REVIEWED: Simply MEPIS, Quasar Accounting, Autopackage

Does Linux Play Well With Others?

Linux Does Windows

TUX

the first and only magazine for the new LINUX user

How to Use Tux Paint

For Young Fingers or Just the Young at Heart

How to Use Your iPod with Linux

ISSUE 3 • JUNE 2005

LINUX ON DEMAND

WHY YOU SHOULD TRY THE BOOT-FROM-CD MEPIS LINUX, AND DETAILED INSTRUCTIONS ON HOW TO INSTALL IT TO YOUR HARD DRIVE. IT'S LINUX ON DEMAND MADE EASY, THANKS TO TUX.

PLUS:

The Gadget Guy finds neat toys at CES 2005

How to feel the burn with K3b CD and DVD burner

Will Autopackage revolutionize how we install Linux applications?

This month's Mango Parfait:

- Emulate Windows Shortkeys with your word processor
- Opinions on which Linux to try
- How to get more software for Fedora
- How to confuse your USB printers

TUX

ISSUE 3

JUNE 2005

CONTENTS

18 Tux Paint

22 iPod and Linux

30 K3b

36 The GIMP

P2P

2 Does Linux Play Well with Others?
PHIL HUGHES

4 Linux Does Windows
NICHOLAS PETRELEY

6 Letters

13 Q&A with Mango Parfait
MANGO PARFAIT

HOME PLATE

18 Tux Paint for Kids
WILLIAM KENDRICK AND MELISSA HARDENBROOK

22 iPod and Linux
JESSICA HALL

TUX EXPLAINS

24 How to Install MEPIS 3.3 Simply
ROY BRANDER

30 K3b, and Feel the Burn
RYAN PAUL

36 Chrome and Metal Text Effects
MICHAEL HAMMEL

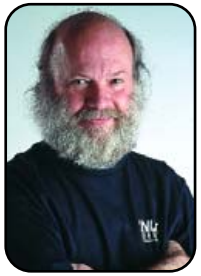
REVIEWS

41 Quasar Accounting
JOSHUA BENTHAM

43 Gadget Guy—CES 2005 Edition
SEAN CARRUTHERS

46 In Praise of MEPIS Linux
ROY BRANDER

48 Autopackage to the Software Installation Rescue
JOHN KNIGHT



FROM THE PUBLISHER

Does Linux Play Well with Others?

Linux integrates so easily with Mac, Windows, Netware and others that even Linux experts are often taken by surprise.

BY PHIL HUGHES

Here we are at issue 3 of *TUX*. My hope is that we have managed to help tens of thousands of people belive that Linux can do what they want. Up until now, our primary focus has been for *a* user with *a* Linux system. That is, getting you comfortable with a single Linux desktop system.

That's a great start, and if you have done your homework you know that Linux has been a very serious player in the server market long before the idea of Linux desktops for regular mortal computer users made any sense. But, that still leaves a big missing piece—your office.

Now, if Linux desktops make sense and Linux servers make sense, it may sound like you are home free. But, there is one big catch—maybe not everyone in your office is convinced yet that Linux is the right answer. Or maybe, just maybe, they actually need to do something that can be run only on some other computer platform.

Well, I have more good news. Linux systems play well with others. That is, you can stick one or many Linux-based computer systems in an environment with other systems and the Linux system will fit in.

Let me offer an example from our past. I was at Doc Searls' house, one of the editors of our sister publication, *Linux Journal*. Although Doc and his wife were primarily Mac people, we had installed a Linux system in his house and connected it to his router so it had Internet access. But, that was all. It wasn't talking to the Macs.

I was at his house using the Linux system and wanted to print something. He had a printer there, but it was hooked to a Mac and I know more about Cajun food than Macs. I first had a depressing thought involving saving the print file to a floppy disk in DOS format and loading the file on a Mac to print it. But, I knew there had to be a better way.

I called up my then systems administrator in Seattle and asked him if he knew an easy way to deal with this. He said yes and rattled off one command to type in on the Linux system. That command (`apt-get install` followed by the name of a particular software package) would instruct the Linux system to go fetch this software from a repository on the Internet, install it and configure it.

Although I was used to installing packages this

TUX

PUBLISHER
Phil Hughes, phil@ssc.com

EDITORIAL
EDITOR IN CHIEF Nicholas Petreley
EXECUTIVE EDITOR Jill Franklin, jill@ssc.com
ART DIRECTOR Garrick Antikajian, garrick@ssc.com

For Editorial inquiries, please write to editor@tuxmagazine.com

VP OF SALES AND MARKETING
Carlie Fairchild, carlie@ssc.com

MARKETING
DIRECTOR OF MARKETING Rebecca Cassity, rebecca@ssc.com
INTERNATIONAL MARKET ANALYST James Gray, jgray@ssc.com

SALES
ADVERTISING COORDINATOR Lana Newlander, 206-782-7733 ext. 4, ads@ssc.com

For immediate information about advertising in this digital edition of *TUX* or for information about banner and text advertising on the *TUX* Web site, please visit http://www.tuxmagazine.com/xstatic/advertising

CIRCULATION
CIRCULATION MANAGER Khris Goldberg, subs@tuxmagazine.com

For immediate information about subscribing, renewing, or changing your method of delivery or delivery address for *TUX*, please visit http://www.tuxmagazine.com/xstatic/subscribe.

SSC PUBLISHING, LTD.
http://www.ssc.com

A privately held company, SSC Publishing is the leading Linux and Open Source authority, publishing reference materials in these fields since 1983. Properties include LinuxGazette.com, DocSearls.com, TUXMagazine.com, LinuxJournal.com, and the monthly international print magazine *Linux Journal*.

Additional information can be found at www.ssc.com. All product and company names featured in this publication may be trademarks or registered trademarks of their respective holders.

way, I was worried because I knew nothing about the Mac end. But, it clearly was easy to try, so I did. In about ten minutes the download completed and the package was installed. Everything looked normal to me other than I was concerned that I had not been asked any questions during the install process.

I printed a file. It came out on the printer attached to Doc's wife's Mac. I was impressed—not only with Linux but with the fact that Apple had done its end right such that a foreign system wanting printer access didn't have to ask a human a bunch of questions.

But, things got better. Some time later, Doc rebooted his Mac. He called me over because something strange had happened—there was a new icon on his desktop called happy. We both knew the name of the Linux box was happy. I suggested he click on the icon.

Sure enough, what I expected had happened. Happy was simply another node on Doc's network now, and when he clicked on the happy icon he saw the filesystem of the Linux box. At that point, he could drag and drop files between Linux and the Macs.

I think Doc was more surprised by all of this than I was. That is, I expected Linux to play nicely with others, whereas Doc just thought it was "different". There are good reasons for both of these perceptions.

When a company has most of a market, they tend to do whatever is necessary to make it hard for new players to get market share. An excellent example is what Microsoft did with Word. Although there already were document formats available such as SGML, they decided to create two new ones: .doc and RTF. That put them in control of the standards, and other companies had to play catch-up.

On the other hand, if you are the little guy, you tend to do something new or better in order to get market share. A good example here might be Volkswagen when they were new in the US market. I remember signboards showing a VW that just said $1.07/pound, and another that was a huge pile of parts on one side and a VW bug on the other.

These ads established the price point they were at and, possibly more important, that the car was merely a collection of parts. When you considered that each model year of a Chevrolet was quite different from the previous one, you quickly could realize that it was going to be easier to get replacement parts for an older VW than an older Chevrolet because, in most cases, parts for VWs didn't change from year to year.

Back to Linux—that is exactly what happened. In order to get market share where one vendor had most of the market and a second had a significant portion of what remained, it was important that Linux be able to work with these other systems. Thus, early on, Linux systems were more than willing to communicate with Microsoft Windows, Apple and Novell networks. They also supported Microsoft, Apple, UNIX and other disk formats.

Have things actually gotten better over the years? Again, the answer is yes. Back when I added happy to Doc's network, I had to go fetch some software off the Internet. This was mostly because including this (and other) software increased the size of the Linux distribution. Today, with most serious software distributed on DVDs, and the price of a gigabyte of hard disk space being less than $1, most distributions would recognize the Mac network neighbors and automatically load and configure the modules necessary to make this all play together.

So, don't worry about convincing your boss that the office needs to go to Linux. Simply convince him that you waste too much company time without Linux on your desktop. Then you can let Linux sell itself.■

Phil Hughes is Group Publisher for SSC Publishing, Ltd.

FROM THE EDITOR

Linux Does Windows

Linux is easier for Windows tasks than you can imagine.

BY NICHOLAS PETRELEY

Phil Hughes is one of the few people who can say that he published information about Linux before I did. Indeed, he was into Linux in a big way with *Linux Journal*, when I was just discovering what Linux could do while working at the computer trade journal *InfoWorld*.

Back then, I spent most of my time talking about how easily businesses could replace all their back-end Windows services with Linux, and none of the users would know the difference. (Linux uses a program called Samba to provide Windows networking services.) Indeed, if the users noticed anything, it was that they were able to work without server outages and down time, because Linux is so much more stable than Windows.

Savvy Information Technology (IT) geeks caught on, and many of them stopped upgrading their Windows servers and replaced them with Linux, or added Linux boxes to their server farms. Few, if any, members of the management above them even knew this was going on. All they knew was that the users were happier with the stability, and in some cases (those cases where office politics didn't dictate that you never reduce a budget), budgets and costs decreased.

I'd like to think I can take credit for much of this stealth strategy of moving from Windows servers to Linux servers. I was essentially the only person explaining it and recommending it in the mainstream corporate press. Other mainstream publications seemed to follow suit only when the Linux geeks came out of the closet and confessed they were using Linux instead of Windows. The delay probably was due to the fact that writers at other publications weren't using Linux and had no direct experience. I had Linux installed everywhere I could install it, so I saw the benefits first-hand.

Okay, now fast-forward to the present. We've already established that it doesn't matter whether you are using Windows or Linux at the server end. Both can provide Windows file and print services (among other things), and users need not know whether the computer providing these services runs Windows or Linux.

But the point is that these servers are providing *Windows* services. (Yes, many of them provide UNIX-based or Linux-based services, but most companies, big and small, are still stuck in Windows mode.) So for Linux to succeed at the desktop at the moment, it must be able to *use* Windows services.

In fact, Linux has been able to connect to Windows services for a very long time. What has changed in recent times is how ridiculously easy it is to make use of Windows services from within Linux. Only a few clicks in Konqueror will get you to all of the Windows shares (shared directories and disk drives). You also can access printers connected to Windows servers (or Samba servers masquerading as Windows servers).

It is one thing to access Windows resources from a Linux desktop; it is quite another to run Windows applications on Linux. You may ask, "why would anyone want to run a Windows application on Linux, because there are so many applications from which to choose that are native to Linux?" Do you want an Office Suite? Try OpenOffice.org, KOffice or EIOffice. Want a word processor? Try OpenOffice.org Writer,

I'D LIKE TO THINK I CAN TAKE CREDIT FOR MUCH OF THIS STEALTH STRATEGY OF MOVING FROM WINDOWS SERVERS TO LINUX SERVERS.

KWord, EIOffice or AbiWord.

In contrast, Microsoft has done such a good job of eliminating competition on Windows that the only relevant office suite on Windows is Microsoft Office, and the only relevant word processor on Windows is Microsoft Word. When I studied music theory/composition, a popular joke in music departments was the statement that Beethoven wrote only three symphonies—the third, the fifth and the ninth. (For those who aren't in the know about classical music, these are the three most popular Beethoven symphonies. One rarely hears anyone perform the others.) Likewise, there is only one word processor for Windows, and that is Microsoft Word. If there are others, they are essentially irrelevant.

Sure, you can run OpenOffice.org on Windows, but if people switch to it from Microsoft Office, the switch will be gradual because Microsoft Office has become the de facto standard. Many publishers for whom I write insist that I submit my work in Microsoft Word format. They use a lot of special formatting, so I can't use OpenOffice.org and then save my work as a Microsoft Word file. Much of the formatting will be lost, because OpenOffice.org simply doesn't translate the files well enough.

So what's a mother to do? You can purchase CrossOver Office, by CodeWeavers (http://www.codeweavers.com). It does a superb job of running Microsoft Office on Linux, especially Microsoft Word. I use CrossOver Office every time a publisher requires Word documents. That way I never have to leave Linux to do my work. There are other solutions, such as Win4Lin or, if you are savvy enough to configure it, you can use Wine, which runs Windows applications much the way CrossOver Office does. (This is not surprising. CrossOver Office is based on Wine.)

Win4Lin (http://www.netraverse.com) is a quite different approach to Windows compatibility on Linux. Win4Lin lets you install and run Windows 95/98/SE/ME as a separate application under Linux. The new Win4Lin Pro 1.1 lets you install and run applications for Windows 2000 or Windows XP on Linux. That's right. You get the whole Windows desktop in a separate, resizeable window. (You can run it to use the full screen too.)

Finally, there are native Linux programs that emulate Windows programs so well that Windows users will feel immediately comfortable using them. For example, Evolution is an Outlook clone that is even more feature-rich than Outlook, and it works with Microsoft's e-mail back ends, such as Microsoft Exchange. EIOffice is a Java-based Office Suite that runs on Linux, and it emulates Microsoft Office applications practically down to the last pixel.

Regardless, when it comes to integrating Linux into a Windows environment, or vice versa, it's now a breeze. And, it is one more step toward making it easy for Windows users to switch to Linux without having to relearn anything or having to sacrifice the features to which they've become accustomed. If anything, they'll find Linux to be more feature-rich, more reliable and more secure than Windows.■

TUX Editor in Chief Nicholas Petreley is an author, consultant, programmer, award-winning columnist and Linux analyst for Evans Data Corp.

LETTERS

Reading the Small Print

I have problems reading the magazine because when I zoom in to a readable level, I have to toggle around the screen to follow the columns side to side and up and down, which makes it hard to keep my place. Any chance of a large-print version for people with poor eyesight and plenty of bandwidth?

Following on from this, I wondered if you can do an article on accessibility tools? For example, using xmms is nearly impossible because of the insanely small size of the writing on the interface, and I've found no way of sizing the interface up. I've seen one magnifying glass on a Knoppix distro—are there other similar tools?

I managed to set up my desktop comfortably on Xandros, perhaps a few tips for various systems?

I use Opera as a Web browser, which has a nice handy "eye" for adjusting viewing size, but if I click on a link from an e-mail, the eye isn't visible. Is there any way around that one?

I'm sure you can find all kinds of examples of difficult-to-use interfaces and ways around them. Bear in mind also that although many of these interfaces have ways to make reading easier, you have to be able to see them well enough to do the set up in the first place, and not everyone has someone available to do that for them, and most would prefer to be able to do it independently.

Perhaps it is worth pointing out to young programmers that it is easy for those with good eyes to reduce a large default text size, but it is very difficult for people with poor eyesight to increase a small text size, because they have to read the small print to do it.

--

Valerie Higgins

First, let's talk about xmms. The default xmms skin is insane. Only a few species of hawks can make out something that small, and they have to do it from a distance of several hundred yards. I'm convinced people just click around until they hit something that works. Either that, or they download and use an xmms skin that is more sane. In my personal experience, most alternative skins are just as tiny, but some are large enough to be usable. Most Linux distributions make a package of xmms skins available (in Debian, type `apt-get install xmms-skins`*). You can also find xmms skins all over the Web. Just do a Google search.*

As for your more general question, let's sum it up this way. How can elderly and vision-impaired folks cope with small text? A 32-inch monitor will do the trick (just kidding, unless you're filthy rich, in which case I'm not just kidding). On a personal note, when my vision was impaired by Bell's Palsy, I found it useful to put a pair of those magnifying reading glasses you can get at most drug stores over my normal glasses. It was uncomfortable, but it worked. Beyond those suggestions, we'll forward the question to Mango and see if she has any better answers.—Ed.

Installation Help

Just read the second issue of your magazine. In a similar thread to most of the letters in the P2P section, I would like some help. My main problem is setting up various bits of hardware (mainly network-based). My LAN card was fine (easily detected and configured by SUSE's YAST), but trying to set up a wireless card to share an Internet connection, or the setup of my own USB modem, has left me completely frustrated. No end of forums, questions or suggestions and downloads have left me feeling this is an impossible task. I suppose the area I struggle with is installing programs and drivers to support the various bits of kit I am trying to use. It just seems so complicated—having to extract files and then compile them just to run an install, only to be told that I don't have the right compiler and need to install that as well! I realise there is a big difference between Linux and Windows, but when it becomes this difficult to set up relatively simple hardware/software, I can understand why many people are put off Linux. In a round-about way, what I would like to see are some basic step-by-step guides to installing new software (in various ways) and new hardware as described above. I hope I'm not being too selfish, but simply having not to revert to and fro between windows (with my Internet connection)

and Linux so I can get some information on other issues would be a great help.

By the way, I think the layout and presentation of the magazine are excellent.

--
Steve Harrison

Agreed. The current state of wireless network support, especially USB adapters, is pitiful. It can be done, however, if you piece together many bits of information available on the Web. We'll commission someone to do just that and publish an article on this topic.—Ed.

Disturbed by Mango

I am very disturbed by some of the comments made by Mango Parfait in the May 2005 issue. Here they are:

Potential anti-Semitic slur: "Jew Jitsu" learned in Israel, New York and Florida. Personally I would like to conclude that this is probably not anti-Semitic in the context it was written, although it could VERY easily be taken that way. She is probably referring to a form of martial art used by the Israeli special forces called Krav Maga—and no, it is NOT called "Jew Jitsu". She should have just kept her mouth shut, and I am surprised this made it past you!

Disability slur: Using "GIMP" as a synonym for crippled. She obviously doesn't think before she writes (or speaks).

These comments are at the very least in extremely poor taste and have absolutely no business in a technology magazine. As a veteran *NIX sysadmin, I would not have really read your magazine, but it was posted on our local users group mailing list. These comments were also posted by another member, and I am sure you will be getting a few more of these types of letters about her comments. IMHO, you new magazine is really getting off on the wrong foot.

--
Scott Phelps

Mango assures me that it was all in good fun. She says "Jew Jitsu" was not supposed to refer to any valid form of martial arts. She took a pun (Jiu/Jew) and ran with it. In fact, although Mango is Japanese, she tells me she is a passionately strong supporter of Israel. I warned her that making such a statement is likely to offend someone much more than "Jew Jitsu". But Mango insists she is entitled to her opinions, so I faithfully record it here. Making friends and enemies is an occupational hazard when expressing ANY opinions in print, and she is apparently willing to deal with it.

As for The GIMP, I'll address that complaint, myself. I think anyone who takes offense at this particular pun is seriously over-reacting. It is sad state of affairs that people have become so sensitive that they can't have a good laugh at a pun—especially when the context Mango used was one of turning the person into a GIMP (something she would obviously not do in real life). There is no possible way to twist that into Mango making fun of someone who is already handicapped.

As for being offended, I am personally offended that such trivial puns would be taken so seriously and criticized by what amounts to thought police.—Ed.

Reveal the Alchemy

I just received issue 2 and am impressed to see this logical step toward introducing Linux as a true alternative to the MS autocracy. As Andrew aptly stated in issue 2's Letters, I agree that the jargon has been the main intimidator to the dissemination of Linux. The covenstead of the UNIX high priests has been discovered and the closely guarded alchemy must be revealed.

I like the clean format and concise content, albeit, the Mango Parfait column is a bit adolescent. Hopefully it will settle

into a straightforward Q&A.

To cut to the chase, I am viewing your fine publication on Windows (hiss—boo) due to the fact that I am having a heck of time finding USB drivers for SUSE 9.1. Specifically, my Orinoco Proxim wireless adapter and Lexmark X80 printer (I know, I should get a PostScript machine on a parallel line).

I use KDE, although as a Comp Sci student in a UNIX environment, I usually go right to the terminal. As a novitiate into the UNIX priesthood, I would appreciate this further assistance down the path of enlightenment (koans notwithstanding). Keep the faith.

--
Brian Sexton

Yay Landscape Format!

In yet another example of you can't please everyone, I think that the previous letters that complained about your landscape PDF format were totally wrong. I think it's about time that digital magazines adopt a landscape format so that I can read the entire page with scrolling back and forth on the same page. Bravo!

--
George

Translate *TUX*

I live in Haifa, Israel, and came across your fine magazine by chance. I really like it! It is great for advocating Linux for newcomers. I initiated the Jerusalem Linux Club two years ago, in part, because I wanted to advocate GNU/Linux to others—to show them what they are missing. I have since had to move to Haifa, but I never miss a chance to tell people around me what a great OS GNU/Linux is. I had an idea I wanted your opinion on—I thought it could be nice if it was possible to translate the magazine to other languages, Hebrew, for instance. It would be a lot easier to sell GNU/Linux if we had a magazine like yours in Hebrew.

--
Amichai Rotman

Need a Genealogy Program

I have glanced through your first two editions and think that you have come up with great idea. I am retired (now 78), and I have been using Linux for three years. I have two problems: 1) I would like to drop MS completely but am unable to find a genealogy program that will run on Linux without requiring dependencies that I know nothing about. 2) It is difficult getting a new install to work without the correct driver. These are hard to get and to get the right one. I would like to load Fedora Core 3, but I am not sure about the driver for the modem. I understand that GNOME has come out with a GPPP that will connect without any problems. I use mostly KDE but also like GNOME. Nowake 10.

--
Herb Taylor

Easy Symlinks

Judging from what I've read in the article "Linking Users with Their Data" [*TUX*, May 2005], I'd say *TUX* has been playing for too long with Konqui and maybe it should spend some time with GNOME. I started to feel a bit lonely after reading the article.

To create symlinks in Nautilus, instead of creating the link, cutting it and pasting the darn thing where you'd like it to be, try pressing the mouse wheel and dragging the file (or directory) to wherever you want it. A few options should appear, namely Move, Copy and *Create Link*. This way, which is just as easy as in KDE, also allows you to create symlinks from Windows partitions, which goes against what was stated in the Q&A section.

BTW, although I feel that *TUX* Magazine is a bit KDE-biased, I hope it gets some traction because it seems a really nice idea.

--
Celso

So Many Questions

I have been using Linux for a whole three months now, and I have some concerns that might make for a good article or two. First, coming from Windows, I would like to know the scoop about antivirus programs on Linux. When I ask about them I get told that winning the lottery is more plausible than getting a virus in Linux. Is this true? If so, why do Linux antivirus programs exist? Which one should I use and why? Another security-related question is about firewalls. Which one should I choose? Firestarter, Gaurddog, Snort or one of the others? Are firewalls necessary on a Linux machine? Is there absolutely no spyware for Linux? What is a root kit and what is RKhunters purpose? What other dangers should I be concerned about when using Linux? This may all seem paranoid, but, hey, I am new and I come from the land of Microsoft where all doors are locked and Windows barred.

--

James Roettger

I suspect that the abundant examples of Linux antivirus software to which you are referring are programs that are meant for Linux machines used as mail servers. These programs detect and stop Windows viruses from reaching Windows clients. They don't intercept or disinfect Linux viruses. Indeed, although there have been some viruses, worms and trojans that exploited flaws in programs like Apache, I am not aware of any Linux-specific viruses that pose a danger to any recent distribution.

Firewalls are a good idea on any machine that you connect directly to a network, and a necessity if you connect directly to the Internet. If you connect to the Internet via a cable/DSL router at home, and have the router properly configured, there is little if any reason to run a firewall on your Linux machine.—Ed.

Again, Yay Landscape Mode

I just subscribed to *TUX* magazine today and can't yet say much about it except I have liked everything I've seen so far (well, except *TUX* being KDE-centric—I'm using GNOME).

In the May issue, there is a letter from a reader who writes very negatively about the format you use for the magazine. In my opinion, the landscape mode is by far the best choice for on-screen reading. Actually, having to read PDF documents in A4 (or similar) format is perhaps the most important reason why I have never really liked reading PDF documents. In A4 format, you often have to move up and down on the page when you move between different paragraphs. Now the whole page fits on my screen, 1024 x 768, and I'm very happy.

Landscape mode probably isn't best suited for printing, but how many people actually print the magazine? Some people may have a good reason for doing that, but I think that for many people it's just a bad (environmentally at least) habit to print documents for reading—especially when we are talking about a well-formatted PDF document; reading it on your computer screen shouldn't be a problem. Text documents (.doc, .rtf, .txt, etc.) are another matter; they can be unpleasant to read on-screen—I'm not surprised if someone wants to print them.

--

Ari Torhamo

Correction

Just wanted to mention that in the review of AbiWord recently [*TUX*, May 2005], your reviewer couldn't find the PDF exporting tool. On both my Windows machine and my Linux laptop, I run AbiWord often, and you can make a PDF by going to the File menu and

clicking print. The PDF distiller should be one of the options for printers. Even if it is not (for some reason), you can always print to a PostScript file and then convert to a PDF with one of the many tools out there! Loved these two issues, can't wait for more!

--
Chris Giroir

Well, dang if you ain't right. We sit corrected. You can create a PDF file from AbiWord using the print option.—Ed.

TUX's Publishing Process

I found your magazine today. The Open Source world is a worthy and exciting place, but its natives are sometimes very intimidating to those of us yet to have completely defenestrated. Thank you for a publication that helps those of us keen to USE this amazing work.

I would be very interested to know more about your publishing process. The magazine layout and design is very pleasing to the eye and is easy to navigate and read. Would you be revealing too many secrets by describing the process from layout to PDF publication?

--
Steven James

Phil Hughes responds:

I have worked with those natives for a lot of years and I totally understand. And, yes, TUX *is designed to be as knowledgeable as them without the geek baggage.*

Regarding layout—nothing magic here, yet. The production is currently exactly the same as Linux Journal*, but it will change. The pieces are:*

- Article input in text.
- Tagged (using vi) as pretty much DocBook XML.
- Run through a filter program to produce Quark-tagged files.
- Imported into Quark to produce a PostScript file.
- Adobe Distiller to make the PDF and add some stuff.

The change is to go to using Scribus. We are working on the template right now and hope to have issue 4 done with Scribus.

Use xpdf

I notice a lot of whining about the PDF format and stuff to do with acroread. I've just read your magazine using xpdf with no problems other than the obtuse message:

```
"Warning: Cannot convert string
"-*-times-medium-r-normal--16-*-*-
*-*-*-iso8859-1" to type
FontStruct"
```

in the controlling shell window, but there's no pop-ups about some features not working, or opening in full-screen mode or anything weird. I suggest everyone use xpdf in preference to acroread.

--
Jim Jackson

Another PDF Viewer

I have been a user of Linux for some time. I currently use it most often on my older IBM ThinkPad. I can accomplish things on this old Pentium II that I would not dream of trying under Windows. Two programs that help greatly are my X Windows desktop XFCE and Firefox/Thunderbird. They are both streamlined and better for my nearly thin client computer. As to reading your magazine, I had no problems using gv (ghostview) and viewing full pages at

my max resolution of 1028x764. You mentioned using various PDF viewers but left out this old standby reader. It is extremely easy to add a launcher to it: in XFCE, right-click on the launcher, select add launcher, type `gv` on the command line, `ghostview` in the tooltip, and select an icon (I use the PDF one buried in usr/share/icons/Rodent/48x48/mimetypes). I would recommend unchecking the box for attach menu to launcher.

I love your work. I would recommend *TUX* to anyone thinking about switching to the penguin OS. I wish it would have been around a few years ago; it would have saved me many hours of reading man pages and doing infoseek searches for answers.

--
Jay Fude

No Postal Mail Please

Your sign-up form combines permission for e-mail and postal mail solicitations. I don't mind getting e-mail, but I don't want postal mail. As a consequence, I chose no. You might want to split this into separate questions.

--
Robert Morrison

Noted. We'll put that up for discussion.—Ed.

And Again, Yay Landscape Mode

Thanks for publishing *TUX*. I've been subscribing to *Linux Journal* for a while, hoping for a few scraps of information that are understandable for non-gurus, but *TUX* is much better food for me! I just read one of the letters in the May 2005 issue that complained about landscape mode for *TUX*. I strongly disagree and find it extremely awkward to read two-column documents in portrait mode. Scroll down, scroll up, scroll down, next page. Repeat ad nauseum. Portrait-shaped monitors are extremely rare, so I'm glad to see you've created a landscape document that matches the 99.99% of monitors/screens that are landscape-oriented. Keep up the good work

--
K Wright

Palm Version?

I have recently subscribed to your excellent magazine, and I must say that I am enjoying the content so far. However, all is not perfect. Like many of your readership, I am a mobile worker and am not at my desk very often. When I received issue number 2, I thought to myself, "I know, I'll transfer the magazine to my Palm and read it whenever possible." However, when I attempted to do this I was prevented because the security settings made it impossible to successfully carry out the job. Is it possible for you to make a Palm version available or perhaps change the settings of the security so that it allows transfer to other devices? I look forward to your reply.

--
Damian Turner-Steele

A Request

First, thank you for producing such an excellent magazine. I really enjoy it. The article about digiKam was interesting. However, knowing the version of the software under review would be helpful.

The digiKam article talks about tags for photos. Great! I thought, just what I need. Alas, my distribution Mandrake 10.1 comes only with digikam-0.6.2. The tags feature does not appear until digikam-0.7.0. Granted, digikam-0.7.0 has been available as source since November 2004. Although compiling is not difficult, it is not a typical activity for the new Linux user—your target audience. Mandrake, now Mandriva, will not release 10.2 (Mandriva 2006) until the end of this year, as they are now on a yearly release cycle. As the author is a KDE developer, you would expect him to have the latest version.

Could you please include the version of the software and consider its availability to the average new Linux user in future issues?

--
Greg Thomson

Good suggestion. Done and done. Well, at least we'll do our best.—Ed.

Don't Preach

I would like to say I like the idea of your magazine. However, I was greatly disappointed in the first article, "Choice and Excitement Make a Comeback" [*TUX*, March 2005].

As an independent network consultant, I do a variety of things for a number of clients. Often I will go to a client and start recommending Linux, and the client will be immediately turned off. Often I will find it is because some Microsoft-hating consultant was just let go for preaching much of what I saw in this article. When I sit down and rationally show them their options, their opinion often changes. It is my belief that as a consultant, it is my job to fully understand the client's need and recommend what is best for them. If this means a Microsoft solution best fits his or her needs, then I will recommend the MS solution. If a Linux solution fits better, I will recommend it. Along with my recommendations, I present the pros and cons of both sides. I find this brings me much more business, as well as repeat business, than going in and preaching the moral high ground of Linux.

I received a link to your magazine through my local LUG, and my first thought was this will be great, I can recommend a number of my clients to you in order to broaden their knowledge of some of the things I have implemented in their offices in the past. It will be an inexpensive way for them to get more out of what I have put in place. I will read the rest of this first issue this weekend, and it may still be a possibility that I will recommend it to them; however, if I get the same feel from the rest of the magazine as I did from this first article, many of my clients would not appreciate the recommendation.

--
Jeff Miller

There's nothing wrong with recommending a Microsoft solution when it is appropriate. I hope, however, that you are considering the lock-in consequences of recommending a Microsoft solution. Lock-in is a very serious consideration, for at least two reasons. Microsoft typically abandons innovation when it has eliminated competition. So the solution that is right today could stagnate tomorrow and leave the client with unmaintained software. Microsoft also has a habit of finding ways to increase the cost of ownership once a client is locked-in. These considerations are just as important as whether or not a solution has the right features for the right price—today.—Ed.

Games Please

I am a recent subscriber to your on-line magazine, and I am very happy about the prospect of the periodical. I myself am a relative new-comer to the Linux world, so I know relatively little about the workings of Linux. I am currently building a computer that will utilize the 64-bit processor that AMD makes, so I will be installing the SUSE version 9.0 with the 64-bit capability once I get all the parts. I am a teenager, and so I would like to play games. I love the games made for Linux; however, I would like to be able to play more mainstream games. I was wondering if you could do an article that focuses on getting games/applications that work only with Windows to work with Linux. I am hoping that this is possible, because if it is I am going to change all my computers to Linux and thumb my nose at Windows.

--
Will Sternberg■

Q&A with Mango Parfait

Mango Parfait short-circuits a way to emulate ShortKeys, gives not-so-short advice on trying Linux and shorts out an impossible printer problem.

BY MANGO PARFAIT

This month, I mix my own questions with some of yours, since deadlines prevented me from answering questions arriving after last month's column (giggles). Wow, I haven't gotten so much mail since I was a member of the Dæmon-Kill9ers and defeated Oni, the evil uniXverse lord of zombies. Like I said last month, between my busy social life and conquering IT problems and evil dark powers, I cannot answer your mail directly. I choose questions I think should benefit the most people and answer them here. Thank you for the magnificent response so far!

Q As a Windows refugee, most of the MS programs I used are a distant memory; however, there is one I miss and would really like to see either ported to Linux or mimicked. That program is ShortKeys. It is simple. I set up the key shortcuts and it types the word for me. As an example, if I want to type my company name, MobileMaster of Austin, with ShortKeys, all I have to type is mmm, and it happens. I have looked at khotkeys, but not only is it very complex, there seems to be some real problems with the software. I have been in contact with the author of ShortKeys, and he has told me he has no interest in Linux. Is there anything comparable in Linux? Can you help?—*Ken Starks*

A This question was forwarded to me from last month's Letters. It is a good question. For those who don't know ShortKeys, here is how it works. You define and type a key sequence that would be bonkers to type for real. Example: #(^. This nutty key sequence wakes up ShortKeys and tells it to expand the next thing you type. Kenny might type #(^mmm and that would make ShortKeys insert MobileMaster of Austin into the program he is using.

You don't mind if I call you Kenny, do you? After all, we seem to have something in common. I like Steve Austin too, especially when he played the six dollar man (it is not a well known fact that six dollar man was the name of the series pilot, which was filmed long before there was so much inflation in the economy).

It may be daring to write this kind of program for Linux because there would be two technical hurdles to jump. Some programs could make it difficult to capture the "trigger" keystrokes #(^ and the shortcut, and

some programs might make it difficult to paste the expanded MobileMaster of Steve Austin properly because different programs have different paste rules. An expert Linux programmer could detect those special cases, so I am bewildered that there isn't a program already like this for Linux. I am even more baffled as to why I, myself, haven't created it yet. But, sweetie, you should know that a single girl as cute as I am has a life to live, and doesn't need more programs to write.

Here is what you can do. You can trick the OpenOffice.org productivity suite to have this feature. Start up OpenOffice.org Writer, the word processor. Then, click on the Tools menu and select Autocorrect/Autoformat from the menu. The first thing you should see is a replacement table (see Figure 1). The real purpose of this table is to correct common typing mistakes automatically. But you can use it to create shortcuts like yours. Look at Figure 1 to see where I entered mmm in the first field, and MobileMaster of Steve Austin in the second. Do the same and then click on the New button to add this replacement to the list. Now whenever you type mmm and then press the spacebar in an OpenOffice.org application, it will replace mmm with MobileMaster of Steve Austin. You always can add the prefix #(^ if you are the kind of guy who likes to make things more difficult.

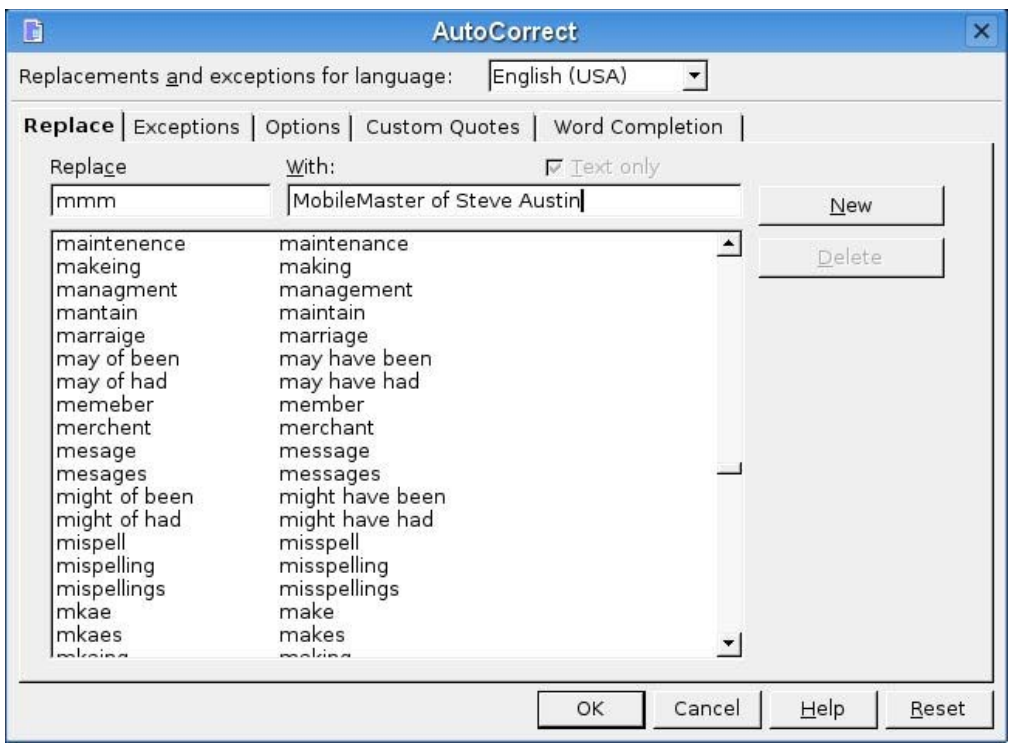


Figure 1. Use OpenOffice.org to work like ShortKeys.

You can do the same thing with any program that has an autocorrect feature like this. KWord, the KDE word processor, has this feature too. Click on Settings in the main menu, then select Configure Autocorrection and a tabbed dialog will appear. This time, you have to choose the tab called Advanced Autocorrection. The rest is pretty much the same as what you did in OpenOffice.org.

Q Are you a natural blond?—*Bakabakashii Shimon*

A Is that a polite thing to ask a humble sensitive genius like myself? But since you asked, the answer is no. My hair is naturally blue. I dyed it blond so I could look more like an American. If I were a natural blond, I wouldn't be able to write this column, because I would be too busy trying to put M&Ms in alphabetical order. I am not that stupid. Not always, anyway. It is to my shame to admit that when I studied flute in high school, I saw the word diminuendo on the music sheet and at first I thought it was the Italian word for inserting a suppository in the dark. No need to say it was embarrassing when I tried to do that during rehearsal.

Q Hi, I am a new—and I do mean new—user to Linux. Just toying around with Phatlinux (free with the *Linux+ Bible*) and I would like to try another kind. Since all Linux appears to be okay, would you have a recommendation as to what other flavor to try first? I have heard that Mandrake is very good, also SUSE.

Any recommendation and/or advice would be helpful. I am very open (no pun intended) to open source, and I look forward to your reply.—*Gary Lange*

A Jeepers. I knew that some people are religious about open source, but I didn't know you could get Phatlinux free if you bought Linux plus a Bible. I visited a Christian book store, and they had Bibles but didn't have Linux at all, so I guess that combo deal is not available in my area.

Anyway, you can't go wrong with SUSE or Mandrake. I chose SUSE over Mandrake because one of my best friends is named Susie. If you knew Susie like I know Susie, you'd like SUSE, too. Also, ever since Novell bought SUSE, SUSE has gained more credibility and market share. It is a good thing to use a Linux that many others use because you can find answers to problems more easily. Of course, lots of people use Mandrake, too, but SUSE is more likely to grow faster because it is owned by Novell.

If you think like me on that, you will think it pays to try the most-popular Linux. Well, it doesn't pay like they send you money or anything. But it is a good thing. The most popular Linux is Red Hat, and the free version of Red Hat is Fedora Core. There are plenty of places you can buy the Fedora Core CD set. Cheeplinux (http://www.cheeplinux.com) is one place, but you should do a Google search to get the deal you like the best. You also can download CD images from one of the mirror sites (see http://fedora.redhat.com) and burn your own Fedora Core CD set if you know how to burn CD images.

One good thing about Fedora Core is that it is very user-friendly and makes a great desktop system. It almost never makes you log in as root (the user that can do the most damage to your system) and edit files in order to make configuration changes. To give you an example, you change your network card settings by selecting a menu option. It will ask you for the root password and then pop up a graphical network configuration tool.

One bad thing about Fedora Core is that it expects you to use the GNOME desktop. GNOME isn't a bad desktop, but it suffers from multiple personality disorder. One minute, the designers assume you have an IQ of 3, so they rip out any features that might be confusing for a person with an IQ of 3. Then there are features in GNOME that you can find and use only if you hold a séance and make contact with the GNOME spirit for instructions. These features usually make you edit the registry. If you are familiar with Windows, you should know that editing a registry is not only the opposite of user-friendly, it is dangerous. In this case, it is the GNOME designer who had the IQ of 3.

If you like GNOME better than KDE, don't bother calling me for a date,

because we are totally incompatible. But if you like KDE over GNOME, you can make KDE your default desktop. You still can't call me for a date since I am trying to kiss and make up with my ex-boyfriend, Otaku, but that's another story.

If you find out that you like Fedora Core, you will soon notice that your choices of software packages is very limited. If you are happy with the software you get, then assume the position "if it isn't broke, don't fix it." If you are unhappy with the selection of software available, you can add software repositories to Fedora that let you choose from a bigger selection.

You can find a lot of Fedora repositories on your own, but be careful not to add a repository that contains software that is incompatible with Fedora Core. Some of the packages may install fine, but you eventually will break your system.

I recommend adding the dag repository because the software doesn't break Fedora Core. Here is how you can add the dag repository. Warning: you have to log in as root and create a file as root, and the root user is the most dangerous user on the system. If you are using GNOME, right-click on an empty space on the desktop and choose Open Terminal from the pop-up menu. Type these commands in the terminal, being careful to type them exactly as you see them here (with the exception of the password instructions):

```
$ su -
Password: <type root password here and press enter>
# cd /etc/yum.repos.d
# echo "[dag]" > dag.repo
# echo "name=Dag RPM Repository for Fedora Core" >> dag.repo
# echo # "baseurl=http://apt.sw.be/fedora/\$releasever/en/\$basearch/dag" >> dag.repo
# echo "enabled=1" >> dag.repo
# echo "gpgcheck=0" >> dag.repo
# exit
$ exit
```

The next time you update your system, it will search the dag repository in addition to any other repositories you have activated. Dag has a lot of packages you won't find in the normal Fedora repositories.

For my last advice, you should try out MEPIS (http://www.mepis.com) and Knoppix (http://www.knoppix.org) too, just because they're so easy to try. You don't have to install them on your hard drive. They run from the CD. They run slower from a CD, but it is a great way to find out if you like them. If you like one of them, you can install it to your hard drive and use it as your Linux distribution.

The only problem with MEPIS is that it sounds like a disease. If you like a girl and talk to her, make sure you say "I use MEPIS" or "I run MEPIS" instead of "I have MEPIS", otherwise she might think you have something contagious and won't go out with you.

Please see the two articles on MEPIS in this issue [pages 24 and 46]. I also wrote more about MEPIS and Knoppix in last month's issue, so please read that if you are interested.

Q I have two printers connected to my Linux server. One is a laser printer I use for printing reports, and the other is an HP color printer I use to print photographs. I use the CUPS printing system. My problem is that sometimes these printers work, and sometimes they don't, and I can't figure out why. It's like they have a mind of their own, and decide one day to work, and not work the next day. What's going on?—*Secret Squirrel*

A Okay. You are using CUPS (Crappy UNIX Printing System). You have both printers connected to the server with USB. I will assume your system is using a combination of hotplug and udev or some similar combination to create a printer device (somewhere in the /dev directory, maybe /dev/usb) only when it detects that a printer is connected, because this usually is the problem.

There are a lot of things that make one Linux system different from another. So not all people will experience this same problem, or if they do, it may have a different cause. Here is the usual cause. Your Linux system detects some connected printers even when they are turned off. Sometimes it cannot detect a printer unless it is plugged in and turned on.

Let's say you connected only the laser printer and turned it on. Come on, let's say it: "I connected only the laser printer and turned it on." Very good. Linux saw the printer and created the first printer device (maybe /dev/usb/lp0). When you turn off your laser printer, the device (such as /dev/usb/lp0) disappears.

You connect the laser printer, turn it on, and configure it with the CUPS Web interface. It sees that your laser printer is on /dev/usb/lp0 and saves that configuration.

Now, let's say you turn off your laser printer, and the /dev/usb/lp0 device disappears. Go ahead. I will assume you said it with me.

Now you connect your color printer and turn it on. Linux sees the color printer and creates the device /dev/usb/lp0 all over again. The CUPS Web interface configures your color printer to use the same device as your laser printer, /dev/usb/lp0. This is not good when you connect and turn on both printers. One of them will be connected as the device /dev/usb/lp1. It is configured to be connected on /dev/usb/lp0 and will not work.

You think this is bad enough? It is worse. Maybe one printer is built so that Linux keeps it connected as /dev/usb/lp1 even after you turn it off. You see, there are many ways to confuse your server and CUPS about your printers. Connect them in different orders. Turn them on in different orders. If you have plenty of time on your hands and have a destructive personality, try all of the combinations just to see how confused your system can get.

There are some tricks you can try to make your system recognize the printers correctly most often. One is to see if Linux creates a device like /dev/usb/lp0 for at least one of your printers when you connect the USB cable while it is still turned off. If so, then configure this printer first. Then connect the second printer and configure it using /dev/usb/lp1. This is not a perfect solution, but it helps.

If Linux does not create a device for either printer when they are turned off and connected, then be sure to turn them on in the same order every time, the same way you turned them on when you configured them in CUPS.

Finally, you can buy a huge uninterruptible power supply (UPS), configure your server and your printers until they work, and never turn anything off ever again.

There are times when CUPS provides you a special URI name instead of the name of a USB port. For example, it might give you the option of configuring your HP printer to use: usb://HP/DeskJet%203820?serial=CN55N5R55555. It seems logical that this would solve the problem, because CUPS could use this information to determine the USB port that your HP printer is using, even if it changed. This doesn't always work, though. After extensive scientific research, I have determined that the chance of it working has something to do with the phase of the moon.

If you are a Linux expert, you can teach your system to recognize a specific printer and assign it to a specific device when you plug it in. But if you are a Linux expert, you don't need my help.

I want to be fair. This problem doesn't exist for every distribution of Linux. It doesn't exist for every configuration of Linux and/or CUPS. But for those who have this problem, I hope this answer helped you, whoever you are.■

I am a sweet, humble, delicate and very cute genius who is at your service to answer your Linux questions if I so choose. Send your questions to mango@tuxmagazine.com.

Tux Paint for Kids

Tux Paint provides mess-free creativity for your little Linux users.

BY WILLIAM KENDRICK AND MELISSA HARDENBROOK

Linux is increasingly capable of meeting all your home computing needs, even the needs of your household's youngest members. As the open-source software movement grows (and the open-source software developers' families grow), the number of kid-oriented programs increases. One of these is Tux Paint, a drawing program with a wealth of features (and a dash of education) to entice and engage users not ready for the powerful but complex graphics program, The GIMP.

Tux Paint was designed to be self-contained, so your little ones can draw for hours without making a mess of your files or your kitchen table (your mouse and keyboard are another story). Tux the Penguin guides children in your choice of more than 40 languages, providing gentle prompts, positive feedback and educational tidbits. Sound effects, stamps and a variety of "magic" effects elevate an otherwise solid paint program into a kid magnet. And, like any good Linux program, it's highly configurable.

INSTALLATION

Tux Paint has been packaged for many popular Linux distributions and is also available for Mac OS X and Windows. Users of the Debian, Fedora, Red Hat or Slackware Linux distributions can download Tux Paint and use their favorite package manager to install it. Being an open-source project, the source code is also available for the more ambitious user, of course. (See http://www.newbreedsoftware.com/tuxpaint/download for details.)

Tux Paint requires a number of support libraries: the Simple DirectMedia Layer library (libSDL); some SDL-based support libraries (SDL_image, SDL_ttf and SDL_mixer); FreeType2; gettext; and libPNG. All of these should be readily available for, if not already installed on, your Linux system.

Once installed, you should be able to access Tux Paint from your Start menu's Graphics application menu. For those who are command-line savvy, simply type `tuxpaint` at a command prompt to launch the program.

CONFIGURATION

Configuration of Tux Paint is isolated from the program itself to keep curious little fingers from monkeying with your carefully selected settings. The Tux Paint Config tool requires the Fast/Light Toolkit (FLTK), which may or may not be a separate package, depending on your distribution. The configuration tool is a point-and-click interface that allows you to choose the language Tux Paint uses, set its screen size and enable or disable such options as sound, printing, full-screen mode and so on. If the configuration tool Tuxpaint-Config doesn't show up on your KDE/GNOME/whatever menu, start it from the command line (or press Alt-F2 to run a command) by typing `tuxpaint-config`.

The number of settings may seem overwhelming, but each was added (often at the request of parents and teachers) to meet the needs of a variety of users. By changing the options, Tux Paint can be made appropriate for very young users, users with learning disabilities and students in the classroom. Tux Paint Config was designed to be as easy on parents as Tux Paint is on kids, so each setting option is explained and should be fairly intuitive.

Once you've set the options you want, simply click Apply to save the changes, and restart Tux Paint. The settings apply only to the current user, so if you give each child a separate login, your fourth grader need not be limited by the same restrictions as your pre-schooler.

Like most programs you'll find on Linux, you also can specify settings when running Tux Paint from the command line. For example, typing `tuxpaint --nosound --fullscreen` runs Tux Paint with sound disabled and in full-screen mode.

It is also possible to create a system-wide configuration, but this requires root access and the skills to edit a plain-text configuration file, and is therefore somewhat beyond the scope of this article. See Tux Paint's documentation for more details.

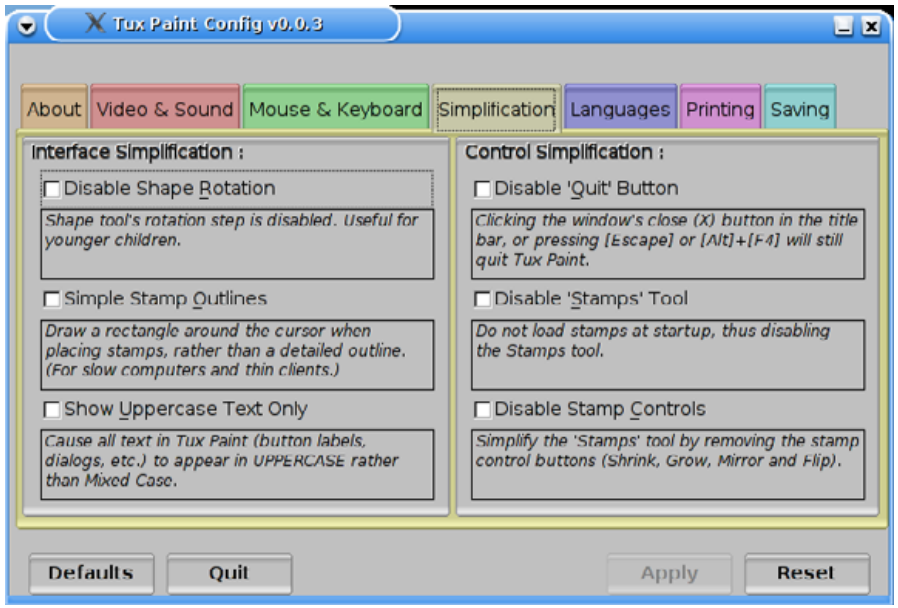


Figure 1. Tux Paint Conifg Dialog

Figure 2. Tux Paint's Shape Tool

ADVANCED FEATURES

Anyone who ever has used a paint program will feel at home with Tux Paint's fundamentals. You choose a colour and one of several tools (Line tool, Text tool, Paint tool and so forth), a brush size and shape and a colour. You can erase mistakes with the Eraser tool, and last-minute design changes are easy with the Undo and Redo buttons, or you can scrap the project entirely with the New button. You can print the finished masterpieces with a single click—unless you disable printing, of course.

There are also a number of less basic features, a few of which may not be readily obvious, even to parents.

SHAPE TOOL

For the stickler who insists on perfect polygons, the Shape tool provides outlines and filled shapes like rectangles, triangles, ellipses and circles (okay, the circles aren't perfect). As with other tools, simply choose the shape and the colour and click. Follow the directions Tux gives to resize and rotate the shape (shape rotation is one of those features that you may want to disable for younger users).

MAGIC TOOL

When you choose this tool from the menu on the left, it opens a Magic menu on the right with a variety of special effects. Some, like Blur, Chalk and Blocks, are artistic effects. Others, like Fill, Mirror and Flip, work exactly like similar tools in any other paint program—fill an area with colour, reverse the image left to right and flip the image upside-down.

Each effect is labeled clearly with the effect name and an illustrative icon. Tux the Penguin, as usual, also provides useful instructions.

Figure 3. Tux Paint's Magic Tool

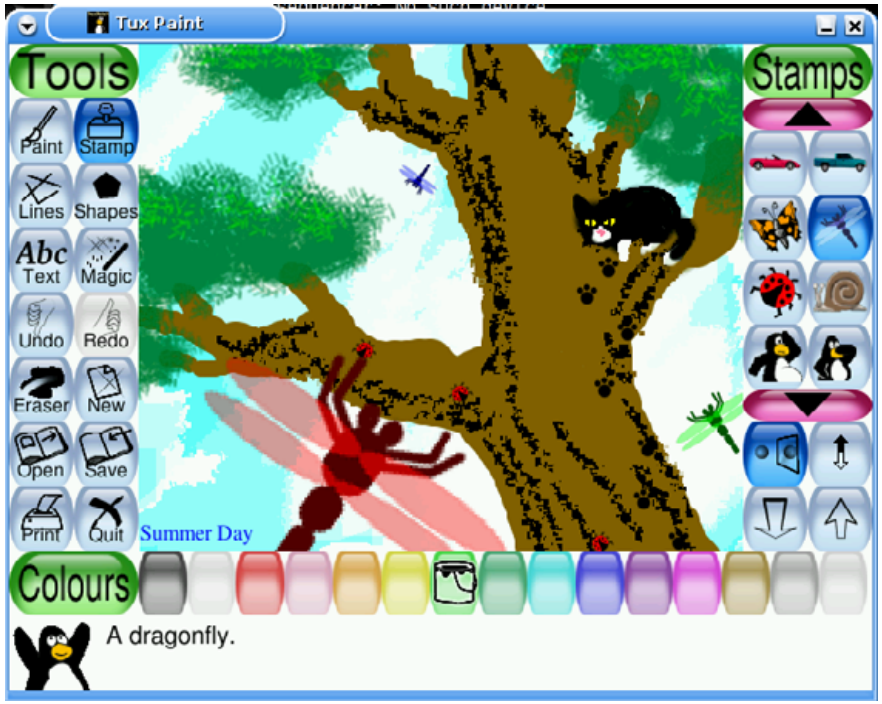


Figure 4. Tux Paint's Stamp Tool

STAMP TOOL

One of Tux Paint's best-loved features is its Stamp tool. Choosing this tool brings up the Stamps menu on the right, and a choice of more than 200 images to paste into the drawing, just like a sticker. However, Tux Paint's stamps allow greater freedom than real stickers. You can reverse stamps, flip them upside-down and make them smaller or larger. If the colour palette at the bottom of the screen becomes active, you can change the colour of the stamp too. For younger users, you can disable the resizing and the reversal/flipping functions with Tux Paint Config.

Because Tux Paint stamps rely on common formats, it is possible to edit existing stamps. Stamps are stored in the popular Portable Network Graphic (PNG) format, which can be loaded and edited in applications like The GIMP. Stamp sound effects, stored in WAV format, also can be edited. The description of the stamp and various settings (such as whether you can change the stamp's colour) are stored in plain-text files.

It is also possible to add entirely new stamps, though the technical details of this are beyond the scope of this article. The more ambitious user will find the process is covered extensively in Tux Paint's documentation.

OPENING AND SAVING FILES

Because the typical three-year-old has neither the interest in your filesystem nor the intellectual power to comprehend it, the process of saving, opening and deleting files has been simplified.

Unlike most other computer programs, there is no Save As stage, that is, Tux Paint does not ask what the file should be called or in which directory it should be saved. When you click the Save button, Tux Paint automatically

Figure 5. Open Existing Images with Tux Paint

assigns a filename to the picture and saves it in PNG format.

You can click the Open button to bring up a mini-graphical file browser within the program. All previously saved pictures are displayed as thumbnails (strictly sans filename). You can delete or load any file from this browser.

Like any other file, you can access a Tux Paint picture from other programs, so you can e-mail the latest masterpiece to grandma or splice it into a text document and send it to her the old-fashioned way. By default, Tux Paint saves to the .tuxpaint/saved folder in the user's home directory. If it is prohibitively difficult to access hidden files, the default location can be changed using Tux Paint Config.

DRAWING ON PHOTOS

It is possible to import pictures into Tux Paint, as well. However, because Tux Paint uses a fixed canvas size and stores its pictures in PNG format, images first must be converted to PNG format, scaled and cropped, and put where Tux Paint can find them. Fortunately, there's a tool that comes with Tux Paint to do this for you.

The command-line tool, tuxpaint-import, takes a list of images (which can be in almost any format) and makes copies of them inside Tux Paint, in the appropriate size and shape.

You even can do this from the file browser in Konqueror by selecting the file(s) you want to import into Tux Paint, right-clicking on it and selecting Open With→Other... in the menu that pops up. Simply type `tuxpaint-import` and click OK.

The next time you click the Open button in Tux Paint, the pictures should be available. And remember, these are copies, so your originals are safe!

THE FUTURE OF TUX PAINT AND YOU

Tux Paint's development is ongoing, so it keeps getting better and better. New features already have been created for the next release, including a number of new Magic tools, faster startup time, support for larger screen sizes, an improved colour palette and translations to six additional languages.

Tux Paint fans are encouraged to pitch in with suggestions, bug reports, code, translations, new stamps and so forth, on Tux Paint's two mailing lists—one for Tux Paint developers (technical and code-related talk) and one for parents and teachers. (See http://www.newbreedsoftware.com/tuxpaint/lists for details and to subscribe.)■

William Kendrick is lead developer of Tux Paint and works as a cell phone video game programmer in Palo Alto, California.

Melissa Hardenbrook is a night owl, a prodigious doodler, a sociolinguist living in a computational linguist's world and Mrs William Kendrick, among other things.

iPod and Linux

Here is how to get the iPod, one of the hottest gadgets around, working with Linux.

BY JESSICA HALL

The hottest personal device of the season is unarguably Apple's iPod in its various flavors, especially now that it supports platforms other than the Macintosh. The good news for us is that with a little work you can have your iPod working under Linux. Your iPod acts like a removable hard disk drive under Linux, and various programs exist that support reading and writing music to and from the iTunes database on your iPod. amaroK (http://amarok.kde.org) is a KDE media player that has basic support in its latest version for copying music back and forth [see Dee-Ann Leblanc's "The Amazing amaroK: Let the Music Play" in the March 2005 issue of *TUX*]. Support for rating of music, syncing and playlists is scheduled for the upcoming 1.3 release.

You'll need to have support for the filesystem your iPod uses in order to get your iPod working with Linux. The most popular Linux distributions have support for both fat32 (for Windows) and hfsplus (for Mac). The iPod behaves exactly the same regardless of whether you use FireWire or USB to connect it to your computer.

You will need to do a small amount of work at the command line to set things up the first time. If you're not comfortable with terminal windows and command lines, find a geek (they're everywhere) to do this part for you. Remember, always create backups of system configuration files you may edit, so that you can restore them in case you make a mistake.

If you plug in your iPod and you have all the correct support for USB storage devices in your kernel, Linux should detect your iPod automatically. Chances are Linux will have assigned the device the name /dev/sda, which means "the first USB storage device on the system". To check this, you need to go to the console. Open up your favorite terminal application and type `dmesg`.

Have a look at the last five lines or so on your screen. You should see something that looks a bit like this:

```
Attached scsi removable disk sda at scsi0, channel 0, id 0, lun 0
Attached scsi generic sg0 at scsi0, channel 0, id 0, lun 0, type 0
usb-storage: device scan complete
usb 1-1: USB disconnect, address 4
```

The line reading `Attached scsi removable disk sda at scsi0` indicates that your iPod is device /dev/sda. If it reads `sdb` instead, your iPod would be the device /dev/sdb.

Once you know what device the iPod uses, you can make an entry in your system's filesystem table for your iPod. The fstab file contains a listing of both the local and the network filesystems that are regularly connected to your computer. You need to be the root user to edit this file. There are a few ways of doing this, either with your favorite console-based editor using `su` (you will need to know the root password) or `sudo`. You also can use a graphical editor and kdesu. Make a backup copy of the /etc/fstab file, and then open up the file /etc/fstab in your favorite editor.

The line you need to add differs depending on whether you have a Windows- or a Mac-formatted iPod.

For a Windows (fat32) iPod, add:

```
/dev/sda2  /mnt/ipod   vfat   noauto,user   0 0
```

For a Mac (hfsplus) iPod, add:

```
/dev/sda   /mnt/ipod   hfsplus  noauto,user   0 0
```

These lines give your system the information it needs to make your iPod accessible to normal users. The first column is for the device node in the system that represents the physical device of your iPod. The second column specifies where it should be accessed by the user—in this case, the directory /mnt/ipod. The third column details which filesystem type this device is. The fourth column lets you specify options, in this case those that let unprivileged users mount and write to the devices. The last two columns (both zeros) have to do with checking the filesystem.

Save the file, and then create the directory to mount your iPod to as the root user using the command:

```
mkdir /mnt/ipod
```

Your iPod has to be mounted under /mnt/ipod for amaroK to pick it up. Now launch amaroK, and navigate to the Device browser. Here you will see your iPod's music collection, and you can drag music directly from your playlist window onto the window showing your iPod's music library to queue it for transfer. When you

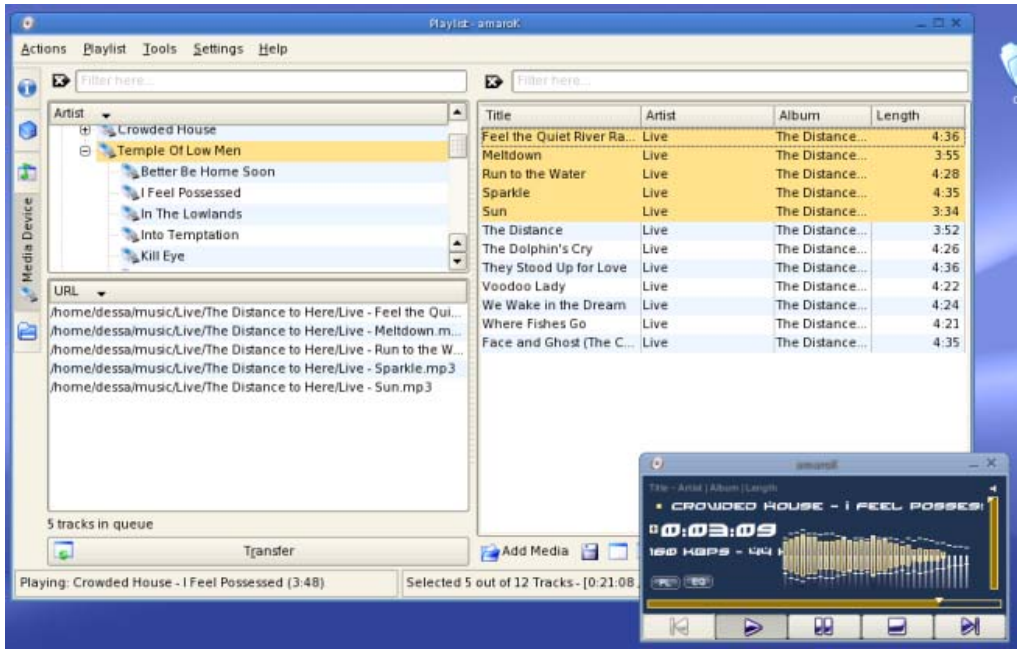


Figure 1. amaroK, with Media Queued for Transfer

have finished queuing tracks, click the Transfer button to begin the transfer. To copy music from your iPod onto your computer, simply drag it from the window showing your iPod's music library onto your desktop, or any Konqueror window showing a directory you have the permissions to write files to.

Right-click on the desktop and select Create New→Link to Device→Hard Disc Device to make a shortcut for your KDE desktop that lets you mount and unmount your iPod easily. Give your device a name, like iPod. On the device tab, select the entry that you have just made in your fstab in the drop-down box. Click OK, and the icon will appear on your desktop. You now should be able to mount your iPod when you plug it in by clicking on this icon. Always remember to unmount your iPod before unplugging it from the computer! This is an essential step. If you do something like delete a file from your iPod, and then remove it without unmounting it, it's likely that the file is still on the iPod. So to make sure all the changes you made take effect, right-click on the icon for the device and select unmount from the menu. If you're a command-line person, you can use the `umount /mnt/ipod` command.

There are myriad other applications for more advanced users that can help you get the most from your iPod. Some of my

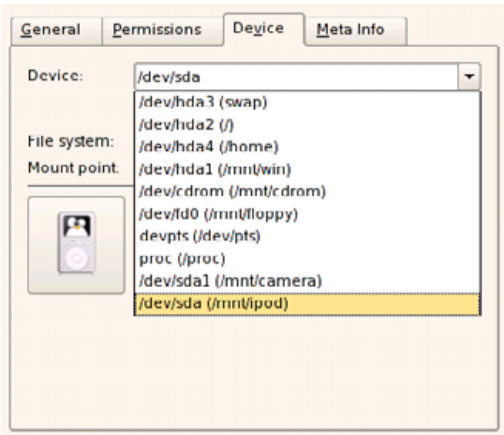


Figure 2. The Device Tab of the Link to Device Dialog

favourites are:

- gtkpod (http://gtkpod.sourceforge.net): gtkpod allows for syncing of PIM data and playlists with your iPod, with many advanced features. Unfortunately, these features have come at the price of a less-than-intuitive interface.
- Kpod ioslave (http://kpod.sourceforge.net/ipodslave): a KDE ioslave to enable KDE KIO-aware applications, such as amaroK and Konqueror, to access the music and playlists stored on your iPod.
- SyncPOD (http://armin.emx.at/ipod): SyncPOD is a Perl script that syncs a local directory with your iPod.

For more information on the versatility of iPods under Linux, try a Google search for "iPod Linux".■

Jes Hall is a UNIX systems consultant and KDE developer from New Zealand. She's passionate about helping open-source software bring life-changing information and tools to those who would otherwise not have them.

How to Install MEPIS 3.3 Simply

A step-by-step, click-by-click guide to installing MEPIS Linux to your hard drive.

BY ROY BRANDER

We at *TUX* never insult our readers with name-calling like "for Dummies" or "for the Complete Idiot". It's not stupid to want exact instructions the first time you tackle something! So, we've knocked the most basic MEPIS install down to 14 steps, ten of which are instructions to click on the Next→ button or the OK button.

We'll assume you already have SimplyMEPIS 3.3 CD by download or mail-order, and that your PC will boot from a CD. Not every PC boots from a CD in the same way.

Booting a Live CD often just works on machines made in the last five or six years—simply put the Live CD in the drive and turn the machine on. If it ignores the Live CD and boots from the hard drive as usual, you can make it do so.

One way is to change a setting in the machine's BIOS at the startup. We have examples from three of the most popular products:

- Award: http://www.cuug.ab.ca/branderr/mepis/bios_award.html
- Phoenix: http://www.cuug.ab.ca/branderr/mepis/bios_phoenix.html
- The new Phoenix-Award merger: http://www.cuug.ab.ca/branderr/mepis/bios_both.html

If that doesn't work, try pressing the Esc key right when your computer screen lists the hard drives available during boot-up. Some computers will pop up a menu, allowing you to boot from the CD or even from other hard drives.

Another possibility, common on IBM desktops in recent years, is to have a setting available for startup device without having to go into BIOS menus.

Lastly, if all else fails, your machine may need to boot from a humble floppy. There is another wonderful free software product out there called Smart Boot Manager. You can find it at the URL http://btmgr.sourceforge.net/about.html. The techies and existing Linux users can read about it on that page, but for the Windows users that are a little uncertain about booting anything but Windows, here's the 411 on it:

1. Download the Windows EXE file from http://btmgr.sourceforge.net/3.7/sbminst.exe to your C:\ directory.
2. Grit your teeth and open a DOS command-line window.
3. Put a blank floppy in your A: drive.
4. Type: `smbinst -d 0` (that last character is a zero).
5. It will rattle your floppy drive for a second and ask "Are you sure you want to install Smart Boot Manager to drive 0? (y/n)"—press y and Enter.
6. About two seconds later, you'll have your boot floppy!

Booting with this floppy in the drive quickly pops up another DOS-like character screen that lets you press the down arrow to move through menu choices like Quit to BIOS, Power Off, Floppy, Hard Drive and, yes, CD-ROM. Down-arrow to that choice and press Enter, with your MEPIS CD in the CD-ROM drive. Away you should go!

PREPARATION

Put the SimplyMEPIS 3.3 Boot CD in your CD drive and power up using one of the methods above. While you are waiting for the login screen, you might want to find a book, magazine or something good on TV. You'll be needing something to pass the time in a few minutes!

Figure 1. MEPIS Login Prompt

When the login screen appears (see Figure 1), click once on the ROOT user name, and type `root` (small letters) in as the password when the cursor jumps down to that field. Then press Enter.

STEP 1

Moments later, the MEPIS desktop will appear with a red background to warn you that you're running as root. On the middle left of the screen, there will be a hammer-and-wrench icon that says "Install Me" (see Figure 2). Click it once.

STEP 2

This starts up a program called MEPIS OS Control Center. It includes several utilities. The first one is Install MEPIS on the Hard Drive (see Figure 2). Click that once.

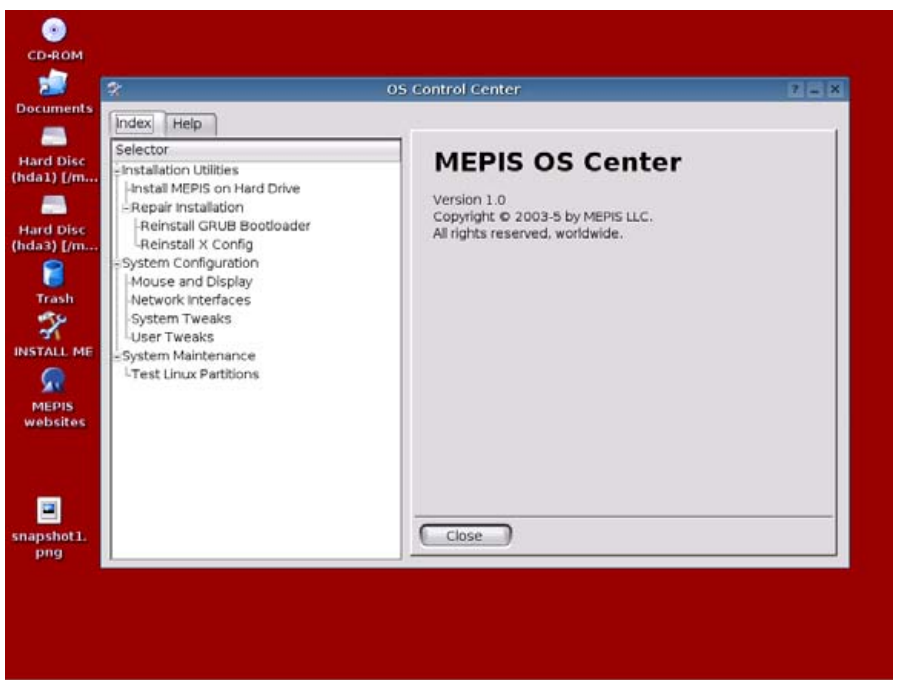


Figure 2. Initial Installation Screen

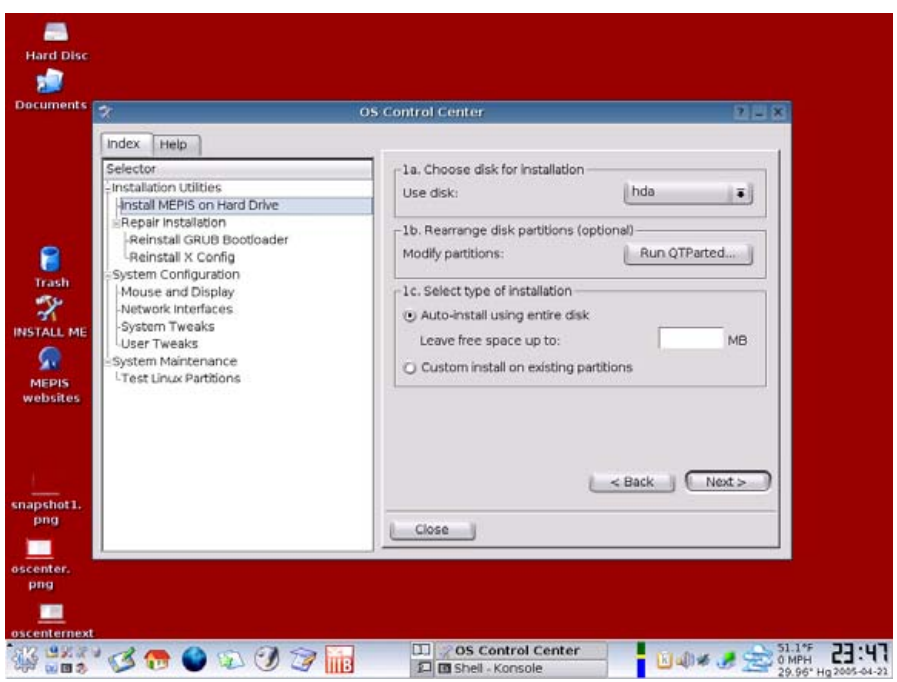


Figure 3. Partitioning and Formatting Your Hard Drive

STEP 3

Clicking that pops up only a copyright notice and makes live the Next→ button at the lower right (see Figure 2). Single-click that.

STEP 4

Now you have some options, but only if the words "Disk Partitioning" do not fill you with fear. The default disk setup is to use your *whole* hard drive, wiping out your existing OS and data. If that's okay, just make sure you pick the option Auto-Install Using Entire Disk, then single-click Next→ again (see Figure 3).

If and only if you know what you are doing, you can first click on QPartEd to use the world's easiest disk partitioning program.

STEP 5

Promptly, you'll see a confirmation dialog box come up. Last chance not to wipe your hard drive. If that's a yes...well, click on YES (see Figure 3).

STEP 6

Read your magazine. Depending on the speed of your processor, the speed of your CD drive and the phase of the moon, it may take more than half an hour. You can watch the progress bar, but reading is better for you (see Figure 4).

STEP 7

Finally, it will show a dialog about Select Boot Method and something about Installing GRUB (see Figure 5). You don't want to know. Just hit Next→.

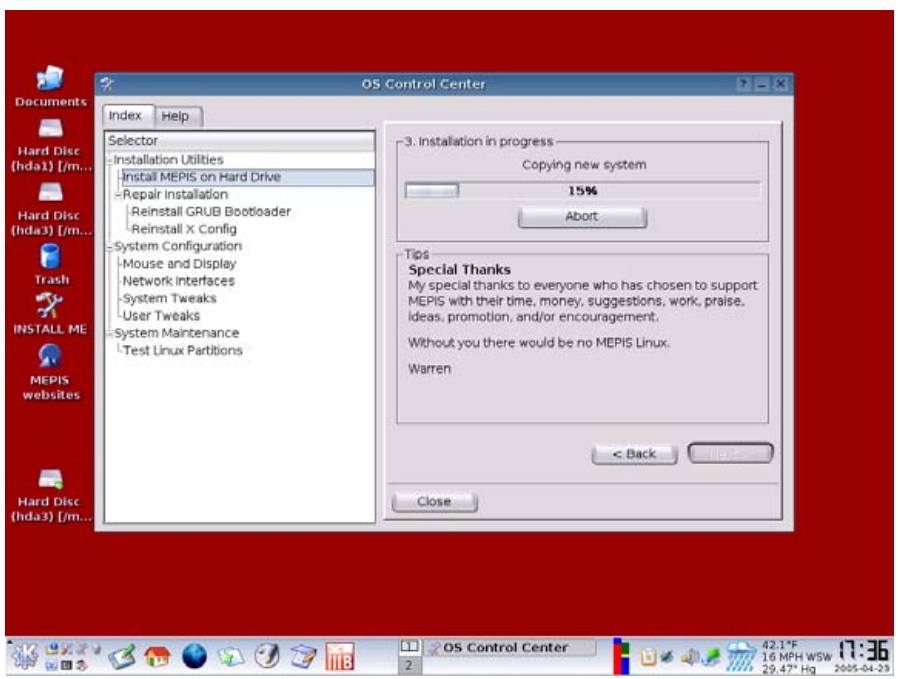


Figure 4. MEPIS loads the software onto the hard drive.

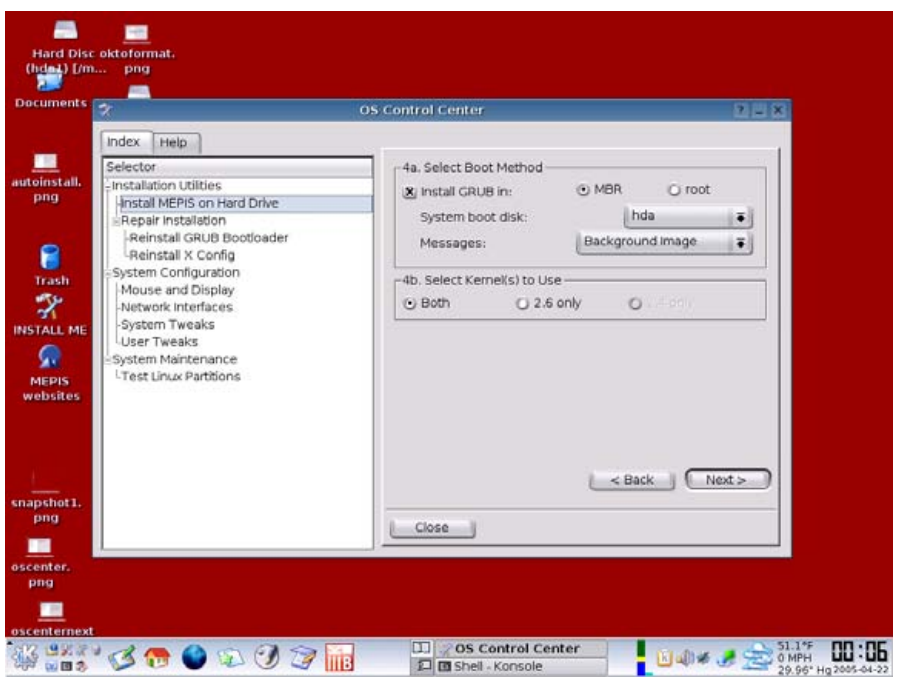


Figure 5. Installing the Boot Loader

STEP 8
Next, click Yes on the confirm dialog (see Figure 5). Why they worry about overwriting the boot-up part of your disk I don't know—you've already overwritten the rest of it.

STEP 9
After a few minutes, it had better pop up a dialog that says "GRUB Installed OK" (see Figure 5). If so, click OK to keep going. (If not, you'll have to start again and this time, use QPartEd before formatting to delete *all* the partitions on your disk first—that generally does the trick.)

STEP 10
Next, create at least one user account so you don't normally run as root. This is very important. The root user exists to do system administration, and that means the root user literally can delete everything on your entire system. A normal user account can damage only his or her own files.

See Figure 6 for the following operations: backspace over the suggested user name, then put in whatever user name you want (I used tuxmagazine). Choose and enter the same password twice. Now, choose and enter the root password twice. Depending on how secure you want your machine to be, you should choose passwords that are hard to guess. Adding numbers and symbols to the password helps.

STEP 11
Then click Next→ (see Figure 6).

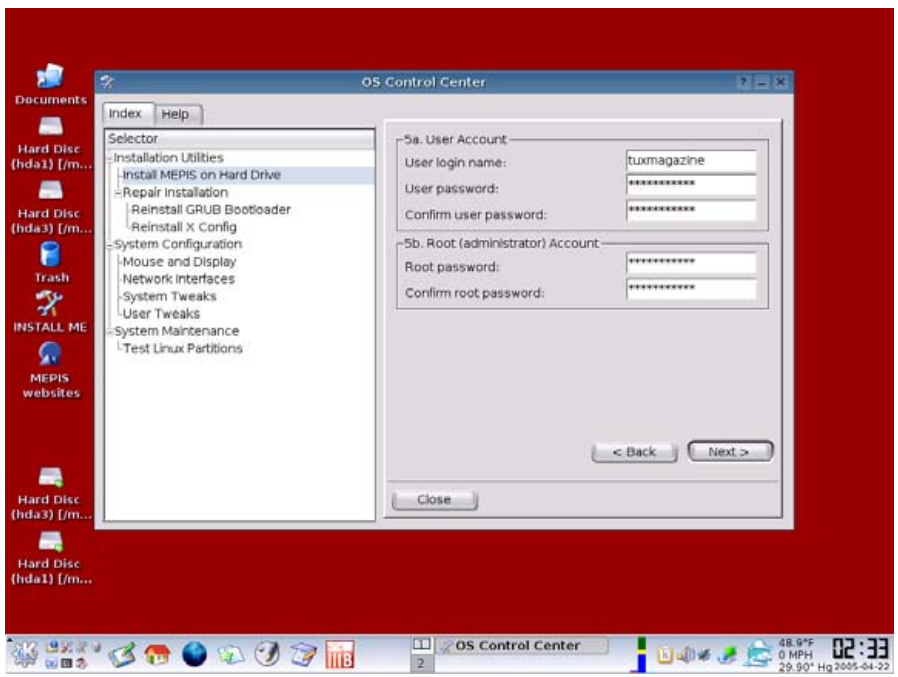


Figure 6. Create a normal user and set the passwords for user and root.

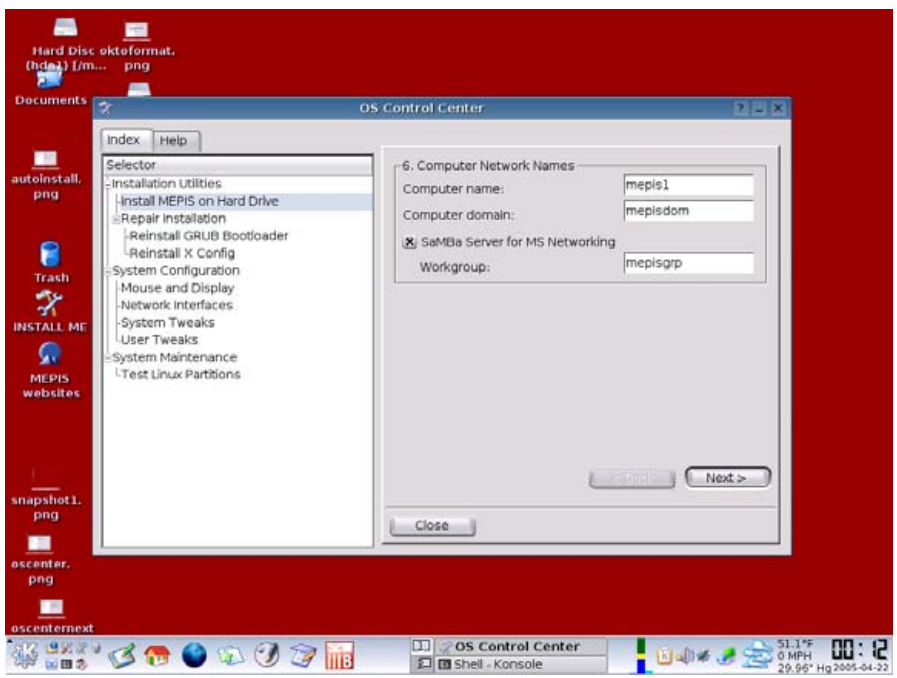


Figure 7. Setting the Network and Samba Workgroup Names

STEP 12

See Figure 7, which involves setting up the network. You should only mess with the Computer Network Names if you understand a smidge of Windows Networks and have Windows computers that are sharing out disks or printers. If not, then leave in the defaults and click only Next→.

If you don't plan to connect this computer to any Windows machines, click on the Samba Server check box to UN-check it (see Figure 7).

STEP 13

On the 7a. Services to Start dialog, you're fine to click Next→ again. But if you have cable or ADSL and never use a modem, you might as well un-check the PPP Service. Un-check the firewall service only if you know a lot about security and are certain you don't need it!

STEP 14

When you see the "do you want to reboot now?" dialog come up (see Figure 9), you're done. Simply click on YES, and start pressing the front button on your CD drive so that it pops out the CD once the system finishes its shutdown and starts the reboot. You of course want to see if it boots from the hard drive. Time to pop open a drink!■

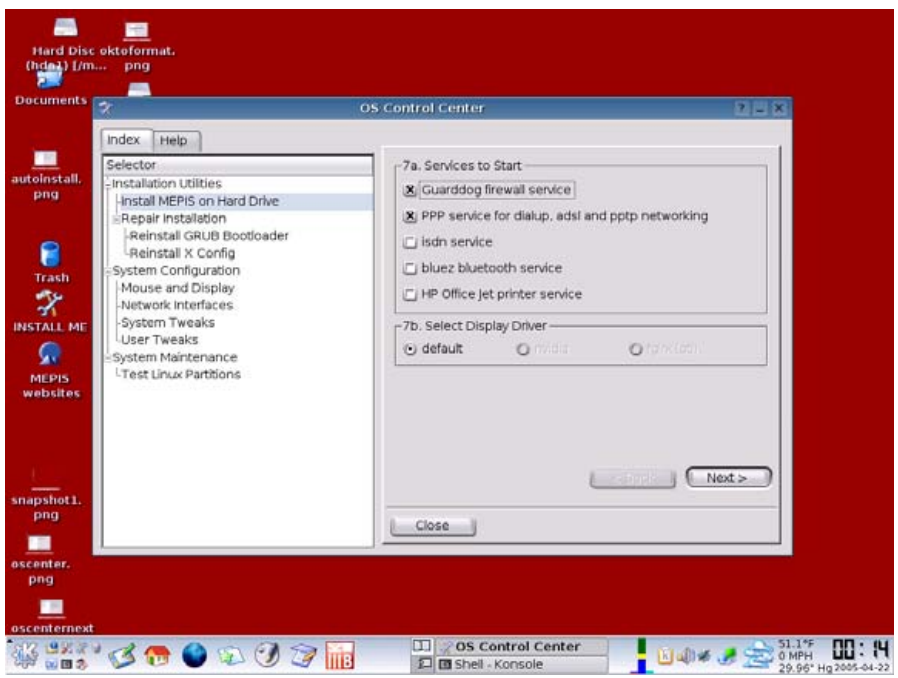


Figure 8. Services to Start

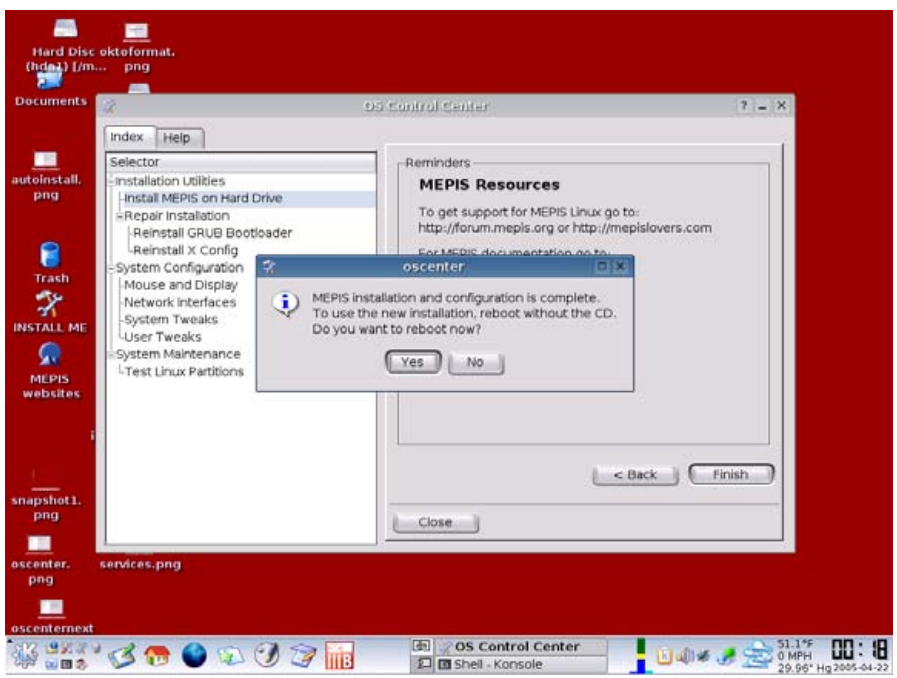


Figure 9. Reboot to Start Up MEPIS

FIRST STEPS IN MEPIS

With MEPIS installed, your boot from hard drive should show you a login screen that now gives you your own chosen account name as well as root, rather than the demo account of the Live CD. Having logged in to your own account, your MEPIS desktop is a basic KDE 3.3 desktop (or 3.4 by the time you read this) with a number of good programs pre-installed.

You can browse through these on your own by starting from the KDE Start menu, which exactly like the Windows menus of the last ten years, begins with a click on the lower-leftmost point on the screen, the KDE K on top of a sprocket icon.

There's one chore to do that MEPIS can't do for you because of certain legal uncertainties. Authorities around the world have given up attempting to halt the spread of Jon Johansen's libdvdcss2 package that allows Linux users to view their own DVDs. And we assume you feel little guilt over the "crime" of viewing your own DVDs. But because of the controversy, his libdvdcss2 package is not pre-installed. They have made it very, very easy to install, however.

Clicking on the KDE Start menu, pick the System submenu and find Synaptic Package Manager on that. It will first pop up a dialog to ask you the root password, which is needed for software installs.

Then the main Synaptic program comes up, showing the start of the enormous list (tens of thousands) of free program packages available to you. At the top right, a Search button is your next click. That pops up a little dialog with the cursor in the search term field. Simply type, exactly:

```
libdvdcss2
```

and then press Enter.

It won't take a moment for the package to be the only one listed—or possibly a few versions; there is usually a new one in development. But it will be the base standard package already checked for installation. If you've found it, and it's been checked automatically, the Apply button will be highlighted, and you need only to click that to start the install.

With some packages, directions will come up, perhaps ask you questions about preferences—but not with this small, simple program. Your only instruction, moments later, will be to close the black terminal window that has popped up to show you the automatic install commands running.

To see if it worked, pop a commercial DVD in your DVD-ROM drive, and then use the K Start menu to find the Multimedia menu and pick Xine off that. Xine comes up as an empty window with no controls—you have to press the G key on your keyboard to pop up the control panel. Along the bottom are several buttons showing things it can play, like CD, VCD and DVD. Click the DVD button to play your DVD. While it's playing, you can leave it in the window, or press your F key to make it full screen—then use the G key to pop up or down the control panel as needed. [See Lew Pitcher's "Movies and More—Life with Xine" in the May 2005 issue of *TUX* for more on using Xine.]

Depending on your system, you may have other setup jobs to do. Note that there are two control centre programs for setting up the system. The one called OS Control Centre on the System menu is only for hardware-level settings like the network card and video card settings. You'll be asked for the root password again to run it. The one simply called Control Centre on the same menu is the user-level control program for the KDE desktop and services. This includes a wizard for setting up your printer, from Printers on the Peripherals menu, and managing the user accounts on the machine from Password and User Account under the Security and Privacy menu. The Peripherals menu also has a wizard to set up your digital camera—but not your scanner. For your scanner, you need to start Kooka from the Graphics submenu of the K menu, then pick Select Scan Device from its Settings menu.

After that, enjoying MEPIS is a fun game of "what's this menu button do?" Try out all the dozens of programs it comes with and learn your way around.

Roy Brander is a waterworks engineer and sometime IT manager. He chairs the Calgary Unix Users Group, which provides meetings and an Internet forum for the UNIX community in Calgary, Canada. He has lectured the US defense community on Risk Management and the *Titanic* disaster; materials are now available at his Web site: http://www.cuug.ab.ca/branderr.

K3b, and Feel the Burn

Many tools for creating (burning) writable CDs are unintuitive at best, ignorant and difficult to configure at worst. Fear not. K3b is here to come to the rescue. Ryan Paul explains the basics about how you can easily configure and use K3b for your CD-burning pleasure.

BY RYAN PAUL

These days I struggle to find space for all the information I accumulate. If you are anything like me, your computer is a veritable treasure chest filled with old projects, digital camera photos and other assorted eccentricities. When you tire of mediating territorial disputes between office documents and MP3s, it is time to call upon K3b—paragon of effortless burning. With K3b at your command, burning a CD is as easy as burning dinner.

K3b leverages the power of numerous command-line burning systems, integrating the best of them with its flexible and intuitive user interface. The simplicity of K3b enables users to take advantage of its broad array of versatile features with relative ease. With its powerful plugin system, effective media encoding features and support for a wide variety of CD and DVD formats and operations, K3b is the uncontested champion of Linux disc burning. In this article we explore its features and capabilities as I demonstrate its use.

CONFIGURATION

Linux configuration may seem more like an art than a science to those with little exposure to the craft. Typically, setting up a system to burn CDs requires one to invoke the obfuscated arcanum of paths, programs, permissions and other assorted obscurata. Fear not; K3b is the solution to all your burning desires. Not only is it free (and it comes with KDE), but you need not be a sage or sorcerer to employ it. K3b is equipped with a number of impressive features that automate a majority of the necessary configuration tasks. When you start K3b, it attempts to identify your hardware and locate the utilities it needs. K3b has been able to autoconfigure itself correctly on almost every system I ever have tried it on. If it does run into problems, K3b presents you with a simple dialog that explains each problem and offers solutions.

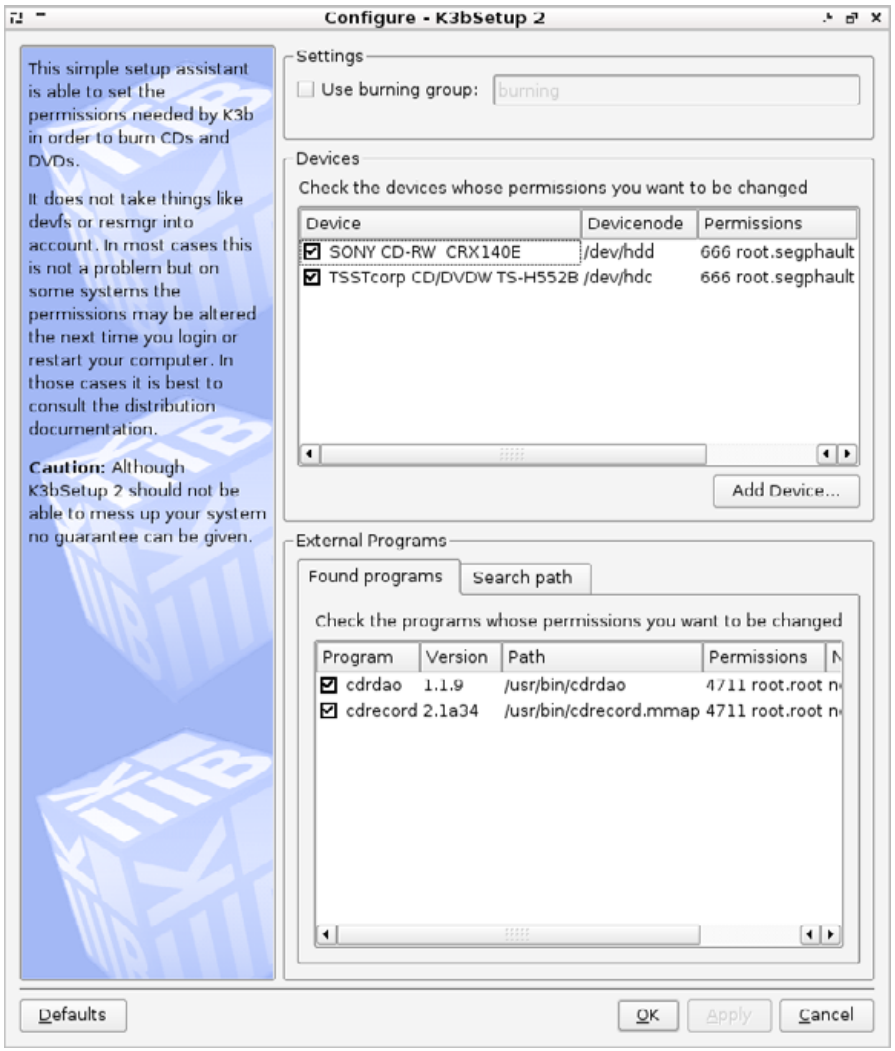


Figure 1. K3bSetup

K3b comes with a utility called K3bSetup (Figure 1) that can help resolve many common configuration problems. If K3b claims that it cannot find a

utility that you know you have installed (Figure 2), you might want to try using K3bSetup to ensure that the directory containing the utility in question appears in the program search path list (Figure 3). K3bSetup also helps you automatically configure the permissions of the burning devices and required utilities. By default, K3bSetup provides full access to the selected devices to the root user and the user that started the setup process. If multiple users on your system want to be able to use K3b, you should use the burning group option. If you use a burning group, you will be able to provide a user with full access to the selected devices simply by adding that user to the specified group.

If all the drives are detected correctly, K3b may ask you to specify the write speed of your devices (Figure 4). The read/write speeds usually appear on the front of the drive bay door, but you may want to refer to the documentation that came with your drive. You can check for configuration problems by selecting System Check from the Help menu, and you can start the K3bSetup utility at any time by selecting K3b Setup from the Settings menu or by executing `k3bsetup` from the command line.

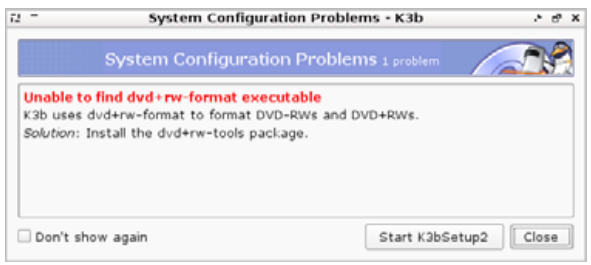


Figure 2. K3b Problem Dialog

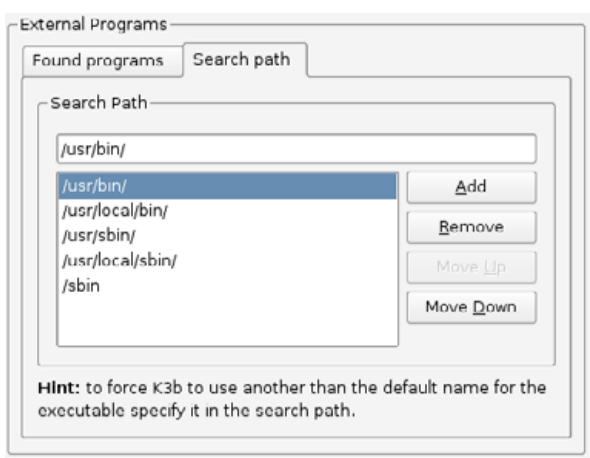


Figure 3. K3b Search Path

Figure 4. Write Speed Verification

THE OPTIONS DIALOG

The K3b Options dialog (Figure 5) allows you to fine-tune your configuration, customize the interface and retrieve information about detected optical drives. You can open the Options dialog by selecting Configure K3b from the Settings menu.

The Programs option module provides you with a great deal of useful information. It lists the version number, associated features and full path of every single tool utilized by K3b. The User Parameters tab of the Programs option module

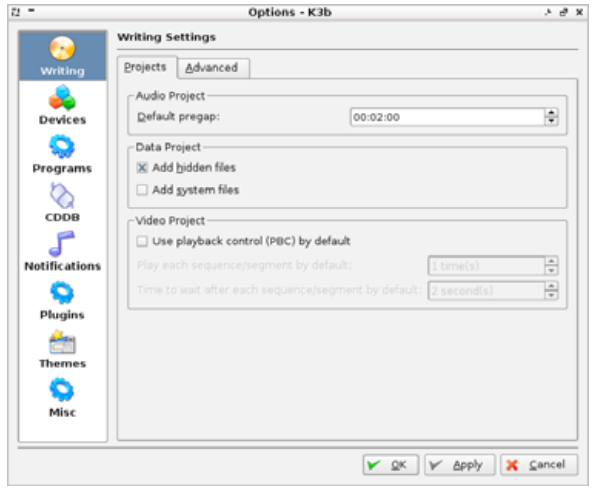


Figure 5. K3b Options Dialog

allows the user to specify custom arguments for the individual utilities. The Programs option module also provides the user with an interface for customizing the application search path. The Plugins option module allows the user to configure the media plugins available to K3b.

THE INTERFACE

The K3b interface (Figure 6) contains the file management pane and the project workspace pane. The file management pane is vertically split. The left side of the file management pane contains a directory tree that allows you to navigate through your filesystem directory structure easily. The right side of the file management pane contains a view of the contents in the currently selected directory. Beneath the directory listing there is a small toolbar with navigational buttons that behave much like the navigation toolbar buttons in Konqueror.

The bottom pane is the project workspace.

Figure 6. K3b Interface

When there are no active projects, K3b displays action buttons in the project workspace. These action buttons are convenient shortcuts that you can use to start projects or utilize specific K3b features. You can add action buttons to the workspace field by right-clicking within the field and selecting the action for which you would like to add a button. To remove an action button, right-click it and select Remove Button from the context menu.

You can start a new project by selecting New Project from the File menu and then selecting the specific type of project from the New Project submenu. When you start or open a project, it appears as a tab within the project workspace. When you have multiple projects open simultaneously, you can switch to a project by selecting its tab. To close a project, right-click its tab, and select Close from the context menu.

BURNING A DATA CD

Data CDs store files and folders. You can treat them like hard drives that can be written to only once. After a data CD has been burned, you can access and copy the files on the disk, but you can't change them or delete them. Data CDs can help you preserve important content without wasting your hard drive space. Data CDs are perfect for archiving old office documents and storing digital camera pictures.

Data project tabs are split vertically, much like the file management pane (Figure 7). The left side contains the project's directory structure, and the right side contains the contents of the current project directory. You can add files and folders to the project by dragging them from the file management pane (or a Konqueror window) into either pane in the data project tab. You can create new folders within the project by right-clicking in either of the two panes in the project tab and selecting New Directory from the context menu. You can remove a file or folder by right-clicking it and selecting remove from the context menu.

The horizontal bar at the bottom of the project tab lets you assess the size of your project. The number toward the left side of the bar is the current size of your project in megabytes. Toward the right, you will see grey text that provides you with a ratio comparing how much space you have left in the project with how much total space the project can use.

Figure 7. Data Project Tab

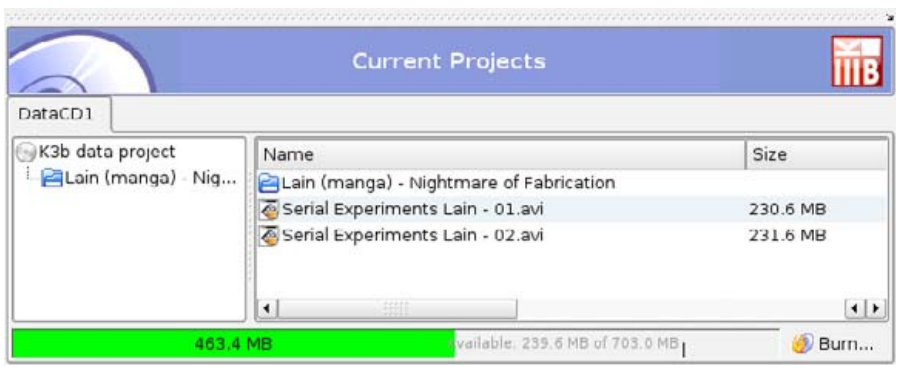


Figure 8. The bar shows how much space you have for your project.

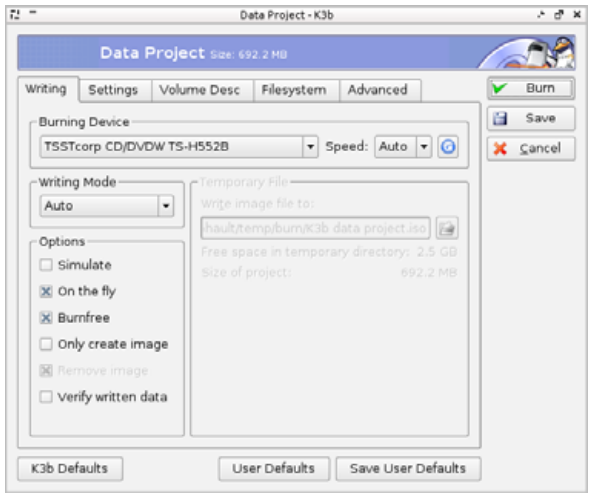


Figure 9. Data Project Burn Dialog

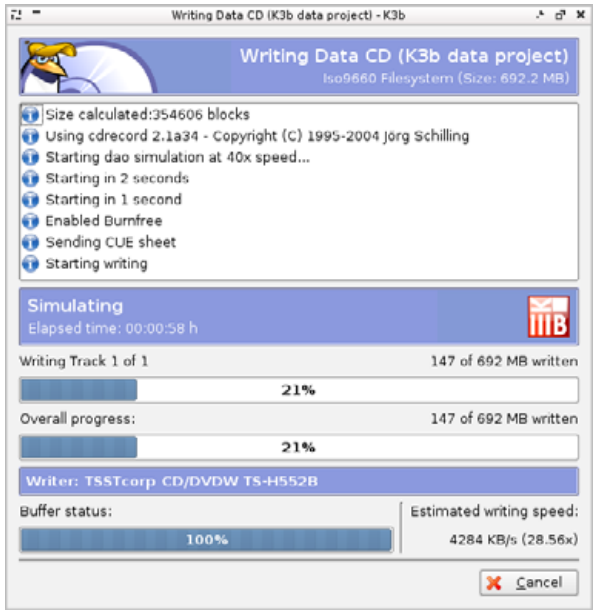


Figure 10. Burn Process Dialog

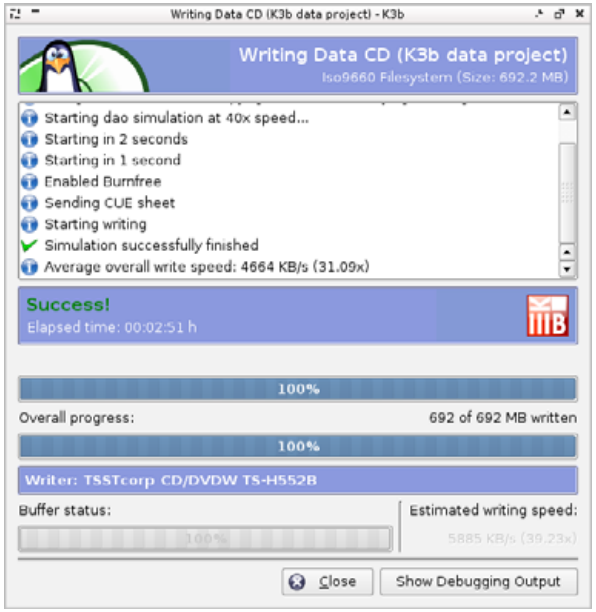


Figure 11. Data Burn Completed

The maximum project size is determined by the media you want to burn to. Most CDs can store about 700MB in data mode. You will also notice that as you add files and folders to the project, the bar starts to fill with green (Figure 8). Toward the right end of the bar, you will notice a single vertical line that is about half as tall as the bar. When the green meter reaches that line, the project is full. If you continue to add files at that point, the bar will fill with red beyond that point, indicating that you have exceeded the maximum allowable space for the project. When you exceed the maximum allowable space, you have to remove files from your project until it fits before you can burn it to a CD.

When your project is ready, put a blank CD into your drive and click the Burn button to open the data project burn dialog (Figure 9). The burn dialog allows you to set some project-specific settings before the starting the burn. Make sure that the Burning Device drop-down is set to the correct optical drive.

Take a look at the check boxes on the right side of the Writing tab. If Simulate is checked, K3b goes through all the steps required to perform the burn, but it doesn't actually burn anything to the CD. You can use this option to test your configuration without having to waste a CD. When On the fly is checked, K3b does not construct an independent disk image before burning; it burns directly to the CD. Constructing a disk image takes time and disk space, so I generally use the On the fly option. The Burnfree option helps prevent buffer underrun errors. Those who already have some experience with CD burning know that burners can be fickle. Any number of things can cause a burner to choke and produce a dead CD (which isn't necessarily bad if you need a coaster, but it's not exactly conducive to reliable data storage). Enabling Burnfree buffer underrun protection decreases the number of potential burning failures. I highly recommend using the Burnfree option.

When Only create image is checked, K3b creates a disk image using the filename specified in the box to the right of the Options check boxes. A disk image is a single file that contains the contents of the CD. A disk image easily can be burned to CD with K3b's image burning feature. Disk images often are used to distribute the contents of CDs on the Internet.

The Verify written data check box uses checksums to verify that the contents on the CD match the contents of the project once the burn has been completed. It is probably a good idea to use this feature, but I'm an impatient sort of guy and I typically only use this feature when I'm burning something irreplaceable.

When you are satisfied with the configuration, click the Burn button in the burn dialog to start the burning process. When K3b starts burning, it opens the burn progress dialog, which allows you to see the progress of the burn, the current write speed, the elapsed time and the buffer status (Figure 10).

Information about the burn process appears in the list box above the progress bars. If the burn process completes successfully, the word Success! appears in green right above the elapsed time display, and a Close button appears at the bottom of the dialog (Figure 11). Click the Close button to return to the K3b interface. Your CD is now ready!

BURNING AN AUDIO CD

Audio CDs contain music exclusively and can be played in most audio CD players. K3b uses its encoding plugins to convert your audio files into the necessary format automatically before burning.

Audio CD projects are very similar to data CD projects. Drag music files from the file manager pane to the project tab to add them to the project. If you drag a directory into the project tab, K3b adds all the audio files in the directory to the project.

When the project is burned, the individual files become audio tracks on the CD. You can change the order of the tracks by dragging the files up or down inside of the project. To change the metadata of the track, right-click the track, and select Properties from the context menu.

The size of an audio CD project is measured in time rather than in

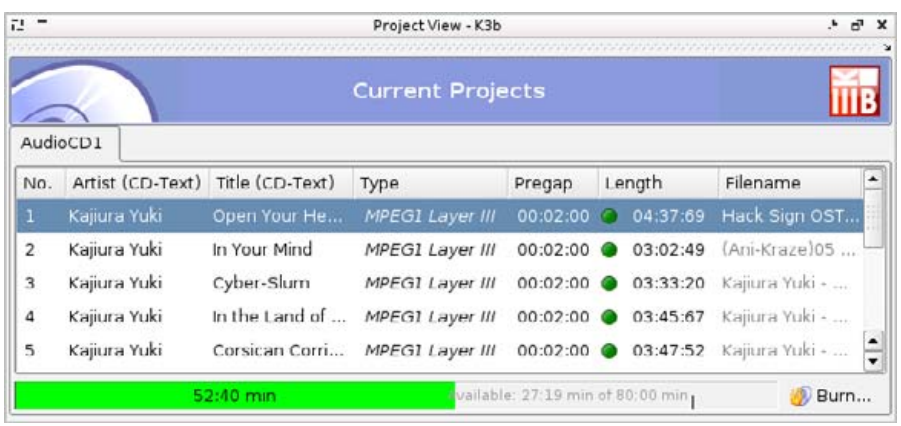


Figure 12. The bar indicates how much available time the project is using.

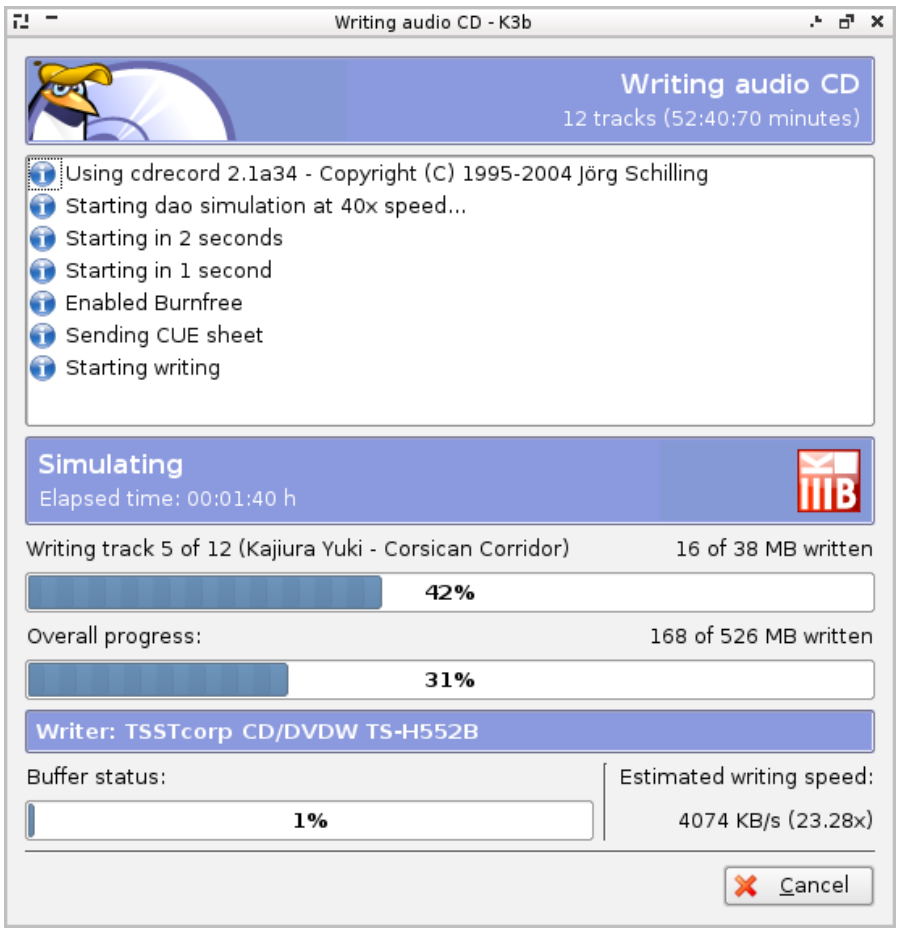


Figure 13. Audio CD Burning

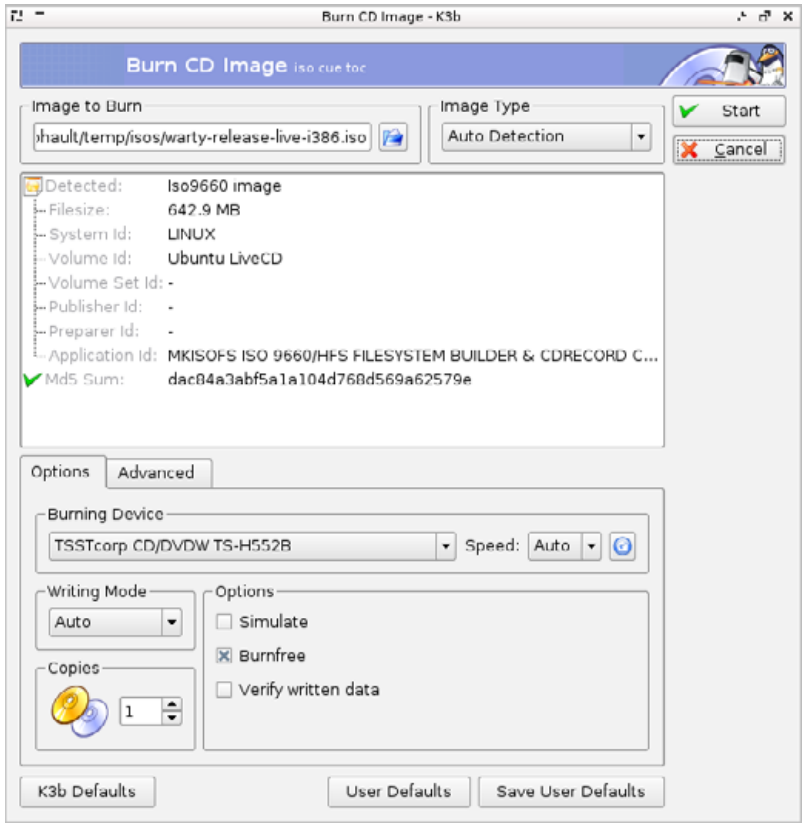


Figure 14. Burn CD Image Dialog

megabytes. Most CDs can store up to about 80 minutes in audio mode. The project size gauge works the same way in data and audio projects. As you add songs, the bar fills with green, indicating how much of the available time the project currently uses (Figure 12).

When your audio CD project is ready, click the Burn button to open the audio project burn dialog. The options in the audio project burn dialog are very similar to the options in the data project burn dialog. You will notice that the audio project burn dialog has a CD-Text tab, which can be used to customize CD meta-data.

When you are satisfied with your configuration, click the Burn button in the audio project burn dialog to start the burning process. The audio CD burning process is exactly like the data CD burning process (Figure 13). When the burn process completes, you can click the Close button to return to the K3b interface.

BURNING AN ISO DISK IMAGE

An ISO image is a complete CD in the form of a file. For example, you can download a Linux distribution that normally would come on three CDs by downloading the three ISO image files off the Internet and burning them to writable CDs.

K3b makes it easy for you to burn an ISO file to CD. Select CD from the Tools menu, and then select the Burn CD Image item from the sub-menu. When the Burn CD Image dialog appears (Figure 14), click the button to the right of the Image to Burn text box. Select the ISO file you want to burn, then click the Start button to start the burn process.

EPILOGUE

So ends our tour of K3b. This introductory tutorial should be enough to get you up and running (up and burning, actually), but it is far from a comprehensive guide. A number of other useful features are certainly worth exploring. K3b is fully capable of producing multisession CDs, mixed data/audio mode CDs and video CDs. K3b also works very well with CDRWs and DVDs.

K3b is distributed under a GPL license and can be acquired at no cost from the K3b Web site. Binary packages are available for most major Linux distributions, and a port is available for FreeBSD. For downloads and more information, please see the K3b Web site: http://www.k3b.org.■

Ryan Paul is a systems administrator, a freelance writer and an ardent proponent of open-source technology. He welcomes your questions and comments. Ryan can be contacted at segphault@sbcglobal.net.

Chrome and Metal Text Effects

We've taken a tour around The GIMP and passed along some hot tips, but now it's time to get down to brass tacks—or rather, metal tacks. Grab a clean towel and some polish because this month were going to brush up some cool text.

BY MICHAEL J. HAMMEL

One way to teach yourself The GIMP is to scan the abundant texts on Photoshop. Although the features in each program vary in detail, they work in basically the same manner overall. What you have to learn with The GIMP is how to do the technique if the tool referenced in the Photoshop text isn't available.

One effect you'll find covered in many of the books on Photoshop is metallic finishes. This effect is most often used on text but also can be used with user-interface design or as textures.

All metallic finishes have at their core the use of the Curves dialog. Adjustments to the Curves for a gradient fill or smooth texture causes gradual changes in tone to become more dramatic. The result can be to produce the appearance of shiny metal.

In this article, we look at creating metal effects using The GIMP's built-in Logos and then dig deeper into creating the same effects manually to add a personal touch.

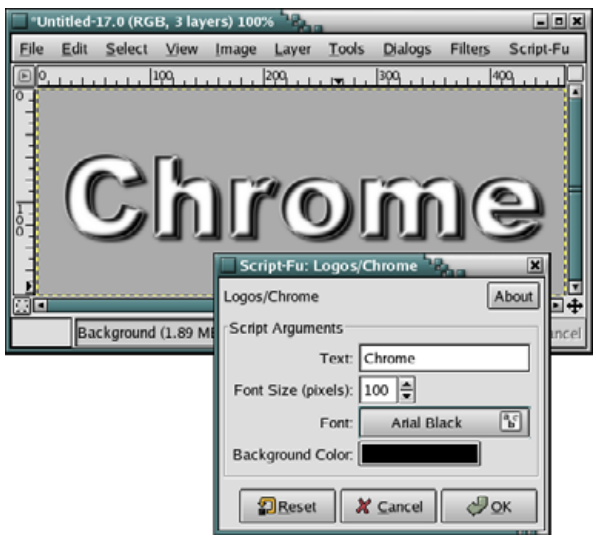


Figure 1. Open the Chrome dialog and choose a font. The default font may not be installed on your system, but the Script Fu Font Selection dialog will list only those fonts that are installed. No other options need to be changed, though the effect may be easier to see if the background is black instead of gray. Click on the OK button. That's all there is to it.

Figure 2. The Cool Metal dialog is similar to the Chrome dialog with the addition of the background color option. The text is rendered with a gradient to simulate the metal effect. The result is different from Chrome, but neither is particularly metallic. Both plugins leave layers intact in the new image, allowing you to modify the results as you see fit.

THE SIMPLE PLAN

The GIMP has two built-in metal text plugins: Chrome (Xtns→Script Fu→Logos→Chrome) and Cool Metal (Xtns→Script Fu→Logos→Cool Metal). As with all logo plugins, these are extremely easy to use. Each offers the user options for color, background and font and will generate a new and appropriately sized image window to hold the text. Although useful for quick-and-dirty projects, their end results are modest at best.

GOING IT ALONE

The problem with the built-in metallic logos is that their effects are rather static. You can change colors, gradients, backgrounds and fonts, but in the end, all of their renderings start to look the same.

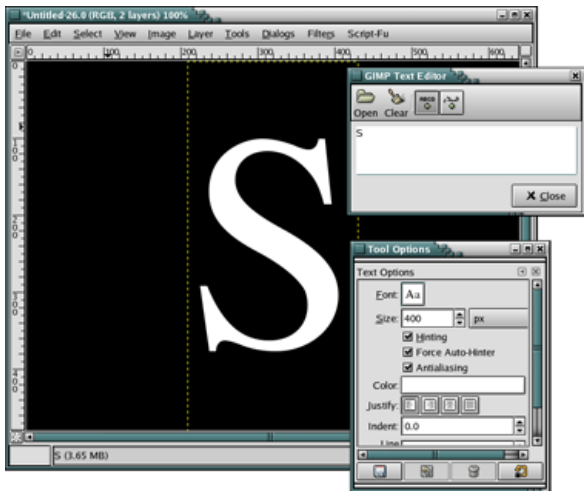


Figure 3. Open a new image window using the 640x480 template. Fill the background with black. Click on the Text tool in the toolbox, then click on the background layer. In the Text Editor dialog, type in the letter S. Open the Text dialog (File→Dialogs→Text) and choose an appropriate font—I've used a font called 1979 as the font for this example. This font is thick enough to show the brushed metal texture, which is subtle and can be lost on thinner lettering. Choose an appropriate size as well—this example set the size to 400. Change the text color to white. Drag the Text dialog to the dock at the bottom of the Toolbox if you'd like to keep it handy (which you probably will for the rest of this tutorial). Using the Move tool, visually align the text layer with the background.

They all lack the reflective nature of shiny metal. The reason for this is that neither logo script uses variations in tone. The color of the text is defined either by a distinct color (with a single tone) or a gradient applied top to bottom with only horizontal variations in tone.

So, let's see how to do this manually. I start with the most simplistic metallic finish, Brushed Metal (Figures 3–6).

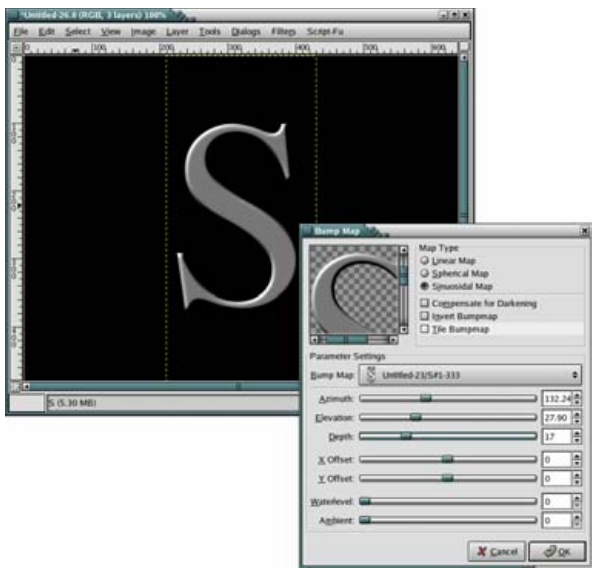


Figure 4. Duplicate the text layer. Blur the duplicate layer by 10 pixels. Click on the original text layer to make it the active layer. Open the Bump Map dialog (Filters→Map→Bump Map). Use a sinusodal mapping and the blurred layer as the bump map layer. Adjust the Azimuth so the preview shows light shining from the upper right. Adjust the Elevation and Depth so the bump map is smooth but not flat. Leave the other options alone. Turn off the visibility of the blur layer.

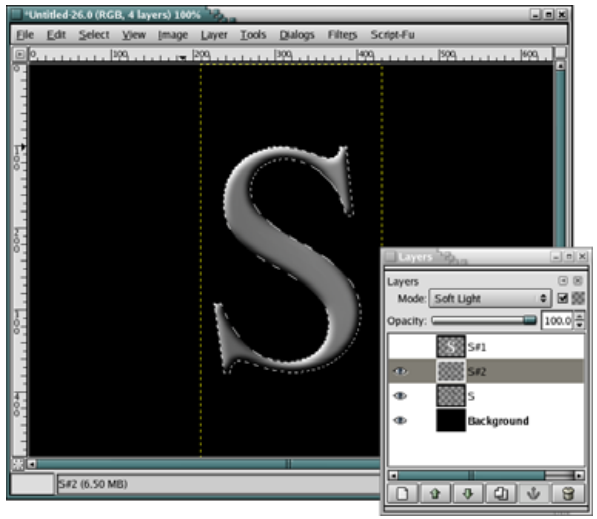


Figure 5. Turn on Keep Transparency for the bump mapped layer. Open the Gaussian Blur RLE dialog (Filters→Blur→Gaussian Blur RLE) and blur both horizontally and vertically by 10 pixels. Duplicate this layer. With the duplicate layer active, select the text (Layer→Transparency→Alpha to Selection). Choose the Gradient tool from the Toolbox and open the Gradient dialog. Set the Gradient's blend mode to Overlay. Drag from the upper left to lower right in the image window. Repeat from lower left to upper right, at less of an angle (more vertical). Set this layer's blend mode to Soft Light.

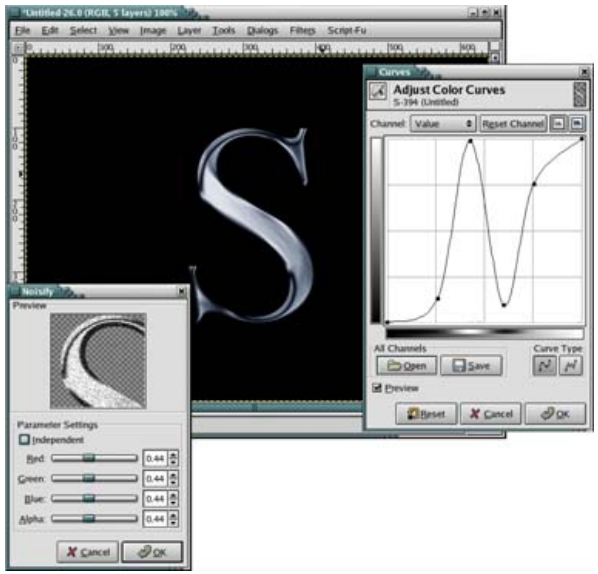


Figure 6. Merge the gradient layer and the bump mapped layer. Open the Curves dialog and adjust the curves to look something like what is shown here. The actual setting will vary depending on the variation in gray tones in your layer. Select the letter (Layer→Transparency→Alpha to Selection) and duplicate the layer. Fill this layer and selection with noise (Filters→Noise→Noisify). Disable the Independent toggle button and move the Red slider to 0.44. With the selection still in place, motion-blur the layer (Filters→Blur→Motion Blur) at an angle of 45 degrees with a length of 20. Add a new layer. Fill it with blue (#103B82) and set the layer blend mode to Soft Light. Reduce the opacity to 52%.

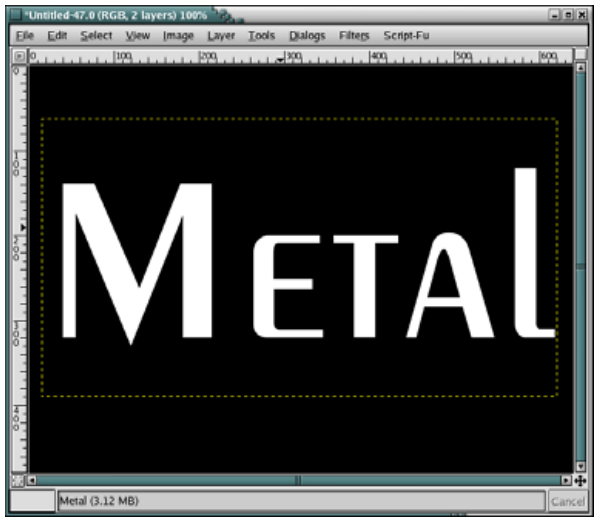


Figure 7. Like the Brushed Metal tutorial, start with a new image window using the 640x480 template and fill the background with black. Select the Text tool, click on the background layer, and in the Text Editor dialog, type the word Metal. Choose a font from the Text dialog. This tutorial is using Penyae Ultra-Light, which is a font that uses uppercase shapes for lowercase letters. You should choose a font that is solid (no outlined fonts) and has thick letters. The bold version of a font that has thin letters might work best. Change the text color to white. Use the Move tool to align the text layer visually with the background. If the letters are aligned against the edges of the layer, resize the layer boundary to the image size (Layer→Layer to Image Size) so that blurring won't be cut off at the layer edge. Select the text in this layer using Alpha to Selection. Grow the selection (Select→Grow) by 6 pixels. Save the selection to a channel (Select→Save to Channel). Be sure to click on the text layer again in the Layers dialog to make it active after saving your selection to a channel.

HEAVY METAL

The brushed metal effect you've just seen is the result of two basic processes. The first is the use of a motion-blurred noise layer. Noise layers often are used to add texture to otherwise flat-toned images.

The second process is the use of the Curves dialog to adjust gray tones in an image. Adjusting the Value curve in an image with variations that

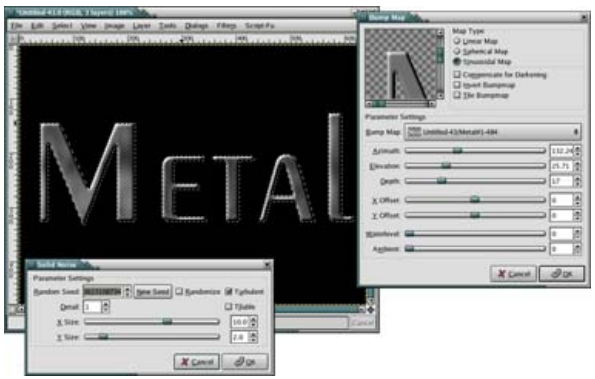


Figure 8. Duplicate the text layer and Gaussian Blur it by 10 pixels. Click on the original text layer to make it the active layer. Open the Bump Map filter again and apply it to the text layer using the blurred duplicate layer. Turn off the visibility of the blurred layer. Duplicate the the bump mapped layer. Select the text by using Alpha to Selection from the Layer menu. Fill the selection with a cloud rendered from the Solid Noise filter (Filters→Render→Clouds→Solid Noise). Use a random seed and set the Turbulent toggle button. Set the X size to 10 and the Y size to 2. Motion-blur this layer (with the selection still active) by setting the angle to 95 degrees and the length to 20. Set the blend mode of this layer to Overlay. Merge this layer with the original bump mapped layer.

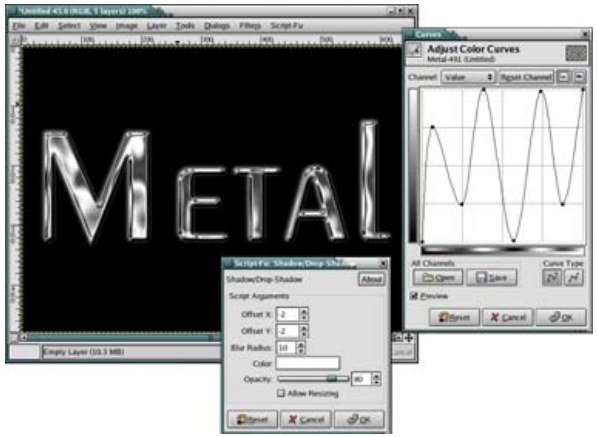


Figure 9. Open the Curves dialog and apply something like the curve shown in this picture. This will produce the basic metallic effect, but we want to enhance it a bit. Add a Drop Shadow (Script-Fu→Shadow→Drop Shadow) that is white (not black, which is the default). Set the X and Y offsets to -2, which moves the shadow up and to the left, and the blur radius to 10. The shadow is adding depth to the lit edges of the metallic finish—that is, simulated lighting is shining from the upper-left corner.

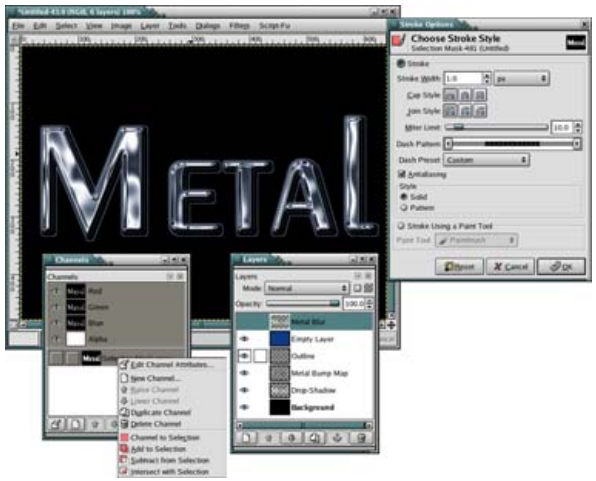


Figure 10. Add a new layer above the bump mapped layer. Open the Channels dialog and click on the channel name for the saved selection. Select Channel to Selection to retrieve the selection. Click on the new layer in the Layers dialog to make it active again. Set the foreground color to gray (#a4a4a4). Open the Stroke Selection dialog (Edit→Stroke Selection) and set the stroke width to 1. Turn off the selection (Ctrl-Shift-A or Select→None). Offset this layer (Layer→Transform→Offset) by 2 pixels in both the X and Y direction. Add a new layer and fill it with blue (#103B82). Set the layer blend mode for this blue layer to Soft Light. Reduce the opacity to 53%.

Figure 11. As before, start with generic text. This one uses Arial Black text. The block dots for the letter i are desirable—we want to create our own blobs here in a moment. Make sure the layer boundary is expanded to the image window size and center the layer manually with the Move tool. Using the Oval and FreeSelect tools (highlighted in the Toolbox in this image), draw a round blob beneath the first i. Holding down the Shift key draw more blobs beneath the text. The Shift key allows you to add to the current selection even if the new selection does not physically touch the existing selection. Make sure the blobs overlap parts of each letter, especially the squared bottoms of each i. After you have a few blobs drawn, grow them by 1 (Select→Grow, which softens the edges of the free-hand selections) and fill with white by dragging the background icon into the image window. Deselect the blobs (Select→None).

are not linear—that is, the gray is somewhat randomly distributed about the layer—reduces the smooth changes in tone so that changes from black to white are not gradual but fast. This is the key to reflective metals like chrome.

Next, I show you how to use the Curves adjustments to an extreme over a layer of rendered clouds to produce an even more dramatic metallic effect (Figures 7–10).

LIQUID METAL

As you can see, the use of Curves made all the difference in the last tutorial. You might wonder where you can go from there—what else can you do with metal text? In this next tutorial, I show you how to take the last idea one final step and add non-text components to your image (Figures 11–13).

This final version could be improved upon even

Figure 12. Open the Waves filter (Filters→Distorts→Waves). Set Amplitude to 6, Phase to 107 and Wavelength to 29. Click on OK. The text and blobs will be distorted in a wavy fashion—the effect depends on what font you chose for this tutorial. Duplicate the layer. Gaussian (RLE) Blur by 10 pixels. Bump Map the original layer using the blurred layer, just as we've done previously. Turn of the visibility of the blurred layer. Click on the bump mapped layer to make it active. Duplicate this layer. Select the text and blobs with Alpha to Selection. Fill the duplicate layer with Solid Noise as in the previous tutorial. Motion-blur the selection at 95 degrees with a length of 20. Set the layer blend mode to overlay and merge with the original text/blob layer.

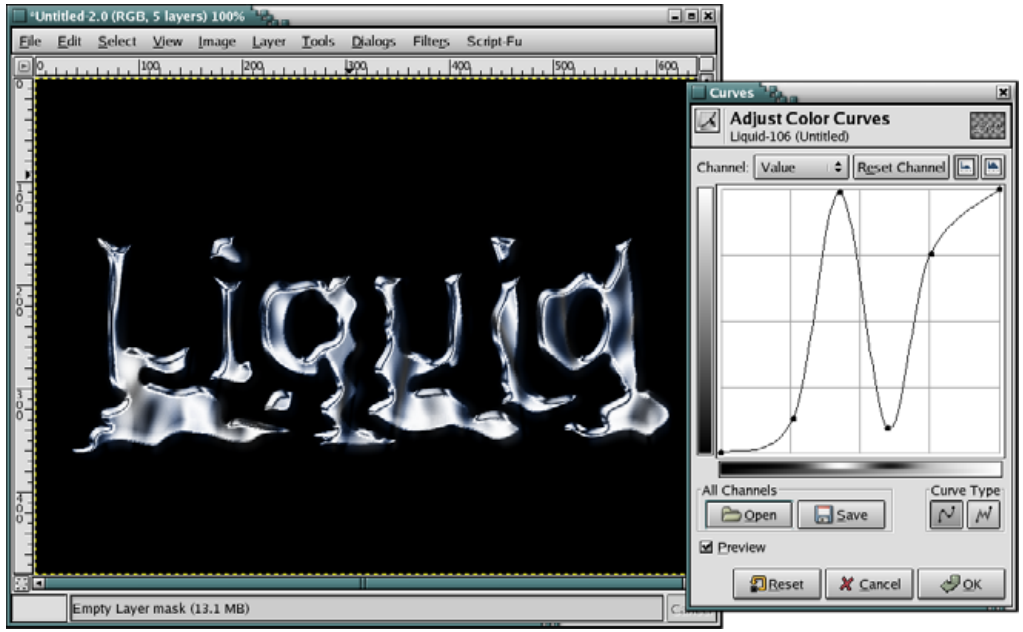


Figure 13. Turn off the selection if it's still enabled. Open the Curves dialog and adjust the Value curve similar to what was used in the previous tutorial. If you saved the curve from that tutorial, you simply can reload it here. Add a new layer, fill it with blue again and set the layer blend mode to Soft Light.

more by taking finer-grain control of the distortion of the text. This could be done by using the iWarp filter instead of the Waves filter, for example. Additional color could be added as well. Try adding a red layer and a yellow layer with Solid Noise layer masks to simulate hot metal at the top of the letters—there must be some reason why the metal is liquid, right?

You see, with The GIMP, there is a never-ending series of better ways to do everything!■

Michael J. Hammel is an author, graphic artist, Web designer and software developer currently working for RLXTechnologies in Houston, Texas. He has spoken at the ALS, LinuxWorld and SXSW conferences, and chaired multiple conferences on Linux in Colorado. He is the primary maintainer for the MiniMyth build system, and he runs XEUS, his own development site for XNotesPlus, Ximba Radio and other open-source software. He can be reached at mjhammel@graphics-muse.org, and his blog is at http://www.ximba.org/wordpress.

Quasar Accounting

Have your cake and eat it too: Quasar Accounting offers free accounting on Linux and Windows.

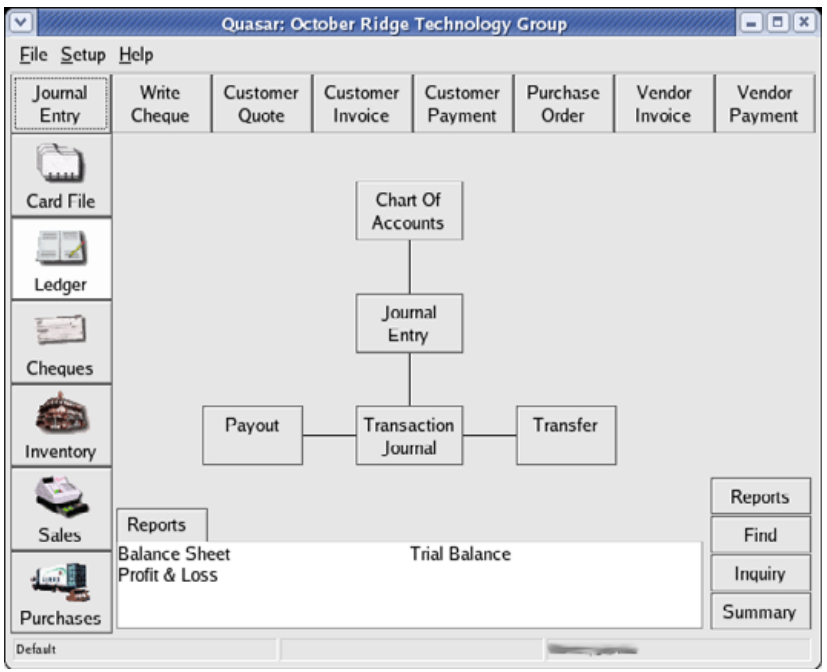
REVIEWED BY JOSHUA BENTHAM

One of the biggest-claimed obstacles slowing the adoption of Linux on the desktop of small and medium enterprises (SMEs) is the lack of certain types of software, generally financial and accounting software. Although OpenOffice.org provides an office suite and Evolution an e-mail and contact manager, an accounting package such as QuickBooks is what many businesses are looking for. Now, there is a viable alternative to QuickBooks: the Quasar Accounting program from LinuxCanada. Like many packages, Quasar is available for free under the GNU Public License (GPL) or under a commercial license. This review concentrates on the GPL version.

FIRST LOOK: QUASAR ACCOUNTING

Quasar provides the accounting services that any SME will need. It includes the functionality expected in any general ledger. The package facilitates the creation of a complete chart of accounts to track exactly where the money goes. This chart provides a well-developed way to track expenses and pay invoices, to record income and provide credit terms. Additionally, even the free version of Quasar provides advanced inventory controls that are found only in the Premier version of QuickBooks. Finally, Quasar's secure handling of multiple users, multiple stores and multiple companies rounds out the complete level of control over your business.

Quasar comes in the form of three install packages: a translation library, a server and a client. The server supports only Linux and requires a database. (Luckily, all modern Linux distributions include the PostgreSQL database as part of the distribution, so this is not an issue.) The client supports Linux as well as Windows. This provides an added benefit for businesses who want to begin using Linux but still have an investment in their Windows desktops. Luckily, LinuxCanada provides precompiled packages for most modern Linux distributions as well as an extremely thorough installation manual. These two items greatly simplify installation.



Quasar Accounting's main screen provides easy access to all of its features.

QUASAR INSTALLATION AND SETUP

Installation of Quasar was easy. I simply downloaded the Quasar server, client and icu packages for Red Hat Enterprise Linux 3 and ran the package manager to install the application. After installation, I followed the very thorough database setup instructions provided in the Quasar Installation Guide, and Quasar was ready to use.

Quasar provides a setup program to run after installation and database configuration. This utility program is used to create new companies and perform other administrative tasks. After a new

company is set up, it is helpful to import a basic chart of accounts provided by LinuxCanada. For those who are new to accounting or are using Quasar for a new company, this generic chart is extremely helpful in setting up the system. This chart provides common expense accounts, general receivable and payable accounts, liabilities and many others. Alternately, the setup utility allows the import of data from a program currently in use when the data is supplied in XML format as described in the Quasar User Guide.

USING QUASAR

The intelligent design of Quasar's user interface allows for quick-and-easy data entry. Some programs you may encounter are not optimized for keyboard use. These programs require you to move your hand to the mouse to select frequently needed options. Although some of Quasar's menu options are mouse-accessible only, the bulk of Quasar's user interface is designed in such a way that you can keep your hands on the keyboard by using special shortcuts. This allows for faster data entry, which can save time (and therefore money) in the long run.

Reporting is another one of Quasar's strengths. LinuxCanada provides 48 built-in reports that cover everything from general ledger to the keytops of popular point-of-sale terminals. Like the menu layouts, these reports are controlled by XML files. This allows for the ability to customize the reports and add things like company information and logos. Additionally, you can create new reports by copying the existing templates and customizing to taste. (It would be helpful to have some documentation on the XML format used by the report generator. Currently, one needs to look at one of the current reports to figure out how to create a new one.)

QUASAR ACCOUNTING

Quasar is optimized for use in a retail environment. LinuxCanada has a point-of-sale module available under a commercial license. Unlike the GPL version of Quasar Accounting, the point-of-sale module's server and client modules are priced separately. The prices for Quasar point-of-sale modules are well below competing products, and therefore even the commercial versions of Quasar provide an excellent value.

All versions of Quasar offer comprehensive inventory controls. In its most basic use, the inventory module allows a business owner to track the locations and quantities of all inventory items. Additionally, the inventory capabilities go beyond simple record keeping. Manufacturers and wholesalers can assemble kits using component items; whenever a kit is assembled, the inventory representing its component items are adjusted accordingly. You can generate vendor purchase orders for items whose quantity are below a preset level. You can set costs and selling prices for items and discount them in a myriad of different ways. You can control margins and get reports on them. Finally, you can generate reports to show such things as profits and sales per item.

Quasar is also strong in sales and purchasing. You easily can convert customer quotes to invoices to be paid. You can create promotions and discounts, and base them on date, customer or store location. Likewise, you can create a purchase order and convert it to a vendor invoice, which can be paid in a number of different ways, including printing a check. Quasar can keep track of miscellaneous fees such as container deposits, freight charges and franchise fees.

Quasar has many more features than I have space to describe here. LinuxCanada has a complete feature list in the Quasar download section.

CONCLUSION

Quasar's capability is evident in the way it is used to handle high volumes of point-of-sale transactions. Brad Pepers of LinuxCanada gave the following example of a client who is happy with Quasar:

> We have a customer using Quasar with Sybase and they have three grocery point-of-sale lanes, one convenience store POS, one fast-food POS, a receiver's station, a grocery manager's station, a dry-goods manager station, two office POSes, one office workstation, and the manager's workstation and a workstation in the convenience store. This is a cooperative in a northern community, so they do a little of everything (grocery, hardware, dry goods, convenience store, fast-food store, gas, bar and the office acts like the local bank as well). So that works out to 12 users, of which the point of sale ones are very heavily used, and this is run on what is basically a desktop-level machine these days (I think it's a Compaq with 1.5GB of RAM and simple IDE drives and nothing fancy).

Quasar Accounting is a comprehensive accounting package providing a rich variety of complete functionality for the small- and medium-sized business market. At a price of zero—arguably, even at the retail price of $149—it provides an excellent value. It is the ideal solution for those who are considering switching to Linux on the desktop.■

Joshua Bentham plans to graduate soon from Capital University in Bexley, Ohio with a BA in Philosophy. He has been using Linux since kernel version 1.2.8. His Weblog can be found at http://www.globalherald.net/jb, and he can be reached at jb42@globalherald.net.

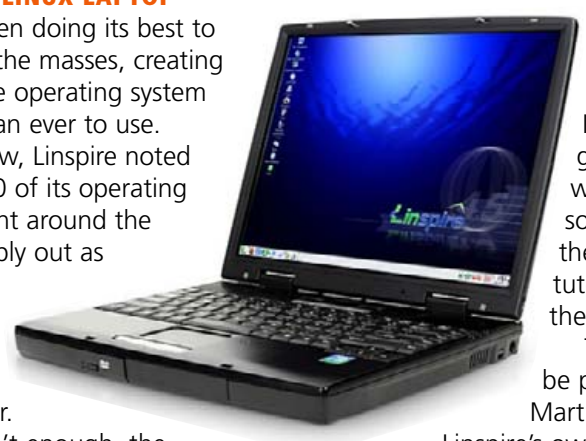
Gadget Guy—CES 2005 Edition

REVIEWED BY SEAN CARRUTHERS

The Consumer Electronics Show, held annually right at the beginning of January in Las Vegas, is a wonderland of treats for the gadget fanatic. This year's show had it all: cheap laptops, large-screen TVs, Internet-connected appliances and dancing robots—that's right, dancing robots.

Although the show isn't a computer exhibition, per se, there still were quite a few computer-related gadgets on the show floor, including some with a Linux connection. I got a chance to take a look at a ton of products while I was at the show.

THE SUB-$500 LINUX LAPTOP



Linspire has been doing its best to bring Linux to the masses, creating a version of the operating system that's easier than ever to use. During the show, Linspire noted that version 5.0 of its operating system was right around the corner—probably out as you're reading this—and would make adopting Linux easier than ever.

If that wasn't enough, the company has partnered with retail behemoth Wal-Mart to offer a sub-$500 Linux-based notebook, marketed under the Balance brand name. The notebook will come with a 14.1-inch full-colour LCD display, 30GB hard drive, 128MB of RAM (expandable to 512MB) and will be powered by a 1GHz via C3 processor. The machine will have four USB 2.0 ports and onboard Ethernet.

Hardware is only of so much use if you don't have the software to back it up, though. The notebook will come with Linspire 4.5 preloaded, as well as the OpenOffice.org office suite, which is on par with all but the most recent version of Microsoft Office. It also comes pre-loaded with all of the goodies needed to get onto the Internet, including messaging programs, Web browser and e-mail software, spam-blocking software and a software firewall. For utter beginners, there are also a number of voice-guided tutorials to help users get the feel for their new Linux system.

The notebook, available for $498, can be purchased on-line by going to Wal-Mart's site (http://www.walmart.com) or Linspire's own site (http://www.linspire.com/498).

MULTIMEDIA, MULTIFUNCTION

Portable multimedia is all the rage these days. The Windows-centric Portable Media Centre started the ball rolling, but other companies soon followed suit; now there's a growing number of portable players that handle digital audio, display digital photos and play back digital video files. The 30GB Archos Pocket Media Assistant 430 is a portable media player with a twist: it also runs Linux applications.

The player's main purpose, of course, is to play

back media files. It even comes with a multimedia base that allows video and television input. Users can set the PMA430 to record live television streams at a pre-programmed time, making it into a tiny personal video recorder that can be taken on the road between recordings.

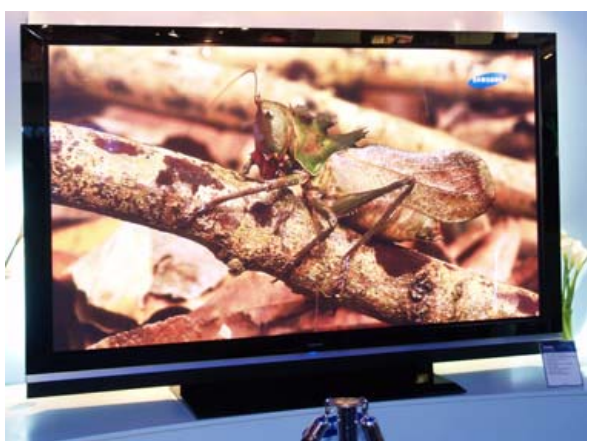
You also can load Linux applications onto the PMA430, making it into a productivity tool too. The player's screen is touch-sensitive, allowing users to interact with it using a stylus. The PMA430 has built-in Wi-Fi networking, allowing users to connect to the Internet while on the go.

The unit even comes preloaded with an e-mail application and the Opera Web browser. The PMA430 also functions as a USB host, allowing users to attach external drives, digital cameras, keyboards and more.

The PMA430 will have a $799 price tag.

BIGGEST! TV! EVER!

If you're looking for a brand-new monitor that will double as a big-screen TV, why not check out Samsung's new 102-inch plasma screen? That's right, it's 102 inches diagonally, which works out to about eight and a half feet. The screen has a resolution of 1920x1080, for full-on 1080P High Definition TV display potential. Granted, the new 102-inch model is so far only a proof of concept—Samsung had the 102-inch plasma screen at the company's booth, but don't expect to see it at the store any time soon.



It's worth noting, though, that the company showed off an 80-inch plasma screen at last year's show, again as a proof of concept, and ended up announcing this year that it actually will be going into production midway through 2005. That doesn't mean you're necessarily going to be buying one any time soon; the 80-inch model will retail for about $39,999 and probably will be available only by special order. Whether you pick up the 80-inch model or wait for the 102-inch plasma screen, this much is certain: you'll probably have to do some extensive surgery on your house or apartment to get the thing in the door.

If you're looking for something a bit more realistic, Samsung also has the 1080P-capable 67-inch DLP television model. Sure, it's quite a bit thicker than the plasma screens, but at only $6,999, it's a bargain. If you'd prefer a flatter screen, the company's 57-inch LCD screen is still a relatively affordable $15,999, that is, if to you, affordable means "My other cars are Jaguars and Porsches."

SO WHATCHA GOT COOKIN'?

Yeah, yeah, so you connected your fridge to the Internet a couple of years ago already, but how about your oven, smarty pants? Now you can buy an Internet-ready oven from TMIO, which stands for Tonight's Menu Intelligent Oven. It's a two-compartment wall oven that hooks to your home network via Ethernet, Wi-Fi or powerline networking. A touch-screen LCD panel above the top compartment lets you program the oven, either for cooking at a later time or if you want to cook something now.

Both compartments can keep your food cool during the day, until you send it the signal over the Internet or from your cell phone; at that point, it will start to cook your dinner for you, so it will be ready when you arrive home. (You also can use your cell phone to delay the start time of a pre-programmed heating cycle, if you are running late.)

The oven is $7,500, but installation is extra. (At that price, ask them to throw in a pot roast too.)

DANCING ROBOTS

Yes, I promised dancing robots, so here they are. If you have kids, there's a really good chance that you heard about the Robosapien, WowWee's remote-controlled robot, during last Christmas season.

Well, get ready for Robosapien v2.0. The second-generation Robo will be nearly twice the height, at 24 inches, will have more joints—including articulated fingers that actually can wrap around items and pick them up—and will have a

game-pad style remote control that allows more natural movement. In fact, he's limber enough now to sit or lie down and can turn himself over. Robo 2.0 also features more sensors, including basic visual sensors that help him avoid collisions with objects and allow him to determine whether someone is in front of him. He'll even ask where you went if you move. Robo 2.0 still has 100 pre-programmed functions, but now it also can act in autonomous modes and even can control the Robopet. Expect Robosapien 2.0 to be available at the end of 2005, for about $200.

The Robopet, by the way, will be out mid-year. It's designed like a small dog, responds to sounds and motion and has several moods, including naughty. That's right, it'll probably pee on your carpet—or at least pretend to. The Robopet will run around $99.

Also out around the same time will be the Roboraptor, a robotic dinosaur with a swinging tail and a moving jaw, so it can chew on things like your expensive sweater. It will also cost about $99. Expensive sweater is not included.

A PDA ON YOUR WRIST

If you're a fan of the Palm personal organizer, but don't want to have to carry one around with you, Fossil now has a pair of Palm-powered wristwatches. Both models come with PalmOS 4.1 onboard, 8MB of memory and feature high-density 160x160 pixel greyscale screens. They come with a tiny stylus for interacting with the screen, but you need to have nimble fingers to dig it out of the side of the watch. The watches come with address book, date book, to-do list, memo pad, calculator and, of course, a time application. They hook to a PC using USB and have an infrared port for communicating with other Palm organizers. The built-in Lithium Ion battery lasts between three and four days between rechargings. The Abacus-branded model will cost $199, and the Fossil-branded model will run $249.■

Sean Carruthers is a freelance technology journalist from Toronto. He spent six years at Canada Computer Paper, first as Products Editor at *The Computer* and later at *HUB Digital Living* magazine. As a freelancer, he has written for the *Globe and Mail*, http://globetechnology.com, *HUB Digital Living*, *Computer Dealer News*, *Homefront* and *CE-Biz*. Although a relative newbie with Linux (SUSE, thank you very much), he has extensive experience with tech gadgets of all sorts and is enjoying figuring out which ones are compatible with Linux.

In Praise of MEPIS Linux

Roy Brander raves about the Live CD distribution called Simply MEPIS, possibly the ideal distribution for beginners or those who just want to try Linux.

REVIEWED BY ROY BRANDER

MEPIS is a Linux distribution that comes as a Live CD. A Live CD is an operating system and set of applications that will run if you simply boot your PC from the CD drive instead of the hard drive. MEPIS Linux appeared virtually out of nowhere, it seemed, in 2003 and moved very swiftly into the ranks of one of the most-favorite Linux distributions for desktop users. After using MEPIS, I can see why.

The boot-up runs the Linux on the CD without using your hard drive in any way, having no effect on Windows or any other OS you have already installed. This is a remarkable feat of memory and disk management. It was first made popular by Knoppix, a Linux distribution from Klaus Knopper of Germany. In both cases, the Live CD version of Linux creates a ramdisk that simulates the file space of a disk with the same amount of PC memory—then it loads compressed files from the CD into the ramdisk and runs the PC from that.

A Live CD lets you try out a new or different distribution of Linux without having to install it or alter the existing operating system on your machine. It lets you show off that distribution to friends on their own machines. It is also ideal for giving a Linux demonstration in a classroom or cybercafé.

Something at which Knoppix—and all its children, including MEPIS—excels, is hardware detection. Installing Linux was very often a trial-and-error process of configuring video for X-windows, installing sound drivers and the like. On most common PCs from the last five years, Live CDs start up with all the devices detected and running. If you tried installing Linux a few years ago and had a bad time, try a Live CD distribution! If it detects all your hardware, you know in minutes you simply can install it with no hardware hassles; if it doesn't, you can try another, no time lost.

A Live CD has a few drawbacks, mostly that it can be slow—very slow if you don't have enough memory to let it make a large ramdisk and have enough left over to be the actual RAM! (For MEPIS, as for most Linux Live CDs, 128MB is very minimal, and you need 256MB for a decent experience with it.) When doing a demo with a Live CD and things move slowly, it's helpful to say "this same operation takes only a few seconds if you install and run it on you hard drive", or your audience could get the wrong impression about Linux in general.

Live CD drawbacks would be huge in daily use, of course. To save any work, you either must put it on removable media like a floppy or USB drive or burn a CD. (Some hard drive filesystems can be mounted and used, but *not* a modern Windows hard drive; you can read those but not write to them. You can read and write to Windows 95, 98 and ME hard drives, though. And for all of them, you need to understand Linux disk mounting at least somewhat.) You cannot install any new software, you can use only the packages on the Live CD. And, did I mention slow?

However, a Live CD also lets you have your own, eminently trustworthy operating system in, say, a cybercafé where you don't want to leave bookmarks or bits of your e-mail files behind on the disk for the next customer to enjoy. You might want to use it at work if you need some Linux application. And, many Live CDs, including MEPIS, let you find and copy files from a Windows hard drive that has become corrupted and won't boot anymore—so they can be a real lifesaver at retrieving data!

MEPIS is distributed by a nearly one-man operation, being the consultancy of Warren Woodford, a developer and analyst who has been in the business long enough to remember punch cards. (To get the first question out of the way, MEPIS doesn't mean anything—it's just a word Warren liked that wasn't taken as a brand-name. This and many other bits of trivia can be heard in a *Linux*

AND, MANY LIVE CDS, INCLUDING MEPIS, LET YOU FIND AND COPY FILES FROM A WINDOWS HARD DRIVE THAT HAS BECOME CORRUPTED AND WON'T BOOT ANYMORE—SO THEY CAN BE A REAL LIFESAVER AT RETRIEVING DATA!

Tech Show interview that is linked at the top of the front page on the MEPIS Distro site, http://www.mepis.org.)

Warren is clear that MEPIS is not the result of any programming on his part—his entire project is simply to build the most fully featured, already-set-up, already-configured, ready-to-go Linux distribution for desktop users—and distribute that.

MEPIS is based upon Debian-testing, the upcoming release of Debian dubbed sarge, though it currently comes packaged with both a Linux 2.6 kernel (the latest) and a 2.4 kernel. Try the latest 2.6 kernel, but if you find hardware or software incompatibility problems, reboot and choose the 2.4 kernel. It will become the new default.

MEPIS and other Live CD distributions like Ubuntu inherit the strong, easily-to-update, easy-to-add-software Debian base from their Knoppix parent. Unlike some distros, most controversially Ubuntu, MEPIS still can be updated from regular Debian repositories without incompatibility problems.

The reason MEPIS stands out among all the competing Live CD distros is its attention to practical details and immediate usability. As Warren Woodford told the *Linux Tech Show* interviewers, "There is very little code in MEPIS; it's a matter of style, of package selection...KDE is customized with scripts, with tweaks to the application rc (configuration) files, with XML to redesign the menus for greater usability than they have as delivered from [the] KDE [project]." He described his ambition as "to be the Apple of the Linux world".

MEPIS may be the only Linux distribution to have an unabashed fan site, http://mepislovers.org. Woodford describes his most ardent fans as "...people who have never used Linux before, including a lot of retired and semi-retired people. I get letters from retirees who are now installing it on their son's and grandson's computers, just the reverse of what you normally hear." It was at this point in the interview that a *Linux Tech Show* host broke in to say that he'd been astonished to see MEPIS on his father's computer on his last visit home: "... he hadn't called me for any help installing it—and I'd thought he was a die-hard Windows fan."

Users unfamiliar with other distributions may not appreciate the hundreds of tweaks to the general usability of the menus, utilities and applications, but everybody who installs MEPIS immediately appreciates the full configuration for multimedia. MEPIS may be the only distribution going that comes out of the box with all the add-ons, plugins and viewers needed for the full Web-surfing experience. Adobe Acrobat? There. RealPlayer? Done. Quicktime? Supported. Windows Media? Handled. (Well...most of them...there are so many.) Some multimedia types play in the browser via the MozPlayer plugin, others are handed off to the free media player, Xine. But you can surf a very long time without running into a file your MEPIS-tweaked Firefox browser can't open.■

Roy Brander is a waterworks engineer and sometime IT manager. He chairs the Calgary Unix Users Group, which provides meetings and an Internet forum for the UNIX community in Calgary, Canada. He has lectured the US defense community on Risk Management and the *Titanic* disaster; materials are now available at his Web site: http://www.cuug.ab.ca/branderr.

Autopackage to the Software Installation Rescue

KPackage? apt-get? Yum? RPMs? DEBs? Who are we kidding? The non-geek world needs an easy-to-use installer that doesn't care about the difference between Linux distributions. Does Autopackage come to the rescue?

REVIEWED BY JOHN KNIGHT

Every now and then, we have a major development in the world of Linux that may revolutionize our desktop as we know it. With Autopackage, we have a potential milestone that should have been blatantly obvious. What's the point of having fantastic software designed for use by the average Joe if the average Joe can't figure out how to install it? Autopackage aims to give users the simple Next→...Next→...Next→... interface that Windows users have enjoyed for more than a decade, and it just recently has matured to the point of 1.0 status.

FEATURES

Autopackage provides packaging that is distribution-neutral. It doesn't matter whether you run an .rpm-, .deb- or Slackware-based system, an autopackage will install without any worries. Autopackage has the ability to install new programs using a simple graphical program or, if you prefer, an elegant text-based installer that shouldn't be confusing for the average Joe. There is even an option for installing a program system-wide (the root password is needed) or for a single user (no password required).

What astounded me was I was expecting to have to install some kind of core program to begin with, but the autopackages simply ran and installed whatever they needed to run without me having to do a single thing! This self-contained approach is extremely wise, as it is yet another luxury to which Windows users are accustomed.

The package runs according to a script: checking whether your PC has all of the necessary software installed before running, installing the files, creating menu entries and placing the program in a central repository. This central repository acts rather like Add/Remove Programs under Windows, where the new program can be removed easily later.

TESTING

I tried out Autopackage on a number of different distributions, all varying in age. For the old, I had a Red Hat 7.3 box; for the medium, Libranet 2.8.1; and for the new, Fedora Core 3.

All of the automated scripts hope your computer is connected to the Internet so that the script can download any libraries or programs you need but don't already have installed. If the package you are installing finds everything it needs already on your system, Autopackage doesn't need an Internet connection to work.

The first machine I tried it on was my Libranet 2.8.1 machine, and everything simply worked. I didn't see any problems on my Fedora Core 3 machine either, but an old off-line Red Hat 7.3 box refused to run Autopackage, because it was missing a vital library that Red Hat 7.3 lacked. It may have worked if the Red Hat 7.3 machine was connected to the Internet, because Autopackage is geared toward on-line usage, as noted above. When I tested it out on some off-line machines, I had to download the core autopackage program and copy it to the

WHAT ASTOUNDED ME WAS I WAS EXPECTING TO HAVE TO INSTALL SOME KIND OF CORE PROGRAM TO BEGIN WITH, BUT THE AUTOPACKAGES SIMPLY RAN AND INSTALLED WHATEVER THEY NEEDED TO RUN WITHOUT ME HAVING TO DO A SINGLE THING!

same directory as the package I was installing (grab it at http://autopackage.org/downloads/latest/autopackage.tar.bz2).

The off-line version simply provides a text interface, rather than a GUI. Although to my surprise, I found that it feels nicer simply pressing Enter than clicking on a GUI, albeit less pretty. This does make package removal less intuitive though, as it lacks the very nifty Manage 3rd Party Software program that comes with the GUI. After a quick e-mail to Mike Hearn, Autopackage's main developer, he gave me a link where you can download the program manually, should you want to copy it to an off-line machine later (ftp://ftp.sunsite.dk/projects/autopackage/1.0.1/autopackage-gtk-1.0.1.x86.package).

STATE OF PLAY

Overall, Autopackage provides a nice interface that easily rivals the interface you get with Windows, if not exceeds it. Currently, there are only a handful of packages available for download, but the project has just recently matured, and the number of packages should start increasing as developers begin to see the advantage of autopackages. Some major applications and desktops should help garner some interest, like Xine and MPlayer and, especially, KDE and GNOME. At present, the coding isn't stable enough to support KDE properly, but after some more legwork, it should be good to go.

Linux software installation is in an appalling state at the moment, leaving average computer users daunted and overwhelmed when it comes to installing new software. Most distributions provide an on-line collection of software for their users to download with a distribution-specific tool, but this is unacceptable in the business world. Under Windows and Mac OS, users simply can buy a CD or download a file and install it without thinking; this is not so under Linux, and there's absolutely no technical reason why we can't achieve the same thing.

Apathy is our biggest enemy, and in the words of Autopackage developer Mike Hearn, "Really it's the Open Source community of developers that will make or break this change. If the majority decides that the old 'not my problem' answer given to users without a [good] package is unacceptable and continue to take things into their own hands, we're doing well."

Hopefully, distributions will start including Autopackage by default, but it will take interest and feedback from both users and developers. When I asked Mike about interest from distributors, he responded, "I'm not expecting it to be bundled with distributions any time soon. They all say they care lots about usability, but their packaging systems are usually a sacred bull: go anywhere near it and you get your head bitten off."

Autopackage makes the first major step toward genuine mainstream viability with the Linux desktop, albeit a fairly obvious one. If new Linux users can install a any old piece of software without thinking or being told how to do it, then we'll have a bright future and a huge gap filled in usability.■

John Knight is a 20-year-old, rock-climbing, Japan-loving megalomaniac, trying to take over the world from his bedroom via his keyboard. He spends most of his time tinkering with MPlayer and headbanging to his MP3s.

ADVERTISING

TUX

TUX is the first and only magazine for the new Linux user. In each digital edition of *TUX*, we explore every facet of the modern Linux desktop, providing a new breed of Linux user with the tools and information to make their Linux desktop experience complete.

A new breed of Linux user has emerged, the Linux consumer. *TUX* delivers to this powerful and rapidly growing economic force by offering many advertising opportunities for both its digital edition and its web site.

UPCOMING ISSUES INCLUDE:

June 2005
The LIVING WITH WINDOWS Issue
Is yours a house (or office) divided? With Linux PCs here and Windows PCs there? In the June 2005 issue, *TUX* shows you all you need to know to share files and folders between these different systems. We'll also look at tools that make running Windows on Linux (and vice versa) easy.

July 2005
The MONEY Issue
If money makes the world go 'round, this is a well rounded issue of *TUX* as we explore financial applications in the Linux world. We'll cover home finance programs that provide simple cheque book functions as well as those that do it all. Join us as we explore expense trackers, stock tickers, and business-ready accounting software. Ka-Ching!

August 2005
The EDUCATION Issue
TUX goes back to school in the August 2005 issue. Linux systems are a great solution for cash strapped schools, but they offer much more than inexpensive, stable, and secure systems. Kids will find software to challenge their minds and have fun doing it. From Linux at school, to educational programs, to educational games, it's Linux for kids of all ages.

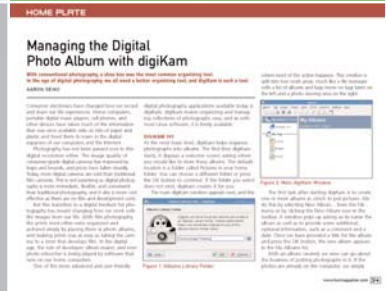
September 2005
The SWITCH Issue
Finally, it's time to help those in need. Yes, we're talking about people running something other than Linux—those poor unfortunate souls who deal with adware, spyware, and system crashes every day of their lives. *TUX* will look at great Linux business tools, live Linux CDs (to introduce your friends and family), and transitional applications (Linux programs that are available for Windows) so that even if they continue to run something else, they can at least get some of the benefits of Linux.

October 2005
The LINUX AUTOMATION Issue
Whatever happened to computers making our lives easier and giving us more free time? Maybe it's because they weren't running Linux. This October 2005, *TUX* will show you how to put your Linux system to work while you sleep! Let Linux take care of business and watch over things while you tend to other, more important things. In this issue, *TUX* will look at home security, webcams and video surveillance, maybe even a robot or two.

November 2005
The PERSONAL COMMUNICATIONS Issue
As the end of 2005 approaches, talk is hot again and Linux makes it easy. The year 2000 has come and gone, but picture phones are finally here, instant messaging is everywhere, free long distance is a reality, and everybody is reaching out and touching somebody somewhere. Get into the instant messaging, Voice Over IP, text messaging, and just plain talking action in the November 2005 issue of *TUX*.

December 2005
The LINUX ON THE ROAD Issue
It's December 2005 and people are on the move, whether to visit family for the holidays or jetting off to somewhere warmer. Either way, you'll need to take your Linux computer along. Don't have one yet? Not sure of the tools you'll need? Let TUX show you the best tools for Linux notebooks, network applications, WiFi, Bluetooth, and everything else you need to stay connected when you are away from home. We'll take a close look at personal digital assistants, cell phones, and much more when TUX hits the road.

TUX magazine



www.tuxmagazine.com

Contact the *TUX* team today to have a media kit sent to you. E-mail ads@tuxmagazine.com or call 206-782-7733 ext.4