The NEW PCLinuxOS Magazine

Volume 42

July, 2010

World Population Day

July 11, 2010

Command Line Interface Intro: Part 10

Xfce 4.6.2: Xfce Settings Manager, Part 2

Xfce 4.6.2: Customize Your Panels

Xfce 4.6.2: Panel Plug-Ins

Computer Languages A to Z: Netlogo

How Teenagers View PCLinuxOS

KDE 4: The KDE Netbook Interface

Reclaim You Background: The Widget Dashboard

OpenOffice: OpenOffice Writer

Create A Simple PCLinuxOS RPM

How To Set Up A Packaging Environment in Phoenix

And more inside!

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The PCLinuxOS Magazine

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The NEW PCLinuxOS Magazine is a monthly online publication containing PCLinuxOS-related materials. It is published primarily for members of the PCLinuxOS community. The Magazine staff is comprised of volunteers from the PCLinuxOS community.

Visit us online at http://www.pclosmag.com

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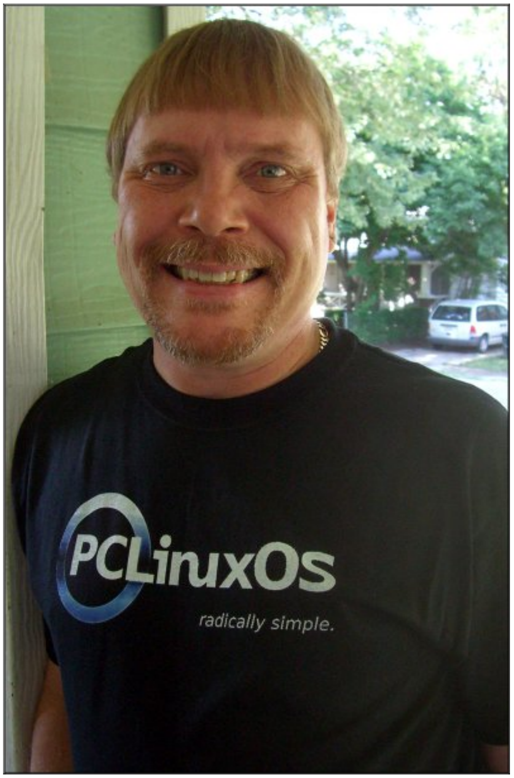
Welcome From The Chief Editor



The July 2010 issue of **The NEW PCLinuxOS Magazine** represents a personal milestone for me. It is the 12th consecutive issue of the PCLinuxOS Magazine with me as its Chief Editor. Yep. 12 issues. A full year of a monthly magazine for the PCLinuxOS community. And what was I thinking? Twenty three years ago, I thought I had left journalism for good when I left my last job at a local newspaper (as a photographer) to start a career in the medical field. Ha!

Before you get any crazy ideas, don't worry. I'm not planning on going anywhere anytime soon. After all, we're only just getting started here. The magazine's rebirth in the last year is only a beginning. We have lots more to do.

Over the last year, we've seen the magazine reborn as a monthly publication, instead of the previous quarterly publication schedule.. We've seen the size and content of the magazine increase. This is largely responsible to the increased involvement of the PCLinuxOS community with the magazine.

We've seen the addition of new regular columns in the magazine: Game Zone, Screenshot Showcase, Gadgets & Gear, Firefox Add-ons are examples. We've seen the publication of brilliant, multi-part article series, such as Command Line Interface Intro, article series that take a close-up look at desktop environments (so far, KDE 4 and Xfce, with more to come in future issues on the other desktop environments), article series on multimedia formats and tools, article series on computer languages, the Behind The Scenes article series, and much more.

The last year has seen the magazine layout evolve and change to its current state, allowing us more latitude and options when laying out the articles and better utilizing the available space on a page, while still providing an attractive and easy to read layout.

So, in this issue, we have critter's **Command Line Interface Intro: Part 10** article. Athaki reviews **KDE 4's Netbook Interface**, and Stricktoo takes a look at **KDE 4's Widget Dashboard**.

Leiche walks us through **creating a basic RPM file for PCLinuxOS**, while Joble helps get you started **creating a PCLinuxOS packaging environment in Phoenix**. Meemaw and djohnston take a close-up look at **OpenOffice Writer**, as part of the OpenOffice series. djohnston also shows us **how to get started with folding@home**.

I continue my look at **Xfce 4.6.2**, with the second (of three) installments on the **Xfce Settings Manager**. I also walk through how to **customize your Xfce panels**, and take a look at the **Xfce panel plug-ins**. I also take a brief look at the 21st annual **World Population Day**. The July magazine cover, by Timeth, commemorates World Population Day.

Xyus makes his magazine debut, with his **Game Zone: Osmos** article. It's the first of what we hope will be many more such game reviews to come from him. Lee2010 gives us a look at **how teenagers view PCLinuxOS**. Patrick G. Horneker returns with an article on **how to configure the Epson NX-415** printer.

Of course, all of your regular columns are back. georgetoon provides us another installment of **Double Take & Mark's Quick Gimp Tip**. ms_meme entertains us with two installments of her **ms_meme's Nook**, and features **ByteS From The Bunkhouse** in **Forum Foibles**. And, of course, we have another collection of PCLinuxOS user's screen shots, gleaned from the forum's monthly screenshots section, and displayed in **Screenshot Showcase**.

I'd like to give the PCLinuxOS community a huge thank you for all of your support over the last year. We, the magazine staff, hope you enjoy the magazine half as much as we enjoy creating it for you. Stay tuned! There's lots more yet to come.

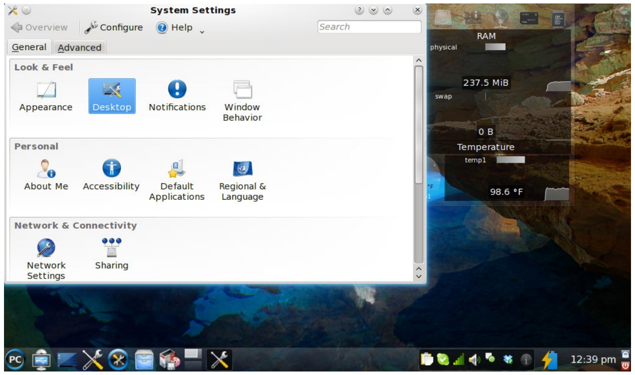
So until next month, I wish you all peace, happiness, contentment and tranquility.

KDE 4: The KDE Netbook Interface

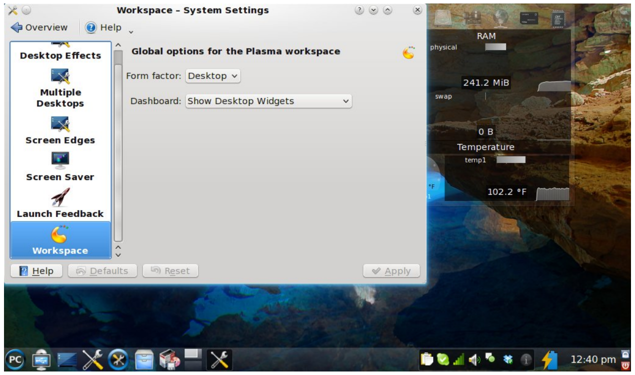
by Andrew Huff (athaki)

The KDE SC Netbook interface has been well thought out and well implemented (with the exception of a few caveats; which I've listed at the end of the article.) In this article, I'll be showing you how to enable the Netbook UI (user interface) in PCLinuxOS 2010 and will show off some of its features.

To get started, all you have to do is click on the 'System Settings' button at the bottom of your taskbar. (It looks like an X made by a wrench and screwdriver).



We'll then need to click on the desktop icon (highlighted in the picture above). This will bring up another menu.

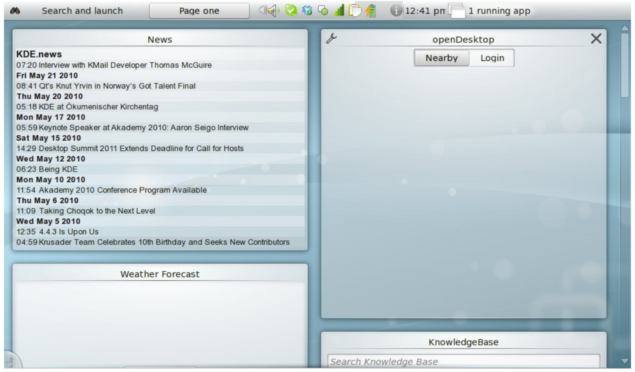


Global options for the Plasma workspace

Form factor: Desktop

Dashboard: Show Desktop Widgets

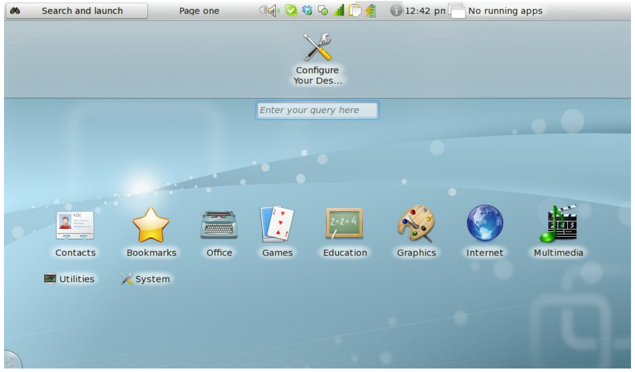
In this menu we want to go to the area labeled 'Workspace'. To get to the Netbook UI, all one has to do is switch the 'Form Factor' to netbook and click apply.



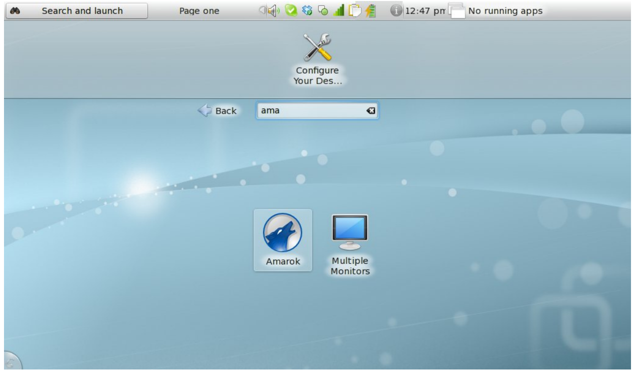
KDE.news
07:20 Interview with KMail Developer Thomas McGuire
Fri May 21 2010
08:41 Qt's Knut Yrvin in Norway's Got Talent Final
Thu May 20 2010
05:18 KDE at Ökumenischer Kirchentag
Mon May 17 2010
05:59 Keynote Speaker at Akademy 2010: Aaron Seigo Interview
Sat May 15 2010
14:29 Desktop Summit 2011 Extends Deadline for Call for Hosts
Wed May 12 2010
06:23 Being KDE
Mon May 10 2010
11:54 Akademy 2010 Conference Program Available
Thu May 6 2010
11:09 Taking Choqok to the Next Level
Wed May 5 2010
12:35 4.4.3 Is Upon Us
04:59 Krusader Team Celebrates 10th Birthday and Seeks New Contributors

The preceding screen is what will greet you once the workspace has been changed. This is called the 'Newspaper' and this is where all of your widgets will now reside. The default widgets loaded are the openDesktop widget which is a social-networking/file-sharing site for open-source software users, the KnowledgeBase widget (which is part of openDesktop), News (which is an RSS feed widget defaulted to KDE news), and Weather.

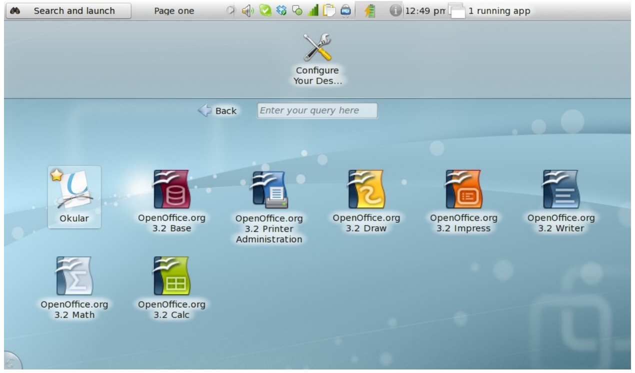
To launch a program, click 'search and launch'. This will bring up another screen.



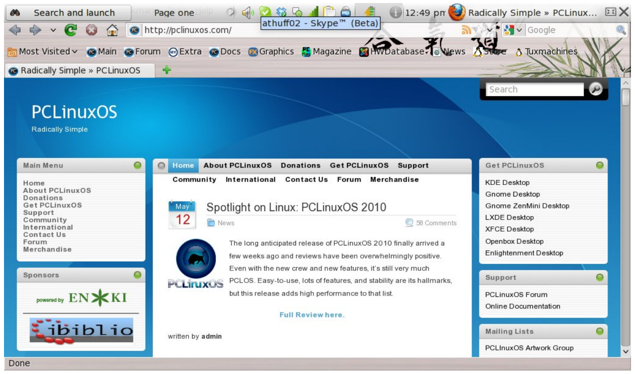
From here you have two ways to navigate: clicking an icon or typing in the name of a program. When you start to type a name of a program, the computer will guess the program to which you are referring.



You also might have noticed a menu option called 'bookmarks'. Initially it is empty, but you can add bookmarks quite easily to programs you access often. To do so, just hover your mouse over a program icon and then click the yellow star in the top left corner.



When you do launch an application, it will open full screen with no visible toolbar. The toolbar is set to automatically hide. Just move your mouse to the top of the screen and it will reappear.

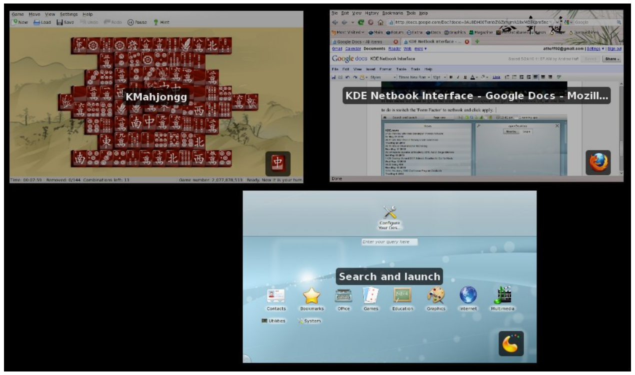


Spotlight on Linux: PCLinuxOS 2010

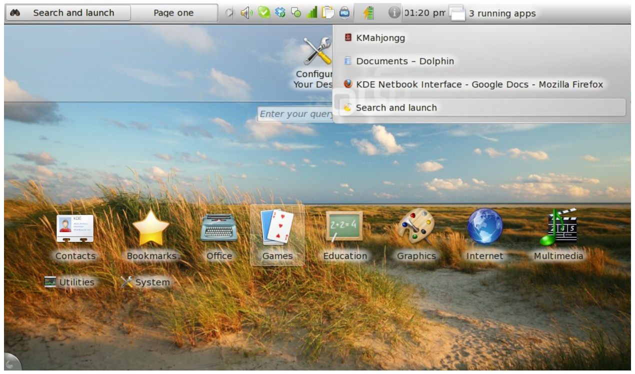
The long anticipated release of PCLinuxOS 2010 finally arrived a few weeks ago and reviews have been overwhelmingly positive. Even with the new crew and new features, it's still very much PCLOS. Easy-to-use, lots of features, and stability are its hallmarks, but this release adds high performance to that list.

written by admin

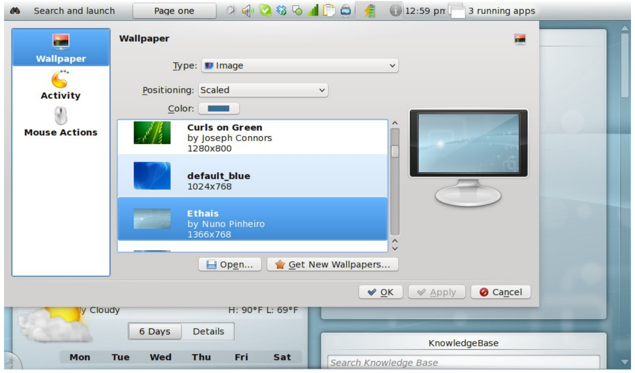
The toolbar is also how you are able to close windows and move between windows. The X at the top right corner of the toolbar will close your window and the rectangle next to that will switch the window between maximized and windowed mode. When you click on the name or icon of the chosen window, all of your currently open windows will pop up in a new screen.



With compositing turned off, you'll get a simple menu bar underneath the title of the current window.



If you're like me and like to change around the default wallpaper, the folks at KDE have made it quite simple; just right-click on the 'Newspaper' screen and/or the 'Search and launch' screen and then click configure.



Wallpaper

Type: Image

Positioning: Scaled

Color:

Curls on Green
by Joseph Connors
1280x800

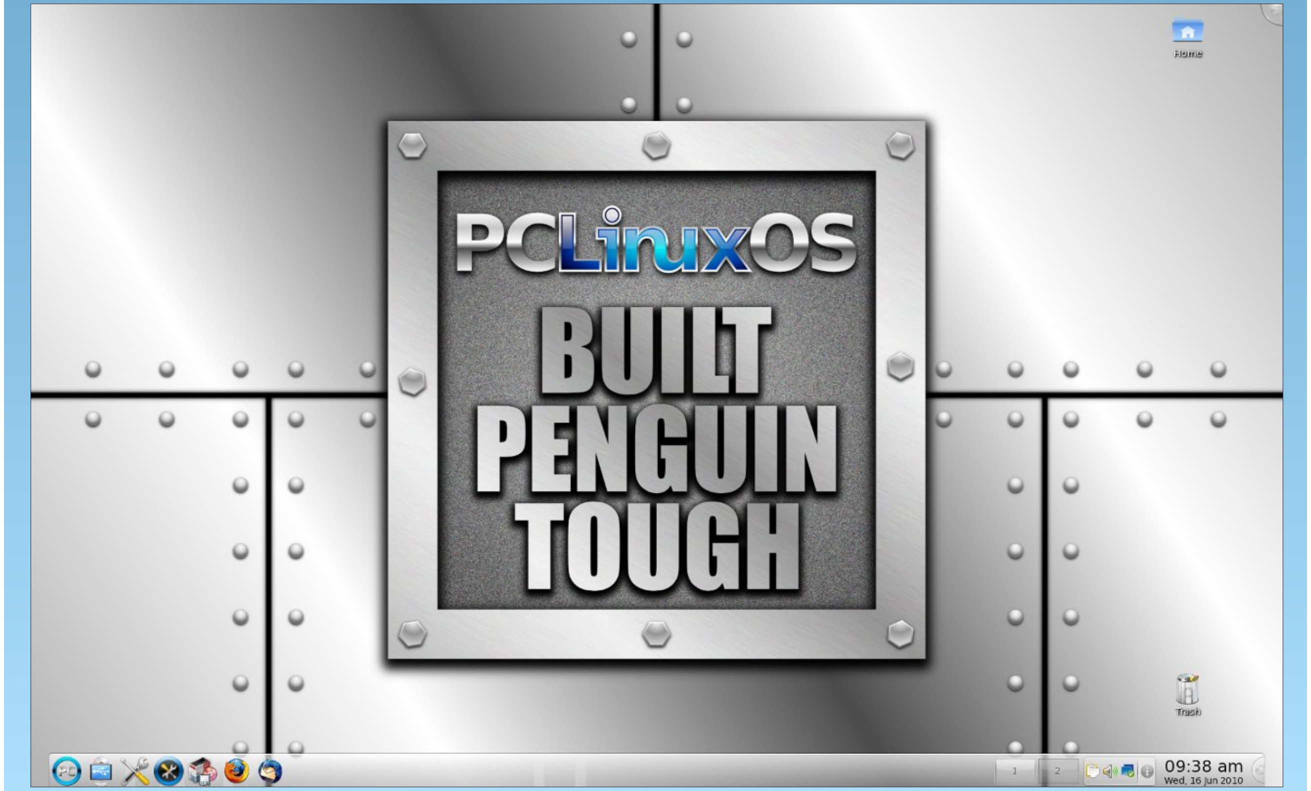
default_blue
1024x768

Ethais
by Nuno Pinheiro
1366x768

To get out of netbook mode, just repeat the steps that you made to get into netbook mode; go into system settings, which is at the top of the search and launch screen, and then go into desktop, then workspace, then change it from netbook to desktop and click apply. You'll be back to your old desktop in no time.

There are some caveats, however, within the Netbook UI. Some widgets will not work or will behave erratically when placed within the newspaper activity and will crash the Netbook UI (sometimes as often as every 15 minutes). When you change the newspaper activity to a folder view activity or a desktop activity, you can no longer add widgets as the add widgets button makes an effort to load and then fails. The Netbook UI seems to be the most stable when using the default widgets provided or not using any widgets at all. This is disappointing; especially given that the main screen is dedicated to showing your widgets.

Screenshot Showcase



Posted by Ruel24, June 16, 2010, running KDE 4.

World Population Day: July 11, 2010

by Paul Arnote (parnote)

July 11, 2010 marks the 21st annual World Population Day, with the theme “Everyone Counts.” Started in 1989, World Population Day was born out of the interest generated by the Day of Five Billion on July 11, 1987. This month’s cover of The NEW PCLinuxOS Magazine, by Timeth, commemorates World Population Day.

Sponsored by the United Nations Population Fund, or UNFPA, it supports countries in using population data for policies and programmes to reduce poverty and to ensure that every pregnancy is wanted, every birth is safe, every young person is free of HIV/AIDS, and every girl and woman is treated with dignity and respect. As an international development agency, they promote the rights of every woman, man and child to enjoy a life of health and equal opportunity.

In past years, the themes have been “Fight Poverty: Educate Girls (2009),” “Plan Your Family, Plan Your Future (2008),” “Men At Work (2007),” “Being Young Is Tough (2006),” “Equality Empowers (2005),” “ICPD at 10 (2004),” and “1,000,000,000 Adolescents (2003).”

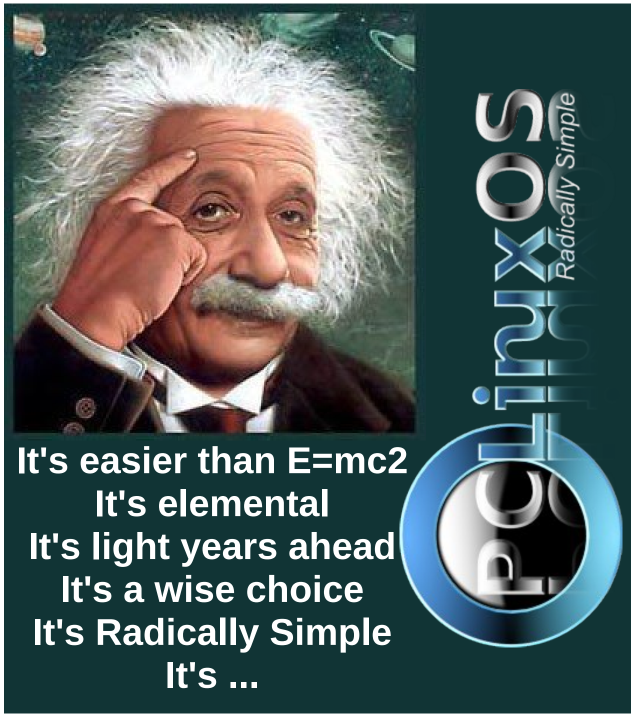
World Population Day 2010, Everyone Counts, will underscore the importance of data for development. It will foster an understanding of why reliable, disaggregated data is so crucial to progress and encourage people to participate in the census and other data collection efforts.

The UNFPA focuses their campaign on several different fronts. These include:

- Reproductive Health
- Population and Development
- Data Collection and Use
- Gender Equality
- Human Rights
- Adolescents and Youth
- Safe Motherhood
- Cultural Sensitivity
- HIV/AIDS
- Emergencies
- HIV and Young People

Additionally, the UNFPA looks at climate change, and its effects on world population and poverty.

For additional information on the UNFPA and their activities, visit their web site at http://www.unfpa.org/public/pid/1.



Reclaim Your Background: The Widget Dashboard

by Andrew Strick (Stricktoo)

Introduction

Plasmoids are one of my favorite KDE 4 features. I enjoy being able to see the weather and my system stats at a glance. It's helpful to have a notepad perpetually handy. And I especially love the Folder View plasmoid, because it allows me to keep multiple sets of files on my desktop while maintaining some semblance of organization. Unfortunately this all comes at a price; after a while there are too many plasmoids and too little desktop. Fortunately KDE 4 has a solution: the widget dashboard.

The dashboard can do two things. It can display all the plasmoids currently on the desktop over all open windows. That is, instead of minimizing every open window, you can see your plamoids simply by bringing up the dashboard. Alternatively, the dashboard can display a different set of plasmoids.

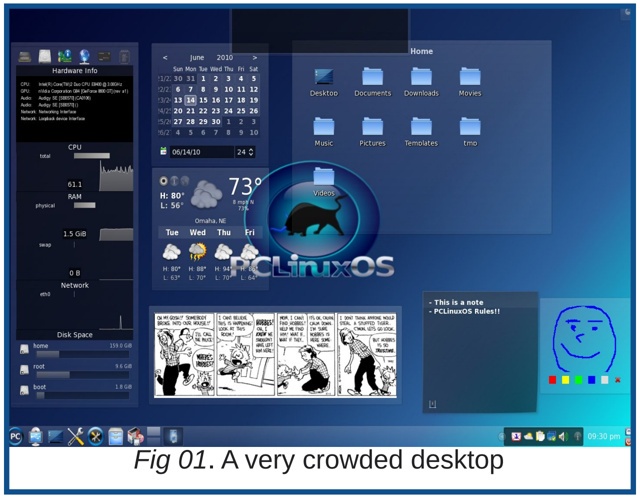
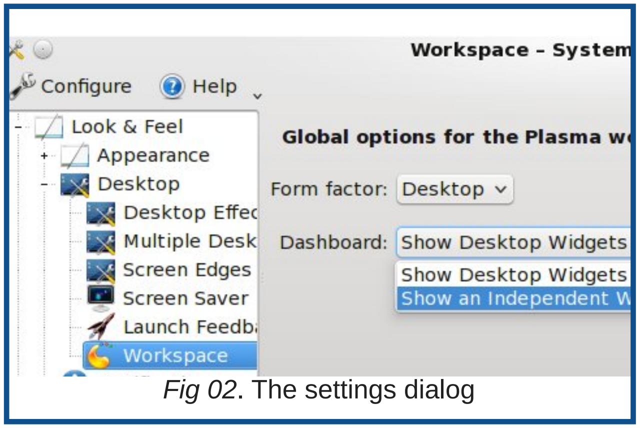


Fig 01. A very crowded desktop

Personally, I find this application more useful, because it allows me to use plasmoids while still maintaining a clean desktop.

Configuring the Dashboard

The settings for the Dashboard are found at: **Configure Your Desktop > Look & Feel > Desktop > Workspace.**



Global options for the Plasma w

Form factor: Desktop

Dashboard: Show Desktop Widgets

Fig 02. The settings dialog

Unfortunately, the dashboard settings are currently pretty sparse. “Show Desktop Widgets” simply displays the plasmoids currently on your desktop (e.g. *Fig. 01*). “Show an independent Widget Set” allows the Dashboard to display a different set of plasmoids than those currently on the desktop (e.g. *Fig. 03*).

Moreover, there is no way (that I can find) to change the shortcut key from Ctrl+F12. However, “Show Desktop” can be assigned to a screen corner under **Configure Your Desktop > Look & Feel > Desktop > Screen Edges.**

The Dashboard can also have its own background.

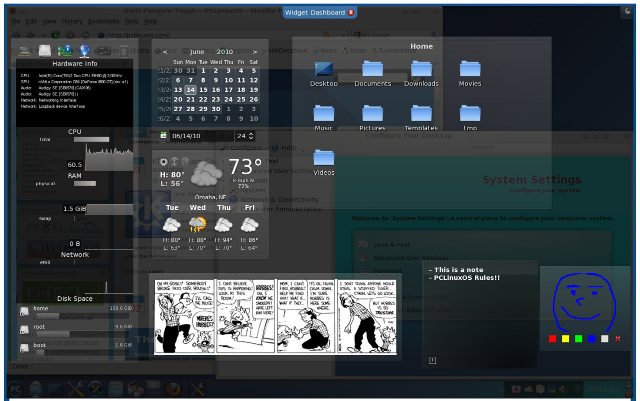


Fig. 03. The Dashboard in overlay mode

While the Dashboard is active, right click and select “Desktop Activity Settings” or “Folder View Activity Settings” from the context menu. From there you can choose a background image like you would for the regular desktop. However, if you have compositing turned on, the Dashboard background will be transparent and will not display an image.

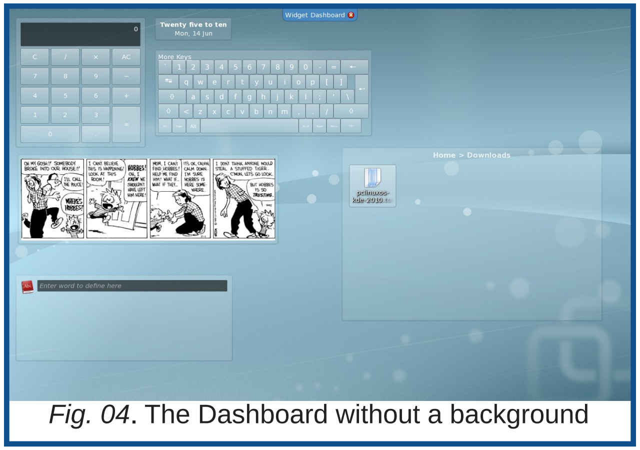


Fig. 04. The Dashboard without a background

Using the Dashboard

Using the Dashboard is pretty simple. Simply hitting Ctrl+F12 will bring it up or close it. You can also close it using the Esc key or by clicking the close button on the top tab. To add plasmoids to the Dashboard, (if you are displaying an independent widget set), right click and chose “Add Widgets” from the context menu.

Quirks

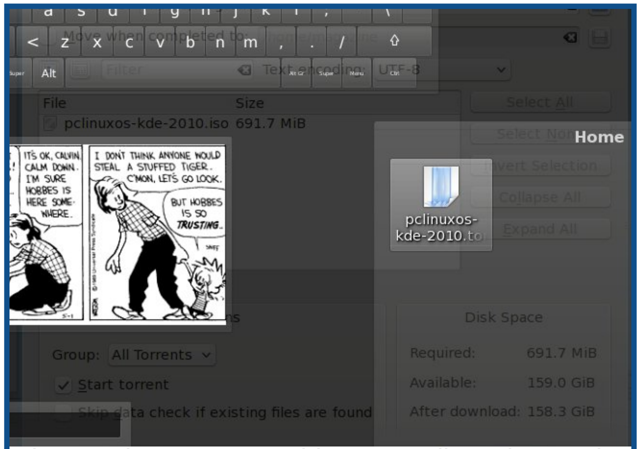
In using the Dashboard, I've stumbled across a couple oddities. Neither are major, but they can cause some confusion.

Oftentimes initiating the configuration dialog for a plasmoid causes the dashboard to exit. This doesn't mean that any changes won't be effective; you'll just have to bring up the Dashboard (again) to see them.

Conversely, bringing up a dialog in another application does not always cause the Dashboard to exit. For example, suppose you save a .torrent file to your Downloads folder. You can add the torrent to Ktorrent by right clicking on it and choosing “Open With Ktorrent”. This will bring up Ktorrent's “Add Torrent” dialog – but it will be under the Dashboard. However, the dialog will have gained the focus of keyboard actions, and the Esc key will close the dialog instead of closing the Dashboard.

Conclusion

I hope this short article helps you keep your desktop clean and clutter-free. Good tinkering


Move when completed to:
Text encoding: UTF-8
Select All
Select None
Invert Selection
Collapse All
Expand All
Home
pclinuxos-kde-2010.to
IT'S OK, CALVIN. CALM DOWN. I'M SURE HOBBES IS HERE SOMEWHERE.
I DON'T THINK ANYONE WOULD STEAL A STUFFED TIGER. C'MON, LET'S GO LOOK.
BUT HOBBES IS SO TRUSTING.

File | Size
pclinuxos-kde-2010.iso | 691.7 MiB

Group: All Torrents

☑ Start torrent

Skip data check if existing files are found

Disk Space

Required: 691.7 MiB
Available: 159.0 GiB
After download: 158.3 GiB

Fig. 05. The Ktorrent "Add Torrent" dialog box under the Dashboard

BONUS TIP

If you want to remove even more widgets from your desktop, try integrating some into the System Tray.

1. Unlock your widgets, then right click on a blank area of the System Tray and select "System Tray Settings".
2. Choose the "Plasma Widgets" tab (*Fig. 07*).
3. Place tick marks next to the widgets you would like displayed in your system tray.
4. Click "Apply".

I find this especially useful for my weather, Gmail Notifier and Device Manager widgets. I don't need them all of the time. In fact, I only want to see the Device Manager and Gmail Notifier when I plug in a device or receive an email. Placing them in the System Tray, a more natural setting, in my opinion, makes them accessible while saving precious screen real estate.

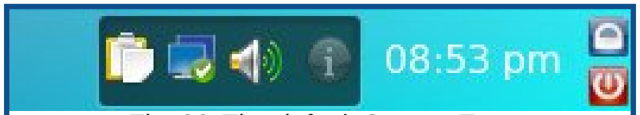
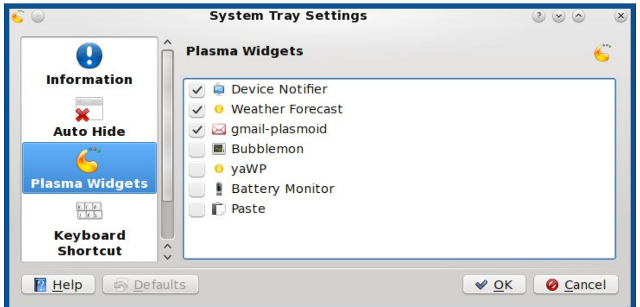


Fig. 06. The default System Tray



Plasma Widgets

☑ Device Notifier
☑ Weather Forecast
☑ gmail-plasmoid
□ Bubblemon
□ yaWP
□ Battery Monitor
□ Paste

Fig. 07. The System Tray settings dialog, with the "Plasma Widgets" tab activated

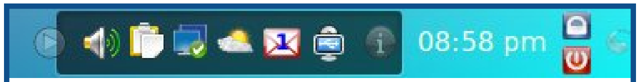
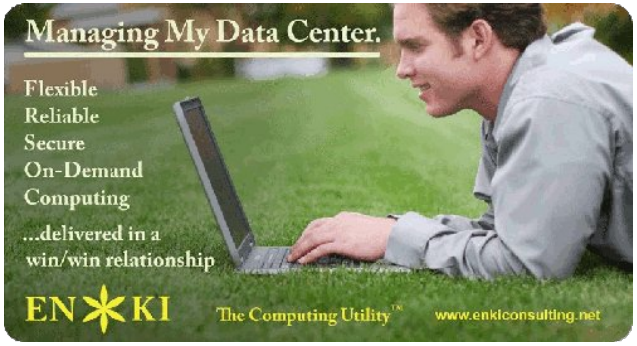
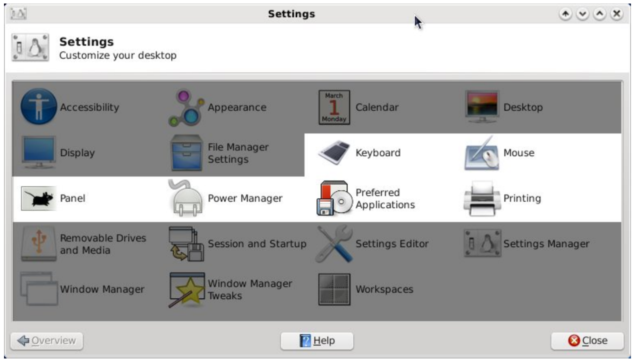


Fig. 08. The System Tray with widgets



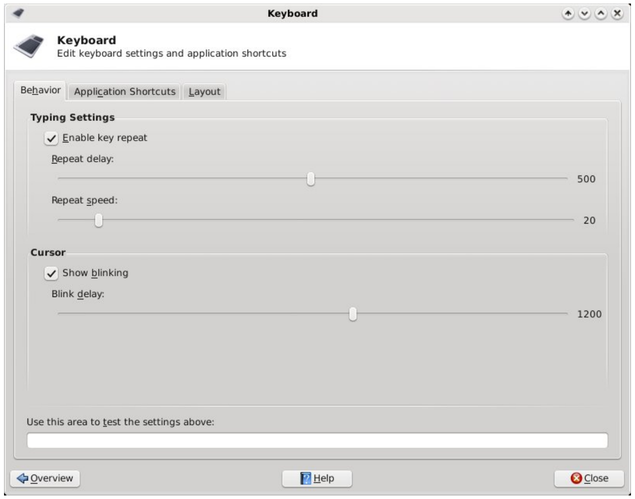
Xfce 4.6.2: Xfce Settings Manager, Part 2

by Paul Arnote (parnote)



Previously, we took a look at the first six items in the Xfce Settings Manager. The Xfce Settings Manager is what you would use to control how Xfce behaves on your computer. This month, we take a look at the next six items, ranging from controlling the keyboard, to setting up how Xfce manages printing.

Keyboard



Typing Settings

☑ Enable key repeat

Repeat delay: 500

Repeat speed: 20

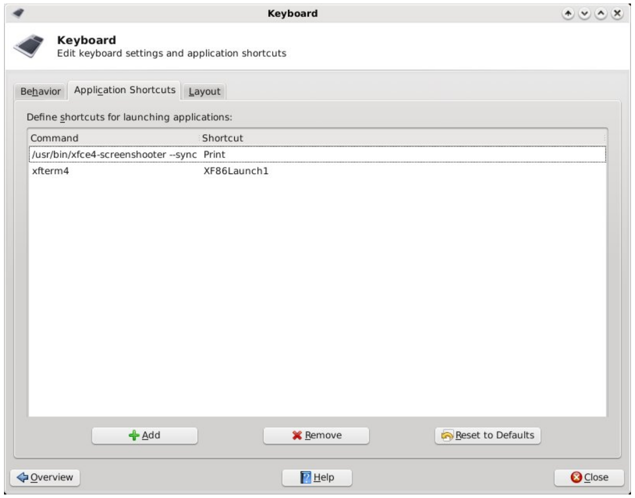
Cursor

☑ Show blinking

Blink delay: 1200

Use this area to test the settings above:

Under the first tab, Behavior, you can control the delay and the speed of how a key press behaves when you hold down a key. You can also set how fast the cursor blinks. The above screen shot shows the default values in Phoenix 2010.

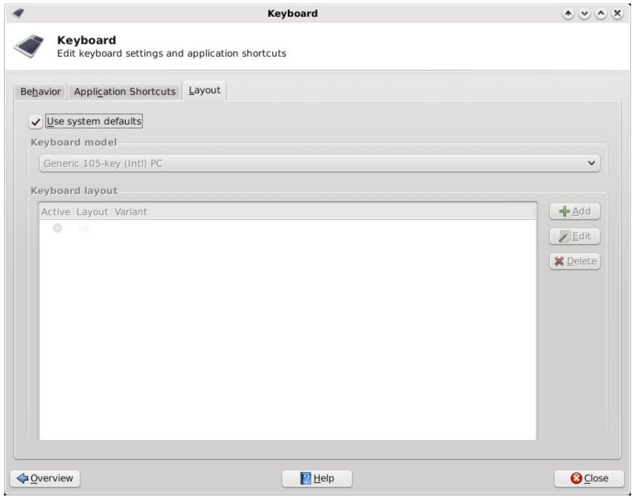


Define shortcuts for launching applications:

Command	Shortcut
/usr/bin/xfce4-screenshooter --sync	Print
xfterm4	XF86Launch1

The second tab, Application Shortcuts, allows you to define shortcut keys to automatically launch applications. By default, there are no shortcuts defined. Here, in the screen shot above, I've defined two shortcut keys to launch two separate applications. You can specify programs to add by first selecting the "Add" button (lower left of screen shot), specifying the program to launch, then specifying the key to use to launch the program by pressing the key or key combination you want to use. This makes Xfce highly configurable to how you work with your computer.

In the screen shot above, I've defined the xfce4-screenshooter program to open when I press the PrtSc (Print Screen) button on the keyboard. I've also configured xfterm4, the default terminal program in Xfce, to open when I press the "Access IBM" button on the keyboard of my IBM Thinkpad T42 (hence the odd name for the key). You can have as many application keyboard shortcuts as you like. But be careful, since having too many could quickly become problematic, causing you to inadvertently open programs when you really aren't meaning to.



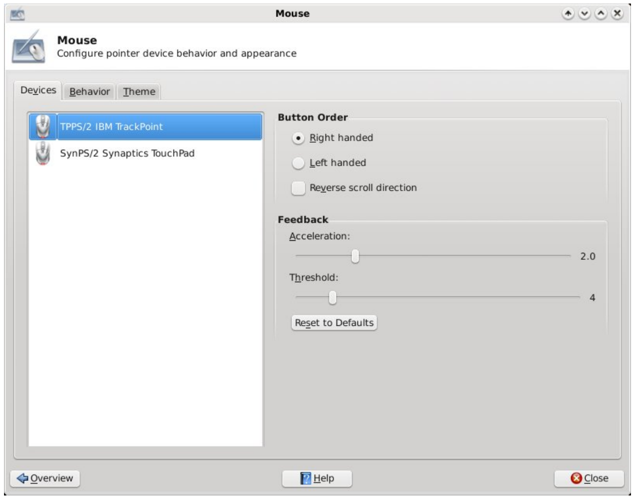
☑ Use system defaults

Keyboard model: Generic 105-key (Intl) PC

Keyboard layout

The last Keyboard tab, Layout, allows you to select the keyboard layouts you want to use. The default is to use system defaults (checked in the screen shot above). But if you "uncheck" the option, you can add multiple keyboard layouts, and switch between them as needed. Also, if you are from the U.S. and installed Phoenix 2010, you may have inadvertently installed the UK keyboard layout (the default in the first ISO of Phoenix 2010; the default in the quarterly remasters is the U.S. keyboard) if you weren't paying close attention through the installation process. Never fear, because it's here that you will need to go to change the keyboard layout to one more commonly used in the U.S. Simply click on the "Add" button, and select your keyboard from the list that appears.

Mouse


Mouse

Mouse
Configure pointer device behavior and appearance

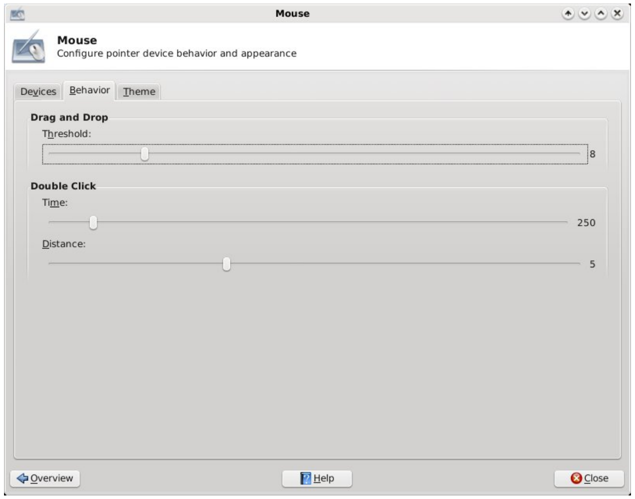
Devices | Behavior | Theme

TPPS/2 IBM TrackPoint
SynPS/2 Synaptics TouchPad

Button Order
● Right handed
○ Left handed
□ Reverse scroll direction

Feedback
Acceleration: 2.0
Threshold: 4
Reset to Defaults

Under the Devices tab of the Mouse settings, you can select the button order of each of the devices attached to your computer. In fact, you can make the settings independently of the other. You can also set the Acceleration and Threshold for the mouse pointing device. If you somehow mess things up (or if someone is trying to prank you), you can reset the pointing devices to the default values, simply by selecting the "Reset to Defaults" button. The values in the screen shot above are the default values in Phoenix 2010.


Mouse

Mouse
Configure pointer device behavior and appearance

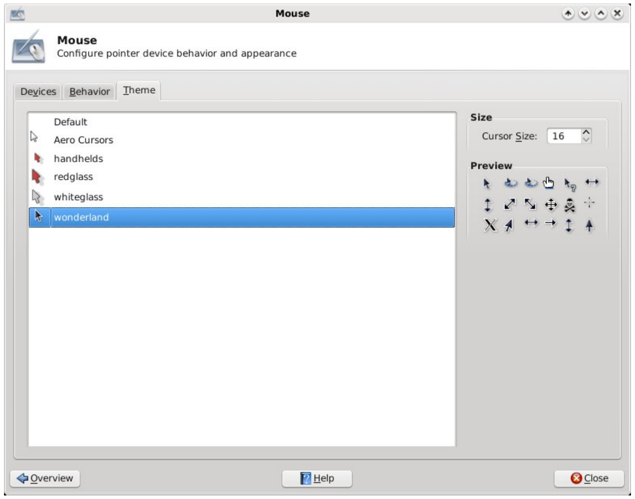
Devices | Behavior | Theme

Drag and Drop
Threshold: 8

Double Click
Time: 250
Distance: 5

The Behavior tab allows you to further tune your pointing device by specifying the drag and drop threshold, as well as the time and distance allowances for double clicks of the mouse. The settings in the screen shot above are the default settings.

The last tab in the Mouse settings window is the "Theme" tab. It is here that you set the cursor theme to use on Xfce. In the screen shot above (next column), I have changed from the default mouse cursor theme to the "wonderland" cursor theme. If you want, you can get additional mouse cursor themes from xfce-look.org. After downloading, su to root, and extract the new icon theme to its own directory in /usr/share/icons. You must log out then back in after installing the new cursor theme before it is available for your use.


Mouse

Mouse
Configure pointer device behavior and appearance

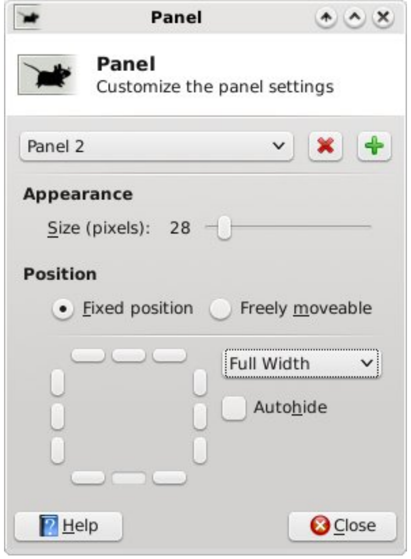
Devices | Behavior | Theme

Default
Aero Cursors
handhelds
redglass
whiteglass
wonderland

Size
Cursor Size: 16

Preview

Panel


Panel

Panel
Customize the panel settings

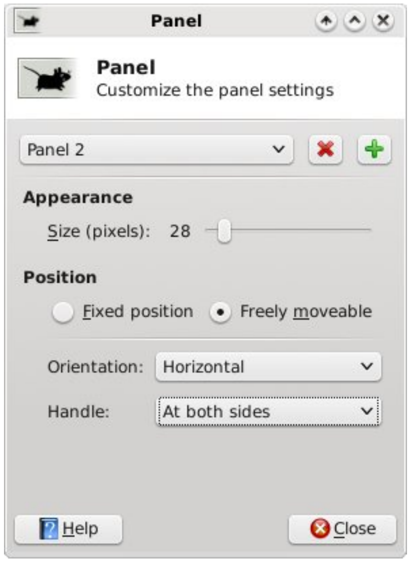
Panel 2

Appearance
Size (pixels): 28

Position
● Fixed position ○ Freely moveable
Full Width
□ Autohide

The Panel setting allow you to (you guessed it) tune and change the behavior of your panels in Xfce. The separate window shown in the screen shot above opens, and shows you the default settings for the two panels in a default installation of Phoenix 2010.

The settings in the default window should be fairly self-explanatory to most any user.



Panel
Customize the panel settings
Panel 2
Appearance
Size (pixels): 28
Position
○ Fixed position ● Freely moveable
Orientation: Horizontal
Handle: At both sides

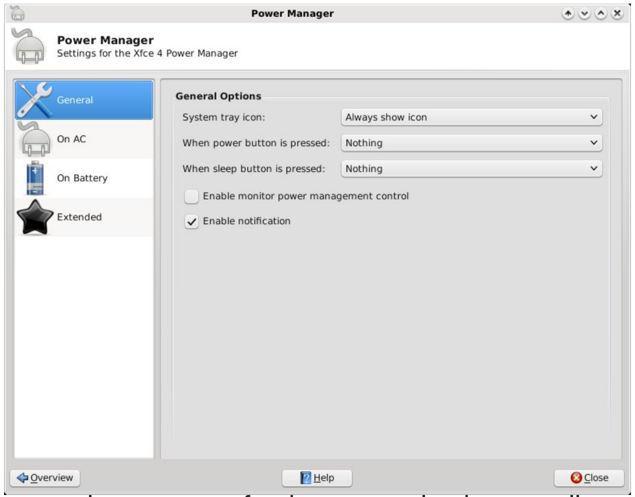
If you choose to make the panel "freely moveable," you are given a choice of either horizontal or vertical orientation, and whether you want a "handle" at both sides, the right side only, or the left side only.

At the top of the panel window, you can select the panel you want to specify the options for. You can also remove an existing panel by selecting the red "X" button. Similarly, clicking the green "+" button allows you to define a new panel for your Xfce desktop

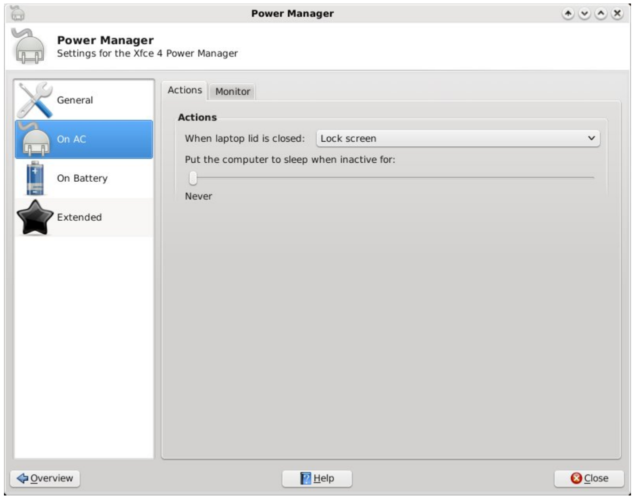
We'll talk more about panel configuration in a separate article that focuses just on the panel alone.

Power Manager

Once you install the Xfce power management plug in from Synaptic, you will get access to the power settings via the Xfce Settings Manager Power selection. In the first category, General, you set the general parameters for the power plug in, as well as general parameters for what to do in the event that either the power or sleep buttons are pressed. I have my plug in set to always show an icon in the notification tray. I also have it set to "enable notification." The latter enables the power plug in to pop up notification windows, for example, should you be running off of the laptop battery and that battery starts to get low.

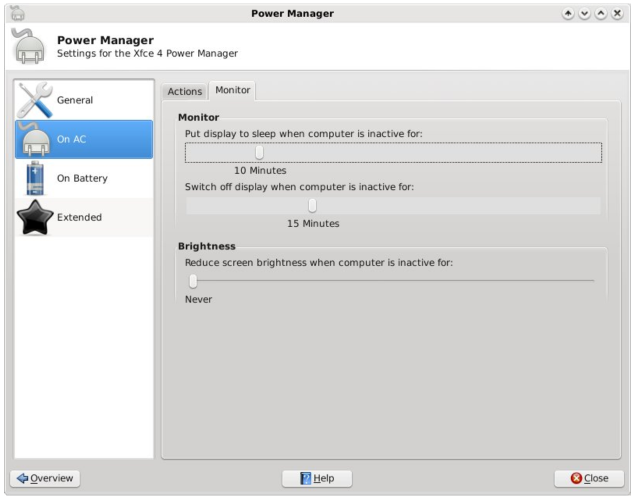


Power Manager
Settings for the Xfce 4 Power Manager
General Options
System tray icon: Always show icon
When power button is pressed: Nothing
When sleep button is pressed: Nothing
□ Enable monitor power management control
☑ Enable notification



Power Manager
Settings for the Xfce 4 Power Manager
Actions
When laptop lid is closed: Lock screen
Put the computer to sleep when inactive for:
Never

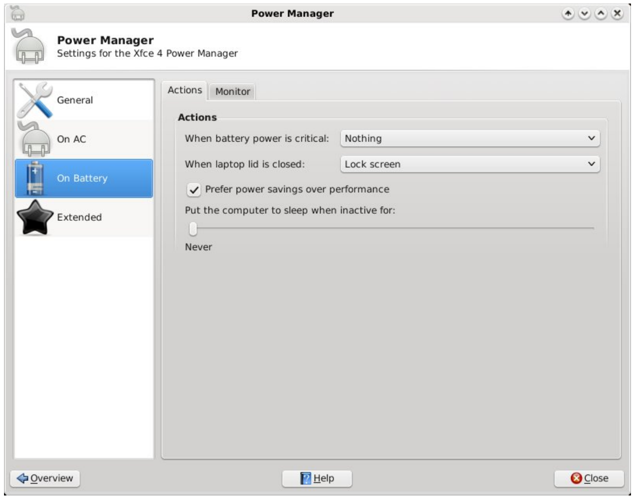
The next category allows us to set the actions Power Manager uses when the computer is using AC power, under the Actions tab. (Screen shot bottom of previous column).



Power Manager
Settings for the Xfce 4 Power Manager
Monitor
Put display to sleep when computer is inactive for:
10 Minutes
Switch off display when computer is inactive for:
15 Minutes
Brightness
Reduce screen brightness when computer is inactive for:
Never

Under the Monitor tab (still under the "On AC" category), we can set the behavior characteristics for the Power Manager to apply. The same tab (albeit with more conservative settings) exists under the "On Battery" category of settings. The values in the screen shot above are the default values.

When we select the "On Battery" category, we are given settings choices that are more relevant to running a laptop off of a battery. We can specify what to do when the battery power becomes critical, what to do when the laptop lid is closed, whether we


Power Manager

Power Manager
Settings for the Xfce 4 Power Manager

Actions

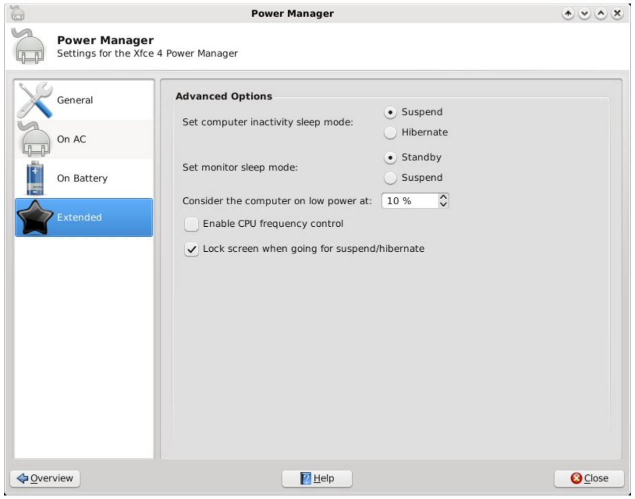
When battery power is critical: Nothing

When laptop lid is closed: Lock screen

☑ Prefer power savings over performance

Put the computer to sleep when inactive for: Never

want to give precedence to a power saving power scheme, over performance, and whether to make the computer to sleep (either standby to RAM or hibernate, which is set in the next category).


Power Manager

Power Manager
Settings for the Xfce 4 Power Manager

Advanced Options

Set computer inactivity sleep mode: ● Suspend ○ Hibernate

Set monitor sleep mode: ● Standby ○ Suspend

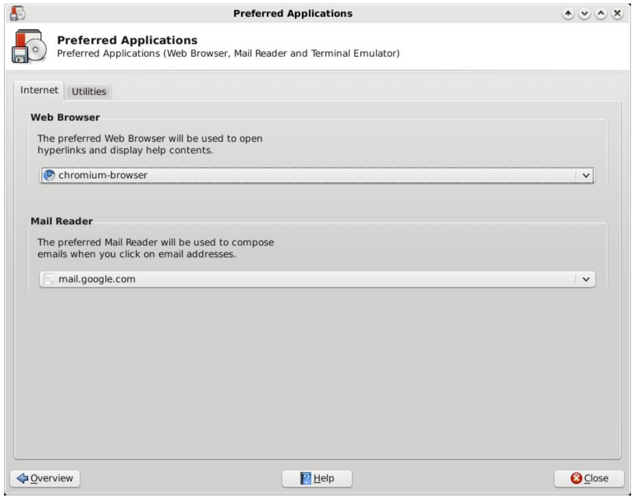
Consider the computer on low power at: 10 %

☐ Enable CPU frequency control

☑ Lock screen when going for suspend/hibernate

Under the Extended category, we can set more advanced options. We can select whether the preferred inactivity "sleep" mode uses Suspend to RAM or Hibernate (suspend to disk). We can also set the monitor sleep mode to either Standby or Suspend. In the third setting, we can specify the low power warning level when the laptop is running off of battery. We can also select if we want CPU frequency control, and if we want to lock the screen when the laptop is suspending or hibernating (requires the user to supply a password upon taking the computer out of suspend or hibernation).

Preferred Applications


Preferred Applications

Preferred Applications
Preferred Applications (Web Browser, Mail Reader and Terminal Emulator)

Web Browser

The preferred Web Browser will be used to open hyperlinks and display help contents.

chromium-browser

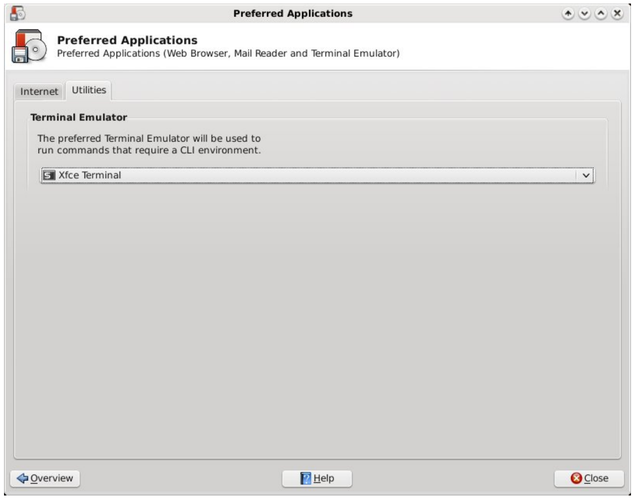
Mail Reader

The preferred Mail Reader will be used to compose emails when you click on email addresses.

mail.google.com

The "Preferred Applications" section allows us to set the preferred programs to use for a few pre-selected categories of programs. Under the first tab, Internet, we can set our preferred web browser and mail reader. The default values here are Firefox for the web browser, and Thunderbird for the mail reader.

Since I prefer the Google Chromium browser and prefer using the web interface of Google's Gmail for my email, I've made changes from the default values in Phoenix. If your preferred browser or mail reader is not listed when you open the drop-down selection box, choose "Other ..." and point to the program you want to use from the window that opens.


Preferred Applications

Preferred Applications
Preferred Applications (Web Browser, Mail Reader and Terminal Emulator)

Terminal Emulator

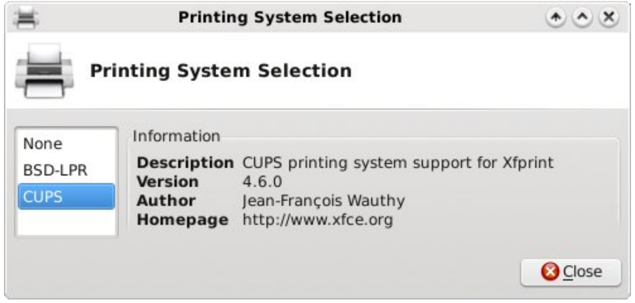
The preferred Terminal Emulator will be used to run commands that require a CLI environment.

Xfce Terminal

Under the "Utilities" tab, we can select the terminal emulator program we want to use when we need to have access to the command line. The screen shot above reflects the default terminal emulator in Phoenix 2010, xfterm4, or Xfce Terminal.

Printing

The Printing System Selection window is probably the simplest of all the settings in Xfce Settings Manager. It simply allows you to tell Xfce how to talk to your printers, via Xfprint. By default, Phoenix 2010 is set to None. Since I print to a networked printer



Printing System Selection

Printing System Selection

None
BSD-LPR
CUPS

Information

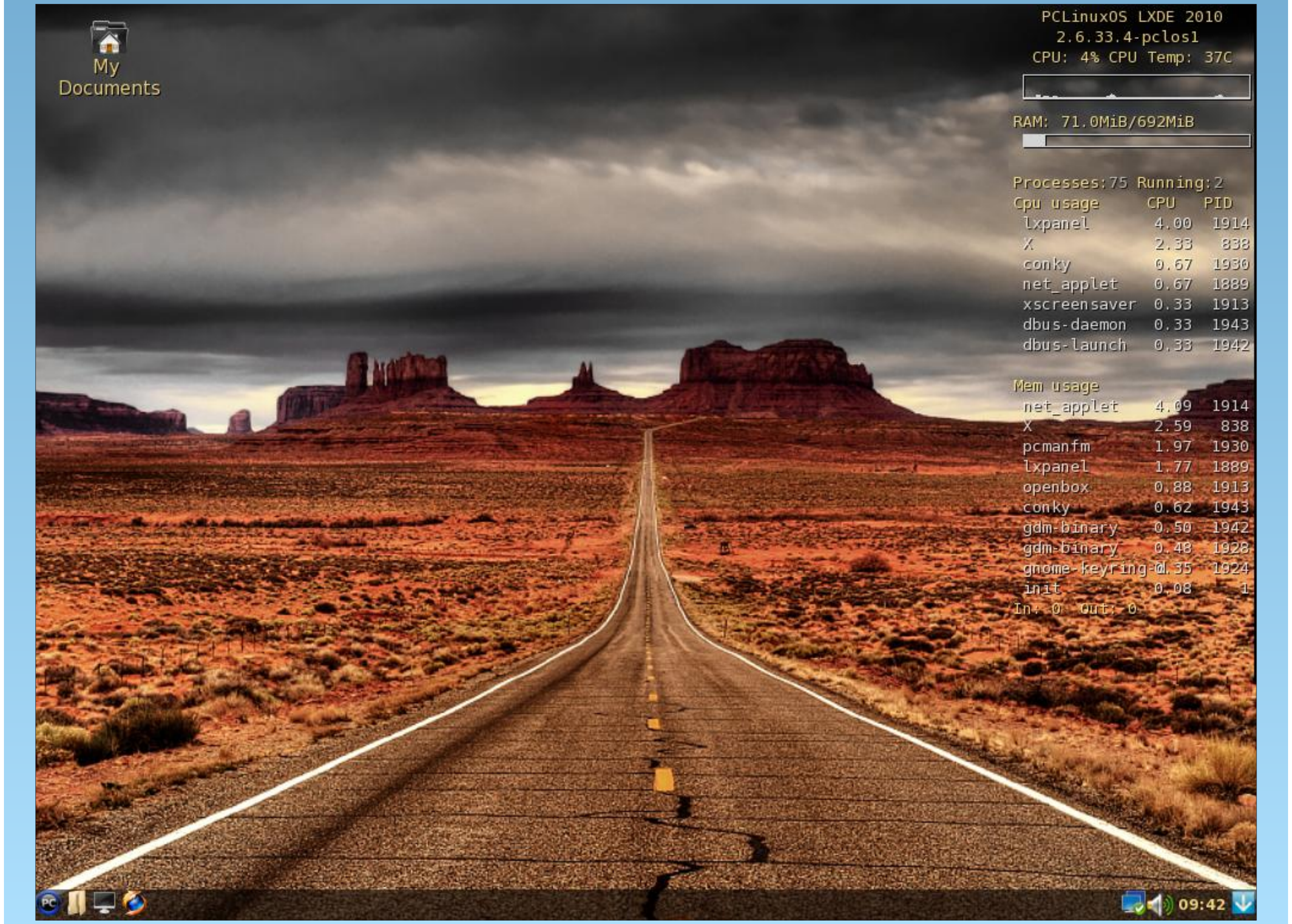
Description CUPS printing system support for Xfprint
Version 4.6.0
Author Jean-François Wauthy
Homepage http://www.xfce.org

over my home network, I chose CUPS. You will still need to complete the setup of your printer in the PCLinuxOS Control Center (PCC), but you will first need to complete this setting before you will get the desired results.

Conclusion & Things To Come

As you are starting to see, between this article and the one before, Xfce gives you plenty of options in how to configure your computer. Despite its lightweight nature, options abound. In the next, and last part, of the series of articles on the Xfce Settings Manager, we'll take a look at the rest of the settings you can make in Xfce.

Screenshot Showcase



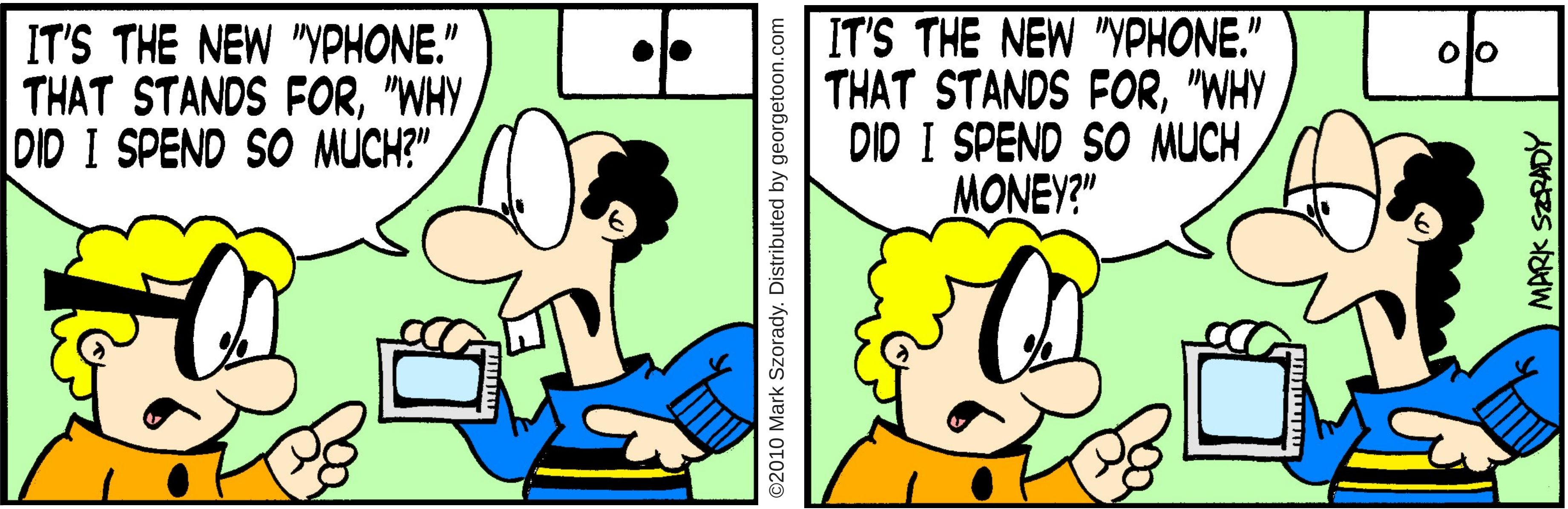
```
    PCLinuxOS LXDE 2010
     2.6.33.4-pclos1
  CPU: 4% CPU Temp: 37C

RAM: 71.0MiB/692MiB

Processes:75 Running:2
Cpu usage        CPU    PID
 lxpanel         4.00  1914
 X               2.33   838
 conky           0.67  1930
 net_applet      0.67  1889
 xscreensaver    0.33  1913
 dbus-daemon     0.33  1943
 dbus-launch     0.33  1942

Mem usage
 net_applet      4.09  1914
 X               2.59   838
 pcmanfm         1.97  1930
 lxpanel         1.77  1889
 openbox         0.88  1913
 conky           0.62  1943
 gdm-binary      0.50  1942
 gdm-binary      0.48  1928
 gnome-keyring-d0.35  1924
 init            0.08     1
In: 0  Out: 0
```

Posted by weirdwolf, June 01, 2010, running PCLXDE.

Double Take & Mark's Quick Gimp Tip

Double Take

by Mark Szorady


IT'S THE NEW "YPHONE." THAT STANDS FOR, "WHY DID I SPEND SO MUCH?"
IT'S THE NEW "YPHONE." THAT STANDS FOR, "WHY DID I SPEND SO MUCH MONEY?"
MARK SZORADY

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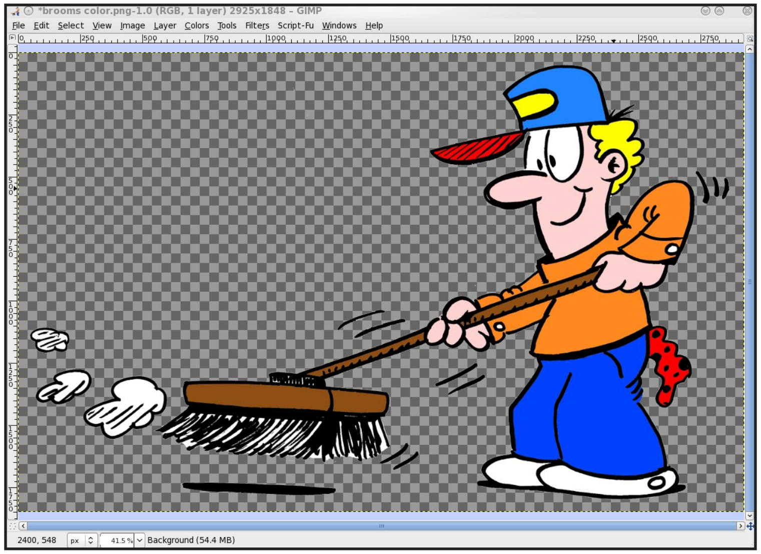
Find at least seven differences between cartoons.

Answers on Page 34

Mark's Quick Gimp Tip

After you've used The Gimp for some time, you'll find yourself creating multiple layers in order to better edit photos and artwork. These layers will most likely be created with a transparent background allowing you to lay one atop another. This way, you can see top layers right through to bottom layers. The Gimp allows you to customize this bottommost transparent background so you can better view the art being edited. Simply go to **Edit>Preferences**. Then select **Display**. On the right, under **Transparency**, you'll see a menu where you can tweak the transparent background. You can make it checkered, solid white, gray, or black. You can also make the checks of the checkered background large or small and control their overall tone (light, medium, or dark). By using the proper transparent background, editing an image becomes easier due to seeing a large contrast between image and background. This allows you to better distinguish the art's edges and other fine details.

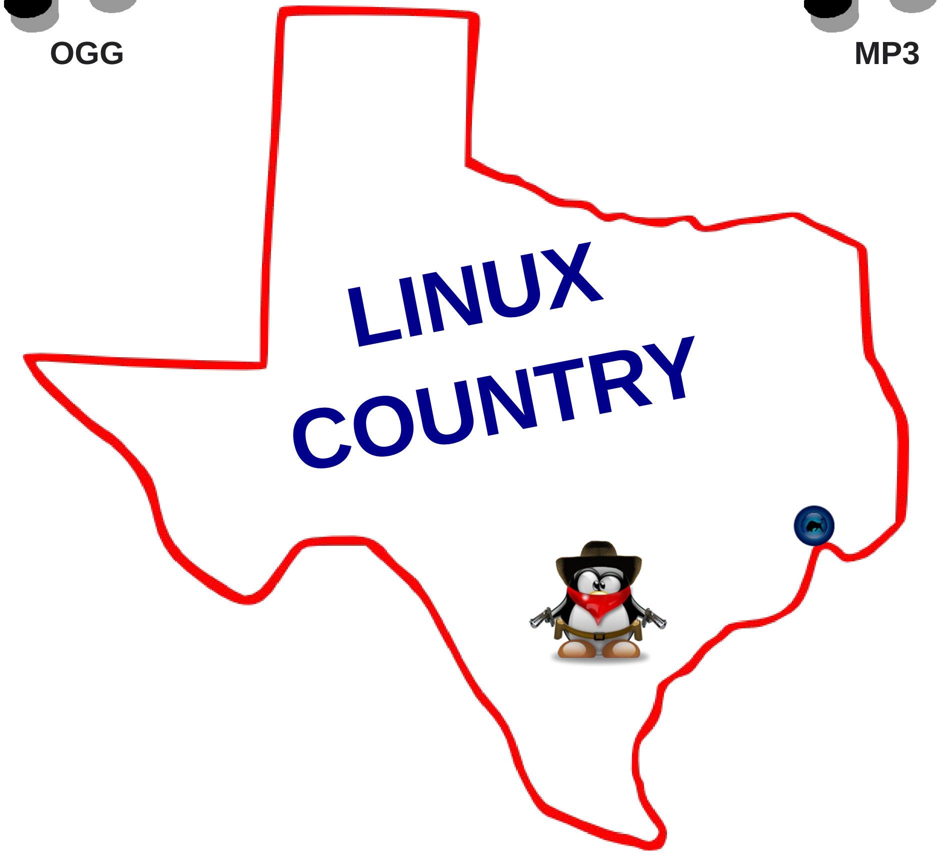

*brooms color.png-1.0 (RGB, 1 layer) 2925x1848 - GIMP
File Edit Select View Image Layer Colors Tools Filters Script-Fu Windows Help
2400, 548
px
41.5%
Background (54.4 MB)

-**Mark Szorady is a nationally syndicated cartoonist. His work is distributed by georgetoon.com. Email Mark at georgetoon@gmail.com.**

ms_meme's Nook: Deep In The Heart Of Linux

OGG

MP3



Let's all boot and go meet root
Deep in the heart of Linux
You know of course it's open source
Deep in the heart of Linux

Say hello to your favorite distro
Deep in the heart of Linux
PCLOS is really the best
Deep in the heart of Linux

Take time to stop at your desktop
Deep in the heart of Linux
Here you can choose widgets to use
Deep in the heart of Linux

Next update and don't be late
Deep in the heart of Linux
It's no chore it's fun galore
Deep in the heart of Linux

Then join your pals both guys and gals
Deep in the heart of Linux
In the forum you'll find some of each kind
Deep in the heart of Linux

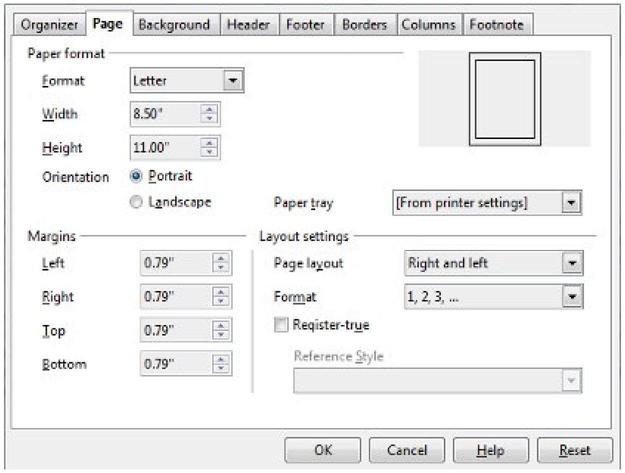
Step up to the bar and meet Texstar
Deep in the heart of Linux
Be his friend some cash to him send
Deep in the heart of Linux

OpenOffice 2: Writer

by Meemaw & djohnston

In the overview article last month, I compared OpenOffice with Microsoft Office, giving you the matching OpenOffice programs for the popular MS Office ones. I will add that OpenOffice can be downloaded and installed for free, rather than having to fork over your hard earned money every two years or so for an upgrade. In addition, OpenOffice will open not only MS Office files, but also files from Word Perfect and other programs (even the brand new MS docx files.)

Now that you have configured the basic options for the whole suite, you may want to get busy with a word processing document. OpenOffice Writer is, of course, the one you want to use. When you open it, there will be a blank 'page' waiting for you to type. Before you start, however, you may want to set the margins on your page. In the menu bar, choose Format > Page. You will see this window, where you can designate paper size, orientation and margins. The default is 0.79". I usually change it to 0.50" or 0.25" depending on what kind of document I'm creating, whether it's a business letter, or just saving data for future reference.



Paper format

Format: Letter
Width: 8.50"
Height: 11.00"
Orientation: ● Portrait ○ Landscape
Paper tray: [From printer settings]

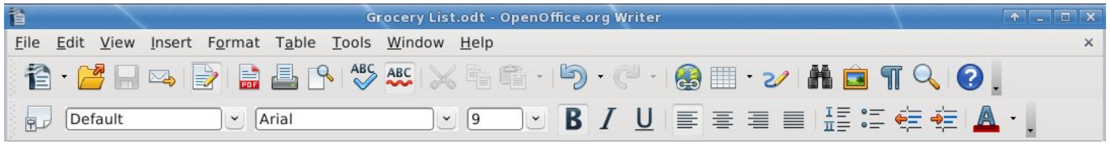
Margins

Left: 0.79"
Right: 0.79"
Top: 0.79"
Bottom: 0.79"

Layout settings

Page layout: Right and left
Format: 1, 2, 3, ...
□ Register-true
Reference Style

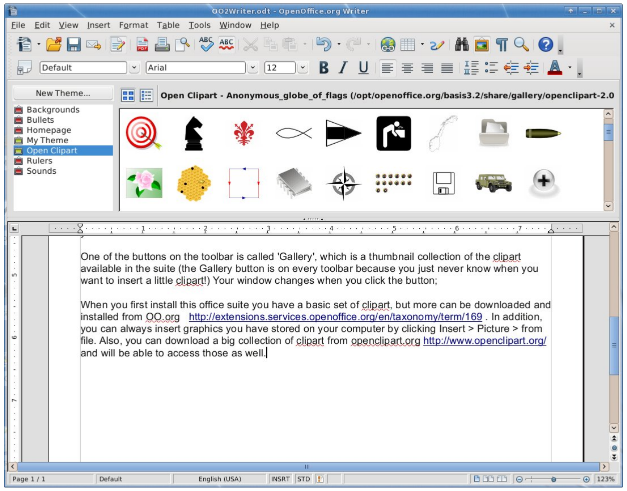
Many of the changes you can make to your text can be accessed from the toolbars as well as the menus. The toolbars can be configured to include the items you use most often, so yours may look different from mine here. If you have tooltips turned on, you can see what each button is by just hovering the mouse over it. If you don't use that particular one, remove it and replace it with whatever you use most.



On my toolbar, I have the following (top row, l to r) - New, Open, Save, Email, Edit File, Export as PDF, Print, Print Preview; Spelling & Grammar and Auto Spellcheck; Cut, Copy & Paste; Format Paintbrush, Undo and Redo; Hyperlink, Insert Table, Show Draw Functions (which toggles on or off the OODraw toolbar on the bottom of the window), Find & Replace, Navigator, Gallery, Data sources, Zoom and Help and then (bottom row, l to r) - Apply Style, Font, Font size; Bold, Italic & Underline; Align Left, Center, Align Right and Justified; Numbering On/Off, Bullets On/Off; Decrease Indent and Increase Indent; Text Color, Highlight Color and Background Color. The little down arrow at the end of the toolbar, when clicked, gives you a drop-down where you can see a list of visible buttons, and a menu item that allows you to customize that toolbar, lock its position, or even close it. If you close one by mistake, you can go to View > Toolbars, and click on the one you need to open up again. Notice there are over 20 different toolbars!!! However, most people use the 'Standard' and the 'Formatting' toolbars in Writer most of the time, and only pull others up if they are working on something specialized (tables, form design, etc) in other OO programs.

One thing that I had to adjust to was the absence of the 'Page Layout' button that I had on the toolbar in the other suite. However, it took almost no time at all to find the menu 'Format' > 'Page' (shown above) which is the exact same thing.

Another of the buttons on the toolbar is called 'Gallery', which is a thumbnail collection of the clipart available in the suite (the Gallery button is on the toolbar in each program because you just never know when you want to insert a little clipart!) Your window changes to show the gallery when you click the button;



One of the buttons on the toolbar is called 'Gallery', which is a thumbnail collection of the clipart available in the suite (the Gallery button is on every toolbar because you just never know when you want to insert a little clipart!) Your window changes when you click the button;

When you first install this office suite you have a basic set of clipart, but more can be downloaded and installed from OO.org http://extensions.services.openoffice.org/en/taxonomy/term/169 . In addition, you can always insert graphics you have stored on your computer by clicking Insert > Picture > from file. Also, you can download a big collection of clipart from openclipart.org http://www.openclipart.org/ and will be able to access those as well.

When you first install this office suite you have a basic set of clipart, but many more can be downloaded and installed from OO.org http://extensions.services.openoffice.org/en/taxonomy/term/169 . (The buildings in the shot above are one of the extra sets.... another good set is found here http://extensions.services.openoffice.org/en/project/oxygenoffice-gallery/) When you want to insert one of the pictures from the gallery, simply click and drag it from the gallery to your document. In addition, you can always insert graphics you have stored on your computer by clicking Insert > Picture > from file and navigating to your graphic.

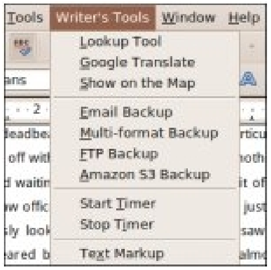
You may have noticed that one of the toolbar buttons is 'Export as PDF'. Open Office does export documents as Adobe pdf files. This has come in handy - I never know what type of office program anyone else has, so instead of saving it as several different Office docs, just in case someone's version is really old, I export it as a pdf, and most everyone can open it. The other upside is that it most likely won't get altered by someone else if it is in pdf form. At work I do a newsletter, and the company that prints it prefers a pdf file, so having it already in that form when he gets it speeds up the process.

One of the things I like about this suite is that no matter what you have open, you can go to File > New or File > Open and open up any other type of document...like opening a spreadsheet from a text document window. I never could do that in the other office suite (but I always thought I should be able to......)

Earlier in the article I talked about margins and how the default is 0.79 inches. While that may not bother you, I always thought it was a pretty strange number for default, but if your unit of measurement is centimeters, it makes perfect sense... it's 2 cm. You can change it, though, to whatever you want. Simply change the margins and whatever else you want to what you use most, then save it as a template (File > Template > Save) with whatever name you want to give it. (Mine is called WriterTemplate.) It will be saved to 'My Templates' and then you can go to File > Templates > Organize, click on your template in the list, and then when you click on the Commands button at right, one of the choices is 'Set as Default Template'. Not too hard.

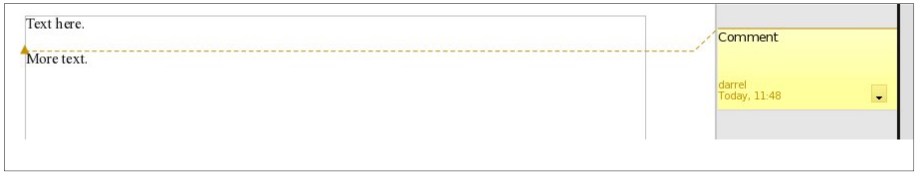
On the subject of templates, OpenOffice has a few that are included in your installation, and also many templates you can download and use. From OO's main page you can select 'I want to do more with my OpenOffice' and you will be taken to the template and extension section of the site. At the top of the page, click Templates. There are templates for business letters or invoices, calendars, resumes and much more. The section includes templates for all parts of OpenOffice, so if you are looking specifically for Writer Templates, click Writer in the left margin and your list will be sorted out to list the templates for Writer. At the second gallery link above, there are also links listed for available template sets that can be added.

Extensions are another thing. Extensions are add-ons which enhance the way that OO works.You can get different language dictionaries or even 'Writer's Tools'..... the site says 'Writer's Tools is a set of utilities designed to help OpenOffice.org users perform a wide range of tasks. Using Writer's Tools, you can back up documents, look up and translate words and phrases, manage text snippets, and keep tabs on document statistics.' It puts another menu in your menu bar (see at right) which has many useful chores listed. Galleries are also added to the extension lists, as are template packages



Something else you can do in your document is insert a comment. This can be a side note to yourself that you don't want in the main document, or, if you are sharing the document with others, it can be a reference to something else you need to tell them. Comments can be inserted in the body of the document. You can insert a comment by placing your cursor where you want the comment field to be, then either click Insert > Comment from the topmost menu, or pressing the key combination Ctrl+Alt+N. As shown in the help menu,

(The) key combination inserts a comment anchor at the current cursor position. A comment box is shown at the page margin, where you can enter the text of your comment. A line connects anchor and comment box.



Not shown in the help menu is how to exit the comments box back to the document page. Pressing the Esc key will do that.

Also from the Writer help menu,

Editing comments

Every user with write permission to the document can edit and delete comments of all authors.

The comment box contains an icon with a down arrow. Click the icon to open a menu with some commands to delete comments.

Choose a command to delete the current comment, or all comments from the same author as the current comment, or all comments in the document.

If the comment in a text document was written by another author, there is a Reply command in the context menu. This command inserts a new comment adjacent to the comment to which you want to reply. The comment anchor is the same for both comments. Type your reply text in the new comment. Save and send your document to other authors, then those authors can add replies, too. Use View - Comments to show or hide all comments (not available in Calc).

In the Find & Replace dialog of text documents, you can select to include the comments texts in your searches.

Navigating from comment to comment in text documents

When the cursor is inside a comment, you can press Ctrl+Alt+Page Down to jump to the next comment, or press Ctrl+Alt+Page Up to jump to the previous comment.

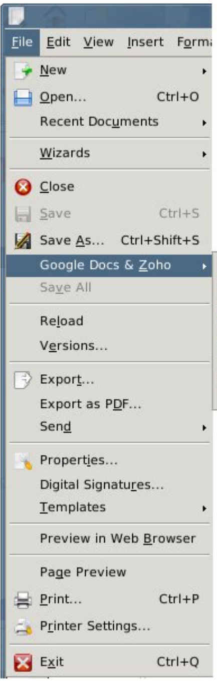
When the cursor is inside the normal text, press the above mentioned keys to jump to the next or previous comment anchor. You can also use the small Navigation window below the vertical scrollbar to jump from one comment anchor to the next comment anchor.

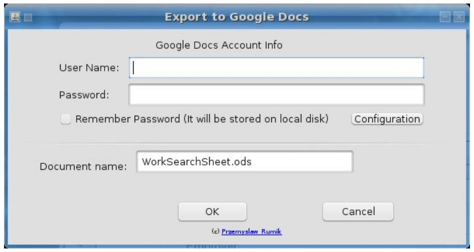
You can also open the Navigator to see a list of all comments. Right-click a comment name in the Navigator to edit or delete the comment.

Printing comments

To set the printing options for comments in your text document, choose File - Print, then click Options. To change the printing option for comments for all your text documents, choose Tools - Options - OpenOffice.org Writer - Print.

You can export to pdf as covered previously, but what if you aren't finished with your document and want someone else to look it over first? You can File > Google Docs & Zoho > Export to Google Docs and share it with the person who needs to review it.





User Name:

Password:

☐ Remember Password (It will be stored on local disk)

Document name: WorkSearchSheet.ods

When you click on Export to Google Docs, a window will come up asking for your user name and password, so the file can be placed in the right location. It works really well, too.

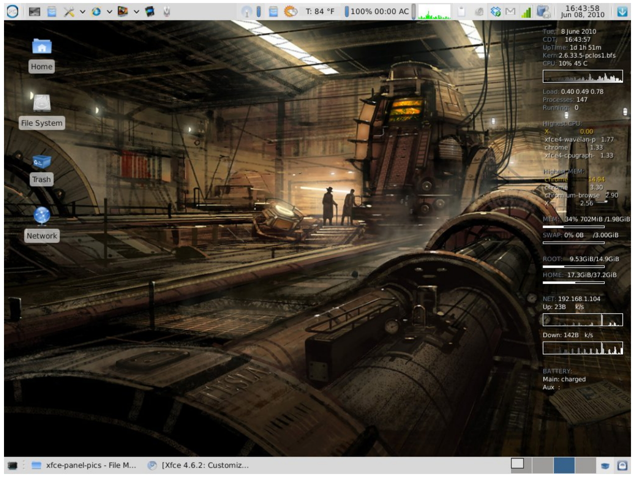
Hopefully we've gotten you started on whatever you need to do in Writer. The next article will be an overview of OpenOffice Calc, the spreadsheet program.

Enjoy yourself!!!

Xfce 4.6.2: Customize Your Xfce Panels

by Paul Arnote (parnote)

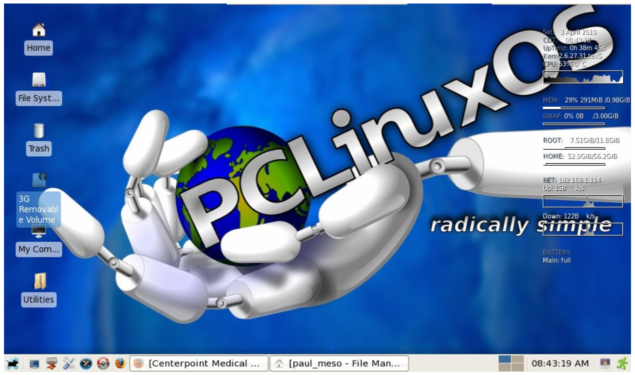
Just as you are able to do with just about any other desktop environment, it's also easy to customize the appearance of the panels on Xfce 4.6.2. By default, the Xfce has panels at the top and bottom of the screen, much as you see in the screenshot below:



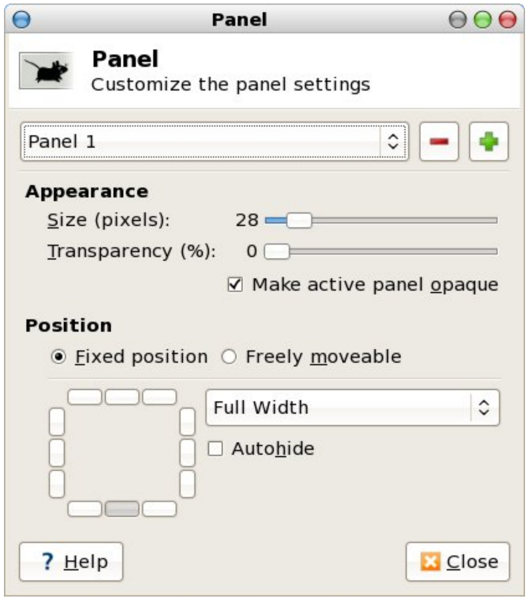
Granted, I have added panel plug ins to make my life easier under Xfce, but the above represents the default location of the default panels in Xfce. However, you don't have to live with things as they come with an "out of the box" Xfce installation. I installed the Xfce desktop on my netbook to take advantage of Xfce's lower memory usage and greater speed, using task-xfce from the PCLinuxOS repository. And, with the limited screen real estate on my netbook (8.9 inch screen, with 1024x600 screen resolution), I didn't feel as if I had room to display two full panels, full time. So it became necessary for me to "redefine" the appearance of the panels on my netbook.

Probably the easiest way would have been to simply set either the top or bottom panel to "autohide," or hide itself unless the mouse cursor hovered at the respective edge of the screen. But, for my tastes on my netbook, that still left vital information hidden from my view that I wanted access to. The discussion of the panel arrangement that follows is what's based on my likes, dislikes and the way I work with my netbook. By all means, let your imagination run with the possibilities and come up with an arrangement that works best for you.

To start with, I decided to completely do away with my top panel. But before completely deleting it, you can make your life infinitely easier by simply moving the panel plug ins that you want to keep to their new position on the bottom panel. So, with that in mind, I first moved the Xfce Menu button, the application launchers, clock, and logout/lock buttons to their new positions on the bottom panel. This is easily done by right clicking on the panel plug in, selecting "Move" from the menu, and clicking and dragging the item to its new location. In essence, my goal was to reproduce the main panel in KDE 3.5.10, with some minor alterations.



In doing this, I left the default bottom panel as it was. You can easily check that configuration by going to the Xfce Menu » Xfce Settings Manager » Panel applet. Here is the default configuration for the bottom panel in Xfce, which is noted as "Panel 1" in the following screen shot:



Panel

Panel
Customize the panel settings

Panel 1

Appearance

Size (pixels): 28

Transparency (%): 0

☑ Make active panel opaque

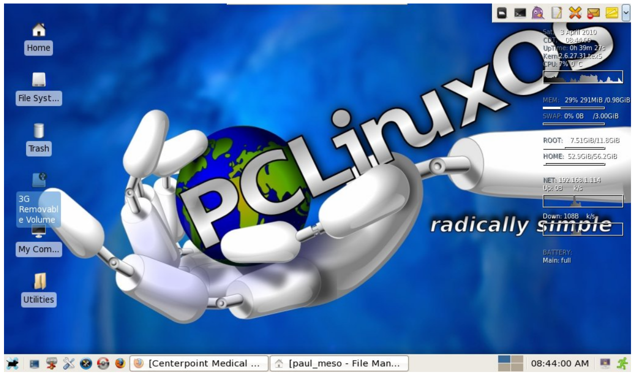
Position

● Fixed position ○ Freely moveable

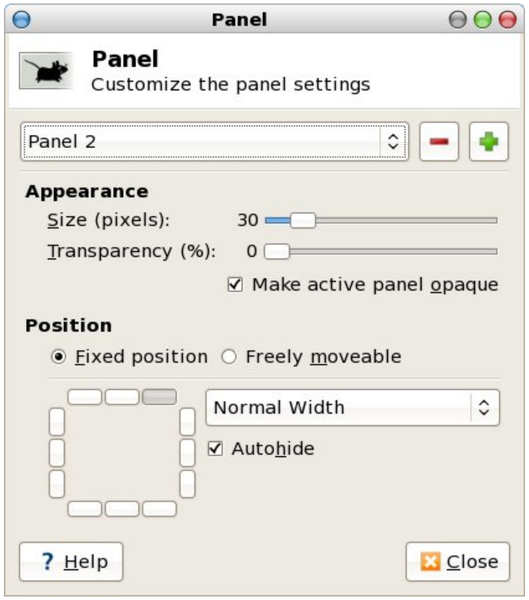
Full Width

☐ Autohide

Next, I had to figure out a place to put additional launchers that I frequently use. I didn't feel as if I had enough screen real estate to include them in the bottom panel, so I created a second panel at the upper right corner of the screen, like this:



I set the panel to "autohide." This way, the panel is out of view and not consuming the valuable screen real estate when it's not needed. Here is the configuration for the extra launcher panel, defined in the following screen shot as "Panel 2," as seen in the Panel applet window:



Panel

Panel
Customize the panel settings

Panel 2

Appearance

Size (pixels): 30

Transparency (%): 0

☑ Make active panel opaque

Position

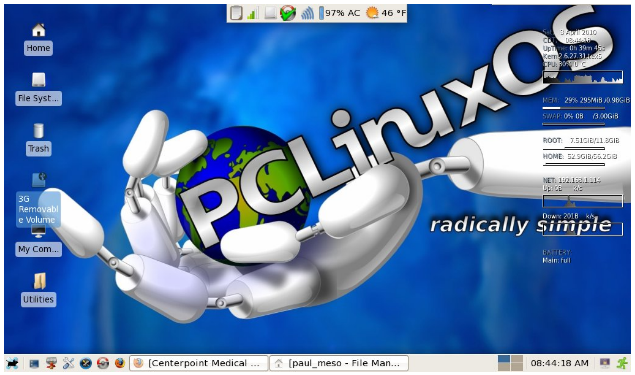
● Fixed position ○ Freely moveable

Normal Width

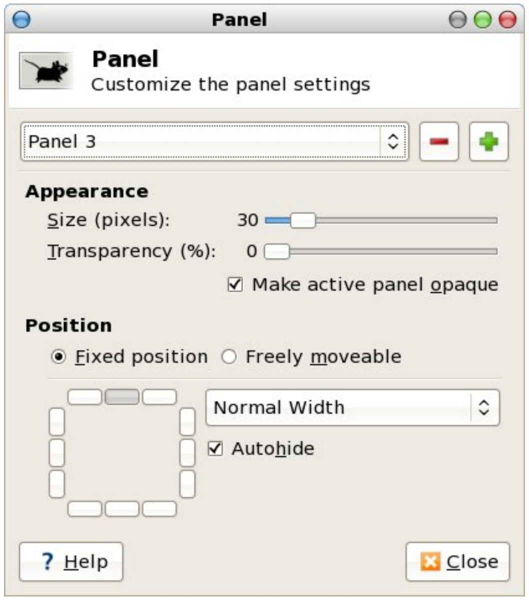
☑ Autohide

With the panel set to "Normal Width," it expands as needed to hold the items you decide to place there.

Finally, I needed to define a place to display my system notification area, since I didn't want it on the bottom panel. These are important things, like my wifi connection, my volume control, my battery charge indicator, and other things I like to reference from time to time. So I set up a third panel at the top center of my netbook's screen, like this:



Here is the configuration window (top, next column) for the top center panel, called "Panel 3." It is also set to "autohide," keeping it out of the way and preventing it from consuming the screen real estate until called by moving my mouse cursor to the top center of the screen.



Panel

Panel
Customize the panel settings

Panel 3

Appearance

Size (pixels): 30

Transparency (%): 0

☑ Make active panel opaque

Position

● Fixed position ○ Freely moveable

Normal Width

☑ Autohide

Troubleshooting

From time to time, there have been reports of Xfce users not having any panels at all displayed on the screen when they boot their computer. Whatever you do, ***do not despair***! Here's how to get your Xfce panels back. It's actually very easy.

Step One: Right click on your Xfce desktop.

Step Two: Select "Applications" from the context menu, then select the "Run Program..." menu entry.

Step Three: Enter "xfce4-panel" into the entry box, and press "Enter."

Now, your panels should be back, in their full glory. For some reason, doing the same from the command line does not get your panels back, and only yields error messages.

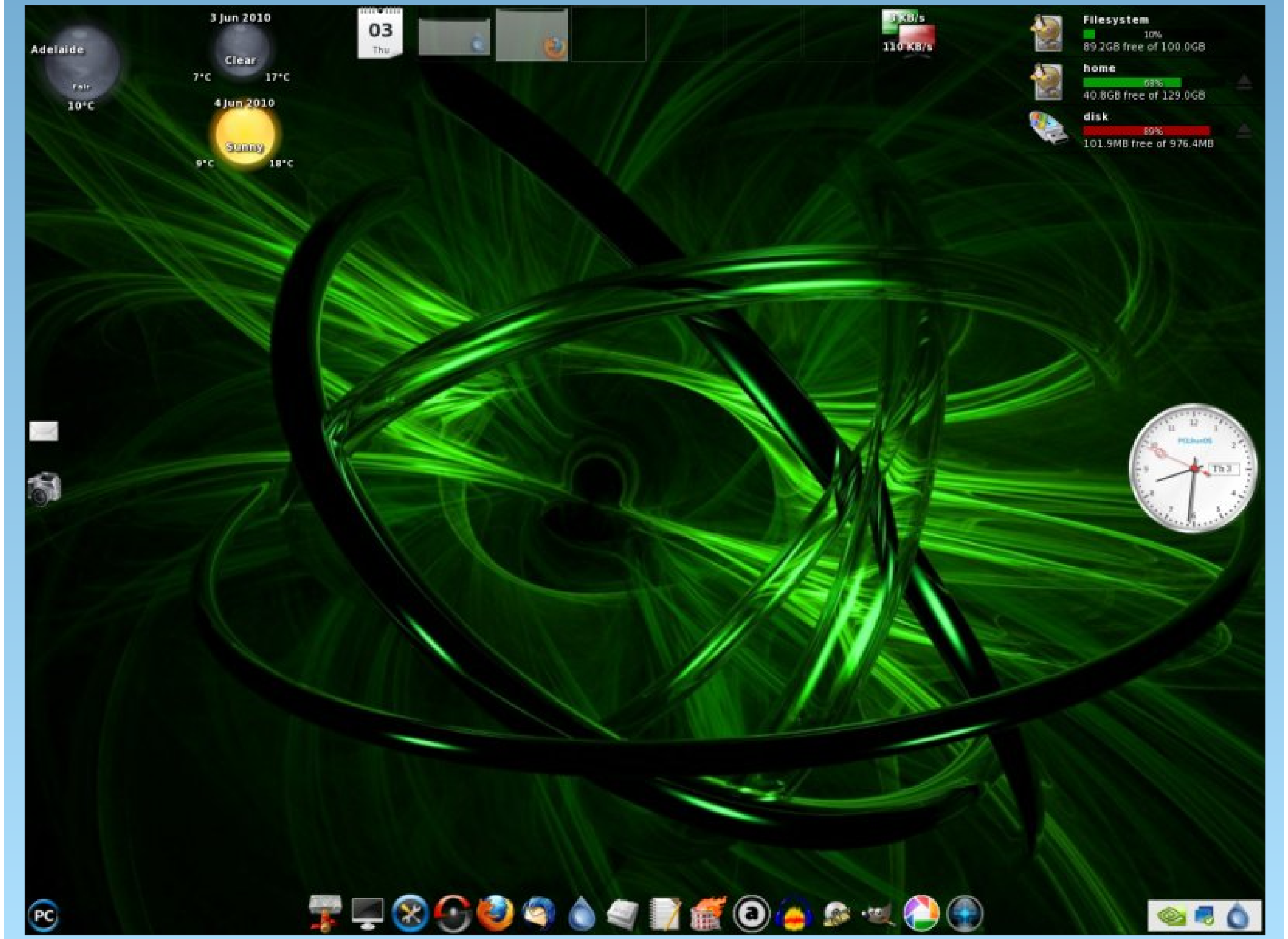
Conclusion

As you can see, it's actually quite easy to customize the location of your Xfce panels. You can further customize the appearance of your panels by installing or selecting new Gtk+ 2.0 themes. Your Xfce panel colors are defined by the Gtk+ 2.0 theme you select. You can easily change your Gtk+ 2.0 theme by running the Gtk Theme Switch 2 program, under the Xfce Menu » More Applications » Configuration. (Note: if you recently upgraded your Phoenix installation from Xfce 4.6.1 to 4.6.2, you may need to re-install the Gtk Theme Switch 2 program from Synaptic. The upgrade appears to have removed it from the Xfce menu, but it is re-added once you reinstall it from Synaptic.) We won't be covering creating your own Gtk+ 2.0 themes, as they are often quite complex. Yet, if you want to find additional Gtk+ 2.0 themes, head on over to the Xfce Community's web page and download additional Gtk+ 2.0 themes. Additionally, there are resources available on the web on how to make your own Gtk+ 2.0 themes, should your interests take you there.

Visit Us On IRC

- Launch your favorite IRC Chat Client software (xchat, pidgin, kopete, etc.)
- Go to freenode.net
- Type "/join #pclinuxos-mag" (without the quotes)

Screenshot Showcase



Posted by ef2000, June 03, 2010, running e17.

How Teenagers View PCLinuxOS

by Lee H. Courington (lee2010)

In high school, I was the “computer guy.” If there was a problem, I could fix it. I was also known for my use of something not many people had heard of: Linux. People were asking me all about it, and I would tell them it’s free. They would not believe me, so I rolled my eyes and went about my business. This summer, as a joke, I asked my close friend if he would install PCLinuxOS on his laptop. To my surprise, he said “What do I have to do,” so I told him everything and he was up and running in under an hour. My girlfriend saw that, and let me install and set everything up for her. Again, in less than an hour, she was a Linux user. Before I had my current computer, I had an old HP Omnibook 6100 that served me well. But when I received a newer laptop, my 13 year old brother got my hand me down laptop. I reinstalled PCLinuxOS E17 so he would be happy. Everyone I have mentioned above views PCLinuxOS in a very different way. Let's see what each person's views are.

My girlfriend views Linux the same way she does Windows. To her, it’s just an operating system. She looked at the desktop after I installed it, and said “why does your desktop look so different than mine?” So I had to explain about how Linux has no rules about what a “desktop” should be. She liked it, so I showed her how to customize everything. She was acting like a kid in a candy store. It’s all she uses. Maybe she doesn’t add a lot of crazy apps, but she uses it everyday. The only time I was told about a problem was when she texted me saying that her computer was being “slower than Windows.” So, I called her and told her how to change it on to performance mode. I haven’t received one complaint from her since.

My younger brother views Linux as something that is shiny, and with all the desktop effects, who could blame him? But he wanted something that worked. So on a laptop with 512 MB RAM and a 16 MB video card, what do I do? I put PCLinuxOS LXDE on it! It runs like a top. When he came to me asking why he didn’t have cool desktop effects like me, I started to explain about the video cards and OpenGL, etc. But he didn’t understand any of what I was telling him. So then I installed task-enlightenment from Synaptic and he went crazy! He had gadgets on his desktop, and had crazy cool themes. What more could a 13 year old boy ask for? He views his laptop as something he can show off to his friends, and brags about how his brother fixed an old laptop to run better and faster than all of his friends' new laptops.

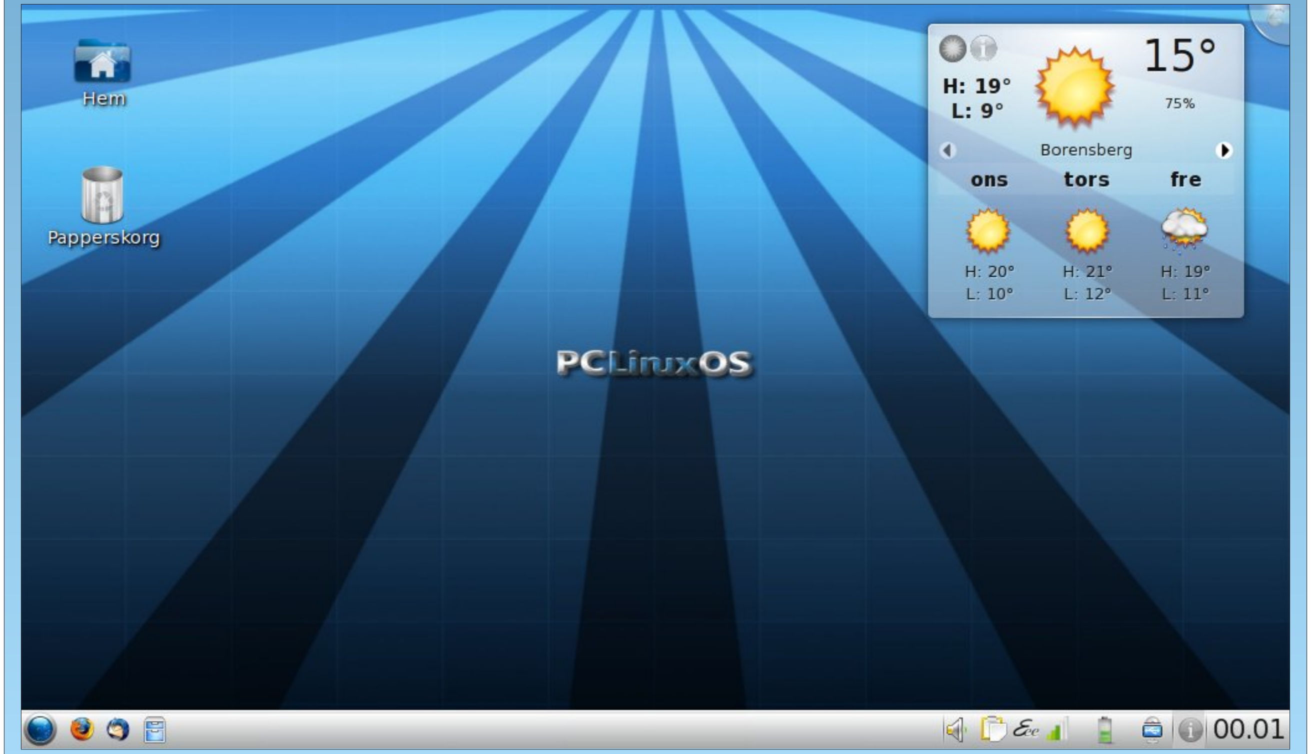
Three PCLinuxOS Teens (from left): friend Michael, girlfriend Dara, and Lee. Not pictured: younger brother Cody.

My very good friend viewed Linux as something that only geeks used. So when he let me talk him into installing it, I was very surprised. But he called me once he burned the cd, and I talked him through shrinking his Vista partition so he could install PCLinuxOS right beside it. He didn’t know you could boot two different operating systems! So after the install was over, he didn’t customize it much. Hey, he spends most of his time online anyway. His question after installation was “how do I install Google Chrome?” So, I launched Synaptic and I installed Chromium. He was satisfied. I showed him around, told him about Pidgin and Choqok. His other passion is games, and after looking through Synaptic, he asked me where “the good games” are. So next download was djl, and he has been smiling ever since.

Lastly I come to myself. I view Linux as pretty much all of the above. The only difference between me and them is the fact that I have been using Linux for many years and I want to know it from the inside out. I am not afraid of the command line at all. Sometimes, I actually like it more. For me, KDE4 is a complete desktop and I treat it as such. I know what I need to install to get my computer to work efficiently. I view my laptop as something I can use to show people that there are always alternatives to Windows and OSX. Linux is a puzzle to me, and it's missing a piece. I am still learning Linux everyday. I hope to grow old, log into the forums and be able to help anyone who needs it.

The fact of the matter is that teenagers view computers differently than adults. We grew up with Google, flash games, Microsoft Word, and computers in general. So that's what we want: a computer that works without much of a hassle. PCLinuxOS does all of that and more. PCLinuxOS appeals to all types of people, and with all the different flavors, what can go wrong? If you know anyone that even shows a hint of interest, point them in the direction of a Live CD so they can try it out. Tell them all about the cool things it does. Don't go into the "it's better than OSX and Windows because...." rant. Just tell them the good things about PCLinuxOS, and it will all work out in the end.

Screenshot Showcase



Posted by Zwopper on June 22, 2010, running KDE4.

Xfce 4.6.2: Panel Plugins

by Paul Arnote (parnote)

Despite its reputation and role as a lightweight desktop environment, Xfce has a good number of panel plugins to help increase the functionality of your Xfce desktop – 45 of them, actually. Just as we did when we took a look at the KDE 4 Widgets, let's take a look at what all is available with the Xfce Panel Plugins.

Below is a list of plugins that are available for the Xfce desktop. All of those listed are in the PCLinuxOS repository. The plugins that are pre-installed in a default installation of Phoenix 2010 are highlighted in red. The information following the plugin comes straight from the definitions that appear in the "Add New Items" dialog box that comes up when you go to add a plugin to your panel.

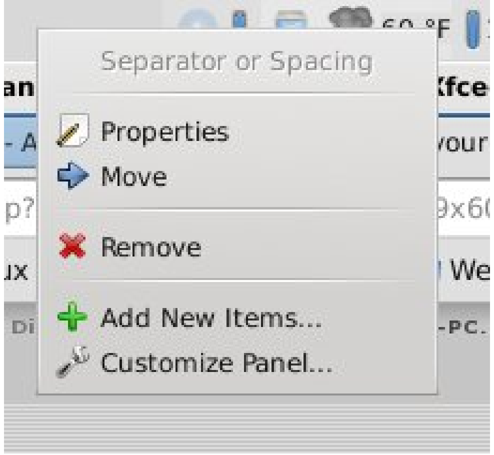
At the end of the article, we'll also take a closer look at some select plugins and how to configure them. But first, let's take a look at the list of available plugins. The default, pre-installed plugins are highlighted in red text.

Launcher - Program Launcher with optional menu
Action Buttons - Log out or lock the screen
Battery Monitor - Show and monitor the battery status
Brightness plugin - Control your LCD brightness
CPU Frequency Monitor - Shows the CPU Frequency and Governours
CPU Graph - Graphical representation of the CPU load
Cellualr Moden Monitor - Monitor line quality and type of cellular modems
Clipman - Clipboard manager
Clock - What time is it?
DateTime - Date and Time plugin with a simple calendar
Dictionary - A plugin to query different dictionaries
Disk Performance Monitor - Show disk performance
Eyes - Eyes that spy on you
Free Space Checker - Monitor free disk space
Generic Monitor - Show output of a command
Icon Box - Show icons of all running applications
Keyboard Layouts - Keyboard layouts setup and switch plugin
Linelight - A simple frontend for the locate search
MPD Client Plugin - A client for MPD, The Music Player Daemon
Mail Watcher - Check mail from multiple mailboxes
Mixer - Volume control for your sound card
Modem Lights - Simple PPP connections via modem
Mount Devices - Shows all mountable devices and (un)mounts them on request.
Notes - Notes plugin for the Xfce4 desktop
Notification Area - Area where notification icons appear
Orage Clock - What time and date is it?
Places - Access folders, documents, and removable media
Radio Plugin - V4l radio plugin
Screenshot - Take screenshots of the entire screen, of the active window or of a region
Separator or Spacing - Adds a space or a line between panel items
Show Desktop - Hide all windows and show the desktop
System Load Monitor - Monitor CPU load, swap usage and memory footprint
Task List - Switch between open windows using buttons
Time Out - Automatically controlled time outs and breaks
Trash Applet - Display the trash can
Verve Command Line - Command line interface with auto-completion and command history
WMdock - Plugin for WindowMaker dockapps
Wavelan - View the status of a wireless network
Weather Update - Show current weather conditions
Window List - Switch between open windows using a menu
Workspace Switcher - Switch between virtual desktops
XfApplet - Display Gnome applets in the panel
Xfce Menu - Shows a menu containing categories of installed applications
Xfce4 Playercontrol Plugin - Audio player control plugin for Xfce 4.4 panel
Xfce4 Timer - Timer plugin for Xfce 4.4 panel

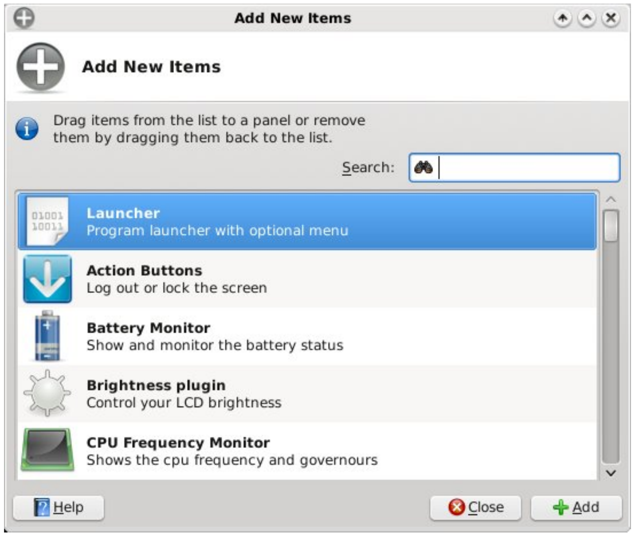
As you can see, the plugins available for Xfce span a wide variety of interests.

Installing Plugins

Adding panel plugins is actually quite easy in Xfce. First, right click your mouse cursor on an empty spot on the panel you want to add a plugin to. You will get the following pop up menu.



Select the "Add New Items..." menu item, and you will be presented with the dialog box displayed below. Just scroll through the (mostly) alphabetized list to find the plugin that you want to add. I say "mostly alphabetized," since Launcher appears at the top of the list, because it's the item most people add most often.



Drag items from the list to a panel or remove them by dragging them back to the list.

Search:

Launcher
Program launcher with optional menu

Action Buttons
Log out or lock the screen

Battery Monitor
Show and monitor the battery status

Brightness plugin
Control your LCD brightness

CPU Frequency Monitor
Shows the cpu frequency and governours

Once you have the item on your panel, you can use the same pop up menu to move the item to your desired location, if you don't like the default location. Just select "Move" from the menu, and drag the vertical bar to where you want it, and click the mouse cursor. It's actually pretty simple.

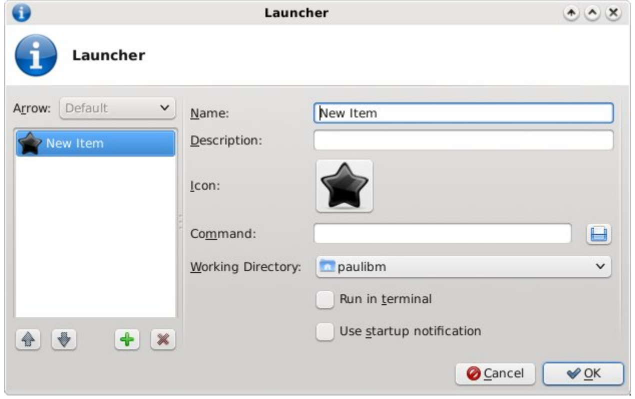
Selecting "Properties" from the pop up menu allows you to set and customize the options for each of the plugins. Of course, the options will vary from plugin to plugin, but this allows you to tailor the plugin to your needs and to make it behave in a way that better suits your needs.

Customizing Select Plugins

There are some Xfce plugins that, like everything else, are more popular with most users. As such, we'll go over the configuration of some of those more popular plugins. My apologies up front if your favorite Xfce plugin is not covered here. But take solace in the fact that most of the configuration options are fairly straight forward and easy to figure out.

Launcher

By far the most popular Xfce plugin, Launcher allows you to put your most popular and most used programs only one click away on one of your panels. No hunting through menus to start your program. Just click on the launcher icon, and your program starts right up.



Arrow: Default

New Item

Name: New Item

Description:

Icon:

Command:

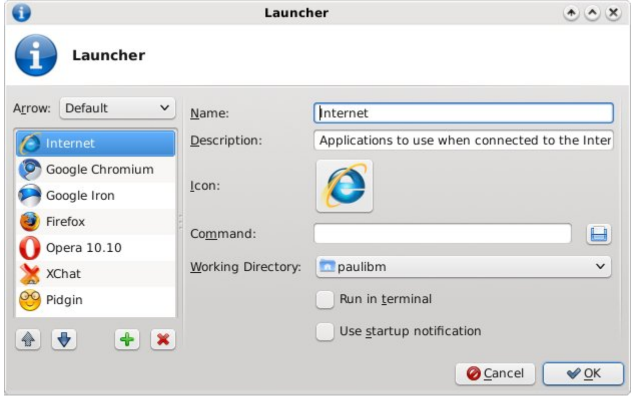
Working Directory: paulibm

□ Run in terminal

□ Use startup notification

When you select to add a launcher to your panel, you are greeted with the screen shot above. In the first space, enter the name for your new launcher. Under description, whatever you put here will be displayed in the tool tip when you hover your mouse over it. Next, click on the black star icon, and you can choose the icon you want displayed for your launcher. Next, under the command entry, enter the command line to launch your program. Oh, what's that? You're not sure what the command line is? Click on the disk icon next to the text entry box. A file selection dialog box will open, already pointing to your /usr/bin directory. Scroll through the list and find your program, and click on OK after you've highlighted your selection with the mouse.

Seems pretty easy, huh? Well it is, but Launcher can do more. (But wait ... there's more!) Launcher can also set up a menu of choices when selected. Take a look at the screen shot below. I'll explain things after you've had a look.



Launcher

Launcher

Arrow: Default

- Internet
- Google Chromium
- Google Iron
- Firefox
- Opera 10.10
- XChat
- Pidgin

Name: Internet

Description: Applications to use when connected to the Inter

Icon:

Command:

Working Directory: paulibm

☐ Run in terminal

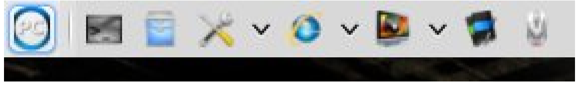
☐ Use startup notification

Now take a look at the list in the far left column. There are now six different programs listed, in addition to an icon I chose to use to represent the category (I chose "that" particular icon because I have no other use for it). With the "Internet" entry highlighted in the left pane, the Name field is filled in simply with Internet. Below that, the Description field has a longer comment or description that will appear when a user hovers the mouse cursor over the icon.

Once you have the first item entered, which essentially becomes the "menu" for the other entries, you can start adding other programs to the "menu." By selecting the green "+" icon, you will then get a blank Launcher screen to fill in. And filling it in is exactly the same as we did earlier with the single launcher entry. Repeat this process, selecting the green "+" icon for each and every Launcher you want to place in the list.

You can remove anything you wish, at any time, by right clicking on the top-level "menu" icon, and selecting Properties from the pop up menu. When the above Launcher window opens, simply select the item you want to remove, and click on the red "X" icon. Similarly, you can organize the list of programs into whatever order you like. Highlight the item you want to move up or down in the list, and select either the blue up or down arrows. Click OK to close the Launcher window, and your changes will be automatically saved.

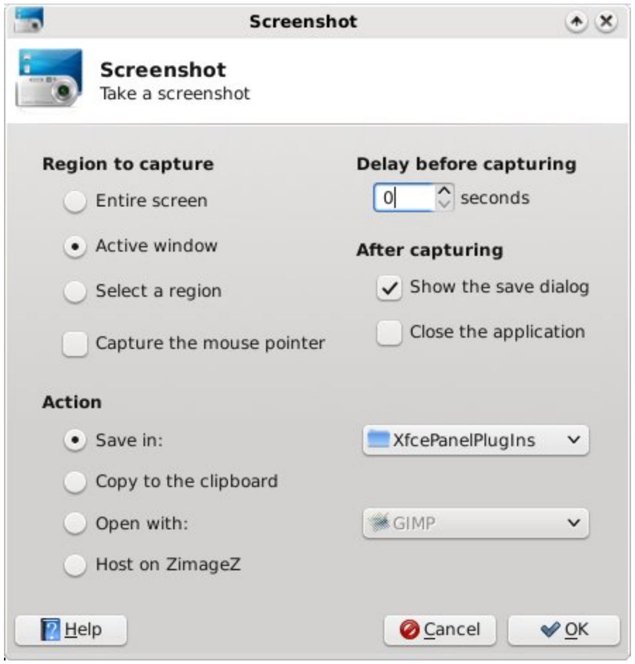
Here is what it looks like on your panel:



Xfce-screenshooter

This plugin is not installed by default in Phoenix 2010, but it is available in the PCLinuxOS repository. In fact, Phoenix 2010 comes with Shutter pre-installed as the default screen capture program. But sometimes, something else is needed. The Xfce-screenshooter can certainly hold its own when compared to KDE's KSnapshot, and has been touted to be even better than Gnome's gnome-screenshot applet. In fact, if you've ever used either screen capture utility, then Xfce-screenshooter will feel very, very familiar to you.

Although it is listed in the list of panel plugins, use of Xfce-screenshooter feels a bit awkward used that way. Why awkward? Because when you use it as a panel plugin, you have to go into the Properties of the plugin to change whether you want it to capture the entire screen, just the active window, or a region of the screen. The better (and easier) way to use Xfce-screenshooter is from a Launcher you place on your panel. You will not only have more options, but you will also have all the selections (entire screen, active window, region of the screen) right at your fingertips and easier to select on the fly. Plus, the Xfce-screenshooter will re-appear on your screen after taking and saving the screen shot. When used as a panel plugin, the program window disappears/closes every time you take a screen shot.



Screenshot

Screenshot
Take a screenshot

Region to capture

○ Entire screen

● Active window

○ Select a region

☐ Capture the mouse pointer

Delay before capturing

0 seconds

After capturing

☑ Show the save dialog

☐ Close the application

Action

● Save in: XfcePanelPlugIns

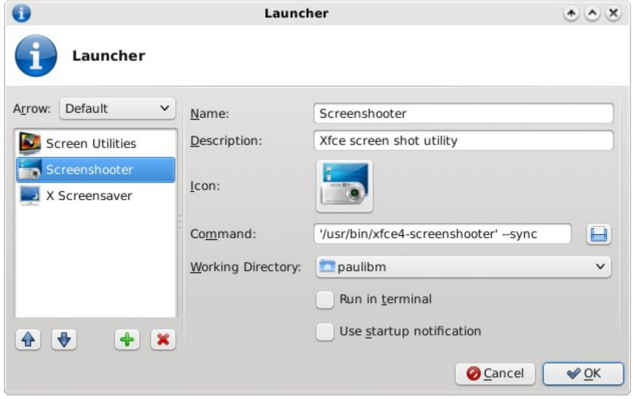
○ Copy to the clipboard

○ Open with: GIMP

○ Host on ZimageZ

With Xfce-screenshooter, you can, as we discussed, choose to capture the entire screen, just the active window, or only a region of the screen. You can also select whether or not to capture the mouse pointer in the screen shot. You can set a delay, in seconds, before Xfce-screenshooter "snaps" the picture. This is especially handy if you want to capture menus. If you give yourself between five and 10 seconds, you will have the chance to open those menus before the screen shot is captured. Just keep the menu open until you see the File Save dialog open.

You can choose whether or not to open the save dialog. You can also select for Xfce-screenshooter to close automatically after taking the screen shot capture. You can also choose what action to take on the resulting screen capture. You can choose to save it to your computer, and even specify what directory you want to save it to. You can choose to merely copy the image to the clipboard, or to open it with Gimp (or any other graphics program you may be using). You can also choose to host your screen capture on ZimageZ, a special graphics host for Xfce users.



Launcher

Launcher

Arrow: Default

- Screen Utilities
- Screenshooter
- X Screensaver

Name: Screenshooter

Description: Xfce screen shot utility

Icon:

Command: '/usr/bin/xfce4-screenshooter' --sync

Working Directory: paulibm

□ Run in terminal

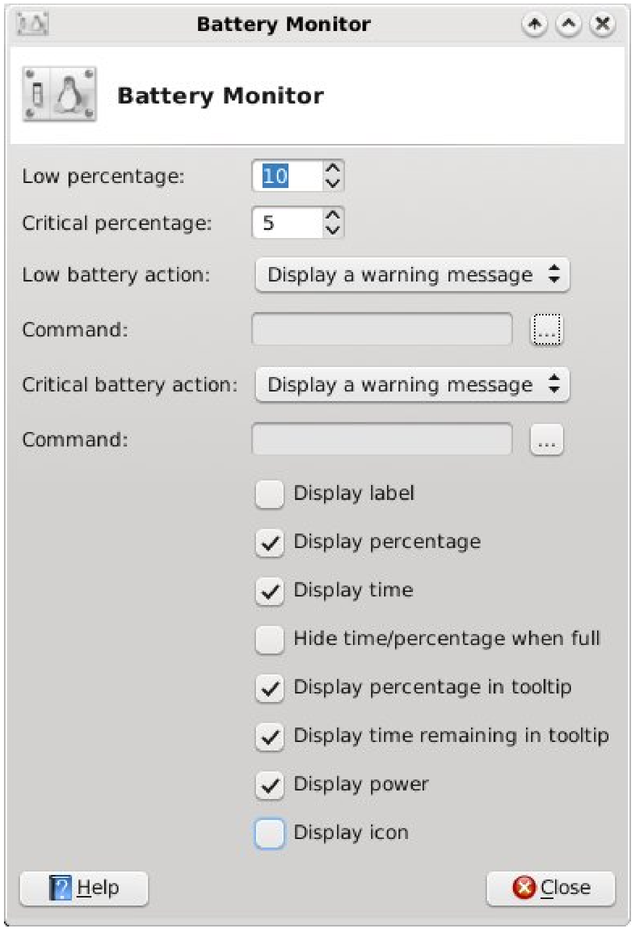
□ Use startup notification

Take note of the command line used in the screen shot of the Launcher for Xfce-screenshooter, above:

```
'/usr/bin/xfce4-screenshooter' --sync
```

The **--sync** parameter makes calls to X synchronous.

Battery Monitor



Battery Monitor

Battery Monitor

Low percentage: 10

Critical percentage: 5

Low battery action: Display a warning message

Command:

Critical battery action: Display a warning message

Command:

□ Display label

☑ Display percentage

☑ Display time

□ Hide time/percentage when full

☑ Display percentage in tooltip

☑ Display time remaining in tooltip

☑ Display power

□ Display icon

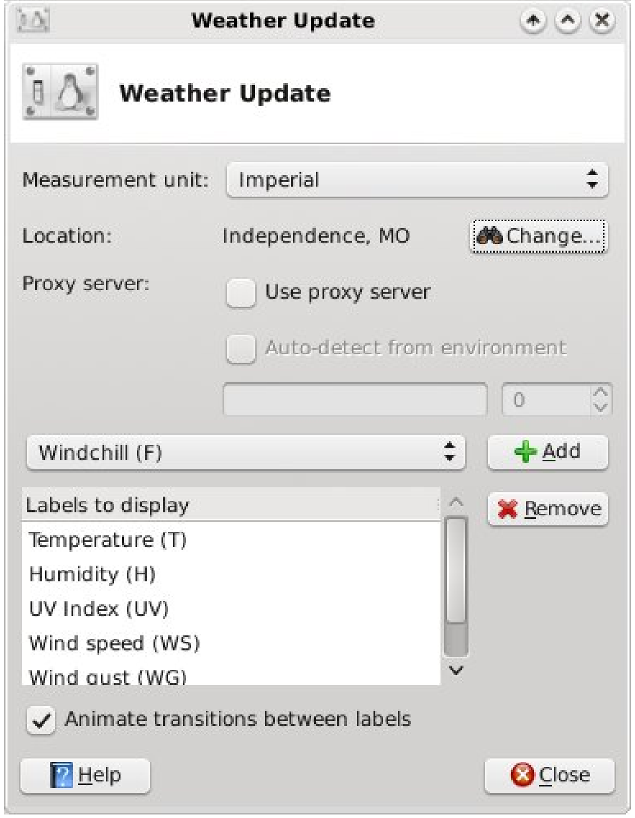
The Battery Monitor plugin allows laptop users to properly monitor the charge and discharge status and state of their battery. After adding it to your panel, right click on the battery monitor icon on the panel, and select Properties from the pop up menu. You will then be looking at a window like the one in the screen shot above.

With it, you can define what Xfce does when you have a low, then a critical, battery level. If you want, you can have it run a command that you specify (like you may want to have your laptop hibernate/suspend to disk when your battery reaches the critical level). Feel free to toggle the various options off and on to configure the Battery Monitor to a configuration that works for you. The check boxes are, after all, simply a switch to turn that particular feature off or on.

Weather Update

There are a lot of desktop environment specific add-ons and plugins available for monitoring the weather. But that's just it – they are specific to each specific desktop environment. Gnome has a few, KDE 4 has a few ... and Xfce has its own, as well. Although this plugin is not in the default installation of Phoenix 2010, it is available in the PCLinuxOS repository.

Once installed to your panel, you need to open up the Properties window for the plugin, via the pop up menu that appears when you right click on the plugin. You will get a window very similar to the one in the screen shot below.



Weather Update

Measurement unit: Imperial

Location: Independence, MO

Proxy server: □ Use proxy server

□ Auto-detect from environment

Windchill (F)

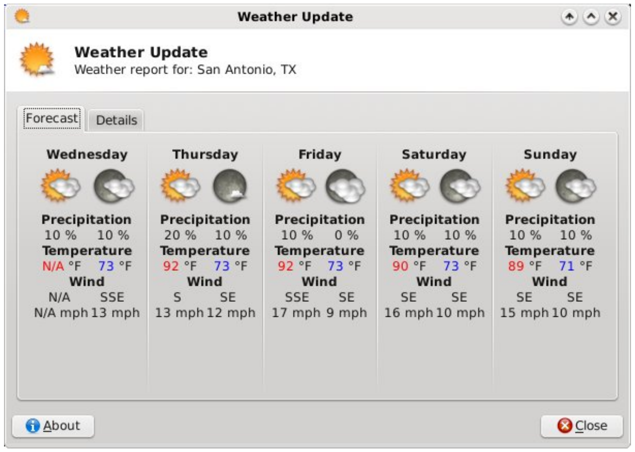
Labels to display

- Temperature (T)
- Humidity (H)
- UV Index (UV)
- Wind speed (WS)
- Wind gust (WG)

☑ Animate transitions between labels

The first thing you will need to select is if the information supplied is in Imperial (U.S.) format, or in Metric format (pretty much everywhere else). If it hasn't already been preset, you will need to enter the location you want to monitor. You can search for your location either by city name, or by postal zip code.

Next, you set any proxy settings, if applicable. Finally, you choose which items you want to display. The choices should be fairly obvious in the list. Choose the item you want displayed, and select the "Add" button. Repeat this until all the items you want to display show up in the scrolling list in the lower half of the window. If you want Weather Update to animate the transitions between your selected labels, simply check the box below the list. The selected labels will appear in the panel, to the right of an icon that illustrates the current conditions.



Weather Update

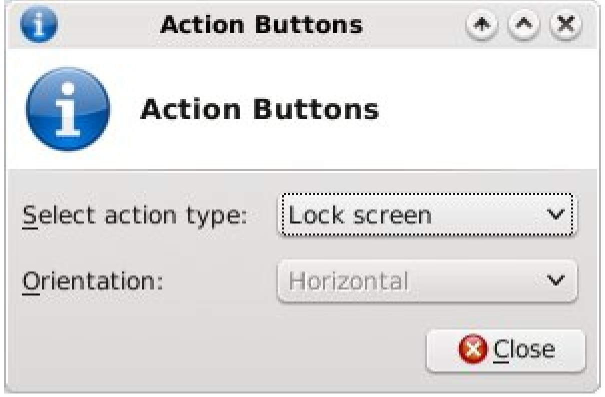
Weather report for: San Antonio, TX

Wednesday		Thursday		Friday		Saturday		Sunday	
Precipitation		Precipitation		Precipitation		Precipitation		Precipitation	
10 %	10 %	20 %	10 %	10 %	0 %	10 %	10 %	10 %	10 %
Temperature		Temperature		Temperature		Temperature		Temperature	
N/A °F	73 °F	92 °F	73 °F	92 °F	73 °F	90 °F	73 °F	89 °F	71 °F
Wind		Wind		Wind		Wind		Wind	
N/A	SSE	S	SE	SSE	SE	SE	SE	SE	SE
N/A mph	13 mph	13 mph	12 mph	17 mph	9 mph	16 mph	10 mph	15 mph	10 mph

When you click the left mouse button on the Weather Update plugin, it will display an extended five day forecast for the selected location, just like the one shown in the screen shot above.

Action Buttons

Even though you already have access to this, via the pre-installed version in Phoenix 2010, I've found it handy to install a second implementation on my lower panel. The Action Buttons has three settings you can choose between: Quit, Lock Screen, and Quit & Lock Screen. I have the one on my lower panel set to simply lock the screen when I have to walk away from my computer. Just one quick click, and my screensaver is activated and my screen (and computer) is locked.



Action Buttons

Select action type: Lock screen

Orientation: Horizontal

Conclusion

As you can see, Xfce has many panel plugins that can add additional functionality and convenience to your Xfce desktop. And it accomplishes this added functionality and convenience while still staying within the mindset and goals of Xfce: a functional desktop environment, without all the bloat. Do yourself a favor and explore the available Xfce plugins. You're likely to find one, or two, or a few, or more that help make your Xfce experience richer and easier.

Alternate OS - Haiku, Part 1

by Darrel Johnston (djohnston)

Haiku is a multimedia oriented desktop operating system. The developers working on Haiku are working towards a re-creation of the Beos 5 operating system. What is BeOS? Quoted from http://www.student.uib.no/~jri022/huin105/beoshistory/whatis.html:

BeOS is the operating system of the future, from the past!

BeOS is an operating system for personal computers which began development by Be Inc. in 1991. It was first written to run on BeBox hardware. Unlike some other operating systems of the time, BeOS was written to take advantage of modern hardware. Optimized for digital media work, BeOS made full use of multiprocessor systems by utilizing modular I/O bandwidth, pervasive multithreading, preemptive multitasking and a custom 64-bit journaling file system known as BFS. The BeOS GUI was developed on the principles of clarity and a clean, uncluttered design. The API was written in C++ for ease of programming. It has POSIX compatibility and access to a command line interface through the bash shell, although internally it is not a Unix-derived operating system.

BeOS was positioned as a platform which could be used by a substantial population of desktop users and a competitor to Microsoft Windows and Linux. However, it was ultimately unable to achieve a significant market share and proved commercially unviable for Be Inc. The company was acquired by Palm Inc. and today BeOS is mainly used and developed by a small population of enthusiasts.

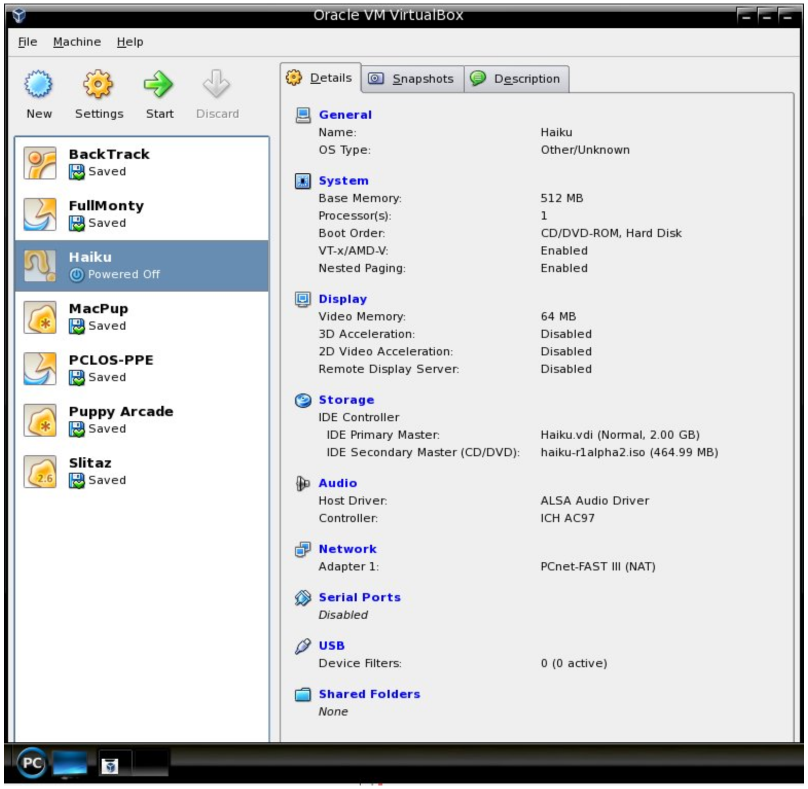
In 2001, a group of enthusiasts began building a BeOS compatible operating system in an open source manner. Then the name was OpenBeOS, which changed to Haiku OS in 2004. Today, there's already fully working VMWare images of a soon-complete operating system which is binary compatible with the original BeOS.

Quoted from http://en.wikipedia.org/wiki/Haiku_%28operating_system%29:

Haiku began as the OpenBeOS project in 2001, the year that Be, Inc. was bought by Palm, Inc. and BeOS development was discontinued; the focus of the project was to support the BeOS user community by creating an open-source, backward-compatible replacement for BeOS. The first project by OpenBeOS was a community-created "stop-gap" update for BeOS 5.0.3 in 2002. In 2003, a non-profit organization (Haiku Inc.) was registered in Rochester, New York, to financially support development, and in 2004, after a notification of infringement upon Palm's trademark on the BeOS name was sent to OpenBeOS, the project was renamed as Haiku. However, development would only reach its first milestone in September 2009 with the release of Haiku R1/Alpha 1. This was followed in May 2010 by R1/Alpha 2, which contains more than 300 bug-fixes and improvements.

So, with all of that in mind, we're going to install the Haiku R1/Alpha2 version of the operating system in VirtualBox. We will boot the virtual machine from the iso downloaded from here: http://www.haiku-os.org/get-haiku.

I began the installation by setting up the Haiku virtual machine with the settings you see below. Then I started the virtual machine.



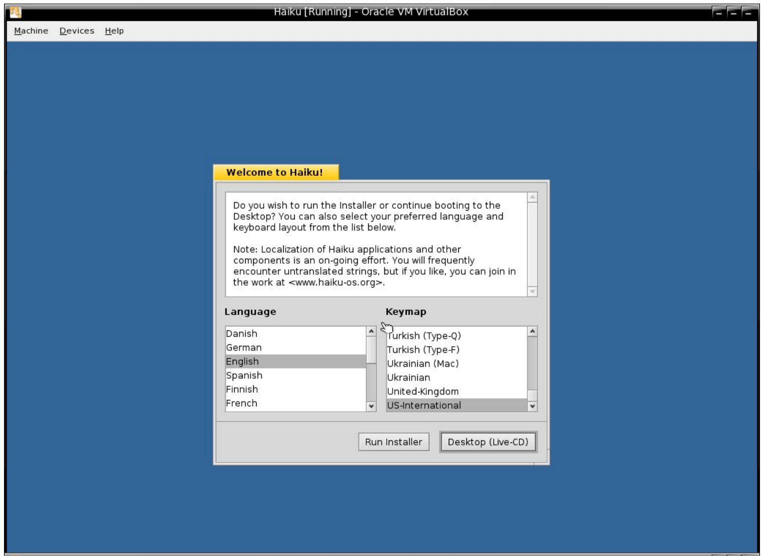
```
General
  Name:                               Haiku
  OS Type:                            Other/Unknown

System
  Base Memory:                        512 MB
  Processor(s):                       1
  Boot Order:                         CD/DVD-ROM, Hard Disk
  VT-x/AMD-V:                         Enabled
  Nested Paging:                      Enabled

Display
  Video Memory:                       64 MB
  3D Acceleration:                    Disabled
  2D Video Acceleration:              Disabled
  Remote Display Server:              Disabled

Storage
  IDE Controller
   IDE Primary Master:                Haiku.vdi (Normal, 2.00 GB)
   IDE Secondary Master (CD/DVD):     haiku-r1alpha2.iso (464.99 MB)

Audio
  Host Driver:                        ALSA Audio Driver
  Controller:                         ICH AC97

Network
  Adapter 1:                          PCnet-FAST III (NAT)

Serial Ports
  Disabled

USB
  Device Filters:                     0 (0 active)

Shared Folders
  None
```

When booting from the CD, you are offered the option of either running the installer or booting to a live desktop session. I knew I would need to create a master boot record and a disk partition in order to be able to boot from the virtual machine's hard disk, so I chose the desktop session. A choice of different languages and keymaps can also be selected.

From the desktop, I double-clicked the Installer icon to begin. The installer warns that Haiku is "alpha-quality software" and all important files should be backed up if installing to real hardware. A short tutorial on the GRUB bootloader is also included.

The next screen shows that a suitable partition needs to be set up before the installer can proceed.

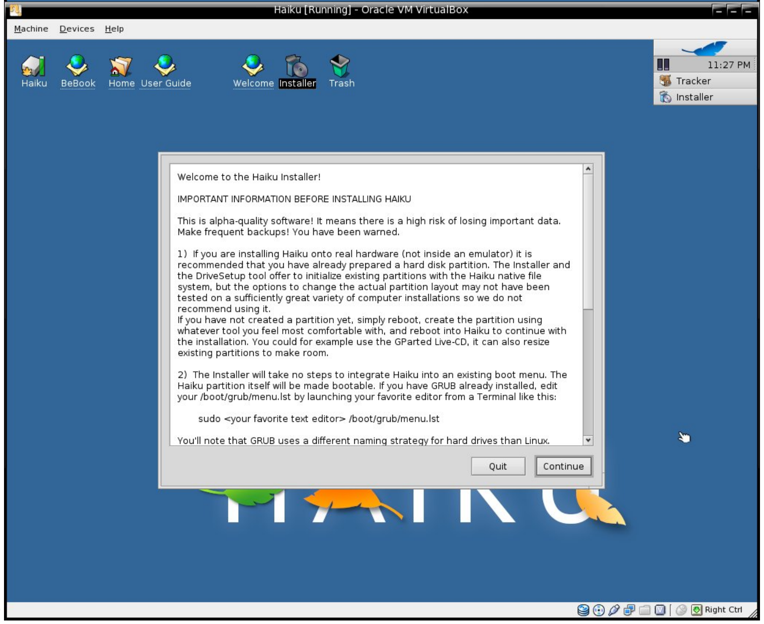
The first step is to create an Intel type partition map for the non-partitioned hard drive. The hard drive is, in effect, "blank" at this point. There is no master boot record on the drive defining how the space on the drive is to be used. It would be the same as if you received a factory hard drive with no operating system on it. The entire disk, known to Haiku as /dev/disk/ata/0/master/raw, will be written to.



Do you wish to run the Installer or continue booting to the Desktop? You can also select your preferred language and keyboard layout from the list below.

Note: Localization of Haiku applications and other components is an on-going effort. You will frequently encounter untranslated strings, but if you like, you can join in the work at <www.haiku-os.org>.

Language	Keymap
Danish	Turkish (Type-Q)
German	Turkish (Type-F)
English	Ukrainian (Mac)
Spanish	Ukrainian
Finnish	United-Kingdom
French	US-International



Welcome to the Haiku Installer!

IMPORTANT INFORMATION BEFORE INSTALLING HAIKU

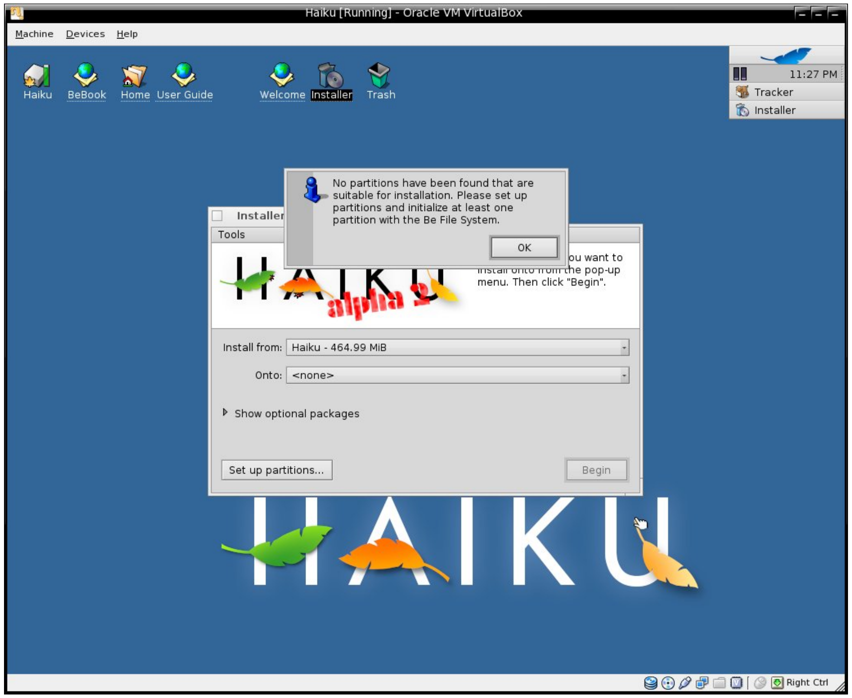
This is alpha-quality software! It means there is a high risk of losing important data. Make frequent backups! You have been warned.

1) If you are installing Haiku onto real hardware (not inside an emulator) it is recommended that you have already prepared a hard disk partition. The Installer and the DriveSetup tool offer to initialize existing partitions with the Haiku native file system, but the options to change the actual partition layout may not have been tested on a sufficiently great variety of computer installations so we do not recommend using it.
If you have not created a partition yet, simply reboot, create the partition using whatever tool you feel most comfortable with, and reboot into Haiku to continue with the installation. You could for example use the GParted Live-CD, it can also resize existing partitions to make room.

2) The Installer will take no steps to integrate Haiku into an existing boot menu. The Haiku partition itself will be made bootable. If you have GRUB already installed, edit your /boot/grub/menu.lst by launching your favorite editor from a Terminal like this:

```
sudo <your favorite text editor> /boot/grub/menu.lst
```

You'll note that GRUB uses a different naming strategy for hard drives than Linux.



No partitions have been found that are suitable for installation. Please set up partitions and initialize at least one partition with the Be File System.

…ou want to install onto from the pop-up menu. Then click "Begin".

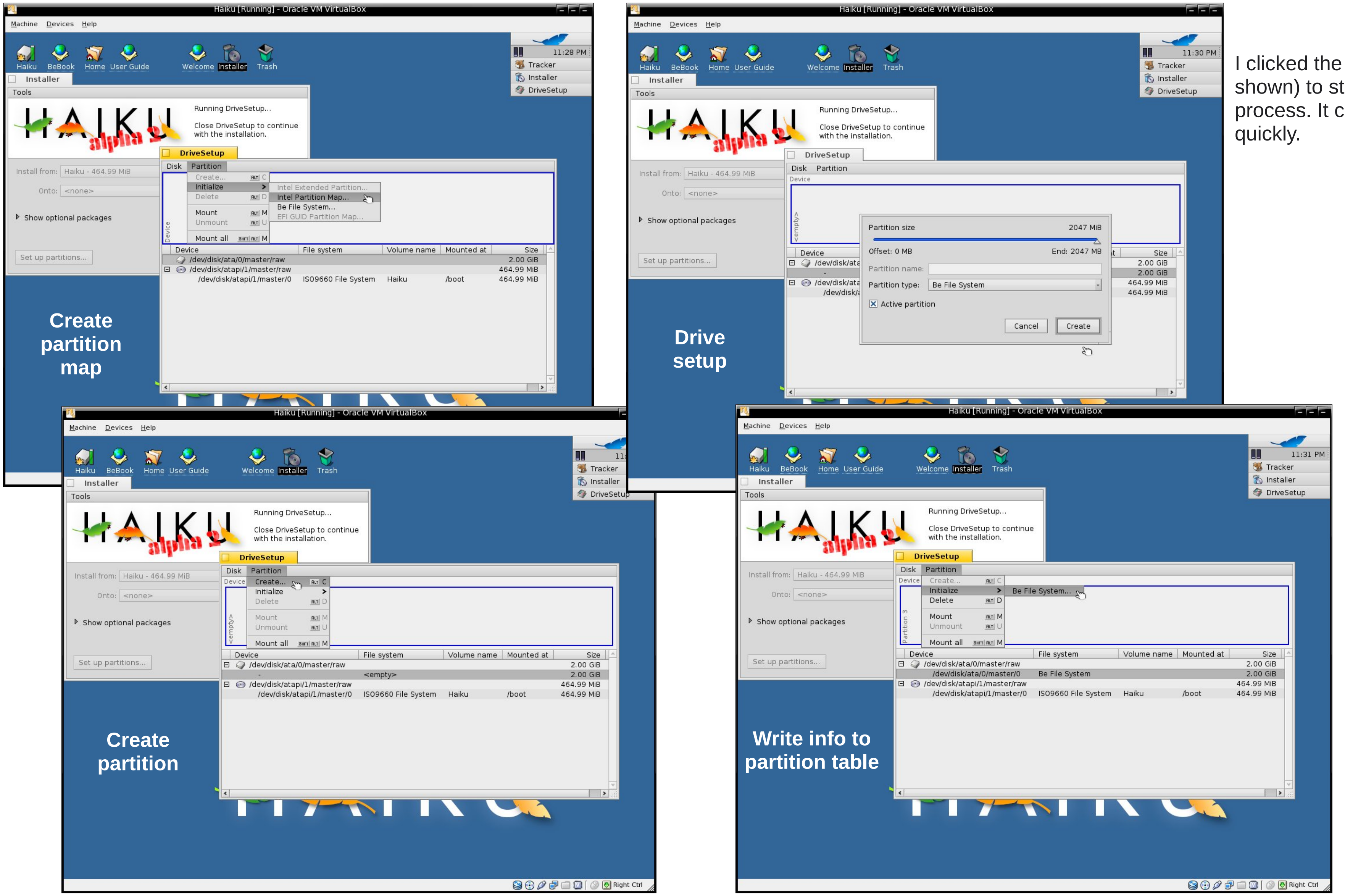
Install from: Haiku - 464.99 MiB

Onto: <none>

After saving all our changes, the next step is to create a partition.

The default filetype for Haiku is the Be 64-bit journal file system we read about previously. We want to be able to boot the operating system from the hard drive, and Haiku will only boot from a Be file system. The partition must also have the active flag marked in order to be bootable.

The last step of the partitioning process is to write the file system type to the newly created partition. After saving all of the changes, the partition is still not formatted. It will be formatted as part of the remaining installation process.



Create partition map

Drive setup

Create partition

Write info to partition table

Haiku [Running] - Oracle VM VirtualBox

Running DriveSetup...

Close DriveSetup to continue with the installation.

Install from: Haiku - 464.99 MiB

Onto: <none>

Partition > Initialize > Intel Partition Map...

Device	File system	Volume name	Mounted at	Size
/dev/disk/ata/0/master/raw				2.00 GiB
/dev/disk/atapi/1/master/raw				464.99 MiB
/dev/disk/atapi/1/master/0	ISO9660 File System	Haiku	/boot	464.99 MiB

Partition size: 2047 MiB

Offset: 0 MB

End: 2047 MB

Partition name:

Partition type: Be File System

☒ Active partition

Cancel | Create

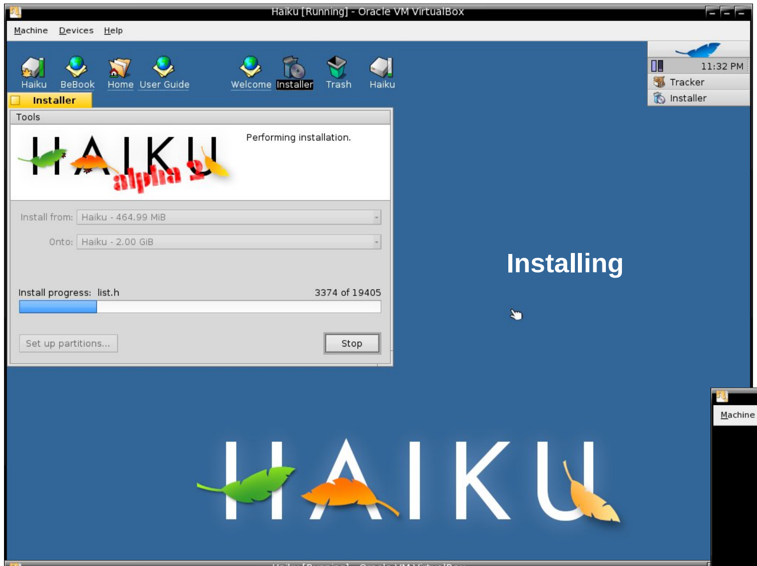
Partition > Create...

Device	File system	Volume name	Mounted at	Size
/dev/disk/ata/0/master/raw				2.00 GiB
-	<empty>			2.00 GiB
/dev/disk/atapi/1/master/raw				464.99 MiB
/dev/disk/atapi/1/master/0	ISO9660 File System	Haiku	/boot	464.99 MiB

Partition > Initialize > Be File System...

Device	File system	Volume name	Mounted at	Size
/dev/disk/ata/0/master/raw				2.00 GiB
/dev/disk/ata/0/master/0	Be File System			2.00 GiB
/dev/disk/atapi/1/master/raw				464.99 MiB
/dev/disk/atapi/1/master/0	ISO9660 File System	Haiku	/boot	464.99 MiB

I clicked the Begin button (not shown) to start the file transfer process. It completes fairly quickly.

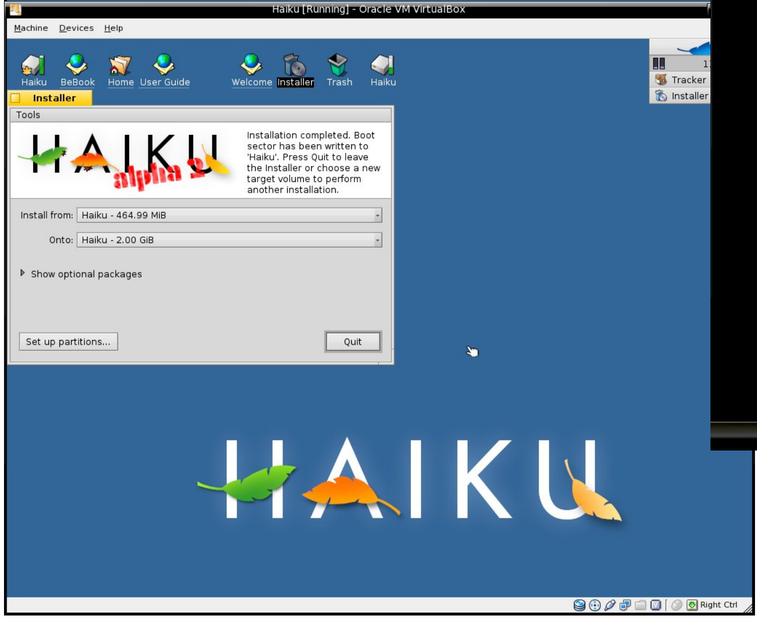


Performing installation.

Install from: Haiku - 464.99 MiB

Onto: Haiku - 2.00 GiB

Install progress: list.h 3374 of 19405

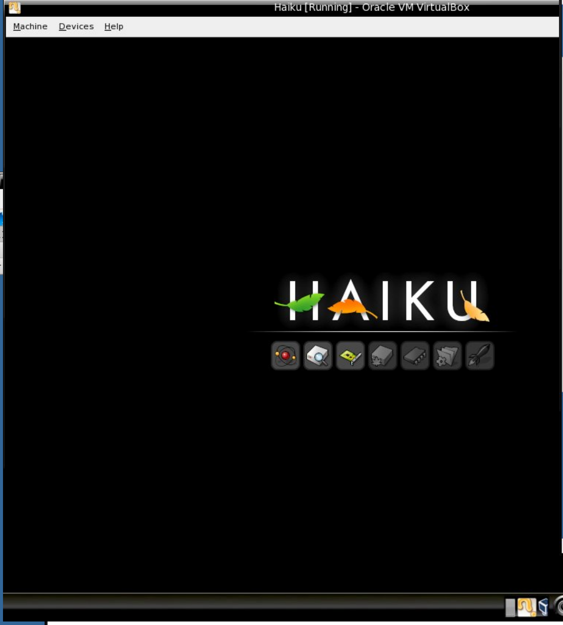


Installation completed. Boot sector has been written to 'Haiku'. Press Quit to leave the Installer or choose a new target volume to perform another installation.

Install from: Haiku - 464.99 MiB

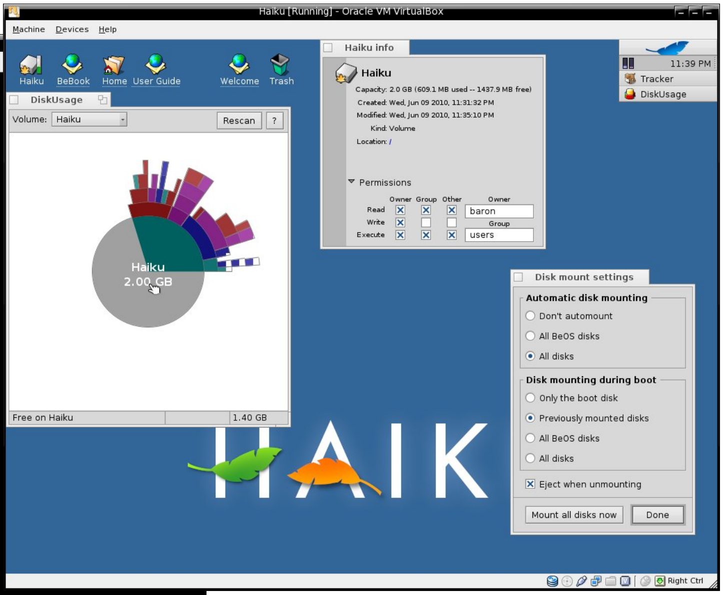
Onto: Haiku - 2.00 GiB

All steps have completed successfully. The hard drive installer can be run again and the operating system installed to another drive or partition. Looking at the desktop icons, we have two "hard drives" showing with the same name, Haiku. The far left icon is actually the "CD", or the iso file we booted from. The gold leaf on the front of the drive's icon shows it to be the boot drive. Once the session is rebooted without using the iso file, the Haiku hard drive just set up will become the boot drive.



The bootsplash shows the Haiku logo with an animated progress meter. The icons represent each stage of the boot process, and light up as that part of the process finishes. The effect is like KDE's bootsplash screen, and mimics the original BeOS one.

We have booted from the hard drive. Right clicking on the hard drive icon gives lots of options. There are a few disk mounting options, and all attached volumes can be mounted at once by clicking one button. The username "baron" is the equivalent of the superuser, or root. In fact, the user baron is the only user. Haiku, like its predecessor BeOS, is a single-user system.



Volume: Haiku

Free on Haiku 1.40 GB

Haiku

Capacity: 2.0 GB (609.1 MB used -- 1437.9 MB free)

Created: Wed, Jun 09 2010, 11:31:32 PM

Modified: Wed, Jun 09 2010, 11:35:10 PM

Kind: Volume

Location: /

Permissions

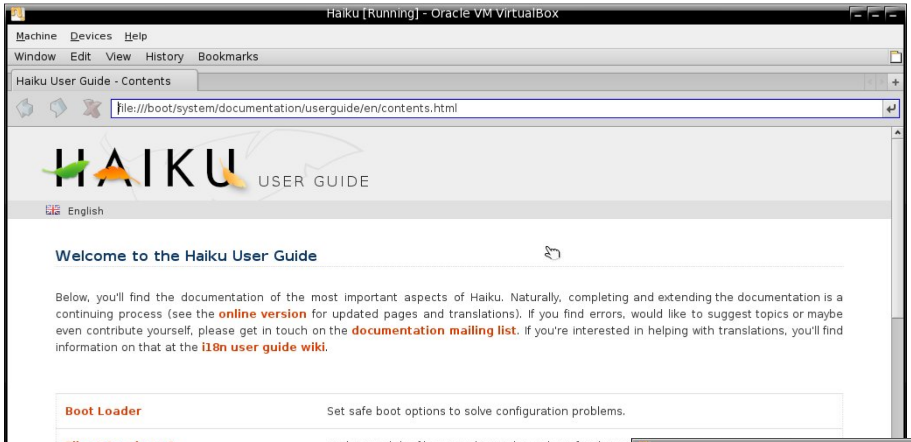
	Owner	Group	Other	Owner
Read	☒	☒	☒	baron
Write	☒	□	□	Group
Execute	☒	☒	☒	users

Automatic disk mounting
○ Don't automount
○ All BeOS disks
● All disks

Disk mounting during boot
○ Only the boot disk
● Previously mounted disks
○ All BeOS disks
○ All disks

☒ Eject when unmounting

The user guide is in HTML format on the hard drive. Double clicking the User Guide icon on the desktop starts the main page in a browser.


Haiku [Running] - Oracle VM VirtualBox
Machine Devices Help
Window Edit View History Bookmarks
Haiku User Guide - Contents
file:///boot/system/documentation/userguide/en/contents.html
HAIKU USER GUIDE
English

Welcome to the Haiku User Guide

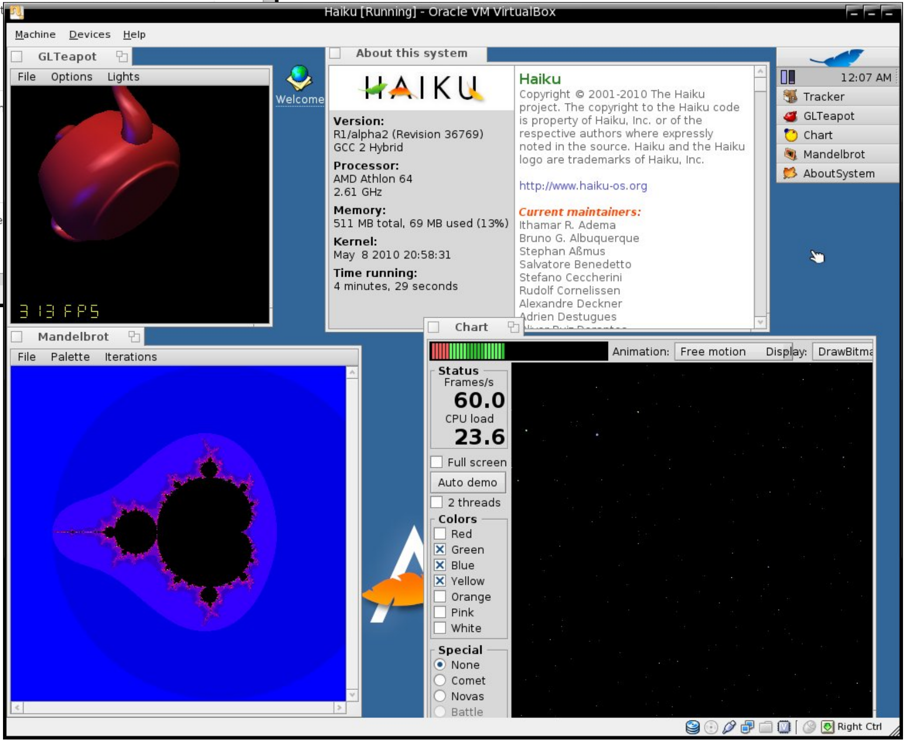
Below, you'll find the documentation of the most important aspects of Haiku. Naturally, completing and extending the documentation is a continuing process (see the **online version** for updated pages and translations). If you find errors, would like to suggest topics or maybe even contribute yourself, please get in touch on the **documentation mailing list**. If you're interested in helping with translations, you'll find information on that at the **i18n user guide wiki**.

Boot Loader	Set safe boot options to solve configuration problems.
Filesystem layout • The system folder • The common folder • The home folder	Understand the filesystem hierarchy and get familiar wit folders.
Haiku's GUI • Open and save panels - Keyboard shortcuts - Favorites and recent folders • Replicants	Learn about the basic elements of the graphical user ir
Workspaces • The Workspaces Applet • Switching workspaces	Use virtual desktops for an uncluttered work environme

file:///boot/system/documentation/userguide/en/contents.html finished.

In the next article, we will take a closer look at Haiku and what day to day tasks can be done with this "operating system of the future, from the past".

Microsoft Windows has encountered an unrecoverable error. Please reboot and install PCLinuxOS.



Version:
R1/alpha2 (Revision 36769)
GCC 2 Hybrid

Processor:
AMD Athlon 64
2.61 GHz

Memory:
511 MB total, 69 MB used (13%)

Kernel:
May 8 2010 20:58:31

Time running:
4 minutes, 29 seconds

Haiku
Copyright © 2001-2010 The Haiku project. The copyright to the Haiku code is property of Haiku, Inc. or of the respective authors where expressly noted in the source. Haiku and the Haiku logo are trademarks of Haiku, Inc.

http://www.haiku-os.org

Current maintainers:
Ithamar R. Adema
Bruno G. Albuquerque
Stephan Aßmus
Salvatore Benedetto
Stefano Ceccherini
Rudolf Cornelissen
Alexandre Deckner
Adrien Destugues

Animation: Free motion Display: DrawBitma

Status
Frames/s
60.0
CPU load
23.6

□ Full screen
Auto demo
□ 2 threads

Colors
□ Red
☒ Green
☒ Blue
☒ Yellow
□ Orange
□ Pink
□ White

Special
● None
○ Comet
○ Novas
○ Battle

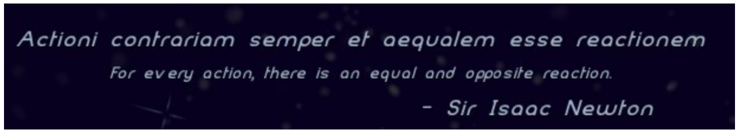
Three of the windows are of demos available in the menu. The spinning GL teapot demo is showing a frame rate of 313.885 frames per second. The Chart demo is running at 60 frames per second. The Mandelbrot generator can generate different kinds of patterns depending on what options are selected. The Haiku version is shown as R1/alpha2 (Revision 36769) GCC 2 Hybrid. Haiku is an open source operating system and uses many GNU tools.

Answers to Mark Szorady's Double Take:

(1) Hair longer in back;
(2) Eyes different;
(3) Tooth missing;
(4) Eyeglasses stem missing;
(5) Shirt stripes different;
(6) yPhone Larger;
(7) "Money" added to word balloon

Game Zone: Osmos

by Ryan Smith (Xyus)



Actioni contrariam semper et aequalem esse reactionem

For every action, there is an equal and opposite reaction.

- Sir Isaac Newton

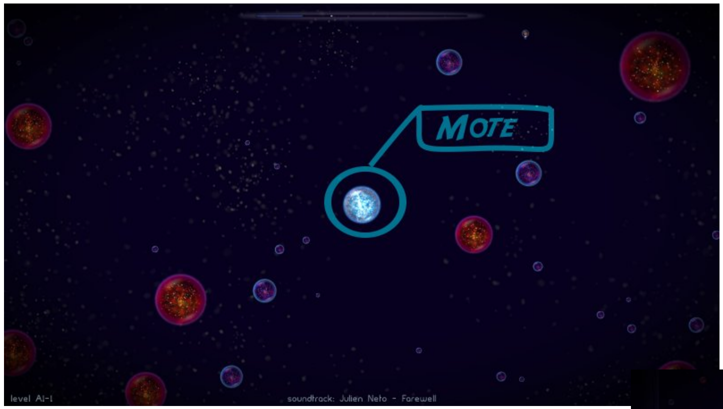
Perhaps the only thing most of us will remember from our middle school physics classes, Newton's third law of motion is apparent in everything on the macro-scale, from the launch of a rocket, to the friction that keeps you from sliding around when you walk down the street. This law (as well as conservation of mass) is also the principle behind Osmos, a unique commercial ambient puzzle game where you eject mass and devour other little single-celled organisms to solve a variety of puzzles.

Osmos was developed and published by Hemisphere Games, a new independent game company with some interesting credentials. The lead developers Eddy Boxerman and Dave Burke have worked as developers on the Splinter Cell (Boxerman), Gears of War, and Unreal Tournament franchises (Burke), and Burke also worked as a developer on the Unreal Engine 3, the engine behind such blockbusters as BioShock, Gears of War, and Army of Two. The others that have worked on Osmos have equally wonderful credentials.

They obviously have the experience to make a great FPS. But how does that translate into their ambient physics-puzzle game? Pretty well in my opinion (and in others [1][2]) despite the fact that it isn't anything like the games they are "used to".

Game Play

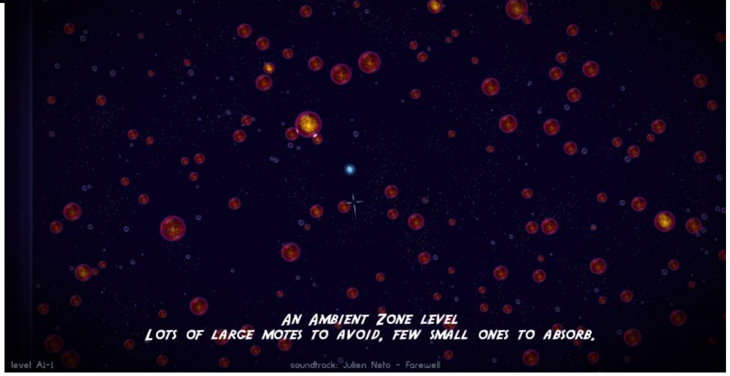
Now, back to the subject at hand. The idea of the game is simple. You are a "mote", a single celled organism whose only goal in life is to become the largest in the pool by absorbing other motes, or to absorb a specific particularly delicious looking mote. This is often more difficult than it sounds, as you must avoid all larger motes, gravity projecting "Attractor" motes, and the particularly hostile "Sentient" motes, while at the same time competing with them for smaller motes.



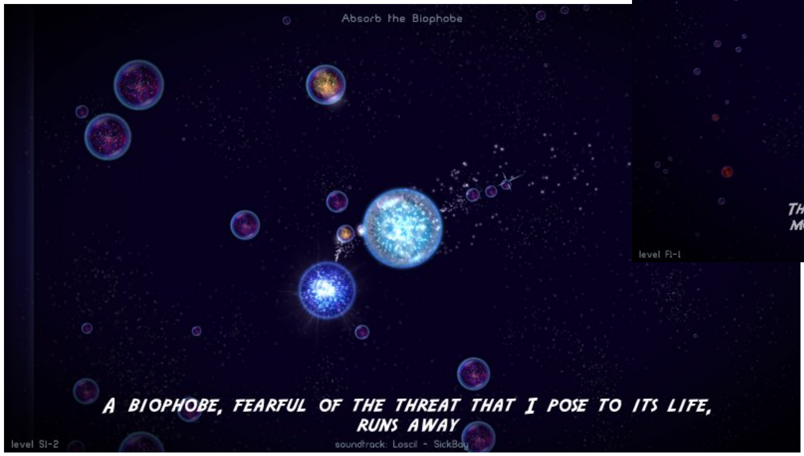
Levels are categorized into three different types, or "Zones" - the "Ambient", "Sentient", and "Force" zones - each with different styles of play. For each zone there is also several variations with their own challenges. The player may choose to play a random variation of any level in the game.

In all zones, you move around the level by clicking (or holding) the left mouse button in the opposite direction you wish to move. Your mote will eject mass in the direction that you clicked, pushing you forward but making you smaller at the same time. If you touch a mote that is smaller than you, you will absorb it and gain mass, and if you touch a mote that is larger, it'll absorb you (with one exception - Antimatter Motes will absorb other motes whether they are smaller or not. Avoid!) Ejected masses are motes in their own right, able to absorb or be absorbed by other motes.

In ambient zones, the goal is simple: become the largest mote. To achieve that goal, you must wade around in large pool of inactive (Non-sentient) motes, absorb other motes, and avoid large motes. While the basic ambient zone level may be simple and relatively easy, the variants of it can be anything but. For example, a common variant places you in a pool full of very fast moving, large motes. Now, not only do you have to seek out smaller motes while avoiding larger ones - which is the standard goal, you also have to do this while they are racing around at speeds that are possibly faster than yours, not to mention that the average mote is now larger than usual.

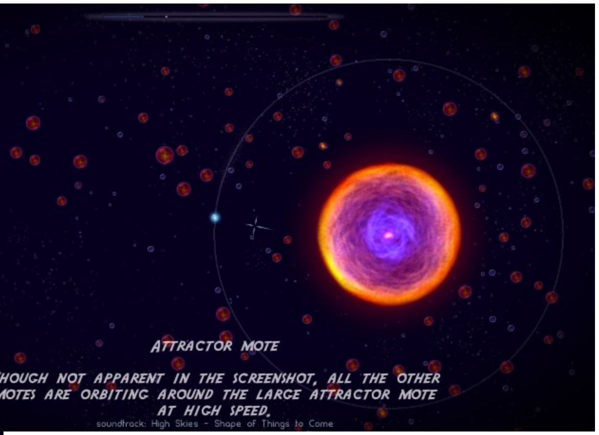

AN AMBIENT ZONE LEVEL
LOTS OF LARGE MOTES TO AVOID, FEW SMALL ONES TO ABSORB.

In sentient zones, your goal is to chase down and absorb a particularly intelligent mote. This mote will target other motes, pursue them, and then absorb them, gaining mass and becoming even more difficult to absorb. When you get close to a sentient mote, it will behave differently, depending on what type of sentient it is. For example, the biophobe will run in terror as you approach if you are larger but not bother you while you are small, while more aggressive types will chase you until you run out of mass to eject.



A BIOPHOBE, FEARFUL OF THE THREAT THAT I POSE TO ITS LIFE, RUNS AWAY

In force zones, a two new types of mote are introduced, the “Attractor”, which projects a gravity-like force around itself that draws other motes toward it, and the “Repulsor”, which pushes other motes away with an anti-gravity-like force. This zone always has similar goals as the ambient or sentient zones, but throws in one critical new game dynamic - players must now factor in orbital dynamics, or risk being absorbed by the attractor or wasting mass with bad movements. Don’t worry, pressing “Alt+O” will project your orbit onto the screen, helping you with these levels. Variants include levels with attractors orbiting other attractors or attractors repelling each other and bouncing randomly around the pool (which can be quite chaotic).



ATTRACTOR MOTE

THOUGH NOT APPARENT IN THE SCREENSHOT, ALL THE OTHER MOTES ARE ORBITING AROUND THE LARGE ATTRACTOR MOTE AT HIGH SPEED.

Availability

Osmos is available for Linux, Mac and Windows (and a version of it exists for the iPad). The full version includes 47 levels ranging from serene to challenging, many different types of motes, and the ability to play random variations of any level.

Osmos is a commercial game, and can be purchased directly at Hemisphere Games’ Website through PayPal for $10 (US). Direct purchase includes all three versions, and is DRM free.

System Requirements

Minimum Recommended:
Processor: 1 GHz
Memory: 512 MB RAM
Graphics: 3D graphics card with OpenGL support.
Minimum resolution 800x600
Hard Drive: 33 Mb

Library Requirements:
OpenAL
Freetype
libvorbis and libogg
(Make sure you have the most recent version of each!)

Unfortunately, I couldn’t find hardware requirements on the official website (or their forum, or in the read-me from the download), so I took the hardware requirements from the Steam website (The steam version is for Windows, so these may not be entirely accurate for Linux. But it shouldn’t be off by too much).

THE MAIN MENU

Hints and Tips

The game play is quite simple, and you'll pretty much know exactly what to do in each level. Anything I could tell you could easily be figured out while playing the game. That's not to say I won't give you some general tips though, just so you can 'go in knowing them':

* Be careful about how much mass you eject. You can easily deplete your reserves by holding the left mouse button down, and it is really easy to use more than necessary even when you aren't holding the button down. While you can get away with this in early levels, this will haunt you in the later ones.

* After the first couple of levels, you can speed up the game by clicking the middle mouse button and slow it down by clicking the right mouse button. Use this to your advantage.

* While this is not really a game play tip or hint, If you are finding later levels hard and/or frustrating, go back to the earlier levels and/or levels in the Ambient Zone. They are excellent for relaxing. The music helps.

Conclusion/My Thoughts

Osmos is an interesting and fun game. The music is superb - possibly the best I have heard in the puzzle/ambient genres - and the dream-like artwork adds greatly to the character of the game. I believe that it is certainly worth the $10, and that it has the potential to keep you playing once in a while long after you initially purchase it (anyone who has played Tetris will know this particular kind of "keep you playing" feeling).

However, that brings me to my final point: I believe it is worth $10. Not everyone will. This game is of a very specific type, and if you have played similar games before, but didn't like them, then this game probably won't have a different effect on you.

For those of you who are interested, grab the Demo (middle of the page), and see if it would be something you'd find fun.

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Create A Basic RPM Package For PCLinuxOS

by Daniel Meiß-Wilhelm (Leiche)

In the last issues, we created a servicemenu for KDE4 in PCLinuxOS. We discovered what works well, and we want share it with other PCLinuxOS users. But how do we do it?

First, you should read this: http://www.pclosmag.com/html/Issues/200907/page08.html. Neal wrote about creating an RPM-Package. Following his advice in this article, you will find his description about the commands within a specfile, how the commands work, and how the specfile should be structured.

I keep a blank specfile in my work directory, with most of the commands that are needed to build a package.

```
%define prefix /usr
%define name
%define version
%define release %mkrel 1
%define url
Name:                     %{name}
Version:               %{version}
Release:               %{release}
License:
Group:
URL:                       %{url}
Source:
Summary:
Summary(de):
BuildRoot:
%{_tmppath}/%{name}-buildroot
BuildRequires:
Requires:
Obsoletes:           %name < %version

%description

#german
%description -l de

%prep

%setup -q -n %{name}-%{version}

%build

cmake . -DCMAKE_INSTALL_PREFIX=/usr

%make

%install
rm -rf $RPM_BUILD_ROOT

%makeinstall_std

%post
%{update_menus}
%{update_desktop_database}

%postun
%{clean_menus}
%{clean_desktop_database}

%files
%defattr(-,root,root)
%{_bindir}/%{name}

%clean
rm -rf %{buildroot}
rm -rf $RPM_BUILD_DIR/%{name}-%{version}

%changelog
```

Now we fill in the empty rows. I added the information for Zip_Player in italics.

- **%define prefix /usr** – where it should be installed seamlessly in /usr

- **%define name *Zip_Player*** – add the name of the package

- **%define version *0.1*** – the actual version of your program

- **%define release %mkrel *3*** – needed for rebuild information by the actual version. Currently, release 0.1-3 of Zip_Player is in our repositories.

- **%define url *http://kellerleiche.bplaced.net*** – add your homepage or something else, for example: sourceforge

The header is done, but we can still add more to it. We have defined the macros, and now we can work with them.

It's time to get the ingredients for our package.

- Name: %{name} – with the %{name} macros we set the name of our package

- Version: %{version} – Version has the same function as Name

- Release: %{release} – Release has the same function as Name

- License: GPL – the license our program will have

- Group: Sound – the category displayed by the package manager

- URL: %{url} – URL has the same function as Name

- Source: %{name}-%{version}.tar.gz – the archive containing the program

- Summary: Zip_Player plays Your music in zip-archive – summary of the program

- Summary(de): Zip_Player spielt Musik aus Zip Archive – summary of the program in German language (you can add other languages, also)

- BuildRoot: %{_tmppath}/%{name}-buildroot – where the package should be built

- Requires: xmms, unzip, zenity, – other packages needed by the program at runtime

- Obsoletes: %name « %version – will remove the older version of a package

- %description Zip Player XMMS plays Your music in zip-archive. (Created by leiche) – a description of the package

- #german %description -l de Zip Player XMMS spielt Musik aus Zip Archive. (Erstellt von leiche) – for the German user, the description for synaptic or smart package management.

Now we have the ingredients, and we can build our package for PCLinuxOS.

With these commands

```
  %prep
  %setup -q -n %{name}-%{version}
```

the archive will unpack in the BUILD directory.

What is needed for an archive?

We must create a tar.bz2 or tar.gz archive to add our script and desktop files.

But we need only the scripts that handle our program.

Why only the script files? The answer comes later.

To create an archive, we generate a folder named zip_player.-0.1. In this folder we put our script files, then click on the folder with the right mouse button. In the right click menu you find Compress >> CompressAsTar. Select that option and the archive zip_player-0.1.tar.gz is created. This must be stored in SOURCES in our RPM directory.

Now our archive will unpack the BUILD directory to install in the buildroot directory, which is /tmp directory.

But our program is still just source code, not executable code. So we must create the executable from the sourc with cmake, or configure and make, before we can install it. Our app doesn't need configure or cmake, so we can remove the following lines from our specfile.

```
%build
cmake . -DCMAKE_INSTALL_PREFIX=/usr
%make
```

In my opinion, we can use direct install.

- **`rm -rf $RPM_BUILD_ROOT`** – if an older build exists in the buildroot directory, it will be removed, so we have no errors when building a new package.
%install

- **`install -d -m 755 $RPM_BUILD_ROOT%{_bindir}`** – the directory where the compiled package will be installed (/usr/bin), and what permissions are given to the installed package

- **`install -m 755 zip_player.sh zip_player $RPM_BUILD_ROOT%{_bindir}`** – what should be installed (zip_player.sh zip_player) and what permissions are given to the installed package

Now our scripts are installed, but not the desktop files. Those can we now generate with our specfile.

- **`mkdir -p %{buildroot}%{_datadir}/applications`** – create the application's folder in /usr/share/. This is the path for all desktop files that are placed in the start menu.

- **`cat > %{buildroot}%{_datadir}/applications/%{name}.desktop << EOF`**

```
[Desktop Entry]
Name=Zip Player XMMS
Name[de]=Zip Player XMMS
Comment=plays music in zip archives
Comment[de]=spielt Musik aus den ZIP Archiven
Exec=%{_bindir}/zip_player.sh
Icon=xmms.png
Terminal=false
Type=Application
Categories=Categories=Application;X-MandrivaLinux-Multimedia
Sound;AudioVideo;Audio
ServiceTypes=zip
Encoding=UTF-8
```

EOF – cat creates the desktop file Zip_Player.desktop in /usr/share/applications/. Between EOF stanzas is where the desktop entry should be placed.

Now we can add the servicemenu for KDE4 in /usr/share/kde4/services/ServiceMenus.

- **`mkdir -p %{buildroot}%{_datadir}/kde4/services/ServiceMenus`** – create the folder ServiceMenus in /usr/share/kde4/services

- **`%__cat > %{buildroot}%{_datadir}/kde4/services/ServiceMenus/%{name}.desktop << EOF`**

```
[Desktop Entry]
Type=Service
Name=%{name}
Encoding=UTF-8
ServiceTypes=application/zip
Actions=zip_player
X-KDE-ServiceTypes=KonqPopupMenu/Plugin
MimeType=zip;ZIP;
Icon=xmms.png

[Desktop Action zip_player]
Name=Zip Player XMMS
GenericName=Zip_Player
Exec=zip_player
Icon=xmms.png
```

EOF – cat generates the desktop file zip_player in /usr/share/kde4/services/ServiceMenus

- **`%post`**
  `%{update_menus}`
  `%{update_desktop_database}`

- **`%postun`**
  `%{clean_menus}`
  `%{clean_desktop_database}`

Texstar has said that %post and %postun is only needed if your package is installing library files, say in /usr/lib, and you need them to be registered or unregistered with your install.

But the specfile is clean, and it updates the menus and desktop database. Is it needed? I don't know, but it doesn't seem to do any harm.

Finally, the files contained in the package are now defined.

- **`%files`**

- **`%defattr(-,root,root)`** – this function defines the permissions and properties

- **`%{_bindir}/zip_player`** – install the zip_player in /usr/bin

- **`%{_bindir}/zip_player.sh`** – the same as zip_player

- **`%{_datadir}/applications/%{name}.desktop`** – install the desktop file in /usr/share/applications, which will be displayed in the start menu

- **`%{_datadir}/kde4/services/ServiceMenus/%{name}.desktop`** – install the desktop file in /usr/share/services/ServiceMenus, which will be displayed in the right click menu

Now the changelog, to see what is changed or added, and by whom.

- **`%changelog`**
  * Wed May 26 2010 Texstar <texstar at gmail.com> 0.1-4pclos2010
  - fix rpm/synaptic group Sound

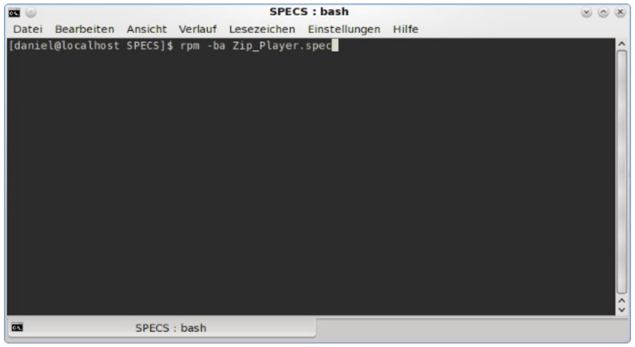
* Sat May 08 2010 leiche <meisssw01 at aol.com> 0.1-3pclos2010
- Open Browser filtering *.zip files
- added correct name of Zip Player in Zip Player XMMS

* Wed Apr 28 2010 leiche <meisssw01 at aol.com> 0.1-2pclos2010
- shows servicemenu only for zipfiles
- change file open browser from kdialog to zenity

* Thu Mar 04 2010 leiche <meisssw01 at aol.com> 0.1-1pclos2010
- created for pclinuxos

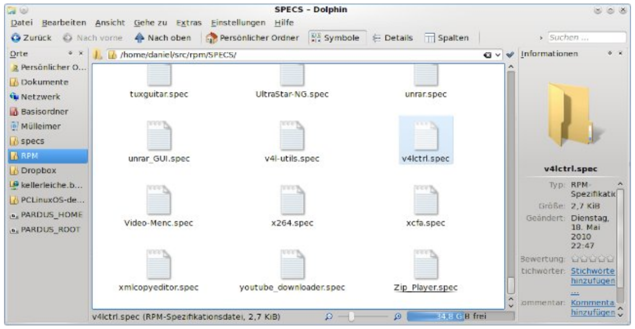
Now it's time to generate our package, so we open a konsole in the directory /home/daniel/src/rpm/SPECS/, and type the command:

- **`rpm -ba Zip_player.spec`**

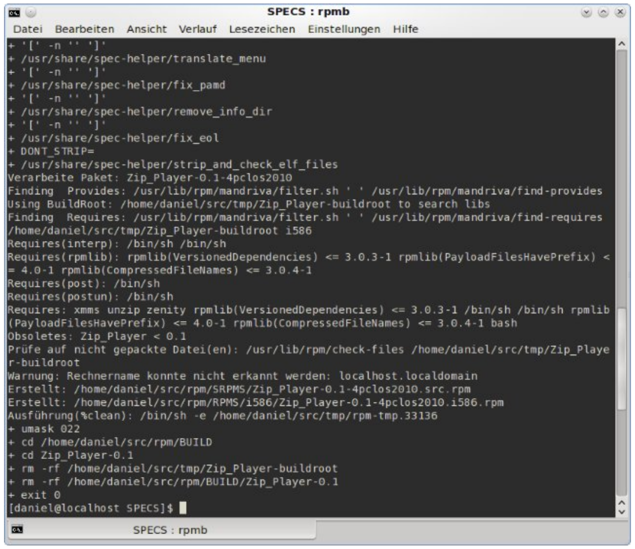


```
[daniel@localhost SPECS]$ rpm -ba Zip_Player.spec
```

We did not save our specfile in rpm/SPECS/ , so create it before you open a konsole, and name the file Zip_Player.



If the package compiles without errors, the result is a package named **Zip_Player-0.1-4pclos2010.i586.rpm**.



```
+ '[' -n '' ']'
+ /usr/share/spec-helper/translate_menu
+ '[' -n '' ']'
+ /usr/share/spec-helper/fix_pamd
+ '[' -n '' ']'
+ /usr/share/spec-helper/remove_info_dir
+ '[' -n '' ']'
+ /usr/share/spec-helper/fix_eol
+ DONT_STRIP=
+ /usr/share/spec-helper/strip_and_check_elf_files
Verarbeite Paket: Zip_Player-0.1-4pclos2010
Finding  Provides: /usr/lib/rpm/mandriva/filter.sh ' ' /usr/lib/rpm/mandriva/find-provides
Using BuildRoot: /home/daniel/src/tmp/Zip_Player-buildroot to search libs
Finding  Requires: /usr/lib/rpm/mandriva/filter.sh ' ' /usr/lib/rpm/mandriva/find-requires
/home/daniel/src/tmp/Zip_Player-buildroot i586
Requires(interp): /bin/sh /bin/sh
Requires(rpmlib): rpmlib(VersionedDependencies) <= 3.0.3-1 rpmlib(PayloadFilesHavePrefix) <
= 4.0-1 rpmlib(CompressedFileNames) <= 3.0.4-1
Requires(post): /bin/sh
Requires(postun): /bin/sh
Requires: xmms unzip zenity rpmlib(VersionedDependencies) <= 3.0.3-1 /bin/sh /bin/sh rpmlib
(PayloadFilesHavePrefix) <= 4.0-1 rpmlib(CompressedFileNames) <= 3.0.4-1 bash
Obsoletes: Zip_Player < 0.1
Prüfe auf nicht gepackte Datei(en): /usr/lib/rpm/check-files /home/daniel/src/tmp/Zip_Playe
r-buildroot
Warnung: Rechnername konnte nicht erkannt werden: localhost.localdomain
Erstellt: /home/daniel/src/rpm/SRPMS/Zip_Player-0.1-4pclos2010.src.rpm
Erstellt: /home/daniel/src/rpm/RPMS/i586/Zip_Player-0.1-4pclos2010.i586.rpm
Ausführung(%clean): /bin/sh -e /home/daniel/src/tmp/rpm-tmp.33136
+ umask 022
+ cd /home/daniel/src/rpm/BUILD
+ cd Zip_Player-0.1
+ rm -rf /home/daniel/src/tmp/Zip_Player-buildroot
+ rm -rf /home/daniel/src/rpm/BUILD/Zip_Player-0.1
+ exit 0
[daniel@localhost SPECS]$
```

NOTE:
I'm an absolute rookie at creating an RPM package, and the tutorial is a little thin on the details. To learn more about RPM packaging, visit http://www.pclinuxos.com/forum/index.php/board,55.0.html.

Last words, I hope it helps somebody to work with scripts, ServiceMenus, and RPMs under PCLinuxOS.

Create a PCLinuxOS Package Environment in Phoenix

by Joble

Have you have ever been curious about what it takes to create packages for PCLinuxOS? The first and most important step is setting up your packaging environment. I don't know if my method is the best way to do it, but it's what I did, and it works. Since I am the maintainer of Phoenix, the PCLinuxOS Xfce remaster, I've chosen to set up my packaging environment in Phoenix for this article.

To get started, install these packages from Synaptic:

```
a-task-packager-minimal
pkgutils-thunar
```

For **KDE** fans you would need to install **task-packaging-kde4**, which will put context menus in dolphin for use in Minime.

Next, install any tools or reference materials you may want to use. I recommend these as a minimum:

```
filezilla
maximum rpm
```

(Online at http://www.rpm.org/max-rpm/ or as a PDF, download this: http://www.redhat.com/docs/books/max-rpm/max-rpm.pdf)

You will need a PDF viewer for the PDF version. I recommend **epdfview** in Synaptic. It's light, it's fast, and it works well. But, there are no window controls for Xfce, so you have to resize the window by dragging the edges.

Next, you may want to read through the PCLinuxOS Packager's Wiki, at http://www.pclinuxos.com/wiki/index.php/Category:Packaging. The information in the wiki will serve as a valuable reference as you learn the steps to creating your own PCLinuxOS packages.

Now, from the command line, run `mkrepo --help`. This will show you all the options that are available to set up your own local repository.

```
[joe@localhost /]$ mkrepo --help
Usage: mkrepo [OPTION]...
Create a local repository including
folder structure,
.rpmrc and .rpmmacros files, modify
sources.list, and
optionally install prerequisite build
packages.

Mandatory arguments to long options
are mandatory for short options too.
  -d, --distribution=DIST
Distribution [PCLinuxOS]
  -s, --distsuffix=SUFFIX
Distribution suffix [pclos]
  -r, --release=YYYY            Mandriva
release [2010]
  -v, --vendor=VENDOR           Vendor
  -p, --packager=NAME           Packager
info
  -b, --basedir=DIR             Base
folder for src tree [/home/joe]
  -a, --addpkgs                 Install
packages needed to build rpms
  -n, --noupdate                No apt-
get update if installing pkgs
  -u, --usage                   Display
typical usage and exit
  -h, --help                    Display
this help and exit

Use a - as the argument to d,s,r,v,p
to remove an existing macro.
[joe@localhost /]$
```

```
mkrepo -a -d PCLinuxOS -v PCLinuxOS -s
<your PCLOS user name> -p <your PCLOS
user name>
```

I will not use -a, because I've already install a-task-packager-minimal and I will change the -s to -s pclos as that is what most packagers use. I don't know what Tex prefers but I haven't seen any packager yet use -s username, so I use -s pclos.

```
[joe@localhost /]$ mkrepo -d PCLinuxOS
-v PCLinuxOS -s pclos -p Joble
```

I will be using /home/joe as the base for the source tree, which is `/home/joe/src` . These lines will be written to `~/.rpmmacros`:

And the result:

```
%_topdir     /home/joe/src/rpm
%_tmppath     /home/joe/src/tmp
%packager     Joble
%distribution     PCLinuxOS
```

```
%distsuffix    pclos
%vendor    PCLinuxOS

Continue? [Y/n] Y
Please enter root Password:
Old local repo line(s) found:
Can't find folder
/media/disk/pclinuxos2010/RPMS.main
for Section main in
"/etc/apt/sources.list"
Can't find folder
/media/disk/pclinuxos2010/RPMS.updates
for Section updates in
"/etc/apt/sources.list"
Can't find folder
/media/disk/pclinuxos2010/RPMS.nonfree
for Section nonfree in
"/etc/apt/sources.list"
Can't find folder
/media/disk/pclinuxos2010/RPMS.kde4
for Section kde4 in
"/etc/apt/sources.list"
Can't find folder
/media/disk/pclinuxos2010/RPMS.games
for Section games in
"/etc/apt/sources.list"
Can't find folder
/media/disk/pclinuxos2010/RPMS./home/j
oe/src/apt/ for Section
/home/joe/src/apt/ in
"/etc/apt/sources.list"
Can't find folder
/media/disk/pclinuxos2010/RPMS.pclinux
os/2010 for Section pclinuxos/2010 in
"/etc/apt/sources.list"
Can't find folder
/media/disk/pclinuxos2010/RPMS.athlon
for Section athlon in
"/etc/apt/sources.list"
Can't find folder
/media/disk/pclinuxos2010/RPMS.i586
for Section i586 in
"/etc/apt/sources.list"
Can't find folder
/media/disk/pclinuxos2010/RPMS.noarch
for Section noarch in
"/etc/apt/sources.list"
Check path "/media/disk/pclinuxos2010"
for folders (or links) like
"RPMS.section"

File sources.list backed up as
sources.list.old

mkrepo is now finished. You can
install source rpms
(*.src.rpm) as normal user by typing:

$ rpm -i program.src.rpm

Enjoy building rpms!
[joe@localhost /]$
```

Now a lot of really neat stuff just happened to your computer. I won't explain it here, but if you were to do all this yourself, it would require a lot of work. For a more in-depth explanation of the process, check the wiki: http://www.pclinuxos.com/wiki/index.php/Category:Packaging

Notice that the sources.list was backed up to sources.list.old? If things don't look right in your sources.list, you might want to restore that.

```
[joe@localhost /]$ cat
/etc/apt/sources.list
# Package repository URL's

# Signed repositories have a [<key>]
where <key> is the name of the key
# as it appears in vendors.list. If
you remove it, no digital signature
check
# will be made.
```

...Snipped a lot of stuff out to shorten this up...

```
rpm file:/media/disk/pclinuxos/ 2010
main updates nonfree kde4 games

rpm file:/home/joe/src/apt/
pclinuxos/2010 athlon i586 noarch
```

(this one was added by the mkrepo command)

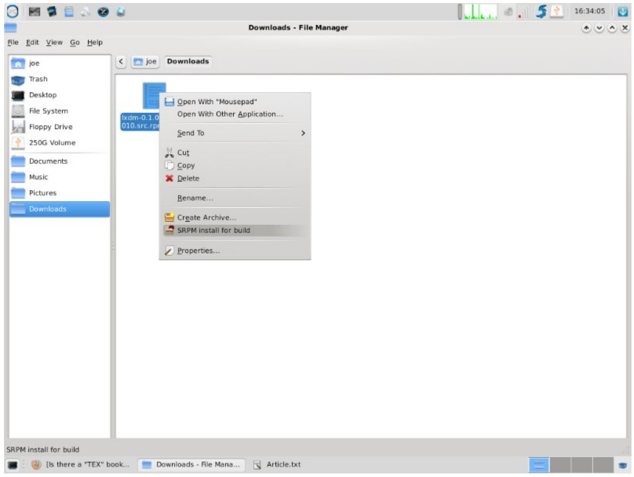
```
[joe@localhost /]$
```

Now you need to remove your Thunar configuration folder:

```
[joe@localhost .config]$ rm -rf
~/.config/Thunar
```

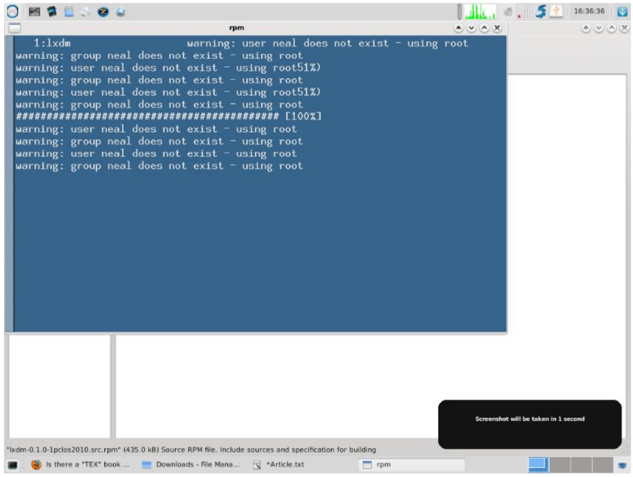
Once you have completed this, you will need to log out of Xfce and log back in.

Now that the setup is finished, here's how to use it!



First, right click on the *.src.rpm file, and select “SRPM Install for build” from the context menu in Thunar.

Below is the output of our previous step. Your output should look similar.



```
   1:lxdm                   warning: user neal does not exist - using root
warning: group neal does not exist - using root
warning: user neal does not exist - using root51%)
warning: group neal does not exist - using root
warning: user neal does not exist - using root51%)
warning: group neal does not exist - using root
########################################### [100%]
warning: user neal does not exist - using root
warning: group neal does not exist - using root
warning: user neal does not exist - using root
warning: group neal does not exist - using root
```

"lxdm-0.1.0-1pclos2010.src.rpm" (435.0 kB) Source RPM file. Include sources and specification for building

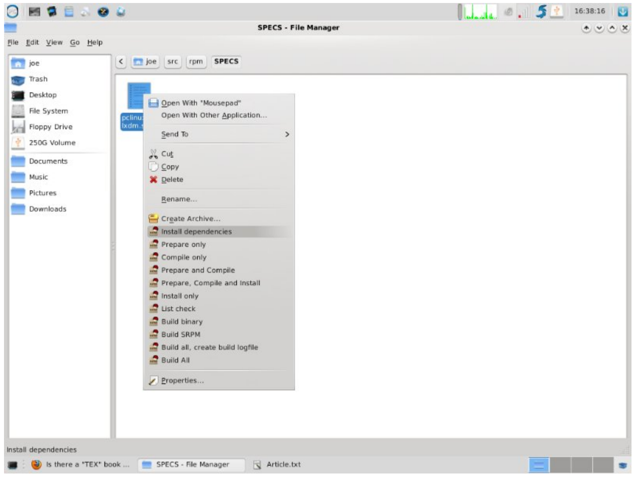
Those messages are normal, so do not worry. It just means Neal built the src.rpm and Neal is not a user on my computer. I'm not sure why it says using root when I'm not logged in as root, but it always says that.

Now a bit about the packaging environment. The mkrepo command created the directories needed, but it helps if you have some idea what they are so here we go.

In /home/(your user name)/ there is now the following directories:

```
src
   apt - your local repo contains
         links to rpm/RPMS
   tmp - where the install goes before
         getting turned into an rpm.
   rpm

       BUILD - where the sources are
               extracted to during the
               build.
       RPMS - where the rpm files end
              up when you're finished.
       SOURCES - where the source
                 files go when you
                 install a src.rpm
       SPECS - where the spec files go
               when you install a
               src.rpm
       SRPMS - where the src.rpm will
               be after a successful
               build
```

In Thunar, navigate to **~/src/rpm/SPECS** and right click on the spec file.



Important: If you are building a package for the distro you have to put information in the **%changlog** section at the bottom of the spec file like so:

```
* date (hehe, stardate),
YourPCLOSusername, <your email
address>, version and release info
- what you did.  First build, update,
added a patch or whatever

* Mon May 24 2010 YourPCLOSUserName
<email at email.com> 0.1.0-1pclos2010
- first build
```

Install Dependencies:

The first you want to do after creating or editing a spec file is to install the dependencies. If you are missing one, that is the first error you will get when you try to build it.

Build All:

Build all will attempt to go through the entire build process. If all goes well it will report that it has created an rpm and src.rpm when it is finished.

The rpm file can be found in rpm/RPMS/i586 or athalon or noarch, depending on the architecture it was built for.

The rest of the options are incremental steps though the build process that can help with troubleshooting when things don't go so well.

So, how does it work with the local repo? I've actually never run gbd before, so I opened synaptic and activated only the local repo created by the mkrepo script. (My other repo is also a local repo, and I wasn't sure what might happen to it.) Now open a terminal and type gbd.

```
[joe@localhost ~]$ gbd
rm -f
/home/joe/src/apt/pclinuxos/2010/base/
*
genbasedir --flat --bz2only --progress
/home/joe/src/apt/pclinuxos/2010
athlon i586 noarch
Components: athlon i586 noarch
Processing pkglists... athlon i586
0002/0002 noarch [done]
Processing srclists... [done]
Updating component releases... athlon
i586 noarch [done]
Creating global release file... [done]
Appending MD5Sum... athlon i586 noarch
[done]
All your base are belong to us!!!

Update apt package list? [y/N] y

Please enter root Password:
Reading Package Lists... Done
Building Dependency Tree... Done
[joe@localhost ~]$
```

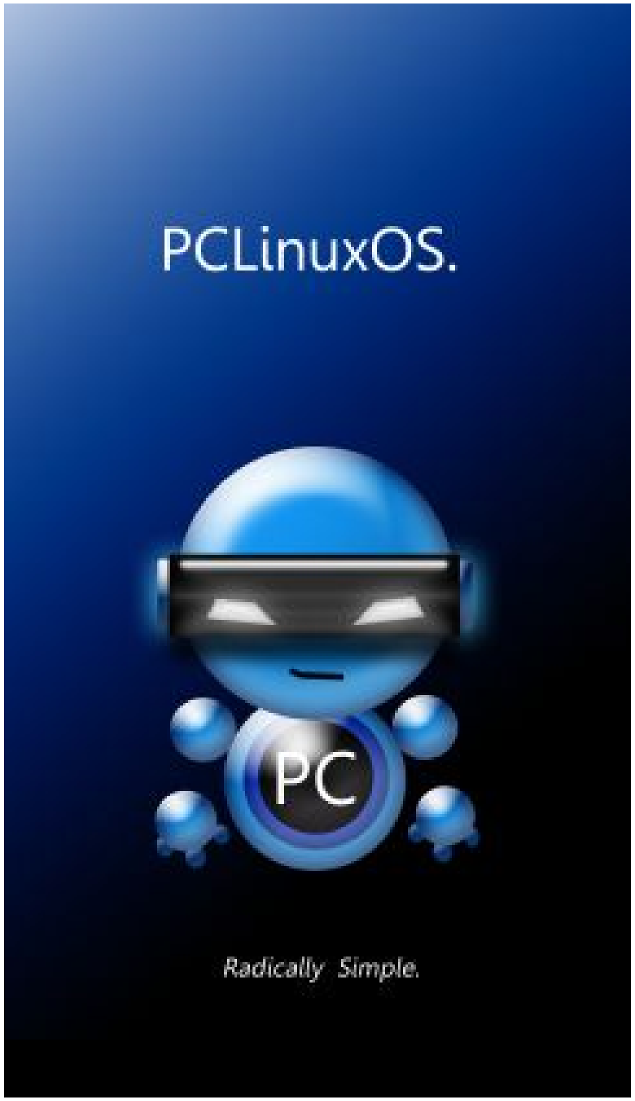
Now in Synaptic, reload and click the status button and section New in Repository. If all went well, your package will be listed there and you can install it. If it's not listed there, then go back and make sure your local repo is checked for use. mkrepo will activate it by default, and if you forget to run gbd, it will fail to install.

Personally, I don't like to bother with the local repo and gbd. I usually go right to rpm/RPMS/i586 (or other appropriate directory) and use **`apt-get install (name of rpm)`**.

Now here's an interesting little side project for practice. Wanna know what all those context menus in Thunar do? Each is linked to a command and can be executed from a terminal.

http://pclosusers.com/pclosfiles/pclinuxos/2010/SRPMS.main/pkgutils-0.1.4-4pclos2010.src.rpm

Install that and look at the spec file. Can you find the command line equivalent to the Thunar context menus in there? Still wanna be a packager? I know I do, but I'm glad I'm not trying to edit that spec file. The changelog shows MBantz, Neal and travisn000 worked on it last. You can find us all, in the packagers section of the forum.



ms_meme's Nook: That Ol' Linux Call

Bin bash dev home and boot
Swap opt don't forget root
Bin bash dev home and boot
Yodel odel odel PCLOS

Texstar is a prowlin'
Where the distros are howlin'
Way out where the users bawl
His spurs are a jinglin'
ms_ meme's a singing that Ol' Linux Call

He has a wide stride
He's know far and wide
By his OS he stands so tall
His friends like to pack they never are slack
'Cause they listen to that Ol' Linux Call

OGG

MP3

He works in the shell
He knows darn well
His code will soon enthrall
Bin bash dev home and boot
Yodel odel odel PCLOS

When his work is done
To the forum he'll come
And post in that ol' Texas drawl
Bin bash dev home and boot
Yodel odel odel PCLOS

Forum Foibles

ByteS from the Bunkhouse

Rudge: If I am wrong, I am wrong. I learn and thank the person for pointing it out. I am still, just a dog.

gseaman: Yes, it is good to be able to admit you are wrong.

coolbreeze: It takes a big person to admit they are wrong.To admit when your wrong is to gain Respect.

gseaman: Besides, I think it is actually pretty easy to admit you are wrong. You are wrong! See, that wasn't so hard.

dubigrasu: Admitting that you are wrong is...hard.

Xyus: I need to apologize for something. Ok. I's sorry. I's wrong.

longtom: Well - you are wrong. Admit it! Now!

Xero: I admit to being wrong all the time. It heads off everyone else telling me so.

sammy2fish: Most of the time if you/I are in the wrong, and say we're not...people know or suspect different anyways. Then you only loose credibility.

Neal: Wrong? On occasion, yes, I have been.

jaydot: i'm never wrong. i only make mistakes.

grnich: I have heard this about admitting you are wrong: "If you have to eat crow, it's best to do it while it's still young and tender"

tuxfriend: If you're never wrong, you can't learn from your mistakes. So, never being wrong actually makes you dumber.

coolbreeze: Guess i'll have to make better mistakes

ElCuervo: My wife says I'm all wrong.

joechimp: It's easy to say your wrong or to say you are sorry. The integrity lies in saying you were wrong or saying sorry directly to the person you wronged. That is something not everyone does. Just my humble opinion.

blackbird: In the (admittedly implausible) event that I were to be wrong (at some unlikely time in an equally unlikely future), I certainly would admit it before I was found out.

rob0917: One time I thought I made a mistake, but I was wrong!

djohnston: Read an interesting article the other day. It was about interviews with Make magazine contributors. Seems they all agreed they learned more from their failures than they did their successes. How does that saying go? Success is 2% inspiration and 98% perspiration.

Xyus: I know I don't learn anything until there is a huge explosion involved. Most of the time -though not always-, those explosions are the result of failures. Thus, I learn more from failures than successes.

weirdwolf: Normally if I think I'm wrong I then I'm usually right about being wrong. It always sucks when you're wrong and don't know it till much later.

rudge: I always try to avoid committing to being 100% correct unless I know, for sure, 100% that I am correct. Even then, I sometimes don't push myself aggressively.

ezas: This reminds me, this weekend I heard this phrase: First comes rapport, then comes respect. I liked that.

hounddog: Admit that you're wrong and learn from your mistake. If you don't admit, you never learn.

Johnboy: That makes it very difficult for those amongst us who are never wrong .... seems being right the whole time makes you dumb, and being wrong has the opposite effect?
I think there is something wrong with that .... but of course I might be wrong ....

newmikey: Oh no, you are totally wrong! Admitting you are wrong to your wife is one of the dumbest stupidest things you can do. Believe me, you will suffer for months afterwards! NEVER admit you are wrong to your wife. Now go on...admit you were wrong!

coolbreeze: ONLY months, boy you are one lucky dude

Command Line Interface Intro: Part 10

by Peter Kelly (critter)

With the release of the Unix operating system in the early 1970's, there was finally a solid operating system and a set of tools that had been written to utilize the advanced features that it supported. The computing community welcomed it, and some of the tools raised a lot of interest. One of these was the C programming language developed by Dennis Ritchie to enable the system and the tools to be so rapidly developed. Another one was sed, the stream editor. Because of the interest generated by sed and some of the other text manipulation tools, three of the engineers at Bell Laboratories set about developing a programming language that would refine and simplify some of the work done with these tools. It was released in 1977 under the name awk, which was derived from the initials of the three developers Alfred Aho, Peter Weinberg and Brian Kernighan. Brian had worked with Dennis Ritchie on the C Language (*The basic C language is still known as K & R C*), and a lot of the structure of C found its way into awk.

Awk was written to enable quick and dirty commands to be constructed to strip and reformat lines of text, but by the mid 1980's so much was being done with this program, much to the surprise of the authors, that it was re-visited to become **nawk** (new awk). Much more programming functionality was added to help it become the scripting utility that we have today. Linux users will most likely have gawk, which is similar enough to **nawk** as to make no difference to most users.

You may see awk written as 'awk' and as 'AWK'. It is generally agreed that awk is the interpreter program for awk scripts, and AWK is the scripting language used in those scripts.

AWK

Alfred Aho, one of the developers, described awk like this:

"AWK is a language for processing files of text. A file is treated as a sequence of records, and by default each line is a record. Each line is broken up into a sequence of fields, so we can think of the first word in a line as the first field, the second word as the second field, and so on. An AWK program is a sequence of pattern-action statements. AWK reads the input a line at a time. A line is scanned for each pattern in the program, and for each pattern that matches, the associated action is executed."

This pretty much sums up what it does, but doesn't even begin to do justice to the power and flexibility of the language - as we shall see.

Using awk need not be a complicated affair. It can be a simple one line command issued at the console. **awk '{ print $1 }' test** would print out the first word or 'field' on each line of the file test. The variables **$1, $2 ...** etc. are assigned to the corresponding fields in a record. The variable **$0** contains the entire input line/record, **NF** the number of fields in the current record and **NR** the number of the current record.

We should pause here and be clear about with what it is that we are working.

A 'word', which is also referred to as a 'field', is not only a language word it is a contiguous group of characters terminated by white space or a newline. White space is one or more spaces or tabs, and is the default **field separator**. This can be changed to any arbitrary character by use of the **-F** option (uppercase) on the command line, or by setting the variable **FS** in a script. **awk -F":" '{print $1}' /etc/passwd** changes the field separator to a colon and prints out the first field of each line in the file /etc/passwd which provides us with a list of all named users on the system.

A record is a group of fields and can be considered as a card in a card index system. The data on the card can be details from a directory listing, a set of values from the result of some test or, as we have seen, a line from the system /etc/passwd file. The variable **RS** contains the **record separator**, which by default is set to a newline **\n**. Changing the value of **RS** enables us to work with multi-line records

The command line syntax of the awk command is as follows:

awk {options}{pattern}{commands}

The options for awk are:

-F	to change the field separator
-f	to declare the name of a script to use
-v	to set a variable value.

We could have used **-v FS=":"** to change the field separator.

There are some others, but as most awk usage is done in a script, they are little used.

pattern is a regular expression set between a pair of forward slashes as in **sed** and is optional. If omitted, the commands are applied to the entire line.

commands are also optional, and if omitted, any line that matches **pattern** will be printed out in its entirety, unchanged.

If both pattern and command are omitted then you will get a usage reminder, which is no more than you deserve.

If using awk in a shell script, then its use is more or less as on the command line.

An awk script is called in one of two ways

1. Create a script file named awkscript or whatever:

```
{
FS=":"
print  $1" uid="$3
}
```

Call it with the -f option: **awk -f awkscript /etc/passwd**

2. Add a line like this as the first line of the script:

```
#!/bin/awk -f
```

I prefer to give files like this an 'awkish' name - **uid.awk**
Make it executable **chmod +x uid.awk**
Call it like this: **./uid.awk /etc/passwd**

The **#!** line must contain the actual address of the awk executable, which you can check with the command **which awk**.

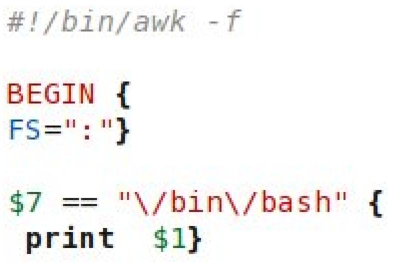
Actually, if you are running Linux, **awk** is more than likely a symbolic link to gawk, the gnu version of awk which has a few extras, but everything here will work with either version - unless otherwise stated. If you want to know which one you are actually using, the command **awk --version** will tell you.

In the script we just created, everything between the braces is executed once for each line of the input file or each record. We can also have a 'header' and a 'footer.' These are known as the **BEGIN** and **END** blocks. This is where we put code that we want to execute just once at the beginning or at the end of execution. The **BEGIN** block is where we would normally initialize variables such as **FS**, and the **END** block can be used to print a final completion message or summary of completed commands.

The script then consists of three sections:

```
BEGIN{
commands}

{          command
                  |
This is the main part of the script
                  |
         command}

END{
commands}
```

All of the sections are optional, although omitting all three would prove pretty pointless. The following code prints out the name of all users on the system who have bash as their default shell.



```
#!/bin/awk -f

BEGIN {
FS=":"}

$7 == "\/bin\/bash" {
 print  $1}
```

Note that the slashes need to be escaped. Here, I have used two equal signs as the equality symbol, but awk also uses the tilde ~ symbol to match regular expressions. Normally, we use this as shorthand for our home directory.

But what does it do?

Well it processes text and other data.

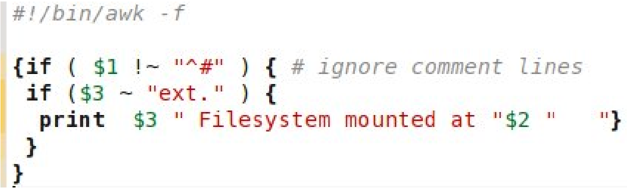
Yes, **sed** does that, but if you liken sed to the search and replace functions in a word processor, then with awk you can add to that the programming power of a high level language like C, floating point calculations including trigonometry and exponentiation, string manipulation functions, user defined functions, data retrieval, boolean operators and multi-dimensional and associative arrays. Unix/Linux commands often generate tabulated test output, and awk is the ideal tool to generate reports from this type of data, easily providing a header, selecting and manipulating selected parts of the data and then providing a final section to calculate and output a summary.

In short then, awk is a report generator and advanced scripting language that will do almost anything, although without some serious hardware modifications, it will not make your coffee.

With such a complex program as awk, it would be reasonable to assume that learning to use it was going to be an uphill struggle, but fortunately this is not the case. If you have followed along so far through shell scripting, regular expressions and sed, then you have already covered most of the hard work. There are some differences, but nothing that will hurt your brain.

Simple awk scripts

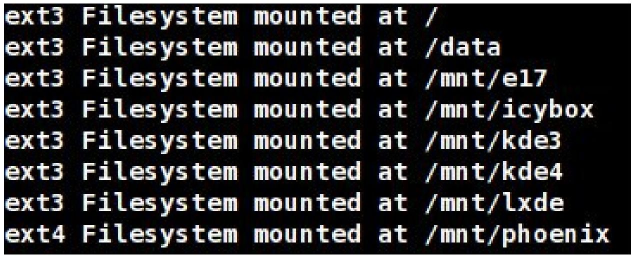
Although awk can be, and often is, used on the command line, it becomes most useful when used in a script. The script can be saved and easily modified to perform other similar tasks.
Suppose we wanted to know which ext file systems were listed in /etc/fstab, and where they would be mounted. We can do this easily with awk using an if conditional statement. I have used a nested statement here to ensure that comments are excluded.



```
#!/bin/awk -f

{if ( $1 !~ "^#" ) { # ignore comment lines
 if ($3 ~ "ext." ) {
  print  $3 " Filesystem mounted at "$2 "    "}
 }
}
```

This reads 'If the first field does not begin with a #, then if the third field contains "ext" followed by one other character, then print out the file system type and its mount point.'

This is the output on my machine from the command **./awk1.awk /etc/fstab**

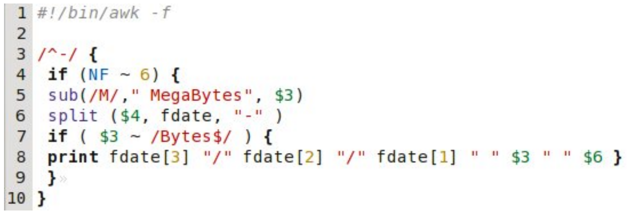


```
ext3 Filesystem mounted at /
ext3 Filesystem mounted at /data
ext3 Filesystem mounted at /mnt/e17
ext3 Filesystem mounted at /mnt/icybox
ext3 Filesystem mounted at /mnt/kde3
ext3 Filesystem mounted at /mnt/kde4
ext3 Filesystem mounted at /mnt/lxde
ext4 Filesystem mounted at /mnt/phoenix
```

awk is often thought of as an alternative to sed, and it can indeed be used as such. Which one you use depends upon what you need to do. Remember the tortuous route we had to go in sed to output the size, re-formatted date and file name from a directory listing?

```
sed -n -e 's/M/ MegaBytes/' -e 's/-.\{12\}\(.\.. MegaBytes\) \([0-9]\{4\}\)-\([0-9][0-9]\)-\([0-9][0-9]\) ..:.. \(.*$\)/\4\/\3\/\2 \1 \5/p'  sed-demo
```

To do this in an awk script we can start by only considering records (lines) that:



```
1  #!/bin/awk -f
2
3  /^-/ {
4   if (NF ~ 6) {
5   sub(/M/," MegaBytes", $3)
6   split ($4, fdate, "-" )
7   if ( $3 ~ /Bytes$/ ) {
8   print fdate[3] "/" fdate[2] "/" fdate[1] " " $3 " " $6 }
9   }
10 }
```

start with a hyphen (line 3), and that contain 6 fields (line 4)

In line 5, we call the built in function **sub()**, which substitutes "MegaBytes" for the "M" in the third field.

in line 6, we call another built in function called **split()**. This splits up the fourth field, the date field, using a hyphen as the field separator, and stores each part as an element of an array named **fdate**.

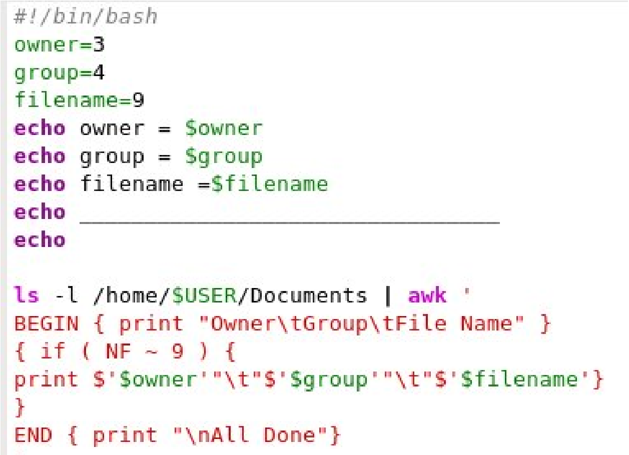
Line 7 restricts operation to only those lines where the third field ends in **"BYTES."**

Line 8 prints out the re-formatted date, pulling the elements from the array, followed by the size and file name fields.

Even though the script contains a lot of material that you have never seen, I believe it is a lot less daunting than its sed counterpart, and the output is identical.

Of course awk can also be called from a shell script, and indeed many system scripts make extensive use of awk. There is an important concept to consider when calling awk from whithin a shell script. In a shell script, the $ indicates a variable name such as $USER, whereas in awk, it references a field, such as $2, which refers to the second field in a record. When you call awk in a shell, the awk commands must be single quoted to protect them from shell expansion. If you passed awk the command **'{ print $USER }'** expecting the output to be the users name as the shells echo command would output, you would be in for a surprise.

Awk does not see the variable, but sees a reference to field number 'USER'. As USER is not defined, it has a zero value, hence $0, and the entire record is output.



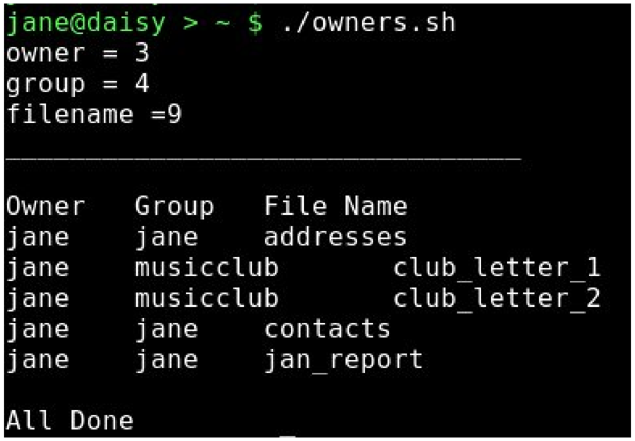
```
#!/bin/bash
owner=3
group=4
filename=9
echo owner = $owner
echo group = $group
echo filename =$filename
echo _________________________________
echo

ls -l /home/$USER/Documents | awk '
BEGIN { print "Owner\tGroup\tFile Name" }
{ if ( NF ~ 9 ) {
print $'$owner'"\t"$'$group'"\t"$'$filename'}
}
END { print "\nAll Done"}
```

In this bash script, we pipe the output from a directory listing of the users home directory into an awk command, which outputs the owner, group and file name of each entry.

The first part of the script assigns the values to the variables, and then echoes them to screen to show the values that they have in that part of the script. The directory listing is then piped into the awk command, which has a **BEGIN** section to print a header, the main section has a single print statement which is applied to all input lines with 8 fields and an **END** section to end the report.

Syntax highlighting shows how the quoting is turned on and off to allow or deny shell expansion.

Each unquoted variable is expanded to its value so that **print $'$owner'** becomes **print $3** (the third field). Two **$** signs are required, as **$owner** is seen as simply **3**. The **\t** in the command is a tab character.



```
jane@daisy > ~ $ ./owners.sh
owner = 3
group = 4
filename =9

________________________________

Owner   Group   File Name
jane    jane    addresses
jane    musicclub       club_letter_1
jane    musicclub       club_letter_2
jane    jane    contacts
jane    jane    jan_report

All Done
```

The use of built in functions, as used in the script, demonstrate some of the power available in awk. So perhaps we should look at some of the available functions, what they do and how we call them.

awk's built in functions can be grouped as:

- text manipulation functions
- numeric functions
- file handling functions

File handling functions in awk are best left alone. Use something more suitable wherever possible. If you need to control the opening and closing of files, call the awk command from within a shell script and let the shell control the files. Shells excel at file handling.

Integer numeric functions included in awk are quite complete, and should satisfy the needs of most people. Floating point operations in awk are fine if you need them, or as a work around to the shell's inability to handle floats, but remember to return the value to the shell as a text string. I have found little use for these functions in awk, despite my daily work requiring a considerable amount of mathematics, there are always better tools for this, just as you wouldn't write a letter in a spreadsheet even though it is possible.

Text manipulation functions are really what awk is all about, so I'll start with those.

Substitution is a common task, and awk provides three functions to achieve this:

sub() and **gsub()**. These are analogous to the s command in sed and the s command with g(lobal) option.

gensub() This a general substitution function in gawk. It is not found in the original awk, so beware if your code is meant to be portable.

The first two functions are called by **sub(/regexp/, replacement, search-target)**. This is like saying "substitute(whatever-matches-this, with-this, in-this)."

The 'in-this' part is where to search for the match, and can be a variable ($myvar), a reference to a field ($1) or an element of an array (array[1]). If omitted, then $0 (the entire record) is searched. Note that if the search-field is omitted, then omit the second comma or you will get an error.

This enables you to easily replace a particular occurrence where multiple matches may be possible within a record.

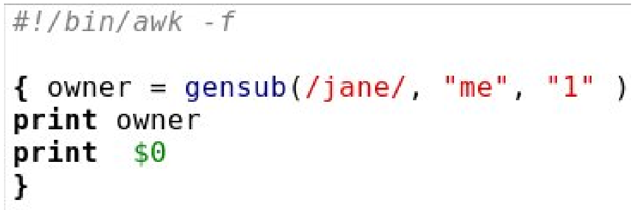
The **gsub()** function works identically with the search target, restricting the 'global' replacement to a particular part of the record.

The **gensub()** function is called by **gensub(/regexp/, replacement, how, search-target)**.

The parameter how is new. If it is **g** or **G**, then all matches are replaced. If it is a number, then only the match corresponding to that number is replaced.

sub() and **gsub()** modify the original string as it passes through, as demonstrated in our first little script where 'M' was changed to ' MegaBytes'. (The string or record is modified, not the original file).

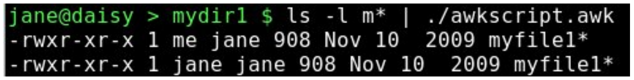
gensub() does not alter the original string, but **returns** it as the result of the function. Therefore, an assignment is required to make use of the changes.



```
#!/bin/awk -f

{ owner = gensub(/jane/, "me", "1" )
print owner
print  $0
}
```

This changes the first occurrence of the string "jane" to "me," and returns the result in the variable "owner."

As the first occurrence of "jane" is in the third field of the file listing, we can see that "owner is indeed "me," but the original third field $3 is unchanged, as we can see by printing out $0 - the original input record.



```
jane@daisy > mydir1 $ ls -l m* | ./awkscript.awk
-rwxr-xr-x 1 me jane 908 Nov 10  2009 myfile1*
-rwxr-xr-x 1 jane jane 908 Nov 10  2009 myfile1*
```

Instead of assigning the result of the function to a variable, it can be assigned directly to the print command like this:

print gensub(/jane/, "me", "1").

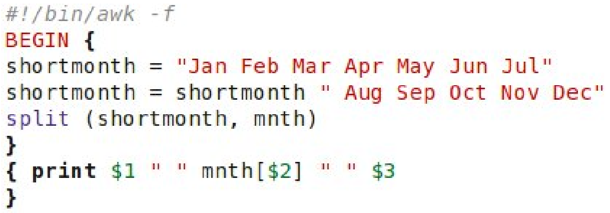
split() is another function used in the first example and is an extremely convenient tool to have around.

Split(string_to_split, name_of_an_array, separator)

It takes a string, specified as the first parameter, searches for what is specified as a separator in the third parameter, and stores each separated 'chunk' as an element of the array specified as the second parameter. The separator can be a single character or a regular expression. If it is omitted from the command, then the current value of the awk variable **FS** is used. If it is the empty string "", then each individual character is stored in a separate element of the array. The return value of the function is the number of elements in the array.

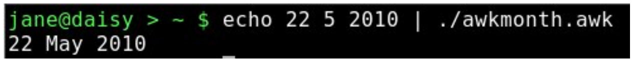
This is great for tasks like dealing with names and addresses, or for converting a numerical value into its text equivalent.

In this example we feed a date to the script in a space separated numeric form and output the date with a textual month.



```
#!/bin/awk -f
BEGIN {
shortmonth = "Jan Feb Mar Apr May Jun Jul"
shortmonth = shortmonth " Aug Sep Oct Nov Dec"
split (shortmonth, mnth)
}
{ print $1 " " mnth[$2] " " $3
}
```

The months are pre-loaded into an array in the **BEGIN** section of the script. The second assignment statement needs to include a separating space at the beginning, or we would get a month called 'JulAug'. Also, in the second assignment statement is another feature of awk, concatenation by including a space between the variable name and the string to be joined to it.



```
jane@daisy > ~ $ echo 22 5 2010 | ./awkmonth.awk
22 May 2010
```

length() a nice, easy one.

length(string)

It simply returns the length of the supplied string or, if no string is specified, the length of the current line **$0**.

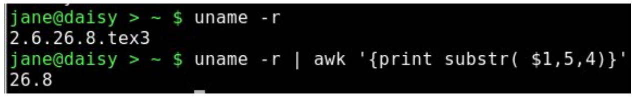
substr()

substr(string, start-position, max_length)

This function returns the sub-string that begins at **start_position**, and extends for **max_length** characters or to the end of the string. If **max_length** is omitted, the default is the end of the string.

The function **returns** the sub-string found. It is not used to change a part of a string. Use **sub()** for that.

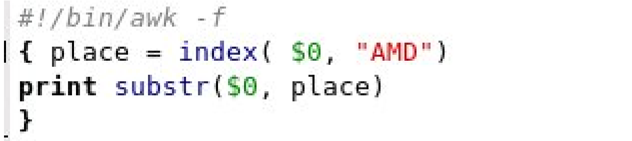
These functions can also be used on the command line, although they a more usually found in scripts. To demonstrate command line usage, we can send the output from the **uname -r** command (which shows the release of the currently used kernel) through a pipe to awk, and apply the **substr()** function to find only a part of the output and print that part to screen.



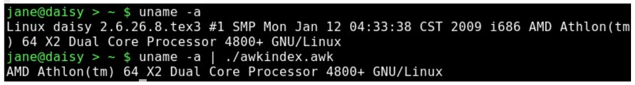
```
jane@daisy > ~ $ uname -r
2.6.26.8.tex3
jane@daisy > ~ $ uname -r | awk '{print substr( $1,5,4)}'
26.8
```

When you need to find the position of a sub-string within a string awk provides the **index()** function.

index(string, substring) The return value is the start position of the sub-string, or 0 if it is not found.



```
#!/bin/awk -f
{ place = index( $0, "AMD")
print substr($0, place)
}
```



```
jane@daisy > ~ $ uname -a
Linux daisy 2.6.26.8.tex3 #1 SMP Mon Jan 12 04:33:38 CST 2009 i686 AMD Athlon(tm
) 64 X2 Dual Core Processor 4800+ GNU/Linux
jane@daisy > ~ $ uname -a | ./awkindex.awk
AMD Athlon(tm) 64 X2 Dual Core Processor 4800+ GNU/Linux
```

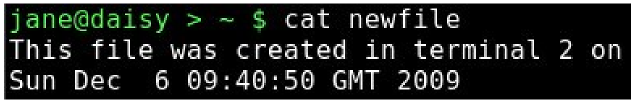
We find the start of the processor description, and then use the return value to cut out a sub-string from there to the end of the line. In this way, we don't have to know how many words will be in the description.

A similar function is **match()**.

match(string, regular_expression)

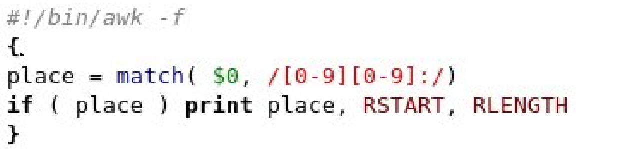
Instead of searching for a simple substring, the **match()** function uses the much more powerful regular expression pattern matching. The return value is, like **index()**, the starting position of the match, but this function also sets the value of two of awks variables: **RSTART** & **RLENGTH**

Here's a file we created right at the beginning of this course:



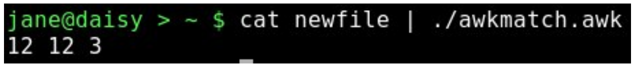
```
jane@daisy > ~ $ cat newfile
This file was created in terminal 2 on
Sun Dec  6 09:40:50 GMT 2009
```

If we look for the beginning of the time string in the second line:



```
#!/bin/awk -f
{
place = match( $0, /[0-9][0-9]:/)
if ( place ) print place, RSTART, RLENGTH
}
```

We get this result, only the second line contained a match.

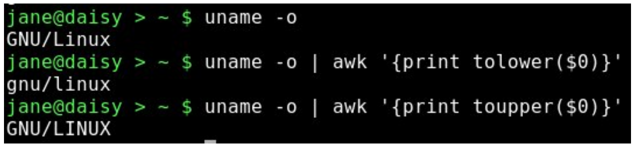


```
jane@daisy > ~ $ cat newfile | ./awkmatch.awk
12 12 3
```

Something that we often need to do is to convert the case of characters or strings from upper case to lower case, or from lower to upper.

Awk has a pair of functions that automate this process. They are called, not surprisingly **toupper()** and **tolower()**.

They each take a single string as an argument and return a **copy** of that string, with **all** of its characters converted to the respective case.



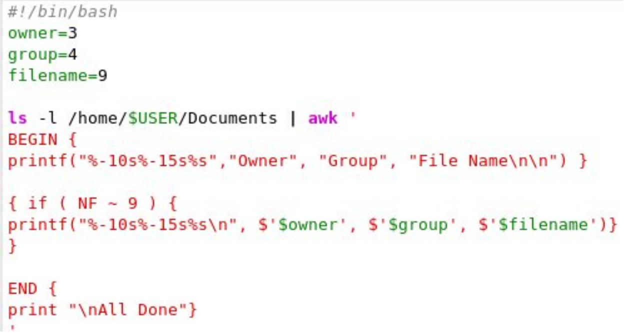
```
jane@daisy > ~ $ uname -o
GNU/Linux
jane@daisy > ~ $ uname -o | awk '{print tolower($0)}'
gnu/linux
jane@daisy > ~ $ uname -o | awk '{print toupper($0)}'
GNU/LINUX
```

What could be easier?

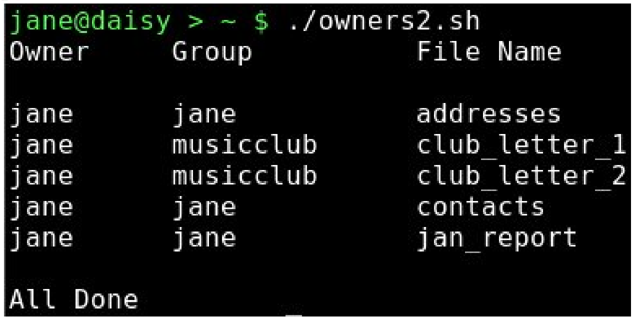
While we are dealing with text, I should mention the **sprintf()** function.

This function works just like the **printf()** function we used in bash shell scripting, except that this one doesn't print out the text. It returns a formatted copy of the text. This is extremely useful and can be used to create nicely formatted text files, where the fields of a record may be of indeterminate size.

You probably noticed that the output from the owners.sh script we used to demonstrate passing variables in a shell script was ragged and untidy. If we use the printf statement, instead of the simpler print command, we can specify exactly how we want the report to look.



```
#!/bin/bash
owner=3
group=4
filename=9

ls -l /home/$USER/Documents | awk '
BEGIN {
printf("%-10s%-15s%s","Owner", "Group", "File Name\n\n") }

{ if ( NF ~ 9 ) {
printf("%-10s%-15s%s\n", $'$owner', $'$group', $'$filename')}
}

END {
print "\nAll Done"}
'
```



```
jane@daisy > ~ $ ./owners2.sh
Owner     Group          File Name

jane      jane           addresses
jane      musicclub      club_letter_1
jane      musicclub      club_letter_2
jane      jane           contacts
jane      jane           jan_report

All Done
```

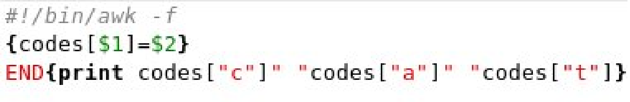
The formatting rules are the same, and the fields to be output can be given a fixed width or, in the case of numerical fields, a pre-determined format or number of decimal places. Leading and trailing zero suppression is supported, as is padding of shorter fields with spaces or zeroes, as appropriate. Actually, all variables in awk are stored as strings, but variables containing numeric values can be used in arithmetic functions and calculations.

A nice feature of awk is that arrays are associative. What this means is that an array is a group of pairs. An index and a value. The index doesn't have to be an integer, as in most programming languages. It can be a string. The index is associated with the value. The order then is irrelevant, although you can use numbers as the index to an element of an array. Its numerical value has no meaning in awk, only the fact that it is associated with a particular value is of interest. This makes arrays in awk particularly flexible and efficient. In most programming languages, arrays must be declared as to the type of values that will be stored, and the maximum number of elements that will be used. A block of memory is then allocated for that array, and size and type cannot be changed. awk, however, doesn't care about any of that. The indices may be anything that you wish. The stored values may be any mix of things that you wish, and you may add as many elements as you wish.

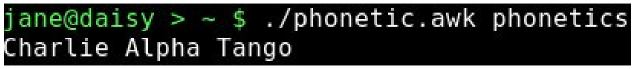
Associative arrays are particularly useful in look up tables. If you had a text file named phonetic with contents like this

a Alpha
b Bravo
c Charlie
  :
  :
y Yankee
z Zulu

Then we could read it into an associative array and use the array to convert characters to their phonetic equivalents.



```
#!/bin/awk -f
{codes[$1]=$2}
END{print codes["c"]" "codes["a"]" "codes["t"]}
```



```
jane@daisy > ~ $ ./phonetic.awk phonetics
Charlie Alpha Tango
```

If you happen to run out of steam with awks built in functions, or you find yourself repeating code, there is nothing to stop you writing your own functions.

Functions must be declared before any code that uses them, pretty obvious really except that they must be declared before the **code block** that calls them. This means that the function code should usually be written outside of and before the main loop.

The syntax for a function declaration is **function function_name (parameters) {actions}**

The keyword **function** is mandatory.

function_name may be almost anything you like that is not a reserved word, a variable name or a pattern of characters that could be wrongly interpreted by awk. It should also begin with a letter or underscore character.

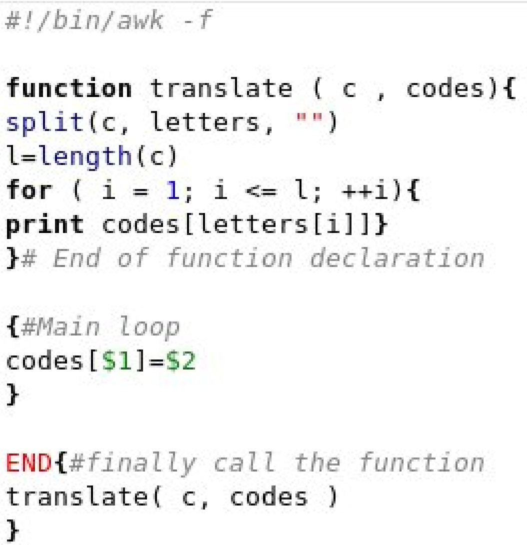
parameters are a comma separated list of variables that get passed to the function by the calling code. The names of the parameters are used by the function, and do not have be the same as the name of the argument being passed. Only the value is passed to the function. Mostly though, it is less confusing if the names are kept the same.

Any **actions** inside the braces are what the function does with the passed parameters, and if a return statement is included, then that value will be returned to the calling code.

If a script called a function name **myfunction** with the command **result = myfunction(string)**, then

return newstring in the function code would return the value that the variable **newstring** holds in the function to the variable **result**.

If we wanted to make more use of our phonetics script by passing it any phonetics look up list and an arbitrary string to translate, we could write a function to do the translation.



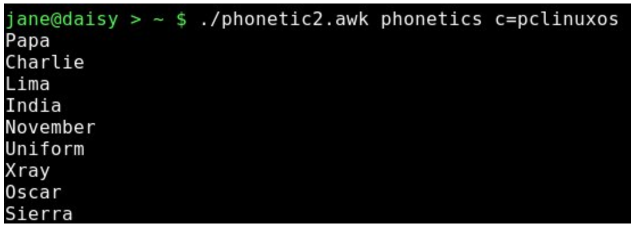
```
#!/bin/awk -f

function translate ( c , codes){
split(c, letters, "")
l=length(c)
for ( i = 1; i <= l; ++i){
print codes[letters[i]]}
}# End of function declaration

{#Main loop
codes[$1]=$2
}

END{#finally call the function
translate( c, codes )
}
```

The function appears before the main loop and has two parameters passed to it, c is the string to translate and codes is the array of lowercase letters and their associated phonetic codes. The string is split into single characters by using an empty string as the field separator, and then stored in an array named letters. The length of the string is required to limit the loop, which loops round from one to the number of characters in the string printing the code that corresponds to the current letter.

In the main loop, the input data file named phonetics is read into the codes array.

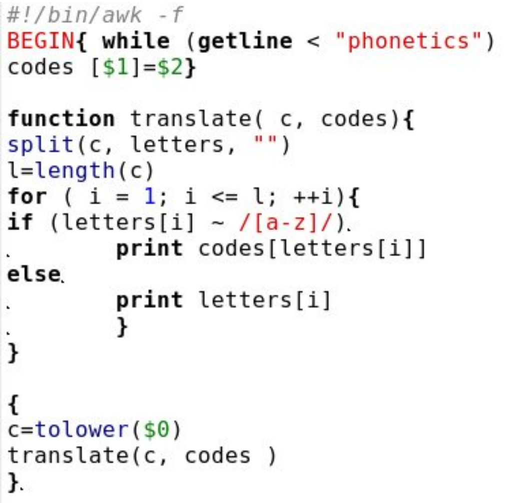
In the END section the function is called and passed the string c, which is passed on the command line, and the codes array.

Here is the output from a sample run.



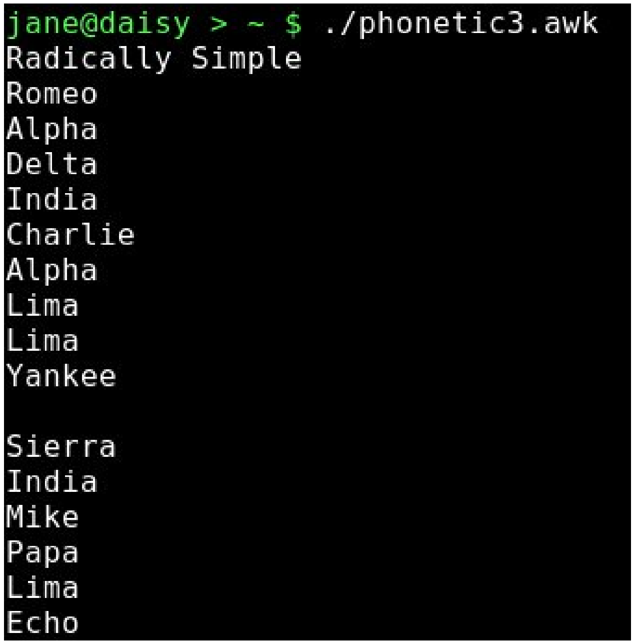
```
jane@daisy > ~ $ ./phonetic2.awk phonetics c=pclinuxos
Papa
Charlie
Lima
India
November
Uniform
Xray
Oscar
Sierra
```

Passing the name of the data file on the command line is useful if there are several data sets that you wish to switch between, but if there is only one, we can get the script to read it in by using awks **getline** function.



```
#!/bin/awk -f
BEGIN{ while (getline < "phonetics")
codes [$1]=$2}

function translate( c, codes){
split(c, letters, "")
l=length(c)
for ( i = 1; i <= l; ++i){
if (letters[i] ~ /[a-z]/).
.         print codes[letters[i]]
else.
.         print letters[i]
.         }
}

{
c=tolower($0)
translate(c, codes )
}.
```

In the **BEGIN** section, the data file is read in using a while loop to repeat the process until we get an empty line. Each line is stuffed into the array **codes**. The string to translate is converted to lowercase at the start of the main loop, and in the body of the function, a check is made with a regular expression to see if the letter is in the range a-z, in which case it gets converted. If it is not in that range, then it is output as is, this takes care of spaces, numbers and punctuation. The strings to be converted may be piped in to the script, or can be typed interactively on the command line as below.



```
jane@daisy > ~ $ ./phonetic3.awk
Radically Simple
Romeo
Alpha
Delta
India
Charlie
Alpha
Lima
Lima
Yankee

Sierra
India
Mike
Papa
Lima
Echo
```

Getting Started With folding@home

by Darrel Johnston (djohnston)

What exactly is it? It is a scientific research project conducted by Stanford University. Instead of renting time on a supercomputer to run computations, they seek individuals who will volunteer their computer's idle time to the research project. A good description of what "folding" is at http://folding.stanford.edu/

*"**You can help scientists studying these diseases by simply running a piece of software.***
Folding@home is a distributed computing project -- people from throughout the world download and run software to band together to make one of the largest supercomputers in the world. Every computer takes the project closer to our goals. Folding@home uses novel computational methods coupled to distributed computing, to simulate problems millions of times more challenging than previously achieved.

Protein folding is linked to disease, such as Alzheimer's, ALS, Huntington's, Parkinson's disease, and many Cancers. Moreover, when proteins do not fold correctly (i.e. "misfold"), there can be serious consequences, including many well known diseases, such as Alzheimer's, Mad Cow (BSE), CJD, ALS, Huntington's, Parkinson's disease, and many Cancers and cancer-related syndromes.

What is protein folding?
Proteins are biology's workhorses -- its "nanomachines." Before proteins can carry out these important functions, they assemble themselves, or "fold." The process of protein folding, while critical and fundamental to virtually all of biology, in many ways remains a mystery."

The link to download the client is at http://www.stanford.edu/group/pandegroup/folding/release/FAH6.02-Linux.tgz

The link is to the 32-bit client, since PCLinuxOS does not yet have a 64-bit OS. If your computer has multiple cores, you can run one client per core. Each client will have a different machine ID number, in order the keep the running tasks separate. Each client will be run from within its own folder. There is no GUI for running the client. It is run in a terminal, or as a service. Because I never know what project I will be doing on any of my computers, I run the program in a quake-like drop-down terminal, rather than as a service. The possible choices from our repositories are guake, tilda, and yakuake. The screenshot below is of a client running in one pane of the guake terminal.

After downloading the client, open any terminal and do the following: (note: I am using fold1 as an example folder name.)

cd fold1
./fah6 -configonly

This will start the client's configuration runtime options. You can override the configuration at any time by starting folding with a command line option. For example,

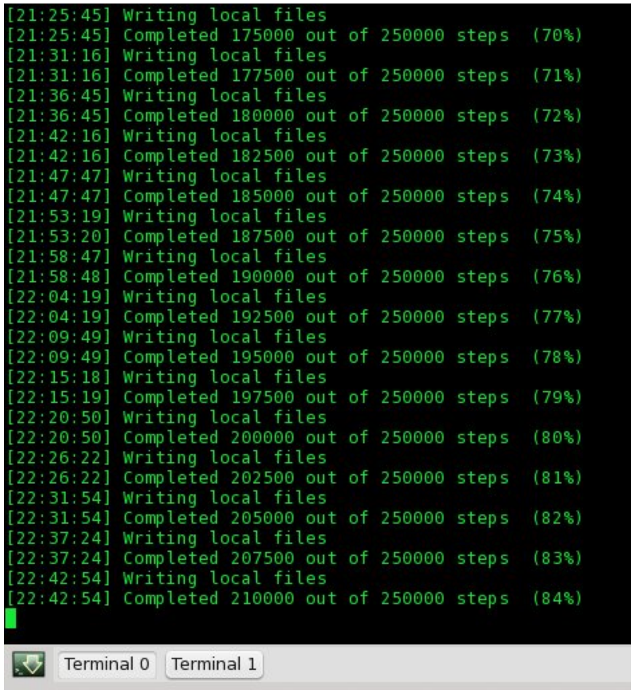
./fah6 -advmethods

One of the configuration options is adding a personal passkey. What is a passkey? From http://folding.stanford.edu/English/FAQ-passkey

"The passkey, a new feature beginning with the v6.0 FAH client, is a unique identifier that ties your contributions directly to you (not just those with your username). The use of a passkey prevents others from cheating using your name. Obtain a passkey from our web site (see below), enter it when you configure the client, and the client and servers will do the rest. You should keep your passkey secret."

To get your passkey, go to http://fah-web.stanford.edu/cgi-bin/getpasskey.py

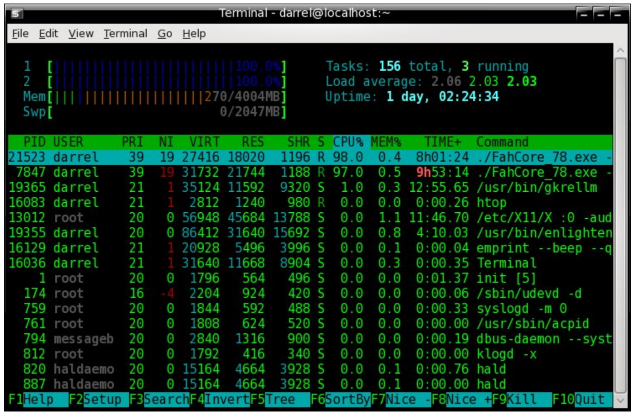
After configuring the client, start it with **./fah6**



```
[21:25:45] Writing local files
[21:25:45] Completed 175000 out of 250000 steps  (70%)
[21:31:16] Writing local files
[21:31:16] Completed 177500 out of 250000 steps  (71%)
[21:36:45] Writing local files
[21:36:45] Completed 180000 out of 250000 steps  (72%)
[21:42:16] Writing local files
[21:42:16] Completed 182500 out of 250000 steps  (73%)
[21:47:47] Writing local files
[21:47:47] Completed 185000 out of 250000 steps  (74%)
[21:53:19] Writing local files
[21:53:20] Completed 187500 out of 250000 steps  (75%)
[21:58:47] Writing local files
[21:58:48] Completed 190000 out of 250000 steps  (76%)
[22:04:19] Writing local files
[22:04:19] Completed 192500 out of 250000 steps  (77%)
[22:09:49] Writing local files
[22:09:49] Completed 195000 out of 250000 steps  (78%)
[22:15:18] Writing local files
[22:15:19] Completed 197500 out of 250000 steps  (79%)
[22:20:50] Writing local files
[22:20:50] Completed 200000 out of 250000 steps  (80%)
[22:26:22] Writing local files
[22:26:22] Completed 202500 out of 250000 steps  (81%)
[22:31:54] Writing local files
[22:31:54] Completed 205000 out of 250000 steps  (82%)
[22:37:24] Writing local files
[22:37:24] Completed 207500 out of 250000 steps  (83%)
[22:42:54] Writing local files
[22:42:54] Completed 210000 out of 250000 steps  (84%)
```

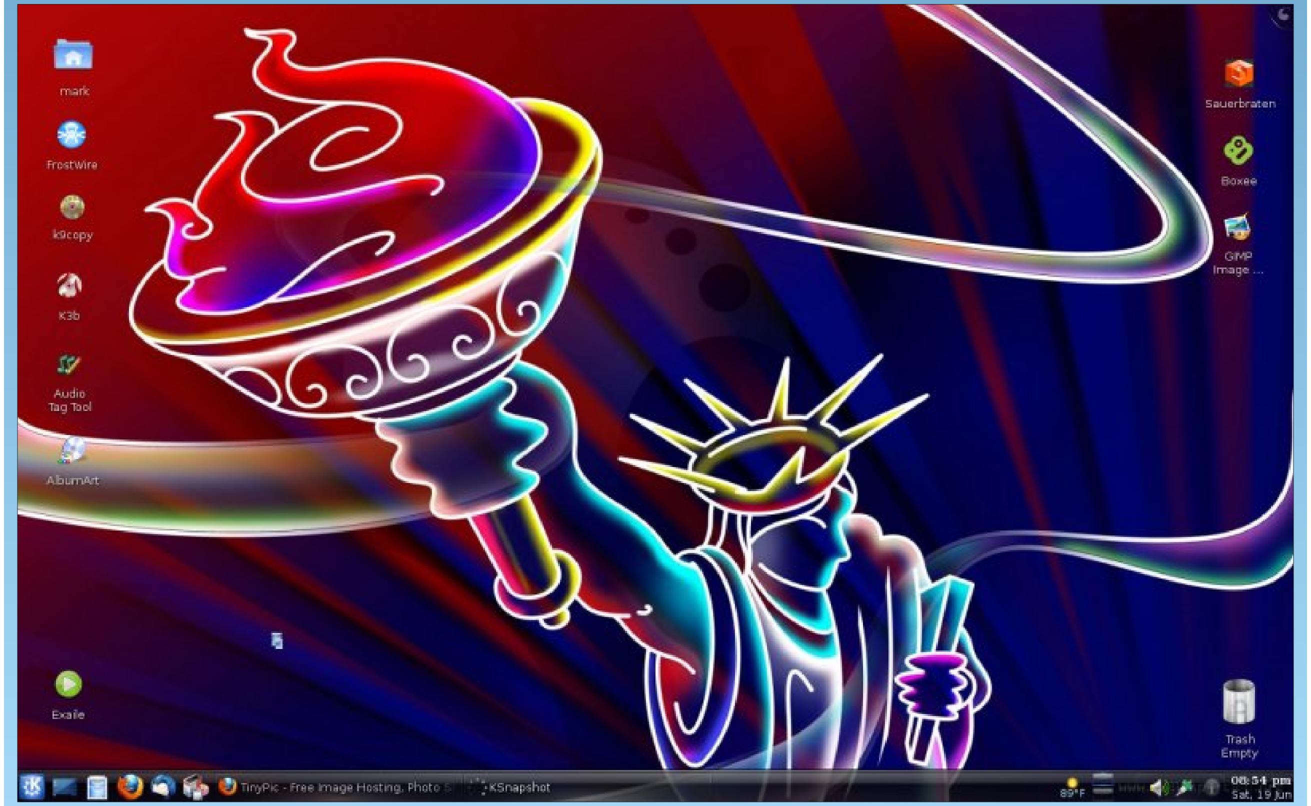
All my clients run 24/7 on desktop machines. The program is so unobtrusive I barely notice it unless I bring the drop-down terminal into focus, run top or htop, or glance at the Gkrellm panel on my desktop. Cruising the web, viewing videos, opening or editing OpenOffice documents is just about as quick with the folding clients running as it would be without them running. The only other time I notice the running clients is if I am downloading something from the web at the same time that a client finishes a work unit. The client will upload the finished results to a Stanford University server with a higher priority than any download process.

Will you join the PCLinuxOS folding team today?


Terminal - darrel@localhost:~
File Edit View Terminal Go Help

```
  1  [||||||||||||||||||||||||100.0%]     Tasks: 156 total, 3 running
  2  [||||||||||||||||||||||||100.0%]     Load average: 2.06 2.03 2.03
  Mem[|||||||||||||||||||||270/4004MB]     Uptime: 1 day, 02:24:34
  Swp[                      0/2047MB]

  PID USER     PRI  NI  VIRT   RES   SHR S CPU% MEM%   TIME+  Command
21523 darrel    39  19 27416 18020  1196 R 98.0  0.4  8h01:24 ./FahCore_78.exe -
 7847 darrel    39  19 31732 21744  1188 R 97.0  0.5  9h53:14 ./FahCore_78.exe -
19365 darrel    21   1 35124 11592  9320 S  1.0  0.3 12:55.65 /usr/bin/gkrellm
16083 darrel    21   1  2812  1240   980 R  0.0  0.0  0:00.26 htop
13012 root      20   0 56948 45684 13788 S  0.0  1.1 11:46.70 /etc/X11/X :0 -aud
19355 darrel    20   0 86412 31640 15692 S  0.0  0.8  4:10.03 /usr/bin/enlighten
16129 darrel    21   1 20928  5496  3996 S  0.0  0.1  0:00.04 emprint --beep --q
16036 darrel    21   1 31640 11668  8904 S  0.0  0.3  0:00.35 Terminal
    1 root      20   0  1796   564   496 S  0.0  0.0  0:01.37 init [5]
  174 root      16  -4  2204   924   420 S  0.0  0.0  0:00.06 /sbin/udevd -d
  759 root      20   0  1844   592   488 S  0.0  0.0  0:00.33 syslogd -m 0
  761 root      20   0  1808   624   520 S  0.0  0.0  0:00.00 /usr/sbin/acpid
  794 messageb  20   0  2840  1316   900 S  0.0  0.0  0:00.19 dbus-daemon --syst
  812 root      20   0  1792   416   340 S  0.0  0.0  0:00.00 klogd -x
  820 haldaemo  20   0 15164  4664  3928 S  0.0  0.1  0:00.76 hald
  887 haldaemo  20   0 15164  4664  3928 S  0.0  0.1  0:00.00 hald
F1Help  F2Setup F3SearchF4InvertF5Tree  F6SortByF7Nice -F8Nice +F9Kill  F10Quit
```

Screenshot Showcase



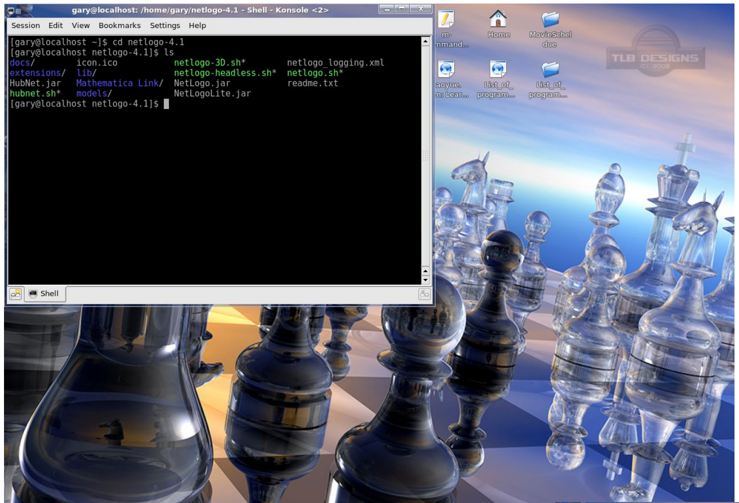
Posted by BubbaBlues, June 19, 2010, running KDE 4.

Computer Languages A to Z: Netlogo

by Gary L. Ratliff, Sr. (eronstuc)

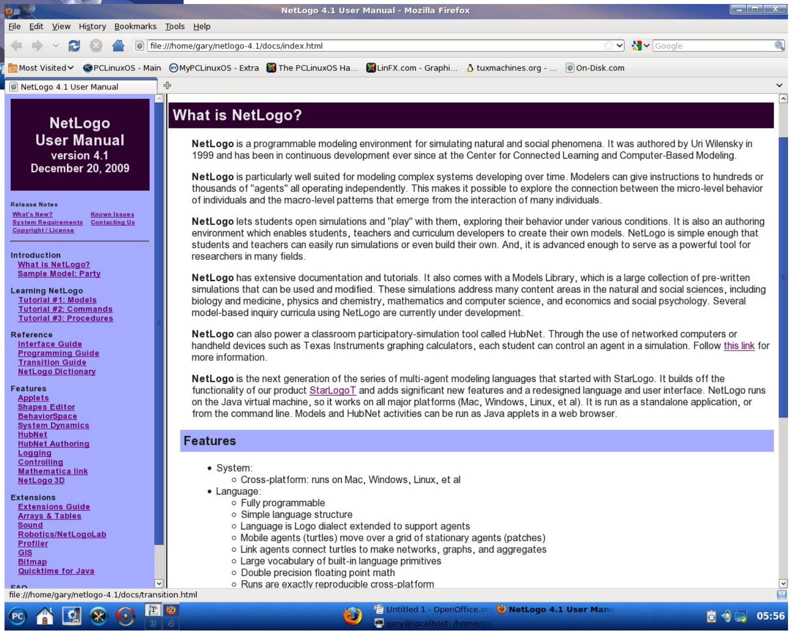
In this article, we are ready for some fun. At the half time break, I mentioned that the system has KTurtle, which uses logo and a turtle to draw various lines on a canvas. Now imagine that the number of turtles and the number of canvases was allowed to increase. And that these turtles and canvases were allowed to be interconnected into a model of some real world behavior. Then you would have a hint at what Netlogo has to offer.

Netlogo was authored in 1999 by Uri Wilensky. It has been developed and used since that time at the Center for Connected Learning and Computer-Based Modeling of Northwestern University. It is available as freeware from the netlogo website (ccl.northwestern.edu/netlogo). The most recent version was released on Dec. 20, 2009. It is available for Windows, the Mac, and other operating systems. The Windows version is 62 megs, the app for the Mac is 42 megs, and the one which can be used in Linux is only 41 megs in length. Just click the download link and fill in a simple form, which asks for your name and email address. You want the file: netlogo-4.1.tar.gz. This download will take just a few minutes, and will be placed in your home folder. It is a very simple matter to unpack it with the command: tar zxf netlogo-4.1.tar.gz. Once this has been done, change into the directory, which it will create, using: cd netlogo-4.1. This will yield the following area (below):


gary@localhost: /home/gary/netlogo-4.1 - Shell - Konsole <2>
Session Edit View Bookmarks Settings Help
Shell

```
[gary@localhost ~]$ cd netlogo-4.1
[gary@localhost netlogo-4.1]$ ls
docs/         icon.ico           netlogo-3D.sh*        netlogo_logging.xml
extensions/  lib/               netlogo-headless.sh*  netlogo.sh*
HubNet.jar   Mathematica Link/  NetLogo.jar            readme.txt
hubnet.sh*   models/            NetLogoLite.jar
[gary@localhost netlogo-4.1]$ 
```

Your next move should be to read the readme.txt file, which will show you how to use the application. However, you can also launch this from within the netlogo directory, using the terminal and giving the command: ./netlogo.sh. Once inside the netlogo system, click on the Help menu and select the User manual, which will produce the following: - - - >


NetLogo 4.1 User Manual - Mozilla Firefox
File Edit View History Bookmarks Tools Help
file:///home/gary/netlogo-4.1/docs/index.html
Google
Most Visited
PCLinuxOS - Main
MyPCLinuxOS - Extra
The PCLinuxOS Ha...
LinFX.com - Graphi...
tuxmachines.org - ...
On-Disk.com
NetLogo 4.1 User Manual
file:///home/gary/netlogo-4.1/docs/transition.html
Untitled 1 - OpenOffice.org
NetLogo 4.1 User Manu
gary@localhost: /home/ga
05:56

NetLogo
User Manual
version 4.1
December 20, 2009

Release Notes
What's New?
System Requirements
Copyright / License
Known Issues
Contacting Us

Introduction
What is NetLogo?
Sample Model: Party

Learning NetLogo
Tutorial #1: Models
Tutorial #2: Commands
Tutorial #3: Procedures

Reference
Interface Guide
Programming Guide
Transition Guide
NetLogo Dictionary

Features
Applets
Shapes Editor
BehaviorSpace
System Dynamics
HubNet
HubNet Authoring
Logging
Controlling
Mathematica link
NetLogo 3D

Extensions
Extensions Guide
Arrays & Tables
Sound
Robotics/NetLogoLab
Profiler
GIS
Bitmap
Quicktime for Java

What is NetLogo?

NetLogo is a programmable modeling environment for simulating natural and social phenomena. It was authored by Uri Wilensky in 1999 and has been in continuous development ever since at the Center for Connected Learning and Computer-Based Modeling.

NetLogo is particularly well suited for modeling complex systems developing over time. Modelers can give instructions to hundreds or thousands of "agents" all operating independently. This makes it possible to explore the connection between the micro-level behavior of individuals and the macro-level patterns that emerge from the interaction of many individuals.

NetLogo lets students open simulations and "play" with them, exploring their behavior under various conditions. It is also an authoring environment which enables students, teachers and curriculum developers to create their own models. NetLogo is simple enough that students and teachers can easily run simulations or even build their own. And, it is advanced enough to serve as a powerful tool for researchers in many fields.

NetLogo has extensive documentation and tutorials. It also comes with a Models Library, which is a large collection of pre-written simulations that can be used and modified. These simulations address many content areas in the natural and social sciences, including biology and medicine, physics and chemistry, mathematics and computer science, and economics and social psychology. Several model-based inquiry curricula using NetLogo are currently under development.

NetLogo can also power a classroom participatory-simulation tool called HubNet. Through the use of networked computers or handheld devices such as Texas Instruments graphing calculators, each student can control an agent in a simulation. Follow this link for more information.

NetLogo is the next generation of the series of multi-agent modeling languages that started with StarLogo. It builds off the functionality of our product StarLogoT and adds significant new features and a redesigned language and user interface. NetLogo runs on the Java virtual machine, so it works on all major platforms (Mac, Windows, Linux, et al). It is run as a standalone application, or from the command line. Models and HubNet activities can be run as Java applets in a web browser.

Features

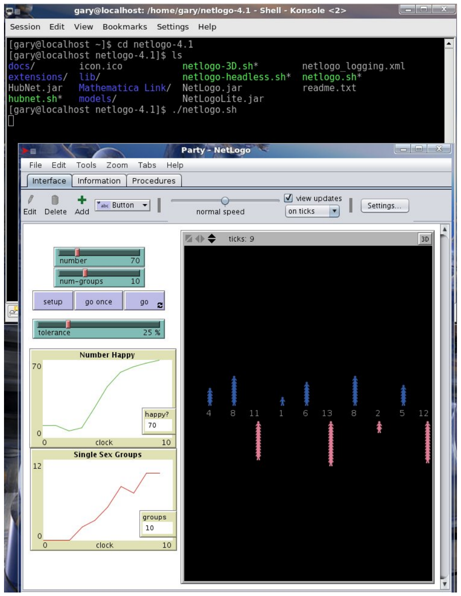
- System:
  - Cross-platform: runs on Mac, Windows, Linux, et al
- Language:
  - Fully programmable
  - Simple language structure
  - Language is Logo dialect extended to support agents
  - Mobile agents (turtles) move over a grid of stationary agents (patches)
  - Link agents connect turtles to make networks, graphs, and aggregates
  - Large vocabulary of built-in language primitives
  - Double precision floating point math
  - Runs are exactly reproducible cross-platform

As you can see, this provides a set of tutorials for learning the basics of the system. It is suggested that you begin exploring the system by running the Model Party. In my last article, I mentioned that it was written about Christmas time and that there was a movie called “Christmas in July” playing at that time. It is only appropriate that we have New Years in August, so this is a model of a cocktail party which many of you may have attended around New Years Eve. The model shows what happens to the tolerance level of people to form various groups changes.

This model introduces the concept of using the sliders and the buttons to setup the model. The model also produces graphs of the changes of the people throughout the life of the model.

The "setup button" is used to set the initial conditions. Here, the tolerance level means the percentage of people who are comfortable if the level of members of the opposite sex in their group rises above a certain level. The "go once" button shows which groups change at each step, and the "go" button runs these steps until a conclusion is reached.

There are very many models to use, and they are setup and run in a


gary@localhost: /home/gary/netlogo-4.1 - Shell - Konsole <2>
Session Edit View Bookmarks Settings Help

```
[gary@localhost ~]$ cd netlogo-4.1
[gary@localhost netlogo-4.1]$ ls
docs/         icon.ico            netlogo-3D.sh*        netlogo_logging.xml
extensions/   lib/                netlogo-headless.sh*  netlogo.sh*
HubNet.jar    Mathematica Link/   NetLogo.jar           readme.txt
hubnet.sh*    models/             NetLogoLite.jar
[gary@localhost netlogo-4.1]$ ./netlogo.sh
```

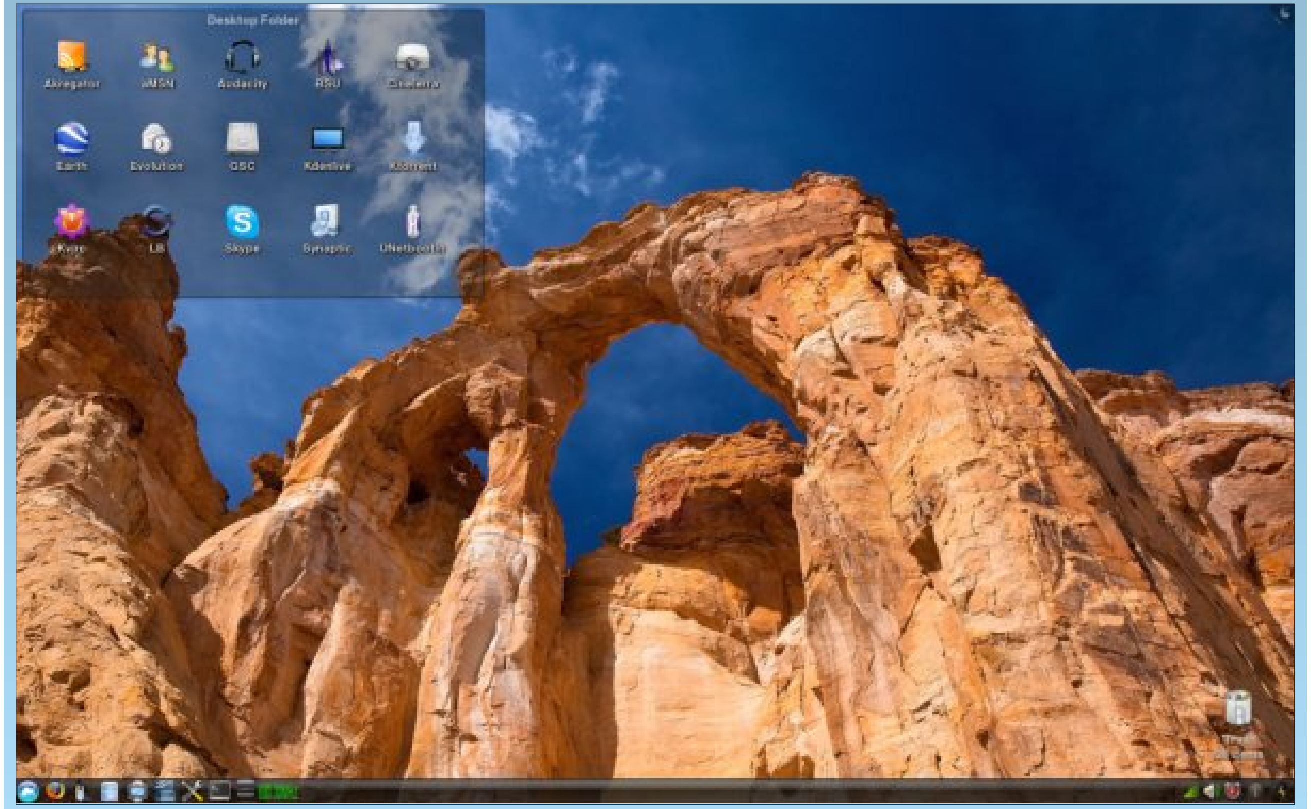
similar manner. Just follow the tutorials in order to advance in learning more and more about the system, until you learn how to construct your own models.

The main menu item, Information, shows various facts about the model and its uses. And the Procedures item shows the code for the model. The models are used in education, and as mentioned on the initial page of the user manual, Yahoo! has two groups devoted to this system. One group is specifically for teachers:

(http://groups.yahoo.com/group/netlogo-users)
(http://groups.yahoo.com/group/netlogo-educators)

Meanwhile, the system should provide many hours to explore the provided models. And the tutorials should have you ready to create your own models in fairly short order.

Screenshot Showcase



Posted by coffeetime on June 2, 2010, running KDE4.

Configuring and Using Epson Stylus NX415

by Patrick G. Horneker

Editor's Note: *Exercise EXTREME caution when following the instructions in this article. This article's author advocates installing packages from outside the official PCLinuxOS repository. Should you follow them, you will then have a non-standard installation of PCLinuxOS, and may not be able to get any assistance for any problems you may encounter in the PCLinuxOS forum, since unknown changes will have been made to your system. Please remember that the best way to get the packages you need is to make a request in the Package Request section of the forum for those packages to be added to the official PCLinuxOS repository.*

Introduction

Recently, I had some color issues with my aging Hewlett-Packard PSC2175. It served its purpose over the past eight years I had the machine. It printed with amazing speed, and color copies printed correctly. When it came to scanning and printing photographs, the device was starting to show its age. Color photographs were biased towards the red side on photographs taken indoors, even with my digital cameras. When I used xsane to scan the white area on the scanner lid, the auto adjustments for gamma, contrast and brightness to get a true white were an indication that the scanner had an issue. There were inaccurate colors in the resulting scans when I compared what was on the screen to the original photographs.

This meant one of two things. I either needed to get a stand alone scanner, or an all-in-one device. Shopping around online at Best Buy, Office Depot, OfficeMax, Staples, Meijer and Wal-Mart lead me to one conclusion: An all-in-one device was actually cheaper to purchase than a stand alone scanner.

At the time of this writing, Office Depot and Best Buy had the Epson Stylus NX415 **on sale for $49.99 USD**, which is 50% off the original retail price.

Two other things led me to purchase this all-in-one device.

First, according to books on digital photography I have read, Epson printers are the best at printing photographs.

Second, replacing the HP57 color cartridge is not really cost effective. In the past, I had used generic equivalents, but the last time I used a generic color cartridge in the PSC-2175, the printer rejected the cartridge. Replacing the cartridge with a Hewlett-Packard cartridge solved that problem, but created another problem. It cost me **$39.99** every time I had to replace the cartridge, and hence the device was no longer cost effective to operate.

With Epson cartridges running at an average of $15.00 per cartridge per color, this saves me some money every time I need to change one cartridge. Even with the worst-case scanario (all four cartridges need replacing), I still save a little money over the HP equivalent (which would be about $63.00 if both cartridges needed replacing).

This is not to say that HP printers are not good. In fact, they are excellent printers. The issue I have there is with the cost of operation.

Of course, Epson does not specify cartridge yields for their ink cartridges. This is in part because a little ink is used every time you power up the printer. This is necessary to ensure quality of the output and to keep the ink from clogging the nozzles on the cartridges.

Preparing Your PCLinuxOS Machine

Unlike Hewlett-Packard printers and all-in-one devices, the newest Epson all-in-one devices require download of additional software, or at least updating what you have on your PCLinuxOS installation.

Epson all-in-one devices only require the latest Sane and the latest Gutenprint drivers to function. The bad news is that neither the **epkowa** backend nor the **iscan** functionality as supplied with PCLinuxOS supports any of the NX series all-in-one devices (through the **sane-backends-iscan** package). The good news is that the latest Gutenprint drivers **do** support the NX-415 and other NX series all-in-one devices.

The first thing to do is to download the latest **iscan** package from the Avasys website. You will be asked to agree to their licensing agreement. Then you will be asked about your working environment and your distribution. For PCLinuxOS 2010, you will need to specify “PCLinuxOS” as your distribution, then “Other” as the version. After answering the questions, you will then be taken to the page from where you can download the needed RPM packages.

For PCLinuxOS 2010, you only need to download the **iscan-2.24.0-4.i386.rpm** package. This provides the scanner drivers for local use. If you wish to use this for network scanning, you will also need to download the **iscan-network-nt-1.1.0-2.i386.rpm** package.

Now that you have the needed RPM packages, presumably in your *Downloads* directory (if you used Firefox to visit the Avasys website), you will need to install the RPM packages.

Notes on the Printer Drivers

Although the Gutenprint drivers do the job well for this printer, you may also want to download and install the **pipslite-1.4.0-5.i386.rpm** package for the Avasys developed driver as well as the **Epson-Stylus_NX415-pipslite-en.ppd** file for installation with CUPS.

PIPS stands for Photo Image Printing System and was designed specifically for printing of photographs to Epson printers.

Special Instructions for Installation

PCLinuxOS comes with the **iscan-sane-backends-iscan** package already installed *if you are using the full XFCE, LXDE, KDE or GNOME versions.*

If you do not have SANE installed on your PCLinuxOS installation, you will need to open Synaptic and under *Tasks*, select *tasks-scanning* to install the required packages to install SANE.

The **iscan** package you have just downloaded *will conflict* with the **sane-backends** and **sane-backends-iscan** because of the **epkowa** driver in the packages. This is OK as we will be replacing the **iscan** functionality of the **epkowa** driver with a newer version of the **epkowa** driver as well as installing the **iscan** graphical utility not present in the **sane-backends-iscan** package (due to licensing restrictions).

As of this writing, the current iscan package is named **iscan-2.24.0-4.i386.rpm**.

To install this package, login to a terminal window as root (using the *su* command), and then type in the following:

```
rpm -i –replacefiles iscan-2.24.0-4.i386.rpm
```

This will install the necessary SANE drivers that are compatible with the NX-415 and several other Epson all-in-one devices (such as the WorkForce 310 and the Stylus NX-515, which is similar to the NX-415, but includes wireless printing through a Wi-Fi connection).

Note: If Synaptic updates any of the *sane* packages, you will need to reinstall the *iscan* package to ensure the NX-415 all-in-one device will continue to work. You can do this by issuing rpm -U –replacefiles iscan-2.24.0-4.i386.rpm as root.

Once you have succeeded, you now have the Avasys iscan utility available to scan images, and that utility will appear in the *Graphics* menu, as well as an entry under *File → Create → Scanning (iscan)* within the latest version of GIMP.

Now, We Setup the Hardware

Once we have the software installed, we will need to setup the hardware.

The NX-415 comes with four ink cartridges (Epson 69), a power cord, a CD-ROM, a Quick Setup Guide poster, and a user's guide. *Epson does not supply a USB cable with this printer, so you will need to be sure you have a spare USB 2.0 cable available. (Actually, this is a trend among all the major printer manufacturers to not include a USB cable with the inexpensive models, not just Epson and Hewlett-Packard.)*

On the Quick Setup poster, you will only need to follow the instructions shown until you get to the Install CD-ROM part. **You will not need the CD-**

ROM as we have already installed the necessary software to get the NX-415 to work under PCLinuxOS.

Once you have the NX-415 setup according to the Quick Setup instructions, you may then plugin the USB cable.

Next, We Setup the Print Queue

Now that we have **iscan** and the Gutenprint drivers installed, we are now ready to setup the print queue.

Printerdrake currently does not detect the NX-415, and hence we are not able to setup the print queue this way. Instead, we need to setup the print queue using the CUPS web interface, i.e. open a web browser to **http://localhost:631/**. Then select the *Administration* Tab, click on *Add Printer*, then select NX-410 (the CD-ROM that came with the NX-415 confirms that the NX-415 is a part of the NX-410 series). When prompted, you will need to type **root** for the user name, and the *root password* for the password. (This is the password you use to login as the system administrator.)

Then, select *Next* of which the next screen will display a suggested name for the print queue, specifically **EPSON_epson_stylus_nx415**. You can change this to whatever you want, such as **StylusNX415**. However, there must be some name in this field as it is the only required field for this screen. Click on *Next* to get to the next screen.

Here, you select an appropriate printer driver for CUPS to use. I suggest selecting *NX-415 using the CUPS + Gutenprint 5.2.5 driver*. The latest Gutenprint drivers support the newest Epson all-in-one devices, and they do an excellent job when it comes to printing.

Click on Next to create the print queue. You will then get an opportunity to set default options for the NX-415. Click on *Set Default Options* to finish the setup.

Close the web browser to exit the CUPS Web interface. We are now ready to use the NX-415.

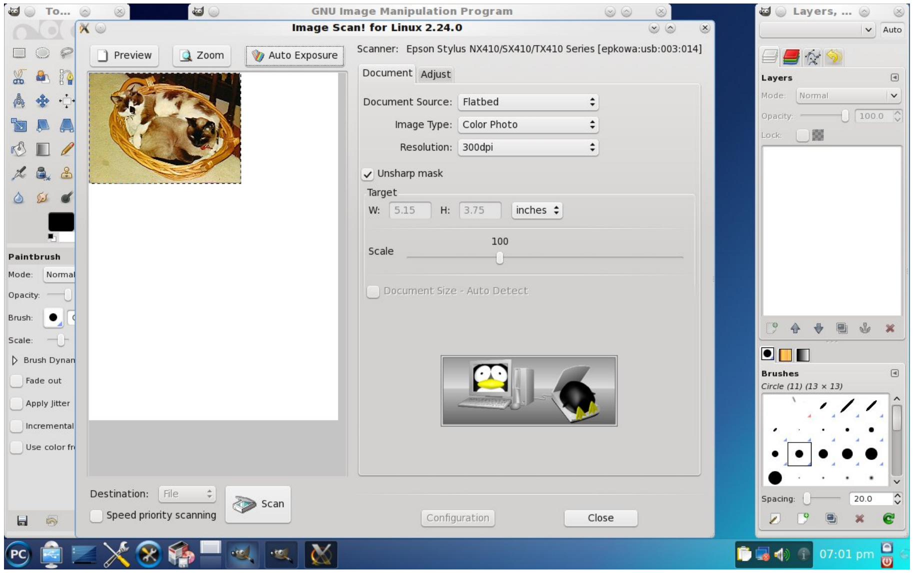


Image Scan! for Linux 2.24.0

Scanner: Epson Stylus NX410/SX410/TX410 Series [epkowa:usb:003:014]

Document Source: Flatbed

Image Type: Color Photo

Resolution: 300dpi

☑ Unsharp mask

Target

W: 5.15 H: 3.75 inches

Scale 100

□ Document Size - Auto Detect

Destination: File

□ Speed priority scanning

The Iscan Utility

The NX-415 will work with scanning utilities that use the SANE interface. When we installed the **iscan** package, we upgraded the SANE interface to support Epson's newest all-in-one devices. More specifically we upgraded the **iscan** utilities and **epkowa** driver to the latest versions not supported by the **sane-backends** and **sane-backends-iscan** packages.
As a bonus, we get the Image Scan! graphical utility designed specifically for Epson's scanners and all-in-one devices.

IMO, Image Scan! does a much better job of scanning than **xsane**. As you can see in this screenshot, Image Scan! has an *Auto Exposure* button that automatically adjusts the scan so you get great photograph scans every time.

Click on the *Adjust* tab, and you will see options not found in the **xsane** utility.

Also, as shown in this screenshot, Image Scan! works as a GIMP plug-in as well as a stand alone utility.

Of course, **xsane** has an auto adjustment feature, but Image Scan! makes color and brightness adjustment much easier so you can concentrate on your photograph, and not on configuring the scanning software. This is useful if you have a lot of photographs you need to scan.

By default, ImageScan is set to scan at 300dpi on the NX-415. You can scan up to 2400dpi on the NX-415, NX-515, WorkForce 310 and several other models. The NX-110 and NX-115 can scan up to 1200dpi. Of course the latter are lower end models of the NX series.

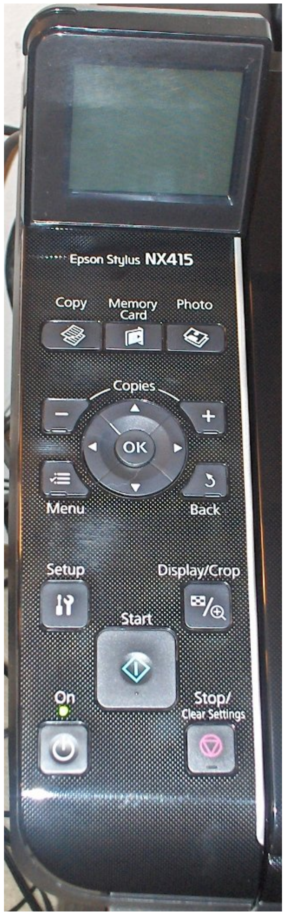
Controls on the NX-415

The NX-415 has a number of features that you can use even without your PCLinuxOS machine powered on. Here you can copy documents, print photo proof sheets, print photographs from memory cards, and check ink levels of the cartridges.

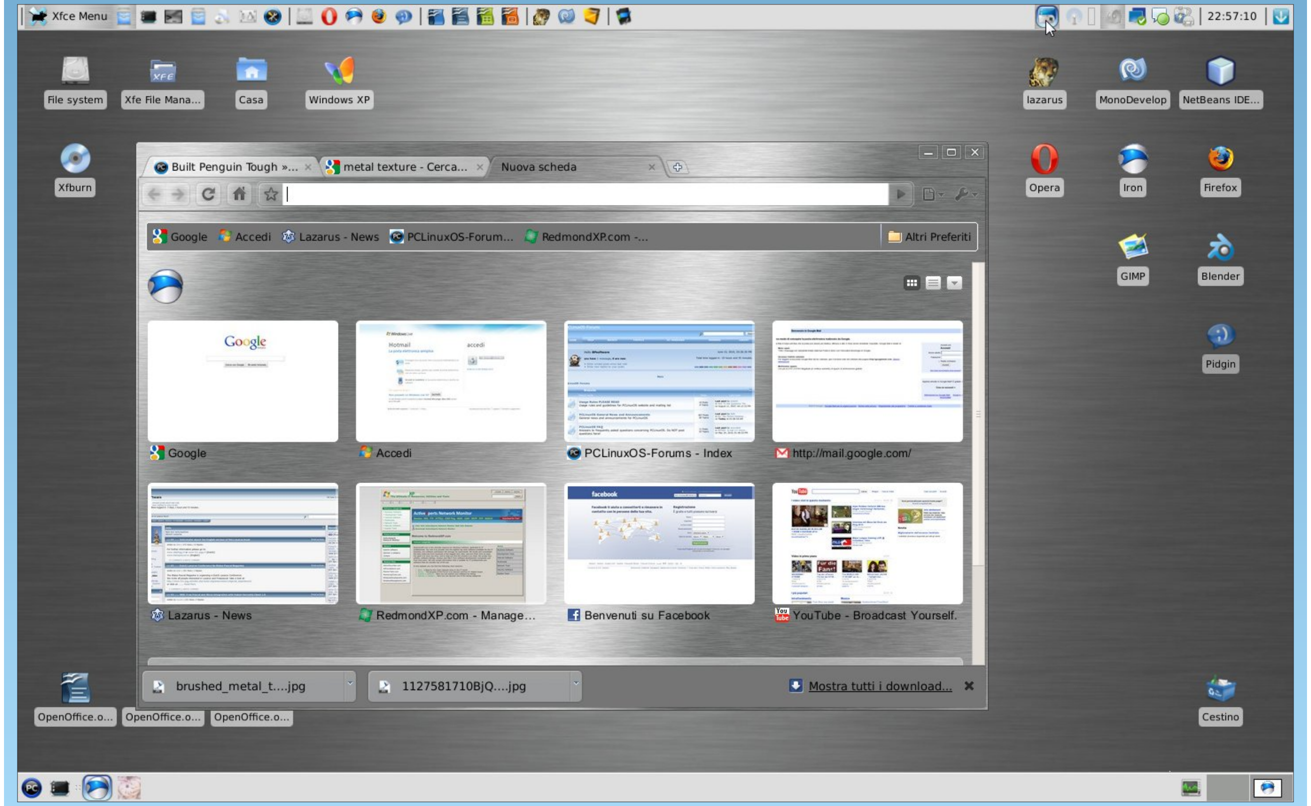
There is a 2.5 inch LCD screen for display of information and images off the memory card.

The photo proof sheets you can print from here can be used to select photographs off the memory card to print. You can select images by making a checkmark in pencil in the circle area below each thumbnail. The proof sheet is then scanned, and the resulting photographs are printed. The process is similar to the forms used for taking SAT tests in high schools.

The Setup button pulls up a menu that allows you to see the ink levels of the four cartridges without having to use the **mtink** utility. (This is a great feature as the **mtink** utility does not support this printer.)

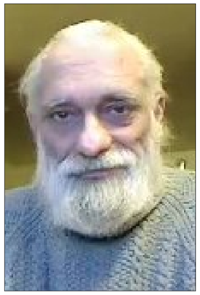


Screenshot Showcase



Posted by BPsoftware, June 15, 2010, running Phoenix.

KarlM: The Loss Of A Friend, Supporter



KarlM, a PCLinuxOS community member, supporter and friend passed away on June 23, 2010. News of his passing was from his friend, Jeddaboy, and read as follows:

*My name is Wayne, AKA: Jeddaboy. I am so very sad to have to notify all members of the passing of a long time member, strong supporter, loving and ever ready to help out any one where possible, **KarlM**. Unfortunately, I am in shock at the passing of my friend. We met on the forums years ago trying to sort out Skype issues. It developed into a very close, loving mate ship. He developed and through On-disk, distributed his DVD Repository Collections to help those less fortunate, because of finance and being stuck on dial up connection. Please remember him and if any of you are the prayerful type, pray for his family and friends now in mourning.*

Jeddaboy continued a little later on:

He was an extremely intelligent man, a whiz at math, physics, university educated. He was approximately 70, I think. We spent hundreds of hours on Skype, talking computers, all manner of things. We laughed and cried together at times. He was a quite achiever, with all his intelligence he was one of the most humble, kind hearted men i have ever met!

KarlM first joined the PCLinuxOS forum in January 21, 2006, and made his last visit to the forum on June 14, 2010. In that time period, KarlM offered his assistance and insights on 420 topics in the PCLinuxOS forum.

> *“And in the end, it's not the years in your life that count. It's the life in your years.”*
>
> ***Abraham Lincoln***

KarlM’s last forum post was to fellow community member tame, regarding printing on CDs with an Epson inkjet printer. Yet, one of his last forum posts reads as follows, and serves as good advice to all who visit the forum. From May 28, 2010, it is as follows:

Do not say dumb!

Smart. You posted your problem. You provided exact information (the picture) of what you did and what happened. Thus someone else could see where the problem was and suggest a possible solution.

When you think emotionally charged words like "dumb" or "bad" to yourself, the human mind then forgets the details around that incident. Details you may need in the future. What you did today that produces a result you did not want, is likely to be the same thing that in the future you need to do to get a different kind of result that you then want.

I have made the same (spelling error) kind of mistake a number of times. It is very hard for me to see, and it took me a lot of time to finally see the missing, or extra letters.

The Cut and Paste of what one did and not words about what you think you did and what you think happened, is advice that has been repeated many other times on this Forum.

I want to compliment you on providing information (the picture) on exactly what you did and exactly the results you achieved. This is smart and not "dumb".

Rest in peace, KarlM. You will be missed. And the entire PCLinuxOS community offers their heart-felt condolences to his friends and family during this sad time.

Reach Us On The Web

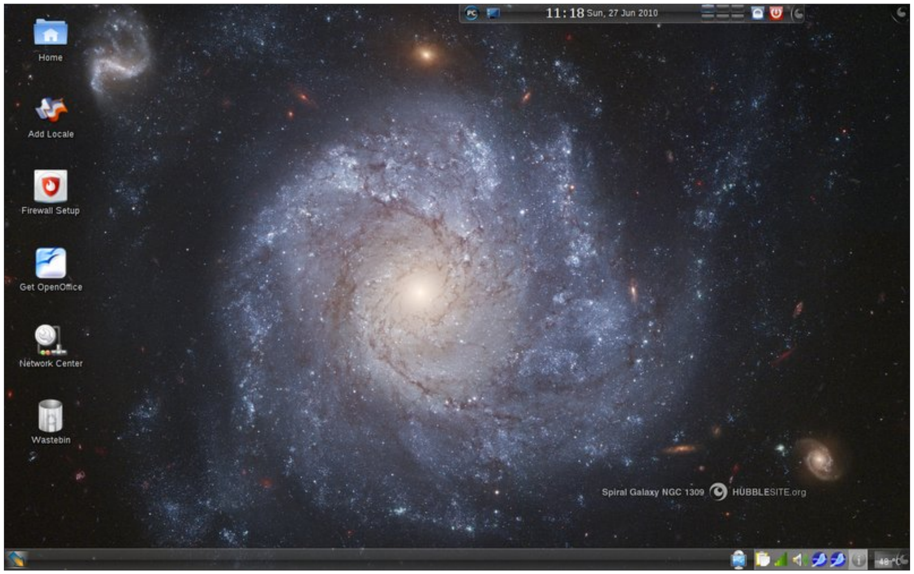
PCLinuxOS Magazine Mailing List:
http://groups.google.com/group/pclinuxos-magazine

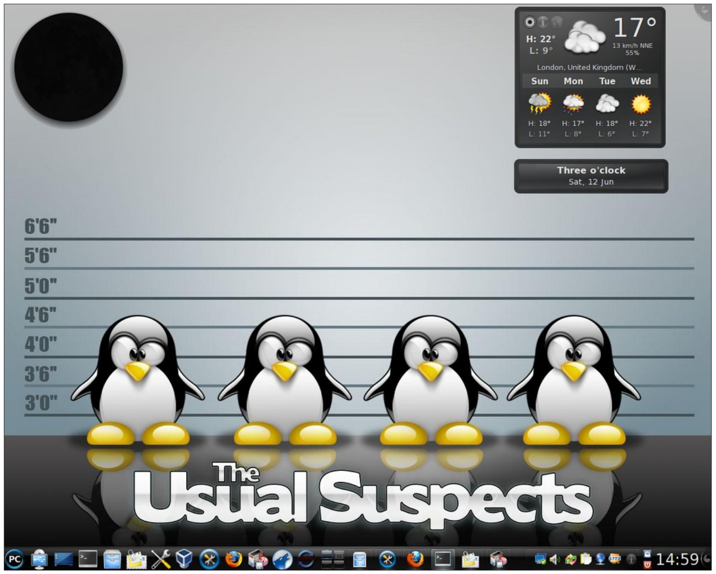
PCLinuxOS Magazine Web Site:
http://pclosmag.com/

PCLinuxOS Magazine Forums:

PCLinuxOS Magazine Forum:
http://pclosmag.com/forum/index.php
Main PCLinuxOS Forum:
http://www.pclinuxos.com/forum/index.php?board=34.0
MyPCLinuxOS Forum:
http://mypclinuxos.com/forum/index.php?board=157.0

More Screenshot Showcase



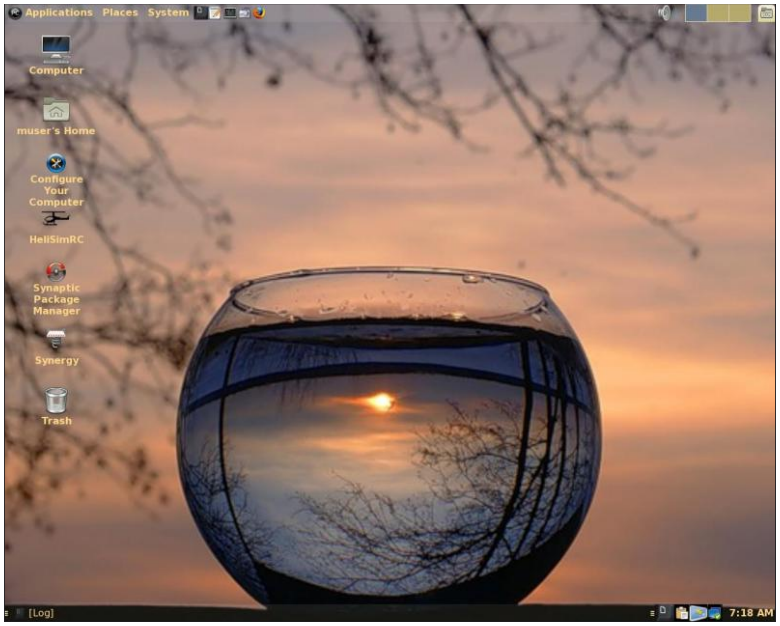


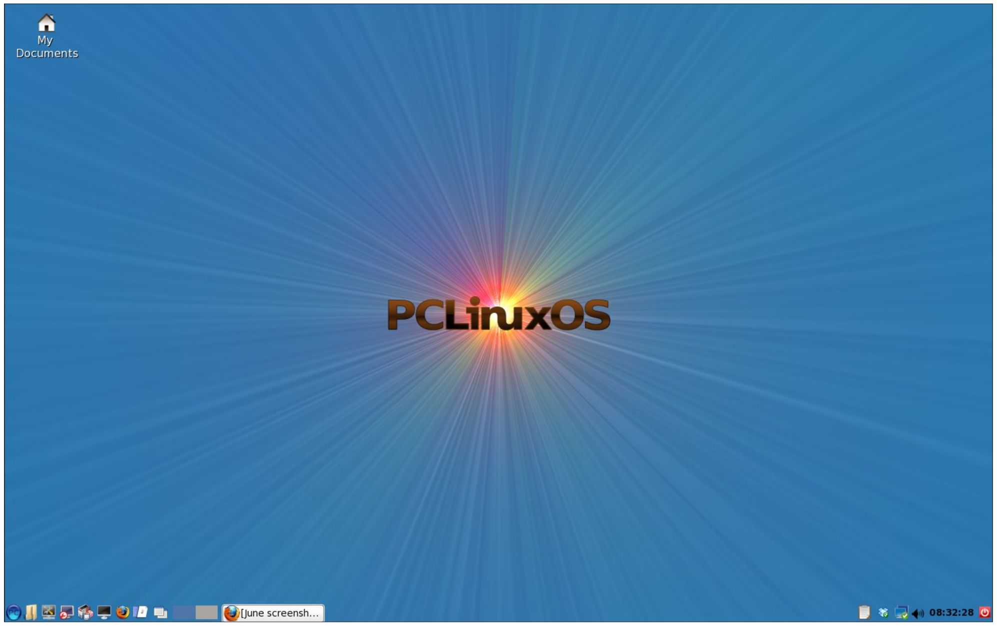
Top Left: Posted by Hootiegibbon, June 27, 2010, running KDE 4.

Bottom Left: Posted by ongoto, June 04, 2010, running Gnome.

Top Right: Posted by menotu, June 12, 2010, running KDE 4.

Bottom Right: Posted by Neal, June 25, 2010, running PCLXDE.


Applications
Places
System
Computer
muser's Home
Configure Your Computer
HeliSimRC
Synaptic Package Manager
Synergy
Trash
[Log]
7:18 AM


My Documents
PCLinuxOS
[June screensh...
08:32:28