricks & Tweaks: Archive File Management

by Paul Arnote (parnote)

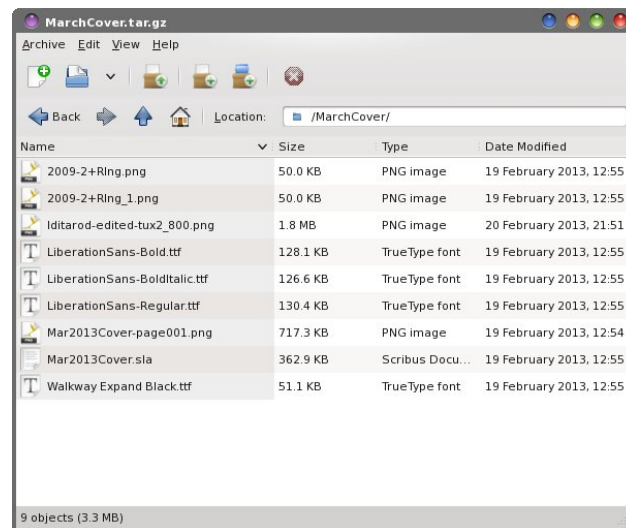
If you've been around or worked with computers for any length of time, you've certainly had to work with archive files, bearing such filename extensions as zip, tar.gz, tar.bz2, xz, 7z, rar, etc. In fact, you might have even had to create a few (or a few thousand) yourself. Without a shadow of a doubt, you've had to extract the information from an archive file that a friend or family member sent you, or that you downloaded from some corner of the Internet.



The assorted archive formats have been around since ... well ... forever. They are very useful for placing a multitude of files – related or not – into one file. This makes it easier to keep things organized – one file to keep track of, instead of 147. They also help to keep associated and related files together, so that the recipient has everything all in one file. It also makes it easier to share files with friends, family

members, co-workers, associates and anyone else that you might want to share files with.

Most archive formats compress the files in the archive, allowing you to store those files in less space on your hard drive. Other archive formats don't compress the files at all. Their "job" is to just keep all of the files together, in one convenient spot. We're not going to discuss the different archive formats in any detail here. This article isn't intended to be a tutorial about the various archive file formats. That information is readily available and easy to find, and goes into much more detail than is necessary for our needs here.



*File Roller displaying the contents of a tar.gz file*

Linux is blessed enough to have several choices. Ark, File Roller and Squeeze are three popular programs with excellent graphical user interfaces. There are many more command line programs available for dealing with the assortment of archive file formats floating around out there. I have to admit that it gets tiresome to open each archive file

individually in a typical archive manager program, though. As good as those programs are, there are times when I simply want to take a brief peek into the archive file without having to launch my trusty archive manager program. Sometimes, I want to simply create an archive file. Other times, I simply want to extract an archive file to my hard drive, without even looking to see what's inside (I receive many archive files every month from trusted sources).

As an Xfce desktop user, I have some "other" choices for how to deal and work with archive files. Thanks to Thunar's Custom Actions, even more of those choices are available to me with only one or two clicks of the mouse. If you are not a Xfce user, don't worry. A lot of the information in this article can be used from the command line as well, with minor modifications in some cases, and virtually no modification in other cases.

## The Native Xfce Solution

Fortunately, the Xfce developers have included a plugin for Thunar that assists with working with archive files. Unfortunately, in the four years I've been using mostly Xfce as my main desktop, that plugin would break, they would fix it, then it would break again, then they would fix it again. On and on this cycle seems to go, without an end in sight. As a result, I've lost confidence in using the Thunar archive plugin. In fact, I've uninstalled it from my computers, to prevent being disappointed the next time it breaks (and to prevent confusing it with my home brewed solution, below).

So, as much as I hate to admit it, I don't recommend using the Thunar archive plugin. If you're like me, you need something that performs properly, every

# Xfce Power User Tips, Tricks & Tweaks: Archive File Management

time out of the gate. I don't want to have to worry whether everything made it into the archive file. I need unfettered dependability, and something that works consistently – every time.

## An Alternative Solution

Since archive files have been around forever, there are many other tools available to help me deal and work with them. All of the individual archive file formats has its own command line tool for working with them. Some have two tools to use, depending on if you are creating or extracting an archive.

Of course, no two command line tools could possibly have the same command line switches, so you have to remember different command line switches for every tool you use, which quickly gets confusing and cumbersome. Granted, using the dedicated command line tool for a particular archive file format gives you the most control over your archive file formats and any work you need to perform with (or on) them. But those dreaded command line switches ....

Of all of the tools available, I've stumbled upon one that truly makes working with archive files easy and painless. It is a command line tool, called **atool**. Currently up to version 0.39.0, atool is a collection of Perl scripts that provide a common set of commands for dealing with every type of archive file supported on your system. Thus, you have but only one set of command line switches to remember, rather than a different set for each and every archive tool.

You can install atool from the PCLinuxOS repository, via Synaptic. This would also be a good time to install any other archive formats you wish to work with – or think that you might encounter. If you want to work with 7z files, you will want to install p7zip. If you want to work with rar files, you will want to install rarlinux. Most of the more common archive tools (zip, unzip, tar, gzip, bzip, etc.) should already be installed on your PCLinuxOS installation.

Here are the command line options, gathered up for you by running **atool --help** at the command line:

```
atool --help
```

```
Usage: atool [OPTION]... ARCHIVE [FILE]...
       atool -e [OPTION]... [ARCHIVE]...
```

Manage file archives of various types.

Commands:

-l, --list	list files in archive (als)
-x, --extract	extract files from archive (aunpack)
-X, --extract-to=PATH	extract archive to specified directory
-a, --add	create archive (apack)
-c, --cat	extract file to standard out (acat)
-d, --diff	generate a diff between two archives (adiff)
-r, --repack	repack archives to a different format (arepack)
--help	display this help and exit
--version	output version information and exit

Options:

-e, --each	execute command above for each file specified
-F, --format=EXT	override archive format (see below)
-O, --format-option=OPT	give specific options to the archiver
-D, --subdir	always create subdirectory when extracting
-f, --force	allow overwriting of local files
-q, --quiet	decrease verbosity level by one
-v, --verbose	increase verbosity level by one
-V, --verbosity=LEVEL	specify verbosity (0, 1 or 2)
-p, --page	send output through pager
-0, --null	filenames from standard in are null-byte separated
-E, --explain	explain what is being done by atool
-S, --simulate	simulation mode - no filesystem changes are made
-o, --option=KEY=VALUE	override a configuration option
--config=FILE	load configuration defaults from file

Archive format (for --format) may be specified either as a file extension ("tar.gz") or as "tar+gzip".

Report bugs to Oskar Liljeblad <oskar@osk.mine.nu>.

Notice how some of the commands have a separate command listed in parenthesis at the end of the line of text in the help statement. The really nice thing is that you can use the atool command, or you can direct your commands straight to the command that atool will ultimately use and call. There are six separate commands (other than atool) that you can use:

**als** - lists files in an archive  
**aunpack** - extracts files from an archive  
**apack** - adds files to an archive

**acat** - extracts files to standard output  
**adiff** - generates a diff between two archives  
**arepack** - converts from one archive format to another

We'll use three of these commands (als, aunpack and arepack), along with the atool command, in our Thunar Custom Actions. These four commands will cover 99.9% of the archive file management tasks that most users will need to perform. If you have or find a need for any of the others that we didn't use, please feel free to use the information here to help tailor your own Thunar Custom Action to perform your desired task. Plus, if you develop a Thunar Custom Action using any of the "other" atool commands, please drop me a note about it at [pclinuxos.mag@gmail.com](mailto:pclinuxos.mag@gmail.com).

## Listing The Contents Of Archive Files

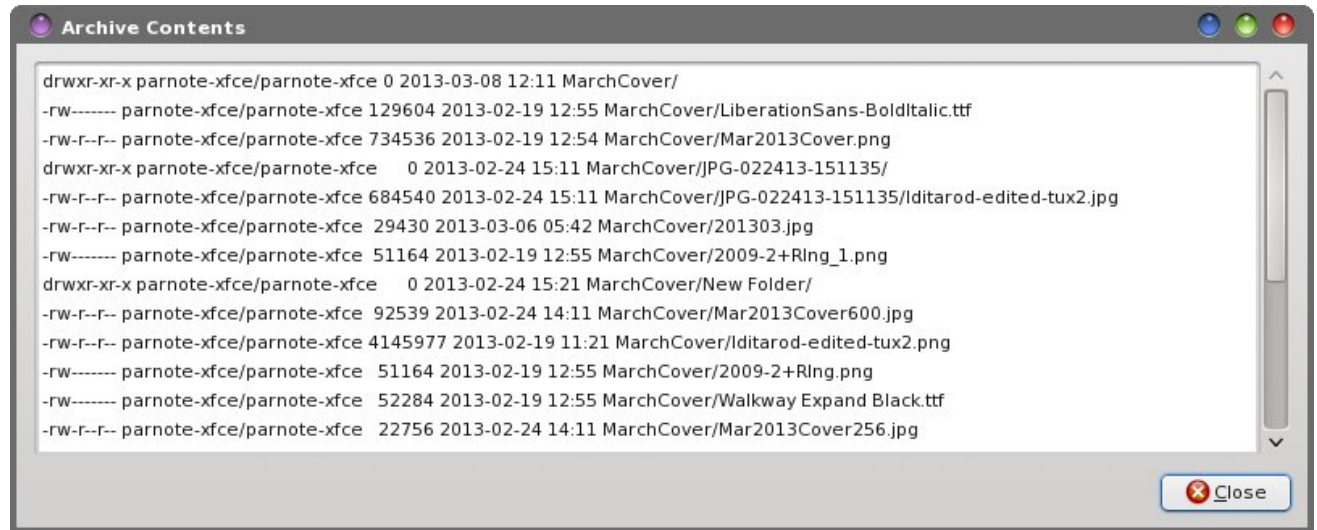
Sometimes – ok, often times – the name of an archive file is a bit less descriptive of its contents than you might like it to be. This can make it difficult to figure out what's in the archive file, unless you open it up in the resident archive manager. However, we can take a peek at the files in an archive file much more easily, and with less overhead.

Create a new Thunar Custom Action. Give it a name on the first line. I called mine "View Archive Contents." On the second line, enter a description. I entered "View the contents of the selected archive file." On the third line, enter the following command:

```
als -l -e %N | zenity --text-info
--width=800 --height=300 --title="Archive
Contents"
```

Choose an icon for your new Thunar Custom Action. Under the "Appearance Conditions" tab, select "Other Files" and set the file pattern to `*.tar.gz;*.tar.bz2;*.7z;*.rar;*.zip; *.tar;*.tar.xz`.

Now, whenever you select "View Archive Contents" from Thunar's right-click context menu, you will see a dialog box similar to the one above, with the contents of the archive files listed in the dialog box. You can select multiple files in Thunar, and the



contents of all the archives will be displayed in the dialog box, one after another.

## Unpacking/Extracting Archive Files

Probably one of the most common activities when working with archive files is extracting the archive contents to your hard drive. For being able to extract files from the wide assortment of archive files, this activity begs – no, cries out – for some simplification. Sure, you could write a bash file that handles all the different archive file formats, but thanks to atool, we don't have to.

One of the commands that makes up the atool "suite" (it really is a suite of Perl scripts) is the aunpack command. As you can see in the "Edit Action" Thunar Custom Action dialog box above, we give it the name "Extract Archive Here." Under the description, enter "Extract the selected archives here into their own directories." Then, enter the following command:

```
aunpack -xe %N
```



Choose an icon for your new Thunar Custom Action. Under the "Appearance Conditions" tab, select

“Other Files,” and enter the following as the file pattern to match:

```
*.zip;*.tar;*.tar.gz;*.tar.bz2;*.rar;*.tar.xz;*.7z
```

Now, whenever you select “Extract Archive Here” from Thunar’s right click context menu, your selected archive files will be extracted, each to their own individual directory. This is one of the added benefits of using atool’s aunpack command. The extraction of the archive file’s content is automatically placed into its own directory, and you actually have to force the atool suite of commands to overwrite files. Thus, you get an extra layer of “safety” that prevents any of your current files from being overwritten. With that in mind, if you have extracted the files from an archive file previously and wish to repeat that action, it might be a good idea to rename the folder to where the archive file’s contents were extracted the first time.

## Creating Archive Files

To fully replace the Thunar archive plugin, I had to find a way to create an archive file from multiple, non-contiguous files, as well as being able to create an archive file from an entire directory. Luckily, the atools suite of commands provided just that. Plus, since we’re creating a file, we need a way to give that file a name.

The easiest way to satisfy all of the requirements is to create a bash file. Here is that bash file, which I have called compressor.sh (top of next column).

This bash file has had a few other versions before getting to the version you see here. Looking at it again, I notice that we can make the bash file even shorter by completely eliminating the long if-then-else statement where it checks for a proper archive file format extension. From that long statement, we’ll save only the atool command. Previous versions had the user entering the archive file extension manually, instead of selecting it from a list (as this version has you do). The long if statement helped to

```
#!/bin/sh

ARCHIVE=`zenity --title="Archive name" --entry --entry-text="$(echo $1 | cut -f1 -d.)" --text="Enter the archive name ONLY:"`
  if [ $? == 1 ]; then
    exit
  fi

TYPE=$(zenity --list --column="Select One" --title="Create Archive" --width=200 --height=250 --text="Select the archive format to use" zip tar tar.gz tar.bz2 7z rar tar.xz)
  if [ $? == 1 ]; then
    exit
  fi

if [ $TYPE == "tar.gz" ] || [ $TYPE == "tar.bz2" ] || [ $TYPE == "tar" ] || [ $TYPE == "zip" ] || [ $TYPE == "rar" ] || [ $TYPE == "7z" ] || [ $TYPE == "tar.xz" ]; then
  atool -a --format $TYPE "`echo ./${ARCHIVE}.${TYPE}`" "$@"
else
  zenity --info --title="Error" --text="Unrecognized archive format specified. Exiting."
fi

exit 0
```

check if the archive file extension was properly entered without typos, and if it wasn’t, to display an error message and exit. Since the end user is selecting the archive file extension from a list, we’ve eliminated the possibility of entering an improper file extension. As a result, the error message box will never, ever be displayed.

So, with those changes, the compressor.sh bash file becomes this:

```
#!/bin/sh

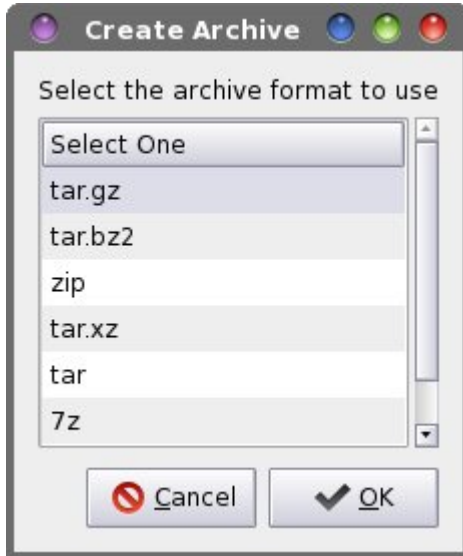
ARCHIVE=`zenity --title="Archive name" --entry --entry-text="$(echo $1 | cut -f1 -d.)" --text="Enter the archive name ONLY:"`
  if [ $? == 1 ]; then
    exit
  fi

TYPE=$(zenity --list --column="Select One" --title="Create Archive" --width=200 --height=250 --text="Select the archive format to use" tar.gz tar.bz2 tar.xz zip tar 7z rar)
  if [ $? == 1 ]; then
    exit
  fi

atool -a --format $TYPE "`echo ./${ARCHIVE}.${TYPE}`" "$@"

exit 0
```

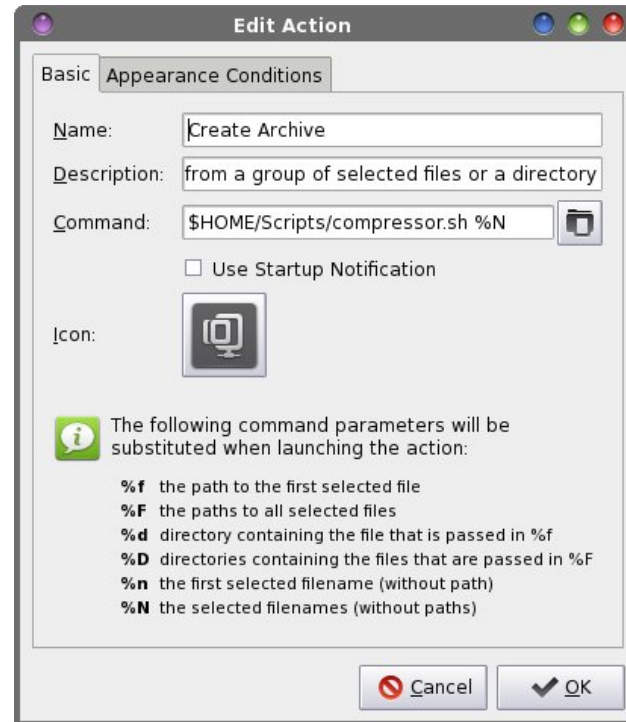
# Xfce Power User Tips, Tricks & Tweaks: Archive File Management



The bash file also pre-selects a filename for you, based on the first filename passed to the script. If you have selected multiple files, then the name of the first file in the list of files is automatically filled into the archive name dialog box, stripped of its file extension. If you have selected a directory to compress, then the name of the selected directory is automatically filled into the archive name dialog box. In either case, if you want to name it something else, simply type the preferred name into the archive name dialog box.

Although using spaces in filenames shows bad form, I've attempted to create this bash script to be tolerant of spaces in filenames. Spaces in filenames can cause problems with many command line tools, the group of programs to which atool definitely

belongs. Whenever possible, you should avoid using spaces in filenames. Hence, if you are typing in this bash script, **be extra careful** with what quotes you are using throughout the bash script. "" is not the same as ', and neither are the same as ` . They all have different meanings in a bash script. Type (or copy) the bash script into your favorite plain text editor, and be sure to save it (preferably somewhere within your system's path). Don't forget to make the file executable (Properties > Permissions > Allow this file to run as a program).



Enter "Create Archive" as the name. Under the description, enter "Create an archive file from a group of selected files or a directory." Enter the following command on the third line:

```
$HOME/Scripts/compressor.sh %N
```

(I store all of my custom scripts in my /home directory, under a "Scripts" directory). Select an icon for your new Thunar Custom Action. Under the

"Appearance Conditions" tab, leave \* as the file pattern, and place a checkmark in front of every file type.

Now, when you right click on a group of files or a directory and select "Create Archive" from the Thunar right click context menu, an archive of the name you specify and of the type you specify will be made in the current directory.

## Repacking An Archive

This handy command is rather unique. It will take the archive files you specify (multiple files are allowed) and it will repackage them into a different archive file format. Let's say you have a tar.gz archive file containing images from your recent vacation. You want to share them with your sister, cousin and parents. However, they all use Windows, and everyone knows that zip files "rule" on Windows. To be sure that they can open and view the images, you need to change the tar.gz file to a zip file.

Sure, you could just extract the tar.gz file and re-compress it as a zip file. But that involves quite a few extra steps. What if we could just automatically change the tar.gz file to a zip file in just one easy step? With the atool suite, it is possible.

To properly handle multiple archive files and to properly rename the files, a bash script becomes necessary. Here is the bash script, which I've named archive-repack.sh (next page).

Just as with the compressor.sh bash script, I've attempted to make the archive-repack.sh bash script tolerant of filenames with spaces in them. I won't belabor the previous discussion about spaces in filenames here, again. The same statements made earlier still stand.

Copy or type in the archive-repack.sh bash script in your favorite plain text editor. Save the file, and don't forget to make it executable. Create a new Thunar

# Xfce Power User Tips, Tricks & Tweaks: Archive File Management

```
#!/bin/sh

n=1

TYPE=$(zenity --list --column="Select One" --title="Repack Archive" --width=200 --height=250 --text="Select the archive format to use" tar.gz tar.bz2 tar.xz zip tar 7z rar)

if [ $? == 1 ]; then
    exit
fi

for file in "$@"; do
    if [ ! -e "$file" ]; then
        continue
    fi
    name="$(echo $file | cut -f1 -d.)"
    atool -r --format $TYPE "$file" "`echo $name.$TYPE`"
    echo "$n * 100 / $"
    echo "# Processing file: $file"
    let "n = n+1"
done | (zenity --progress --title "Re-Compressing..." --percentage=0 --auto-close --auto-kill)

exit 0
```

Now, when you select "Repack Archives" from the Thunar right click context menu, the selected archive files will all be repackaged into the archive file format that you select. A Zenity dialog box displays the progress through the process.

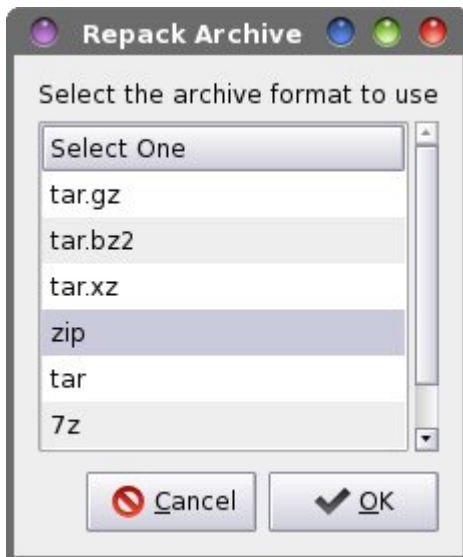
## Summary

The addition of these four new Thunar Custom Actions not only adds new capabilities to archive management with Thunar, but it also completely replaces the often-breaking Thunar archive plugin. Managing your archive files has never been so easy.

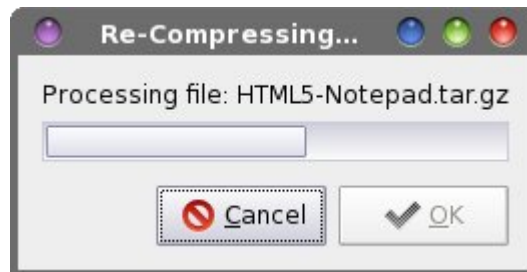
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The PCLinuxOS magazine



Custom Action. On the first line, enter a name. I called mine "Repack Archives." On the second line, enter a description. I entered "Repack the selected



archive files to another archive file format." On the third line, enter the following command:

```
$HOME/Scripts/archive-repack.sh %N
```

Select an icon for your new Thunar Custom Action. Under the "Appearance Conditions" tab, select "Other Files," and set the file pattern to this:

```
*.zip;*.tar;*.tar.gz;*.tar.bz2;*.rar;*.tar.xz;*.7z
```





# How Do I Kill A Program Under LXDE?

by Daniel Meiß-Wilhelm (leiche)

What can you do when a program, such as Firefox, starts consuming RAM memory? In the PCLinuxOS forums, a user asked about a tool named memlockd, because Firefox had been quickly using extra resources and thrashing his HD. Memlockd gives a quick access to TTY, where he can use the command "killall firefox." However, we can use a faster method, without resorting to the use of memlockd.

Copy and paste the following desktop file as kill\_firefox.desktop:

```
[Desktop Entry]
Encoding=UTF-8
Name=killall firefox
Name[de]=Töte Firefox
Exec=killall firefox
Icon=exec.png
Terminal=false
Type=Application
StartupNotify=true
Categories=Infos;System;Monitor;X-
MandrivaLinux-System-Monitoring;
```

Save it on your Desktop. If Firefox misbehaves, click it.

OR

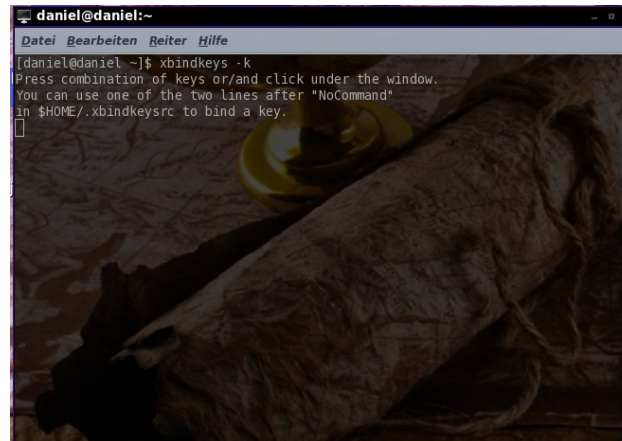
Save it under \$HOME/.local/share/applications. It will now be displayed in Start > More Applications > Monitoring.

Now can you add it in your lxpanel. Right click on the panel, and choose **add/remove panel items**, look at **application launch bar**, click on **edit** and choose **Kill Firefox**.

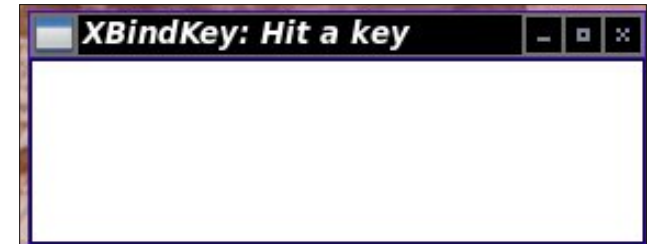


OR

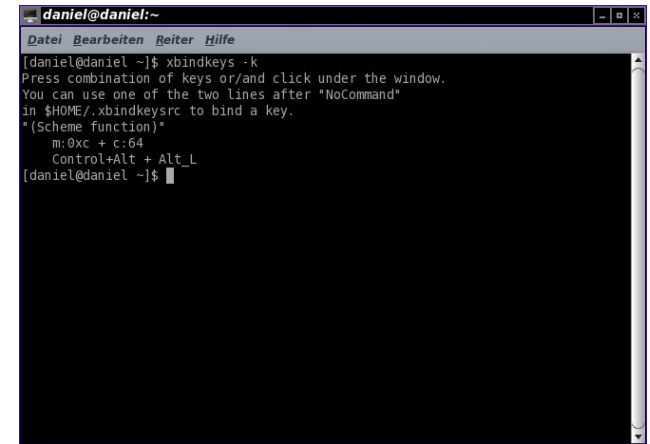
If you have xbindkeys running, ps -e | grep xbindkeys will display it. You can add a shortcut with it. For example, xbindkeys -k.



Press your desired combination of keys or/and click under the window. You can use one of the two lines after "NoCommand" in \$HOME/.xbindkeysrc to bind a key.



I pushed <ctrl>+<alt>+<0>.



```
"(Scheme function)"
m:0xc + c:19
Control+Alt + 0
```

Add this to your \$HOME/.xbindkeysrc:

```
# killing firefox
"killall firefox"
m:0xc + c:19
Control+Alt + 0
```

Now, restart xbindkeys. In a terminal, enter **killall xbindkeys && sleep 1 && xbindkeys**.

# Advanced Linux Sound Architecture (ALSA) Equalizer

by Yankee

Why would we need to install Pulse Audio to be able to enjoy a system-wide audio Equalizer utilizing the ALSA Audio sound system? This Equalizer works with any audio-video program where the ALSA Audio sound system is the system audio provider program.

Only three steps are required.

1) Install the `alsa-plugin-equal` package from Synaptic.

2) Install these configurations into a file called `asound.conf` into the `/etc` directory as the root user.

```
# /etc/asound.conf file for terminal  
command: $alsamixer -D equal
```

```
ctl.equal {  
type equal;  
}
```

```
pcm.plugequal {  
type equal;  
slave.pcm "plug:dmix";  
}
```

```
pcm.!default {  
type plug;  
slave.pcm plugequal;  
}
```

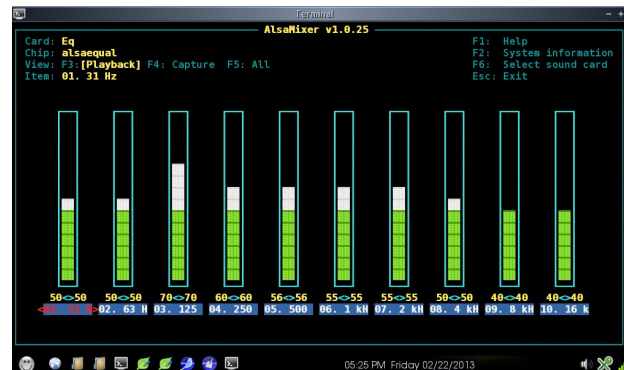
3) Install these configurations into a file called `alsaEQ.desktop` into the `/usr/share/applications` directory as the root user.

```
[Desktop Entry]  
Name=AlsaMixer - EQ  
Comment=Advanced Linux Sound Architecture  
(ALSA) Equalizer  
Exec=sakura -e alsamixer -D equal  
Icon=sound_section  
Terminal=false  
Type=Application  
Categories=Audio;Mixer;X-MandrivaLinux-  
Multimedia-Sound;
```

The `.desktop` file above uses Sakura as the terminal to display the equalizer in. You should be able to replace Sakura with your favorite terminal program (Konsole, Xfce4-terminal, Xterm, etc.).

Go to your desktop menu>Sound>AlsaMixer - EQ and click that menu item.

The Equalizer appears as such :



The Equalizer has 10 bands which affect both stereo channels equally. The settings are fully adjustable and take effect at once. Use the arrow keys to navigate to each frequency and to change the audio levels up or down for the selected frequency.

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## Screenshot Showcase



Posted by nymira, March 8, 2013, running KDE.

EN \* KI



# Normalize The Volume Of Your MP3 Files With MP3Gain

by agmg (Antonis Komis)

## Introduction

I'm pretty sure that most of you have faced the following situation: you have a large collection of MP3 files from different sources (cd's, online purchases etc) but when listening to them, you find out that they play in different volumes, making listening to them pretty annoying. Don't worry, this can be easily fixed with a nice little program called MP3Gain.

## MP3Gain and how it works

MP3Gain is a program that analyzes MP3 files to determine how loud they sound to the human ear. It can then adjust the MP3 files so that they all have the same loudness without any quality loss. This way, you don't have to keep reaching for the volume dial on your MP3 player every time it switches to a new song.

MP3Gain is an implementation of ReplayGain, supporting Track mode and Album mode. However, with most other formats, the necessary loudness adjustment of ReplayGain is stored as metadata, thus leaving the encoded results alone. With MP3Gain, the loudness adjustment is done on the data itself, albeit in a lossless/reversible way. Another difference with MP3Gain is the fact that it can only adjust physical volume in 1.5 dB steps.

Here's the technical reason on why it's lossless (despite operating on the data itself), and also why the smallest change possible is 1.5 dB:

The MP3 format stores the sound information in small chunks called "frames". Each frame represents a fraction of a second of sound. In each frame there is a "global gain" field. This field holds an 8-bit integer which can represent values from 0 to 255. When an MP3 player decodes the sound in the frame, it uses the global gain field to multiply the decoded sound samples by  $2^{(gain/4)}$ .

- If you add 1 to this field in all the MP3 frames, you effectively multiply the amplitude of the whole file by  $2^{(1/4)} = 119\% = +1.5\text{ dB}$ .

- Likewise, if you subtract 1 from this field, you multiply the amplitude by  $2^{(-1/4)} = 84\% = -1.5\text{ dB}$ .

The way MP3Gain works actually has a very strong benefit. Since it is the data itself that is modified, MP3Gain does not require special support from players.

ReplayGain is a proposed standard published by David Robinson in 2001 to measure the perceived loudness of audio in computer audio formats, such as MP3 and Ogg Vorbis. It allows players to normalize loudness for individual tracks or albums. This avoids the common problem of having to manually adjust volume levels between tracks when playing audio files from albums that have been mastered at different loudnesses.

ReplayGain is now supported in a large number of media players and portable media players and digital audio players. Although the standard is now formally known as ReplayGain, it was originally known as Replay Gain and is sometimes abbreviated RG.

You can find more information about ReplayGain and how it actually works, from the official website: <http://www.replaygain.org/>

Most popular audio players available in Linux, such as Amarok, Banshee, Clementine, Audacious, VLC, XBMC and many more, support ReplayGain, either natively or with the use of plug-ins. So, you can enable ReplayGain while listening to your music with such a player and have all your files play in the same volume. But if you want to listen your files using players that do not support ReplayGain, or if you just want to permanently adjust the audio level of all your MP3 files, then MP3Gain is the tool for the job.

MP3Gain can be used either from the terminal, or by using a nice GUI called EasyMP3Gain, which is available in the PCLinuxOS repositories. I will explain both methods so you can choose the one that suits you better.

## Install MP3Gain and prepare your mp3 files

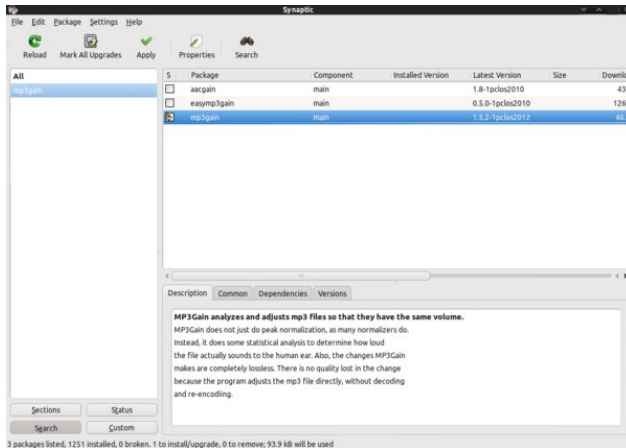
First of all, you need to install MP3Gain and, optionally, its GUI, EasyMP3Gain.

Open up Synaptic Package Manager, hit "Reload" and then search for "mp3gain" (next page, top left).

Select the package "mp3gain" for installation. If you select "easym3gain" for installation, then "mp3gain", "aacgain" and "vorbisgain" will be marked for installation, too.

Next, we need a folder containing MP3 files to work with. Although the changes MP3Gain makes to the files are reversible, I suggest you work on a test folder, at least at first. When you have become

# Normalize The Volume Of Your MP3 Files With MP3Gain



familiar with the use of mp3gain and have tested it on a couple of your MP3 files, you can then use it on a larger scale.

I will use the folder “Music,” which is located in my personal folder (/home/agmg/Music). In this folder, I have four MP3 files with names *test01.mp3*, *test02.mp3*, *test03.mp3* and *test04.mp3*. I will use those files to demonstrate the operation of MP3Gain.

## Using MP3Gain from the terminal.

Open your favourite terminal emulator and navigate to the folder where your MP3 files are located. In my example, it's /home/agmg/Music.

```
[agmg@localhost ~]$ cd /home/agmg/Music
```

```
[agmg@localhost Music]$
```

Or:

```
[agmg@localhost ~]$ cd ~/Music [agmg@localhost Music]$
```

Let's see what's inside that folder:

```
[agmg@localhost Music]$ ls -l total 26944 -rwxrwx--- 1 agmg agmg 9204417 Jul 13 2012 test01.mp3* -rwxrwx--- 1 agmg agmg 4366398 Jul 13 2012 test02.mp3* -rwxrwx--- 1 agmg agmg 4842479 Jul 22 2012 test03.mp3* -rwxrwx--- 1 agmg agmg 9164943 Jul 14 2012 test04.mp3* [agmg@localhost Music]$
```

The syntax for MP3Gain is: mp3gain [options] <filename 1> [<filename 2> ...]

You can issue the command `mp3gain -?` to view a list of all available options.

We will discuss all options right away, but first, let me explain the difference between Track Gain and Album Gain.

**Track gain:** applies gain to separate tracks (MP3 files) so they all sound equally during playback. The default volume in mp3gain is 89dB but can be manually set to higher or lower values, using 1.5dB steps (as explained earlier). Use this option if you want all your MP3 files to have the same volume when played. Best option when creating custom playlists containing MP3 files from different sources.

**Album gain:** applies a single gain change to all files, so their loudness relative to each other remains unchanged but the average album loudness is normalized. In album gain analysis, an additional peak-value and gain-value, which will be shared by the whole album, is calculated. Use this option if you want your albums to sound equally loud with different tracks having different loudness. Best when listening to a whole album where all files come from the same source.

Running MP3Gain with no options on certain MP3 files will perform an analysis of the files selected. Let's see it in action:

```
[agmg@localhost Music]$ mp3gain *.mp3 test01.mp3 Recommended "Track" dB change: -3.175000 Recommended "Track" mp3 gain change: -2 Max PCM sample at current gain: 20603.994112 Max mp3 global gain field: 184 Min mp3 global gain field: 120
```

```
test02.mp3 Recommended "Track" dB change: -7.410000 Recommended "Track" mp3 gain change: -5 Max PCM sample at current gain: 40663.547904 Max mp3 global gain field: 255 Min mp3 global gain field: 146
```

```
test03.mp3 Recommended "Track" dB change: -2.845000 Recommended "Track" mp3 gain change: -2 Max PCM sample at current gain: 19178.061824 Max mp3 global gain field: 206 Min mp3 global gain field: 108
```

```
test04.mp3 Recommended "Track" dB change: -11.685000 Recommended "Track" mp3 gain change: -8 Max PCM sample at current gain: 54804.119552 Max mp3 global gain field: 213 Min mp3 global gain field: 28
```

## Normalize The Volume Of Your MP3 Files With MP3Gain

```
Recommended "Album" dB change for all
files: -10.450000
Recommended "Album" mp3 gain change
for all files: -7
```

I have selected MP3Gain to analyze all MP3 files inside the "Music" folder by using the \* wildcard. I got back the results of this analysis and the proposed gain for each track and for the whole album.

**Recommended "Track" dB change** represents the difference between the track's volume and the default volume of MP3Gain in dB (MP3Gain's default volume is set at 89dB).

**Recommended "Track" mp3 gain change** represents the gain that should be applied to the track so it reaches the default volume. MP3Gain applies volume gains in steps of 1.5dB, so a track gain of -2 would lower the track volume by 3dB.

**Recommended "Album" dB change for all files** represents the difference between album's average volume and the default album volume set in MP3Gain (89dB).

**Recommended "Album" mp3 gain change for all files** represents the single gain that should be applied to every track of the same album (same folder) so that the whole album's volume is normalized (according to mp3gain's default album volume) while maintaining the volume difference between tracks.

Let's see an analysis of the first file:

```
[agmg@localhost Music]$ mp3gain
test01.mp3
test01.mp3
Recommended "Track" dB change:
-3.175000
Recommended "Track" mp3 gain change:
-2
Max PCM sample at current gain:
20603.994112
```

```
Max mp3 global gain field: 184
Min mp3 global gain field: 120
```

```
Recommended "Album" dB change for all
files: -10.450000
Recommended "Album" mp3 gain change
for all files: -7
```

Issuing the command `mp3gain test01.mp3` will not analyze the file again since it's already been analyzed the first time we issued the command (for all files) and the program has written a tag containing the results of the analysis. The command then reads that tag and gives back those results. The tag is modified every time MP3Gain makes changes to reflect the previous and the current status of the file and enables us to reverse those changes.

If you want to re-analyze the file, you must use the `-s r` option. You will see that the program recalculates the volume of the file. The `-s` option has many more parameters that are related to tag handling:

```
-s c only check stored tag info (no other
processing)
-s d delete stored tag info (no other processing)
-s s skip (ignore) stored tag info (do not read or
write tags)
-s r force recalculation (do not read tag info)
-s i use ID3v2 tag for MP3 gain info
-s a use APE tag for MP3 gain info (default)
```

Now, let's have a closer look at the results:

```
Recommended "Track" dB change is -3.175000.
This means that the actual volume of the track is 89
+ 3.175 = 92.175 dB. So, we must apply a track gain
of 2 (2 x 1.5 dB) if we want the track to go close to
89 dB. The fact that MP3Gain only increases or
decreases the volume in steps of 1.5 dB, suggests
```

that we can't have the exact set volume but a very close value.

Let's apply the recommended track gain to the file:

```
[agmg@localhost Music]$ mp3gain -r
test01.mp3
test01.mp3
Applying mp3 gain change of -2 to
test01.mp3...
```

and see the results:

```
[agmg@localhost Music]$ mp3gain
test01.mp3
test01.mp3
Recommended "Track" dB change:
-0.170000
Recommended "Track" mp3 gain change: 0
Max PCM sample at current gain:
14569.242624
Max mp3 global gain field: 182
Min mp3 global gain field: 118
```

```
Recommended "Album" dB change for all
files: -0.170000
Recommended "Album" mp3 gain change
for all files: 0
```

In the next example, I will increase the volume of my file to a value higher than the default 89 dB, lets say to 95 dB. The difference is 6 dB:

```
[agmg@localhost Music]$ mp3gain -d 6
-r test01.mp3
test01.mp3
Applying mp3 gain change of 4 to
test01.mp3...
```

MP3Gain applied a gain of 4 to increase the volume of the file by 6 dB. The `-d` switch modifies suggested dB gain by floating-point set afterwards.

## Normalize The Volume Of Your MP3 Files With MP3Gain

There is one more switch which modifies the suggested mp3 gain. The switch is `-m` followed by an integer number.

So:

`-m <i>` modify suggested mp3 gain by integer *i*

`-d <n>` modify suggested dB gain by floating-point *n*

Let's use another file in the next example:

```
[agmg@localhost Music]$ mp3gain
test02.mp3
test02.mp3
Recommended "Track" dB change:
-7.410000
Recommended "Track" mp3 gain change:
-5
Max PCM sample at current gain:
40663.547904
Max mp3 global gain field: 255
Min mp3 global gain field: 146
```

```
Recommended "Album" dB change for all
files: -10.450000
Recommended "Album" mp3 gain change
for all files: -7
```

The suggested mp3 gain for this file is -5. Again, this means a volume decrease of  $-5 \times 1.5 \text{ dB} = -7.5 \text{ dB}$ . If I use the `m` switch, I can alter the recommended mp3 gain for this file and apply it:

```
[agmg@localhost Music]$ mp3gain -m 2
-r test02.mp3
test02.mp3
Applying mp3 gain change of -3 to
test02.mp3...
```

Now I want to show you something else. Let's use another file:

```
[agmg@localhost Music]$ mp3gain
test03.mp3
test03.mp3
Recommended "Track" dB change:
-2.845000
Recommended "Track" mp3 gain change:
-2
Max PCM sample at current gain:
19178.061824
Max mp3 global gain field: 206
Min mp3 global gain field: 108
```

```
Recommended "Album" dB change for all
files: -10.450000
Recommended "Album" mp3 gain change
for all files: -7
```

So, the volume of this file is  $89 + 2.845 = 91.845 \text{ dB}$ . I will try to increase the volume of the file by a large amount, let's say 12 dB.

The file's volume is already around 3dB higher than the default.

So the gain that the program will apply is:  $12 \div 1.5 - 2 = 6$ .

Let's see:

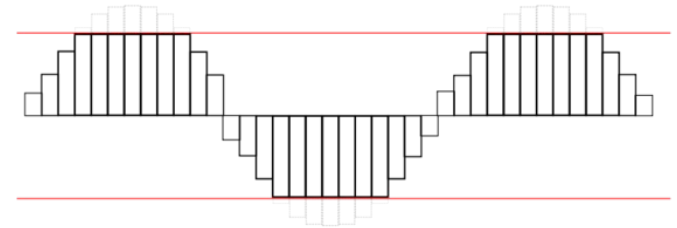
```
[agmg@localhost Music]$ mp3gain -d 12
-r test03.mp3
test03.mp3
```

```
WARNING: test03.mp3 may clip with mp3
gain change 6
Make change? [y/n]:
```

What's this warning? What is clipping?

In a real world situation, if you push a speaker beyond its capabilities, then the audio from it will be clipped -- this is sometimes referred to as overloading. This happens because there is a limit to the amount of power supplying the amplifier inside the speaker -- if the requirements go beyond this then the amplifier will clip the input signal. In this

circumstance, instead of a smooth sine wave being produced for normal audio, a square waveform (clipped) will be outputted by the amplifier resulting in sound distortion.



Similarly in digital audio, there is also a limit on how far an input sound can be represented. If the amplitude of a signal goes beyond a digital system's limits then the rest of it will be discarded. This is particularly bad in digital audio as a large amount of definition can be lost through audio clipping.

So how can we handle clipping? We have two options:

`-c` ignore clipping warning when applying gain

`-k` automatically lower Track/Album gain to not clip audio

Let's reissue the command using the `-k` switch:

```
[agmg@localhost Music]$ mp3gain -d 12
-r -k test03.mp3
test03.mp3
Applying auto-clipped mp3 gain change
of 3 to test03.mp3
(Original suggested gain was 6)
Applying mp3 gain change of 3 to
test03.mp3...
```

The program lowered the track gain by 3 so that the audio will not be clipped.

Same options discussed so far, apply also when using the program in Album gain mode.

# Normalize The Volume Of Your MP3 Files With MP3Gain

Let's see some examples:

```
[agmg@localhost Music]$ mp3gain
test02.mp3 test03.mp3
test02.mp3
Recommended "Track" dB change:
-2.890000
Recommended "Track" mp3 gain change:
-2
Max PCM sample at current gain:
24178.698469
Max mp3 global gain field: 252
Min mp3 global gain field: 143
```

```
test03.mp3
Recommended "Track" dB change:
-7.360000
Recommended "Track" mp3 gain change:
-5
Max PCM sample at current gain:
32253.529587
Max mp3 global gain field: 209
Min mp3 global gain field: 111
```

```
Recommended "Album" dB change for all
files: -6.100000
Recommended "Album" mp3 gain change
for all files: -4
```

Let's apply the recommended Album gain using the -a switch:

```
[agmg@localhost Music]$ mp3gain -a
test02.mp3 test03.mp3
test02.mp3
test03.mp3
```

```
Applying mp3 gain change of -4 to
test02.mp3...
Applying mp3 gain change of -4 to
test03.mp3...
```

Of course, we can modify the mp3 or dB gain, like we did in Track gain mode:

```
[agmg@localhost Music]$ mp3gain -d -2
-a test02.mp3 test03.mp3
test02.mp3
test03.mp3
```

```
Applying mp3 gain change of -1 to
test02.mp3...
Applying mp3 gain change of -1 to
test03.mp3...
```

```
[agmg@localhost Music]$ mp3gain -m 4
-a test02.mp3 test03.mp3
test02.mp3
test03.mp3
```

```
Applying mp3 gain change of 5 to
test02.mp3...
Applying mp3 gain change of 5 to
test03.mp3...
```

There are a few more switches that can be used with the command line version of MP3gain, although we have covered the most important ones. You can view a full list of all MP3Gain options by issuing the command `mp3gain -?`

I will also list here those not covered extensively for your convenience:

- v show version number
- g <i> apply gain i without doing any analysis
- l 0 <i> apply gain i to channel 0 (left channel) without doing any analysis (ONLY works for STEREO files, not Joint Stereo)
- l 1 <i> apply gain i to channel 1 (right channel)
- e skip Album analysis, even if multiple files listed
- o output is a database-friendly tab-delimited list

-t writes modified data to temp file, then deletes original instead of modifying bytes in original file

-q Quiet mode: no status messages

-p Preserve original file timestamp

-x Only find max. amplitude of file

-f Assume input file is an MPEG 2 Layer III file (i.e. don't check for mis-named Layer I or Layer II files)

-? or -h show help

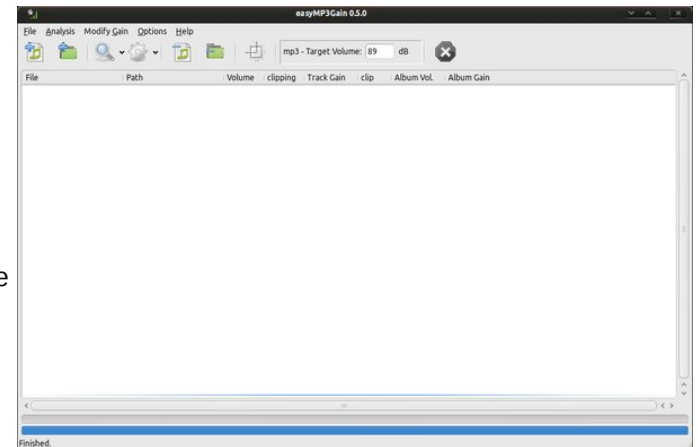
-u undo changes made (based on stored tag info)

-w "wrap" gain change if gain+change > 255 or gain+change < 0 (use "-? wrap" switch for a complete explanation)

## Using MP3Gain from the GUI (EasyMP3Gain).

Let's begin with a presentation of the GUI and a short explanation of the program's options.

This is the main EasyMP3Gain window:





# Normalize The Volume Of Your MP3 Files With MP3Gain

Let's add some files in our list:

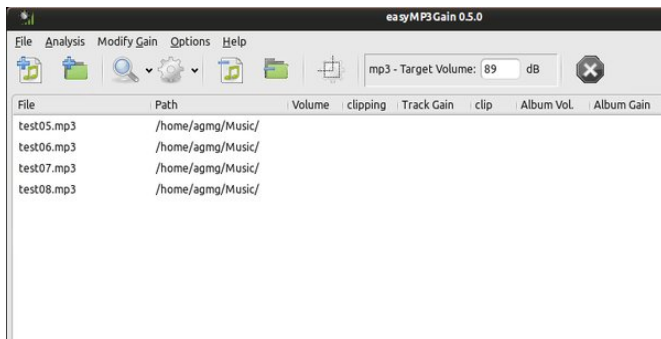


Add file(s) or File -> Add Files to add single file(s).



Add folder(s) or File -> Add Folder to add a whole folder.

I have added my /home/agmg/Music folder, containing a new set of mp3 files:



These files have no gain information on them so, first thing we should do is scan them.



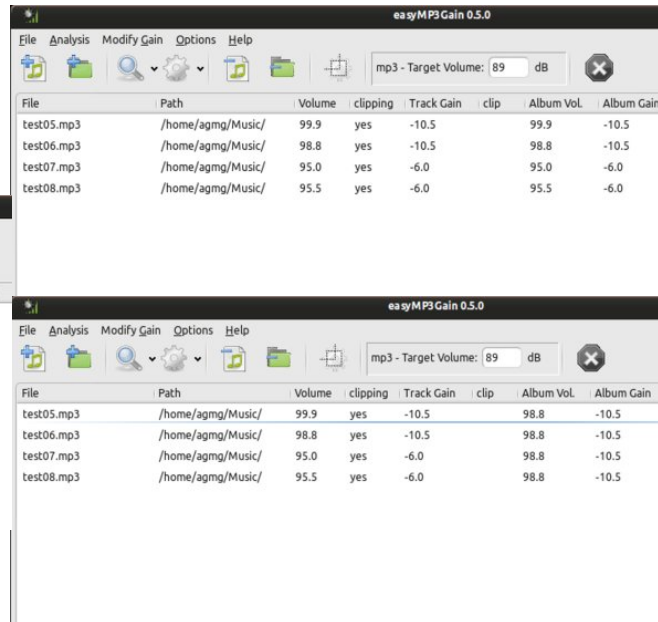
This button has two options: Track Analysis and Album Analysis (default).

**Track Analysis:** If you have queued up a selection of unrelated MP3 songs that are not part of a complete album then you can simply click on the Track Analysis button. Doing this will examine each MP3 file in the list and calculate the replay gain value based on the target volume setting (default is 89 dB).

**Album Analysis:** If you're working on an album then click on the down arrow button next to the Track Analysis icon and select the Album Analysis mode. This is a better option in this scenario because all the files will be normalized based on the total album

volume level. Click the Album Analysis button to begin this process.

Let's see the differences between Track Analysis (first screenshot) and Album Analysis (second screenshot) on these MP3 files:



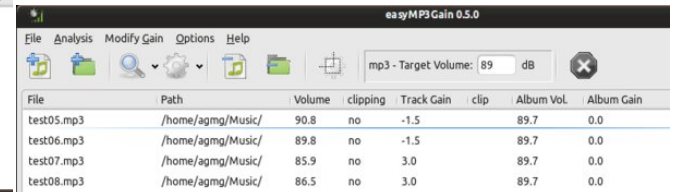
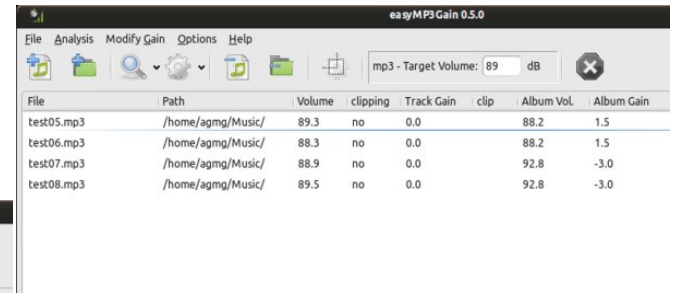
Let's have a look at the next button:



Similar to the previous button, this one also has two options: **Apply Track Gain** and **Apply Album Gain**.

Once again, let's see the differences. First screenshot shows the same MP3 files after applying Track Gain and the second, after applying Album Gain (top, right).

In the first case, I applied Track Gain after performing a Track Analysis on my MP3 files. The result is that all files now have the same volume (89dB).



In the second case, I applied Album Gain after performing an Album Analysis. The result is that all tracks of the Album have the same average volume, while maintaining the relative difference between them.

Let's move on to the next buttons:



This button removes the selected file(s) from the list.



This button removes all files from the list.



This button instructs the program to process only the selected file(s).



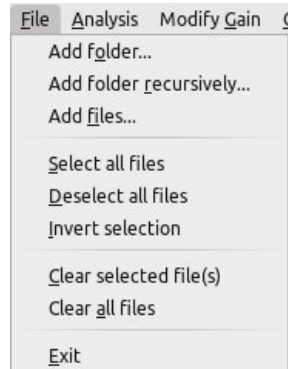
Here you can change the default volume.



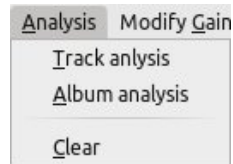
This buttons stops current operations (will turn red when program is busy).

# Normalize The Volume Of Your MP3 Files With MP3Gain

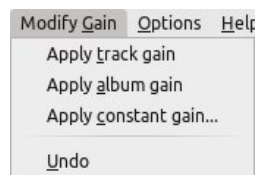
Now, let's go through EasyMP3Gain's menus and have a look at the additional options:



**Add folder recursively** will add a folder and the file it contains, including all subfolders.

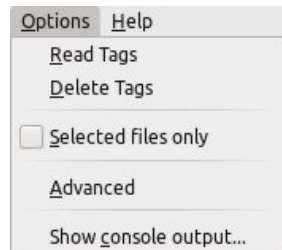


Selecting **Clear** will remove all analysis results from the list.



**Apply constant gain** will apply a fixed gain to all files, regardless their volumes.

**Undo** instructs the program to undo all changes previously made.



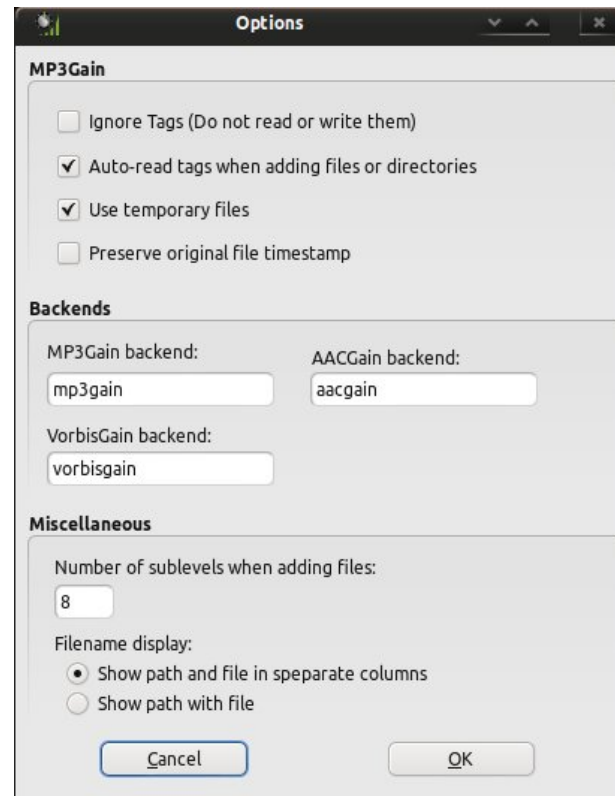
**Read Tags** tells the program to read the tags written during a previous analysis.

**Delete Tags** removes all tags written by MP3Gain.

**Selected files only** will apply changes only to the files you have selected.

**Show console output** will open up a new window showing console messages generated by the mp3gain backend.

Let's have a look under the Advanced options:



**Ignore Tags** tells MP3gain to not read or write any tags on the file.

**Note:** *If you choose the "Ignore Tags" option, then you will not be able to automatically undo changes made by MP3Gain. You will still be able to undo any changes, but you will have to manually keep track of what changes you make to your files.*

**Auto-read tags when adding files or directories:** if this options is unchecked, you have to hit the Analyze button to display gain information stored in tags during a previous analysis.

**Use temporary files** will instruct MP3Gain to write modified data to temp file, then delete original instead of modifying bytes in original file.

**Preserve original timestamp:** check this option if you want the original file timestamp to be untouched.

The option **Number of sublevels when adding files** alters the behaviour of the **Add folders recursively** command. It specifies the number of folders underneath the initial one that MP3Gain will look into when adding files.

As you can see from the above window, EasyMP3Gain also supports aac and ogg-vorbis files through the command-line backends aacgain and vorbisgain (which are also installed automatically when installing EasyMP3Gain). If you want to view the options of those two backends, you can issue the following commands in terminal:

**aacgain --help** (for aacgain options)

**vorbisgain -?** (for vorbisgain options - exactly the same as MP3Gain)

## Conclusion

While using MP3Gain with a GUI is a lot more easier, there may be times when the command-line version is more useful. You could create a bash script that will automatically search and apply the options you specify to several of your MP3 files or albums without needing your attention.

An example using the find command:

```
find /home/agmg/Music -iname "*.mp3" -exec mp3gain -d 4 -r {} +;
```

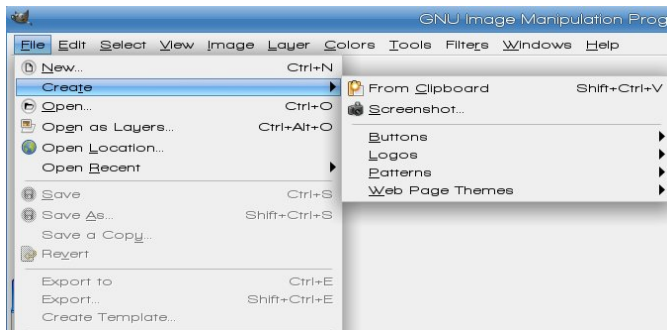
This command will search for every MP3 file inside the /home/agmg/Music directory and will apply a track gain (-r switch) by modifying the default volume by 4dB.

You can find more information about MP3Gain on the official website, at: <http://mp3gain.sourceforge.net/>.

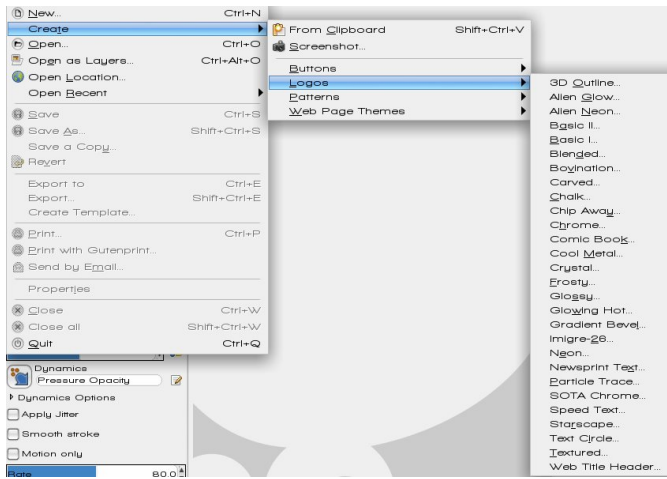
# GIMP Tutorial: Exploring the Create Menu

by Meemaw

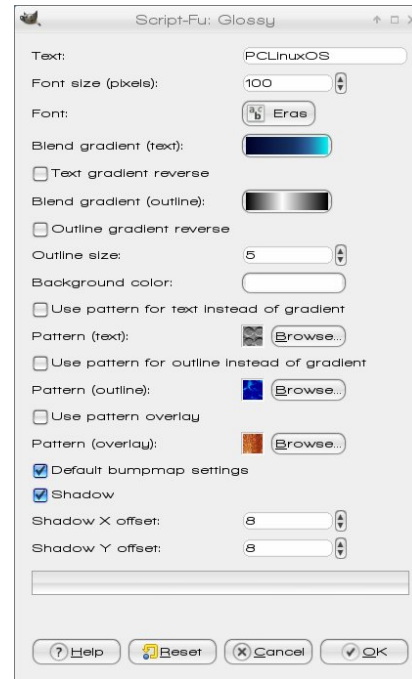
I've been using Gimp for quite a while, and had never noticed a section in the **File** menu. It says **'Create'** and in it are several already-configured items that you can make in just a few minutes.



Let's play a little. After opening Gimp, click on **File > Create > Logos**. You will see many options.



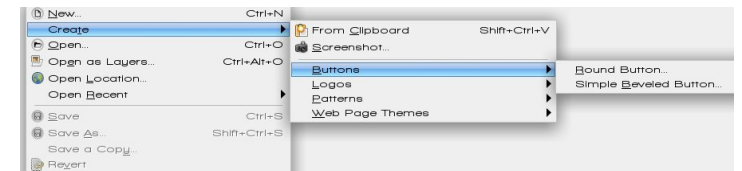
Let's do a Glossy logo. Choose **Glossy** from the list and you will see this window (center, top):



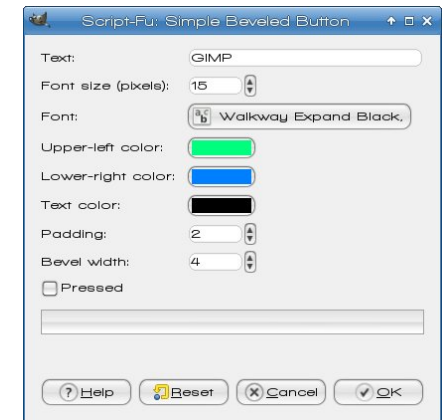
This window contains all the configuration items you need. You can change the text, font and size, along with the gradient you want to use for the text (Deep Sea or Caribbean Blues) and outline (Brushed Aluminum) plus the color for the background (Dark Blue). You can experiment with many of the settings, including using patterns for the text or outline, or even overlaying the whole thing with a pattern. Make as many as you want and save the ones you really like.



Now, let's do a button. Click on **File > Create > Button**.



There aren't as many choices. Let's do a simple beveled button. The only way to increase the size of your button is to change the font size. The ones below are 63 pixels wide and 24 pixels tall with the font size 15.

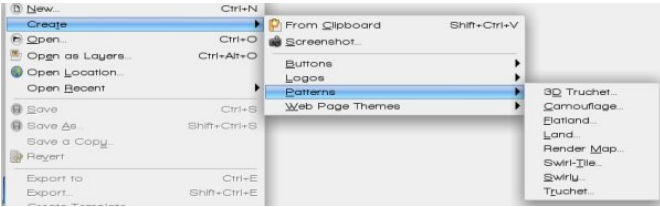


I changed the upper left to purple and the lower right to dark blue (my colors of preference). After I made one, I changed the text color to white. Then I made a third and clicked the "Pressed" check box. This one looks like a button after I have clicked on it.



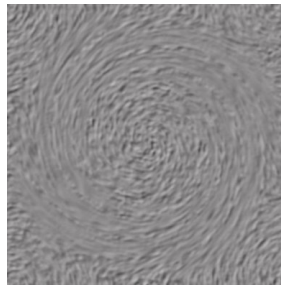
As always, experiment with colors and settings to get just what you want.

Another section in the create menu is **Create > Pattern**.

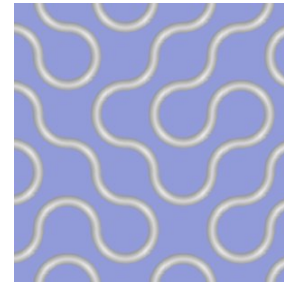


As you can see, there are 3 colors to set. The 'Smooth' checkbox puts a blur into your camouflage and the 'Flatten' checkbox merges all the layers together.

The Create menu has many different items you can try. Another couple of patterns are below:



Swirly Tile



3D Truchet

I chose Camouflage

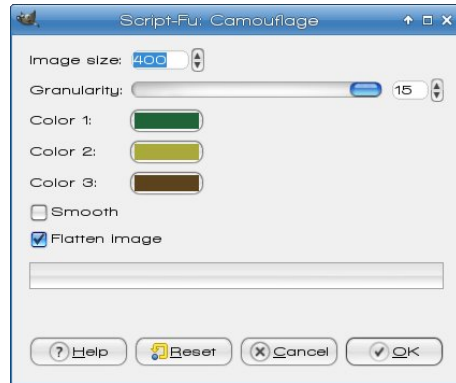
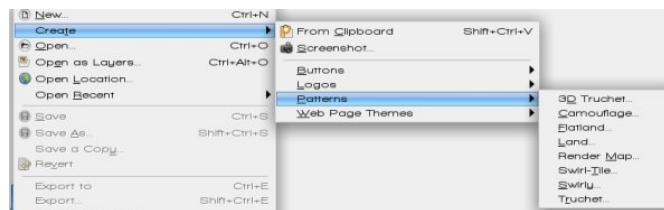


Image size is how many pixels on each side, so with 400, it will be a 400 x 400 square. Granularity is how much detail to camo has. In the image below, the left side's sample has granularity of 2, and the right side's is 15.



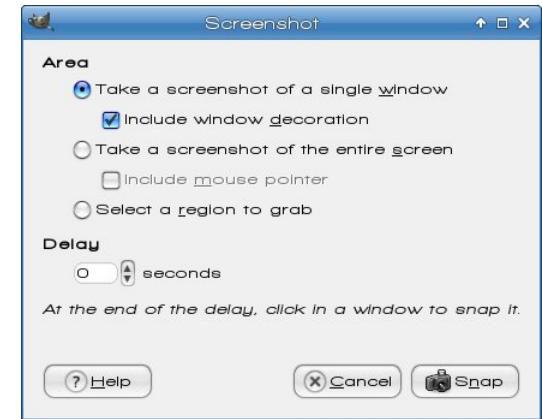
You can also design items for web pages, including arrows, bullets, buttons, headings and Hrules (horizontal rule, which can be used as a border or divider) in two different patterns:



Arrows for the two patterns are shown below on the tabs in Gimp. The design on the left is called Alien Glow, and the one on the right is called Beveled Pattern.



Two other items are at the top of this menu. The first, **Create from Clipboard**, places clipboard contents directly into Gimp so you can work on it. The second is **Create from Screenshot**. Choosing it gives you the following window:



You can configure your screenshot method (window, screen or region) and any delay you want, click Snap, then the screenshot is imported into Gimp for you to manipulate.

We've had some fun with the Create menu. Its ready-made configurations are nice if you need to design something quickly, like a button or a pattern.

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- Launch your favorite IRC Chat Client software (xchat, pidgin, kopete, etc.)
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- Type "/join #pclosmag" (without the quotes)



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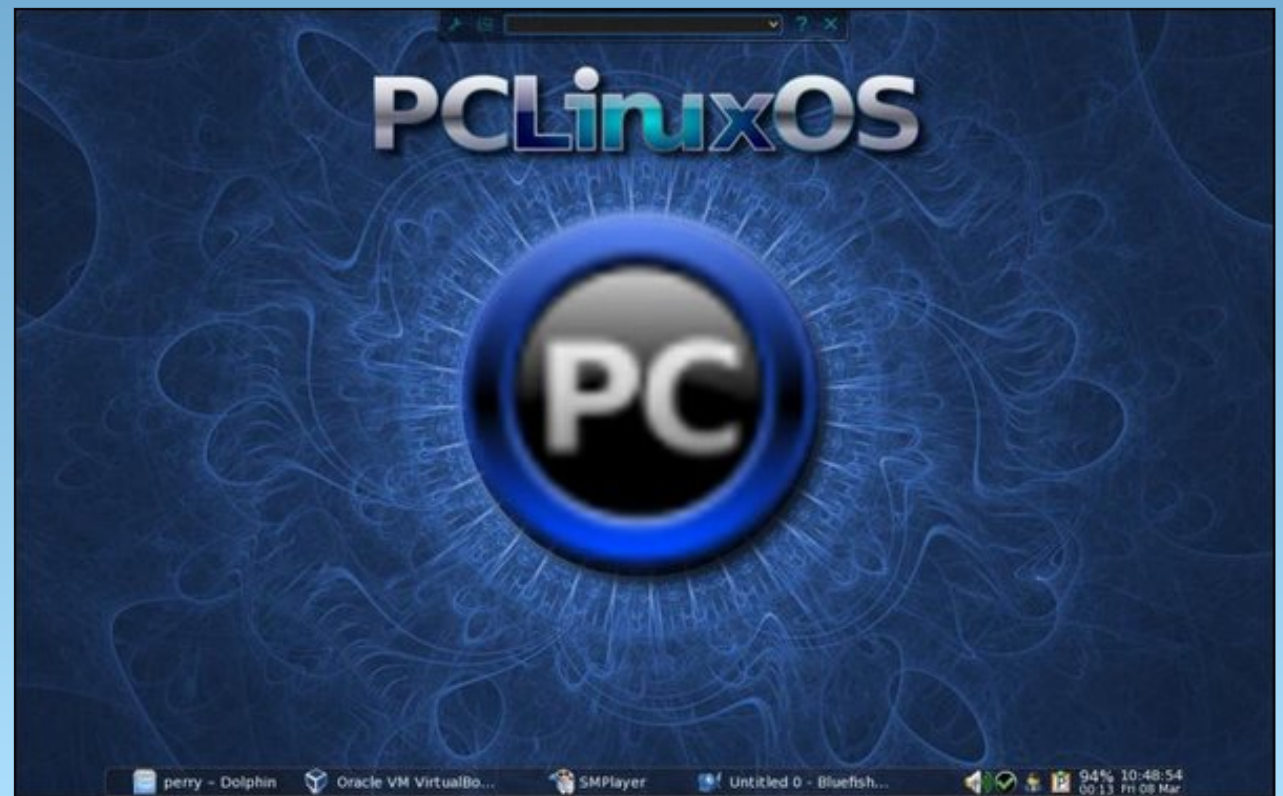


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## Screenshot Showcase



Posted by *ferry\_th*, March 7, 2013, running Openbox.

# PCLinuxOS Recipe Corner



From The Kitchen of  
*You Can Too*

## Bacon and Egg Lasagna

### Ingredients:

- 12 lasagna noodles (cooked and drained)
- 2 Tbsp. chopped parsley
- 1 lb. bacon (cut in 1 inch strips)
- 1/4 tsp. pepper
- 1 cup chopped onion
- 4 cups milk
- 1/3 cup bacon drippings
- 12 hard cooked eggs (sliced)
- 1/3 cup all purpose flour
- 2 cups shredded Swiss cheese
- 1/2 tsp. salt
- 1/3 cup grated Parmesan cheese

### Cooking Instructions:

1. In large skillet, cook bacon until crisp; drain, reserving 1/3 cup drippings. Set bacon aside. Cook onions in bacon drippings until tender. Add flour, salt, and pepper. Stir until a paste forms.
2. Add milk; cook and stir until mixture comes to a boil and is thickened.
3. Heat oven to 350 degrees F. Grease 9x13 inch baking dish. Spoon a small amount of white sauce into bottom of pan. Divide lasagne noodles, bacon,

white sauce, eggs, and Swiss cheese into thirds; layer in pan. Sprinkle with Parmesan cheese. Bake at 350 degrees for 25-30 minutes or until thoroughly heated. Sprinkle with parsley. Let stand 10 minutes before serving. Makes 12 servings. Can be made the day before.



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# PCLinuxOS Saves The Day!

by alex25502



Then I remembered I had brought my PCLinuxOS-based (LXDE 2012.01) netbook to the church. I figured why not.

After boot up, I inserted their stick. Moments later, PCLinuxOS acknowledge the stick! I copied the music to another stick, and immediately returned the other stick to its rightful owner. I explained my situation to him, then he told me that the stick had been formatted on an Apple! Obviously, Microsoft doesn't like Apple.

Had it not been for my netbook in my backpack, their part of the rehearsal would not have happened. A wasted trip of 40 miles (64.4 Km) – one-way – was avoided thanks to PCLinuxOS!

On a part-time basis, I operate a professional sound system at the church I attend. Recently, I was working on a project with a performing arts group that was to perform at the church.

A small team of performers from out of town was to join our local group for the big event. Upon their arrival, one of them handed me a USB stick, which contained their music. Also given to me was a list of their skits and the names of the songs in chronological order.

Our multimedia booth has two Microsoft-based computers. Once I arrived in the booth, I fired up one of the towers. After inserting the stick, I waited for the tower to acknowledge the drive. Ain't happening! So I inserted one of my sticks in a nearby port. Mine was acknowledged. So I decided to repeat the process on the other tower. Same results.



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# Get Off The Proprietary Merry Go Round

by Kevin Keijzer

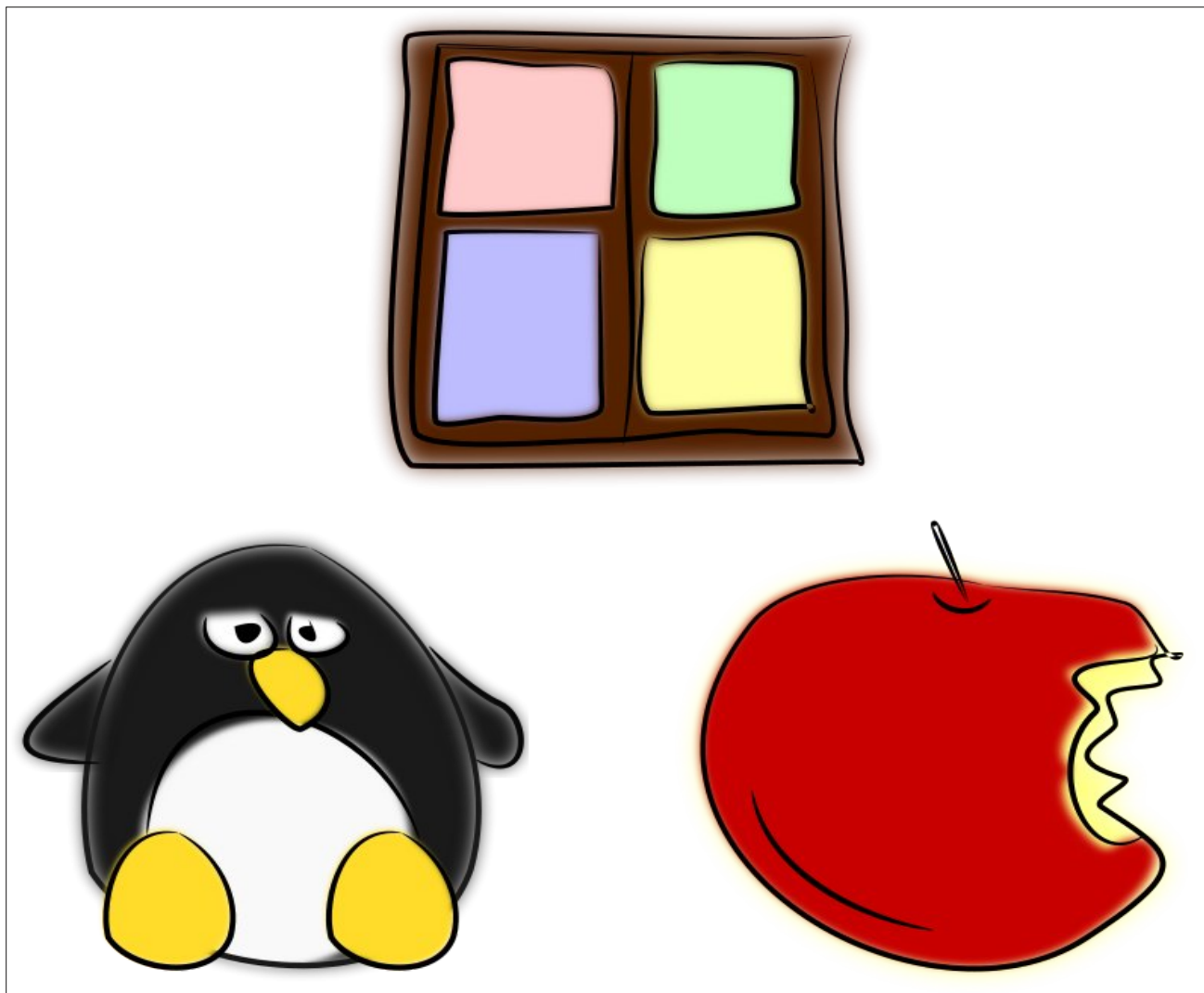
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In my opinion, individual freedom is one of the most important things in life. The entire point of a capitalist society is that it revolves around the individuals. Whichever company can comply to the consumers' wishes the most, will be the most successful one. Most people will think of this as very reasonable. You'll only spend money on something of which you believe it will be of good use to you.

When we follow this analogy, one could say that apparently 90% of the computer users find that Microsoft Windows is the best computer operating system out there. But that's where the cookie starts to crumble, because I don't believe that anyone has ever gone to a store to buy a new PC or laptop with Windows®. People just want a new computer, which always happens to have Microsoft Windows pre-installed. Very few consumers are even aware that (better) alternatives are available. Some might perhaps know that Apple uses "something different", but in most cases, that's as far as their knowledge goes.

Microsoft's entire Windows ecosystem is based upon tying their products to others and abusing the ignorance of average consumers. This is also why so many average people know so little about computers, even though they've been around for years now. Microsoft has designed their Windows operating system in such a way that it offers many ambiguities, and that the user will never be quite certain about what exactly happens on their machine. Microsoft's primary reason for doing so, is that there are many "repairmen" out there who would love to make some money off Microsoft's empire as



well, after which they can become "most valuable professionals," "certified platinum partners," or other complete and utter nonsense. I can guarantee that many of those "repairmen" charge way too much money for their "repairs." But hey, when all a

computer shows is a blue screen with an indecipherable error code, most consumers will just take their machine back to "the store." Can you blame them?



Moreover, Microsoft wants to keep their internal systems secret, because offering too much transparency would soon let people find out about everything that is really happening within the Windows operating system. It's a commonly known fact that many backdoors are built in to enable governments to monitor the activities of users, and there are most likely many other hatches of which nobody knows or may know the presence.

The fact that governments, schools, hospitals, police stations, the military, and non-profit organizations all make use of Microsoft products on such a massive scale without considering the dangers, is something I find unimaginable. Whatever commercial companies want to do is their own business, but the fact that those public institutions are willing to do business with a company like Microsoft, is inexcusable to me. Microsoft Windows and proprietary software in general doesn't show a single sign of respect for the freedom and rights of its users. While everyone loves to talk about the importance of things like freedom of speech, barely anyone seems to care about the enormous influence that companies like Microsoft and Apple have on the devices we use the most. Nearly everybody spends hours behind their computer every day, and gratefully uses all the possibilities, but no one even seems to think about the history of the device loved by so many.

Throughout the years, there have been many situations in which Microsoft and Apple have abused their large amounts of money in order to push competitors from the market, by the simple means of bribery. Because especially Microsoft's products are completely based upon oppressive licensing systems, it is rather easy for them to force hardware vendors to make certain decisions, especially since the time that Microsoft Windows had gained such a market position that it had sadly become a selling point.

Around 1999, Bill Gates personally sent an e-mail to other Microsoft employees, in which he stated that

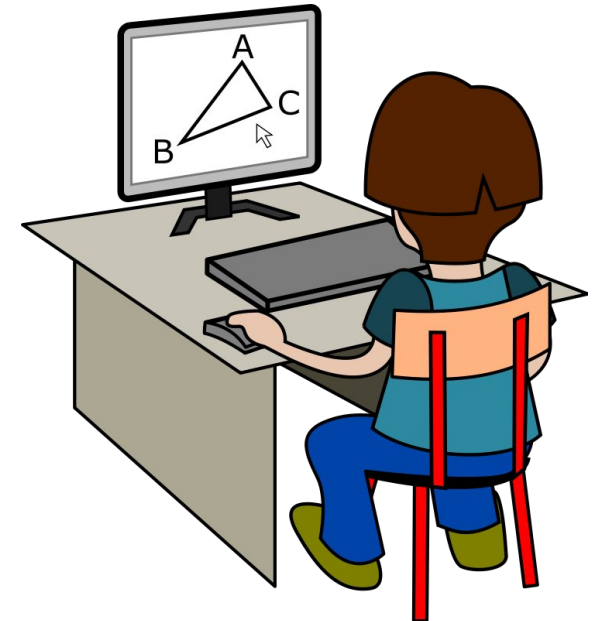
they should try to do whatever they could to stop GNU/Linux from working on regular PC's, even if it meant they'd have to force OEM's to do as they said, damage open standards, or patent trivial things. This behavior combined with the fact that due to Microsoft's efforts of keeping people as ignorant as possible about the fact that they even had a choice, rapidly ensured that all the hardware vendors did exactly as commanded by "big boss" Microsoft. Just search the web for the Comes v. Microsoft case if you want to know more about this specific chapter of Microsoft's long and ongoing history of being evil.

Luckily for us, Microsoft is not very good at writing decent software, so the consequences aren't as bad as they had probably hoped. Then again, what we do see is that virtually every hardware vendor exclusively supports Microsoft Windows nowadays. If GNU/Linux users point out that they have a problem with a certain piece of hardware, the vendor's response nearly always is that the users are advised to install Microsoft Windows, because they do not want (or are allowed) to support other operating systems. Even the BIOS, the first piece of firmware that initializes the hardware and bootloader, is usually filled with intentional errors of which only Microsoft developers are told how to avoid them. Because of this, it generally takes Linux kernel developers weeks or even months before they have reached the same results, by which the average user comes to believe that "GNU/Linux is less decent than Microsoft Windows."

For instance, recently a (probably intentional) BIOS bug showed up in many new laptops, causing the battery life of machines running GNU/Linux to be noticeably shorter than the same machines running Microsoft Windows. This was merely because the vendors refused to implement the offending feature in a transparent way, and let only Microsoft know how it worked. And now, under pressure of the Redmond-based company and its "BFF" Intel, a system to replace the BIOS altogether, called UEFI, has been pushed into consumer motherboards, while having built-in features to make booting none-

Windows operating systems (nearly) impossible, under the guise of "security."

Apple has been fighting a comparable battle, although not so much on the desktop, because they aren't quite successful there themselves either, and GNU/Linux isn't a direct threat to their iMacs and MacBooks as much as it is to Microsoft Windows. However, a different incarnation of GNU/Linux, Android, is. Whereas Microsoft tries to do whatever they can to "break" GNU/Linux on the desktop, Apple has been filing patent lawsuits about the most trivial things for years now, hoping as many Android devices as possible will be banned from the store shelves. Not very long ago, the Android flagship device of the time, the Samsung Galaxy Nexus, was banned in the USA for a few days, because Apple found one tiny piece of Android to be similar to something their iPhone could also do. Even though the offending feature was removed and changed within a few days, Apple has never given up on the battle, and it doesn't look like they ever will. Everywhere in the world, lawsuits are filed against vendors of Android phones and tablets, hoping they can get those products banned as well.

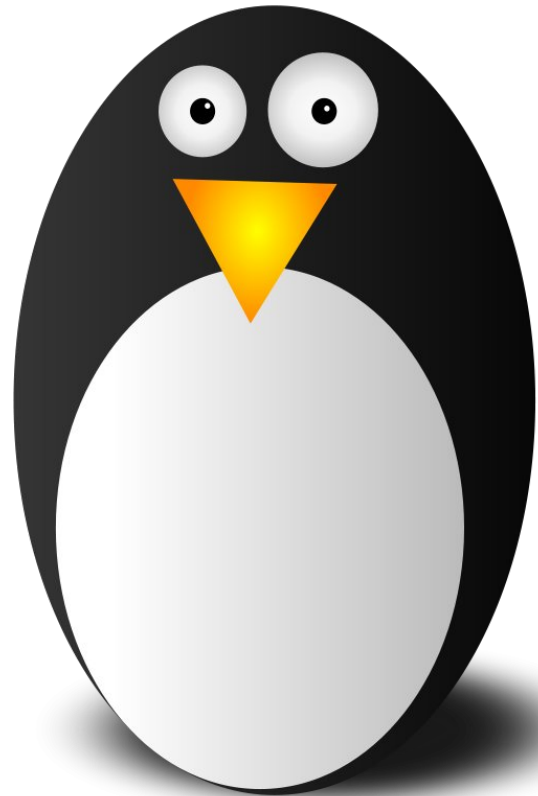


Aside from intentionally ruining fair competition on a hardware-level, Microsoft and Apple also use large parts of their money to make doubtful deals with many different companies, primarily to harm their competitors. A few years ago, Microsoft developed a media player named Silverlight, a completely useless product which they eventually even admitted themselves that it had very little right of existence. Regardless, Microsoft has lobbied quite a long time to make many content providers switch to their poorly received proprietary product, which is essentially an even worse clone of Adobe Flash. They even gave up a board seat to the CEO of the popular video streaming site Netflix if he would get his company to support Silverlight exclusively. And he did.

Apple does not have such a strong case with their software, but they are capable of shoving their gadgets down everyone's throat. For example, I read about a high school in Belgium a while ago, where all students were forced to buy an iPad, because Apple would sponsor them. Even though many students and parents refused and protested, the plan was executed nonetheless, after which many students left the school. Also, many people have probably noticed that a lot of American films and tv shows only feature Apple computers, to make people believe that Apple products are some kind of symbol of wealth.

What many people don't seem to understand, is that buying a product made by Microsoft or Apple, does not make them the owner, regardless of the fact that they went to the store and paid money for it. Even worse: nearly everyone just agrees to very constrictive license terms, usually without even reading them. For instance, everyone who owns an iPhone or iPad apparently has no problems with their location data being logged and sent to Apple, and every company using Microsoft Windows seems to be fine with random checks whether the software they use is legitimate. And I'm not talking about a software tool doing so, but a physical guy coming along for a visit.

Microsoft and Apple do not care the least about their users. The only thing in which they're interested, is making money off them. And if that hurts the users' privacy, so be it. If that hurts the users' security, so be it. If that hurts the users' convenience, so be it. If that hurts the living conditions of Chinese employees, usually only twelve years old, so be it. Why would anyone trust companies like that?



I have always tried to remain neutral regarding the whole iOS versus Android discussion, for one, because I don't believe that tablets and smartphones are that great, but primarily because I believe it takes the attention away from something much more important: Microsoft Windows versus GNU/Linux on the desktop. After all, it's still the computers and laptops that do the most real work. Regardless of how some may feel about it, I do not believe this is

ever going to change. There simply are too many limitations to the ARM architecture to ever be a complete replacement for the current generation of x86 machines. MIPS would have had a bigger chance if it had undergone more active, wide-scale development over the last years, which our "friends" at Redmond HQ obviously didn't want to happen. That's why I've always been much more interested in the future of GNU/Linux on the desktop than what exactly happens to Android, which lacks the pieces of software I love the most anyway: GNU.

Painfully, I have to watch how people have been improperly informed for years, over and over again. The things that many people say out loud about computers, of which they really believe that they are true, are generally just completely incorrect. Primarily, the elderly users suffer from that. They didn't grow up with computers, so they obviously know less about them. But when they ask for help, barely anyone is able to really explain them anything. Pretty much every "computer expert" is part of the same enormous group of (generally extremely arrogant) people who grew up during the Microsoft monopoly, and really don't have a clue what they're doing either, because it's Microsoft's primary goal to let its users know as little as possible.

I'm sure this isn't very different compared to other industries, where consumers are also being scammed on a daily basis. Surely, employees of car garages or central heating installers will supply false information to keep customers ignorant just as much. But computers are different because everyone acts like this. It's not just the "professionals," but also the users among each other. Friends and relatives brag about things that work completely different than they think they do, for instance. After being in such situations for many years now, I've come to the point where I simply cannot stand it any longer. For some reason, everyone seems to think it is somehow "shameful" to admit you don't know so much about a certain subject. Everyone always wants to come across as

some kind of genius, and barely anyone is willing to listen anymore. Because when you listen to someone else, you admit you don't know it yourself. Or something like that, I guess.

There are so many people who swear at their computer every day, and really have no to little clue on how to operate it, but as soon as you tell them there are alternatives out there that can be far less problematic, most people refuse to try it because it would mean they can no longer boast about the few things they do know about Microsoft Windows, or because they would have to ask for help every now and then in the beginning. It also feels like the generally accepted description of someone who "knows a lot about computers" is someone who is good at making spreadsheets in Microsoft Excel, but as soon as the side of the case has to be removed, they are nowhere to be found.



There simply are many valid reasons to prefer free software over the established empires of Microsoft and Apple, much more than I can ever describe, while even leaving the technical side completely out of the scope. Surely, it is true that GNU/Linux is much faster and more stable and secure than Apple Mac OS and especially Microsoft Windows are, and the fact that it can be used completely free of charge is something that many people find the most appealing part, but to me, frankly, those factors aren't that important.

GNU/Linux fully respects the user's freedom. Users running it have full control of their computers, rather than the other way around. Whenever Microsoft feels like pushing an update that removes your ability to do something, no-one is stopping them. Even if you have paid for a valid license and the function used to be there, they are always in charge of what happens. When Apple doesn't want a certain application to run on their devices, they'll simply remove it from their application store without any further notice. For instance, they do not allow you to use an alternative browser engine on their iDevices, even though their own implementation of WebKit is very slow. They really don't care at all that you have paid 800 dollars for your new iPhone, and would like to decide for yourself. They are vigilant about remaining in charge. Your wishes are completely irrelevant. You will pay up and keep quiet, because you are nothing to them.

This is the harmful aspect I so desperately want to clarify. Of course the technical sides of GNU/Linux are amazing, and I'm convinced that everyone who gives it a real chance will agree that it offers a much better computing experience than Microsoft Windows on the long term. But even if it wouldn't be better, you would still be doing the ethically right thing by not spending money on companies that do not have any respect for you and those around you. The sooner more people will choose free software, the quicker the assets of Microsoft will shrink, and perhaps they might just start making serious efforts to develop decent products one day. But now,

Microsoft is acting like a tyrant who wants to put himself on every single person's "personal" computer, all over the world, and attempts to destroy everyone who tries to get in his way. Apple, on the other hand, acts like an unhinged watchdog, attempting to sue everyone who tries to develop something square with rounded corners.

If you even care the slightest about computer technology in general, it is really important to know that regardless of the fact that these two companies may be the best known, they have absolutely not had the biggest and best influence at all. If it was up to Microsoft and Apple, people will only be able to do less with their own devices, and they will never be allowed to decide for what purpose they want to use their machines, whereas GNU/Linux developers couldn't care less what you do with your own property. They make their software hoping that someone may find it useful. In fact, it's usually even explicitly stated in the description. It's exactly because of that kind of transparency that so many developments have been able to occur in the last two decades. The entire internet is based upon the idea of software freedom, which is also why it primarily runs on GNU/Linux servers. Within the GNU/Linux community, there is no oppressing ambiance at all. Developers really don't mind what people do with their computers, as long as they don't use them to harm others in any way, which includes taking away their freedom.

So please, forget everything they told you about Microsoft and Apple throughout the years. Just because they've been very successful economically, doesn't mean that their intentions are good in any way. Using their products is harmful for the future of computer technology in many ways. But more importantly, it hurts your own freedom, your family's safety, and human rights. If you want a smartphone or tablet, don't get an iPhone, an iPad or a Microsoft Surface, but buy one of the dozens of Android devices, in particular Google's Nexus phones and tablets. Also, try to avoid buying computers and laptops with proprietary software pre-installed. Buy



barebone laptops and build your computers yourself, or have someone else build them for you. Of course, stay away from iMacs and MacBooks as far as you can.

Not until GNU/Linux has created a serious user base on the desktop market, will companies understand that they can't ignore free software any longer. Only then hardware vendors will stop claiming they only support Microsoft products. Only then internet service providers will stop claiming they do not want to help customers who do not run Microsoft Windows. Only then will things like Silverlight will no longer be adopted, because companies will know that a large part of their user base will either not be able to run it, or just reject it nonetheless.

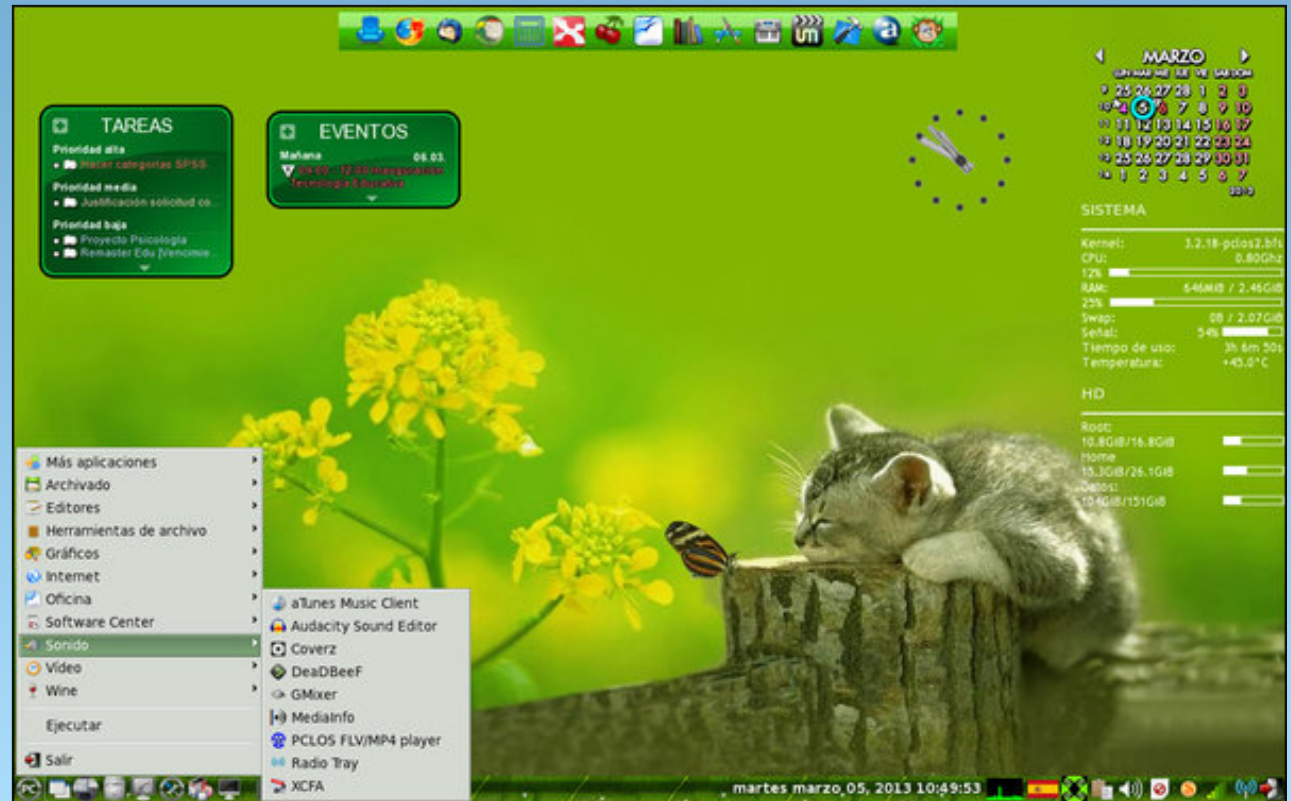
It worked for Android and Chrome (and yes, I know that only AOSP and Chromium are real free software), but that was only the first step. Switching your browser isn't enough. Using a mostly free mobile operating system isn't enough. The most important thing at this point is that as many people as possible will switch to GNU/Linux on their desktop computers and laptops. It would not only improve their user experience and rejuvenate otherwise discarded machines, but it will most importantly ensure that these people contribute to making a better future, so people will still be in charge of their

computers by the year 2100, rather than having the computers being in charge of us.

Supporting and endorsing proprietary software is one of the biggest mistakes anyone can make. Please, whoever you are, whatever you do, do not fall for it. But my biggest question remains this: where the hell is Google in all of this? Google is using the Linux kernel for basically everything they do, most obviously Android phones and tablets,

Chrome OS netbooks, and Google TV. They use modified Ubuntu installations for their entire company infrastructure, but they never mention desktop GNU/Linux anywhere. If there's one company that should do something back to the community, after everything it has done for them, it's Google. We need their endorsement, we need their support (or at least of some really rich company). Let's face it, they really owe it to us.

## Screenshot Showcase



*Posted by Crow, March 6, 2013, running LXDE.*

# Game Zone: iBomber Attack

by daiashi



## About The Game

The legendary iBomber series returns but this time it's time to ATTACK! Jump into your tank and get ready to blast your way around Europe and defeat the enemy in this visceral tour of destruction! With 24 missions full of explosive action to go at, iBomber Attack is a dose of high-octane entertainment that you won't be able to put down.

### • TOUR OF DESTRUCTION

• From destroying Navel dockyards, airfields and secret bases to gunning down legions of flame throwing soldiers, this is 24 levels of non-stop, high caliber, action.

### • AWESOME FIREPOWER

• Earn 'Victory Points' and collect gold to power-up your tank with Bombs, Bunker Busters, Mini-Guns, Flame Throwers, Rockets, Airstrike's, Supply Drops & Super Boost's.

### • iBOMBER LIVES

• Dripping with the quality gameplay, visuals and sounds that made the original iBomber games so loved, iBomber Attacks ensures the legend lives on!

### Key Features:

- Tanktastic action
- Super smooth game-play
- 24 action packed missions
- Amazingly detailed graphics
- Collect Gold to buy Power-Ups
- Win Victory Points for upgrades
- Huge levels to explore and destroy
- The satisfaction of blowing everything up!

### System requirements

**Software:** Wine and steam.

### Hardware:

#### Minimum:

- OS: Windows XP
- Processor: 1.5Ghz
- Memory: 512 MB RAM
- Graphics: OpenGL 2.0 Compatible. ATI, NVIDIA or Intel HD.
- Hard Drive: 900 MB HD space
- Sound: Windows compatible sound card.
- Additional: Older Intel graphics cards may have slowdown issues.

### Recommended:

- OS: Windows 7
- Processor: 2.0
- Memory: 1024 MB RAM
- Graphics: OpenGL 2.0 Compatible. ATI, NVIDIA or Intel HD.
- Hard Drive: 900 MB HD space
- Sound: Windows compatible sound card.
- Additional: Older Intel graphics cards may have slowdown issues.

### About The Company

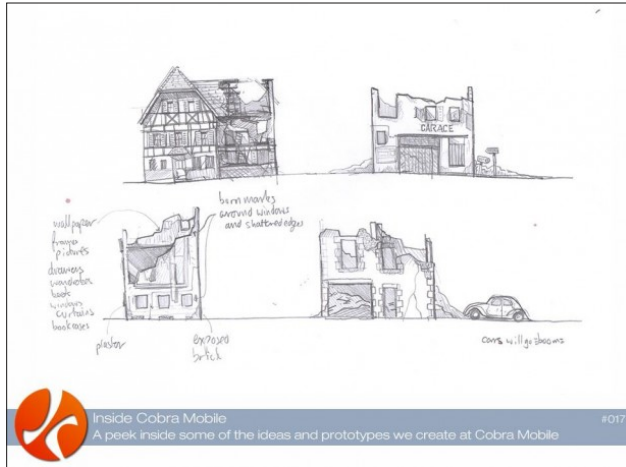
How does an indie developer survive for eight years, get multiple BAFTA nominations and continue to create great game after great game?

Cobra Mobile was founded in 2005. The word "mobile" in the company name gives it away. We were making mobile games. The original tag line for the business was "Mobile is More," as we believed in 2005 that with the right content mobile gaming could be more than it currently was.

In 2005 that meant J2ME (but also BREW and Symbian). First off we spent six months creating our basic level of internal tools and tech, which enabled us to try and test game concepts. This was back in the day of chunky and clunky mobile phones (Google for Nokia 3510 or Sony K630 to glimpse the past). In early 2006, with a few cool game prototypes, we started speaking to mobile publishers.

Now, back in 2006, if you wanted to sell a game you had to sell into a publisher who then, in turn, would sell it to a carrier who would then, maybe, publish it and give it a bit of shelf space on the carriers' mobile

deck; a clunky and very basic version of what we all know today as an app store.



All design work at Cobra begins with paper and a pencil

The feedback on our titles was positive, but no-one wanted to sign them as they didn't have a big brand name behind them. Again, back in 2006, everything was about brand names. Luckily for Cobra one of our games got noticed and we were asked if we could re-brand it as a Lego game. Lego Bricks on mobile was born. Another company liked our game but wanted to re-brand it with their own franchise, and Sensible Soccer Skillz was born. We were off.

Through to the end of 2007 our mobile work was great. It was 90% work for hire, and we were working with major brands and making great games. As 2008 started the mobile landscape was slipping, our business had pretty much hit a plateau and porting was now the new mobile scene. Basically, mobile devices came in all shapes and sizes and languages, and any game needed hundreds, if not thousands, of build versions to cover worldwide carrier network demands. Companies had a few people working on games and hundreds working on porting. Porting could and would sap the will to live from you. This wasn't the "Mobile is More" future we'd dreamed of.

Luckily for Cobra a massive tectonic shift happened in 2008; Apple announced it was opening up an App Store for the iPhone and anyone could submit content. Apps didn't even have to be games! This may appear second nature now, but in 2008 this was revolutionary. This broke all the rules, along with the huge monopolies that companies and carriers had built. I would easily say 95% of companies we spoke to in 2008 thought Apple was a blip, and didn't think it would really offer any competition. I mean, the iPhone was just another smartphone, and Nokia already had these, right?

So when the Apple App Store launched, Cobra had a launch title: the fantastic Numba. We originally launched this with a publisher but after they reneged on the contract we pulled it and published ourselves. But what we saw from the early success of Numba was that the new business paradigm of the App Store would work, and we could directly be involved in taking our product to market instead of being porting monkeys and marketing bystanders. The decision was huge, but pretty easy. We quickly pivoted and ramped down all J2ME mobile work, moving fully into iOS development. Scary move, yes. Few sleepless nights, yes. Right decision by a long shot? Yes. I remember at the time everyone trying to tell us we were crazy; we were daft, but anyway you looked at it, it just made complete sense.

After the awesome Numba, we developed Mouse About, which arrived to rave reviews but average sales. We also released a few novelty apps (Anthem USA and Anthem UK) to help market Numba and Mouse About to a wider audience. We needed marketing, but we're an indie studio trying to make it in the new app economy.



**Answers to Mark Szorady's Double Take: GEORGE**  
 (1) Shirt stripes different; (2) Hair shorter in back; (3) Glasses stem missing; (4) "Rock" changed to "rule"; (5) Bow-tie missing; (6) Antenna different; (7) Tongue moved

## Some Gameplay Screenshots





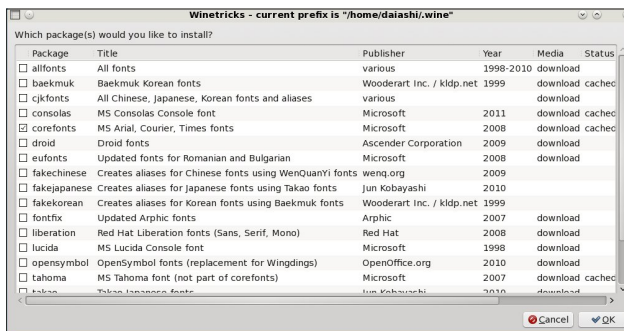
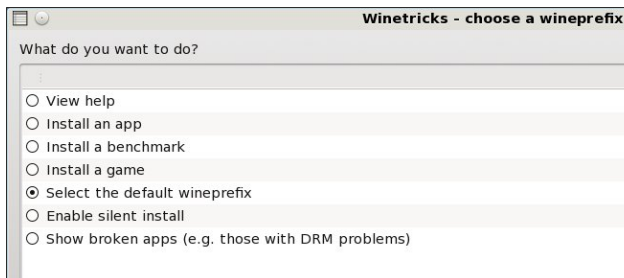
After steam is installed search for iBomber Attack from the steam store front.



After downloading iBomber Attack, I had to make no other changes to get this game running.

### Getting It To Run

Ok, first things first. Head on over and grab [Steam](#). WINE should install it with no problems. You will need Winetricks from synaptic to get some needed files for steam to run properly. These are corefonts and vcrun6, both from winetricks.



International Community PCLinuxOS Sites

**PCLinuxOS.nl**  
Netherlands

**PCLinuxOS**  
Daykonun mekani  
Turkey

**PC Linux OS**  
Denmark

**PCLinuxOS**  
síla jednoduchosti  
Czechoslovakia

**PCLinuxOS.it**  
Italy

**PCLinuxOS** Polskie Centrum  
Poland

**PCLinuxOS** FINLAND

**PCLinuxOS**  
Brazil



# More Screenshot Showcase



Posted by agmg, March 3, 2013, running KDE.



Posted by Droopy, March 16, 2013, running KDE.



Posted by Palko, March 24, 2013, running KDE.



Posted by RobNJ, March 20, 2013, running LXDE.



# MEMORABLE LINUX MILESTONES

## CELEBRATING 20 YEARS OF LINUX

LINUS TORVALDS  
POSTS FAMOUS  
MESSAGE - "HELLO  
EVERYBODY OUT  
THERE..." - AND  
RELEASES FIRST  
LINUX CODE



1991

SLACKWARE  
BECOMES FIRST  
WIDELY ADOPTED  
DISTRIBUTION



1993

TECH GIANTS  
BEGIN ANNOUNCING  
PLATFORM SUPPORT  
FOR LINUX



1998

IBM RUNS  
FAMOUS LINUX  
AD DURING THE  
SUPERBOWL



2003

THE LINUX  
FOUNDATION IS  
FORMED TO PROMOTE  
PROTECT AND  
STANDARDIZE LINUX  
LINUX IS A FELLOW



2007

LINUX TURNS 20  
AND POWERS THE  
WORLD'S  
SUPERCOMPUTERS,  
STOCK EXCHANGES,  
PHONES, ATMS,  
HEALTHCARE  
RECORDS,  
SMART GRIDS, THE  
LIST GOES ON



2011



LINUS LICENSES  
LINUX UNDER  
THE GPL, AN  
IMPORTANT  
DECISION THAT  
WILL CONTRIBUTE  
TO ITS SUCCESS IN  
THE COMING YEARS

1992



LINUS VISITS  
AQUARIUM, GETS  
BIT BY A PENGUIN  
AND CHOOSES  
IT AS LINUX MASCOT

1996



RED HAT  
GOES PUBLIC

1999



LINUS APPEARS ON  
THE COVER OF  
BUSINESSWEEK WITH  
A STORY THAT HAILS  
LINUX AS A  
BUSINESS SUCCESS

2005



THE LINUX-BASED  
ANDROID OS  
OUTSHIPS ALL OTHER  
SMARTPHONE OSes  
IN THE U.S. AND  
CLIMBS TO  
DOMINANCE

2010



THE  
LINUX  
FOUNDATION  
<http://www.linuxfoundation.org/>