The NEW PCLinuxOS Magazine

Gtk Lightweight Desktops:
Xfce & LXDE Special Edition

November, 2010

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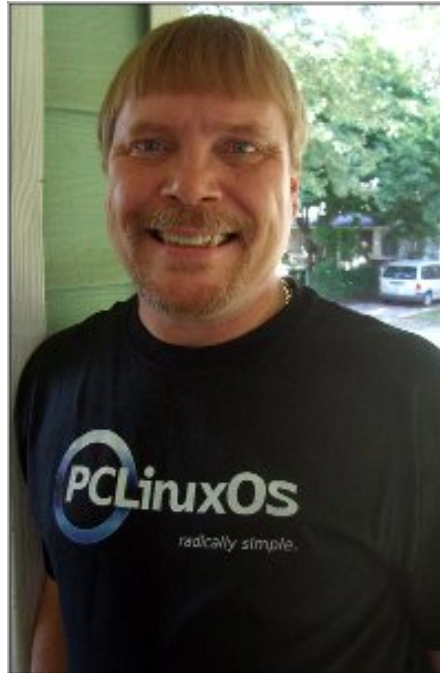
Welcome From The Chief Editor

Welcome to the Gtk Lightweight Desktops: Xfce & LXDE Special Edition of The NEW PCLinuxOS Magazine! We have collected all of the articles all of the articles we have ran over these small, but mighty, popular desktop environments, and placed them here, in one special edition of the magazine for your handy reference.

With the current tough economic times, users are trying to milk as much life from their older, aging hardware as they possibly can. Users are dusting off and digging out older computer hardware that may have been stashed into the back of a closet. Or, they may rescue older hardware from uninformed users who are simply upgrading their old computers to hardware that's more capable of running the latest offerings from the commercial software vendors. Heck, some users may even be doing some "curb-side" recycling, snatching up computers that other users have set to the curb for the garbage collector.

Unfortunately, that older hardware frequently struggles to run the more popular, full-featured desktops, such as KDE 4 and Gnome. Forget about running the latest (and grossly bloated) offerings from the commercial software vendors on this older hardware. This is definitely the niche that the lightweight Gtk desktops fulfill quite adeptly and nicely. Of course, there are the added benefits of speed, lower processor load and a smaller memory footprint when used on faster, more modern computer systems.

The cover for this special edition of the magazine comes from Tony Delgrosso's blog, delgrosso dot com (photo used under the Creative Commons Attribution-Noncommercial-Share-Alike 2.0 United States Licence). I found it a fitting metaphor for the lightweight Gtk desktop environments: like Wall-e, they are small but mighty, and able to get the job done, no matter the odds.

We, the magazine staff, hope you find this special edition of the magazine useful as you explore these lightweight Gtk desktops.

Xfce 4.6.2: An Overview

by Paul Arnote (parnote)

When you ask Linux users about their favorite desktop environments, most users are going to say KDE or Gnome. And while both offer fine, full featured desktops, their "full featured-ness" tends to make them a bit heavy when it comes to RAM usage or processor usage. So what about users who want to run Linux on their more modest older hardware, which may not have the processing power or RAM to support either of the "big daddies" of the desktop?

This is where Linux shines, by offering alternate desktop environments. These "other" desktop environments are typically less hungry when it comes to processor power or RAM, enabling them to run with ease on older, more memory-limited hardware.

One such desktop environment is Xfce. In the PCLinuxOS line of offerings, Phoenix 2010 showcases the abilities of Xfce. It does so, while remaining capable of running on older hardware with a minimum of RAM. Xfce can easily run on a Pentium III with only 256 MB of RAM. You can only imagine how well it performs on newer hardware.

About Xfce

Xfce was started in 1996 (the same year as Gnome), and stood (at the time) for XForms Common Environment. Since that time, Xfce has been rewritten twice and no longer uses the XForms toolkit. Hardly anyone at the time wanted to include it, because it depended on the closed-source (but free for private use) XForms toolkit. Finally, in 1999, Olivier Fourdan started a full rewrite of Xfce, based on the GTK+ libraries. In February 2001, Xfce 3.8.1 was uploaded to SourceForge.net. Starting with Xfce 4.4.0, Xfce was updated to the GTK+ 2.0 libraries.

From the Xfce website:

*"Xfce is a lightweight desktop environment for various *NIX systems. Designed for productivity, it loads and executes applications fast, while conserving system resources." - Olivier Fourdan, creator of Xfce*

Xfce embodies the traditional UNIX philosophy of modularity and re-usability. It consists of a number of components that provide the full functionality one can expect of a modern desktop environment. They are packaged separately and you can pick among the available packages to create the optimal personal working environment.

Another priority of Xfce is adhereance to standards, specifically those defined at freedesktop.org.

Xfce can be installed on several UNIX platforms. It is known to compile on Linux, NetBSD, FreeBSD, OpenBSD, Solaris, Cygwin and MacOS X, on x86, PPC, Sparc, Alpha...

Built using the GTK+ 2.x libraries (the same as Gnome), Xfce aims to provide the user a fast, responsive desktop environment, while maintaining an attractive appearance, and without the bloat. In essence, it aims to be lean and mean, but give the user the most options on a stable platform.

Having been around for over 10 years, Xfce has matured to the point where it meets those goals. It has its own window manager (xfwm). It has its own file manager (Thunar, named after the Nordic god of thunder). Xfce has a whole host of additional panel applets to add functionality. It also has a whole host of applications written for it, to take advantage of the Xfce goals. These include media players, a screen shot utility, a window compositor, a special version of Cairo dock, a text editor, a CD/DVD burning application, its own bitTorrent client, a weather forecast applet, and a whole host of other specially-tailored applications.

Being written using the GTK+ 2.0 libraries, Xfce can take advantage of virtually any other application written using the GTK+ 2.0 libraries. This includes applications written for Gnome. Care should be exercised when utilizing or choosing Gnome applications, since some Gnome applications will pull in large amounts of the Gnome libraries, thus conflicting with the Xfce goal to create a functional and fast desktop for modest hardware, with minimal
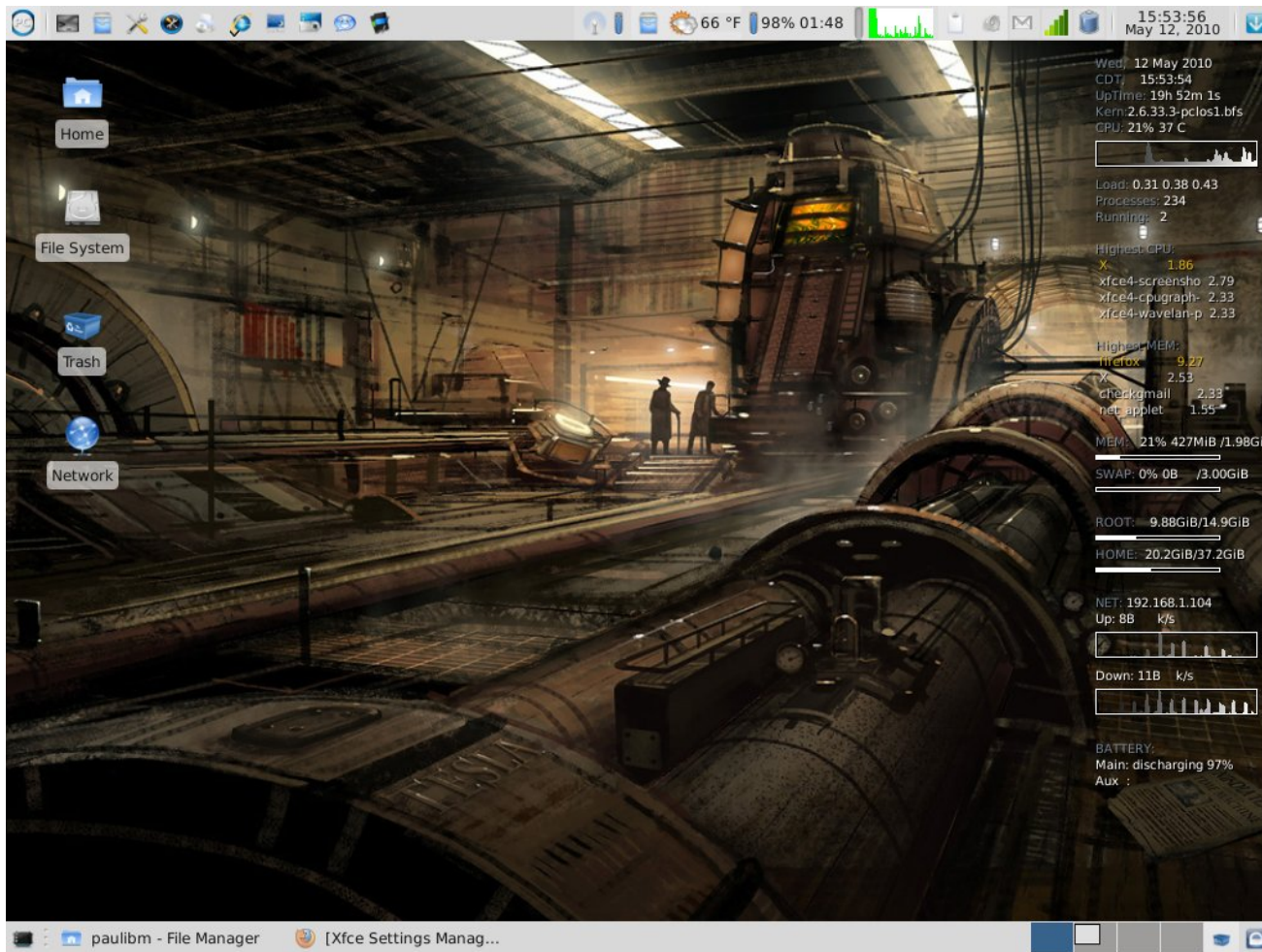
My desktop, as it appeared on my installation of Phoenix 2010 when this article was written.

what Xfce has to offer. The PCLinuxOS Magazine staff is planning to take a look at some of the things you can do with Xfce. Of course, we'll be using Phoenix 2010 as our guinea pig and role model. Here's some of what we have planned (the list is subject to change, and may not be all-inclusive):

* Creating your own xfwm themes.
* Adding/deleting items from the Xfce menu.
* Adding extra right-click functionality to Thunar.
* Covering the Xfce Settings Manager, in-depth.
* How to set up and customize your Xfce panels.
* Overview of Xfce panel applets.
* Taking a closer look at some of the Xfce specific programs.

After all, Linux is about choice, and Xfce is just one of the many choices that PCLinuxOS users have been given.

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)

software bloat. Yet other Gnome applications have virtually no dependencies on Gnome libraries, making them essentially GTK+ 2.0 applications, despite their naming that favors the Gnome desktop.

Taking a Close-Up View

So why am I doing an overview of Xfce? Over the next few months, we'll be taking a closer view at

Xfce 4.6.2: Customize Your Xfce Menu

by Paul Arnote (parnote)

Clicking on the "PC" menu in PCLinuxOS Phoenix 2010, you get a menu that is very reminiscent of the menu used in PCLinuxOS 2009 KDE 3.5.10, and earlier. Here is what the default menu in Phoenix 2010 looks like:
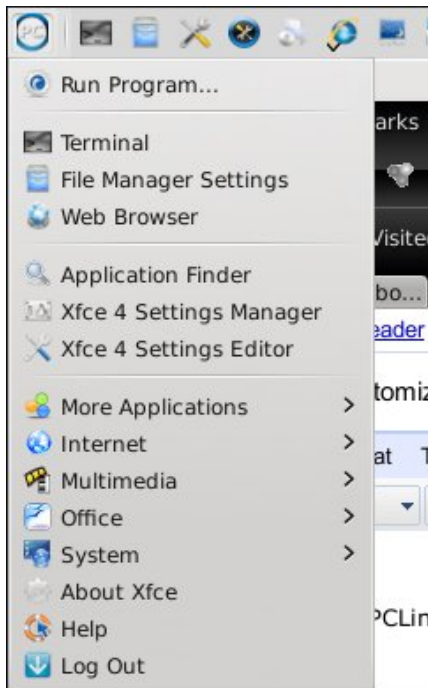
When you start digging into Xfce, it may not be readily apparent how you change your menu. Certainly, a menu editor would make customizing your menu a lot easier. In fact, there was one in previous versions of Xfce. The Xfce developers are very hopeful that the menu editor will make a return in Xfce 4.8.

Fortunately, it's not as difficult as you might suspect. Also, as with many things related to Linux, there may be more than one way to modify the Xfce menu. Let me show you the easy way.

Adding Menu Items

There is a way to add items to the Xfce menu so that it shows up for all users.

First, we need to create a .desktop file. Xfce adheres to the freedesktop.org standards, just like KDE and Gnome. Part of those standards include the standardization of the .desktop file. These .desktop files are typically stored in **/usr/share/applications**, and from there, they are available to all users on the computer. You can read more about the freedesktop.org standards for .desktop files, if you are interested.

If you were to access (as the root user) these files in a text editor, such as Mousepad in Xfce, you might see something quite similar to the one below that was created for xfce-screenshooter.

```
[Desktop Entry]
Version=1.0
Name=Screenshooter
Name[bg]=Снимка на екрана
Name[ca]=Captura
Name[cs]=Snímek obrazovky
Name[da]=Skærmbillede
Name[de]=Bildschirmfoto
Name[el]=Στιγμιότυπο οθόνης
Name[en_GB]=Screenshot
Name[es]=Captura de pantalla
Name[et]=Ekraanipilt
Name[eu]=Pantaila-argazkia
Name[fi]=Kuvakaappaus
Name[fr]=Capture d'écran
Name[gl]=Captura de pantalla
Name[hu]=Képernyőkép
Name[id]=Cuplikan Layar
Name[it]=Istantanea
Name[ja]=
Name[nb]=Skjermbildekopi
Name[nl]=Schermafdruk
Name[pl]=Zrzut ekranu
Name[pt]=Captura de ecrã
Name[pt_BR]= Captura de tela
Name[ro]=Captură de ecran
Name[ru]=Снимок экрана
Name[sv]=Skärmbild
Name[tr]=Ekran görüntüsü
Name[uk]=Знімок екрану
Name[ur]=وش نیرکس
Name[ur_PK]=وش نیرکس
Name[vi]=Ảnh chụp màn hình
Name[zh_CN]=
Comment=Take screenshots of the entire
screen, of the active window or of a
region
Comment[bg]=Направи снимка на целия
екран, от активния прозорец или от
района
Comment[ca]=Fes les captures de tota
la pantalla, de la finestra activa o
d'una regió
Comment[cs]=Pořizuje snímky celé
obrazovky, aktivního okna nebo zvolené
```

oblasti
Comment[da]=Tag skærmbillede af hele
skærmen, af det aktive vindue eller af
et område
Comment[de]=Bildschirmfoto des ganzen
Bildschirms, des aktuellen Fensters
oder eines Bereichs erstellen
Comment[el]=Λήψη στιγμιοτύπου οθόνης
ολόκληρης της οθόνης, του ενεργού
παραθύρου ή της περιοχής
Comment[en_GB]=Take screenshots of the
entire screen, of the active window or
of a region
Comment[es]=Realiza capturas de la
pantalla completa, de la ventana
activa o de una zona
Comment[et]=Tehke ekraanipildid
tervest ekraanist, käsilolevast aknast
või alast
Comment[eu]=Panataila osoaren, aktibo
dagoen leihoaren edo panatailaren
eremu baten pantaila-argazki bat egin
Comment[fi]=Kaappaa kuvia koko
näytöstä, aktiivisesta ikkunasta tai
näytön alueesta
Comment[fr]=Prendre une capture
d'écran de l'écran tout entier, de la
fenêtre active ou d'une zone
Comment[gl]=Facer capturas de pantalla
de toda a pantalla, da ventá activa ou
dunha zona
Comment[hu]=Képernyőkép készítése a
teljes képernyőről, egy ablakról vagy
területről
Comment[id]=Ambil cuplikan layar dari
seluruh layar, dari jendela yang aktif
atau dari sebuah daerah
Comment[it]=Esegui l'istantanea

dell'intero schermo, di una porzione o
della finestra attiva.
Comment[ja]=

Comment[nb]=Ta en skjermbildekopi av
hele skjermen, det aktive vinduet
eller et område av skjermen
Comment[nl]=Schermafdruk maken van het
gehele scherm, het actieve venster of
van een deelgebied
Comment[pl]=Wykonuje zrzut całego
ekranu, bieżącego okna lub wybranego
obszaru
Comment[pt]=Capturar imagens de todo o
ecrã, da janela activa ou de uma zona
Comment[pt_BR]=Obtem uma captura da
tela inteira, da janela atual ou de
uma região
Comment[ro]=Capturi ale întregului
ecran, ferestrei active sau unei
regiuni
Comment[ru]=Выполнить снимок всего
экрана, активного окна или региона
Comment[sv]=Ta skärmbilder av hela
skärmen, aktivt fönster eller ett
område
Comment[tr]=Tüm ekranın, etkin
pencerenin veya belirli bir alanın
ekran görüntüsünü alır
Comment[uk]=Отримати знімки всього
екрану, активного вікна або окремої
області
Comment[ur]=پوری سکرین، فعال ون و اى
مخصوص علاقہ کی تصویر اتار ی
Comment[ur_PK]=پوری سکرین، فعال ون و
اى مخصوص علاقہ کی تصویر اتار ی
Comment[vi]=Chụp toàn bộ màn hình, hay

cửa sổ đang kích hoạt hay một vùng màn
hình
Comment[zh_CN]=

Icon=applets-screenshooter
Exec=xfce4-screenshooter
Type=Application
StartupNotify=true
Terminal=false
Categories=GTK;Utility;X-
MandrivaLinux-Multimedia-Graphics

These .desktop files are typically created when you install a package from Synaptic, and the above is a typical example of one such .desktop file. You can also create a simpler, more abbreviated version, which is handy when you don't need all the language translations for the Comment portion of the file. A minimal .desktop file might look something similar to Leiche's SystemInfo program, as seen below:

[Desktop Entry]
Name=systeminfo
Type=Application
Comment=Show System Infos
Terminal=false
Exec=systeminfo %U
Icon=systeminfo.png
Categories=Infos;System;Monitor;
GenericName=Systeminfos
Encoding=UTF-8

In the minimalistic .desktop file above, it contains mostly only the required information. The "Name" parameter specifies the name of the program, as it will appear in the menu and is a required entry. There is also a "GenericName" entry, albeit an

optional one. It is considered good form to include it. For example, "Name" could have said "Firefox," while "GenericName" could have stated "Web Browser."

"Type" specifies that the file we are making a menu entry to is an application, and is another required entry. The "Comment" field holds the information that is revealed in a small pop up window when you hover your mouse over the menu entry.

You will also notice that the "Terminal" entry is set to false. If we wanted the application to open in a terminal session, we can change this parameter to "true." While this entry is not required, it is considered good form to include it. It also makes it possible to include menu entries for any favorite command line utility that you may like to run.

The "Exec" parameter is a required one. This is the command to execute to launch the item. Since our item is an application, it's command we would use to launch the program. We can specify the graphic file to use as the entry's icon, with the "Icon" parameter. The "Categories" item tells us where to place the item in the menu heirarchy. Finally, the "Encoding" parameter specifies which character set is used to encode the .desktop file, so the system knows how to read or interpret it. It is an optional setting, but again, considered good form to include it. It is also recommended that it defaults to UTF-8 character encoding.

One setting we don't see in the SystemInfo .desktop file is the "URL" parameter. It is a required entry if the "Type" entry is link. In that case, we specify the URL (either a fully qualified Internet link, or a link to

a local file). This means that, if you want to, you can create a .desktop file for one of your favorite Internet sites (possibly the PCLinuxOS Forum), or a file you frequently access on your computer.

Of course, you can create the .desktop file by hand, in a text editor. Fortunately, there is a GUI that helps create them.

GUI Creation of .desktop Files

First, open a terminal session, and change to the root user. Once you have root privileges, enter the following on the command line:

`exo-desktop-item-edit --create-new /usr/share/applications`

This will display a window, like in shown in the previous column.

Now enter the requested information. On the "Name" line, enter what you want to display in your menu item. On the second line, Comment, enter the information you want displayed when you hover your mouse over the menu item. The "Command" line is, as you might guess, the command you want to execute when you select the menu item. Here, I'm playing a wave sound file, r2d2-1.wav, when the menu item is selected. Obviously, you may want your menu selection to do something more significant than listen to r2d2 beep about your computer. Next, click your mouse on the "No Icon" button, and choose an icon you want to use to represent your menu entry. Click on "Create" to have your new .desktop file created in **/usr/share/applications**.

(Tip: if you plan on doing much of this, you may want to make a menu entry using the command above, to make it easier create additional menu entries. If you do, you need to change your command line to read **gksu -l 'exo-desktop-item-edit --create-new /usr/share/applications'** and when launched, it will properly ask for the root password. You *must* have root privileges in order to save the new .desktop file to **/usr/share/applications**.)

We're Almost There ...

There's only one more thing we have to do, and that is to specify where to place the menu item within the menu hierarchy. Notice that we really haven't messed with the menu hierarchy. That is defined elsewhere on your system. You can take a look at it by going to **/etc/xdg/menus/applications.menu**. But whatever you do, *do not* change anything there, unless you REALLY know what you are doing. You've been warned. All we are doing here is adding menu items within that menu hierarchy.

With root privileges, go to **/usr/share/applications**, and open the .desktop file you just created. Look for the "Categories=" section. At the end of whatever is on that line, add the following:

X-MandrivaLinux-Multimedia-Sound

This tells Xfce to place a menu item in the Sound sub-menu of the Multimedia menu (we are still presuming that we are playing the sound file from our example earlier). If you followed the tip above about how to put the GUI for creating .desktop files, you may want to put a menu item under System > Configuration. In that case, you would append the "Categories=" line with the following:

X-MandrivaLinux-System-Configuration

This will insert a menu item under System > Configuration with the name you specified and the icon specified. Trust me, it's a lot easier than it sounds.

Removing Menu Items

Lastly, if we can add menu items, we may also want a way to remove a menu item, as well. There are two ways to do this. First, we can simply delete the .desktop file from **/usr/share/applications**. But this method is destructive, and leaves you with no option to get the entry back should you later change your mind. You also lose all mime associations with that program, which may not be a good thing.

Fortunately, there's a much easier and less destructive way to remove a menu item. Simply add the following line to the .desktop file you want to remove from the menu:

NoDisplay=true

The .desktop file is preserved, as are all the mime associations with that program. And, should you change your mind and want the program represented by your .desktop file to appear in your menu once again, all you have to do is remove that line.

Conclusion

As you can see, it's relatively easy to add and remove items from your Xfce menus. Certainly, it would be a lot easier if there were a GUI menu editor, but then the Xfce developers are aiming to have that back in the mix in version 4.8.x of Xfce. Still, the process is not difficult, even if it is not readily apparent how to add or remove menu items.
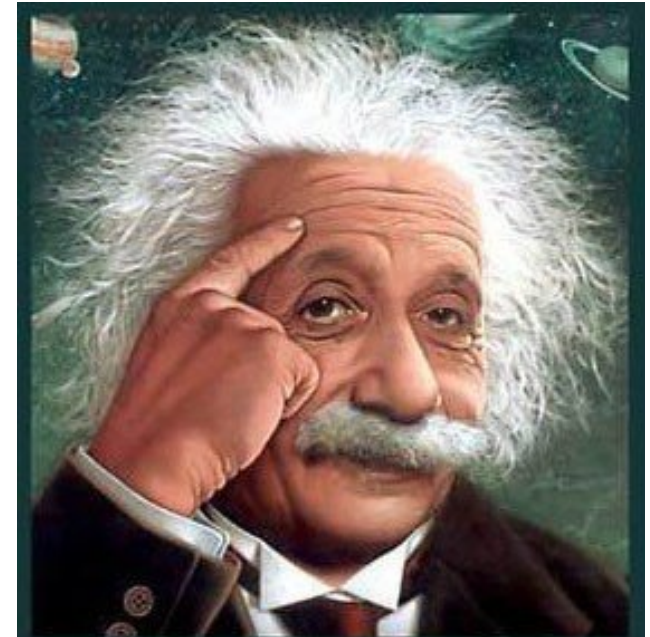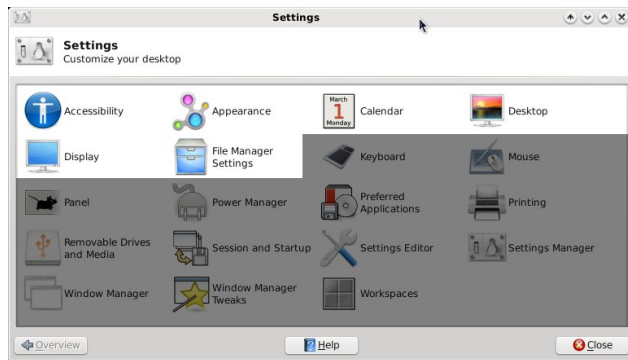
It's easier than E=mc²
It's elemental
It's light years ahead
It's a wise choice
It's Radically Simple
It's ...

PCLinuxOS
Radically Simple

by Paul Arnote (parnote)

Despite being one of the lighter weight desktop environments, Xfce boasts a fairly comprehensive settings manager, where you can easily tailor the behavior of Xfce and its appearance.

Starting this month, and concluding two months from now, we'll take a three part look at the Xfce Settings Manager. Each month, we'll take a look at six of the categories in the settings manager for controlling Xfce. Notice that there are usually 19 categories, but we'll only cover 18, since one of the icons simply launches another instance of the Xfce Settings Manager.

Accessibility

The first tab in the Accessibility section of the Xfce Settings Manager, Keyboard, allows us to choose if we want to "Use sticky keys." Sticky keys are useful for those users who may have a disability that prevents them from using a keyboard in the
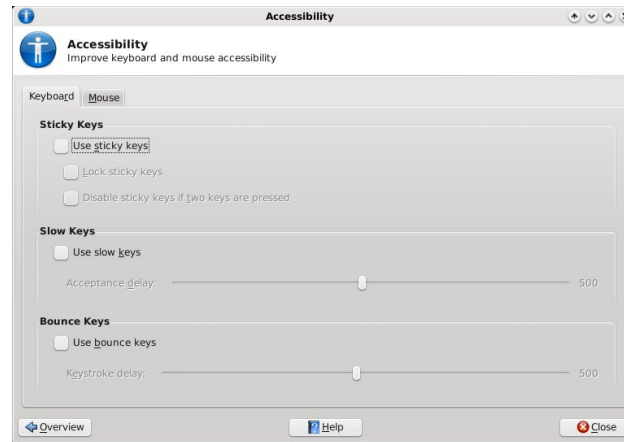
traditional manner. So by using sticky keys, it prevents the user from having to press two keys together (such as Shift + G or Ctrl + C).

The user can also choose to "Use slow keys." This allows much greater time between key presses. The "Use bounce keys" setting helps improve keyboard
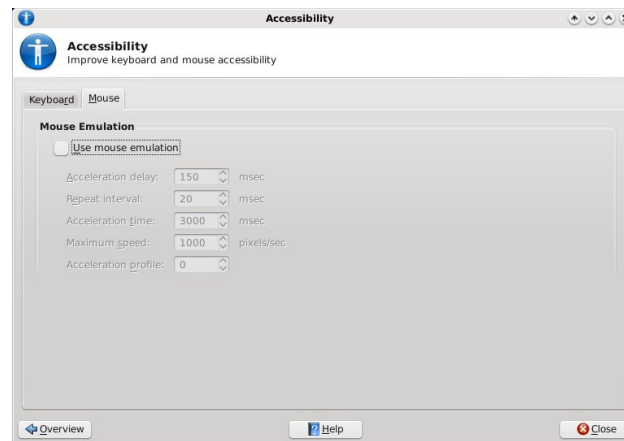

accuracy for those who may not have as much dexterity, and prevents multiple occurrences of a letter if the key experiences a "bouncing" touch.

Under the Mouse tab, the user can choose to "Use mouse emulation." This is helpful for someone who lacks the dexterity to use a traditional computer mouse, but can operate the keyboard and use keys to move the mouse cursor around the screen.

The default setting in Phoenix 2010 is to have all accessibility options turned off.
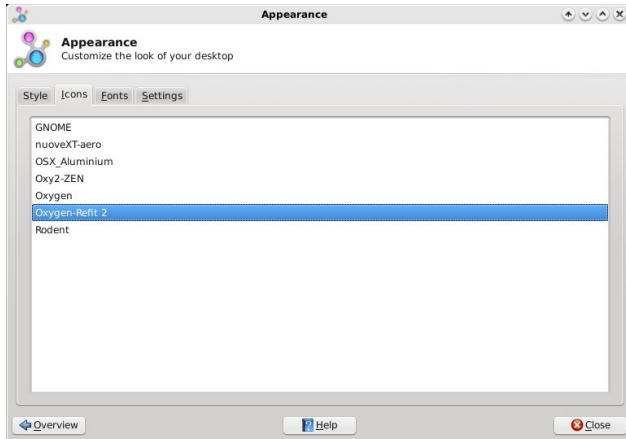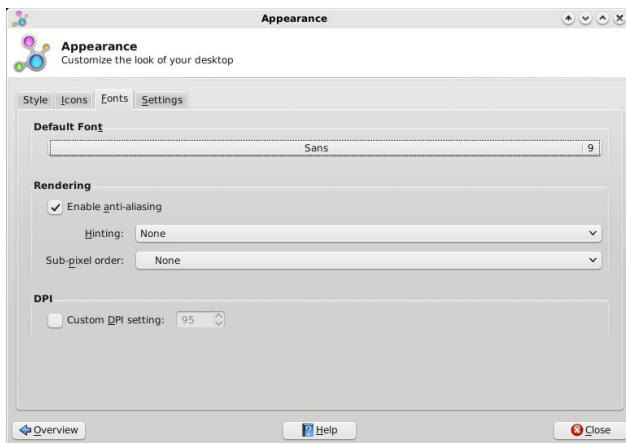
Appearance
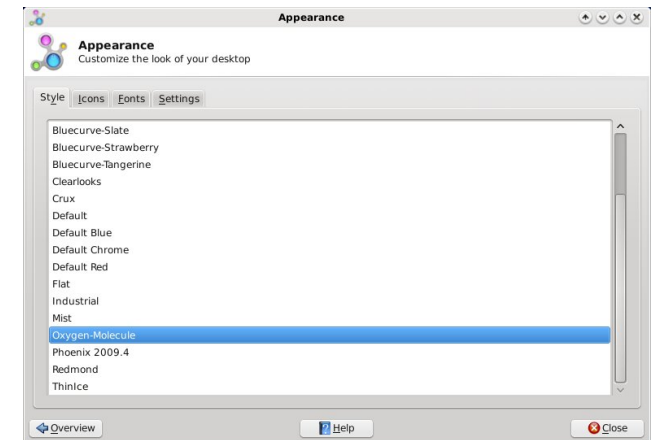
Under Appearance in the Xfce Settings Manager, you can make settings related to Xfce's appearance on your computer. The first tab, Style, allows you to select the xfwm (window manager) style you want to apply to the decorations of the windows displayed

on your screen. We'll talk more about xfwm themes later, in another article. The default setting in Phoenix 2010 is Oxygen-Molecule.

The second tab, Icons, allows you to select which icon set to use. The default in Phoenix 2010 is Oxygen-Refit 2.

The third tab under Appearance, Fonts, allows you to select which font to use when Xfce displays the text of the window title bars, used for the text displayed under the desktop icons, or the text displayed on the task list in the panel. The default font in Phoenix 2010 is Sans, 9 point. Under the rendering section, you can enable anti-aliasing of the fonts displayed on your system (the default), or turn it off. You can also turn on font hinting and the sub-pixel order to use to display your fonts. The default in Phoenix 2010 is to have font anti-aliasing enabled, with font hinting and sub-pixel order both set to "None." You can also set a custom DPI setting for the display of fonts, if you choose. By default, it is turned off.
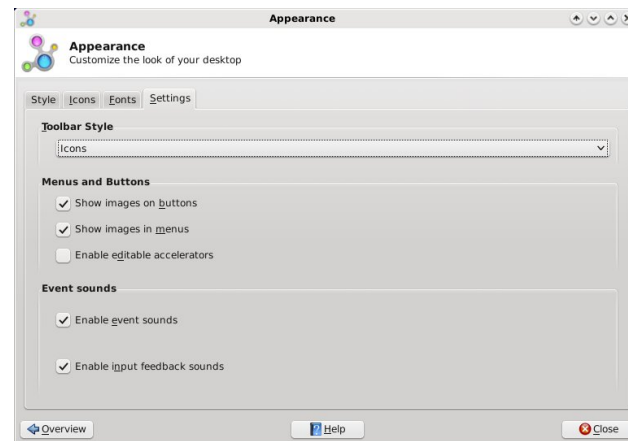
The last tab under Appearance, Settings, allows you to select the style for the display of toolbars. The default is "Icons" in Phoenix 2010. You can also set options for "Menus and Buttons," where you can choose whether or not to show images on buttons, show images in menus, or to enable editable accelerators in those menus. The last section of the

Settings tab, Event Sounds, allows you to choose whether or not event sounds are enabled (off by default), and whether to enable input feedback sounds (also off by default).

Calendar

Xfce sports its own calendar application, called Orage. This calendar program it tightly integrated into the Xfce desktop, is highly configurable, and can be set to alert you to appointments and important dates with either a message popup, or with a sound notification. It also allows you to specify a "to-do list" that is linked to your calendar. Orage also sports a panel plug in, but the plug in is not active in a default installation of Phoenix 2010.

Under the first tab (above), you can set the time zone for the proper display of the current time. You can also set the archive threshold in the number of months. By default, this is set to "0," or no archiving.
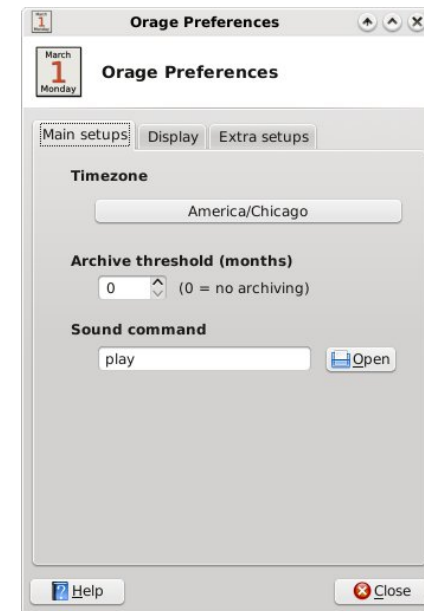
You can also set the file name of the sound file you might want to play when an event occurs.
The second tab, Display, allows you to specify how
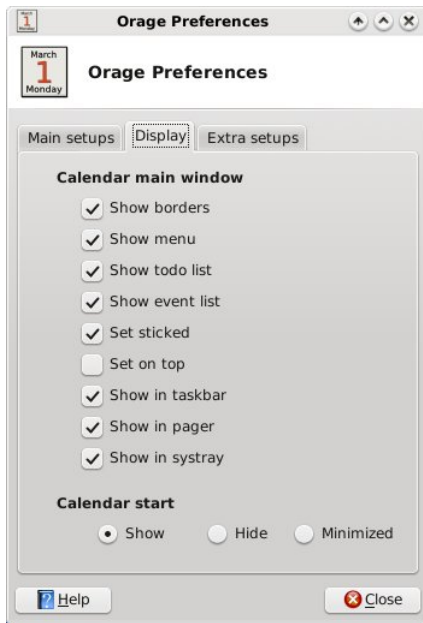
to display the Orage Calendar main window. The list of options are fairly obvious as to what each does.

The third tab, Extra Setups, allows you to make further customizations to the calendar display. You can choose whether today's date is always selected when the calendar is opened. You can also select the dynamic icon size for Orage to use. The last setting allows you to select whether the Days view or the Event list is displayed when you double click on

a date in Orage. All the settings in the above graphic
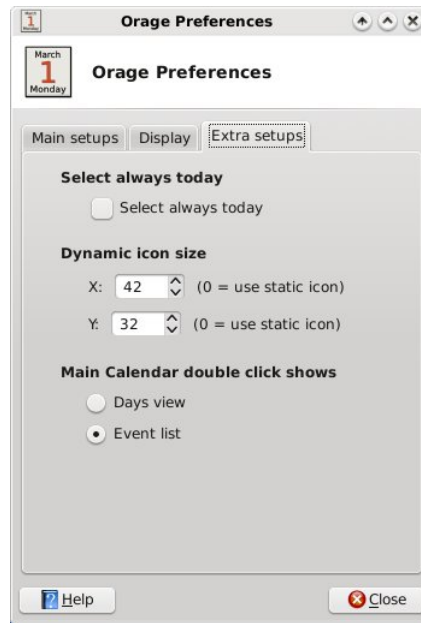
are the default settings in Phoenix 2010.

Desktop

Under Xfce Settings Manager's Desktop settings, you can further fine tune the appearance of your Xfce desktop. Under the first tab, Background, you can select the wallpaper to display. Under Phoenix 2010, the default wallpaper is simply called, "Default.png."

You can also choose to specify images in an image list. Create a new image list by selecting the third button from the left, under the thumbnail display section of the window. Give the image list a file
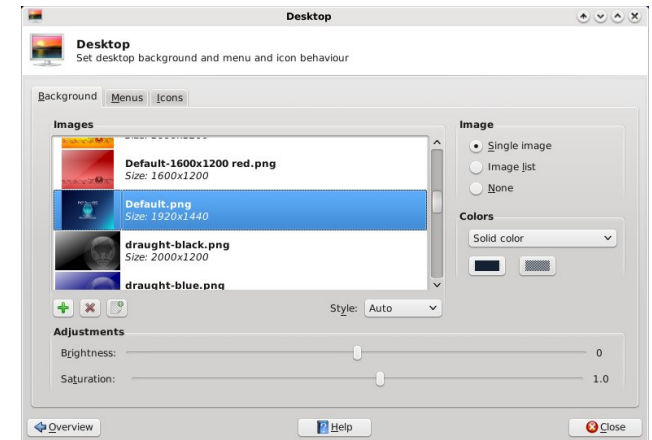
name (I used images.list) and store it in a location you choose (I chose to store the list in the same directory where I store all of my wallpaper files). Then, start selecting images to fill up that list. As you do, a thumbnail of the images you select and add to your list will start appearing in the thumbnail display section of the window. Now, each time you start Xfce, a random image from your image list will grace your desktop.

If simple colors are more your style for your desktop, you can also select to not use any image on your desktop. You can instead choose to use either a solid color, a horizontal gradient, a vertical gradient, or select transparency. You set the background colors below the drop down selection box where you choose the type of color display.

If you want to add one of your own wallpaper files to the list of files to choose from in the thumbnail selection window, simply click on the green "+" button, and select the file you want to add. Similarly,

you can delete images from the thumbnail selection window by clicking on the red "X" button.

At the bottom of the screen, you can adjust the brightness and saturation of the image that's displayed on the desktop.
The second tab of the Desktop settings window
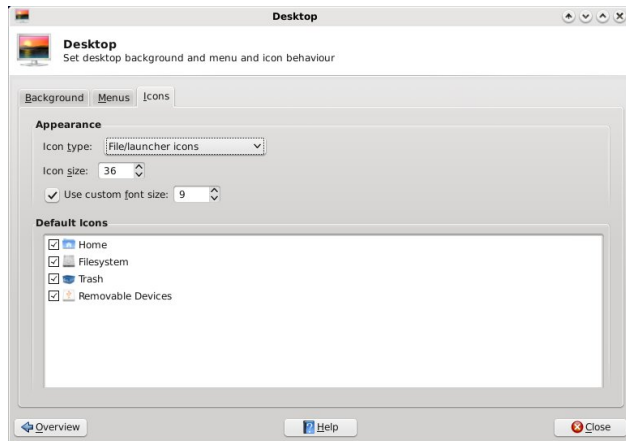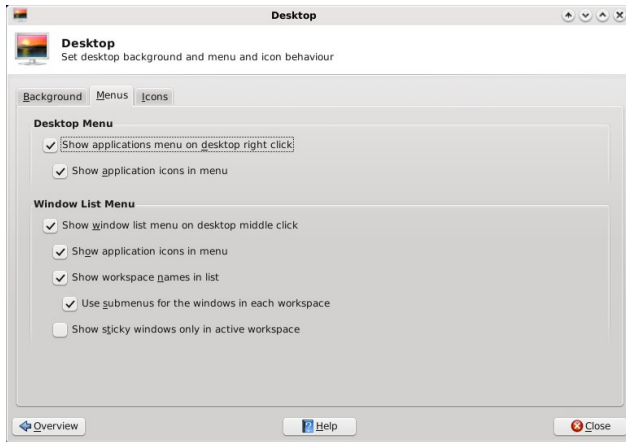
allows you to select how menus are displayed. Looking through the settings, I think you'll agree that the choices are self explanatory.

The third tab of the Desktop settings window, Icons, allows you to specify how icons are displayed on your Xfce desktop.

the left side of the window.

File Manager Settings

When you select File Manager Settings, you can select some of the behavior of Thunar, the default file manager in Xfce. Under the first tab, you can select items relating to the default view Thunar will provide. You can view new folders using the default value of "Last Active View," which means that it will display your new folders exactly how you have your current view portal set up, or you can choose "Icon View," "Compact View," or "Detailed View." Right below that, you can select whether or not you want folders to appear before files in a directory listing, and whether or not to display thumbnails.

Under "Icon View," you can select whether the text appears below the icon (the default setting), or if it appears next to the icon, to the side.
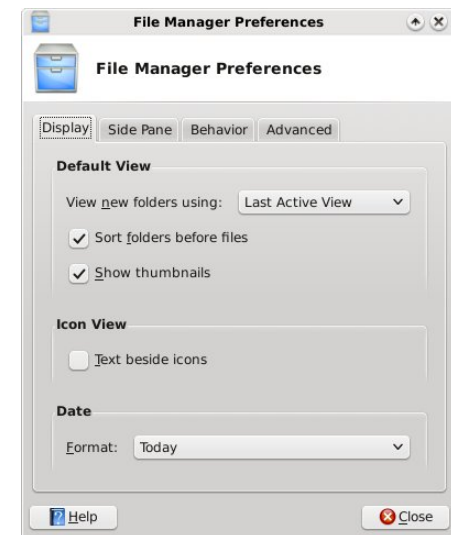
Display

The Display setting does pretty much what you might expect it to do: it allows you to set up the display of Xfce on your monitor. You can choose the resolution, the refresh rate and the orientation of the screen rotation. If you have more than one display adapter on your system, you will also see it listed on

You can also select how Thunar displays the date of your files. The default value is "Today."

Under the second tab, "Side Pane," you can select how you want icons to be displayed in the Shortcuts Pane, and in the Tree Pane views.

The "Behavior" tab allows you to select whether Thunar opens files with a single or double click of the mouse.
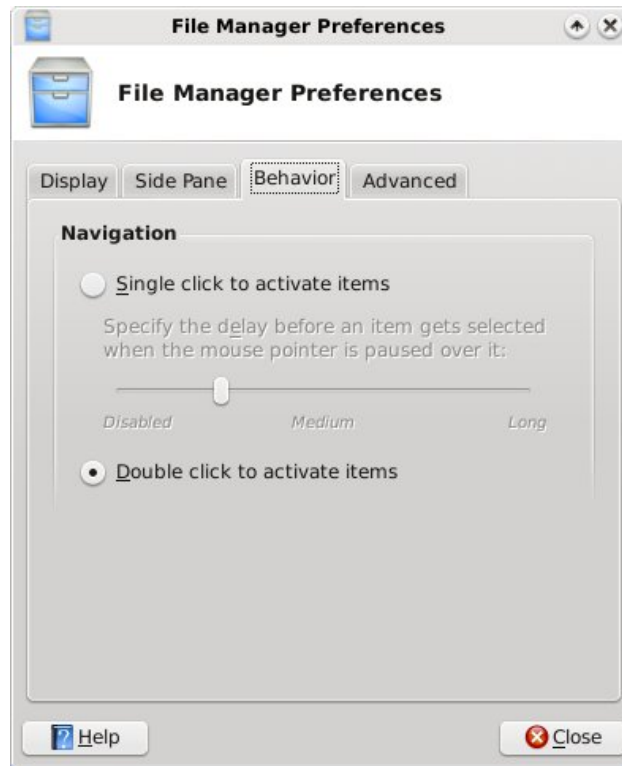
With the "Advanced" tab, you can specify how Folder Permissions are handled, and whether or not volume management is enabled. Typically, on a home installation, you will want to have volume management enabled, so that Xfce will be able to see and access USB drives (flash or otherwise), as well as any cameras you might want to connect, so you can download the images to your computer.

Conclusion & Things To Come

As you can see, the Xfce Settings Manager has a lot of configuration options, packed into a tight space. We've only just begun. Next month, we'll take a look at the next six Xfce Settings Manager applets, starting with Keyboard settings, and ending with the Printer settings.

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:
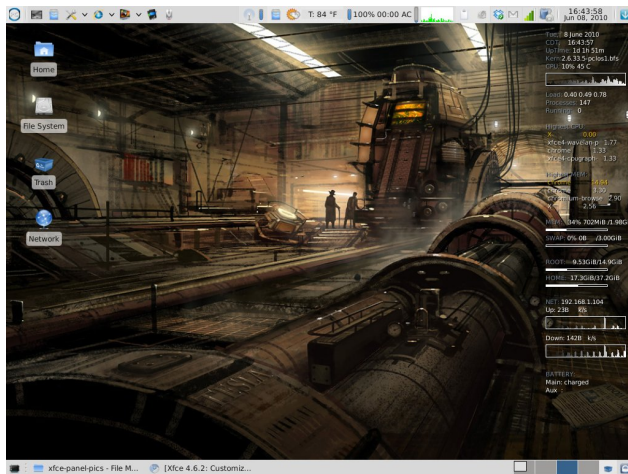

Granted, I have added panel plug ins to make my life easier under Xfce, but the above represents the default location of the default panels in Xfce. However, you don't have to live with things as they come with an "out of the box" Xfce installation. I installed the Xfce desktop on my netbook to take 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:
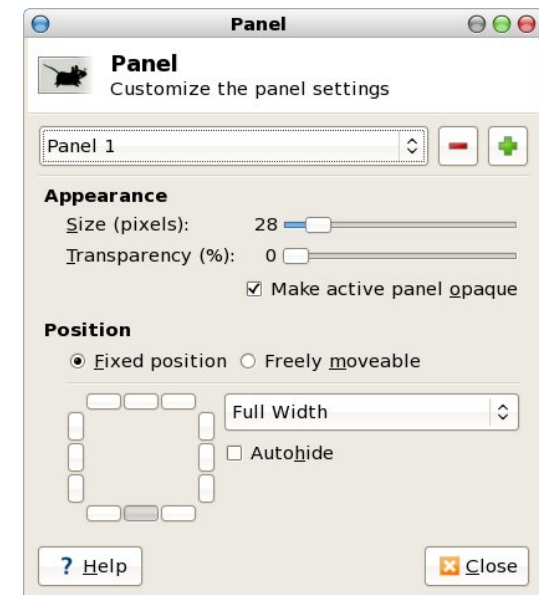
Next, I had to figure out a place to put additional launchers that I frequently use. I didn't feel as if I had enough screen real estate to include them in the bottom panel, so I created a second panel at the upper right corner of the screen, like this:

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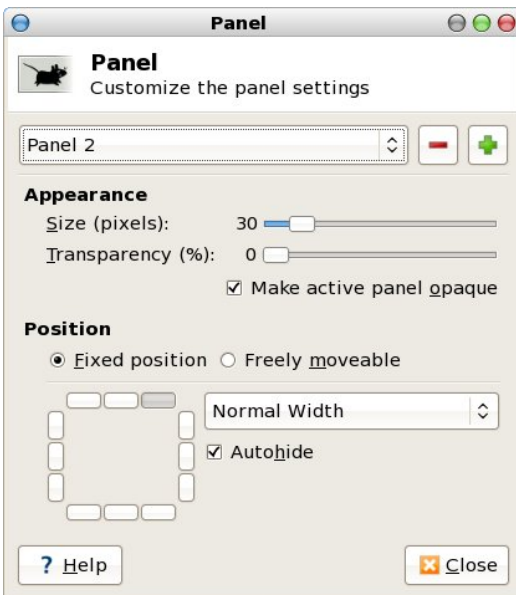
With the panel set to "Normal Width," it expands as needed to hold the items you decide to place there.

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.

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
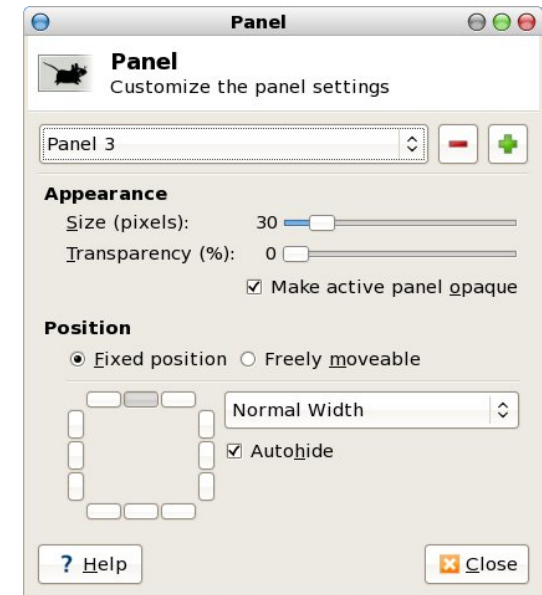
you do, *do not despair*! Here's how to get your Xfce panels back. It's actually very easy.

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.
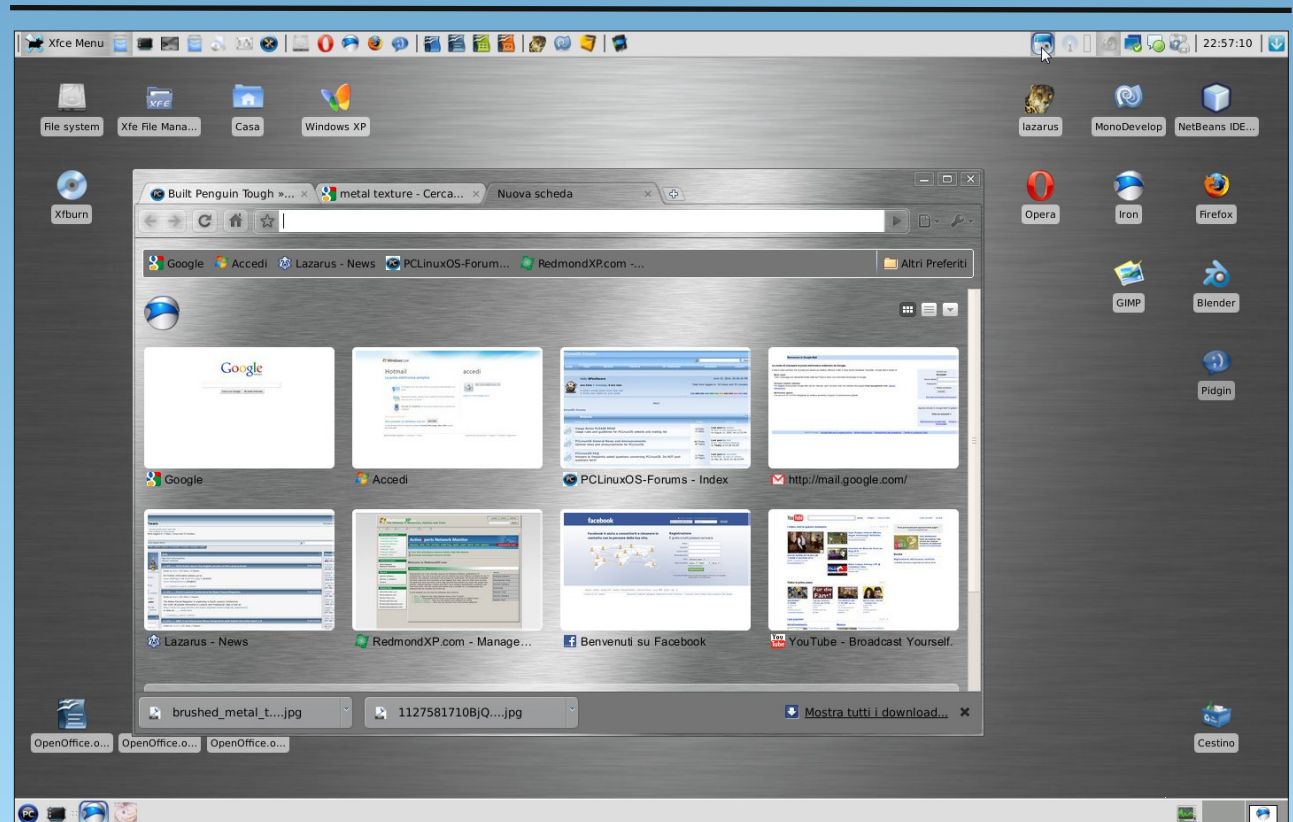
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Screenshot Showcase

Posted by BPsoftware, running Phoenix 2010.

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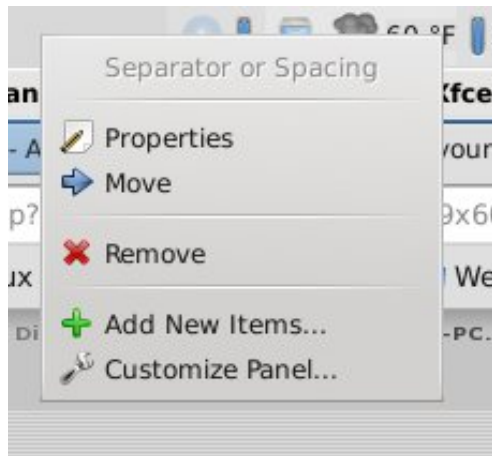
Select the "Add New Items..." menu item, and you will be presented with the dialog box displayed below. Just scroll through the (mostly) alphabetized list to find the plugin that you want to add. I say "mostly alphabetized," since Launcher appears at
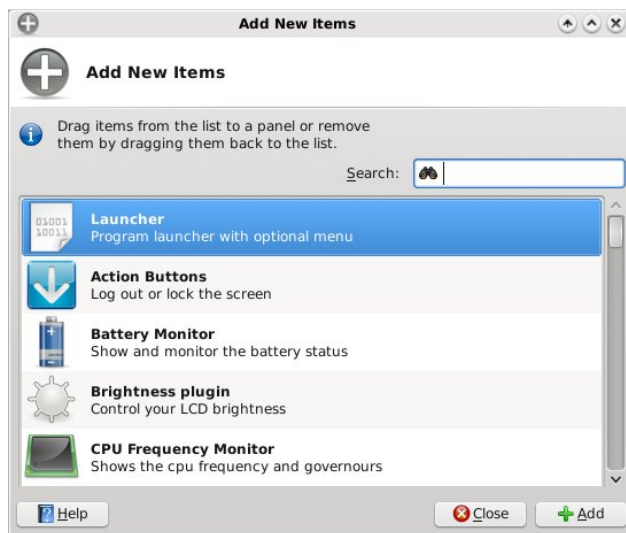
the top of the list, because it's the item most people add most often.

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.
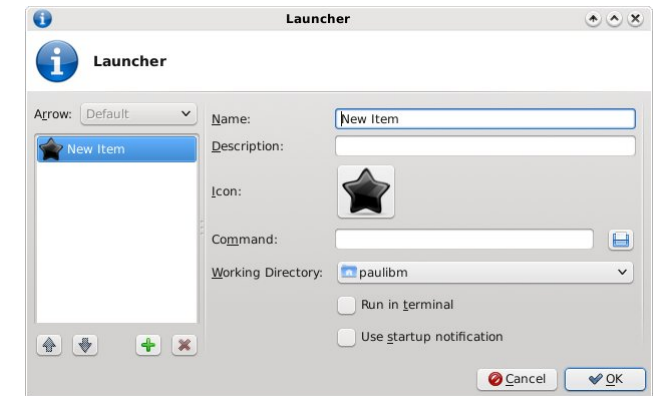
When you select to add a launcher to your panel, you are greeted with the screen shot above. In the first space, enter the name for your new launcher. Under description, whatever you put here will be displayed in the tool tip when you hover your mouse over it. Next, click on the black star icon, and 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.

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
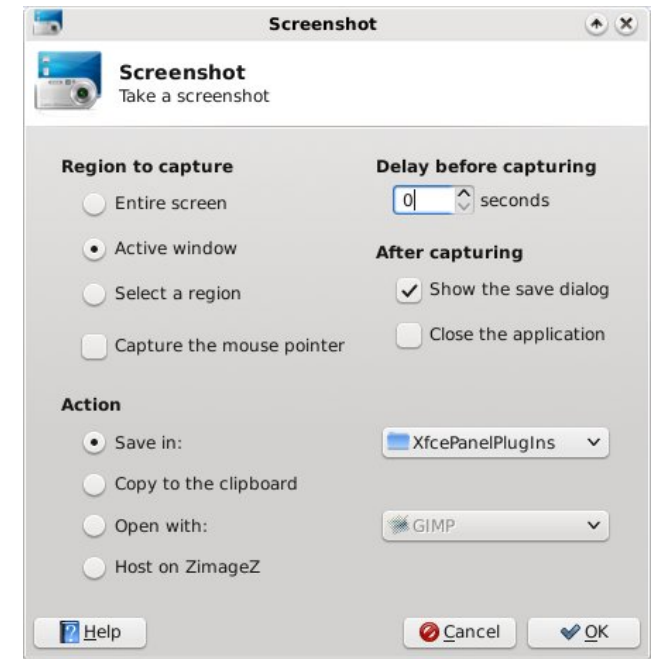
of the screen. The better (and easier) way to use Xfce-screenshooter is from a Launcher you place on your panel. You will not only have more options, but you will also have all the selections (entire screen, active window, region of the screen) right at your fingertips and easier to select on the fly. 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.

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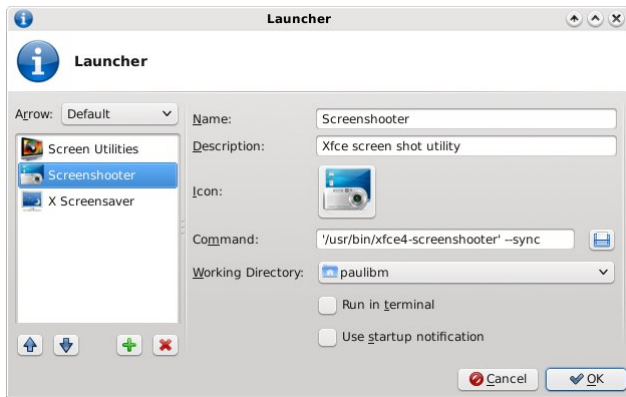
Take note of the command line used in the screen shot of the Launcher for Xfce-screenshooter, above:

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

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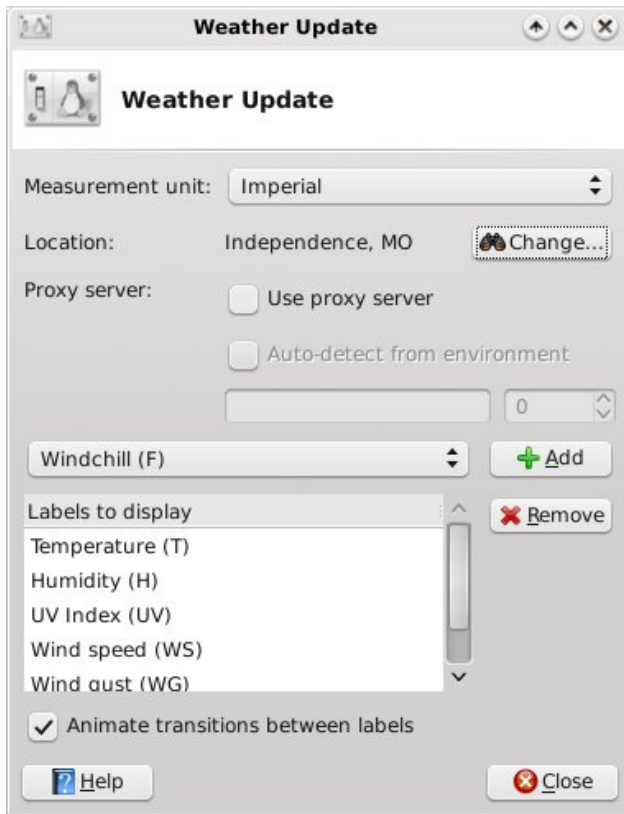
Battery Monitor

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.

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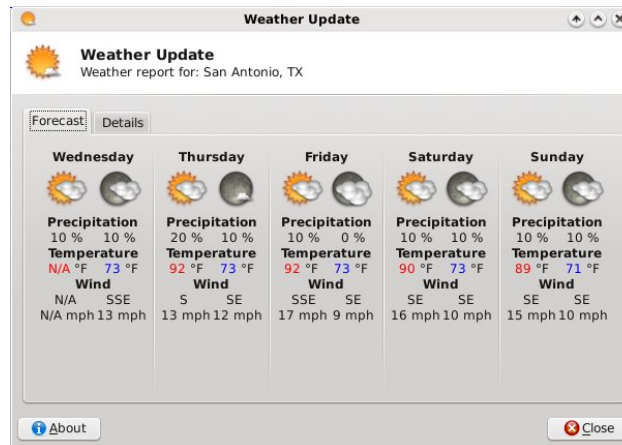
When you click the left mouse button on the Weather Update plugin, it will display an extended five day forecast for the selected location, just like the one shown in the screen shot above.

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.

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.

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.
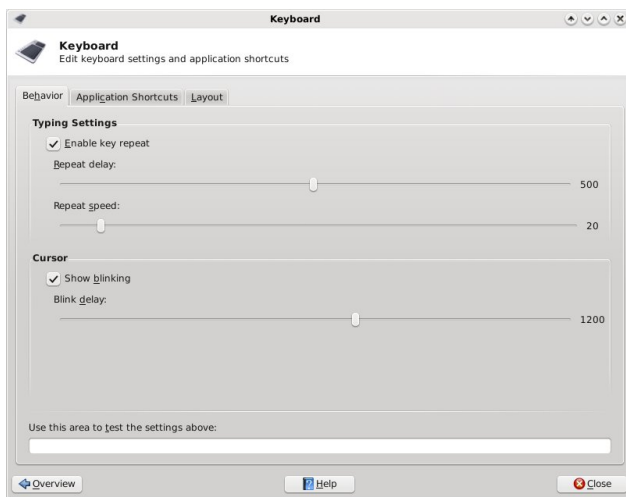
# Xfce 4.6.2: Xfce Settings Manager, Part 2

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.
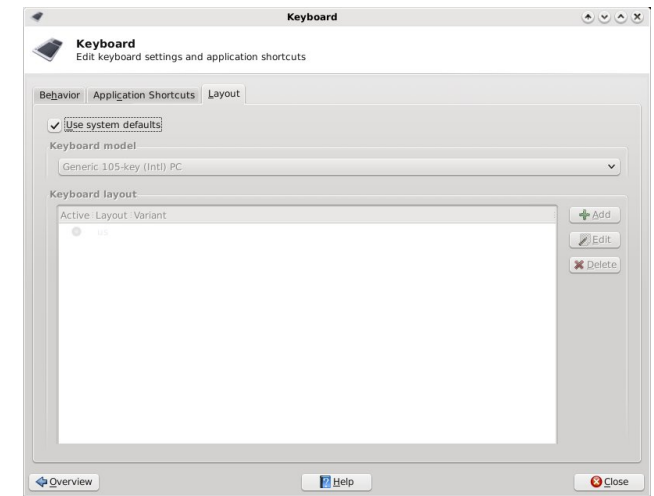
Keyboard

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.
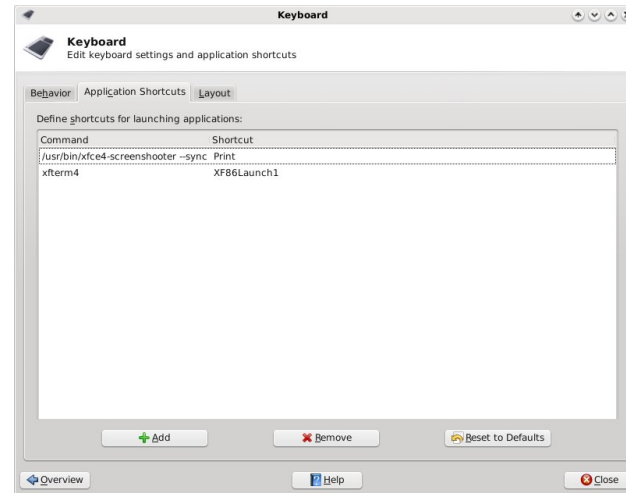
The second tab, Application Shortcuts, allows you to define shortcut keys to automatically launch applications. By default, there are no shortcuts defined. Here, in the screen shot above, I've defined two shortcut keys to launch two separate applications. You can specify programs to add by first selecting 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.

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.
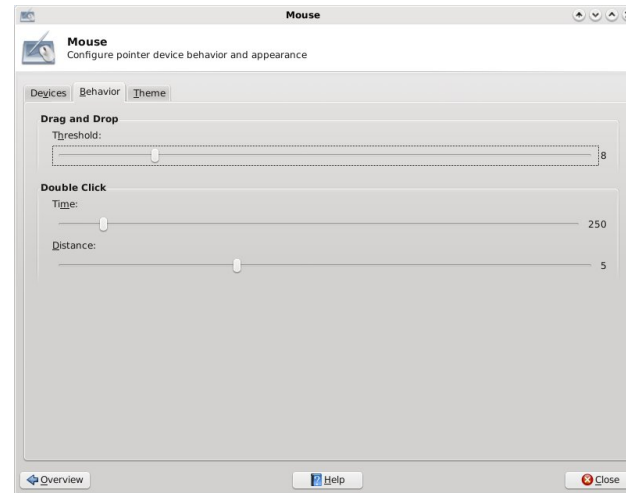
Mouse
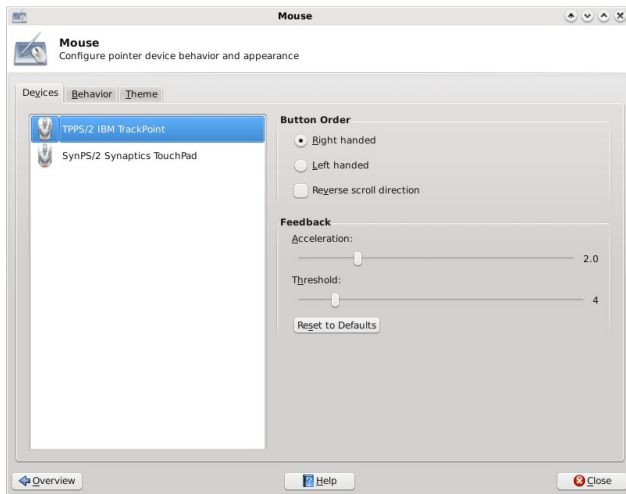
Under the Devices tab of the Mouse settings, you can select the button order of each of the devices attached to your computer. In fact, you can make the settings independently of the other. You can also set the Acceleration and Threshold for the mouse pointing device. If you somehow mess things up (or 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.

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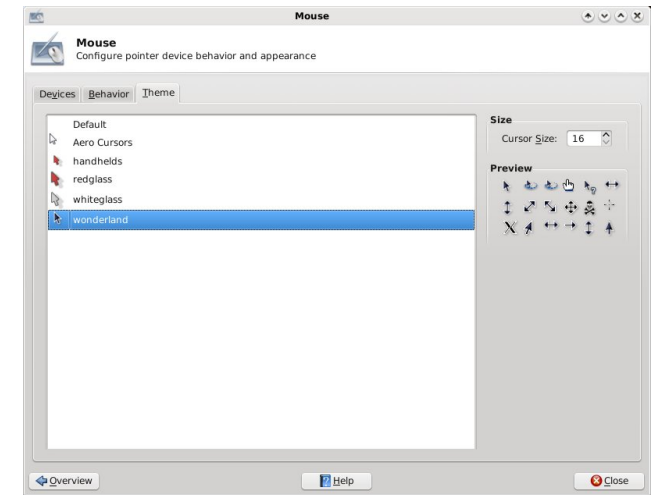
Panel
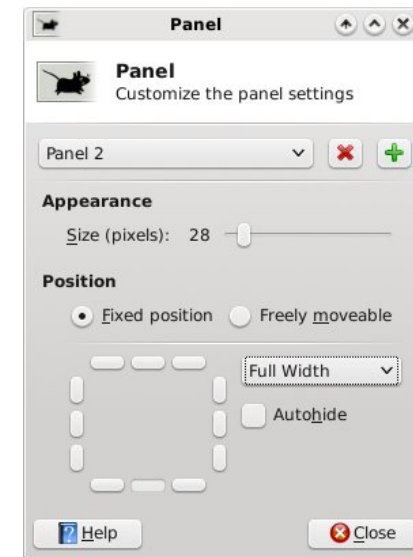
The Panel setting allow you to (you guessed it) tune and change the behavior of your panels in Xfce. The separate window shown in the screen shot above opens, and shows you the default settings for the two panels in a default installation of Phoenix 2010.

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

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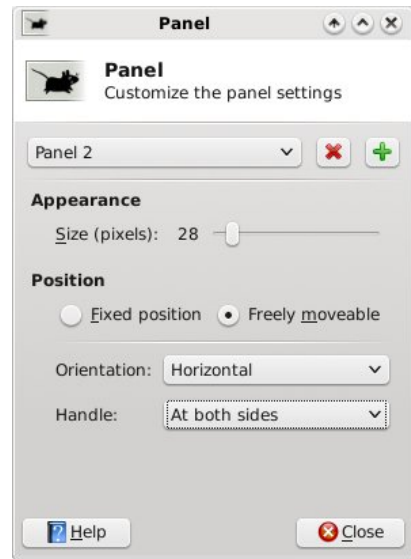 by selecting the red "X" button. Similarly, clicking the green "+" button allows you to define a new panel for your Xfce desktop

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
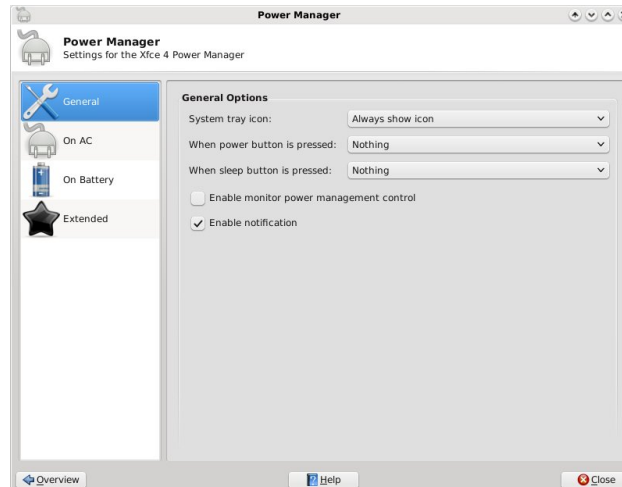
general parameters for the power plug in, as well as general parameters for what to do in the event that either the power or sleep buttons are pressed. I have my plug in set to always show an icon in the notification tray. I also have it set to "enable notification." The latter enables the power plug in to
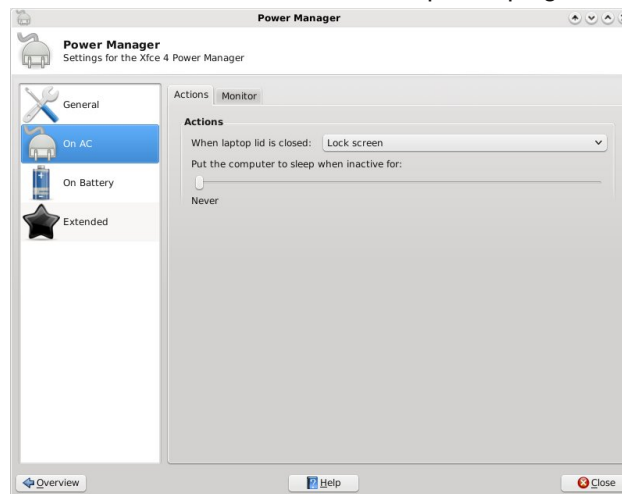
pop up notification windows, for example, should you be running off of the laptop battery and that battery starts to get low.

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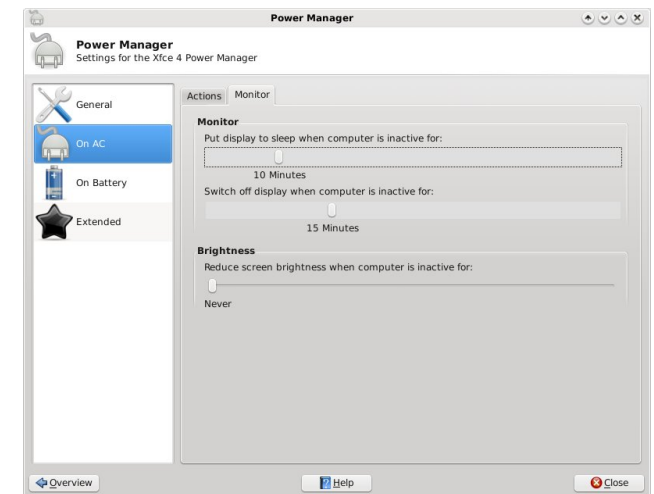
Under the Monitor tab (still under the "On AC" category), we can set the behavior characteristics for the Power Manager to apply. The same tab (albeit with more conservative settings) exists under the "On Battery" category of settings. The values in the screen shot above are the default values.

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

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).

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

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 Ph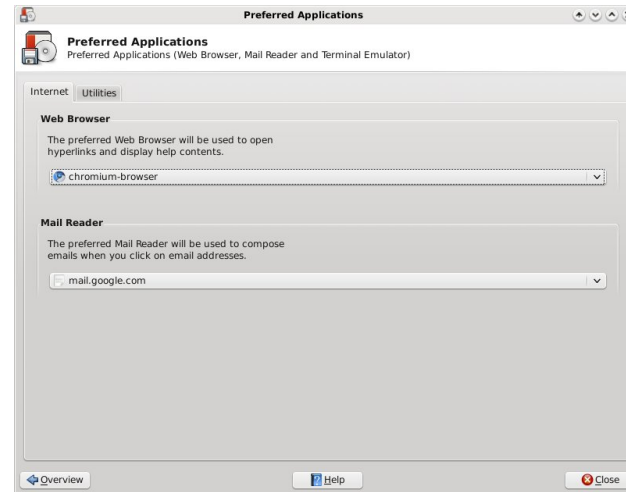oenix. If your preferred browser or mail reader is not listed when you open the drop-down selection box, choose "Other ..." and point to the program you want to use from the window that opens.

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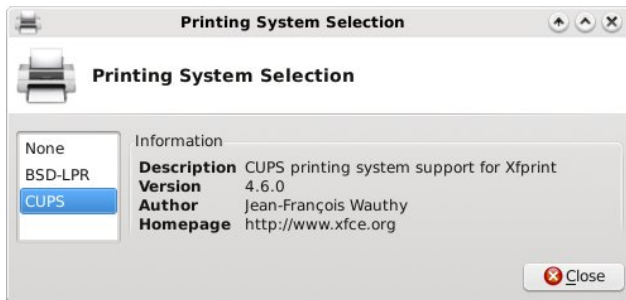
over my home network, I chose CUPS. You will still need to complete the setup of your printer in the PCLinuxOS Control Center (PCC), but you will first need to complete this setting before you will get the desired results.

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

Posted by cidtux, running Phoenix 2010.

by Paul Arnote (parnote)

Many users of KDE and Gnome are accustomed to the rich context menus of the Dolphin, Konqueror, and Nautilus file managers. Xfce users aren't left out in the cold, however. Customizing the context (right click) menu of Thunar is actually quite easy, and can be nearly as "full featured" as those of the file managers for the bigger desktop environments.

Step One
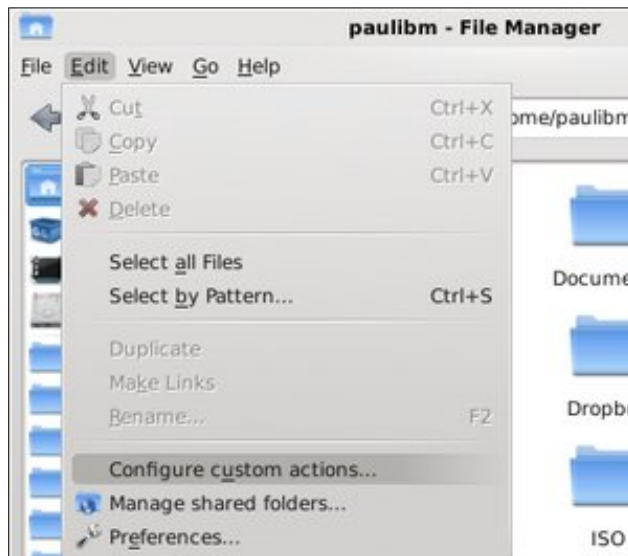
Once you have Thunar open, select "Configure custom actions..." from the Edit menu.
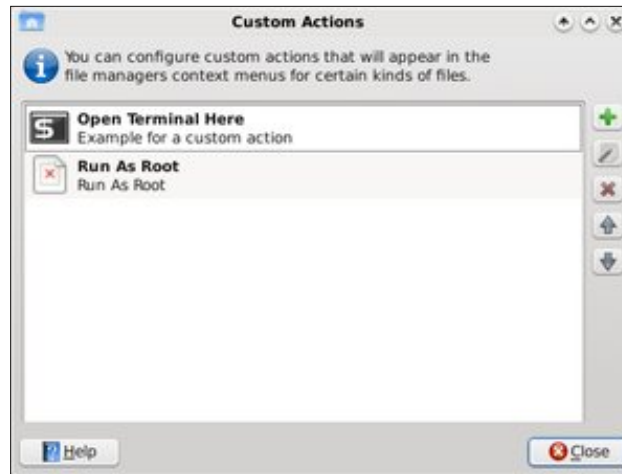
You will then see the dialog box pictured above. Click on the green "+" button to add a new custom action.

Step Two

Once you've selected to add a custom action, you will then see the "Create Action" dialog box displayed on your screen. Under the "Basic" tab, there are four things for you to select or fill in. The first, the "Name" field, is the name that will be displayed on the context menu. The "Description" field holds the description of the context menu item, and is displayed if you hover your mouse over that menu item. The third field, "Command," is the command to execute when the menu action is selected. We'll talk more in-depth about the command field a bit later on. The last selection you have to make is whether or not to display an icon next to the context menu item. If you don't want an

icon displayed, simply do nothing. If you want an icon displayed, click on the "No Icon" button, and select an icon from the icon selection window that opens up.

Notice at the bottom half of the window there are directions about command parameters. For the sake of clarity, here are the choices:

```
%f    The path to the first selected
      file
%F    The paths to all selected files
%d    Directory containing the file
      that is passed in %f
```

```
%D     Directories containing the files
       that are passed in %F
%n     The first selected filename
       (without path)
%N     The selected filenames (without
       paths)
```


Under the second tab, "Appearance Conditions," you can select under which conditions the context menu is displayed. You can make the context menu displayed for all files and file types, or you can narrow it down to very specific conditions. The choice is yours. Be careful adding too many items

that are displayed for all files and file types, as the Thunar context menu will become quite large. For me, I've found it much better to somewhat limit the conditions under which the new context menu item is displayed. We'll talk more in-depth about this a little later.

Step Three

Let's take this opportunity to actually add in a useful context menu item. For our exercise, we're going to add a context menu item that converts a JPG file into a PNG file, using the command line tools of ImageMagick.
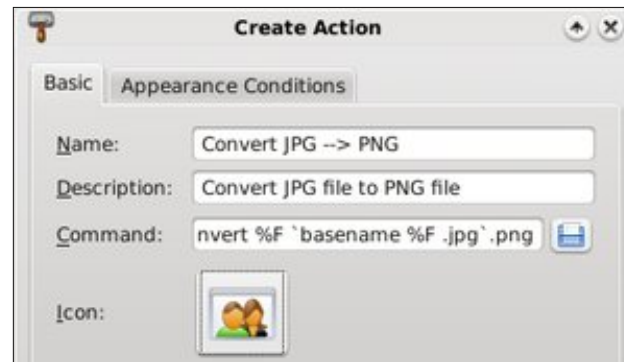
Under the "Name" field of the "Basic" tab in the "Create Action" dialog box, we're going to call our new menu item "Convert JPG --» PNG." The "Description" field contains a more general description that is displayed when the user hovers their mouse over the top of the menu item. Here, we've entered the description as "Convert JPG file to PNG file."

We've also entered the action to take when the menu item is selected, under the "Command" field. Here, we've entered the following:

convert %F `basename %F .jpg`.png

Please note that the command uses backticks, not the single quote character. The command converts multiple files (%F), using the "convert" command from ImageMagick, then uses the "basename" command to strip the .jpg file extension, and then add the .png file extension to the converted file.

I've elected to display an icon in the context menu, so I clicked on the "No Icon" button and chose an icon to display next to the context menu entry.

Under the "Appearance Conditions" tab, I've elected to display the context menu only when jpg files are highlighted, and only for image type of files. This way, if I highlight a .txt or .tar.gz file, the context menu isn't littering up Thunar's context menu. This is especially useful, since the command would have no effect upon those types of files anyway.

Here is what it looks like in the "Configure Custom Action" dialog box after you've finished defining the custom action:
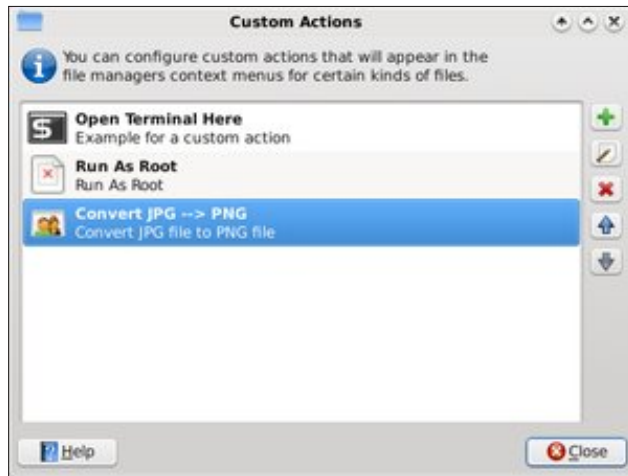
You can also edit a custom action by clicking on the icon with the pencil on it. Similarly, you can remove a custom action menu item by clicking on the red "X" button. The blue up and down buttons allow you to move the custom action menu item up or down in the list of menu items.

Advanced Topics

We can't just let the discussion stop here. There are other things to consider, when it comes to the "Command" field under the "Basic" tab of the "Create Action" dialog box, and when it comes to specifying the "File Pattern" field under the "Appearance Conditions" tab.

First, let me preface the discussion that follows with this: this is not going to be a full discussion or tutorial of the ImageMagick convert command. Entire books have been written on how to use ImageMagick and all of its tools. Just covering the convert command alone would take much more time and space than we have here. If you haven't yet explored and unleashed the power of ImageMagick, you may want to check out the ImageMagick command line tools page, or the ImageMagick Examples page. ImageMagick provides some very powerful tools for dealing with graphic files, and there is literally nothing that equals or comes close for dealing with graphic files from the command line.

We can keep the command very, very simple. The command

convert %F %F.png

will process the conversion, and simply append the .png file extension on the end of the full file name. So, if your input file is tiddlywinks.jpg, the output file will be named tiddlywinks.jpg.png. This isn't too much of a problem when you're dealing with only a few images, since you can easily manually rename the files. It becomes troublesome when you are converting a large number of images, and will require an additional step (or two) to rename the files.

The "File Pattern" field in the "Appearance Conditions" tab is case sensitive. So, if you want the context menu to appear for all JPG files, regardless of the case of the letters, you could place the following in the "File Pattern" field:

.jpg;.JPG;*.jpeg;*.JPEG

This will cause the context menu to display for any of the four combinations of file extensions, and only files ending with those file extensions. But there is a *small* problem: files with extensions not **exactly** matching the exact spelling and case of the file extension specified in the "Command" field of the "Basic" tab will simply have the .png file extension tacked onto the end of the existing file name and extension, as in the previous example using the very, very simple command.

If you want more precise control, where the file extension is properly stripped off and the .png file extension is appended, you could create a custom action for each of the four file extensions above: jpg, JPG, jpeg and JPEG. You would also have to alter the "basename" command to strip the respective file extension, in the "Command" field on the "Basic" tab.

Here are some other image manipulation commands, courtesy of ImageMagick, that you may be interested in turning into custom actions for Thunar's context menu. ***Use caution with the following commands, because they will overwrite the original image file, and your original image WILL be LOST!*** These commands are best used on a COPY of the original file.

To rotate an image (or group of images) 90 degrees: **convert %F -rotate 90 %F**

To alter the compression level of an image to 50% quality: **convert %F -quality 50% %F**

To resize an image to a width of 450 pixels:
```
convert %F -resize 450 %F
```

To resize a JPG image to a width of 450 pixels, convert it to PNG, strip the existing file extension, and rename the file to let the user know that the file has been resized to 450 pixels wide:

```
convert %F -resize 450 `basename %F
.jpg`-resize450.png
```

(By the way, don't worry about having to specify both the width and the height of an image; ImageMagick will automatically preserve the aspect ratio if you specify only the width).

Conclusion

Of course, you can do more than just deal with image files from Thunar's context menu. You can specify commands that run scripts, compress files, play multimedia files, etc. You can do pretty much whatever you can imagine from Thunar's context menu, provided you can supply the proper command or commands. I'll leave you to explore the endless possibilities of custom actions you can set up.

If you are interested, you can read more about setting up custom actions for Thunar's context menu, at Thunar's web site. Let your imagination run wild.

Screenshot Showcase

*Posted by Sproggy, running Phoenix 2010.*

Xfce 4.6.2: Customize Your Xfwm Theme

by Paul Arnote (parnote)

It may sound difficult, but creating your own custom Xfce Window Manager (xfwm) theme is probably one of the easiest customizations you can do on your Xfce installation.

From the Xfce Settings Manager, going in to the Window Manager applet allows you to choose the xfwm theme to use on your desktop. This xfwm theme controls the appearance of your window decorations, including the titlebar, the window borders, and the shade, minimize, maximize, close, sticky, and system menu buttons. Here's what you will see when you open the Window Manager applet:
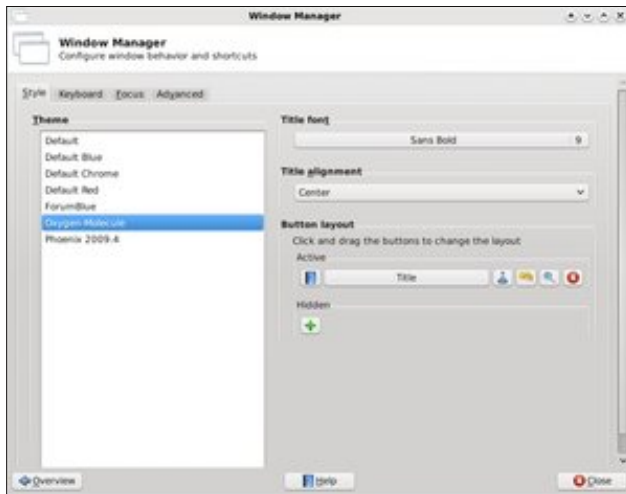
Since we've already covered the Window Manager applet in the Xfce 4.6.2: Xfce Settings Manager Article elsewhere in this issue, we won't rehash it

here. Of the seven included xfwm themes included in the default installation of Phoenix 2010, I created four of them. And you can make them as simple or complex as you like.

Here are six xfwm themes I've created, and they will serve as the basis for our discussion on creating your own custom xfwm theme:

From top to bottom, the xfwm themes are called: AgualemonBlack, Default Blue, Default Chrome, Default Red, Forum Blue (based on the blue colors of the default SMF theme in the PCLinuxOS forum), and Phoenix09 (based on the colors of the default wallpaper of the Phoenix 2009.4 release).

The Basics: Getting Started

Your xfwm themes are stored in the /usr/share/themes directory. Each xfwm theme has its own directory there, bearing the name of the xfwm theme, and the graphic files for the theme are stored in the xfwm4 sub-directory. You will need root access to this folder to make any changes to the themes that are there, or for storing your custom theme there. I suggest you store your custom themes in their own folder somewhere in your /home directory (mine is just called "themes"), then copying the entire directory there when you are ready to test your custom theme. This way, you are not working as root and not taking the risk of messing up the other xfwm themes already stored on your computer. For our discussion, we'll use AgualemonBlack as our example.

What's Needed

You will need to create a minimum of 42 graphic files to have a full xfwm theme. These files are small, and quite easy to make. The files, typically stored as *.xpm files, are easily created in Gimp. As such, all

the tools available in Gimp are at your disposal for creating your custom xfwm theme.

Because of the small size of the graphics, you will find it advantageous to use Gimp's zoom tool. I find that zooming in to the maximum of 800% allows me to work comfortably with the minuscule graphic files included in the xfwm themes. Below is an example of my Gimp window when I'm working on a xfwm theme graphic. I used the gradient tool, set to provide a bilinear gradient, using dark gray and black as my foreground and background colors.
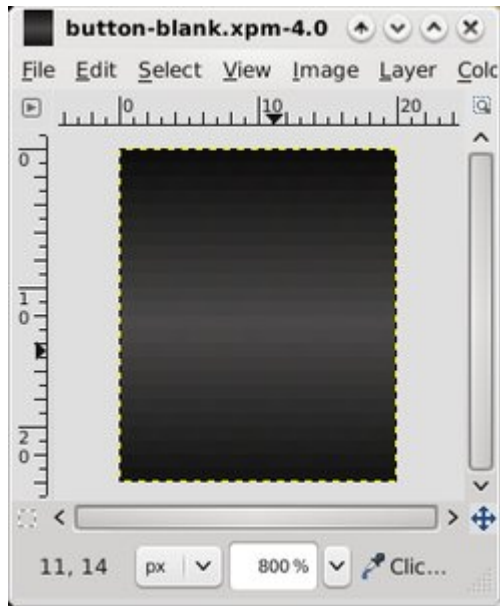
Remember those 42 individual graphic files I told you that you need? Here's a list of them, along with the sizes I used for my six themes, with the width followed by height, in pixels:

File Name	W	H	File Name	W	H	File Name	W	H
bottom-active.xpm	11	4	maximize-active.xpm	20	24	title-1-active.xpm	5	24
bottom-inactive.xpm	11	4	maximize-inactive.xpm	20	24	title-1-inactive.xpm	5	24
bottom-left-active.xpm	11	11	maximized-pressed.xpm	20	24	title-2-active.xpm	5	24
bottom-left-inactive.xpm	11	11	menu-active.xpm	20	24	title-2-inactive.xpm	5	24
bottom-right-active.xpm	11	11	menu-inactive.xpm	20	24	title-3-active.xpm	5	24
bottom-right-inactive.xpm	11	11	menu-pressed.xpm	20	24	title-3-inactive.xpm	5	24
close-active.xpm	20	24	right-active.xpm	4	11	title-4-active.xpm	5	24
close-inactive.xpm	20	24	right-inactive.xpm	4	11	title-4-inactive.xpm	5	24
close-pressed.xpm	20	24	shade-active.xpm	20	24	title-5-active.xpm	5	24
hide-active.xpm	20	24	shade-inactive.xpm	20	24	title-5-inactive.xpm	5	24
hide-inactive.xpm	20	24	shade-pressed.xpm	20	24	top-left-active.xpm	5	24
hide-pressed.xpm	20	24	stick-active.xpm	20	24	top-left-inactive.xpm	5	24
left-active.xpm	4	11	stick-inactive.xpm	20	24	top-right-active.xpm	5	24
left-inactive.xpm	4	11	stick-pressed.xpm	20	24	top-right-inactive.xpm	5	24

You can also add optional graphics to this list for buttons that have a "toggled" state. Such buttons would be the "stick" and "shade" buttons. As such, you can add the following to the above list, bringing the total number to 48 graphic files for a full xfwm theme:

shade-toggled-active.xpm
shade-toggled-inactive.xpm
shade-toggled-pressed.xpm
stick-toggled-active.xpm

stick-toggled-inactive.xpm
stick-toggled-pressed.xpm

The best way to get a handle on what the toggled state of a button does is to see it in action. Switch you xfwm theme to the Oxygen-Molecule theme, and select the "shade" button. You can also go to the /usr/share/themes/Oxygen-Molecule/xfwm4 folder and take a look at how the graphics files appear. Also, in keeping with the sizing scheme of the rest of our xfwm theme, all the buttons will be the same size. In our case, that will be 20x24.

I have also found it makes your life much easier – at least while creating the xfwm theme – to create and save a blank button. You can use this blank button as the basis for all your other buttons, title bar graphics, and the top left and right corner graphics. In fact, the image loaded into the previous Gimp screen shot is of the blank button I used to create the AgualemonBlack xfwm theme. Just keep reloading the blank button, make the alterations you need for each graphic, and resave it with the proper file name. This also helps keep your graphics consistent, giving your xfwm theme a much cleaner, more professional appearance. The only graphics you will need to create manually are the left, right, bottom, and bottom left and right window borders, but those are perhaps the easiest graphics to create.

Here is a collection of all the graphic files combined into one image, and blown up to 400% in Gimp:
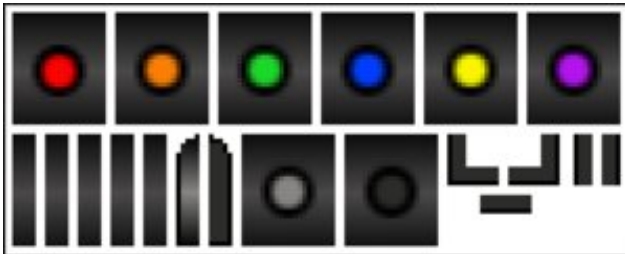
In the top row are, from left to right, the following active buttons: close, hide, maximize, menu, shade and stick. In the bottom row, from left to right, are: title-1, title-2, title-3, title-4, title-5, top-left, top right, inactive, pressed, bottom left, bottom, bottom right, left and right.

Since I decided on not changing the window border colors or titlebar for the inactive windows, the active window border and titlebar graphics are also repeated for those items. Also, all the inactive buttons are the same, as are all the pressed buttons. This prevented me from having to draw additional button graphics and window border graphics for each individual button and window border. Rather, I just kept renaming the inactive and pressed button in Gimp (File > Save As...), until I had all of the required buttons saved. I did the same thing for the window border graphics.

More Options: themerc

Once you have all of your graphic files created, it's time to set the "other" options for your xfwm theme. We do this by including a themerc file in the /usr/share/themes/name-of-theme/xfwm4 folder of the xfwm theme, right along with all of your graphic files. The themerc file is simply a text file that defines other aspects of the xfwm theme, such as the color of the active and inactive titlebar text, button spacing, and other items that we'll cover more thoroughly here in just a little bit.

First though, here is a sample themerc file, from the AgualemonBlack xfwm theme:

```
full_width_title=false
title_alignment=center
button_spacing=0
button_offset=0
```

```
title_vertical_offset_active=1
title_horizontal_offset_active=0
title_vertical_offset_inactive=1
title_horizontal_offset_active=0
title_shadow_active=false
title_shadow_inactive=false
active_text_color=#ffffff
inactive_text_color=#b6b6b6
show_app_icon=false
```

full_width_title: this option is either "true" or "false" (called boolean) and defines how the titlebar graphics are arranged. If it is set to "true," the center titlebar graphic is repeated as many times as necessary to cover the full width of the titlebar. If you set it to "false," the center titlebar graphic is repeated only enough times to appear behind the actual titlebar text.

title_alignment: specifies the alignment of the titlebar text. The options are left, right and center.

button spacing: defines the number of pixels between buttons.

button_offset: allows you to specify how many pixels to shift the buttons, relative to the corresponding window border (and not the frame border). For example, a setting of "10" would move the buttons at the upper left corner away from the left window border 10 pixels, and move the buttons at the upper right corner away from the right window border 10 pixels.

**title_vertical_offset_active,
title_horizontal_offset_active,
title_vertical_offset_inactive,
title_horizontal_offset_inactive**: these values allow you to shift the titlebar text on the specified window titlebar (active or inactive) the specified number of pixels. Except in special cases, the value is usually "0" or "1" pixel.

title_shadow_active, title_shadow_inactive: set to either "true" or "false," this value determines whether or not the text on the titlebar is drawn with or without a shadow.

active_text_color, inactive_text_color: using a six-digit hex color code (the same as used in HTML), it specifies the color for the titlebar text on the active and inactive window titlebars. If you need to know a specific color code, open up Gimp, select the color you want from the Gimp palette color selection box, and pay attention to what Gimp specifies as the HTML color code. You must always precede the six-digit hex color code with the "#" symbol. And, for what it's worth, black is #000000, light gray is #cccccc, and white is #ffffff.

show_app_icon: another boolean setting. If you set it to "true," the application's defined icon will replace the menu button. Likewise, if you set it to "false," the application's icon will not be displayed, and the menu button will be displayed in its place.

There is another setting that we have not employed. It's called **button_layout**. It defines the order of button layout on the titlebar of the window. Use caution with this, as defining the button layout will eliminate any choice the end user will have, and

should be avoided unless absolutely necessary. With that in mind, here is how the button_layout settings go:

```
# button_layout :
#    O = Option menu
#    T = Stick
#    H = hide
#    S = shade
#    M = maximize
#    C = close
#    | = title
button_layout=OT|SHMC
```

There are additional things you can do, like make your xfwm theme "pick up" the colors from the Gtk+ theme. We won't be going into all of that here, as it's a quite involved (albeit relatively easy). If you are interested in exploring how to do this, you can check out the xfwm theme how-to page from the Xfce Wiki.

Conclusion

As you can see, creating your own xfwm themes is actually quite easy. Also, there are enough options available to allow you virtually unlimited creativity. So unleash that creativity, and get started creating and tweaking your own custom xfwm theme. You have the opportunity to make your Xfce desktop experience uniquely yours, without too much trouble at all.

by Paul Arnote (parnote)

Over the past couple of months, we've been taking a close-up look at the Xfce Settings Manager. This month, we finish up the series on the Xfce Settings Manager, taking a look at the last group of settings that are available.

Removable Drives and Media

The first tab under Removable Drives and Media, Storage (bottom of previous column), allows you to set how Xfce handles options for removable drives and media. Under Removable Storage, the options should be fairly self explanatory. Under Bland CDs and DVDs, you can check the box to cause Xfburn (the default optical disk burning program in Xfce) to open when you insert a blank CD or DVD. The screen shot above shows the default settings in Phoenix 2010.

Under the second tab, Multimedia, we can set up how Xfce handles specific types of media when they are plugged in or a disk is inserted. You will most likely have to make some changes here, as Totem is not installed in the default installation of Phoenix 2010. You can either install Totem from the

repository (but be aware that it will pull in quite a few Gnome dependencies), or you can install another multimedia playback program (watch which dependencies are pulled in), or change from Totem (in the screen shot above) to gxine for video, and Listen Music Player for audio CDs. If you like to sync your portable music player with your MP3 collection, you also may want to install a program from the repository, via Synaptic, to handle or manage the transfer of music between the files stored on your computer and those on your portable music player. Activating the "Portable Music Players" setting is as easy as checking the box in that category, and supplying the name of the program you are using to manage that portable music player.
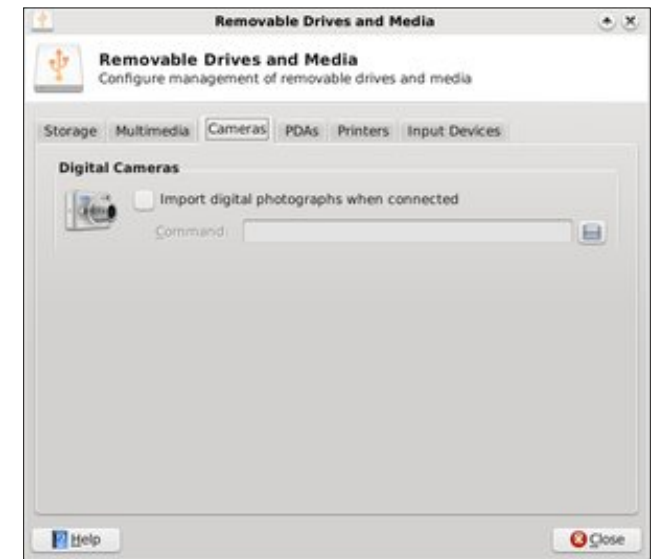
The third tab of Removable Drives & Storage, Cameras, allows you to set up how Xfce handles the

importing of photographs from your digital camera, when it is connected to your computer.

The fourth tab, PDAs, allows you to specify how the information on your PDA and the information on your computer are synced, as well as which program you'd like to use to accomplish that task.

If you are mobile with your laptop, there may be an occasion where you need to hook up to a printer (not necessarily your own). If this is you, then this, the Printers tab, is for you. Check this box to run the gnome-printer-add program whenever a printer is connected to your computer. This will aid you in establishing that connection, and helps tell Xfce how to manage printing requests. You will have to also set up the printer in the Printing settings of Xfce, asw well as setting that printer up in PCLinuxOS Control Center.
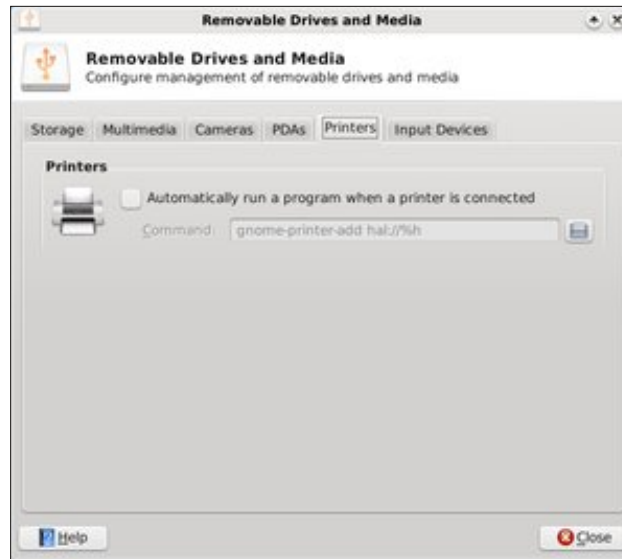
In the sixth and final tab of Removable Drives & Storage, Input Devices, you can control any special actions that may need to take place when you attach a USB Keyboard, USB Mouse, or a tablet is connected to your computer.

Session and Start Up
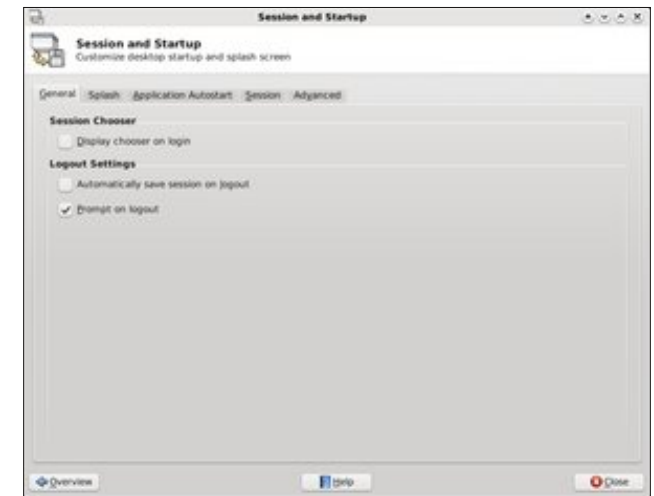
In the General tab of Session and Startup settings, you can select if you want to see the Session Chooser, which allows you to resume a previous session when you log into Xfce. You can also select if you want your current session to be automatically saved when you log out, or if you want to be prompted.

Under the "Splash" tab, you can select the splash screen that's displayed when the Xfce desktop
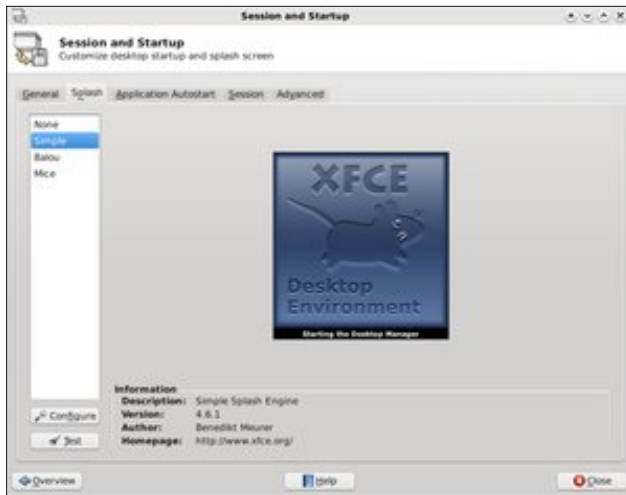
environment is loaded. The default in Phoenix 2010 is "none."

The Application Autostart tab allows you to manage which programs are started automatically when you

start up Xfce. If you change your mind about a program auto-starting, you can either come to this screen and uncheck the box, causing Xfce to ignore that program when it starts. You can also remove that program from the list altogether, by highlighting (clicking) on that program and selecting the "Remove" button near the bottom left of the window. Similarly, if there is a program you want to start whenever Xfce starts up, you can select on the "Add" button. Follow the screen prompts, and you'll have your program added to the list in no time at all.
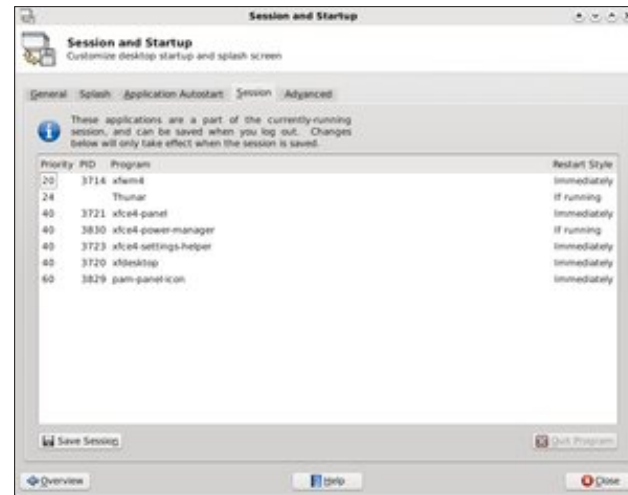
The Session tab allows us to specify which key parts of your currently running session can be saved when you log out. You can select an item from the list, double click it, and change the restart style.

Under the Advanced tab, we can tell Xfce to launch either Gnome or KDE services when it starts. We can also select to manage remote applications, by selecting that option as well.

Settings Editor
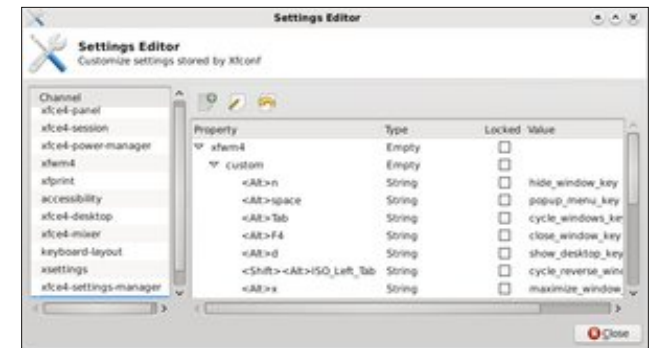
The settings editor allows you to directly edit many of the Xfce settings on your computer. Most of these settings are made in other areas of the Xfce Settings Manager. So, unless you really know what you are doing, or if you are feeling particularly adventurous,

you can edit the Xfce settings here, en masse. One other feature that you may find useful is to "lock" the settings here, so that they cannot be changed until it is first unlocked. This is particularly useful on a computer with other users, or with less technically savvy users, to prevent them from making system wide Xfce settings.

We will skip the next icon in the list of Xfce Settings Manager, since it merely launches another instance of the Xfce Settings Manager.

Window Manager
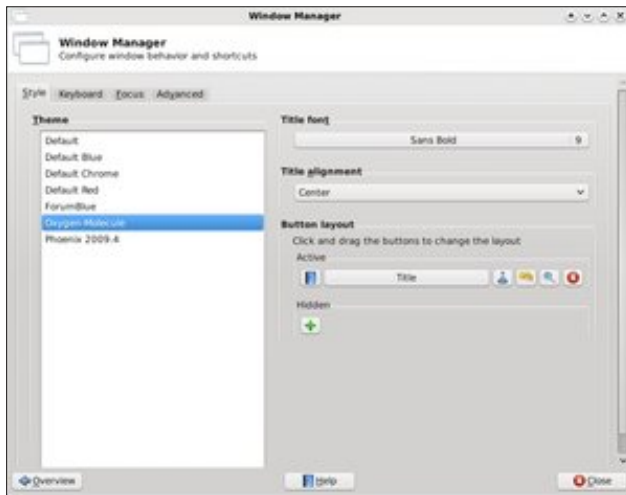
Style, the first tab under the Window Manager settings, allows us access to changing the style of the Xfce window decorations, which are managed by the xfwm window manager. The default settings in

Phoenix 2010 are reflected in the above screen shot. We'll talk more about xfwm themes in another, separate article about how to make your own custom xfwm theme.
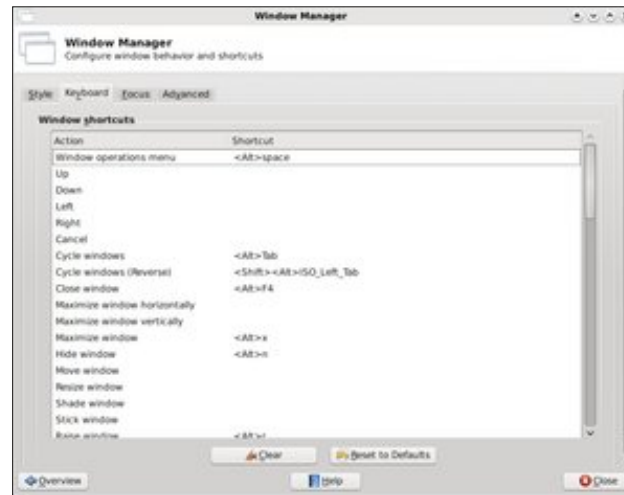
Under the Keyboard tab, we can define keyboard shortcuts for interacting with the Xfce windows. For example, I have become accustomed to using Alt + Spacebar to access the window operations menu (upper left corner of the window, on the title bar of the window). This is definitely a throwback to my days as a Windows user. Similarly, I've defined Alt + F4 as the key stroke combination that closes (exits) a window. To set the keyboard shortcuts, simply click on the item you want to define, then hit the key or key combination you want to use to activate that window setting. And window settings exist for changing between the virtual desktops on your system as well. Scroll through the list to see all the options you can access from the keyboard. Just be careful when you are defining the keyboard shortcuts that they don't conflict with other

commonly used keystroke combinations (like Alt + S, which is commonly used within individual programs to save a file).

From the Focus tab of the Window Manager settings, you can control how Xfce handles window focus changes. The screen shot above represents the default settings in Phoenix 2010. Also, the settings should be fairly self explanatory, so I won't belabor them here.

On the Advanced tab (first graphic, next page), you can set additional options for how Xfce manages windows. Under Window snapping, you can tell Xfce to "snap" your windows to the screen border when you slowly drag a window to a chosen screen border. You can also tell it to snap the window to the edge of other windows.
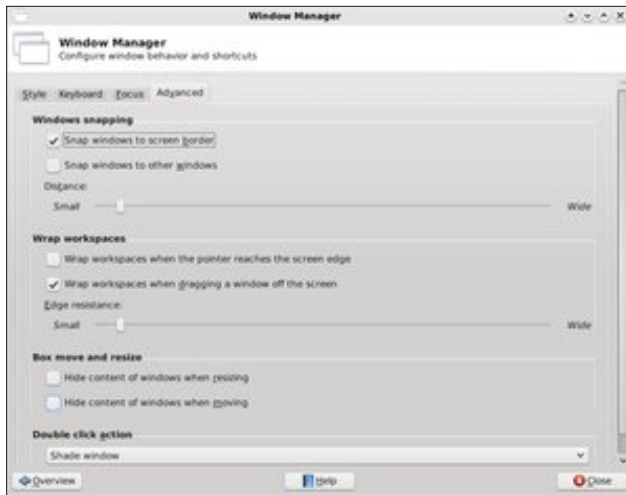
Under Wrap workspaces, you can tell Xfce what to do when your cursor gets to the edge of the screen (wrap to the previous or next virtual desktop), or if to move a window to an adjacent desktop as it is dragged off the edge of the current desktop. This allow you to drag a window from the first desktop, all the way to the fourth desktop, if you choose. And here's a bonus tip: you can also do this from the pager plug in (typically the lower right corner of the bottom panel). Just click on the icon representation of the program you want to move, and drag it to the desktop you want it to appear on. Release the mouse, and your program will be happily displayed on the new/different desktop.

From the Box move and resize settings, you can tell Xfce to hide the contents of windows that are being moved or resized. This is a particularly helpful setting if the computer you are using Xfce on has limited video RAM, a slower processor, or both.

Finally, the Double click action allows you to set the action Xfce will take when you double click on a window's title bar. The default value is to maximize the window. I've changed the behavior on my copy of Phoenix 2010 to Shade window, due to how I tend to work with Scribus when I'm laying out the magazine (so I can get some of Scribus's child windows out of my way temporarily when I'm working in another window).

Window Manager Tweaks
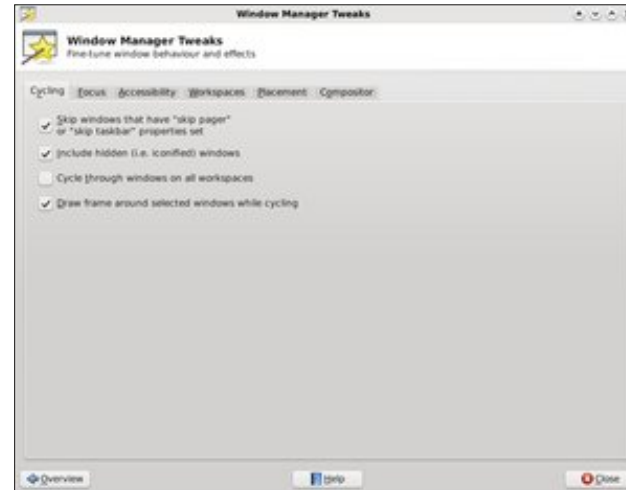
From the Cycling tab of Window Manager Tweaks, you can set how Xfce cycles through the available program windows you may have running. Typically, most users will want to set up the Alt + Tab key in the Keyboard tab of the Window Manager window to cycle through the available program windows. This tab allows the user to further tweak that Xfce behavior.
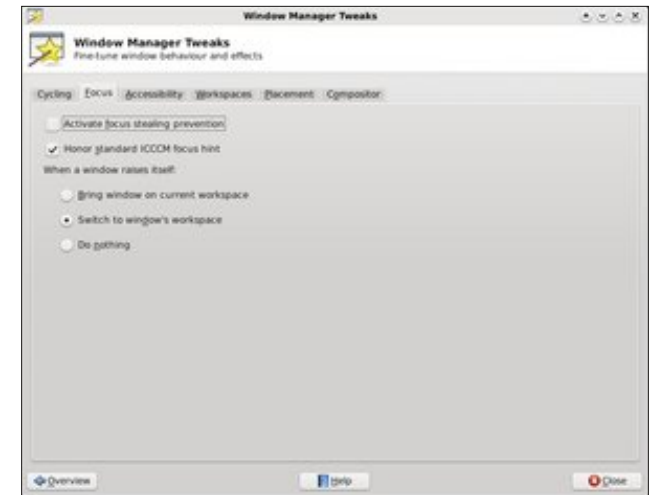
Under the Focus tab, you can further tweak and tune how Xfce manages the change in window focus. Probably one of the more important setting here is determining how a window raises itself when called.
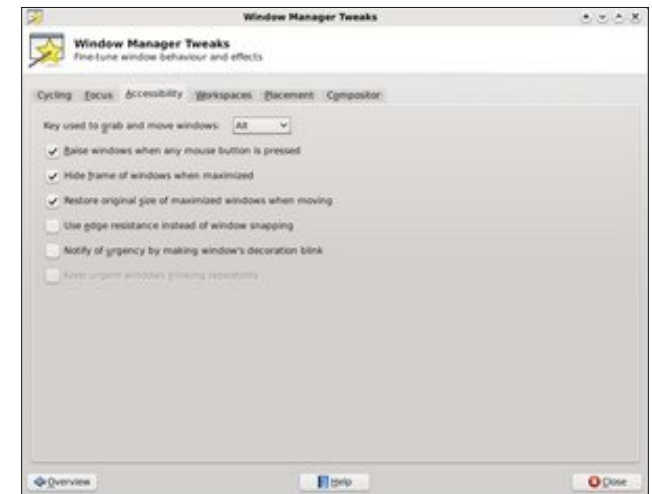
You can opt for the window to be brought to your current workspace, switch to the window's workspace, or do nothing at all.

The Accessibility tab (previous page) gives you even more options to further tune how Xfce manages the windows on your computer. Probably the most important setting here allows you can define the key to use to grab and move windows when the title bar of the window isn't visible, or when the title bar is butted up against the top edge of the window. Netbook users, as well as other users who have limited screen real estate, will find this particular feature useful. Just press the specified key (default is the Alt key), and drag the window until what you want to see is visible.
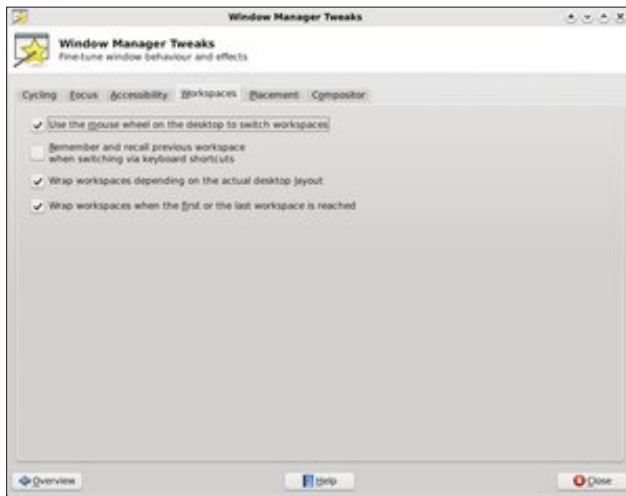
The Workspaces tab allows you to set extra options for how Xfce manages and allows you to access your workspaces, a.k.a. virtual desktops. You can set to allow the mouse wheel to switch desktops

when you hover over the pager plug in and rotate the mouse wheel. You can also tell Xfce to remember and recall the previous workspace when switching via keyboard shortcuts. If you have a keyboard shortcut defined for switching desktops (e.g., Ctrl + Alt + Left Arrow or Ctrl + Alt + Right Arrow), you can tell Xfce to go to Desktop 1 from Desktop 4 when you press Ctrl + Alt + Right Arrow, or from Desktop 1 to Desktop 4 by pressing Ctrl + Alt + Left Arrow.
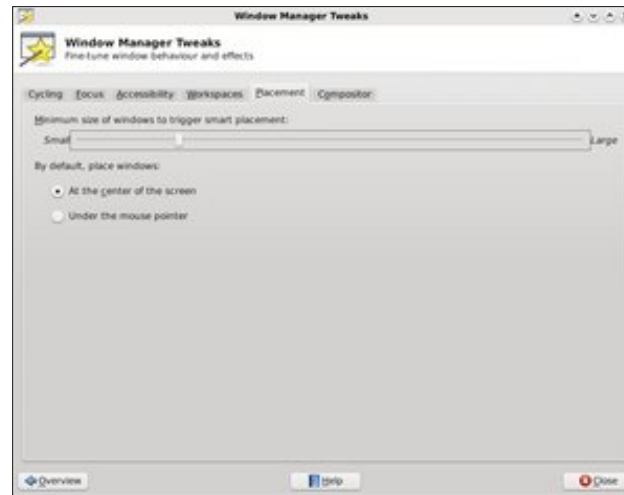
With the Placement tab, you can control how Xfce places new windows on the screen. The above screen shot shows the default settings in Phoenix 2010. The settings, I believe, are self explanatory.

The last tab, Compositor, allows you to enable or disable the built-in Xfce display compositing. No, it's not quite up to the compositing abilities of KDE 4 or Compiz Fusion, but it does have a few options for
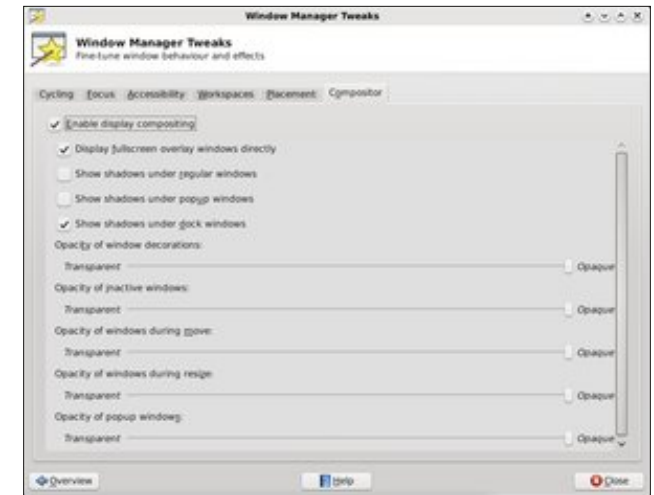
you to select. You can certainly disable display compositing, which is especially useful if you have an older computer with minimal amounts of video RAM.

Workspaces

Under Workspaces (next page), we can define a couple of different settings. First, in the left hand pane of the window, we can specify how many workspaces, or virtual desktops, we want to use. The default is four workspaces. If you want, you can also rename the workspaces.

On the right hand pane, you can set up window margins. These are areas of the screen where Xfce will not place a window. This is useful, for example, if you have a Conky script running and don't want to cover it up with windows on your desktop.

Screenshot Showcase

Posted by Meemaw, running Phoenix 2010.

Conclusion

There you have it – a complete look at all the options available to you via the Xfce Settings Manager. Thanks to these settings, Xfce has a lot of configuration options, while maintaining its lightweight desktop environment status. If you use Xfce, you owe it to yourself to explore the configuration options that have been covered in this article, as well as the two previous articles in the series. It's unlikely that you will cause any permanent damage, although it is possible. But now, at least, you can delve into these configuration settings with a bit more knowledge of what these individual settings allow you to do.

LXDE: An Overview

by Paul Arnote (parnote)

One thing Linux users have become accustomed to is choice. And choices abound for almost anything and everything, including desktop environments. Previously, we've covered KDE 4 and Xfce 4.6.2. Now, it's time to take a look at the LXDE desktop.

Lightweight X11 Desktop Environment ("LXDE") is one of the newest desktop environments. It began in 2006 when Hong Yen Jee of Taiwan, better known by his nickname "PCMan", introduced the PCMan File Manager, or PCManFM. Today, the LXDE project is an international collaboration of developers, designers, and contributors from all around the world. Similar to the Xfce and Gnome desktop environments, LXDE is built with the Gtk+ 2.0 libraries.

Living up to the first word in its name, LXDE truly is a lightweight desktop environment. Consequently LXDE thrives on older hardware. On my computer (IBM Thinkpad T23, Pentium III, 1.13 GHz, 512 MB RAM), LXDE uses only 115 MB RAM when it's fully booted, and running a handful of panel plugins, checkgmail, and Conky. LXDE is even capable of running on a Pentium II with only 128 MB RAM.

The "newness" of LXDE shines through, however. Probably the first thing to hit you is

My LXDE desktop, with some degree of customization of the panel and running Conky.

the lack of configuration options that are available via a graphical user interface. If you are expecting to find oodles of configuration options, as you would find in KDE or Xfce, you will be disappointed. That doesn't mean that you can't configure LXDE as you might like. It just means that you will have to find the configuration files and edit them by hand. For this reason, the LXDE desktop environment isn't necessarily for new users or the faint-of-heart. It's geared more towards intermediate to advanced users who don't mind digging deep into the configuration files and getting their hands dirty.

Once you figure out how to manipulate and mold LXDE's configuration however, you will be treated to a desktop environment that lives up to its name. LXDE is fast, even on older hardware. Your older computers will feel as if they have been re-invigorated with new life. Many users compare the LXDE desktop appearance to KDE 3.5.x. It does have a lot of similarities in appearance. LXDE adheres to the desktop standards laid out by freedesktop.org.

LXDE is only a desktop environment, and officially relies on the OpenBox window manager to handle the windows on your computer. So, many of the things we'll talk about for LXDE will also apply to the OpenBox version of PCLinuxOS.

Overall, you will probably like LXDE, but you will most likely fall in love with its simplicity and speed.

By digging into the configuration files stuffed deep into sub-directories of sub-directories of sub-directories scattered across your hard drive, you may also learn a lot that will transfer to other desktop environments. We will take a look at the basic configuration options, then some more advanced options. We'll attempt to demystify some of LXDE's intricacies, thus improving your ability to tailor LXDE to be what you want it to be.

I am sure of one thing: this old Pentium III Thinkpad T23 has never run so fast. I doubt your results will differ much from mine.

Screenshot Showcase
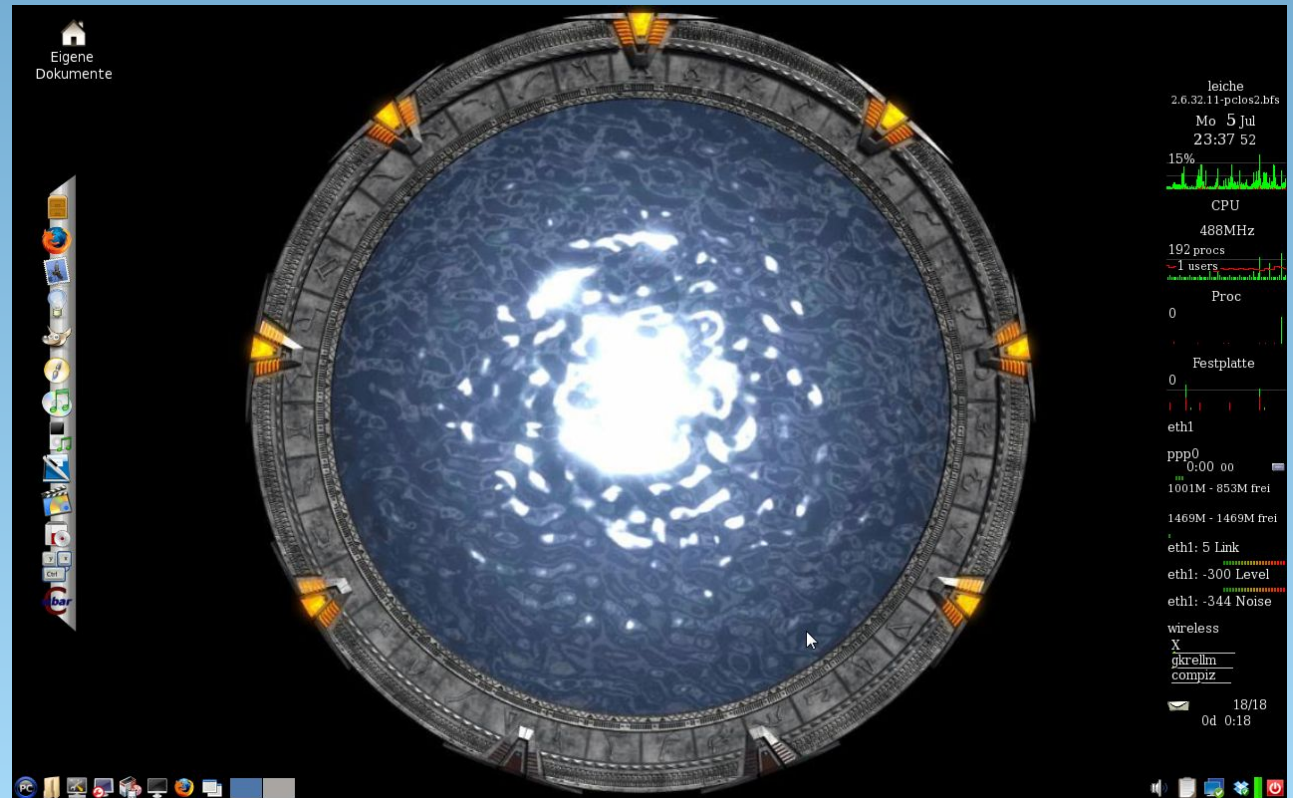
Posted by Leiche, running PCLinuxOS-LXDE.

Installing PCLinuxOS-LXDE On An IBM Thinkpad 600e

by Hootiegibbon

A couple of weeks ago, I was very fortunate to acquire a Pentium II IBM ThinkPad. At the time, the ThinkPad was in a poor state. The HDD was missing, it had no hard drive caddy, and the hard drive cover was missing. It was also missing the charger. I also wondered if the 128megs of RAM were going to be enough to get it up and running.

Despite all of these issues, I had fairly high expectations for this machine. It was destined to run PCLinuxOS.

The first thing I decided to do is search around all the "computer junk" I had lying about, and managed to locate a 64 MB stick of RAM that was suitable.

The ThinkPad itself, as mentioned above, is a Pentium II. The system board came with 32 MB of RAM clocked at 66 MHz. It also has two bays for additional RAM to be added, up to an "official" figure of 288 megs of RAM (32 MB of onboard RAM, plus 2 sticks of 128 MB of RAM, clocked at 66mhz), but more on this later.

So I swapped out a 32 MB stick of RAM for the 64 MB sticks, giving 2 x 64 + 32 on board, for a total of 160megs of RAM, which is enough to run LXDE.

I did have a problem, though. I had no HDD. Well, this was somewhat incorrect, as I had an IBM HDD from another machine, but I had no caddy assembly or plastic hard drive door. This removed the possibility of having a swap partition to take the load off of the RAM.

I eventually found an "ugly" work around for not having a HD caddy. If you take care, you can place the HDD in position and set a screw directly into one of the mounting threads in the HDD itself, holding it securely into place.

So I grabbed a newly burned PCLinuxOS LXDE 2010.7 Live CD, put it in place and started up the machine. I was then faced with an error "unable to read memory size" and a Grub command prompt. I had seen this before, but not in some time.

Now this brings me to a wonderful thing about PCLinuxOS: the community, its peers and its members. Thanks go out to two people who assisted me a great deal with getting this far with this ThinkPad (a 600e) up and running. The first is AndrzejL (who has a similar machine), and the second is parnote. Without their input, it would have taken a lot longer for me to troubleshoot some of the issues that happen as a consequence of having an older machine.

Anyway, I digress. After being reminded that at the command prompt to type LiveCD and enter, the LiveCD booted up slowly, painfully slowly. It took several minutes, but I was eventually able to get online and have a chat on our IRC channels using Xchat. Unfortunately, Firefox killed off the live session for me. It was just too heavy for the machine, and I realized would have to be thrifty with the applications I choose.

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After a further reboot, I fired up the installer and chose to repartition. The first thing I managed to do is make a 1gig swap partition and formatted it. I then made two further ext4 partitions, / and /home. After I reformatted, I rebooted so that the swap could be utilized, if needed .

On reboot, I restarted the installer, chose existing partitions, and let it do its thing. Quite some time later, I was met with the Grub installer. I set this to the defaults, finished the install and rebooted.

After it had prompted for user setup, I found myself in a familiar LXDE environment, although, given the RAM situation, it was on the slow side. After speaking to others, I decided to switch from ACPI to the older APM, due to the age of the laptop.

To do this in practice is quite simple. In the Grub boot stanza, you simply have to append the following: acpi=off apm=on and set the system services daemons (Via PCC > System > Services) accordingly.

This left my machine a fair bit quicker and more responsive.

I also did a search of its graphics card, (driven by the neomagic xserver), and located some useful "Options" to add to Xorg.conf. Most options of this type improve the performance of the card. If you want to know what options are available for your card then check online for the "man" page for the xserver you are using. (I have previously, and recently, posted in the Hints and Tips section on the forum for older ATI/Radeon driven cards).

Over the course of time that all the above took place, (a few days), I was able to obtain some additional hardware: an Atheros based wireless PCMCIA card and some more RAM. In fact, I managed to get a 256meg stick of ram. I wondered if it would work, as the machine had a listed maximum RAM of 288 (in the configuration above) .

After some research, I found out that some laptops (including ThinkPads) lie in respect to some of the specs they have, namely in the area of maximum RAM. For the 600e, it appears that if you have a compatible 256 stick and place it in the correct RAM bay, along with stick of 128meRAM clocked at 66 MHz, then the laptop will see the full 415 MB of RAM. This was according to the ThinkWiki pages on the amount of "unofficial maximum ram." This is actually correct. Don't forget that your chosen search

provider is your friend when tweaking your install. It's definitely worth your while looking for "Option" and hardware tweaks.

The following are my specs for this machine now, using "infobash" from the PCLinuxOS repo:

```
CPU[Pentium II (Deschutes) clocked at
265.264 Mhz]  Kernel[Linux 2.6.33.5-
pclos1.bfs (Deschutes)]  Up[-1:50-]
Mem[-111.1/406.6MB-] HDD[-40GB
(6%used)-]  Procs[-107-] Client[Shell]
```

The applications I have chosen to use are as follows:

Browser(s): Dillo, Epiphany and Midori
        (although I have removed the Flash-Plugin)
Email: Sylpheed
Word Processer: Abiword
IRC: Xchat
Editor: Leafpad
Media Player: SMPlayer
Audio Mixer: AuMix
Music Player: LXplayer
PDF Viewer: epdf

As mentioned above, Flash was removed. I feel it's too heavy for a machine of this age.

Well, there it is - a summary of how I managed to get PCLinuxOS onto my Pentium based laptop. I am not too sure if this is of any merit, but I hope it gets you thinking about your older equipment, or that of friends, gathering dust in the back of a closet, that you could get up and running again.

As for this 600e, I love it. It's a great, albeit aged, machine. I hope you pick up that older laptop or desktop and have an attempt of making it useful again.

Addendum

After spending a few weeks with this resuscitated computer, I'd like to update some of the information. First, I have been able to determine that this computer is actually a 600 with some 600e parts. Although it's not an official 600e, it's pretty much the same though.

After using Thinkpad 600 for a while, I decided to follow up on part of what I had read on the thinkwiki site, that the 600 series were capable of using ACPI (Advanced Configuration & Power Interface). So I reinstalled the ACPI packages. I had previously removed them to ensure that APM (Advanced Power Management worked correctly. I then adjusted my menu.lst in the grub boot menu so that ACPI activated correctly for the machine. On most modern laptops and computers this should happen automagically, but with older machines, you some times need to invoke the power of bootcodes (also called cheatcodes by some - although personally I

think that term incorrect as what exactly are you cheating on/with?).

For the thinkpad 600 model you need to use:

```
acpi=force acpi=noirq lapic
```

These are added to the boot line (as root, using your favorite text editor). I placed them after the root partition designation and before the vmalloc=256 entry. In my case, it looks something like this:

```
title linux
kernel (hd0,0)/boot/vmlinuz
BOOT_IMAGE=linux root=UUID=48fbf4f0-
e454-4845-91e2-db0bfbd17fe9 acpi=force
acpi=noirq lapic vmalloc=256M
resume=UUID=3fe5acf8-2991-4b15-8cce-
a1a9de007876 vga=788
initrd (hd0,0)/boot/initrd.img
```

After booting with this, it activates ACPI, which you can test using the '**acpi**' command. I would suggest that you use '**acpi -V**'. This will show the most information.

At this point, I also started to wonder about boot times. Due to the fact that its a Pentium2, and even with the RAM super boosted as above, the boot time is still slow.

After much research, I decided to explore rewriting the initrd (initial ram disk). To do this (I advise caution - you can do much damage if you get it wrong) requires use of the following command:

```
mkinitrd -f /boot/initrd-name of your
kernel in use.img  name of your kernel
in use
```

To find the name of your kernel, use the command **uname -r**. In my case, I used:

```
mkinitrd -f /boot/initrd-
2.6.33.5.pclos1.bfs.img
2.6.33.5.pclos1.bfs
```

This command rewrites the initrd, based on the modules 'in use' on your device. For me, it reduced boot time by about 10-15 seconds.

For some further reading/reference about ACPI, APM and Initrd, head on over to the Wikipedia pages listed below:

http://en.wikipedia.org/wiki/Advanced_Configuration_and_Power_Interface

http://en.wikipedia.org/wiki/Advanced_Power_Management

http://en.wikipedia.org/wiki/Initrd

LXDE: The Control Center

by Paul Arnote (parnote)

Probably one of the first places you will want to go, once you have installed PCLinuxOS-LXDE, is the LXDE Control Center. Among LXDE users, it's more commonly referred to simply as lxdecc. It is here that you will make or change some of the basic settings for LXDE, allowing you to tailor your LXDE desktop to work the way you want it to, and to better suit your tastes. After all, Linux is all about choice.
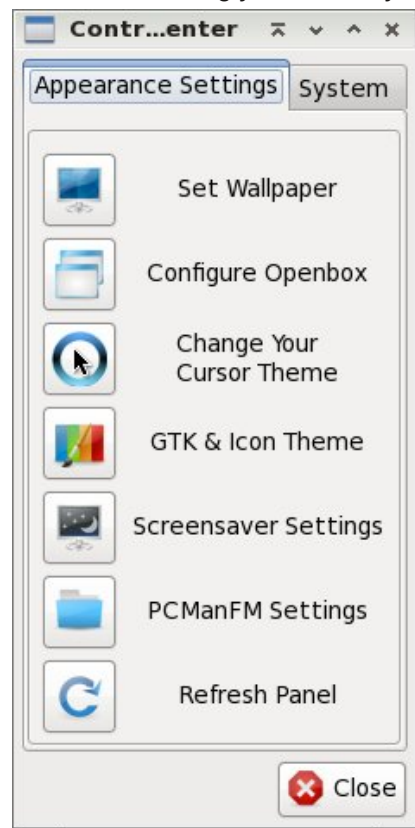
When you first open the LXDE Control Center, you will see the above window appear on your desktop, divided into the various categories of settings. Let's explore those categories, and what can be accomplished there.

Under the first category, **Set Wallpaper**, you will be directed to this configuration dialog box, which is the actually the PCManFM Settings dialog box. Under LXDE, the wallpaper and the desktop are under the control of PCManFM by default. So our discussion of these settings will also apply to the PCManFM Settings section of the LXDE Control Center.
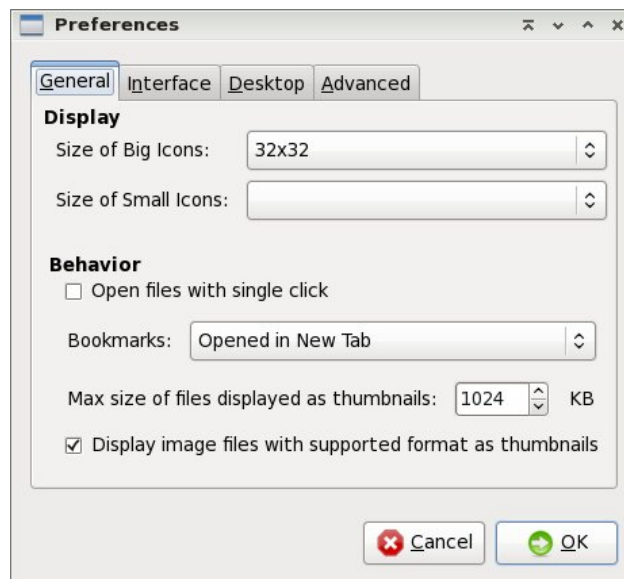
The first section of the first tab, **General**, allows you to set options for "Display." These include the size of "big icons" and "small icons" on your system. Under "Behavior," you can choose to open files with a single click. By default, this setting is checked. Click on the check box (clearing the check mark) if you are more accustomed to opening files with a double click of the mouse or pointing device. You can also select if you want bookmarks opened in a new tab, in the current tab, or in a new window.

The next setting allows you to set the maximum file size of files to display as thumbnail images. The default setting is 1 MB (1024 KB), meaning files larger than 1 MB will not display as a thumbnail image. Finally, you can turn on or off the display of supported image file formats as thumbnails. Simply click on the check box to check or uncheck the setting.
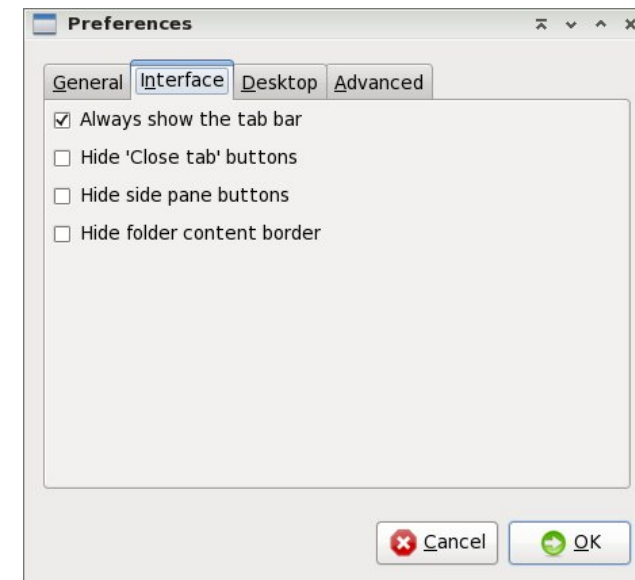
Under the second tab, **Interface**, you can change some settings that dictate a few aspects of the LXDE interface. By default in PCLinuxOS-LXDE, all of these settings are unchecked. "Always show the tab bar" allows for the tab bar in PCManFM to always be displayed, even when you have only one tab open. Personally, I set this to be "on," since, for me, it serves as a reminder that I can have multiple tabs opened. The other options should be fairly self-explanatory, and will do no permanent harm if you wish to play with them. You can, after all, reverse the

setting simply by opening up this tab and clicking on the setting again and revert it back to the way it was. So, feel free to play with the settings here
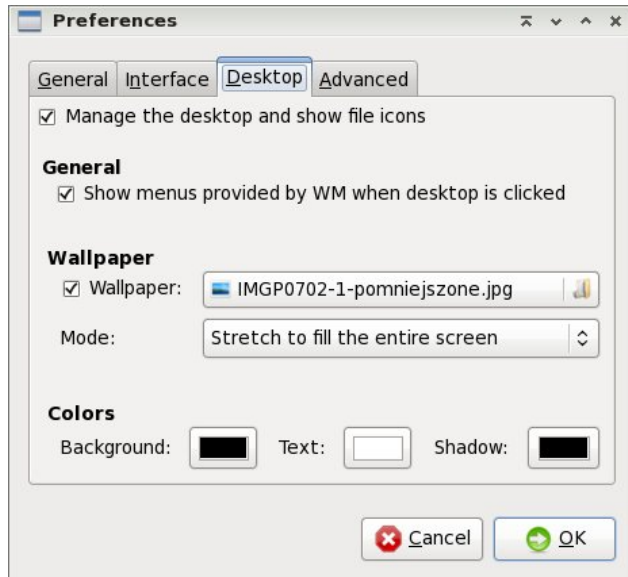
Under the third tab, **Desktop**, you can control various aspect of your LXDE desktop. At the top is the "Manage the desktop and show file icons" setting. This is selected by default, to allow PCManFM to control the desktop. This means that PCManFM will control the display of your wallpaper. Under this scheme, there is a "My Documents" folder placed on your desktop. When selected, it automatically opens up PCManFM, with your /home directory displayed. If you dislike having icons on your desktop, you may not be a fan of this. Due to a "glitch" in the PCManFM code, this icon cannot be removed without taking away PCManFM's ability to manage the desktop.

In the "General" section, you can have the menu provided by the window manager displayed when you right click on the desktop. With PCLinuxOS-LXDE, as well as most LXDE desktops, OpenBox is the window manager employed. This option is selected by default, allowing you easy access to the OpenBox settings simply by right-clicking on the desktop.

In the "Wallpaper" section, you can select the graphic file to use as the wallpaper for your desktop. You can also choose the "mode" by which to display your graphic file. First, you can select to stretch the graphic file to fill the entire screen, which is probably the most common setting. Your other choices are stretch to fit the screen, center on the screen, or tile the image to fill the screen.

Finally, under the "Colors" section, you can select the colors to use for the background, text, and shadow colors.
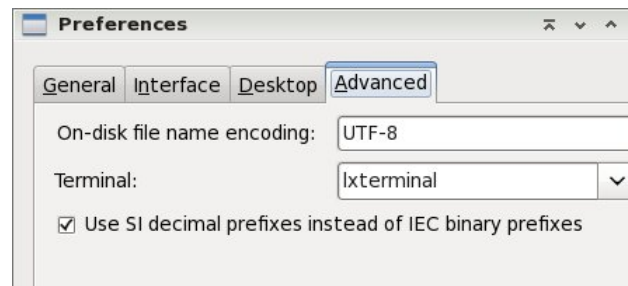
Under the fourth tab, **Advanced**, you can set the character set to use for file names. UTF-8 is the default setting. You can also select which terminal program you want to be used by default.
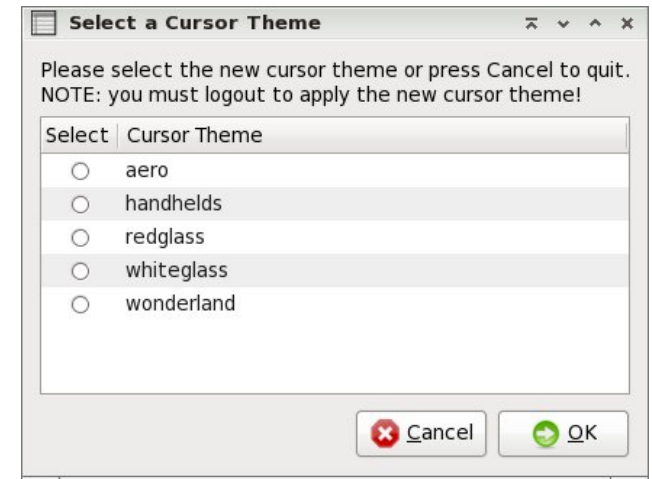
For the next section of Control Center, **Change Your Cursor Theme**, you can select which cursor theme you want to use as your default setting. After you click OK, LXDE logout will open. It is necessary to log out and back in for the new cursor theme to be applied.

For LXDE Control Center's next section, **GTK & Icon Theme**, you can use the first tab, "Window," to select the theme to use to display your windows. Similarly, the second tab, "Icons," allows you to select the icon theme to use with PCLXDE.
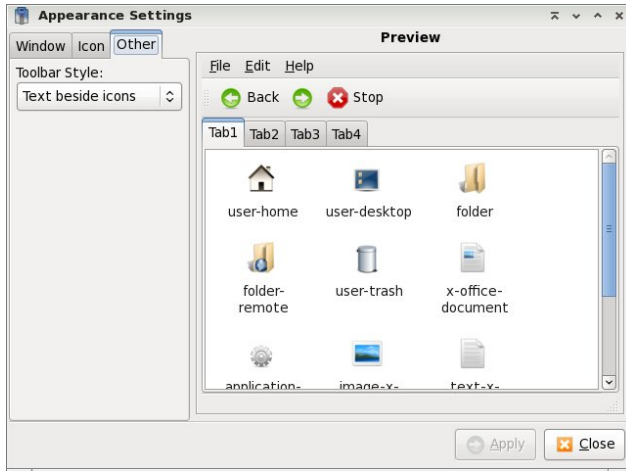
Under the third tab, "Other," you can select which toolbar style you want to use. The default setting is to display "text besides icons." Your other choices are icons only, text only and text below icons.

Under the **Screensaver Settings** section of the LXDE Control Center (graphic top of next column), you can make all of the settings for your screen saver. XScreenSaver is the default program for controlling your screen saver's behavior under LXDE.

The next selection under the LXDE Control Center is the **PCManFM Settings**, which we already covered when we talked about **Set Wallpaper**. The last
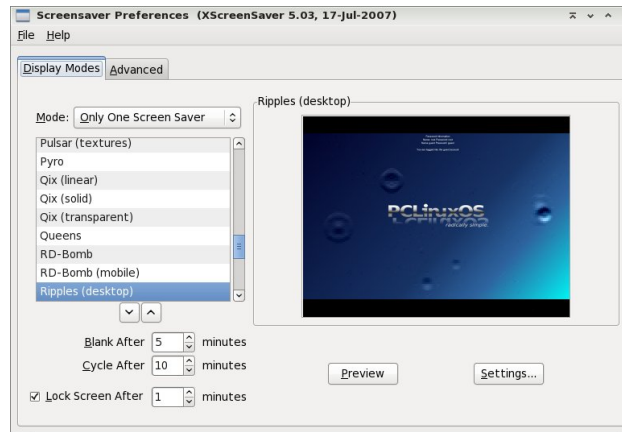
selection under the **Appearance Settings** tab of the LXDE Control Center is to **Refresh Panel**. You may need to do this manually after changing some of the appearance settings.
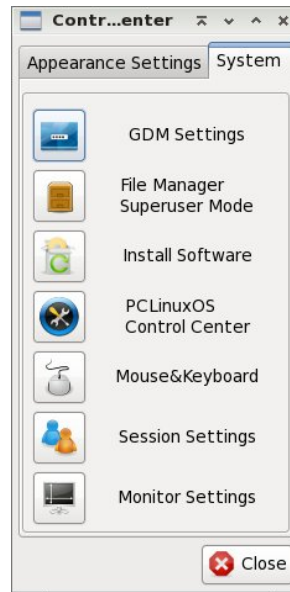
The **System** tab of the LXDE Control Center contains some settings that require root access. In fact, the first four categories require you to acquire root access.

Under the first tab of **GDM Settings**, "General," you can choose to hide visual feedback for entry of the GDM login password. You can also disable multiple logins for the same user (the default setting), select the default session for the GDM (default is "Run

XClient Script), specify a default GtkRC file to use (default is none) or to specify whether or not to use a 24 hour clock (default is set to "auto").

The second tab, "Local", allows you to set several options for the display of the GDM (Gnome Display Manager). First, you can set the "style." The default is "themed with face browser." Your other choices are plain, plain with face browser and themed. Under the "theme" option, you can select whether to
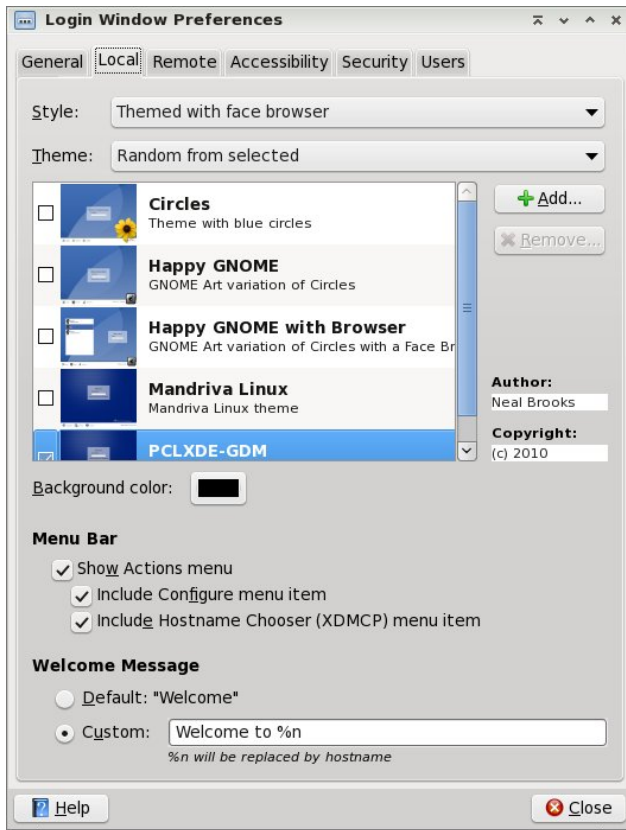
display random, selected GDM themes, or only one selected GDM theme. The default is "random from selected." Since only one is selected, PCLXDE-GDM, only that one will be displayed with either option.

The background color tells GDM what color to use for the background of the GDM theme. Under "Menu Bar," you can choose whether or not to display the actions menu, or if you choose to include a

"configure menu item" or the "hostname chooser menu item." In the last section of the "Local" tab, you can choose the welcome message to display.

Under the "Remote" tab (not shown), you can choose whether to disable remote login (the default), or to inherit the setting from the local user, or to use a plain interface with face browser.
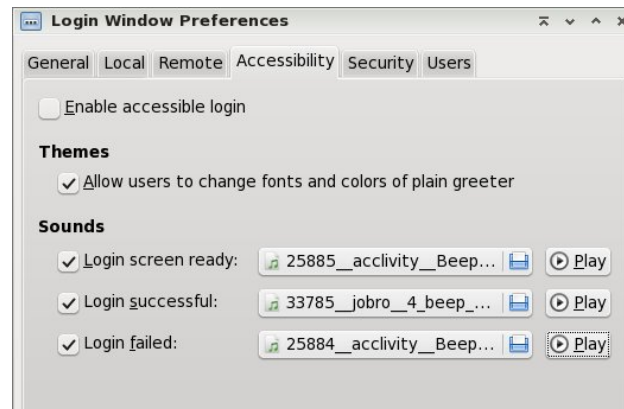
The fourth tab, "Accessibility," allows you to set accessibility options for your GDM theme. First, you can choose whether or not to enable accessible login. The default is for this setting to be turned off. Under the "themes" section, you can choose whether or not to allow users to change the font and colors used in the plain greeter. By default, this setting is checked and activated. Under "sounds," you can specify sound files to be played when the login screen is ready, when the login is successful, or when the login is unsuccessful. By default, only the first option is activated. In the above screen shot, I've customized the sound file to be played, and activated all three options.

At the top of the "Security" tab, you can determine if you want automatic login for a specified user. While this may be alright for a computer that only has one user, you will be sacrificing some security of your files. Alternatively, the second choice allows for automatic login for the specified user after a set time delay (default is 30 seconds). This gives any other user a chance to login, but if no other user is chosen after 30 seconds, then the specified user is automatically logged in. Again, you will be sacrificing

the security of the specified user's files. The rest of the options under the "Security" tab should be fairly evident.

Under the "User" tab (not shown), you can set options for which users to display in the GDM login screen, the picture to use for that user, and the directory where the user "face" graphics are contained.
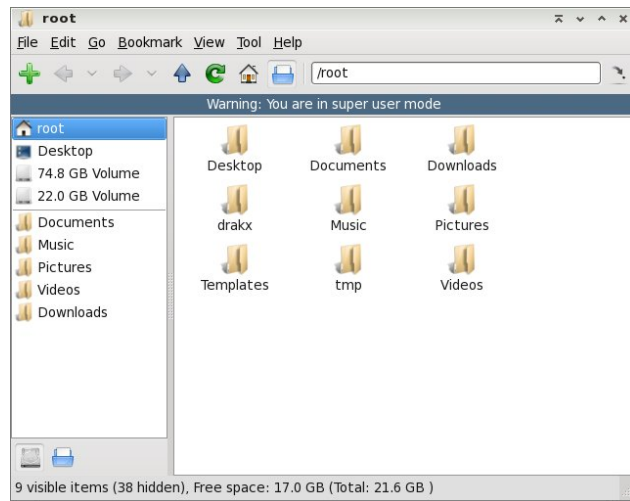
The next three buttons under the "System" tab of the LXDE Control Center offer short cuts to "**File Manager Superuser Mode**," **Synaptic** for installing software and system settings under **PCLinuxOS Control Center**, or PCC. When you select the "File Manager Superuser Mode" button, you will first be prompted for the root password, and if properly supplied, PCManFM will open (as above). Notice that when you open PCManFM with root privileges, there will be a blue banner at the top of the

PCManFM window, just below the toolbar, serving as a reminder of the elevated privilege. Synaptic and PCC behave normally when selected.
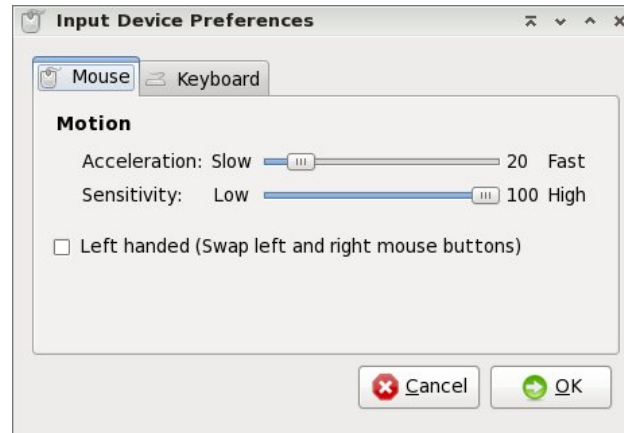
When you select the "**Mouse & Keyboard**" button in LXDE Control Center, you will first have access to the "Mouse" tab. Here, you can control the
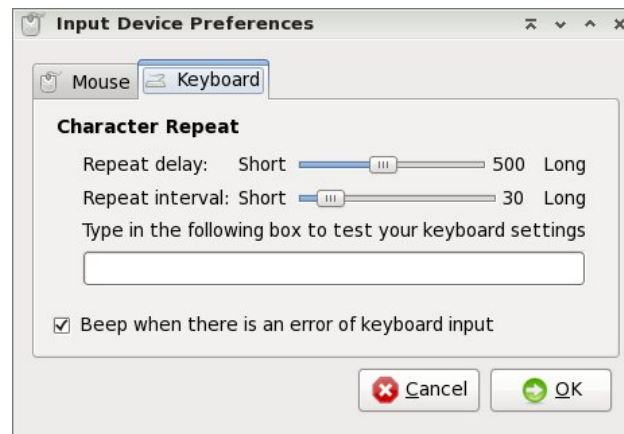
acceleration of your mouse, as well as the sensitivity. If you are a left handed user, you can swap the mouse buttons by checking the box.

Switching to the "Keyboard" tab gives you options to set the repeat delay, as well as the repeat interval for your keyboard. A test area is included in the middle of the window, where you can test your settings before committing to using them. Near the bottom of the window, you can select whether or not there is a "beep" produced when there is a keyboard input error. The default is to have the beep turned on.
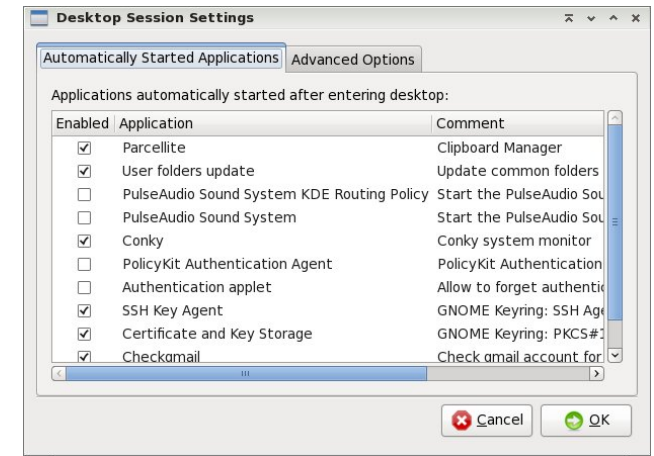
For the next LXDE Control Center button, "**Session Settings**," you can select which applications are automatically started when LXDE is started. We will cover this aspect of LXDE's behavior more in-depth in a separate article, but you can choose which available applications you want to be started automatically at LXDE's boot by checking or clearing the check box next to each item.

Under the "Advanced Options" tab, you are best advised to heed the warning about NOT touching or altering this setting, unless you know exactly what you are doing. Any changes you do make here will take effect on the next login to LXDE.
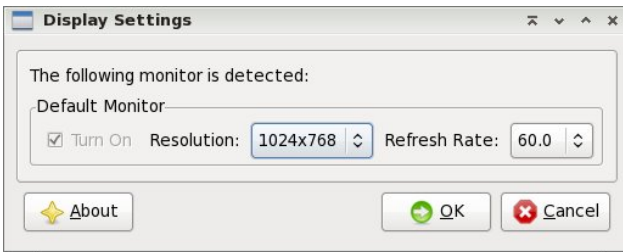
The last selection in the LXDE Control Center's "**System**" tab is "**Monitor Settings**." Here, you can change the resolution of your monitor, as well as the refresh rate.

Conclusion

Despite its relative youth, the LXDE Control Center provides quite a few configuration options. Some more advanced configurations options will be covered in more depth in separate articles. But, via the LXDE Control Center, you can make significant inroads to tailoring LXDE to your liking.

Screenshot Showcase
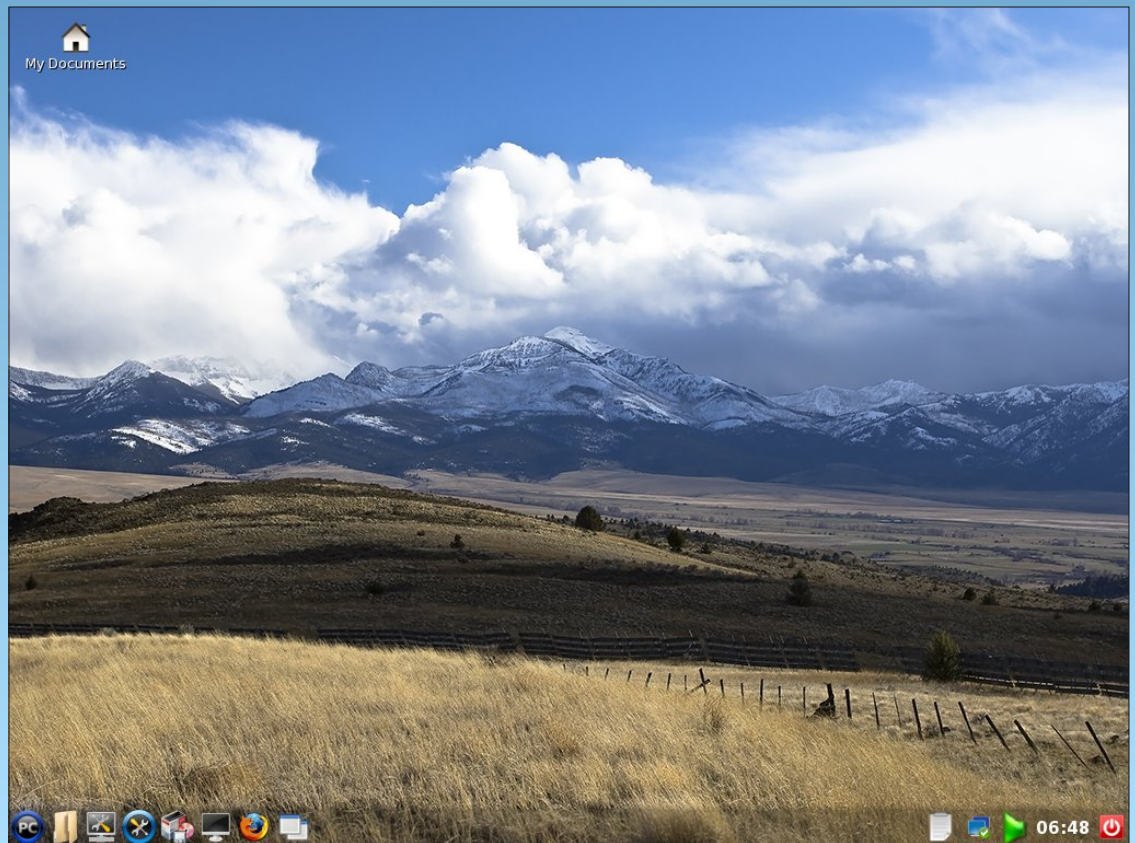
Posted by Redeemed-05, running PCLinuxOS-LXDE.

LXDE: Autostart Apps With .desktop Files

by Paul Arnote (parnote)

Under almost every other major desktop environment, it's a relatively simple task to set up applications to automatically start whenever you start the desktop. However, this is not necessarily so under LXDE. In fact, LXDE does not natively have an autostart directory, by default. Thanks to Neal Brooks, author of the PCLinuxOS-LXDE remaster, PCLinuxOS users of LXDE do have this feature already set up for them.
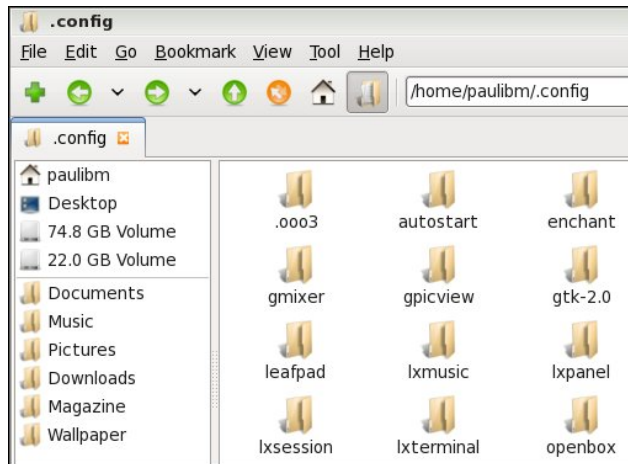
Hidden in the user's home directory, is the .config folder. Under the .config folder, you will find a folder named autostart. Just as with KDE, items placed in the autostart directory will be automatically started when LXDE starts.

You might think it to be as easy as placing a link – either a symbolic link or a hard link – to the application you want to automatically start in the autostart directory. But that is not going to work. Nope. Only actual .desktop files work to automatically start the selected applications when LXDE is started. And no, you cannot create a link to the .desktop files. It has to be an actual, bona fide .desktop file.

Of course, the easiest way to obtain the proper .desktop file is to, (as root), copy the appropriate .desktop file from /usr/share/applications to the /$HOME/.config/autostart directory. But what if the application you want to automatically start doesn't have a corresponding .desktop file? Read on.

Uses for the .desktop file

Before we discuss how to create the .desktop file for the application(s) you wish to automatically start, it's important to understand how .desktop files are used on your system. Obviously, one such use is the main topic of this article: automatically starting applications when you start LXDE. But probably one of the primary uses of .desktop files is to display items in your LXDE menu.

All items displayed in the LXDE menu have a corresponding .desktop file in /usr/share/applications. So much of the information here can also be utilized to customize your LXDE menu. In this aspect, LXDE is not all that unlike Xfce, and the information in the **Xfce 4.6.2: Customize Your Xfce Menu** article (June 2010 issue of The NEW PCLinuxOS Magazine) will also apply to your efforts to customize your LXDE menu.

Fortunately, LXDE follows the standards for the .desktop file set forth by freedesktop.org. This link will take you to the page that explains all the recognized "keys" in a compliant .desktop file, as well as specifying whether each key is required or optional. While not an "official" standards organization, the "guidelines" set forth by Freedesktop.org have become defacto standards.

Creating the .desktop file

Just as with many things in Linux, there is more than one way to create a .desktop file for the application you wish to automatically start when LXDE starts. A .desktop file is, as many files in Linux are, a simple text file. Using the .desktop file for AlsaMixer GUI as an example, here is the basic format for that .desktop file:

```
[Desktop Entry]
Name=AlsaMixerGUI
Comment=Advanced Linux Sound
Architecture (ALSA) graphical mixer
Exec=alsamixergui
Icon=sound_section
Terminal=false
Type=Application
Categories=Audio;Mixer;X-
MandrivaLinux-Multimedia-Sound
```

The lines should be fairly self-explanatory, but here's a brief rundown on each. The "Name" entry is, as you might expect, the name displayed for the application. The "Comment" entry contains the information that is supplied when a user hovers their mouse over the entry in the LXDE menu. The "Exec"

entry specifies the application to launch. Although most of the executable files on your computer are stored in the /usr/bin folder, it would be wise to specify the full path to the application. If your application, indeed, has its executable file stored in /usr/bin, you can get away with specifying only the application's executable name, because /usr/bin is in your path. Otherwise, you will need to specify the full path to the application's executable file.

The "Icon" entry specifies the icon to display for the specified application. The "Terminal" entry specifies if the application should be opened in a terminal session. The "Type" entry most likely doesn't need an explanation. Finally, the "Categories" entry specifies, first, the categories that the application should be classified as, and second, where to place the application's icon in the LXDE menu. In our example above, that would be under the LXDE > Multimedia > Sound menu.

So now that you have a basic understanding of what a .desktop file does, and how it's constructed, it's time to discover how to create our .desktop file. The first choice, and probably the most obvious one, is to simply create the file by hand, in a basic text editor such as Leafpad. To prevent the program from appearing in the LXDE menu, refrain from saving the .desktop file to your /usr/share/applications directory. Conversely, if you want the program to appear in your LXDE menu, be sure to save the .desktop file (or a copy of it) in your /usr/share/applications directory. You will need root privileges to save the file there. For setting up an application to automatically start when you start LXDE, be sure to save the .desktop file (or a copy of it) to your /$HOME/.config/autostart directory.

The second choice is to take an existing .desktop file on your system and modify it for your needs. Open up an existing .desktop file, make the changes to the listed keys, and resave it with the same name as your application, but with the .desktop extension.

The third choice is to follow the steps outlined in the Xfce 4.6.2: Customize Your Xfce Menu article (June, 2010 issue of The NEW PCLinuxOS Magazine) by running the exo-desktop-item-edit command to create your .desktop file with a GUI.

Regardless of the method you choose to use, don't forget to save the resulting .desktop file (or a copy of it) in your $HOME/.config/autostart folder for those applications you want to automatically start when you start LXDE.

Advanced: A Workaround (Easier) Shortcut

Now, I'm calling this "advanced," but don't interpret advanced as meaning difficult. Actually, this workaround is easier. I call it "advanced" for two reasons. First, it involves making a simple bash script. This fact alone may keep some of you from attempting it. Second, it's a different way of looking at the problem, and offers a different solution that is more flexible.

This method started off as a "proof of concept" idea in my head. I don't know if anyone has tried this before. If so, great. If not, I wonder why. So let me walk you through this method, step-by-step.

Step One: Create a simple bash script, similar to the following:

```
#!/bin/bash

sleep 10
dropbox &
conky &
aumix &
leafpad &
pcmanfm &
checkgmail &
pcc &
```

All I've done here is simply list all the the applications I want to automatically start when LXDE starts. The first line causes a 10 second delay in the execution of the rest of the script. This delay allows the desktop to finish loading before I start launching applications. Notice that each application name is followed by a space, then the ampersand sign. The ampersand tells bash to execute the application in the background, and move on to the next line. Without the ampersand, the script would first launch dropbox, wait for it to finish and exit, and once finished, launch conky. Once conky was finished executing and exits, then aumix would launch. Things would proceed in this manner until all the applications listed had been executed, one at a time.

This list assumes, of course, that I want to launch DropBox, Conky, Aumix, Leafpad, PCManFM, CheckGmail and PCC every time I start my computer. I am certain that I do not want all of these applications automatically started when I start LXDE, as a matter of fact. But I list them here to prove that this technique works, validating my proof of concept.

You can just as easily list other applications here that you may want to automatically launch whenever LXDE starts.

Step Two: Save your new bash script. I called mine autostart-lxde.sh. Sure, you can call it whatever you like. But I have this thing about making the names mean something that makes sense to me six months or a year down the line. I saved my bash script in my $HOME directory.

Step Three: Right click on your new bash script, and select "Properties" from the context menu.
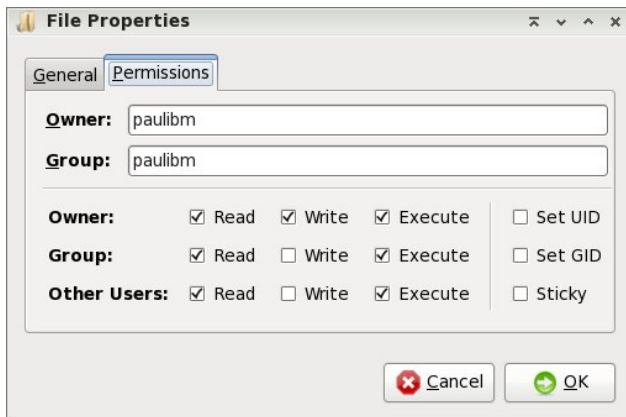
Click on the "Permissions" tab, and check all the boxes that are labeled "Execute." This will allow not only the file owner to run the script, but also all members of the specified group, as well as all other users on the system.

Step Four: Right click on your script, and select "Copy" from the context menu. Open up the /usr/bin directory (as root), and paste your script into that

directory. The /usr/bin directory is most desirable, since it is in your $PATH. When you paste a copy of your script in the /usr/bin directory, root will become the owner and group of the script. An added benefit is that the list of applications to automatically start when LXDE starts can only be changed or edited by a user with root privileges.

If you want to make it possible for any user to edit the script (or easier for YOU to edit the script), you can save it to some other directory of your choice. If you choose this route, you will have to provide the entire path to the script in the .desktop file that you create in the next step.

Step Five: Create a .desktop file for your script. It should look something like the following:

```
[Desktop Entry]
Name=LXDE Autostart
Comment=Automatically start listed
applications when LXDE starts.
Exec=autostart-lxde.sh
Icon=/usr/share/icons/5.png
Terminal=false
Type=Application
Categories=Configuration
```

Save the file to your $HOME/.config/autostart directory. There is no need to save this .desktop file to your /usr/share/applications directory, since its sole purpose is to automatically launch your selected applications when LXDE starts. In fact, I don't have all the proper parameters set up in the example .desktop file above for the script to even appear in your LXDE menu.

Now, when you start LXDE, all the applications listed in your script will be launched automatically. To test it, log out of your current LXDE session, and then log back in. If you've followed all the directions accurately, all the applications listed in your script should automatically start when you start LXDE.

Remember that I said this method is easier and is more flexible? It certainly cleans up your $HOME/.config/autostart directory. Instead of having a lot of .desktop files filling up the autostart directory, you now only have one (or two, since DropBox places one there automatically for us) that replaces them all. It also saves space on your hard drive. Instead of having multiple copies of the .desktop files repeated in your autostart directory, there's only one. Finally, it's more flexible. You can automatically start *any* application on your system with this method, regardless if it has a .desktop file or not.

Also, even though I haven't tried it extensively, this method should work equally well on just about any other desktop environment. As long as it has a provision for automatically starting applications when the desktop environment starts, there should be no problem, since .desktop files are generally seen as being executable files.

Can the script be improved upon? I'm certain of it, since my scripting skills are very, very basic. But as it exists in its current state, it's very functional. It just works. I'm sure that for someone (hint, hint) who is good with creating scripts with a GUI interface (either via Zenity or Gtkdialog), it would be a fairly simple proposition to create a GUI script to help create the autostart-lxde.sh script and .desktop file. This would give PCLinuxOS-LXDE users something

that no other users of LXDE on other Linux distros have: a graphical way to manage the applications to automatically start when LXDE starts.

Reach Us On The Web

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PCLinuxOS Magazine Web Site:
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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

Screenshot Showcase
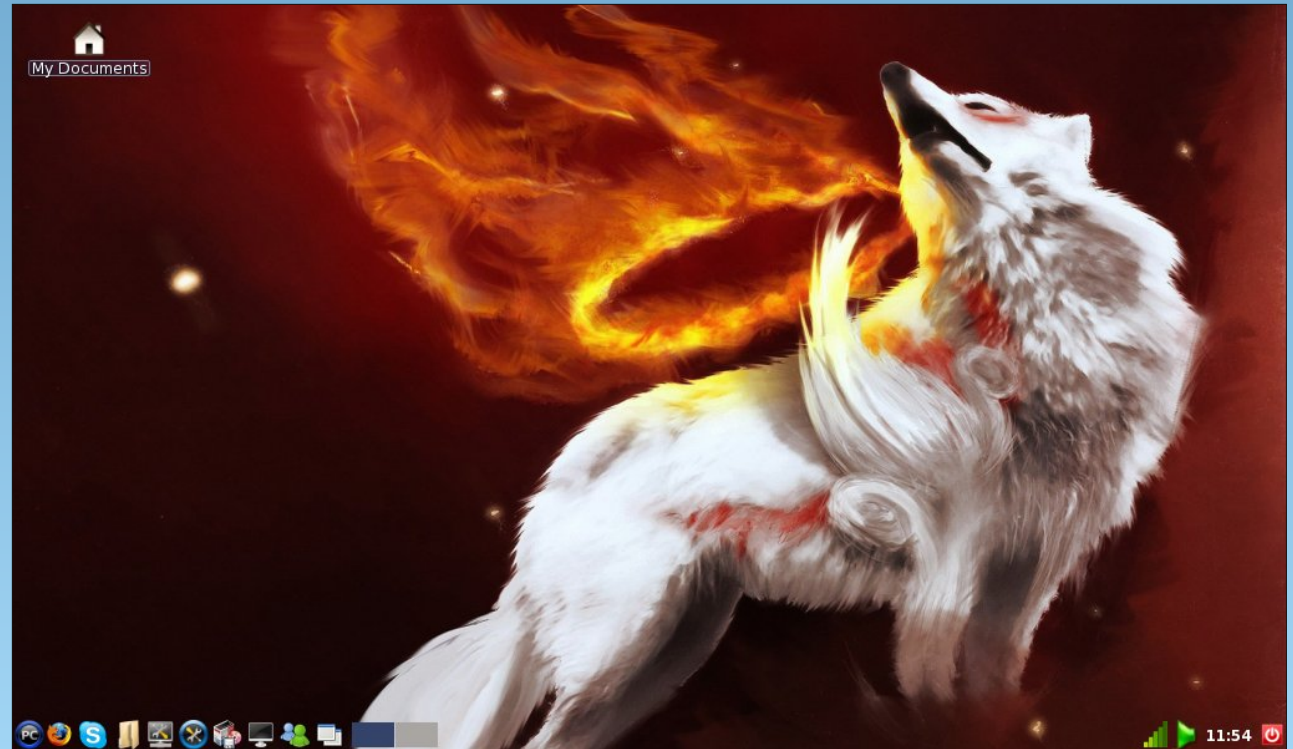
Posted by coffeetime, running PCLinuxOS-LXDE.

LXDE: Configure LXPanel

by Andrew Strick (Stricktoo)

Introduction

LXPanel is the default panel for the LXDE desktop environment. Like the rest of LXDE, LXPanel is still young (the currently PCLinuxOS version is 0.5.5, though 0.5.6 was released in late July and will hopefully soon reach the PCLinuxOS repos). Yet, LXPanel delivers the essentials with plenty of tweakability to spare.

Configuring LXPanel

LXPanel can technically be modified by editing the underlying configuration file, located at `~/.config/lxpanel/LXDE/panels`. This method is not advisable. The first line of the config file gives ample warning:

```
# lxpanel «profile» config file.
Manually editing is not recommended.
# Use preference dialog in lxpanel to
adjust config when you can.
```

Instead, LXPanel should be configured using the built-in GUI tools, which are accessed by right-clicking anywhere on the panel and choosing Panel Settings from the context menu.

1. The default LXPanel
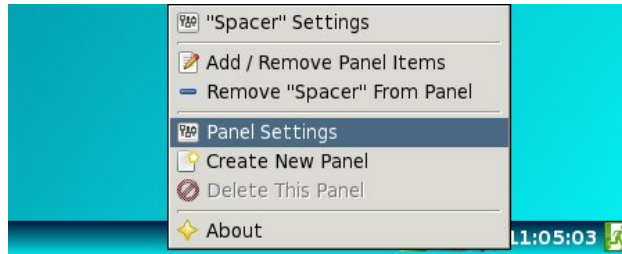
2. Opening the Panel Settings dialog

A window with four sections (Geometry, Appearance, Panel Applets and Advanced) will appear. Each will be explained in turn.
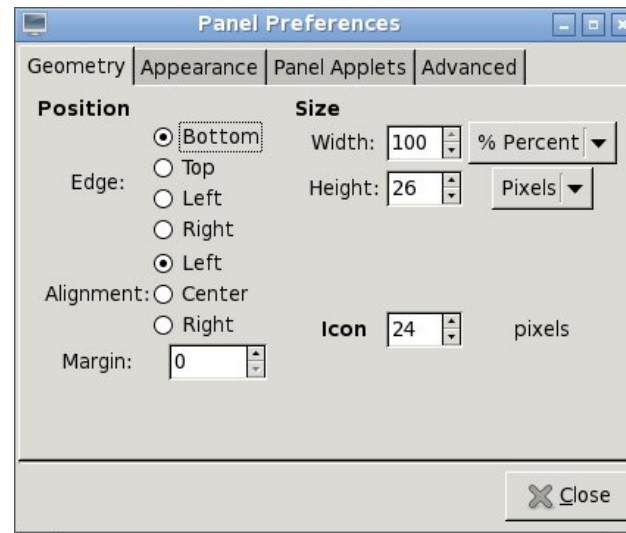
3. The Geometry section

Geometry

The Geometry section governs the panel's "footprint". Options in the Position column control placement of the panel, while Size column settings establish the dimensions of the panel.

Position

Edge: sets the screen edge on which the panel will be displayed.

Alignment: determines where the panel will be located on the edge: right, left or center (if the panel displayed horizontally is on the top or bottom screen edge), or top, bottom or center (if the panel is displayed vertically on the right or left screen edges).

Margin: offsets the panel by the specified number of pixels. A margin of 50 pixels ("50px") for the default panel will create a 50px gap between the left screen edge and the left end of the panel. However Margin has no effect if the panel is center-aligned.

4. The panel, offset from the left screen edge by a 50 pixel margin

Size

Width: defines the width of the panel. The width can be percentage of the screen, a specific pixel size or

dynamic (the panel automatically expands or contracts to be just large enough to contain all of the currently loaded applets).

Height: defines the height of the panel. The minimum is 16px and the maximum is 200px. Items on the panel do not scale to fit the new height of the panel, and under 20px they get cut off.

Icon: defines the size of the icons on the panel. This includes application launchers, the taskbar and the system tray.

5. The panel at the maximum height (200px). Note how the icons have spread across rows rather than scaling

Appearance

The Appearance tab, funnily enough, is home to the options controlling the panel background.

Background

System theme: the background will be a solid color from the GTK theme (specifically, the window color).
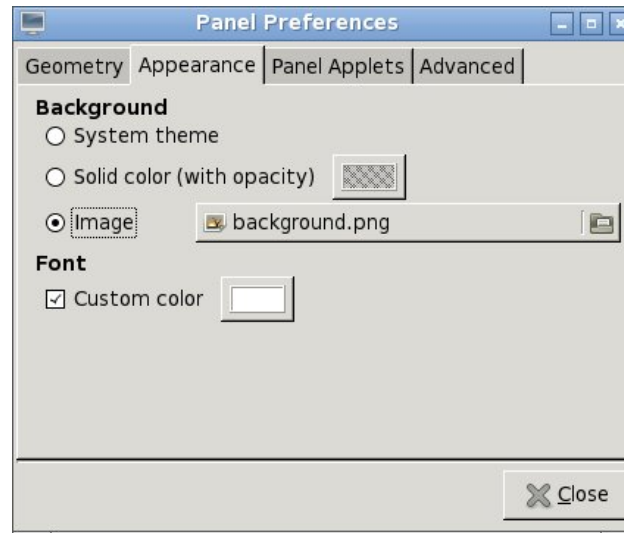
6. The Appearance section

Solid color (with opacity): clicking on the small box launches a dialog box the color panel may be fixed, by defining the Hue, Saturation and Value levels or the Red, Blue and Green levels, or manually entering a hexadecimal color value (note: the value is limited to six digits; LXPanel does not support an alpha channel). The opacity of the panel can be changed by either moving the slider or by manually entering a value between 0 and 100.

Image: set a background pattern for the panel. The default is
`usr/share/lxpanel/image/background.png`, but LXPanel will accept any PNG or JPEG image. For best results, the image should be 1px wide and the same height as the panel. When a different image is selected the background updates automatically, but application icons and the system
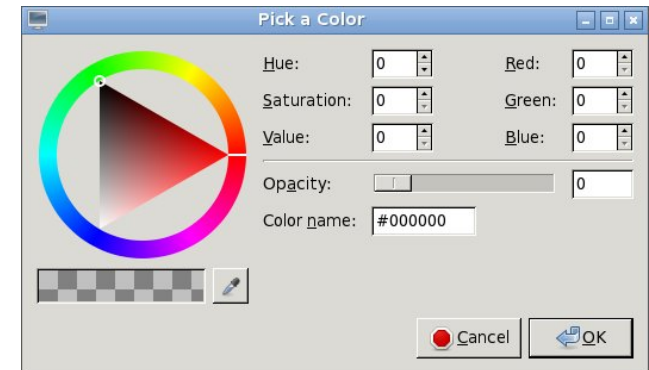
7. The color picking dialog box

tray will still retain the old background, and will only assume the new one when LXPanel is restarted (e.g. at login).

8. The panel with a different background image

Font

Custom Color: changes the color of fonts of panel plugins, such as the clock (the task bar will remain unaffected). The dialog box is identical to that of Solid Color (with opacity). If the box is unchecked, the affected text will assume the color of menu items as specified in the GTK theme.

Panel Applets

A note on terminology. The dialog itself refers to panel components as both "plugins" and "applets". For the sake of simplicity I will refer to them only as "applets".
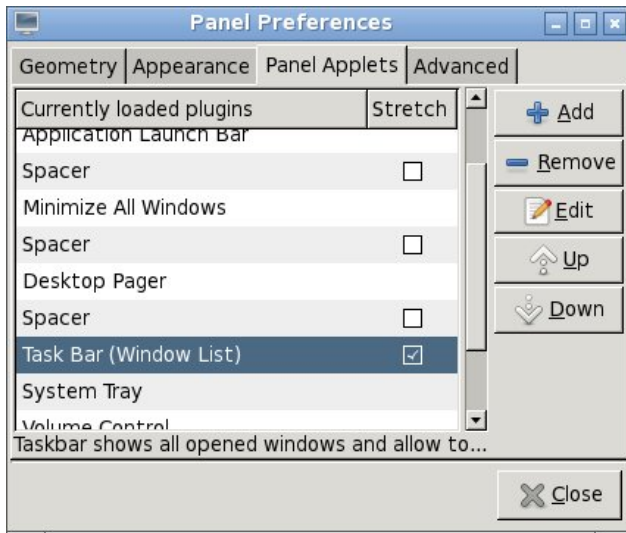
9. The Panel Applets section

The Panel Applets tab controls which applets or plugins are currently displayed on the panel, along with their individual options. On the left, a two-column inset window displays the active applets, in the order they appear on the panel (the top of the left equates to the left of the panel).

Applets that are "streched" (spacers and the taskbar, which have checkboxes in the right-hand column) will take up all available space on the panel. This is not desirable for spacers, because they then waste

space, but it is necessary for the taskbar. If unchecked, the taskbar will then consume the rest of the panel, and running tasks will not shrink so as to fit new tasks.

11. The unspaced taskbar consumes the entire right side of the panel

On the right are five buttons used to control the currently displayed applets. (Note: "currently selected applet" refers to the applet selected in the list in the Panel Applets window).

Add: launches a dialog box listing applets that can be added to the panel.

Remove: removes the currently selected applet.

Edit: if the currently selected applet can be configured, the Edit button will launch the corresponding dialog box. If the Edit button is greyed out, that applet does not have any configurable options.

Up: moves the currently selected applet up in the list (and left on the panel).

Down: moves the currently selected applet down in the list (and right on the panel).
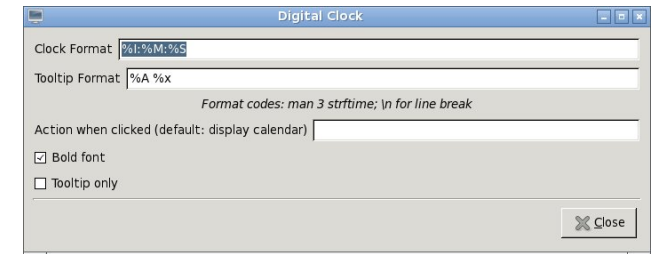
12. Configuration settings for the clock

Advanced

Despite the title, the settings in the Advanced section aren't really all that technical. Rather, it's more of a catch-all for options that did not fit anywhere else.

Set Preferred Applications

File Manager: the file manager that LXPanel will use to open directories. By default it is set to PCManFM, but can be changed to the user's desired file manager, such as Thunar. However this change will not affect an application launcher in the Application Launch Bar.

Terminal Emulator: the terminal emulator used by LXPanel. The default is LXTerminal, but it can be set
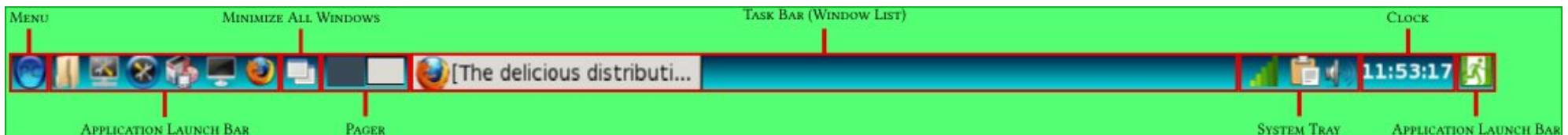
10. A diagram of the default applets and placement
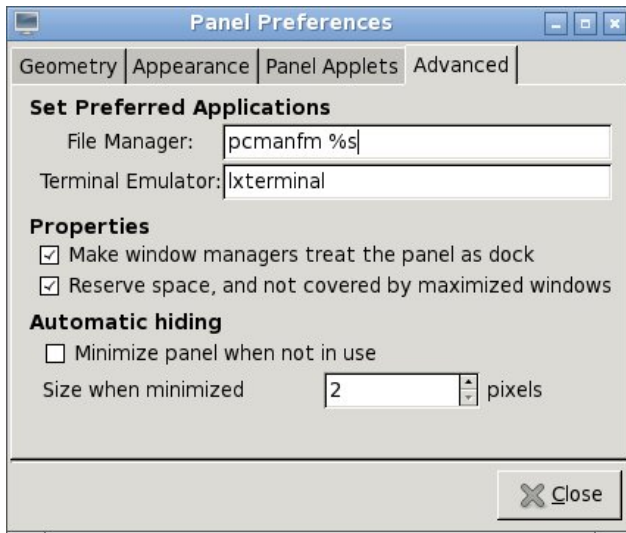
13. The Advanced section

to the user's prefered emulator (e.g. mrxvt). Again, this will not affect an application launcher.

Properties

Make window managers treat the panel as a dock: when checked window managers will see the panel as a dock and not a window. It will not be displayed on a list of open windows (e.g. the Alt+Tab window switcher) or the pager.

Reserve space, not covered by maximized windows: maximized windows will abut the panel instead of covering it.

Automatic Hiding

Minimize panel when not in use: hides the panel unless the mouse hovers over it

Size when minimized: unlike other desktop environments, which completely hide the panel until the mouse touches, say, a certain screen edge, some piece of the panel is always in view, even when hidden.The minimum is 2 pixels, and the maximum is 10.

14. The very small dark-blue line is the visible portion of the (mostly) hidden panel

Conclusion

LXPanel is fairly robust despite being both lightweight and young. Even with this early release there are plenty of goodies and lots of room for customization. As LXDE matures LXPanel will also evolve, and doubtless become even more full-featured.
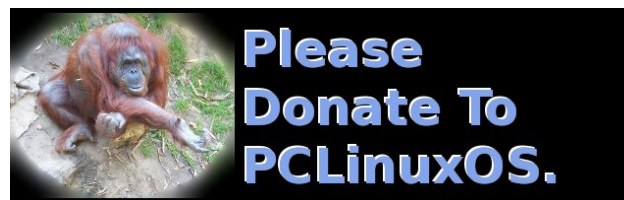
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LXDE: Add Wallpapers, Panel Decorations

by Paul Arnote (parnote)

In today's computer world, it might seem that changing desktop wallpaper might be a rather simple task. And, it is. But did you know that there are multiple ways to manage your wallpapers and panel decorations on PCLinuxOS-LXDE? Depending on how you choose to set it up, wallpapers and panel decorations can remain exclusive to each user, or they can be set up so that all users have access.

Wallpaper Method One: All Users Access

First, you need to open up PCManFM in the superuser mode, and move to /usr/share/lxde/wallpapers.

Next, open up another instance of PCManFM as a regular user. Move to the directory that contains the wallpaper(s) you wish to add.

Drag and drop the wallpaper(s) you wish to add into the /usr/share/lxde/wallpapers directory.

Right click on the file(s) you just added, and make sure the permissions are properly set. Both the owner and group should be set to "root." Permissions for the owner should be read and write. For group and other users, the permissions should be set to read.

Close both copies of PCManFM.

Now, under the "Appearance" tab of LXDE Control Center, select "Set Wallpaper." Alternatively, you can

right click on the desktop, and select "Configure Desktop."

Your new wallpaper will now appear as a choice in the selection window. Choose it, and close out of the LXDE Control Center.

Advantage: All users will have your new wallpaper as a choice for their desktop.

Disadvantage: If you add too many graphics, you may start to crowd your root partition, which is typically much smaller than your /home partition. Requires root privileges to add/remove wallpaper graphics.

Wallpaper Method Two: Local User Only

In your /home directory or partition, there is a hidden directory called .local. Beneath that is another directory, named share. Create a directory in the $HOME/.local/share directory called wallpapers, if it doesn't already exist.

Now, copy your selected wallpapers to the $HOME/.local/share/wallpapers directory.

Go to the LXDE Control Center's "Set Wallpaper" button (which, by the way, is the same as choosing PCManFM's Edit » Preferences menu, then the Desktop tab). Click on the folder icon to the right of the selection box, then traverse to the $HOME/.local/share/wallpapers directory. Select your wallpaper, and click OK.

Alternatively, you can create an "Images" folder in your /home directory, and within it, create folders named "wallpapers" and "panel." Actually, you can create any folder you want in your /home directory, and use the steps above to display your wallpaper on your desktop. The advantage to the "Images" folder is that it helps keep you, and all of your wallpapers and panel graphics, organized.

Advantages: doesn't take up unnecessary space in your root directory (if your /home directory is on a separate partition). Wallpapers can be added by the end user, without the need for root privileges.

Disadvantages: wallpapers stored using this method are not available to other users of the same computer.

Panel Decorations

You can also perform similar actions with your panel. Just as easily as you can apply custom wallpaper to your desktop, you can also dress up your panel with custom graphics.
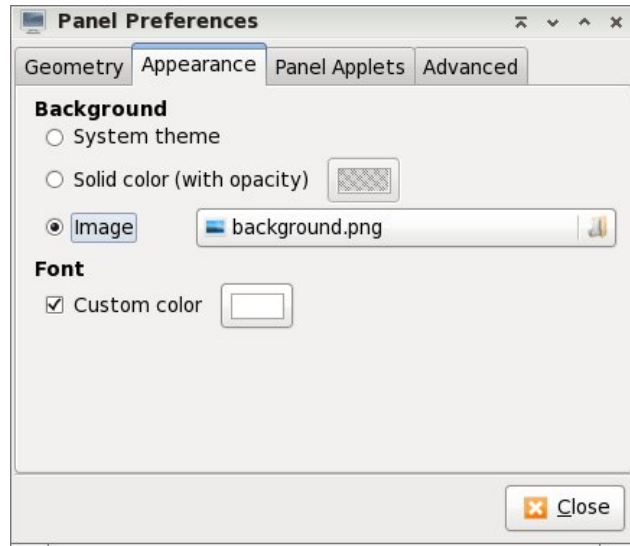
Right click on an empty spot on your panel, and select "Panel Settings" from the context menu that appears. Go to the "Appearance" tab, and you can select the background appearance of your panel. You can select from using the system theme, a solid color with user-selectable levels of opacity, and an image.

In a default installation of PCLinuxOS-LXDE, many of the graphics used to display the panel are stored in /usr/share/lxpanel/images. But just as we were able to change to another location when we changed our wallpaper, we can also change the location where lxpanel looks for the background images it uses. It's exactly the same procedure.

Conclusion

As you can see, it's very easy to customize the appearance of your LXDE desktop. You can be as creative as you like. It is, after all, Linux. Your Linux. Your desktop. Your choice.
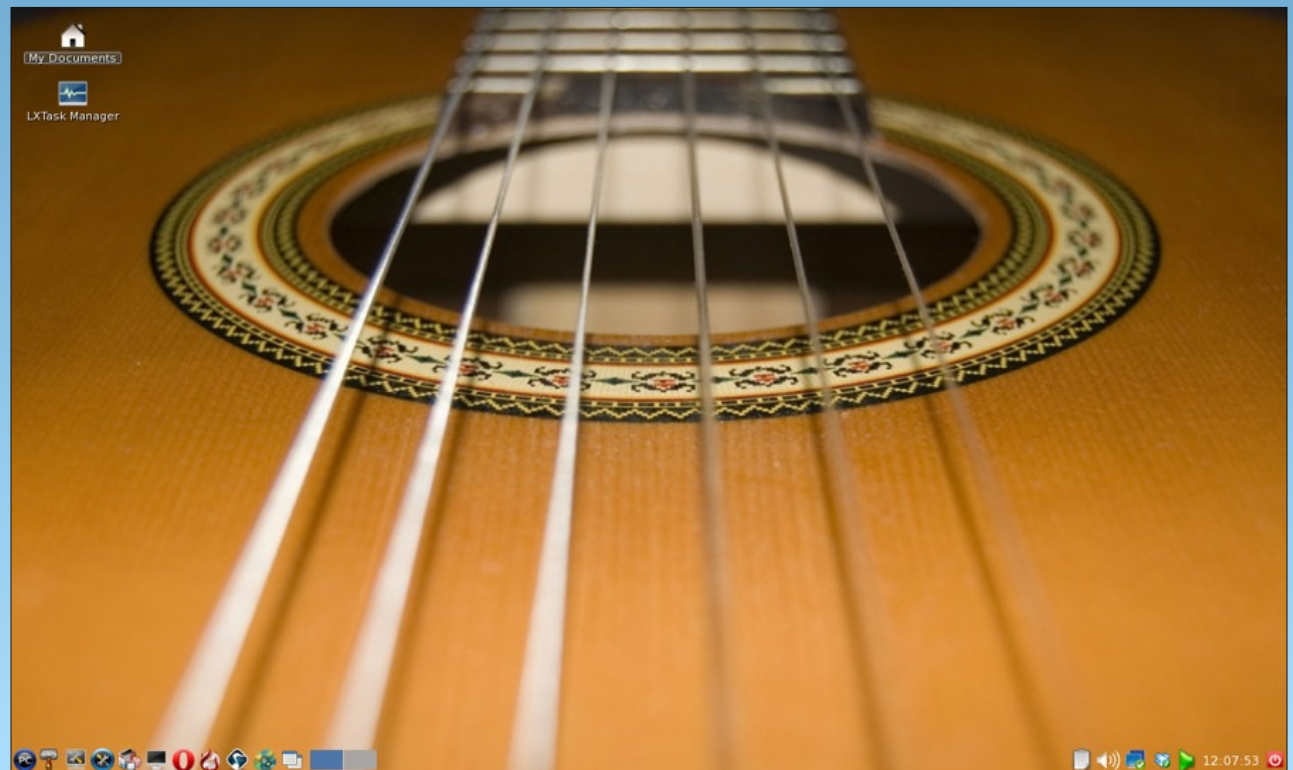
Posted by ph, running PCLinuxOS-LXDE.

LXDE: Get To Know Obconf

by Andrew Strick (Stricktoo)

Introduction

Obconf is a GUI utility for configuring the Openbox window manager. Many of its options are difficult, if not impossible, to explain in words, and so the reader is encouraged to "play at home," as it were; launch Obconf and play with each setting as it is described.

Note: Both the LXDE and Openbox versions of PCLinuxOS use the Openbox window manager. This article uses LXDE, but most of the discussion is applicable to both.

Launching Obconf
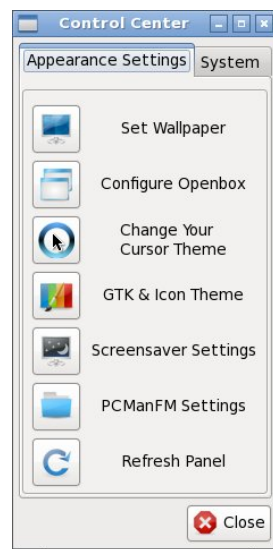
There are several ways to launch Obconf. In the menu, it is found under **More Applications > Configuration > Openbox Configuration Manager**. In the LXDE Control Center, it is the **Configure Openbox** option under the **Appearance Settings** tab. And it can be launched from the console or run dialog with the command **obconf**.

Fig. 01. The LXDE Control Center.

The second option ("Configure Openbox") launches Obconf.

Overview

Obconf has eight tabs. Each controls a specific Openbox component: Theme; Appearance; Windows; Move & Resize; Mouse; Desktops; Margins; and Dock.

Theme

The Theme tab lists the available Openbox themes. Each theme changes the way that Openbox looks. On a default LXDE install the most obvious effects
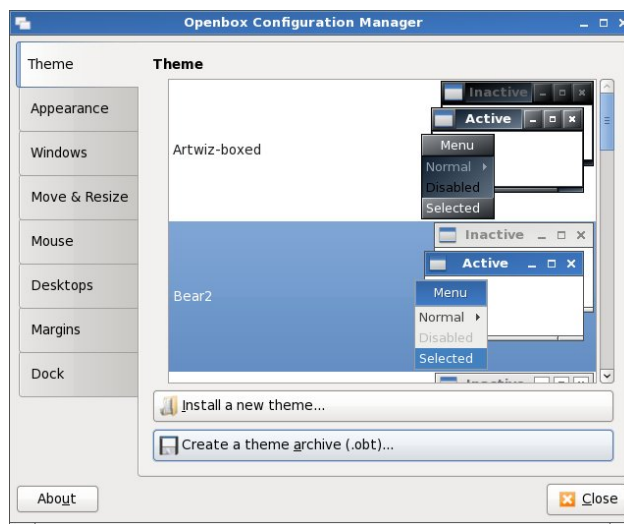
Fig. 02. The Themes tab, with the Bear2 theme selected. Notice that the window decorations change as soon as the user selects a theme.

are seen in the window decorations. The theme also affects any on screen displays (such as the desktop-switcher) and the Openbox menu, if the user has turned off the LXDE right-click menu.

The Themes tab also has buttons for installing and exporting Openbox themes.

"Install a new theme": launches a file brower window for navigating to the desired location. Once there the user can select any .obt archive and Openbox will install it.

"Create a theme archive (.obt)": also launches a file browser. The user can use this window to select a directory containing an Openbox theme, and that directory will be compressed into Openbox's own .obt archive format.

Note: *I could not get either of these options to work. Most themes downloaded from the internet come in a more standard archive type (e.g. .tar.gz) and are not seen by the install utility. And the creation utility refuses to recognize any file or directory as an Openbox theme. An easier method is to extract themes from their archives and move them into the ~/.themes directory (which does not exist by default and must be created by the user)*

Appearance

There are three subsections to the the Appearance tab.
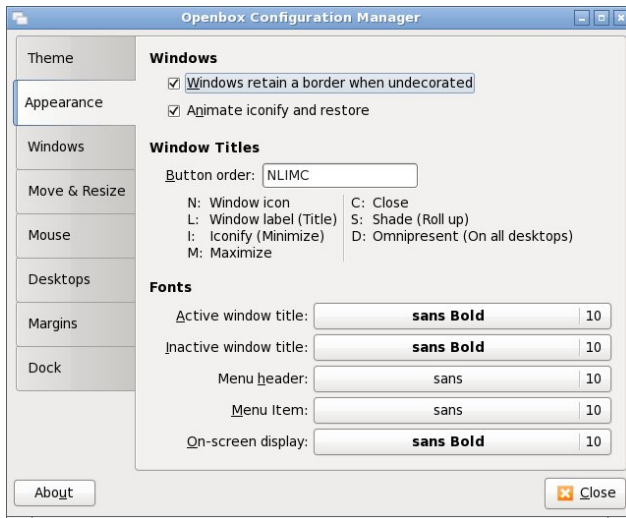
Fig. 03. The Appearance tab with default settings

Windows

"Windows retain border when undecorated": if the user launches an without any window decorations, this option then allows the user to decide whether that application window should still have a border

"Animate iconify and restore": when checked, the act of minimizing an application to, or restoring it from, the taskbar will show a simple visual. When unchecked application windows essentially appear or disappear when minimized or restored

Window Titles

By rearranging the listed options in the "Button order" input box, the user can change the layout of the window decoration's buttons and title. The default has the window icon (N) on the left edge, the window title (L) in the middle, and the minimize/iconify (I), maximize (M) and close (C) buttons at the right edge.

Note: *the Openbox theme determines the position of the window title. Thus even if the window title (L) is the first variable listed in the box, it will still display in the middle of the window decoration, offset only by buttons on the right edge. See Fig. 04 for an example.*

Fig. 04. The Appearance tab, with all the window buttons added. Notice how the window title (L) remains centered - despite being the first variable listed - and is offset only by the other buttons

Fonts

This section contains options for setting various system fonts.

"Active window title": the font for the title of the currently active window

"Inactive window title:": the font for the title of any currently inactive windows

"Menu header": the font for the heading of the Openbox menu

"Menu item": the font for items in the Openbox menu

"On-screen display": the font for any Openbox notifications (such as the Information Dialog during a window resize)

Note: *"Menu header" and "Menu item" are not generally necessary because the Openbox menu is only used if the user enables the it in the PCManFM settings.*

Windows

Focusing Windows

"Focus new windows when they appear": when checked, any newly opened windows will come to the foreground. When unchecked, newly opened windows will remain inactive until the user selects them (although they still appear on top of any currently opened windows)
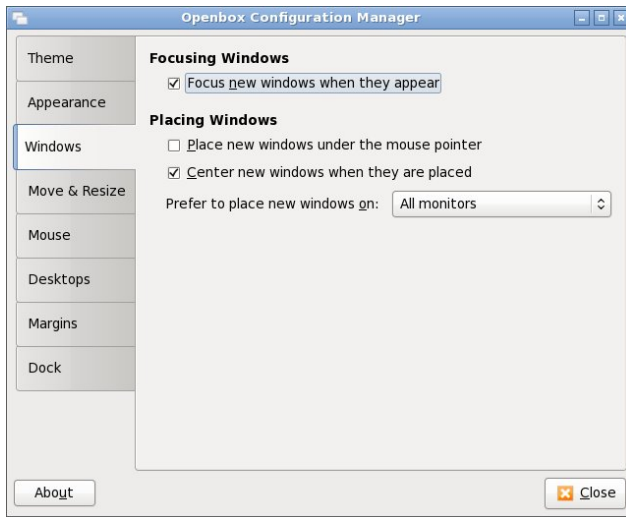
Fig. 05. The Windows tab

Placing Windows

"Place new windows under the mouse pointer":
when checked, any newly opened windows will be
placed under the mouse pointer. This option does
not have a consistent orientation. That is, there is
not one specific part of the window that is always
aligned with the cursor; instead the window will align
itself to fit on the desktop while keep a portion under
the cursor.

"Center new windows when they are placed": all
newly opened windows will be placed in the middle
of the desktop (unless they are maximized)

**"Prefer to place new windows on: The active
monitor/The monitor with the mouse"**: which
monitor new windows should appear on, if the
system has multiple monitors attached

Move & Resize
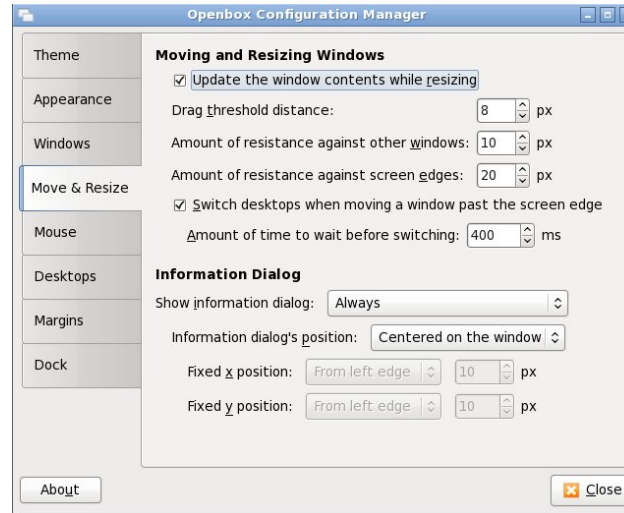
Fig. 06. The Move & Resize tab

Moving & Resizing Windows

"Update window contents while resizing": when
checked the window contents will update to match
the new window size as it is being resized. When
unchecked the contents will remain static and will
only update to match the window once the resizing
has finished

"Drag threshold distance": the number of pixels a
window must be resized before the new size is
displayed. For example: if this value is set to 85px, a
window will maintain its current size until the cursor
with the resize handle has moved 85px away. The
minimum value is 1. The maximum value is 100.
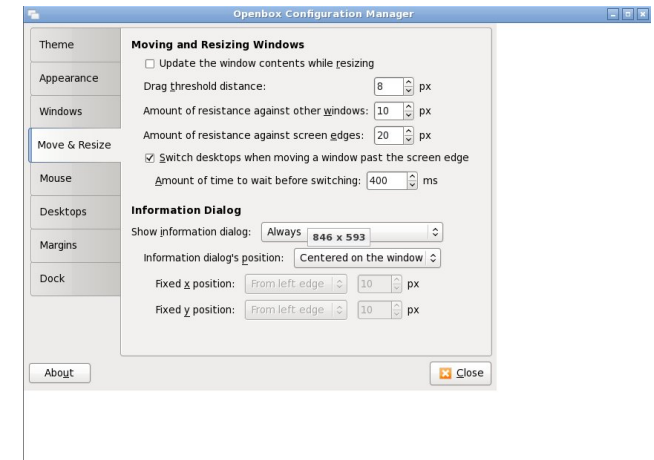
*Fig. 07. Resizing the Obconf window with the "Update
window contents while resizing" option turned off.
Notice that the window contents remain at the previous
size, even though the window has been expanded.*

"Amount of resistance against other windows": a
window that is being moved will stop this distance
away from other windows and will not overlap them
unless the user continues to move the mouse. The
minimum value is 0. The maximum value is 100.

"Amount of resistance against screen edges": a
window that is being moved will stop this distance
away from the edges of the screen and will not pass
them unless the user continues to move the mouse.
The minimum value is 0. The maximum value is 100.

**"Switch desktops when moving a window past
the screen edge"**: if checked, dragging a window
past the edge of the screen will move it to the next
virtual desktop

"Amount of time to wait before switching": the length of time, in milliseconds, that a window can be held past the edge of the screen without being moved to the next desktop. The minimum value is 100. There is no discernible maximum.

Information Dialog

The information dialog is a small on-screen display that shows the current size of a window while it being resized.

Fig. 08. Information dialog

"Show information dialog: When resizing terminal windows/Always/Never": whether the information dialog should always appear (when any window is being resized), never appear or appear only when the window being resized belongs to a terminal

"Information dialog's position: Centered on the window/Above the window/Fixed position on the screen": controls the location of the information dialog. If **"Fixed position on the screen"** is selected, the user can set that location using the **"Fixed x position"** and **"Fixed y position"** controls.

Mouse
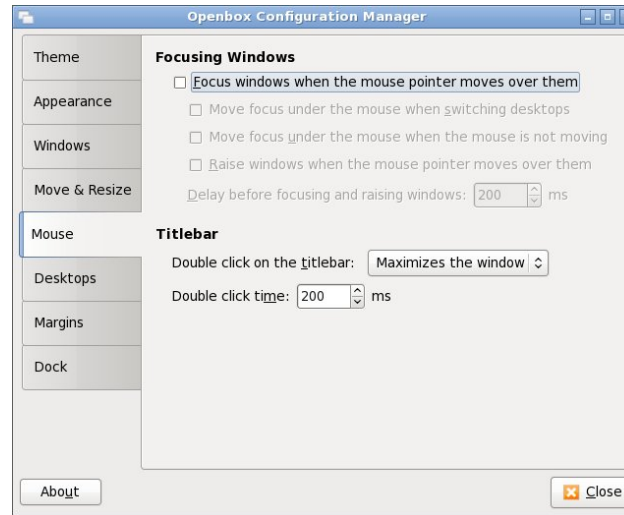
Fig. 09. The Mouse tab, with default settings

Focusing Windows

"Focus windows when the mouse pointer moves over them": simply placing the cursor over a window will focus it; clicking is not necessary

"Move focus under the mouse when switching desktops": normally, when switching desktops, the last window on the desktop to have the mouse focus will have the mouse focus when you return to that desktop. With this setting, the focus will default to the window that is under the mouse cursor when you change to the new desktop. If there is no window beneath the mouse cursor on the new desktop (e.g.,

only your desktop background), then the last window that had the mouse focus will retain the focus.

"Move focus under the mouse when the mouse is not moving": passing the cursor over a window will not focus it; the cursor must pause on that window to focus it

"Raise windows when the mouse pointer moves over them": moving the cursor over a window will bring that window to the front, in addition to focusing it

"Delay before focusing and raising windows": the delay, in milliseconds, before a window will be focused and/or raised when the cursor passes over it. The minimum value is 0. The maximum value is 10,000.

Title Bar

"Double click on the title bar: Maximizes the window/Shades the window": sets whether double clicking on a title bar will maximize that window or shade it

"Double click time": the allowable delay, in milliseconds, between clicks. The countdown begins with the first click. For example: if the value is set to 4000, the action will occur if the user clicks the title bar twice, and the second click is within 4000 milliseconds of the first. The minimum value is 0. The maximum value is 10,000.

Desktops
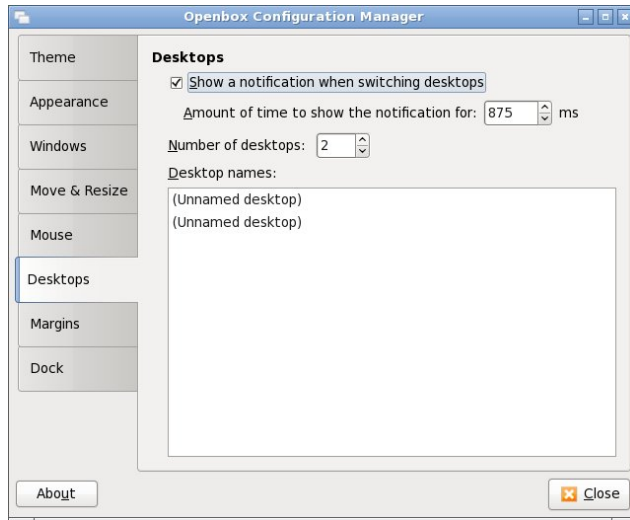
Fig. 10. The Desktops tab

"Show a notification when switching desktops": when checked, a small notification will be shown when switching desktops
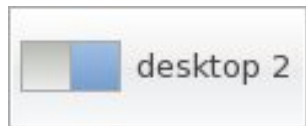
Fig. 11. The desktop-switcher on-screen display

"Amount of time to show the notification for": the time, in milliseconds, in which the notification will be displayed. The minimum value is 1. The maximum value is 10,000

"Number of desktops": the number of virtual desktops employed by the user. The minimum value is 1. The maximum value is 100

"Desktop names": the user can rename a desktop by double click on it within the list. This name will be displayed on the notification when switching desktops

Margins

Fig 12. The Margins tab

The Margins tab provides its own apt explanation: "Desktop margins are reserved areas on the edge of your screen. New windows will not be placed within a margin, and maximized windows will not cover them."

Margins are useful if, for example, one wishes to have a constantly horizontal conky instance along the edge of the screen

Dock
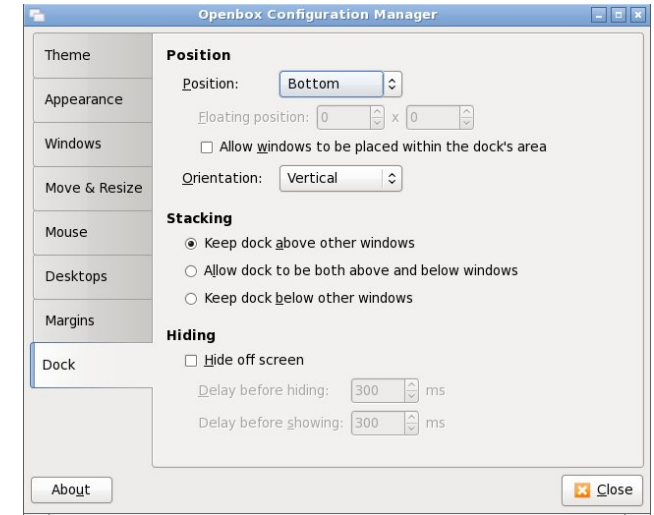
Fig 13. The Dock tab

The dock is an area of the screen for certain stand alone windows. For example, if the user eschews the LXPanel in favor of another task manager and system tray, those applications need a place on which they can "anchor" themselves. That place is the dock

Note: *I cannot get the dock to function as advertised. Consequently the above description comes from my research and not first-hand knowledge.*

Conclusion

Openbox is an incredibly versatile window manager, and it is impossible to catalogue all of the possibilities. This overview is intended to get the reader started; it is by no means exhaustive. The best method of leaning is to get one's hands dirty, and the reader should do just that - fire up Obconf and start tinkering with the settings. One never knows what one might find!

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Screenshot Showcase

Posted by thorper, running PCLinuxOS-LXDE.

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LXDE: Meet The Heart & Soul - lxde-rc.xml

by Paul Arnote (parnote)

If you recall my original **LXDE: An Overview** article in the September 2010 issue of The NEW PCLinuxOS Magazine, you may remember me telling you that LXDE is not a desktop environment for beginning Linux users. This is because there is a significant lack of GUI configuration options for LXDE. Presumably, this is because of its relative youth. After all, it has only been out for four years.

To configure and tweak LXDE to your liking, you will most likely have to go in and edit configuration files by hand. If you've been following along with the LXDE articles thus far, then you will know how true that scenario is, as I have already shown how to hand edit various configuration files on your system. You will have to dig into subdirectories of subdirectories of subdirectories of top level directories, and get your hands dirty in the text editor of your choice.

With this article, we're going to take on one of the configuration files that helps control many aspects of how LXDE is displayed on your system. The information in this article will also apply to those users of the PCLinuxOS-OpenBox remaster, since LXDE uses OpenBox as its window manager.

Located in your **~/.config/openbox** folder, the file is named **lxde-rc.xml**. This file controls your keybindings (a.k.a. keyboard shortcuts), menu text size, size of the text on your window title bars, some functions of your desktop pager plug in, desktop names, screen margins, mouse double click speed and sensitivity, and mouse button bindings, among other things. As you can see from this list, lxde-

rc.xml is one of those configuration files that controls a lot of aspects of how LXDE behaves on your computer. On OpenBox, the file is named rc.xml, but the contents are virtually the same. While I'm not going to cover every section of the lxde-rc.xml file, I am going to go through some of the ones that I think you will be most interested in tweaking. I'll leave the rest of the sections for you to explore on your own.
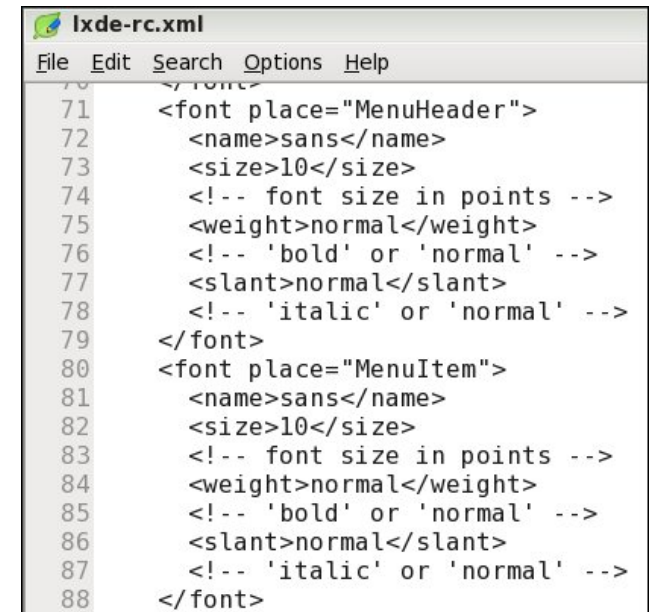
Before we get too deep into the discussion of how to tweak and tune lxde-rc.xml, be forewarned that one misspelling or one missed command can make your additions or changes not work properly, and may have farther reaching ramifications by causing other working items to stop working. Also, when you open a command, you must also close it. Remember our previous discussions about the structure of an xml file. With this in mind, it would be an excellent idea to make a backup of your lxde-rc.xml file. I called mine old-lxde-rc.xml. Remember (or write down) where your backup file is stored, just in case you make a mess of things and find yourself having to restore the file from the command line.

Finally, before any of your changes or additions can be viewed, you must log out to the user sign in, and sign back in.

Menu Control

One of the things that lxde-rc.xml controls is the appearance of your window menus. Here is the section of the lxde-rc.xml file from my installation of LXDE that deals with the appearance of my window menus:

The menu appearance lines are under the <theme> section of the lxde-rc.xml file. There are only a few settings available, but these settings can have a dramatic effect on the appearance of your desktop. In the graphic above, "MenuHeader" represents the top level menus that appear directly on the menu bar, while "MenuItem" represents the items that appear under the top level menus. The <name> parameter is the name of the font to use to display the menu. The <size> setting is the size of the text to use, in points. The <weight> setting specifies whether the menu text is displayed in a bold or normal type face, while <slant> determines whether or not italic text is used. As you can see, it's fairly simple and straight forward.

Customize Your Window Theme

Just as we did above with our window menus, we can change other aspects of our window theme. Below is the <theme> section of the lxde-rc.xml file, which includes the menu section we just finished talking about.

```
<theme>
  <name>oxygenminimalist</name>
  <titleLayout>NLSIMC</titleLayout>
  <!--
    available characters are NDSLIMC, each can
occur at most once.
    N: window icon
    L: window label (AKA title).
    I: iconify
    M: maximize
    C: close
    S: shade (roll up/down)
    D: omnipresent (on all desktops).
  -->
  <keepBorder>yes</keepBorder>
  <animateIconify>yes</animateIconify>
  <font place="ActiveWindow">
    <name>sans</name>
    <size>10</size>
    <!-- font size in points -->
    <weight>bold</weight>
    <!-- 'bold' or 'normal' -->
    <slant>normal</slant>
    <!-- 'italic' or 'normal' -->
  </font>
  <font place="InactiveWindow">
    <name>sans</name>
    <size>10</size>
    <!-- font size in points -->
    <weight>bold</weight>
    <!-- 'bold' or 'normal' -->
    <slant>normal</slant>
    <!-- 'italic' or 'normal' -->
  </font>
  <font place="MenuHeader">
    <name>sans</name>
    <size>10</size>
    <!-- font size in points -->
    <weight>normal</weight>
    <!-- 'bold' or 'normal' -->
    <slant>normal</slant>
    <!-- 'italic' or 'normal' -->
  </font>
  <font place="MenuItem">
    <name>sans</name>
    <size>10</size>
    <!-- font size in points -->
    <weight>normal</weight>
    <!-- 'bold' or 'normal' -->
    <slant>normal</slant>
    <!-- 'italic' or 'normal' -->
  </font>
  <font place="OnScreenDisplay">
    <name>sans</name>
    <size>10</size>
    <!-- font size in points -->
    <weight>bold</weight>
    <!-- 'bold' or 'normal' -->
    <slant>normal</slant>
    <!-- 'italic' or 'normal' -->
  </font>
</theme>
```

The first entry, right after the declaration of the <theme> section, is the <name> parameter. This specifies the name of the OpenBox window manager theme to use when displaying the windows. Next is the <titleLayout> setting, which determines the order of the elements that are displayed in the title bars of your windows. A legend is included, to let you know what each letter represents.

The <keepBorder> setting determines whether or not a window border is drawn when the windows are displayed. With the <animateIconify> setting, it determines if the window is animated when you minimize a window to the panel.

With the next two sections, <ActiveWindow> and <InactiveWindow>, there are exactly the same settings as we had when setting the appearance of our window menus. Here, we can set the font, font size, weight and slant of the text that is displayed on the respective window title bars (active or inactive windows). The last section, <OnScreenDisplay>, sets the font characteristics to use when you press the Alt + Tab key, and is formatted the same as the menu and window title bar text.

Desktop Pager Control

While there are settings for controlling your desktop pagers in the lxde-rc.xml file, they mirror the settings you can make using the graphical OpenBox configuration utility, ObConf. The settings in the lxde-rc.xml file are only used at startup. It's best to use the ObConf utility, since it will change your desktop pager settings "on the fly." Changes made to the lxde-rc.xml file require you to log out, then back in, before they take effect.

Customize Your Keyboard Shortcuts

Now comes the fun part, and the reason most users will want to edit lxde-rc.xml. I will admit that LXDE comes with a fairly full compliment of keyboard shortcuts, already installed and configured. But let me give you an example that happened to me. I installed PCLinuxOS-LXDE to my old IBM Thinkpad T23. It does NOT have a "Super" key (a.k.a. the "Windows" key). Some of the keyboard shortcuts are coupled to that very same "Super" key on the keyboard. Hence, they won't work on my copy of

LXDE. I had to change them to a different key stroke combination.

The keybindings are located in the **<keyboard>** section of lxde-rc.xml. They look something like this:

```
<!--keybindings for LXPanel -->
<keybind key="W-r">
  <action name="Execute">
    <command>lxpanelctl run</command>
  </action>
</keybind>
<keybind key="A-F2">
  <action name="Execute">
    <command>lxpanelctl run</command>
  </action>
</keybind>
```

The first line, <!--keybindings for LXPanel -->, is nothing more than a comment line, to help keep you oriented within the file. The second line, <keybind key="...">, specifies the key stroke combination to which to bind the action and command that follow. There are some reserved keys that are used here. The "W" key denotes the "Super" key. "S" specifies the Shift key, while "C" is reserved for the Control key. The "A" key is used to specify the Alt key. These reserved keys are combined with the additional key (with a dash between them) to use to execute the action and command that follows. In the second line, the "W-r" (Super key and "r" key pressed together) will run the "lxpanelctl run" command.

Starting on the seventh line, another keybinding is defined for the same command, giving the user a choice of whether to use "Super + r" or "Alt + F2" to execute the command to bring up the Run dialog box.

The entire <keyboard> section of the lxde-rc.xml file is filled with many keybindings, providing you with a fairly large number of predefined keyboard shortcuts. If some of them don't suit you, or the way you work with your computer, feel free to change them. Just be careful. Just as with any other XML file, one missed ", one misspelled command, or one command that is not closed after being opened, can cause some things to stop working. So double check your work, and always make a backup copy of the unaltered, working copy. This way, you have something to fall back on, should things really get messed up. If you want to *really* uncover the "magic" that can be accomplished with custom keybindings, then read on.

Advanced Keyboard Shortcuts

As you discovered in the last section of the article, LXDE has many keybindings predefined to give you a wide range of keyboard shortcuts. But the "fun" hasn't even begun. With a little imagination, you can make keybindings that take the place of specialized applications, and do things that you may have only just dreamed of. Let me show you one example I stumbled across while writing this article.

I found a real gem that illustrates a fantastic use of keybindings in LXDE, at The IgnorantGuru's Blog. His solution is to create keybindings to take screenshots of the entire screen, the active window only, or only the contents of the active window, without the interactive use of a separate and dedicated screen shot application.

Instead, his method uses ImageMagick, which is already installed in PCLinuxOS-LXDE by default,

and xwd, the X-System window dump program. To make these keybindings work, you will need to install xwd from the PCLinuxOS repository.

```
<keybind key="Print">
    <action name="Execute">
        <startupnotify>
            <enabled>false</enabled>
                <name>Snapshot</name>
        </startupnotify>
        <command>bash -c "xwd | convert -
/tmp/screenshot-$(date +%s).png"</command>
    </action>
</keybind>
<keybind key="S-Print">
    <action name="Execute">
        <startupnotify>
            <enabled>false</enabled>
                <name>Snapshot with Frame</name>

        </startupnotify>
        <command>bash -c "xwd -frame | convert -
/tmp/screenshot-$(date +%s).png"</command>
    </action>
</keybind>
<keybind key="C-Print">
    <action name="Execute">
        <startupnotify>
            <enabled>false</enabled>
                <name>Snapshot Fullscreen</name>

        </startupnotify>
            <command>bash -c "xwd -root |
convert - /tmp/screenshot-$(date
+%s).png"</command>
        </action>
</keybind>
```

His method uses xwd to grab the image, and he then pipes it out the ImageMagick's convert command, and stores it in the user's /tmp directory with the name "screenshot-" with the date tagged onto the end, as a PNG file. You can easily change

the location where the screenshot is stored simply by changing the name of the directory from /tmp, to (perhaps?) /Pictures. I created the directory ~/Pictures/Screenshots to store my screen captures in. Just be sure that the directory actually exists and that the spelling is correct, or the command will fail.

All of the above keybindings are bound to the "PrtSc" (print screen) button on the keyboard. Pressing the PrtSc button by itself will capture just the contents of the active window. Pressing Shift + PrtSc together will capture the active window, with the window frame intact. Ctrl + PrtSc together will make a screen capture of your entire desktop.

You can just as easily change the commands to save your images as JPG files, rather than PNG files. All you have to do is change ".png" to ".jpg."

To enable the keybindings listed above, cut/copy/re-enter the above lines just before the </keyboard> line in lxde-rc.xml. Note that none of these new settings (nor any other changes you have made to lxde-rc.xml) will be available for your use until you log out and log back into LXDE.

Here is another keybinding customization you may find useful. First, here is the excerpt from the lxde-rc.xml file:

```
<keybind key="C-A-Left">
  <action name="DesktopLeft">
    <dialog>no</dialog>
    <wrap>yes</wrap>
  </action>
</keybind>
<keybind key="C-A-Right">
  <action name="DesktopRight">
```

```
    <dialog>no</dialog>
    <wrap>yes</wrap>
  </action>
</keybind>
```

These keybindings allow you to use Ctrl + Alt + Left (left arrow key) and Ctrl + Alt + Right (right arrow key) to move through your desktops. But by default, the <wrap> setting is set to a value of "no." This means when you use Ctrl + Alt + Right to move from desktop 1 to desktop 2 to desktop 3 to desktop 4, it stops after you get to desktop 4, since there is no desktop defined after desktop 4. By changing the <wrap> setting to "yes" (as I did above), once you get to desktop 4 and press Ctrl + Alt + Right, you will now go back to desktop 1. I also changed the <wrap> value for Ctrl + Alt + Left to do the same thing, but in the opposite direction.

Conclusion

As you look through the keybindings, along with all of the other settings in lxde-rc.xml, I'm sure you will find many other items to tweak and change to make LXDE work more like the way you work and interact with your computer. You have the chance to make your LXDE experience uniquely your own.

This article is only meant as a means to introduce you to the things that are possible by tweaking your lxde-rc.xml file. I have left much of lxde-rc.xml file for you to explore. I hope that as you find ways to tweak, tune and alter the lxde-rc.xml file, that you will share your customizations with the rest of the PCLinuxOS community. In this way, we can all learn from one another.

LXDE: All Hail The Halo Of halevt

by Paul Arnote (parnote)

Many users see LXDE as a replacement for their beloved KDE 3.5.x. In fact, with the right knowledge and skills, LXDE can be easily made to look – and function – pretty much as KDE 3.5.x does/did. Of course, the application of that knowledge and those skills is much easier if you have the right tools.

Meet halevt. Halevt is a daemon that helps monitor changes in your computer's hardware. It stands for HAL (Hardware Abstraction Layer) Events manager. Its job is to execute arbitrary commands when a device with certain properties is added to your system, or when device properties change.

These devices can be audio CDs, blank CDs or CD-RWs, DVD movies, USB thumb drives, or any number of other items supported by your computer. Those are just the ones it comes pre-installed knowing how to handle with PCLinuxOS-LXDE. But what if you want to change those default actions? It's easier than you may think, but first you have to understand how halevt works.

Making it work

Halevt knows what to do with different hardware events, thanks to the halevt.xml file. This file tells halevt what to do when certain hardware events occur. You can take a look at the basics of how halevt works, by checking out this post in the PCLinuxOS Forum.

If you've never looked at an XML file, its structure is actually quite simple. It's a text-based file, and is a superset of HTML. So, if you can read (or have a basic understanding of) raw HTML, you are ahead of the game. While we don't have sufficient room here to give you a basic course in HTML, we can give you some basics. When you open a device with <halevt:Device match="xxxx.yyyy.zzzz = true">, you must also close it with </halevt:Device>. It's sort of like when you specify boldface text in HTML, where precedes the text you want boldface, and turns boldface off at the end of the text you want to display in boldface.

Here is the basic halevt.xml file that is installed with PCLinuxOS-LXDE:

```
<?xml version="1.0" encoding="UTF-8"?>
<halevt:Configuration version="0.1"
xmlns:halevt="http://www.environnement.ens.fr/pe
rso/dumas/halevt.html">

<halevt:Device match="hal.volume.disc.has_data =
true">
<halevt:Insertion exec="pcmanfm"/>
</halevt:Device>

<halevt:Device match="hal.volume.disc.has_audio
= true">
<halevt:Insertion exec="xmms /mnt/cdrom"/>
<halevt:Removal exec="killall xmms"/>
</halevt:Device>

<halevt:Device match="hal.volume.disc.has_video
= true">
<halevt:Insertion exec="xine dvd://"/>
<halevt:Removal exec="killall xine"/>
</halevt:Device>

<halevt:Device
match="hal.volume.disc.is_videodvd = true">
<halevt:Insertion exec="xine dvd://"/>
<halevt:Removal exec="killall xine"/>
</halevt:Device>
```

```
<halevt:Device match="hal.info.udi =
/org/freedesktop/Hal/devices/volume_empty_cd_r">
<halevt:Insertion exec="gnomebaker"/>
</halevt:Device>

<halevt:Device match="hal.info.udi =
/org/freedesktop/Hal/devices/volume_empty_cd_rw"
>
<halevt:Insertion exec="gnomebaker"/>
</halevt:Device>

<halevt:Device match="hal.info.udi =
/org/freedesktop/Hal/devices/volume_empty_dvd">
<halevt:Insertion exec="gnomebaker"/>
</halevt:Device>

<halevt:Device match="hal.info.category =
storage &amp; hal.storage.bus = usb">
        <halevt:Insertion exec="pcmanfm"/>
    </halevt:Device>

<halevt:Device match="hal.info.category =
camera">
        <halevt:Insertion exec="gtkam"/>
    </halevt:Device>

<halevt:Device match="hal.info.udi =
/org/freedesktop/Hal/devices/computer_power_supp
ly_ac_adapter_AC">
        <halevt:Property
name="hal.ac_adapter.present">
        <halevt:Action value="true"
exec="notify-send -t 5000 -i
/usr/share/icons/Tango/scalable/status/info.svg
'The AC adapter is connected now ...'"/>
        </halevt:Property>
        </halevt:Device>

<halevt:Device match="hal.info.udi =
/org/freedesktop/Hal/devices/computer_power_supp
ly_ac_adapter_AC">
        <halevt:Property
name="hal.ac_adapter.present">
        <halevt:Action value="false"
exec="notify-send -t 5000 -i
/usr/share/icons/Tango/scalable/status/info.svg
```

```
'The AC adapter was removed ...'"/>
        </halevt:Property>
        </halevt:Device>

</halevt:Configuration>
```

While the above halevt.xml file works for many things on my installation of PCLinuxOS-LXDE, there are a few things that didn't work quite right. Yes, my copy of LXDE is fully updated against the PCLinuxOS official repository. So I dug into the halevt.xml file, bound and determined to get those items working properly.

First, look at the eighth line in halevt.xml (count the blank/empty lines when counting the lines). It reads:

```
<halevt:Device match="hal.volume.disc.has_audio
= true">
```

In the ninth line, it uses xmms to open the audio on the CD. The problem is, xmms does indeed open. But it refuses to play the audio CD. Nothing I do can get xmms to play the audio CD, much less automatically play it when I insert the audio CD.

However, PCLinuxOS-LXDE comes with SMPlayer pre-installed (in the base installation), and it is a very capable media player that can handle not only DVDs, but also audio CDs, video CDs and super video CDs. So, why not change halevt.xml to use SMPlayer? It's actually very easy to do. Simply replace the ninth and tenth lines of halevt.xml with the following:

```
<halevt:Insertion exec="smplayer cdda://1
-actions play"/>
```

```
<halevt:Removal exec="killall smplayer"/>
```
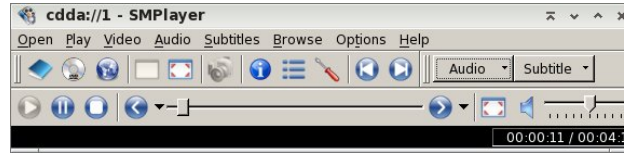

Now, when you insert an audio CD, SMPlayer automatically opens and playback starts. Easy enough! Actually, I typed smplayer --help in LXTerminal and figured out the command line from the information presented there, coupled with the information SMPlayer gave me in the title bar of its window when I opened the audio CD from the File menu of SMPlayer.

You can do a similar change for DVD videos. Halevt.xml defaults to using xine to playback videos. Again, SMPlayer will do an admirable job playing back your DVD videos. When I insert a DVD, I cannot get xine to start the playback of my disc. So, replace lines 19 and 20 with the following:

```
<halevt:Insertion exec="smplayer dvd://"/>
<halevt:Removal exec="killall smplayer"/>
```

Doing this causes SMPlayer to automatically launch and start the playback of your DVD video. Again, easier than you might have thought.

Extending halevt.xml: Make it do more

Besides audio CDs and DVD videos, I also have an odd mix of VCDs (Video Compact Discs) and Super VCDs (Super Video Compact Discs). I also want

these discs to automatically launch SMPlayer and start playback.

Before I can do this, I have to find out how halevt sees the media, and by what name. After placing a Super VCD in your optical drive, launch LXTerminal, and enter **lshal** at the command prompt. There will be a ton of output. Scroll back until you find the section that lists the hardware attributes for your optical drive. Once you've found the right section, it should look something like the following:

```
udi =
'/org/freedesktop/Hal/devices/volume_label_NEW'
  block.device = '/dev/sr0'  (string)
  block.is_volume = true  (bool)
  block.major = 11  (0xb)  (int)
  block.minor = 0  (0x0)  (int)
  block.storage_device =
'/org/freedesktop/Hal/devices/storage_model_DW_2
8E'  (string)
  info.capabilities = {'volume.disc', 'volume',
'block'} (string list)
  info.category = 'volume'  (string)
  info.interfaces =
{'org.freedesktop.Hal.Device.Volume'} (string
list)
  info.parent =
'/org/freedesktop/Hal/devices/storage_model_DW_2
8E'  (string)
  info.product = 'NEW'  (string)
  info.udi =
'/org/freedesktop/Hal/devices/volume_label_NEW'
(string)
  linux.hotplug_type = 3  (0x3)  (int)
  linux.sysfs_path =
'/sys/devices/pci0000:00/0000:00:1f.1/host1/targ
et1:0:0/1:0:0:0/block/sr0/fakevolume'  (string)

org.freedesktop.Hal.Device.Volume.method_argname
s = {'mount_point fstype extra_options',
'extra_options', 'extra_options'} (string list)

org.freedesktop.Hal.Device.Volume.method_execpat
```

```
hs = {'hal-storage-mount', 'hal-storage-
unmount', 'hal-storage-eject'} (string list)
  org.freedesktop.Hal.Device.Volume.method_names
= {'Mount', 'Unmount', 'Eject'} (string list)

org.freedesktop.Hal.Device.Volume.method_signatu
res = {'ssas', 'as', 'as'} (string list)
  volume.block_size = 2048  (0x800)  (int)
  volume.disc.capacity = 735051776  (0x2bd00000)
(uint64)
  volume.disc.has_audio = false  (bool)
  volume.disc.has_data = true  (bool)
  volume.disc.is_appendable = false  (bool)
  volume.disc.is_blank = false  (bool)
  volume.disc.is_blurayvideo = false  (bool)
  volume.disc.is_rewritable = false  (bool)
  volume.disc.is_svcd = true  (bool)
  volume.disc.is_vcd = false  (bool)
  volume.disc.is_videodvd = false  (bool)
  volume.disc.type = 'cd_r'  (string)
  volume.fstype = 'iso9660'  (string)
  volume.fsusage = 'filesystem'  (string)
  volume.fsversion = ''  (string)
  volume.ignore = false  (bool)
  volume.is_disc = true  (bool)
  volume.is_mounted = false  (bool)
  volume.is_mounted_read_only = false  (bool)
  volume.is_partition = false  (bool)
  volume.label = 'NEW'  (string)
  volume.linux.is_device_mapper = false  (bool)
  volume.mount.valid_options = {'ro', 'sync',
'dirsync', 'noatime', 'nodiratime', 'relatime',
'noexec', 'quiet', 'remount', 'exec', 'utf8',
'uid=', 'mode=', 'iocharset='} (string list)
  volume.mount_point = ''  (string)
  volume.num_blocks = 1436264  (0x15ea68)
(uint64)
  volume.size = 735367168  (0x2bd4d000)
(uint64)
  volume.unmount.valid_options = {'lazy'}
(string list)
  volume.uuid = ''  (string)
```
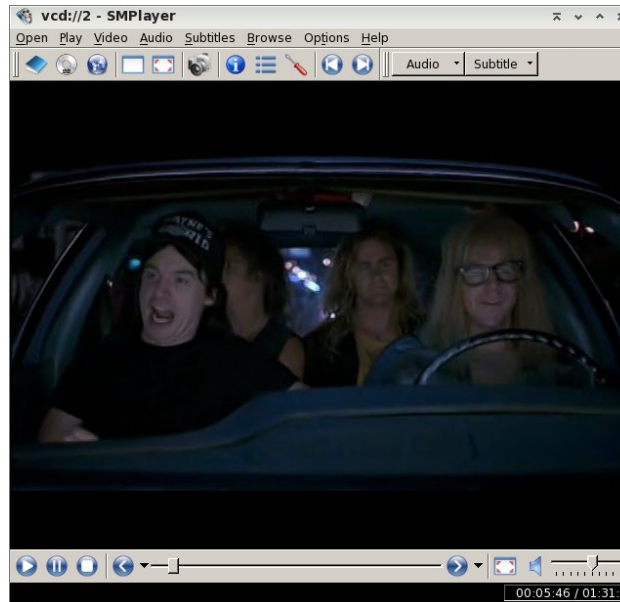
This is only a fraction of the total amount of information supplied. I have changed the color of the text for the section of the output we are interested in.

Notice that the seventh red line down says **volume.disc.is_svcd = true**? This indicates how halevt sees a Super VCD, as svcd.

Armed with that information, I now play the Super VCD in SMPlayer.

On the title bar of SMPlayer, I notice that it says vcd://2. That is important information that I will need to include in the command line that is passed to the exec= parameter of halevt.xml.

Now that I have all the information I need, it's time to add in the ability for halevt to properly recognize a Super VCD. To do this, we need to insert the following lines into the halevt.xml file:

```
<halevt:Device match="hal.volume.disc.is_svcd =
true">
<halevt:Insertion exec="smplayer vcd://2"/>
<halevt:Removal exec="killall smplayer"/>
</halevt:Device>
```

To keep everything together, I chose to insert the above four lines right after the videodvd line. You can place it wherever you want, except at the end. It must be inserted before the </halvert Configuration> line. Otherwise, it won't be recognized at all.
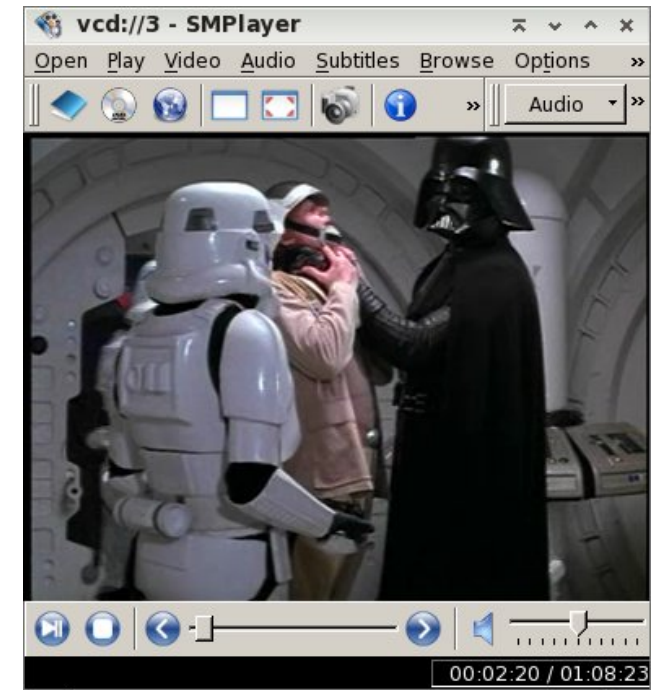
Similarly, I can repeat the process for Video CDs (shown above playing in SMPlayer). Once again, insert the following four lines after the videodvd line:

```
<halevt:Device match="hal.volume.disc.is_vcd =
true">
<halevt:Insertion exec="smplayer vcd://2"/>
<halevt:Removal exec="killall smplayer"/>
</halevt:Device>
```

Did you notice that the "exec" command above says vcd://2, even though the SMPlayer title bar says vcd://3? This is because the content of the Video CD starts on the second "track." With this particular VCD, that content is a 17 minute "behind the scenes" special feature with George Lucas. With most every other VCD, our content starts with that second "track." If you don't want to watch the special feature, just fast forward through it to get to the movie content you want to watch.

Once you've finished making the changes to your halevt.xml file, it's a good idea to reboot your computer. Why? Because the halevt.xml file is cached in memory. Restarting your computer flushes out all of the old values, and reloads all the new values in your modified halevt.xml file.

With VCD and SVCD discs, SMPlayer will automatically launch. But so will PCManFM, because your VCD and SVCD discs are also seen as data discs. I've not discovered a way of preventing PCManFM from launching, so it's just easier to simply close out of the extra session of PCManFM.

Conclusion

As you can see, halevt.xml provides a relatively easy way to customize how your copy of LXDE responds to hardware events on your computer. Like we mentioned previously, the configuration options do

exist for LXDE, but only if you are willing to get your hands dirty and manually edit some of the configuration files. As you can see, it's not really all that difficult. You just have to "follow the rules."

Screenshot Showcase
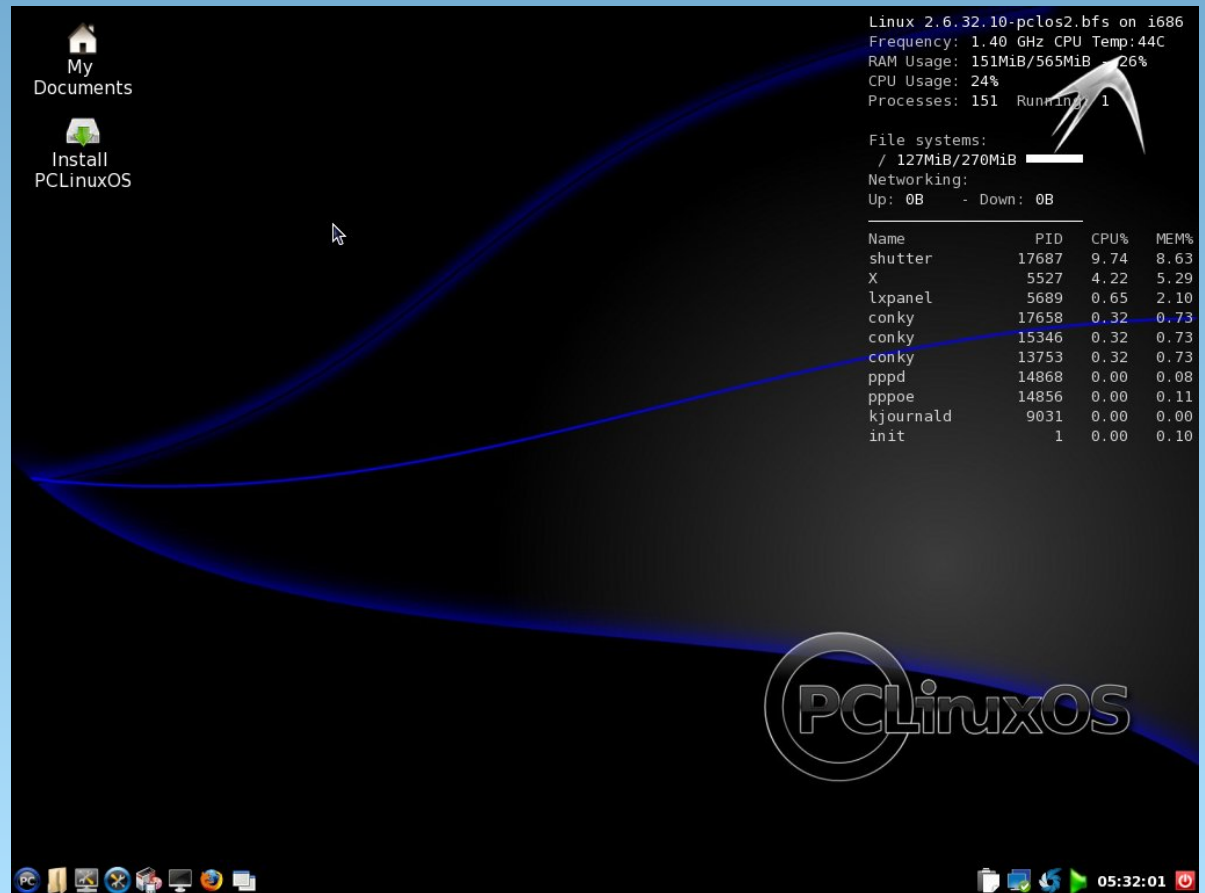
Posted by weirdwolf, running PCLinuxOS-LXDE.

LXDE: Tips & Tricks

by Paul Arnote (parnote)

We've covered several topics related to using and customizing PCLinuxOS-LXDE. There are some other things you can do to further customize your LXDE installation, but some of these are simply too short to justify their own article. Even so, they are important enough to cover, so I've decided to collect them here, in a "Tips & Tricks" article. There are 12 "tips and tricks" explained, to help you get more out of your LXDE experience.

Put a Sox In It

In a default installation of PCLinuxOS-LXDE, there is no way to play sound files from the command line. Before you say, "But I can play sound files from [insert your favorite GUI sound application here]," this inability may be something you want to correct. For example, I like to use checkgmail to notify me of new email in my primary Gmail account. One of the abilities it has is to execute a command when new email is received. I like for a sound to be played when I receive new mail. But without the ability to play sound files from the command line, there is no way for me to play a sound (via checkgmail) when I receive new mail.

Enter sox. Available in the PCLinuxOS repository (only 816 KB in size), sox allows you to play sound files from the command line. Sox stands for "Sound Exchange," and it bills itself as the "Swiss Army Knife of Sound Manipulation." As such, with the added ability to play sound files from the command line, I am able to play a sound when new mail arrives to my Gmail account. Simply enter the command, similar to the one below:

```
play -v 0.10
/home/paulibm/Sounds/r2d2-1.wav
```

The command line instructs sox to play a sound file at 10 percent volume (-v 0.10), and the path to the sound file I wish to play (/home/paulibm/Sounds/r2d2-1.wav). The "play" command is actually very powerful, and the above command doesn't even scratch the surface of what it is capable of doing. You can get a better idea of its full capabilities by typing play --help at the command line, or by entering man sox at the command line to view the extensive man page documentation.

While I'm not going to steal the thunder of discovery from your looking through the documentation or help for the play command, I will touch on one other command line switch you may want to use. While it's not usually necessary to do anything special to play a valid sound file, it can be helpful to give the play command some additional "guidance" on what type of sound file you want to play. So, if I want to play an MP3 file, I can tell sox to "get ready" to play that type of file, with the -t command line switch. Here's an example:

```
play -t mp3 -v 0.50
"/home/paulibm/Music/THX - Dolby
Digital Sound Effects Trailer.mp3"
```

Since the file name has spaces in it (and if the file name of your sound file has spaces in it), you will need to enclose the file name in double quotes. Otherwise, your sound file will not be able to be found to be played back, since a space has special meaning on the command line. This is just one reason that spaces in file names is discouraged under Linux, since spaces in the file name can become problematic when trying to utilize the file from the command line.

Play a Sound When PCLinuxOS-LXDE Starts

Perhaps it's the relative youth of the LXDE desktop, but there is no obvious way to play a sound when LXDE launches. If you followed through with the previous tip and installed sox, then playing a sound when LXDE starts up is easy.

First, create a simple bash script, similar to the one below:

```
#! /bin/bash

play -t mp3 -v 0.40
/home/paulibm/Sounds/startup.mp3
```

Next, follow the instructions from the LXDE: Autostart Apps With .desktop Files article in the **September, 2010** issue of The NEW PCLinuxOS Magazine. Make the bash script executable, and copy it to your /usr/bin folder (as the root user). While you can name your script file whatever name you wish, I named mine startup-sound.sh. Now, either create a .desktop file that points to your "startup-sound.sh" file, and place it in your $HOME/.config/autostart directory, or add **startup-sound.sh &** to your lxde-autostart.sh file. In fact, you can even just place the entire play command into your lxde-autostart.sh file, if you want. I prefer to keep it modularized and in its own bash script file, where I can make changes without the risk of messing with my lxde-autostart.sh file.

I've not yet been able to figure out how to get LXDE to play a sound when you are exiting the desktop.

Install a Better Power Manager

It's no secret that the LXDE Power Manager is seriously lacking in functionality. In fact, it's known to be buggy. For laptop users, this is a huge deal. You can circumvent the buggy LXDE Power Manager by installing a different power manager. If I were you, I'd avoid the Xfce4 Power Manager, since it also has some current issues and does not work properly. About the only other choice is to install the Gnome Power Manager. It is available in the PCLinuxOS repository, and although it's a Gnome application, it pulls in hardly any extra Gnome dependencies. As an added benefit, Gnome is also based on the Gtk+ 2.0 libraries, which are the native libraries upon which LXDE is built. But most importantly, the Gnome Power Manager just works, and works as it should.
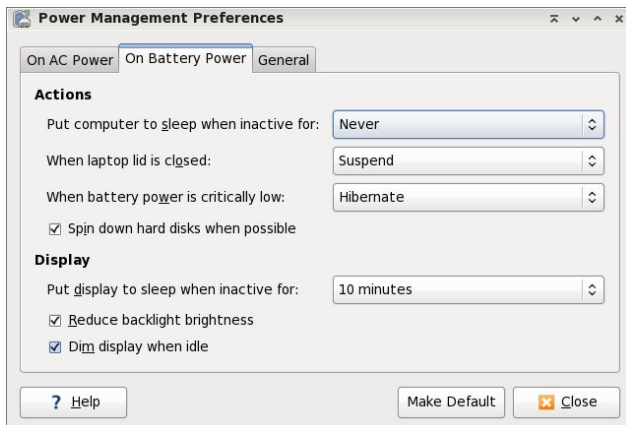

The command to start the Gnome Power Manager is **gnome-power-preferences --sync**. If you want the Gnome Power Manager to automatically start when you start your LXDE desktop, you can add **gnome-power-preferences --sync &** to your lxde-autostart.sh file that you created from the instructions in the LXDE: Autostart Apps With .desktop Files article in the September, 2010 issue of the magazine.

The Gnome Power Manager will properly inform you of remaining battery time (when working unplugged), or remaining battery charge time (when plugged into a power source). If you are using LXDE on a notebook or netbook computer, this becomes a very important issue, for the obvious reasons.

Workaround For Trash In LXDE

To start with, the lack of a bona fide trash can has been remedied in the newest release of PCManFM
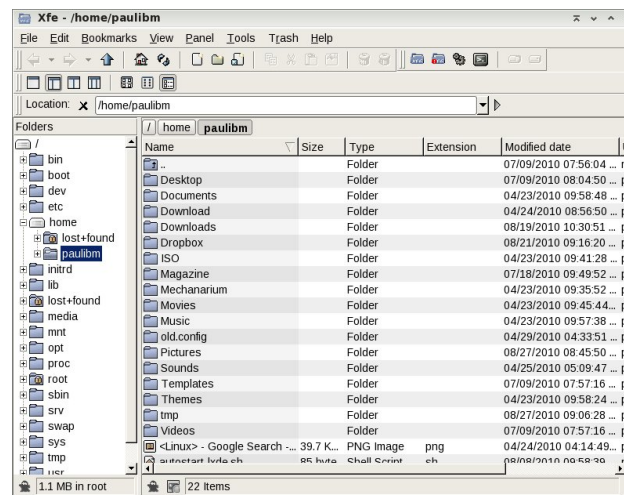
that is default in PCLinuxOS-LXDE 2010.10. In earlier versions of PCManFM, trash does not work. You can get around this issue by installing **xfe** from the PCLinuxOS repository. Xfe, short for X File Explorer, resembles Windows Explorer in Windows 98.

When you come across a file that you want to send to the trash, open xfe. Go to the directory that contains the file you want to send to trash, right click on the file and select "Move to Trash."
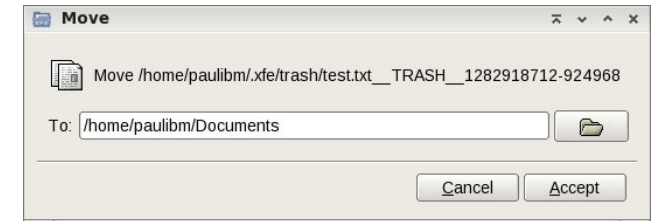
Similarly, you can restore items from the trash. Again, open xfe, and select Trash » Go to trash from the Trash menu. Right click on the file you want to restore, and select Move to... from the context menu that pops us. Type in the name of the folder you want to move it to (or select the destination by clicking on the folder icon button next to the text entry box, and selecting the destination with your mouse). Click "Accept" to complete the move of the file.

To delete files in the xfe trash, select Trash > Empty trash can from the menu.

Place Icons On Your Desktop

Granted, not everyone wants icons on their desktop. In fact, some LXDE users are a bit "miffed" about a PCManFM bug that places an unremovable "My Documents" icon on the desktop. (I fall into the category of users who really don't want a lot of icons on my desktop - it's too reminiscent of Windows for me). But gauging from the screenshots posted to the monthly screenshots thread in the forum, there are just as many users who do want icons on their desktop. If you fall into the latter category of LXDE users, you too can adorn your desktop with all of the icons you desire.

There is a utility for LXDE, called lxshortcut. While not installed by default, it is available in the PCLinuxOS repository. Lxshortcut is a utility that helps make a .desktop file that is compliant with the de-facto freedesktop.org standards. I know, I know ... you're asking yourself "now why didn't he tell me about this before now?" To be perfectly honest, I didn't know it existed until I stumbled across it while researching other "tips and tricks" for this article. But given the relative simplicity of how a .desktop file is constructed, knowing the structure of the file isn't necessarily a bad thing. And now that you have a better understanding of that file structure, lxshortcut will help eliminate some of the work you have to do. Really, it's a good thing.

Don't bother going to look for an icon in your PC Menu for lxshortcuts. It doesn't exist. Instead, you start it from the command line. To start it up, simply type lxshortcut --input=[name-of-file].desktop at the command line. You will be presented with the window below:
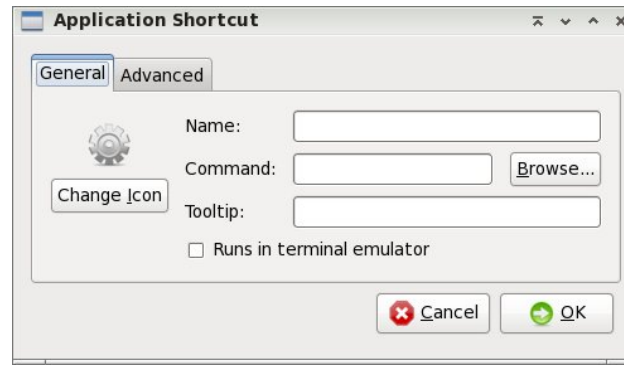
In the first text entry box, "Name," enter the text of what you want to call the shortcut. In the second text entry box, "Command," enter the command you want to execute when the shortcut is selected (or click on the "Browse" button and select the application to launch from the list of installed applications in /usr/bin). In the third text entry box, "Tooltip," enter the text you want to be displayed when your mouse hovers over the icon. At the far left side of the window, click on the "Change Icon" button and select the icon you want to use for the shortcut. The only thing under the "Advanced" tab is "Use Startup Notification," and this is typically left unchecked. As you can see, its use is fairly cut and dry.

Once you have everything entered the way you want or need it, then click on the "OK" button. A properly structured .desktop file, with the name you assigned it when you opened lxshortcut with the input= command line switch, will be written to your $HOME/.local/share/applications folder. It should look something like this:

```
[Desktop Entry]
Encoding=UTF-8
Type=Application
Name=Xfce4 Screenshooter
Name[en_US]=Xfce4 Screenshooter
Icon=applets-screenshooter
Exec=/usr/bin/xfce4-screenshooter
Comment[en_US]=Take screenshots of your desktop
```

Now, it really isn't doing us much good there in its current location, since it still isn't showing the shortcut on our desktop. Open PCManFM and go to that directory. Find your new .desktop file, right click on it, and select "Cut" from the context menu that appears. Over in the top left pane of PCManFM, you will see an entry defined as "Desktop." Click on it, and paste the .desktop file into your "Desktop" folder. Immediately, your new desktop shortcut icon should appear on your desktop. Repeat these steps for each and every shortcut you would like to place on your desktop.

As a bonus, this method should actually work on just about any desktop environment. Just install lxshortcut from the PCLinuxOS repository, and you should be able to similarly create desktop shortcuts for Xfce, Gnome, KDE, and any other DE that conforms to the freedesktop.org standards.

Customize Your LXDE Menu

While we are talking about .desktop files, it's also a good time to discuss how to customize your LXDE menu. We touched on it briefly, when we were talking about how to add applications to be automatically started when LXDE starts, in the LXDE: Autostart Apps With .desktop Files article in the **September, 2010** issue of the magazine.

Just by simply placing your properly configured .desktop file in the /usr/share/applications directory, you can add items to your PC Menu. But in order for items to properly appear in your PC Menu, you have to first list the menu category to place the item in. All it takes is one small typo to prevent your item from showing up in the menu.

There are just two things you need to do. First, using the .desktop we created in the previous step (presuming you want to make a menu entry for that application), add the following line:

`Categories=X-MandrivaLinux;Graphics`

Second, copy the .desktop file to your /usr/share/applications directory (you must have root privileges to do this). Now, your application will have an entry in your menu.

Here are some categories you may want to use when adding applications to your menu:

```
X-MandrivaLinux-System-Configuration-Other;
X-MandrivaLinux-Multimedia-Sound;
X-MandrivaLinux-Office-Wordprocessors;
X-MandrivaLinux-System-FileTools;
X-MandrivaLinux-Internet;
```

There are more categories; I'm not going to try to bother to list them all here. The easiest way to figure out the category is to open the .desktop file of another application that appears in the menu location where you want to place your application. Simply copy the "Categories=" line from that .desktop file, and paste it into the .desktop file of the application you want to appear in that category.

Customize Your LXDE Menu: Part Deux

You may have noticed that when you right-click your mouse on the desktop, you get a different context menu that appears like this:
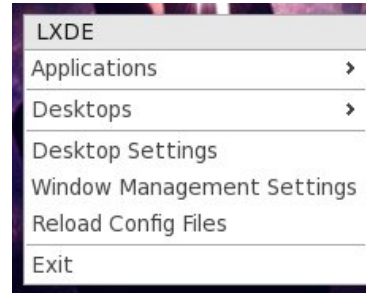
Believe it or not, this is not exactly an LXDE menu (even though it says so at the top). Rather, this menu is under the control of the OpenBox window manager. As such, the configuration file for controlling this context menu is the menu.xml file, located in /usr/share/lxde/openbox. (Psst ... much of this information also applies to the OpenBox remaster of PCLinuxOS).

Probably the one area of this context menu you will be most interested in is how to add applications to the "Applications" menu item. In the box to the right is the structure for the "Applications" menu.

Since it is written in XML, the file structure is very similar to HTML. We briefly covered this in the LXDE: All Hail The Halo Of halevt article elsewhere in this issue of the magazine. Basically, once you issue a XML command, you must close it. Notice how the first line of the "apps-menu" section of menu.xml starts with <menu id= ... >, and the last line in the section is </menu>, telling the system that this is the end of this particular menu. Notice how each <item ...> ends with </item> before listing the next item. Similarly, <action ...> is ended with </action>, and <command>[your command here] is

```
<menu id="apps-menu" label="Applications">
<item label="PCManFM">
    <action name="Execute">
<startupnotify><enabled>yes</enabled><icon>pcman
fm</icon></startupnotify>
    <command>pcmanfm</command></action>
</item>
<item label="LXDECC">
    <action
name="Execute"><command>lxdecc</command></action
>
</item>
<item label="Configure Your Computer">
    <action
name="Execute"><command>/usr/sbin/drakconf</comm
and></action>
</item>>
<item label="Package Manager">
    <action
name="Execute"><command>/usr/sbin/synaptic</comm
and></action>
</item>
<item label="LXTerminal">
    <action
name="Execute"><command>lxterminal</command></ac
tion>
</item>
<item label="Firefox">
    <action
name="Execute"><command>firefox</command></actio
n>
</item>
</menu>
```

ended with </command>. Just be sure to close the commands in the reverse order that you issued them.

So, if I want to add my favorite screenshot application to this "Applications" menu, I would insert the following right before the last line that reads </menu>:

```
<item label="Screenshooter">
    <action name="Execute"><command>xfce4-
```

```
screenshooter</command></action>
</item>
```

This would place a menu item, named "Screenshooter," in the context menu, under Applications, right after Firefox. Pretty simple, huh?

An Alternate Autostart Method

You gotta love it. As usual in Linux, there are always multiple ways to get things done. This is not an exception when it comes to configuring applications to automatically start when LXDE starts.

Buried in the /etc/xdg/lxsession/LXDE directory is a file named, ironically enough, autostart. Simply add an @ symbol, immediately followed by the name of the application you want to automatically start (e.g., **@conky**). Now, whenever LXDE starts up, Conky (or whatever other application you inserted at the end of that file) will automatically start. Just remember that you can edit the autostart file only if you have root privileges.

Get A New Doo: Installing OpenBox Themes

Definitely one way to customize your LXDE desktop is to give it a whole new look. The easiest way is to head over to http://box-look.org/ and download a new OpenBox window manager theme. Once you find the one (or several) that you like, download them to your /home directory. I place mine in my /home/paulibm/Downloads directory.

You are likely to find the OpenBox themes in different formats. Many of the themes are available

as *.obt files, and these are the easiest ones to install. Once you've downloaded them, right-click your mouse on the .obt file and select "Open With OpenBox Configuration Manager." This will install the theme to the $HOME/.themes directory, automatically.

If you download a theme in either a .tar.bz or .tar.bz2 format, you will need to do a little more work to install the theme. First, open the archived file with File Roller (or any favorite archive manager). Look for a directory that says "openbox-3." Extract that directory, and any sub-directories, to a folder in your $HOME/.themes directory. It's best to name the new folder the name of the new theme you are wanting to use. At the very least, it helps avoid confusion later on. Next, re-start the OpenBox Configuration Manager. Your new theme should be listed among your choices.
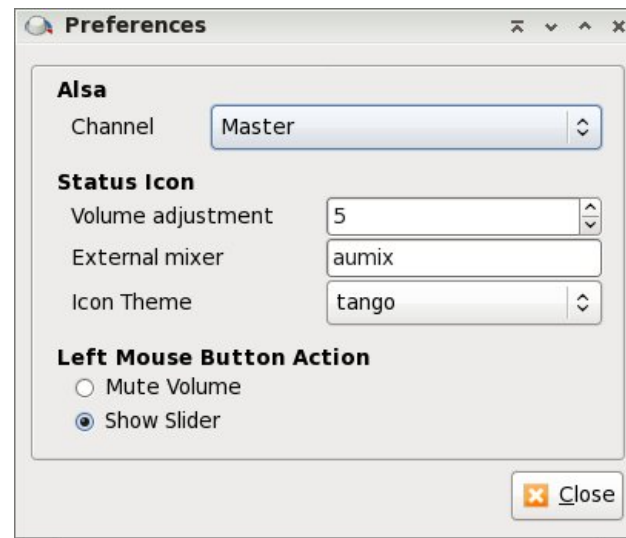
Get More Control Over Your Sounds

The sound volume panel plugin for LXDE is pretty lame. You basically only have control over the volume. Period. That's it. It is very basic, and it's a rare situation where it will meet the needs of hardly any computer user. Fortunately, there is a (better) alternative.

Open up Synaptic and install **volumeicon** from the PCLinuxOS repository. Once installed, you will not only have control over the volume of your sound card, but also access to set the other levels for the additional ports on your sound card. To start volumeicon, click on your PC Menu icon, select "Run," and type in volumeicon.

By default, volumeicon uses alsamix, a command line mixer opened up in xterm. While functional, I prefer to use a GUI based sound mixer. When you right-click your mouse on the volume icon in the notification area of your panel, you can select Preferences from the context menu. When you do, you will see a window similar to the one shown in the previous column.

Here, you can specify a different external mixer to use. I have chosen to use aumix, a lightweight mixer that does not seem to be desktop-specific. You could just as easily choose GMixer (the Gnome sound mixer), AlsaMixerGUI (a GUI alternative to the command line alsamix), or any other sound mixer you prefer to use. Whichever sound mixer you choose to use will be launched when you select "Open Mixer" from the context menu of volumeicon.

At the top of the window, you can choose which sound channel you want volumeicon to control. The "Volume adjustment" sets the increment to raise or lower the volume when you rotate the wheel of a mouse over the sound icon. The "Icon theme" allows you to set the appearance of the icon displayed in the notification tray. Finally, you can determine what action to take when the left mouse button is clicked on the sound icon. The default value is to mute the volume. I have changed it to show the volume slider, since I rarely use the mouse with the notebook computer I have LXDE installed on.

Make PCManFM Sing & Dance

Although being a lightweight file manager, PCManFM does have some "hidden" tools and features that will make your life easier.

It may not be immediately apparent, but PCManFM can display multiple tabs, with each tab containing/displaying different folders on your
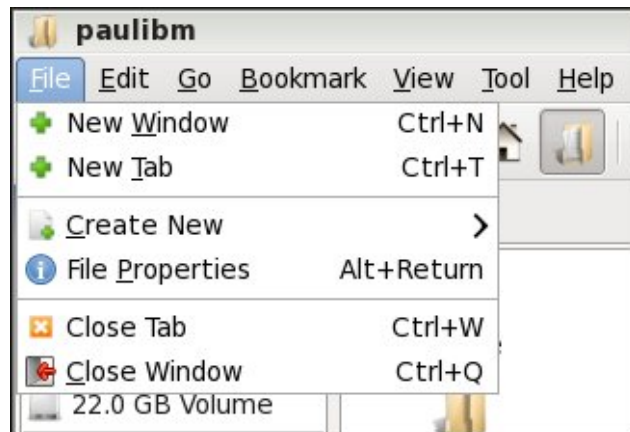

computer. Under the "File" menu, select "New Tab." Alternatively, you can just press Ctrl + T when PCManFM has the focus, and a new tab will be created. The use of tabs means you only have to have one PCManFM window open to view or work on the contents of multiple folders, which can save you some memory usage. This is especially important if you are working on an older machine with limited memory.
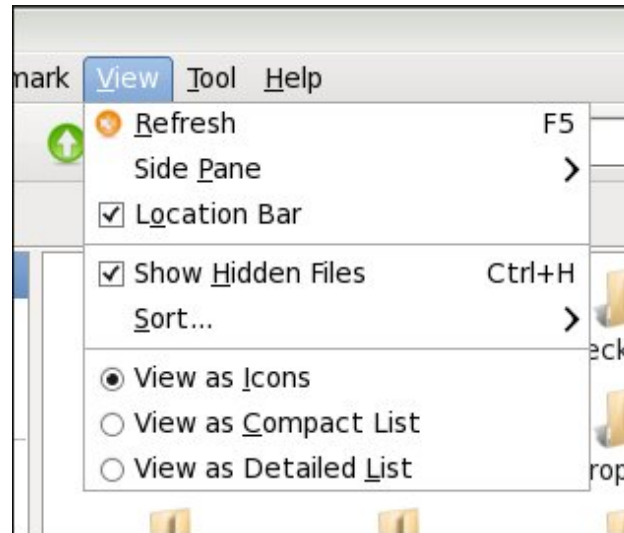
It's also very easy to view hidden files on your computer. From the "View" menu, select "Show Hidden Files" to toggle the display of hidden files. You can also use a keyboard shortcut, Ctrl + H, when the PCManFM window is focused to toggle the display of hidden files.

Under the "Tool" menu are three very useful tools. First, you can open a LXTerminal session simply by selecting "Open Terminal" (or simply by pressing F4 when the PCManFM window has the focus). As an
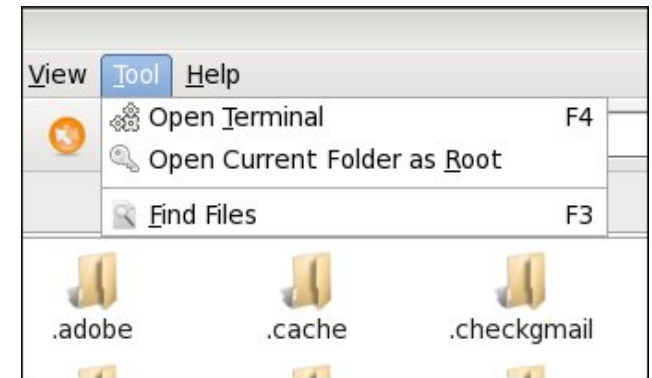
added bonus, your terminal session is opened up with the currently displayed folder as the active directory in your terminal session.

Sometimes, it's necessary to elevate your "privileges" to the root user to perform various actions on files. PCManFM makes this easy. Simply select "Open Current Folder as Root" from the "Tool" menu. After being prompted for (and properly supplying) the root password, another copy of PCManFM will be opened up with root access to the currently displayed folder.

Finally, you can use the "Find Files" item under the "Tool" menu to search for files on your computer. You can use the normal set of wildcard characters, and tell PCManFM where to look, so you can narrow your search.

Icon Display On Your Panel

It isn't quickly apparent how to control the display of icons on your panel, so it certainly deserves mention

here. The question came up in the PCLinuxOS forum a month or two ago, and the user was having difficulty finding where to control this setting.

Right click on the panel, and select "Panel Settings" from the context menu. When the "Panel Preferences" window opens, click on the "Panel Applets" tab. Find and click on the "Task Bar (Window List) line. Then click on the "Edit" button on the right side of the window.
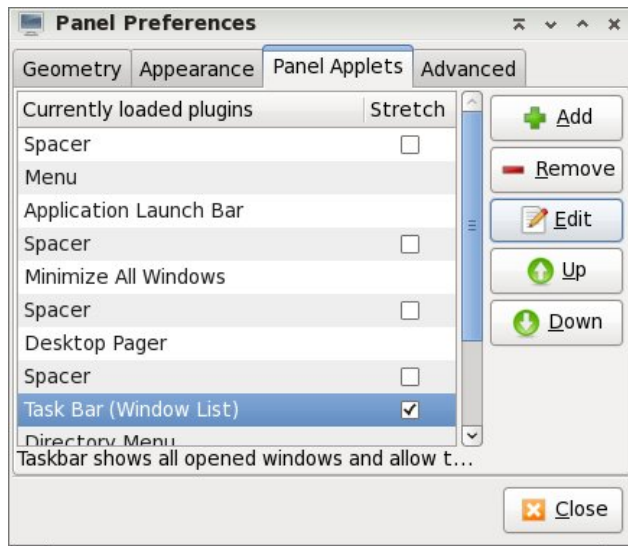
This brings up the window below. The first option, "Show tooltips," is checked by default. I cannot think of a reason to turn this option off, but if you don't want tooltips to be displayed, you are free to uncheck this setting. If you want to only display the icons of the open windows, without any text, check the option labeled "Icons only" (second option from the top). This will display only the icon of the open
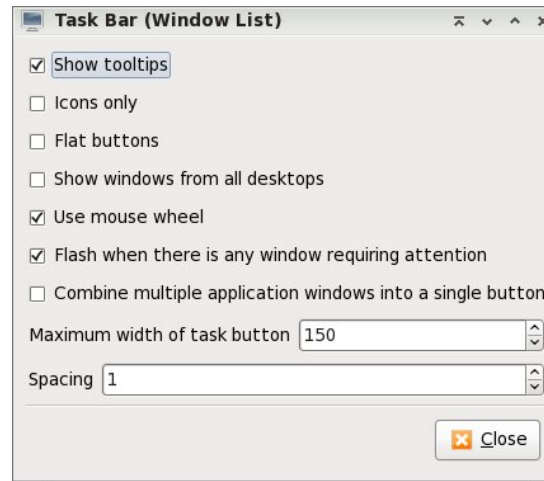
window in your task bar, similar to the "Smooth Tasks" widget in KDE 4.

Select the third option, "Flat buttons," if you do not want your panel buttons to have a 3D appearance. Select the fourth option, "Show windows from all desktops," if you want to see icons representing all of your open applications from all of your desktops, and not just your current desktop. This might be helpful if you are likely to forget that you have an application already open, but on a different desktop, and memory is at a premium.

With the fifth option, "Use mouse wheel," you can use your mouse wheel to switch between available desktops simply by scrolling your mouse wheel on an empty portion of your desktop. This option is turned on by default in PCLinuxOS-LXDE. The sixth option, "Flash when there is any window requiring attention," flashes the window icon in the task bar whenever there is a window that requires your attention.

The seventh option, "Combine multiple application windows into a single button," causes only one icon to be displayed in the task bar, regardless of how many instances of the application you have open. So, if you have this option selected, and you have six instances of Leafpad running, only one icon for Leafpad will appear in the task bar.

The final two options allow you to set the maximum width of a task button (default is 150 pixels), and the spacing between buttons on the task bar (the default is 1 pixel spacing).

Conclusion

Despite it being one of the newer desktop environments (it is, after all, only four years old), there are already lots of features built into the LXDE desktop. I think you will agree with my assessment that there is a lot of room for many improvements and enhancements in the LXDE desktop, and I have no doubts that these improvements and enhancements will find their way to fruition as the LXDE desktop matures. Meanwhile, the LXDE desktop is already a robust desktop environment, and it should provide most any intermediate to advanced Linux user a satisfying desktop experience. And it does so, without getting in its own way and while adhering to its "mission" to be a full, complete lightweight desktop.

As you have seen, there are many ways to "tweak" the LXDE desktop, if you only know where to look and know what to do.