



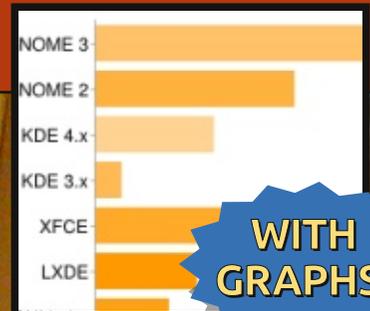
Full Circle

THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY

ISSUE #73 - May 2013



SURVEY RESULTS



WITH GRAPHS!



STORE DATA SAFELY AN INTRODUCTION TO SQLITE

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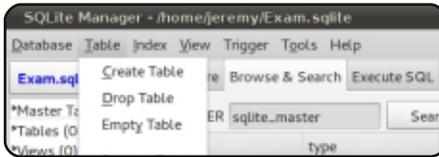
HowTo



Programming Python p.08

text mode $\sum_{i=2}^5 i^2$ and

LibreOffice p.13



An Intro To SQLite p.16



Blender p.19



Inkscape p.21

Graphics



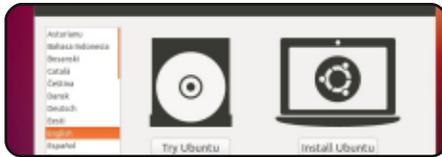
Full Circle

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Columns

```
#An alias to make the ls
command more detailed
alias ls = "ls -la --
color=always --classify"
```

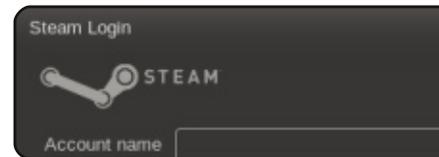
Command & Conquer p.06



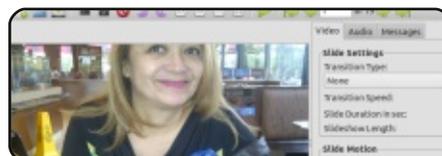
Ask The New Guy p.27



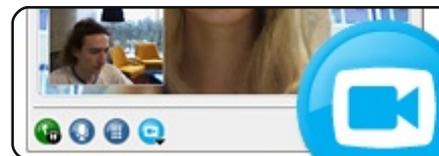
Ubuntu News p.04



Ubuntu Games p.42



Linux Labs p.30



Q&A p.40



Linux Certified p.44



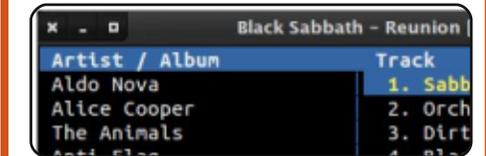
Ubuntu Women p.XX

Opinions

My Story p.32



My Opinion p.33



Review p.35



Letters p.38



Web Dev p.27



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WELCOME TO ANOTHER ISSUE OF FULL CIRCLE!

Another month, another issue. The usual LibreOffice and Python HowTo's are there, and are joined by a HowTo on storing your data using SQLite. Ubuntu Games has a bit of a Steam theme this month. First there's some game news from Dougn – mostly with games given the Steam green light. Then, new writer Jonathan writes about his joy, and discovery, of Valve's Steam. Joseph, another new writer, gives a review of (the non-Steam related) Aeon Command.

I'd like to thank everyone who took the time to fill in last month's survey. This month, I present the results of the survey from the 1,000 responses that we got. I can't guarantee we'll cover everything you request, but I'll do my best. Again, I can publish only what you folks send in. Also, while I'd love to cover scientific/HAM/other software/uses - none of us are scientists/HAM folks, so we rely on readers in a particular field/industry to submit reviews/stories.

Speaking of submissions - have you upgraded your *buntu to 13.04? How did it go? Was it flawless? Were there a few little glitches? Or did it all go south? Write in and let us know. Whether it's Ubuntu, Kubuntu, Lubuntu, or Xubuntu, we want to know. Same for derivatives like Mint and such like.

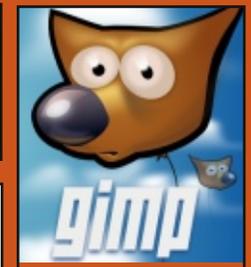
All the best, and keep in touch!

Ronnie

ronnie@fullcirclemagazine.org



This magazine was created using :



Full Circle Podcast

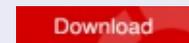
Released monthly, each episode covers all the latest Ubuntu news, opinions, reviews, interviews and listener feedback. The Side-Pod is a new addition, it's an extra (irregular) short-form podcast which is intended to be a branch of the main podcast. It's somewhere to put all the general technology and non-Ubuntu stuff that doesn't fit in the main podcast.

Hosts:

- Les Pounder
- Tony Hughes
- Jon Chamberlain
- Oliver Clark



<http://fullcirclemagazine.org>





COMMUNITY ON UBUNTU.COM

Daniel Holbach addresses concerns as related to the removal of the “community” link from the navigation bar of ubuntu.com. He shares details related to the new community website in progress and invites everyone to help so it can be launched, saying that it’s “very likely just going to be a set of small tasks, so any help would be much appreciated.”

<http://daniel.holba.ch/blog/2013/04/community-on-ubuntu-dot-com/>

TESTING UBUNTU TOUCH IMAGES (NOW WITH RARING!)

Nicholas Skaggs announces the availability of Ubuntu Touch images in the ISO QA Tracker and encourages everyone to test out the images for the 4 devices available.

<http://www.theorangenotebook.com/2013/04/testing-ubuntu-touch-images-now-with.html>

UBUNTU 13.04 (RARING RINGTAIL) RELEASED

Adam Conrad, member of the Ubuntu Release Team, announces the release of Ubuntu 13.04 Raring Ringtail. This release highlights daily quality, and performance improvements, as well as scaling capabilities on Server. More information on those highlights can be found at:

<http://www.canonical.com/content/ubuntu-1304-brings-dramatic-graphical-performance-enhancements>

<http://www.canonical.com/content/ubuntu-1304-delivers-openstack-high-availability-scalable-storage-and-big-data-deployment-ca>

In this email to the ubuntu-announce mailing list, Conrad notes that the following flavors also announced their releases as well.

Kubuntu:
<http://www.kubuntu.org/news/kubuntu-13.04>

Xubuntu:
<http://xubuntu.org/news/13-04-release/>

Edubuntu:
<http://edubuntu.org/news/13.04-release>

Lubuntu:
<http://wiki.ubuntu.com/Lubuntu/Announcement/13.04>

Ubuntu Studio:
<http://ubuntustudio.org/?p=726>

In this announcement, Conrad also welcomed two new flavors to the Ubuntu archive--Ubuntu GNOME and UbuntuKylin.

Ubuntu GNOME:
<https://wiki.ubuntu.com/UbuntuGNOME>

UbuntuKylin:
<https://wiki.ubuntu.com/UbuntuKylin>

<https://lists.ubuntu.com/archives/ubuntu-announce/2013-April/000171.html>

NOT SUPERCALIFRAGILISTIC-EXPIALIDOCIOUS

SCORPIONFISH.

Mark Shuttleworth congratulates the entire extended Ubuntu community for the 13.04 release and reveals the

codename for the next Ubuntu release: Saucy Salamander. “The salamander is one of nature’s most magical creatures; they are a strong indicator of a pristine environment, which is a fitting way to describe the new world emerging around Ubuntu Touch. [...] And we’re saucy too – life’s too short to be stodgy or stilted”, states Shuttleworth.

<http://www.markshuttleworth.com/archives/1252>

PABLO RUBIANES AND MARCOS COSTALES APPOINTED TO THE LOCO COUNCIL

Sergio Meneses announces the newly appointed LoCo Council members--Pablo Rubianes and Marcos Costales. Meneses thanks all nominees and notes they had great applicants from which to choose as always.

<http://lococouncil.ubuntu.com/2013/04/26/pablo-rubianes-and-marcos-costales-appointed-to-the-lococouncil/>



UBUNTU 8.04 (HARDY HERON), 10.04 (LUCID LYNX) DESKTOP, AND 11.10 (ONEIRIC OCELOT) END OF LIFE REACHED ON MAY 9, 2013

Adam Conrad, from the Ubuntu Release Team, announces the end of life of Ubuntu 8.04, the desktop version of 10.04, and 11.10. He also provides the upgrade paths and instructions for upgrading.

<http://fridge.ubuntu.com/2013/05/10/ubuntu-8-04-hardy-heron-end-of-life-reached-on-may-9-2013/>

<http://fridge.ubuntu.com/2013/05/10/ubuntu-10-04-lucid-lynx-desktop-end-of-life-reached-on-may-9-2013/>

<http://fridge.ubuntu.com/2013/05/10/ubuntu-11-10-oneiric-ocelot-end-of-life-reached-on-may-9-2013/>

VIRTUAL UBUNTU DEVELOPER SUMMIT 13.05

Chris Johnston reminds the community to participate in

the next virtual Ubuntu Developer Summit starting on May 14th. He highlights the various tracks and track leads and participants. Johnston also lists some of the bug fixes which have landed on the latest summit portal. He invites everyone to keep reporting problems so the portal keeps improving and leading to a better vUDS.

<http://www.chrisjohnston.org/ubuntu/virtual-ubuntu-developer-summit-13-05>

OUR COMMUNITY WEBSITE

Daniel Holbach writes about the progress on the Community part of the ubuntu.com website. 'The first stage of the work is largely done. Michael Hall set up a wordpress test instance here where we put all the updated content, which is a great achievement already. It's not only up to date, but also much more welcoming and friendly. The Canonical Web team should help us update the style to match the new ubuntu.com site', he mentions.

<http://daniel.holba.ch/blog/2013/05/our-community-website/>

ANNOUNCING THE UBUNTU BILLBOARD PHOTO CONTEST

David Planella announces the Ubuntu Billboard Photo Contest for people in Russia and Ukraine. From May 13th to the end of May, participants can submit pictures of billboards showing Dell and Ubuntu for a chance to win such "succulent prizes" as a Dell XPS 13 with Ubuntu installed, Ubuntu merchandise, and 100 GB storage of Ubuntu One.

<http://fridge.ubuntu.com/2013/05/13/announcing-the-ubuntu-billboard-photo-contest/>

UBUNTU DEVELOPER SUMMIT 13.05 CLOSING PLENARY AND TRACK SUMMARIES [VIDEO]

Jono Bacon and the other track leads for the Ubuntu Developer Summit 13.05 summarize what took place and decisions made during their respective tracks.

<http://www.youtube.com/watch?v=3SuSZXpdMMY>

UBUNTU OPEN WEEK FOR RARING: ALMOST HERE!

José Antonio Rey writes about the Ubuntu Open Week for this

cycle, where he explains what this event is about. He also mentions that an Ask Mark! session will be held, where "community members are invited to ask Mark Shuttleworth (sabdf) questions about the Ubuntu project." Make sure to join us!

<http://ubuntuclassroom.wordpress.com/2013/05/20/ubuntu-open-week-for-raring-almost-here/>





As many of you have probably heard at one point or another, an accepted practice for keeping your skills as a programmer sharp, is to learn a new language once a year. I do my utmost to stick to exactly that, and as such, I'm constantly on the lookout for ways to make it easier and less time-consuming. This month, I'd like to introduce you to two websites I've found, and give some general tips on how to go about learning new programming languages (whether you have any prior knowledge or not).

CODECADEMY

By far the most user-friendly option I've found is called Codecademy, and it offers an interactive editor/interpreter method for learning Web Fundamentals, jQuery, JavaScript, Projects (Web), Python, Ruby, PHP and APIs. Each of the listed topics has an entire track that is generally laid out nicely, and is focused towards teaching you very specific skills. Each of these offers a very

good basis for working with any further language, and as such, I can't recommend it highly enough. There are also a number of User-created projects, outside of the typical tracks, that you can jump into, in case you're the sort of programmer who has trouble deciding what you want to focus on.

<http://www.codecademy.com>

Further features:

- A point-based (and percentage-based) tracking system for progress between the tracks, to entice you to stick with it.
- The ability for any user to create lessons (teaching is a great way to cement your understanding of any topic).
- Quick, interactive online tools for programming. This avoids the hassle of setting up a programming environment, especially for those who have multiple devices.
- A useful hint system that supplies just enough information to help you when stuck.
- It presents the full, working code

at the beginning of the project, to help you understand other people's code without comments or compiling it yourself.

Who would I recommend this to? I would recommend this to anyone who wants to learn a programming language. If you have no prior experience, it should offer you all the information you need, so long as you are willing to thoroughly read everything written. For those who already have one (or more) programming languages under their belt, and want to simply become more comfortable with another, Codecademy is a great choice. It combines explanations and exercises, allowing you to fly through the tracks quickly. For example, it took me about 3 hours to get through the Ruby track, which consisted of 10 chapters, and about 238 exercises. They aren't the most challenging exercises for those with experience, but they're still enough to give you a grasp of the syntax and semantics of a given language.

KHAN ACADEMY

Khan Academy offers a fairly large selection of free online courses, covering a multitude of topics. This includes, but isn't limited to, Computer Science, Math, and Science. It also offers a few test preparation options for those studying for exams. If you're looking to learn more about programming (or other topics) in a typical classroom-type method, Khan Academy is for you. I haven't personally done more than one or two courses, but it's mainly due to the fact that I have covered these topics before – both in high school and university. From what I've seen, it's well done, and should serve as a useful service for anyone interested in that sort of learning.

<https://www.khanacademy.org/>

Who would I recommend this to? Anyone who learns well in a university-like environment with like-minded individuals and basic exercises and some lecture-type videos. It lends itself most to those

people who haven't studied courses like this before in high school or university, or who want a refresher for those classes. There isn't, admittedly, a lot of content yet for Computer Science, but it appears to be growing steadily.

PROJECT EULER

Project Euler is a website that has simply one goal: to supply you with mathematical problems. These problems range from the mundane, to mind-crushing feats of calculation. The kicker? Each problem is designed so that manually calculating the solution is so time-consuming as to be impossible. As such, you're required to program an algorithm (in your language of choice) to calculate the answer. Many questions require you to find and implement the correct algorithm in order to reach a solution in a reasonable amount of time (under a minute). Their system allows access to the discussion thread of that problem only when you've solved it, meaning you can happily discuss and share your algorithms with others in that area. If you're not a fan of mathematics, or don't know any programming languages,

or lack a firm grounding in mathematics as applied to programming (and aren't willing to pick up any of these skills), then Project Euler isn't for you. For anyone to whom this sounds like fun, I wish you luck with some of the more complex topics.

<http://projecteuler.net/>

Who would I recommend this to?

Fans of programming, mathematics, and/or problem solving. If you're willing to learn, you can manage fairly well, but a certain degree of background knowledge is helpful. I will say this: The problems do not seem to be sorted by difficulty. So if you get stuck, try the next one – it might be easier!

GENERAL TIPS

For anyone looking for my advice on learning to program, or to keep your skills sharp, I have only one main piece of advice: Program! The more you use a language, the firmer a grasp you will have on the theory, and the theory is often the most difficult to understand. Once you understand the theory, you can

generally apply it to any language, and learning the syntax and semantics of a language isn't usually very difficult.

If you're not sure what to program, Project Euler can help. Or else writing small scripts for use in Conky can also be a great way to get into a habit of writing script. You do often learn the most from larger projects, but keeping up with the basics is useful until that flash of inspiration that leads to a large project comes along.

What language should I learn? It depends entirely on what your goal is. If you're trying to find a language that will help to automate your Linux environment (or else hoping for something to integrate into Conky), I could recommend Bash, Lua, or Python. If you're into web programming, Ruby on Rails, PHP or Python could also be useful. If you're hoping to jump into an open source project in order to help out, most are written in C or C++, though it depends on what project in particular you have your eye on. Whatever you learn, keep in mind that the theory behind the methods are mostly universal, so pick whatever feels most comfortable for you!

I'm stuck on an error, and can't find a solution on Google! A lot of programming languages have IRC channels dedicated to them. In such rooms there are generally a few people who are happy to try to help you solve your issues. Sometimes you might even bump into the developer of the language! The best way to get an answer is to a) pastebin your code and b) be concise!

I hope I've managed to give anyone who is interested in programming a starting point. There are probably many other relevant websites out there. If anyone has a personal favourite, feel free to email me at lswest34@gmail.com with the website, or any questions, comments or suggestions you have for C&C in general. If you do email me, please include "FCM" or "C&C" in the subject line!



Lucas has learned all he knows from repeatedly breaking his system, then having no other option but to discover how to fix it. You can email Lucas at: lswest34@gmail.com.



HOW-TO

Written by Greg Walters

Programming In Python: Pt 44

We are going to take a short detour this month from our TVRage program to partially answer a question from a reader. I was asked to talk about QT Creator, and how to use it to design user interfaces for Python programs.

Unfortunately, from what I can tell, the support for QT Creator isn't ready yet for Python. It IS being worked on, but is not "ready for prime time" quite yet.

So, in an effort to get us ready for that future article, we will work with QT4 Designer. You will need to install (if they aren't already) python-qt4, qt4-dev-tools, python-qt4-dev, pyqt4-dev-tools and libqt4-dev.

Once that is done, you can find QT4 Designer under Applications | Programming. Go ahead and start it up. You should be presented with something like the following:

Make sure that 'Main Window' is selected, and click the 'Create' button. Now you will have a blank

form that you can drag and drop controls onto.

The first thing we want to do is resize the main window. Make it about 500x300. You can tell how big it is by looking at the Property Editor under the geometry property on the right side of the designer window. Now, scroll down on the property editor list box until you see 'windowTitle'. Change the text from 'MainWindow' to 'Python Test1'. You should see the title bar of our design window change to 'Python Test1 – untitled*'. Now is a

good time to save our project. Name it 'pytest1.ui'. Next, we will put a button on our form. This will be an exit button to end the test program. On the left side of the designer window you will see all of the controls that are available. Find the 'Buttons' section and drag and drop the 'Push Button' control onto the form. Unlike the GUI designers we have used in the past, you don't have to create grids to contain your controls when you use QT4 Designer. Move the button to near center-bottom of the form. If you look at the

Property Editor under geometry, you will see something like this:

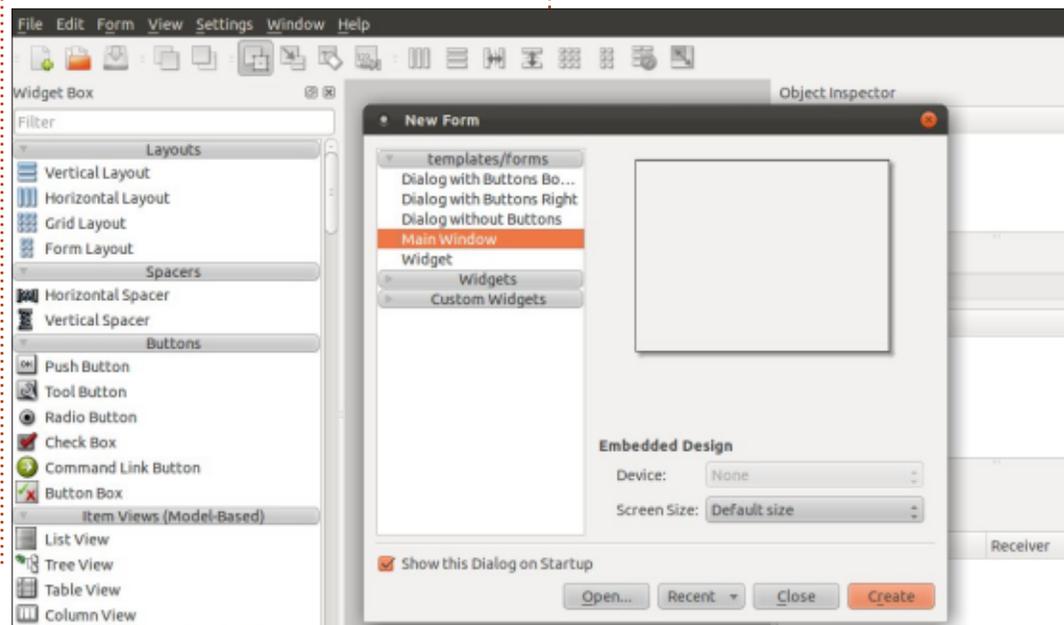
```
[ (200,260) , 97x27 ]
```

In the parentheses are the X and Y positions of the object (push-button in this case) on the form, followed by its width and height. I moved mine to 200,260.

Just above that is the objectName property—which, by default, is set to 'pushButton'. Change that to 'btnExit'. Now scroll down on the Property Editor list to the 'QAbstractButton' section, and set the 'text' property to 'Exit'. You can see on our form that the text on the button has changed.

Now, add another button and position it at 200,200. Change its objectName property to 'btnClickMe,' and set the text to 'Click Me!'.

Next add a label. You will find it in the toolbox on the left under 'DisplayWidgets'. Put it close to the center of the form (I put mine

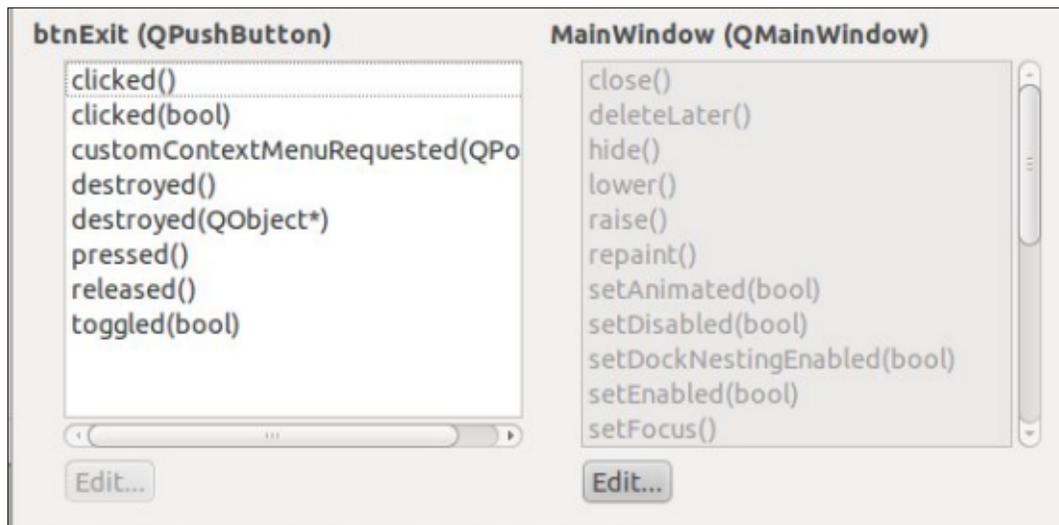


at 210,130), and set its `objectName` property to `lblDisplay`. We will want to make it bigger than what it is by default, so set its size to somewhere around 221 x 20. In the property editor, scroll down to the 'QLabel' section, and set the Horizontal alignment to 'AlignHCenter'. Change the text to blank. We will set the text in code—when the `btnClickMe` is clicked. Now save the project again.

SLOTS & SIGNALS

This next section might be a bit difficult to wrap your head around, especially if you have been with us for a long time and have dealt with the previous GUI designers. In the other designers, we used events that were raised when an object was clicked, like a button. In QT4 Designer, events are called Signals, and the function that is called by that signal is called a Slot. So, for our Exit button, we use the Click signal to call the Main Window Close slot. Are you totally confused right now? I was when I first dealt with QT, but it begins to make sense after a while.

Fortunately, there is a very easy



way to use predefined slots & signals. If you press the F4 button on the keyboard, you will be in the Edit Signals & Slots mode. (To get out of the Edit Signals & Slots mode, press F3.) Now, left click and hold on the Exit button, and drag slightly up and to the right, off the button onto the main form, then release the click. You will see a dialog pop up that looks something like that shown above.

This will give us an easy way to connect the clicked signal to the form. Select the first option on the left which should be 'clicked()'. This will enable the right side of the window and select the 'close()' option from the list, then click 'OK'. You will see something that looks like this:



The click signal (event) is linked to the Close routine of the main window.

For the `btnClickMe` clicked signal, we will do that in code.

Save the file one more time. Exit QT4 Designer and open a terminal. Change to the directory that you saved the file in. Now we will generate a python file by using the command line tool `pyuic4`. This will read the `.ui` file. The command will be:

```
pyuic4 -x pytest1.ui -o
pytest1.py
```

The `-x` parameter says to include the code to run and display the UI. The `-o` parameter says to create an output file rather than just display the file in `stdout`. One important thing to note here. Be SURE to have everything done in QT4 Designer before you create the python file. Otherwise, it will be completely rewritten and you'll have to start over from scratch.

Once you've done this, you will have your python file. Open it up in your favorite editor.

The file itself is only about 65 lines long, including comments. We had only a few controls so, it wouldn't be very long. I'm not going to show a great deal of the code. You should be able to follow most all of the code by now. However we will be creating and adding to the code in order to put the functionality in to set the label text.

The first thing we need to do is copy the signal & slot line and modify it. Somewhere around line 47 should be the following code:

```
QtCore.QObject.connect(self.b
tnExit,
QtCore.SIGNAL(_fromUtf8("cl
```

```
ked()), MainWindow.close)
```

Copy that, and, right below it, paste the copy. Then change it to:

```
QtCore.QObject.connect(self, btnClickMe, QtCore.SIGNAL(_fromUtf8("clicked()")), self.SetLabelText)
```

This will then create the signal/slot connection to our routine that will set the label text. Under the retranslateUi routine add the following code:

```
def SetLabelText(self):  
  
self.lblDisplay.setText(_fromUtf8("That Tickles!!!"))
```

I got the label setText information from the initialization line in the setupUi routine.

Now run your code. Everything should work as expected.

Although this is a VERY simple

example, I'm sure you are advanced enough to play with QT4 Designer and get an idea of the power of the tool.

Next month, we will return from our detour and start working on the user interface for our TVRage program.

As always, the code can be found on pastebin at <http://pastebin.com/98fSasdb> for the .ui code, and <http://pastebin.com/yC30B885> for the python code.

See you next time.



Greg Walters is owner of RainyDay Solutions, LLC, a consulting company in Aurora, Colorado, and has been programming since 1972. He enjoys cooking, hiking, music, and spending time with his family. His website is www.thedesignedgeek.net.

MY STORY QUICKIE

By Anthony Venable

This story begins at the beginning of 2010. I was broke at the time so I was trying to find a free operating system. I needed something I could run on my PCs at home. I had searched on the Internet, but found nothing useful for a long time. But one day I was at Barnes and Noble and I saw a magazine for Linux. (While I had heard of Linux before, I never thought of it as something I would ever be able to use.) When I asked people who I knew were computer professionals, I was told it was for people that were experts, and difficult to use. I never heard anything positive about it. I am so amazed that I hadn't come across it sooner.

When I read the magazine I became exposed to Ubuntu 9.10 - Karmic Koala. It sounded so good, as if it was exactly what I was looking for. As a result, I got very excited took it home, and to my surprise had such an easy time installing it to my PC that I decided to run it along with Windows XP as a dual boot system. All I did was put the live CD in the drive and the instructions were step by step you would have to be pretty slow to not get how to set things up.

Since then I have been very satisfied with Ubuntu in general and I have been able to check out later versions of it such as 10.04 (Maverick Meerkat) and 10.10 Lucid Lynx. I looked forward to future versions for how they integrate multi-touch even more than 10.04.

This experience just goes to show once again how I manage to find the coolest stuff by accident.





HOW-TO

Written by Elmer Perry

LibreOffice Pt26: Formulas In Writer

Being able to create formulas in the LibreOffice Math module is great, but what if you need to insert a formula into a text document? The integration between Writer and Math allows you to insert formulas into your text, to number equations, to reference numbered equations, and to insert equations created in the Math module.

INSERTING A FORMULA INTO WRITER

Insert a formula through the menus with Insert > Object >

Formula. A formula editor window will open at the bottom of the Writer window, and the floating Elements window will open. A frame border will appear in the document where the formula will be displayed. You can use the formula editor just as you would in the Math module. When you are finished creating your formula, press the ESC key, or click anywhere in the document outside the formula frame.

In Writer, formulas are OLE objects, and, by default, are inserted as characters, meaning they stay in line with the text. You

can change the way text flows around the formula by changing the anchor point. Right-click on the formula, Anchor > To Page. With the formula anchored to the page, you can move it to wherever you want in the document.

FORMULA EDITOR AS A FLOATING WINDOW

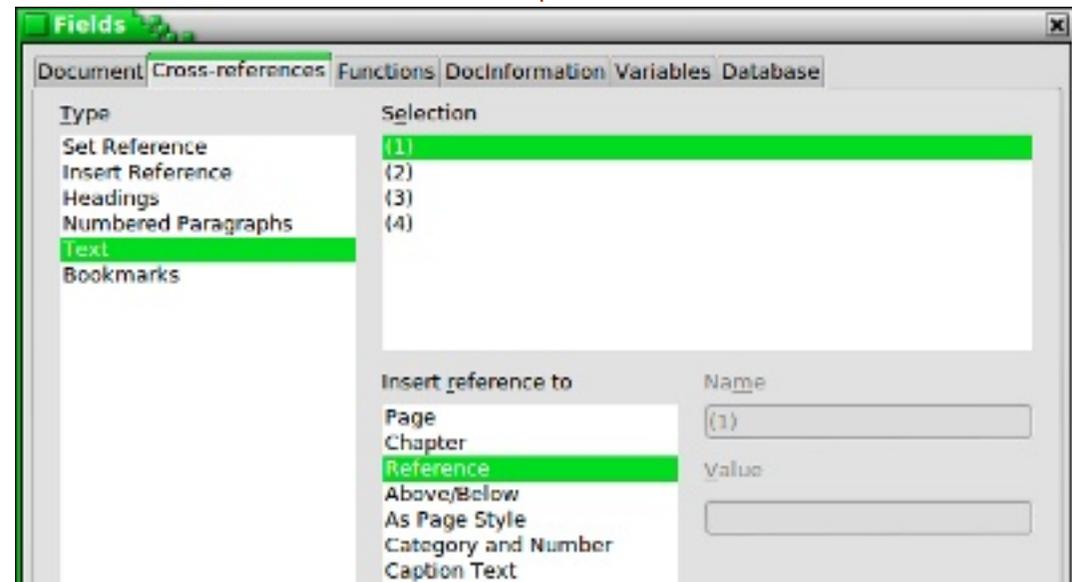
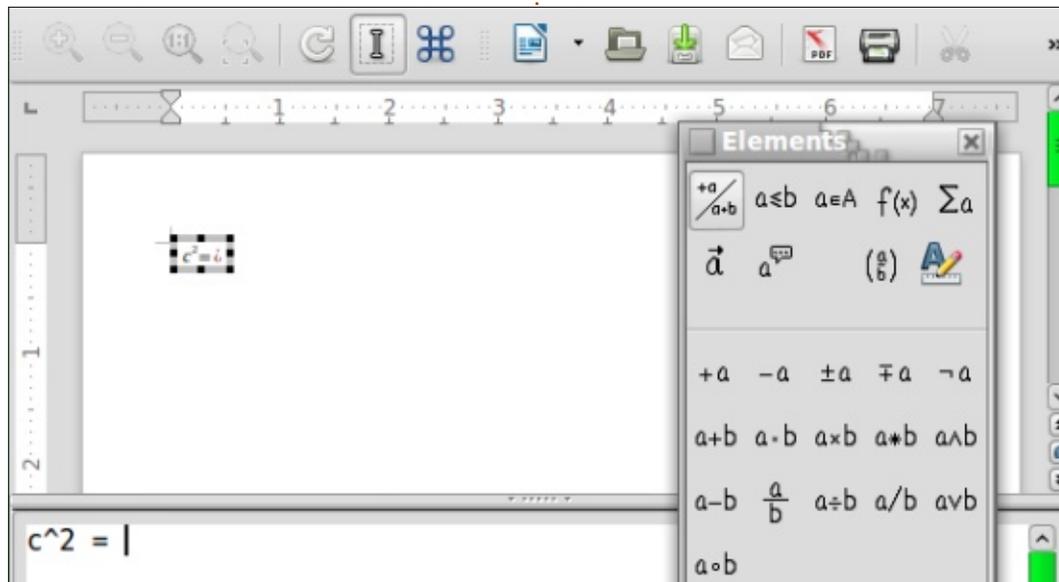
If the formula editor being at the bottom doesn't work for you, you can detach it as a floating window by CTRL double-clicking the border. You can also click and drag the border to detach the

formula editor. Once it is detached, you can move it to wherever best suits you. CTRL double-click to reattach the formula editor back to the bottom of the screen.

NUMBERING AND REFERENCING EQUATIONS

Many times you will need to number equations in order to reference them in your text. Writer makes this easy for you by managing the references for you. Numbering equations is one of Writer's best hidden features.

On a new line in Writer, type



Einstein's equation (1). Integral with limits (2). Pythagorean Theorem (3). A Matrix (4).

“fn” and press F3. The “fn” is replaced by a numbered equation. Double-click the equation to edit it and insert your own equation.

To create a reference to the numbered equation, choose Insert > Cross-reference from the menu bar. Under type, select Text. In the Selection list, select the equation you want to reference. Under the Insert reference to list, select either Reference or Numbering. Reference will include the parenthesis but numbering will use just a number.

TEXT MODE

In most cases, you will number

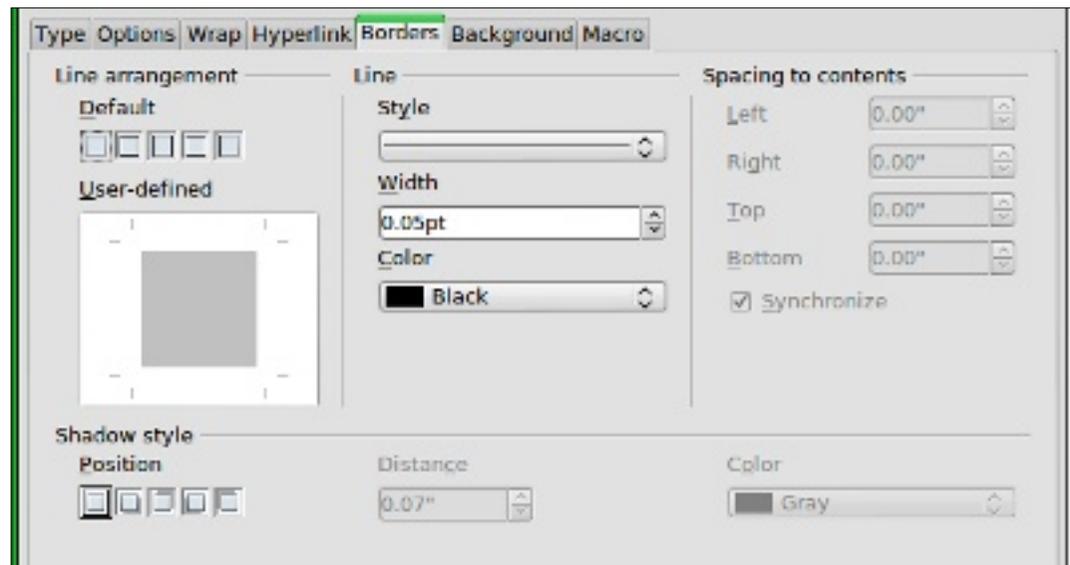
Samples in text mode

and reference your large formulas. Sometimes, you will need to use a larger formula in running text. When you do, use Format > Text Mode while editing the formula. Text Mode will attempt to make the formula fit the height of the text. Numerators and denominators are shrunk, and limits for sums and integrals are pushed to the right rather than top and bottom.

EDITING THE FORMULA OLE OBJECT

As I mentioned earlier, formulas are displayed in OLE object frames in Writer. This means you can add backgrounds, borders, word wrap,

$$\sum_{i=2}^5 i^2 \quad \text{and} \quad \frac{x+2-y}{z^2+y}$$



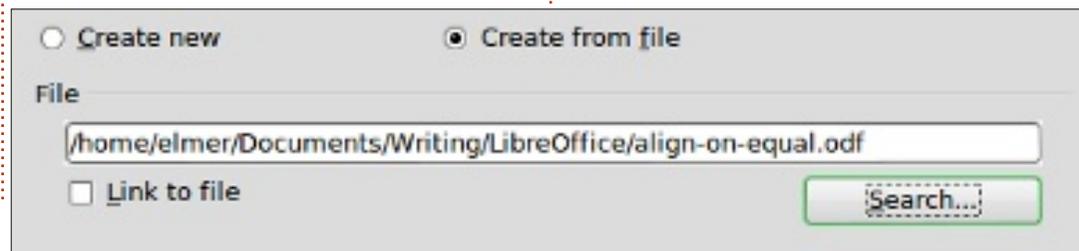
and margins to your formula. To change a formula object frame, select the formula by clicking it once, and Format > Object/Frame from the menus. The object dialog will open. You can also open the object dialog by right-clicking the formula, then click Object.

If you need to set defaults that apply to all formula objects, you can edit the formula frame style in the styles window. You will find the formula style under the frames category of the Styles and

formatting window.

CREATE A FORMULA LIBRARY

If you use formulas often in your documents, you might want to create a formula library. When you save formulas created in the Math module, they save as ODF files. You can save formulas from your documents by right-clicking them and selecting “Save Copy as”.



To insert a formula from your library, select Insert > Object > OLE Object from the menu bar. Select "Insert from file" and browse or type in the path for the file ODF file to insert.

CONCLUSIONS

Using formulas in Writer is actually very easy, making the creation of documents with advanced mathematics a fairly simple task. You can number formulas and reference them in your text. Using text mode, you can create formulas in your paragraph text which aligns as well as possible with the flow of the text. Change the appearance of your formula by editing the frame of the inserted OLE object. Import formulas you create in the Math module into your document by inserting an OLE object.

QUICK REVIEW: UBUNTU 4.10

by Anas Alsaidy

I was reading that the magazine needs us to help, so I decided to write about my experience with this old distro. Usually the reviews are about new and modern stuff, but I wanted to make this a little more quirky than the others.

After downloading the ISO file I burned it to a CD, rebooted my computer, and started the CD. I did have a problem with the CD not booting. It would hang on loading. So, I had to try it VirtualBox. In VirtualBox I had no problems with booting it at all and it worked exactly as expected.

The first thing I noticed was the good old GNOME desktop environment that I really liked. The second thing was the old versions of modern apps such as GIMP, OpenOffice, Gedit, etc.

CONS:

- I really didn't like the horrible wallpaper even for an OS released in 2004.
- I also didn't like the ugly brown theme. Luckily though, there were lots of theme that I could change between.
- I had a problem that it wouldn't allow me to save anything, but I think that was my computer at fault.

PROS:

- It's fast. Really fast.
- I didn't have any problems with multi-tasking
- I really liked the old GNOME panels the settings manager. Although, not the theme!

I said before that it was fast, because it really is I ran lots of applications and nothing went wrong, except for GIMP. It made the whole system lag and I had to restart the machine, but no problem as I'm using VirtualBox. But everything else was very fast.

Ubuntu 4.10 was definitely a great OS but apparently it can't replace the newer versions of Ubuntu. But honestly I did like this OS and it really looked like the the newer versions would be good, and that really is what happened.



Elmer Perry's history of working, and programming, computers involves an Apple IIE, adding some Amiga, a generous helping of DOS and Windows, a dash of Unix, and blend well with Linux and Ubuntu.



There are basically two ways in which we can store data on disk. Historically, we had to set up a number of files. It was necessary for each program to issue reads and writes at the file level, in the correct manner, to ensure that the “database” was maintained in a correct state—so this was a kind of “database” but it had to be re-invented for each major application. The database was effectively hard-coded into the software, and a small change to the database could potentially require massive programming effort.

A true database is simply a structured collection of data. There are many varieties of database, but by far the most popular kind uses “Structured Query Language” or SQL as the language used for access and control. There are many implementations of SQL databases, and SQLite is a popular one. The choice of database depends upon the application; if it is networked or could involve many simultaneous update processes,

then SQLite would not be recommended. However, at the “low end,” with non-networking and few simultaneous update processes, SQLite has many advantages—such as near-zero configuration, small memory footprint, and still gives a maximum database size of about 2 TeraBytes. It claims to occupy about 350 KBytes of memory. So SQLite is ideal for any PC. It is (perhaps) the most widely used database available—and it just happens to be open source. It may even be in use on your mobile phone...

With our relational database we can demand:-

- Complex data structures.
- Ease of use.
- Simple access from any program language.
- Database instructions should be in an English-like language.
- Atomicity—if a transaction performs multiple updates to multiple files, it either performs all the updates (if it succeeds) or no updates (if it fails).

Luckily (for us), the relational database was invented some time ago (1970s), together with a simple language—“Structured Query Language” or SQL, with which to control and access it. All versions of SQL are broadly standardised, so we have to learn it only once.

An example of a simple SQL statement (to insert some data into a database):

```
INSERT INTO table1
VALUES(250,84, 'The quick
brown fox jumped over the
lazy dog');
```

An SQL command starts with a verb, possibly followed by several qualifiers, and is always terminated with a semicolon. I have followed a common convention of writing SQL keywords in uppercase.

Apart from the zero-configuration aspect of SQLite, there is an additional advantage for the SQL neophyte: Firefox uses SQLite to manage internal caches, bookmarks, history, etc. So Firefox found it useful to write a GUI extension which makes it very easy

to prototype and create your own SQLite database.

Virtually every programming language supports SQL—you can even run the program from the command line—although we shall prototype our database the simple way. I will give one or two simple examples of Python usage.

Hopefully, you use Firefox as your browser, as you need to install an extension (SQLite Manager 0.7.7) in order to load a full GUI interface which will allow for prompting, execution and testing of your SQL. Once you like what you see, you can transfer the SQL statements to your favourite programming language, which could be anything from BASH to BASIC.

To add the relevant extension to Firefox:-

- From the Firefox menu click on the Tools > add-ons menu.
- In the search box enter SQLite Manager; you should see one entry
- Click on this and you should see a dialog box asking you to confirm

your decision;



You will now need to restart Firefox for this to take effect.

We are now set to go—but we should do a bit of database design before diving in.

An SQL database has a very simple structure: it consists of a number of tables which look very much like spreadsheets; they have a preset number of columns (defined when the table was created), and an unlimited number of rows.

There are effectively no row labels; we use the data itself to relate a row of data in one table to a row of data in another table. There is no limit to the number of tables—although the number of tables rarely gets too large.

This probably raises questions

of how can it work efficiently on large databases. It doesn't just plough through masses of data (although this can happen with bad designs). Behind the scenes, SQL maintains a number of indexes, some created automatically and some optionally created by the user. Many database operations are simply operations on these efficient indexes.

It's worth pointing out that a SQLite database is stored as a single large file—which makes backups (very important) a particularly easy task.

THE APPLICATION

An artificial example:- suppose we have a bunch of students who will each be sitting a number of exams. We need to record the exams taken, the student name and address details (so we know where to post the results to). The accent is very much on simplicity!

I've tried to follow a simple naming convention:- to prefix table names with 'T', column names are in lower-case, and SQL statements are in upper-case.

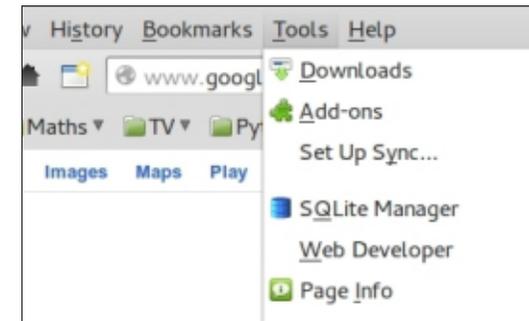
We shall create four tables:
Tstudent (one row per student)
Taddress (one row per address line per student)
Texam_name (one row for each exam set – a list of exam titles)
Texams (one row per student per exam taken)

Note that we could have stored the address in the Tstudent table as a preset number of fields—but how many? There is bound to be someone who requires more lines for their address than we had planned for.

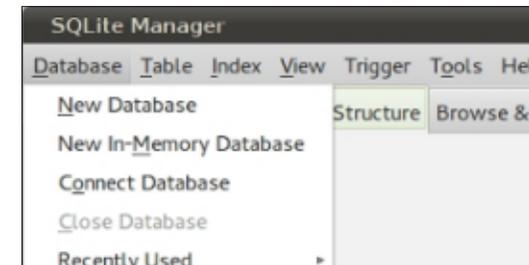
This process whereby a repeating field is moved into a subsidiary table is an example of “normalisation” and is an important feature of database design.

A similar reasoning justifies the creation of the Texam_name as we don't want to be forced to re-enter the full exam title for each student—we can just enter an exam identifier.

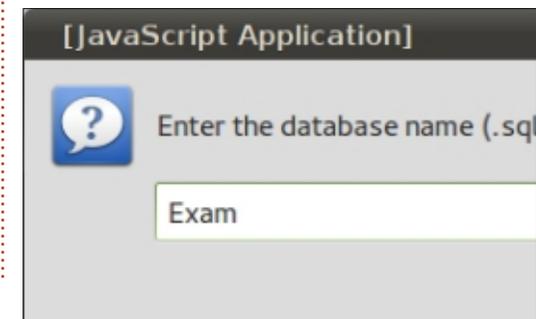
First we need to create our database, so it's time to launch Firefox, and, from the Firefox menu, click on Tools > SQLite Manager



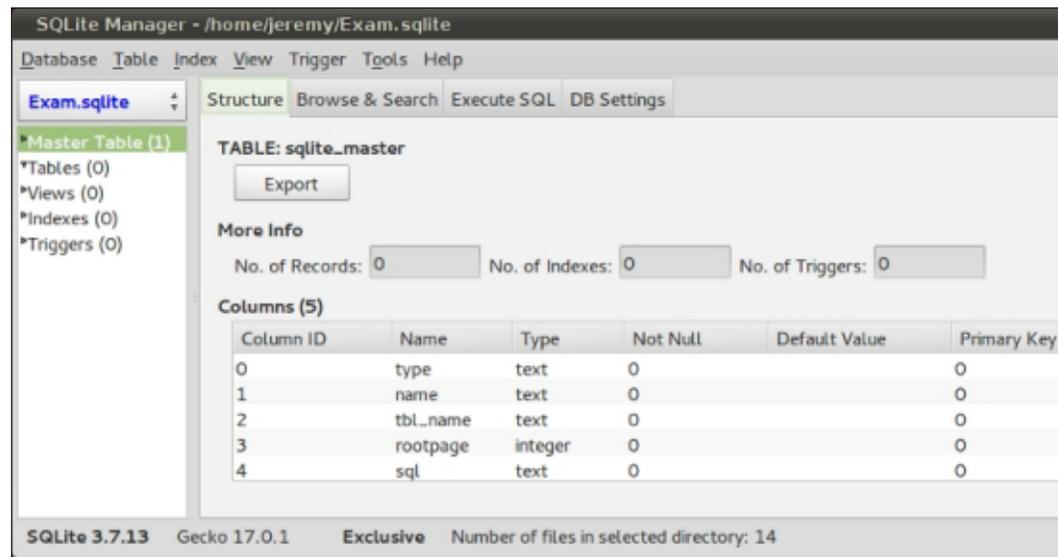
You will be presented with a sparse looking screen, so choose Database from the menu and click on the new Database entry:-



We are going to call our database the “Exam” database, so enter Exam into the dialog box—the system will add .sqlite onto the end, and ask you to choose a folder to put it in—I suggest you choose your home directory.



HOWTO - AN INTRO TO SQLITE

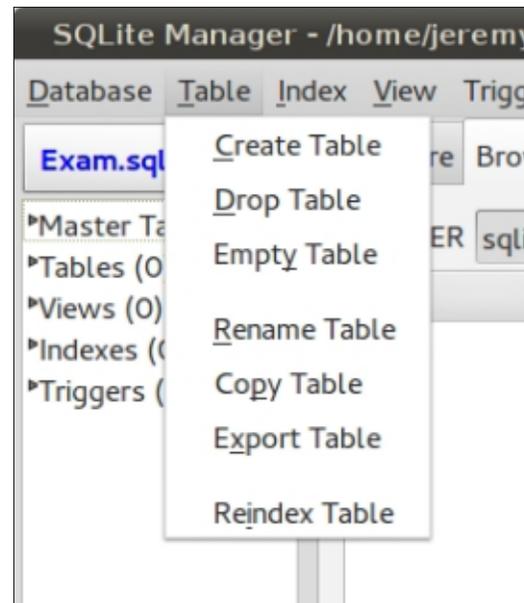


This gives us a rather complicated looking initial screen (shown above).

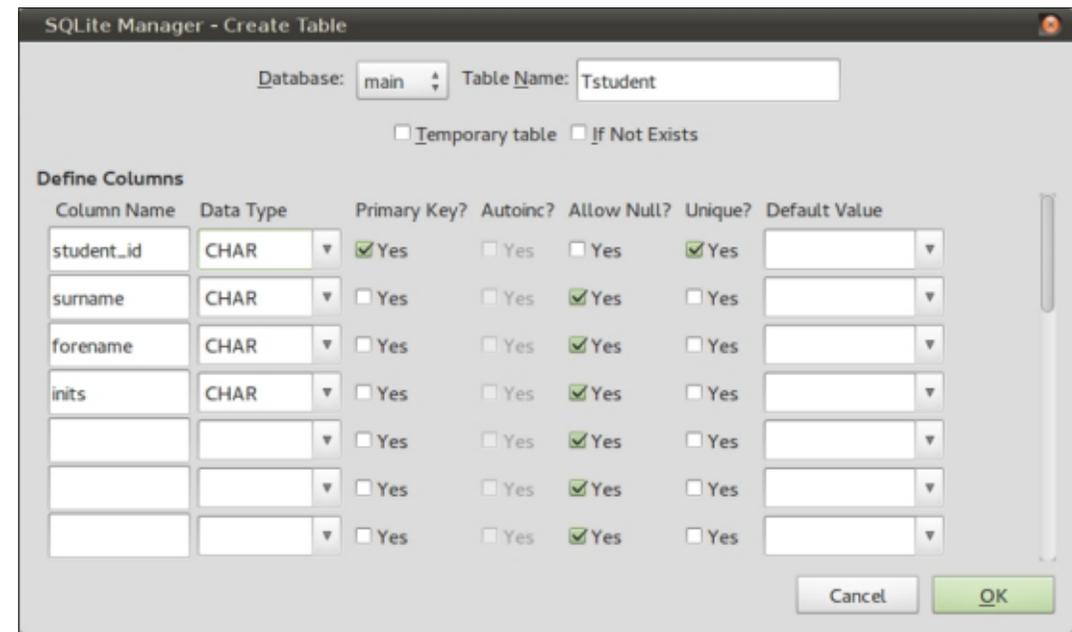
The reason for the rather complicated screen is that SQLite builds its own database to hold metadata about our tables and any relationships between them. This is maintained internally by SQLite and we have relatively little access to it.

So it's now time to create our first table. In practice, it's a good idea to set out your tables on paper before entering them into the computer as there is rarely an absolutely "correct" way to design these things.

Tstudent will have four columns (these are sometimes called fields).



This lists all the major operations we can do to



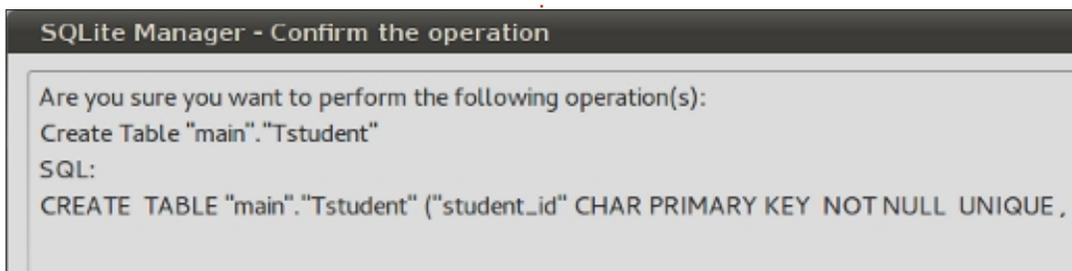
tables—(Drop is SQL-speak for deleting a table).

We want to create a table; so we proceed and are presented with a form to define our table (shown above).

SQLite is different from other SQL databases in that there are only a few different data classes (INTEGER, REAL, TEXT, NULL,

BLOB); no size is mentioned as SQLite will use only as much space as is necessary. A BLOB ("Binary Large Object") is any collection of binary data stored as a single entity.

We will be prompted to confirm that we really want to create this table—and we are shown what the SQL statement looks like to achieve this:



HOWTO - AN INTRO TO SQLITE

So now we have a properly formatted table, but it still has to be filled with data.

The student_id needs some explanation; we have described it as the "Primary Key", which we have specified as being Unique. Here the student_id key is used as a reference to individual student information in this and other tables. By specifying the "Unique" property, the database will reject any attempt to add a row with a duplicate student_id value.

Primary keys may consist of more than one column—for example we could insist that the combination of (surname, forename) is our primary key, but this wouldn't allow two students with the same combination of names to be enrolled. Each primary key causes SQLite to maintain an index.

It is usual, but not a requirement, that a primary key has the Unique keyword.

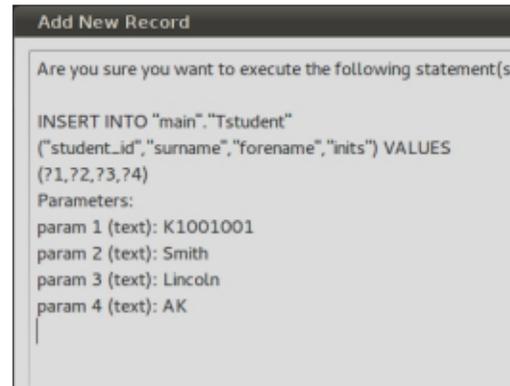
Although we have mentioned primary keys, these are really the only kind of key to consider. It should be mentioned that there is

a rather useful idea of something called a "foreign key" and we will give an example of its utility later.

We can now enroll some students (one at a time). The college has decided that the student_id is to be printed on all documentation, and will consist of a letter followed by seven digits. This is an important constraint which should (and could be) checked by the database. However, for the sake of simplicity, we shall assume that it is handled correctly by the user program.

Select the Tstudent table and take the add option:-

After entering your data, the system will prompt you with the appropriate SQL statement for adding a row.

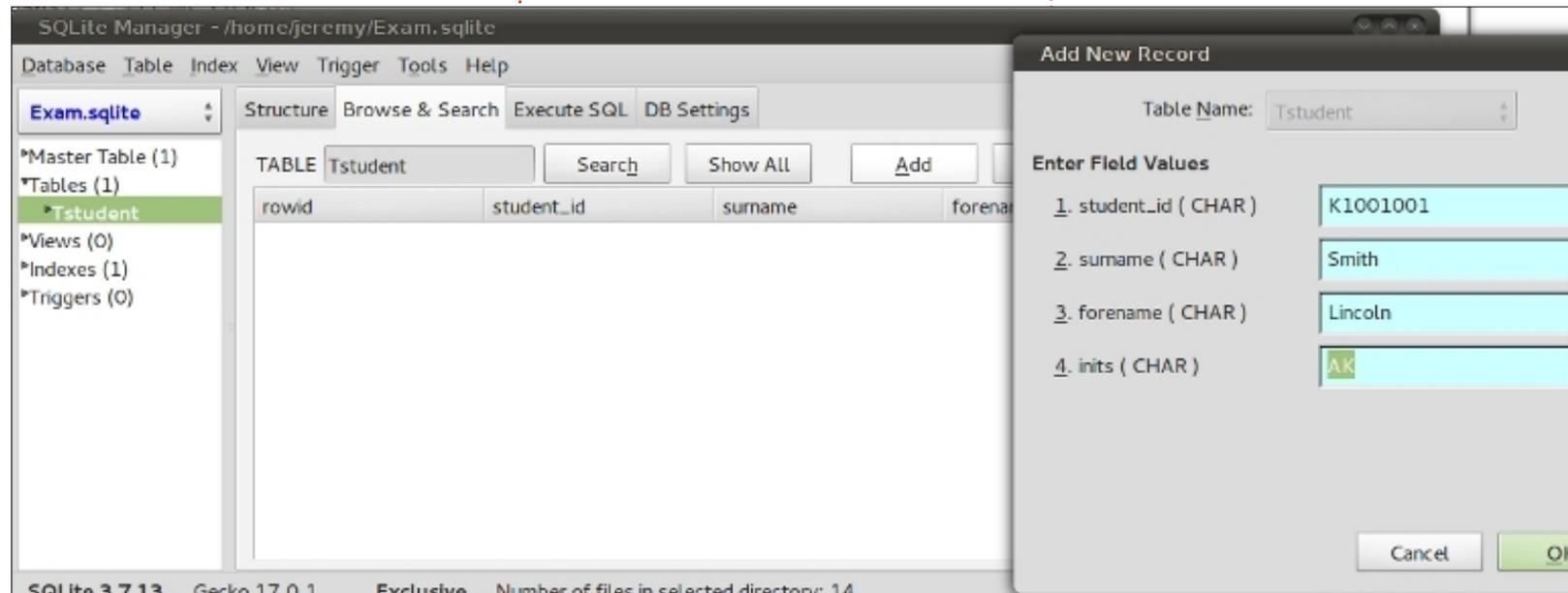


```
Add New Record
Are you sure you want to execute the following statement(s):
INSERT INTO "main"."Tstudent"
("student_id","surname","forename","inits") VALUES
(71,72,73,74)
Parameters:
param 1 (text): K1001001
param 2 (text): Smith
param 3 (text): Lincoln
param 4 (text): AK
```

However, entering data one line at a time will lead to very poor database performance. Because we didn't specify how many SQL statements form a logical

transaction unit, SQLite assumes the single INSERT statement is an entire transaction. The system needs to lock the database against update, check there isn't a pre-existing row with the same unique key, write the data row, and flush the data to the disk to ensure the integrity of the database. All this activity is probably going to require a couple of rotations of the disk drive. We gain "atomicity" (a row is never partially written) but suffer a large performance penalty in disk-wait time.

The solution is to carry out a number of database updates as one logical transaction. We simply do a little more work and spend



HOWTO - AN INTRO TO SQLITE

less time waiting for disks to respond.

We mark the beginning and end of the transaction with SQL statements

```
BEGIN TRANSACTION;  
...  
COMMIT;
```

We can enter any reasonable number of statements (thousands) that make sense—covering multiple tables and various operations. When we reach the COMMIT statement, the database can be considered to have been properly updated. Alternatively, if an error occurs part way through (or we issue the ROLLBACK command), the database is placed back into the state it was in before we started our transaction.

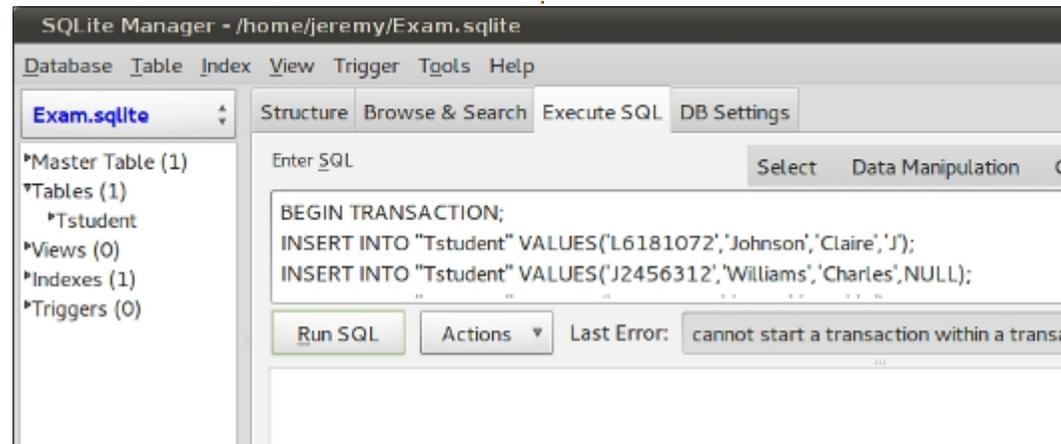
So let's add a few more students (we know we want to execute some SQL, and "Data manipulation" seems the most appropriate).

We get a prompt of

```
INSERT INTO tableName  
[(column-list)] VALUES (value-  
list)
```

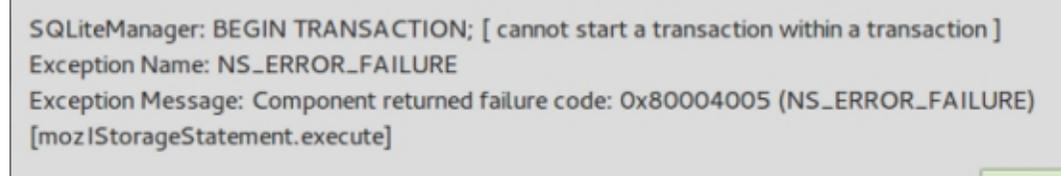
Bearing in mind our successful one-row attempt, it seems reasonable to try pasting the following piece of SQL into the "Execute SQL" box. It's quite long, but it's just a lump of repetitive code (shown above right).

```
BEGIN TRANSACTION;  
INSERT INTO "Tstudent" VALUES ('L6181072', 'Johnson', 'Claire', 'J');  
INSERT INTO "Tstudent" VALUES ('J2456312', 'Williams', 'Charles', NULL);  
INSERT INTO "Tstudent" VALUES ('M1234700', 'Jones', 'Joan', 'A');  
INSERT INTO "Tstudent" VALUES ('K1348221', 'Brown', 'Dennis', '');  
INSERT INTO "Tstudent" VALUES ('J9274173', 'Moore', 'Linda', 'S');  
INSERT INTO "Tstudent" VALUES ('L4522786', 'Taylor', 'Percy', 'ABC');  
INSERT INTO "Tstudent" VALUES ('L3665921', 'Anderson', 'Janet', NULL);  
INSERT INTO "Tstudent" VALUES ('M2287567', 'Garcia', 'Carmen', 'G');  
INSERT INTO "Tstudent" VALUES ('L7234219', 'Martinez', NULL, '');  
INSERT INTO "Tstudent" VALUES ('J8445578', 'Montagu-Stuart-Wortley-  
Mackenzie', 'Edward', NULL);  
COMMIT;
```



One of those names is a real person (shown above).

However, when we attempt to run this piece of SQL, we get:



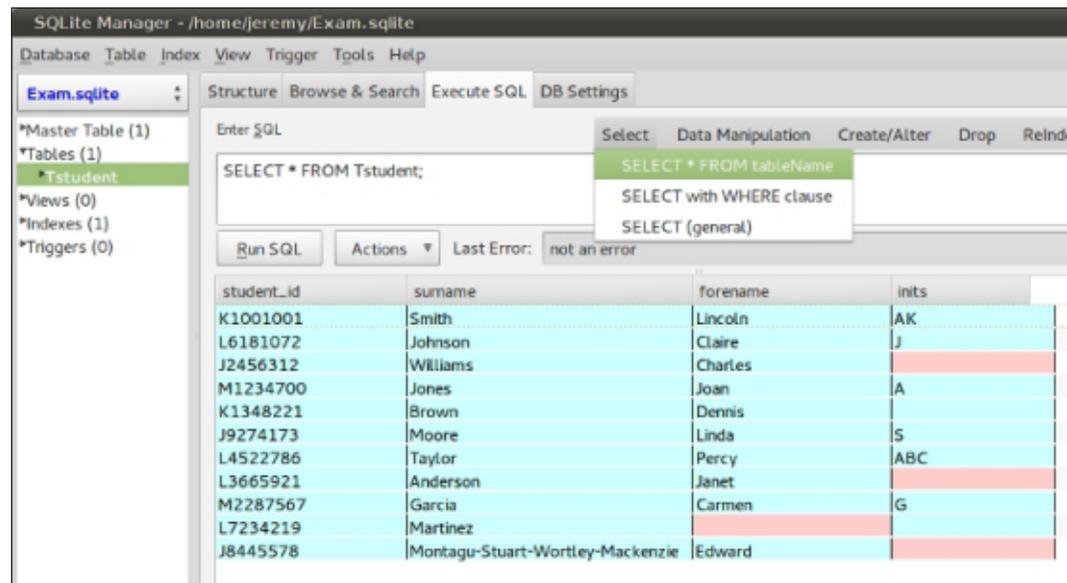
This is unexpected—but it turns out that Firefox always arranges for invisible BEGIN and COMMIT instructions to be inserted into any SQL that is run. The error

(correctly) says that you can't nest transactions.

No programming language would ever do this for you; in a real-life situation, you would want to intercept some errors, and either correct them or simply accept them as errors which are not serious enough to cause a transaction to fail.

In this case, we just remove the BEGIN and COMMIT statements and it runs perfectly. There is a very simple SQL command to display all rows and all columns of a table—so we'll run it to prove our table contains the "right stuff" (shown on the next page, top left).

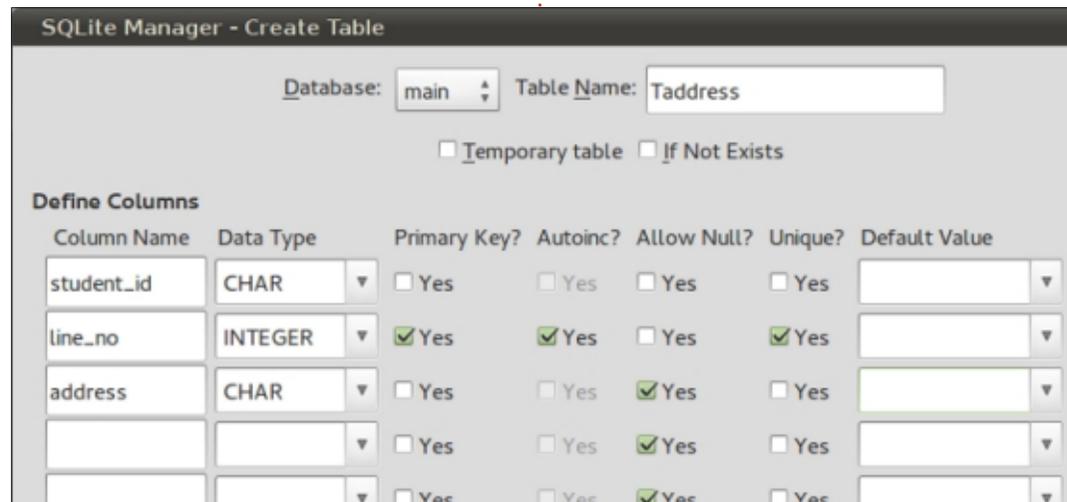
So far, we have managed to create just one table. It is only when we have several tables that



we can map the relationships between them. You will be pleased to learn that the Firefox add-on allows you to import an initial data load if you have appropriate data available as CSV, XML or SQL source; it is also possible to export a table to these file types too. We

still need to write the SQL statements to create the tables, but we can import our base data from spreadsheet(s).

For Address we shall specify the columns as follows:



Note that we could have specified TWO columns for our primary key and the corresponding SQL command generated would be:-

```
CREATE TABLE "Address" ("student_id" CHAR NOT NULL UNIQUE , "line_no" INTEGER NOT NULL UNIQUE , "address" CHAR, PRIMARY KEY ("student_id", "line_no"));
```

However, we choose to use a feature of SQLite, provided that we have only one primary key column and that it is of type INTEGER, we can ask for it to be auto-incremented on each write to the table. You may have noticed that a column (called rowid) is automatically inserted in each row of a table; by using autoincrement we get an ascending sequence of line numbers (possibly with gaps in between).

Since it would be meaningless to allow the entry of the address of someone who is not in the Tstudent table, we need to prevent this. This kind of problem is described as a "referential integrity issue," and it could be prevented by relevant program coding. However, the problem is really intrinsic to our database

design, and a database with dozens of tables would suffer many more referential integrity issues.

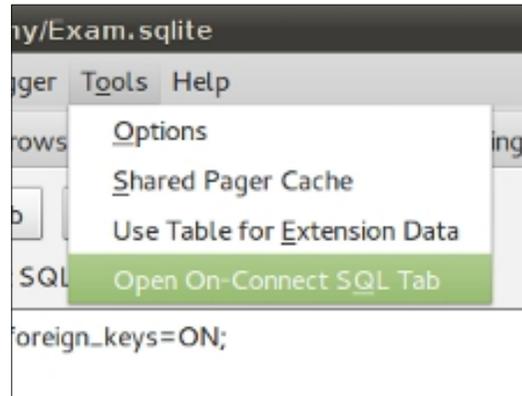
The solution lies in entering the data rules into the database, so that the database can enforce data integrity (note that although the same name of student_id was used in both the Tstudent and Address tables, this doesn't mean that there is any implicit connection between the two tables).

This is the situation alluded to earlier of a "foreign key"—here we would want any attempt to update Address to check that the student_id already exists in Tstudent. We can think of Tstudent as being the "parent" whilst the corresponding multiple address rows are "child" entries. Potential problems could also happen if we were to delete a row from the parent, but we can instruct the database to automatically delete all the child entries.

Unfortunately, the Firefox GUI does not support the generation of SQL for foreign keys. Furthermore, it actually has foreign key supported switched off (by default) this is easily fixed by telling Firefox to run a command to

HOWTO - AN INTRO TO SQLITE

enable foreign keys!



It is important to type the PRAGMA foreign_keys=ON; correctly, and press save. You need to do this only once for each database you create, as future connections to the database will automatically run this PRAGMA command.

The correct syntax for the foreign key specification can be rather complicated. With a little practice, this is straightforward; the following will fix the situation:

```
DROP TABLE "Address" ;
delete the existing table and data...
```

```
CREATE TABLE "Address"
("student_id" CHAR NOT NULL
,"line_no" INTEGER PRIMARY
KEY AUTOINCREMENT NOT NULL
,"address" CHAR, FOREIGN
KEY("student_id") REFERENCES
Tstudent ("student_id") ON
```

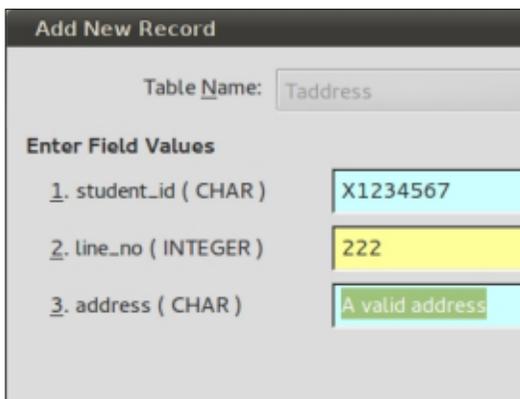
```
DELETE CASCADE) ;
```

This will cause updates to check that the FOREIGN KEY("student_id") (in Address) REFERENCES (matches) in the table Tstudent ("student_id" column). The ON DELETE CASCADE phrase will cause any deletion of a student in the parent (Tstudent) to delete all relevant instances from Address.

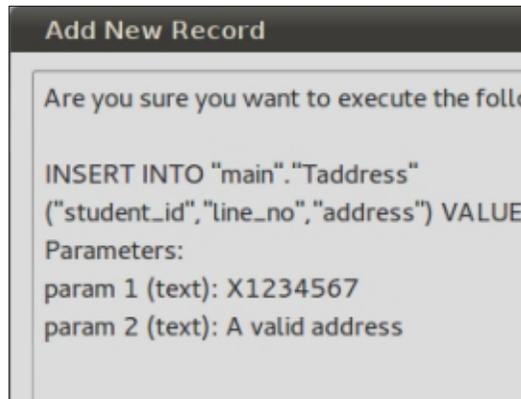
We can summarise the major constraints we can place on a column:

- NOT NULL
- UNIQUE
- PRIMARY KEY
- FOREIGN KEY
- CHECK e.g. CHECK(price > 0)
- DEFAULT (the value to be used if none is supplied)

We can try and add an address line for a non-existent student:-



Note that only two input parameters are needed



This gives an error message—foreign key constraint

```
#!/usr/bin/python3.2
# -*- coding: utf-8 -*-
import sqlite3 as lite
import sys
valid_data = [('K1348221', None, 'Radio Free Albemuth'),
              ('K1348221', None, 'VALIS'),
              ('M1234700', None, '27 High Street'),
              ('M1234700', None, 'Somewhere Town'),
              ('M1234700', None, 'United Kingdom')
              ]

con = None
con = lite.connect('Exam.sqlite') # Make connection with
database
if con:
    con.execute('BEGIN TRANSACTION;')
    con.executemany('INSERT INTO Address VALUES(?,?,?);',
valid_data)
    con.commit()
    con.close() # Disconnect from database
```

failed.

An attempt to add a valid student will succeed.

We don't really care whether the line number of the address is 1, 2, 3, ... or not—just that it is increasing. We have arranged for the database to do it and save some work in our program.

A simple example (in Python) of adding just a few address lines would be:

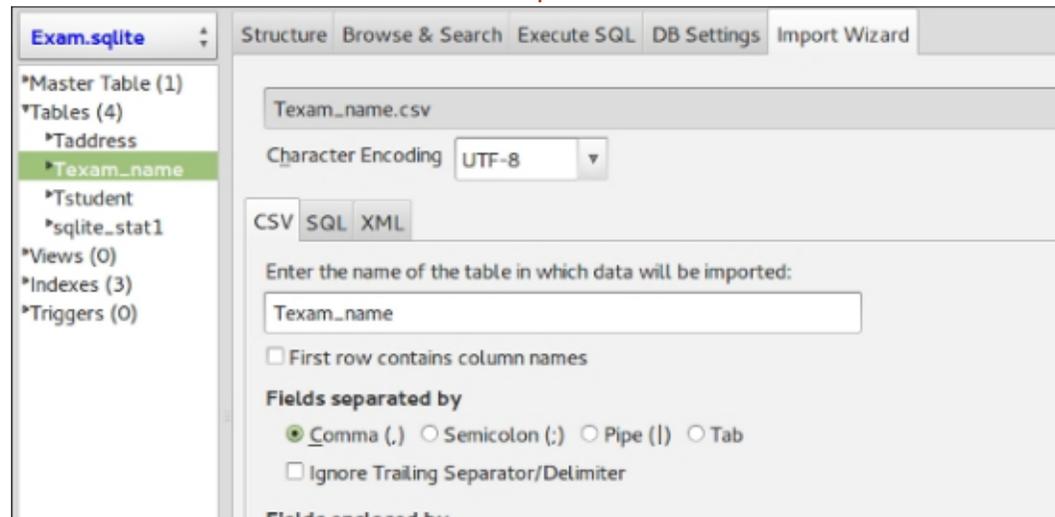
HOWTO - AN INTRO TO SQLITE

Note that the interface converts a Python “None” into an SQL “Null”, there is no error handling, and the address line sequence number is generated (correctly) by the database.

We now need to create a new, super simple, table which will be a “codes file”; it associates exam codes with their titles. Since it's so simple, we can just type it into the “Execute SQL” area without any prompting.

```
CREATE TABLE Texam_name
(exam_id CHAR PRIMARY KEY NOT
NULL UNIQUE, exam_title
CHAR);
```

Because we have the data available, we shall load the initial data from a CSV file (created from a spreadsheet):



We now have a number of tables and we are in a position to use one of the most powerful features of SQL—when we combine two or more tables together. To do this we use the JOIN keyword. There are two main varieties of JOIN available – by far the most common type of JOIN is a matching columns JOIN (technically an INNER JOIN). You can guess the name of the other kind of JOIN!

When specifying our JOIN, a problem that sometimes occurs is that we have used the same name for a column in two tables – but perhaps it has different meanings – in which case we need to qualify the column name by table name. As an example:

```
SELECT surname, forename,
address FROM Tstudent AS S
JOIN Taddress AS A
ON S.student_id =
A.student_id;
```

(The multiple lines are purely for readability), we enter this into the “execute SQL” section:- Note the optional temporary renaming of the tables to single letter names, purely so the full qualification of field names is abbreviated. We don't have much data in our database, so it looks like that shown below.

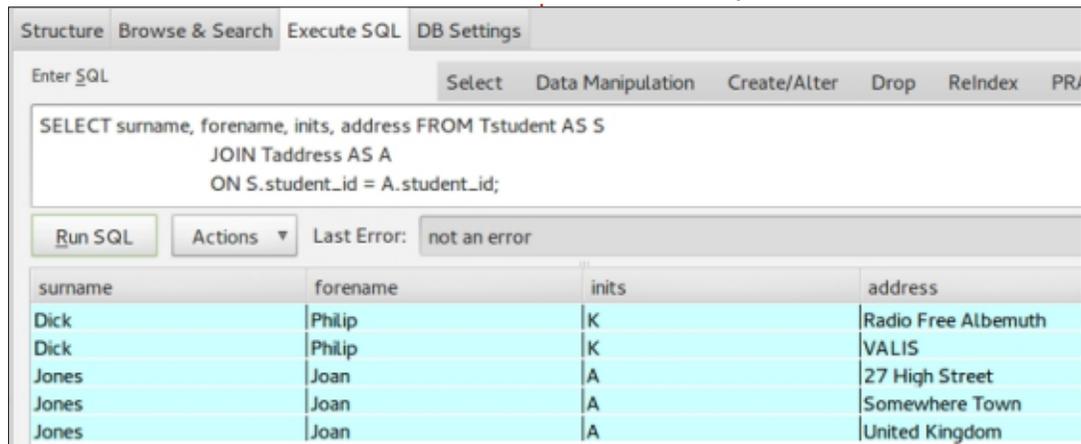
It happens frequently that we make a habit of making up new names for the same thing, so in fact our student_id means the same thing in the two tables. As a shortcut we have the idea of a “NATURAL JOIN”—where any matching names are assumed to be

required to be matched; so an equivalent to the previous JOIN is:

```
SELECT surname, forename,
address FROM Tstudent
NATURAL JOIN Taddress;
```

Note that a NATURAL JOIN can give unexpected results if extra columns are added to the tables at a later date.

If we expect to want to use our address list periodically, then we should create a View (using our SELECT statement above). There is no overhead in doing so, since it is just an instruction on how to view existing tables. However, it is important to realize that for the same reason, only tables can be updated—views are just a reflection of the current state of the tables; the data in views cannot be updated.



HOWTO - AN INTRO TO SQLITE

We can also create joins which are a JOIN of a table with itself, to create Views of a single table—perhaps to hide a particularly complex piece of SQL. It's also possible to join more than two tables in one statement—but then things tend to get complicated!

If we have a very big database—many thousands of rows in several tables—performance will suffer. In this case, we should look at how we are using our database, especially with respect to JOINS, and specify the Index Create index option. This is likely to speed up queries, at a small penalty for database updates (we have to maintain each additional index).

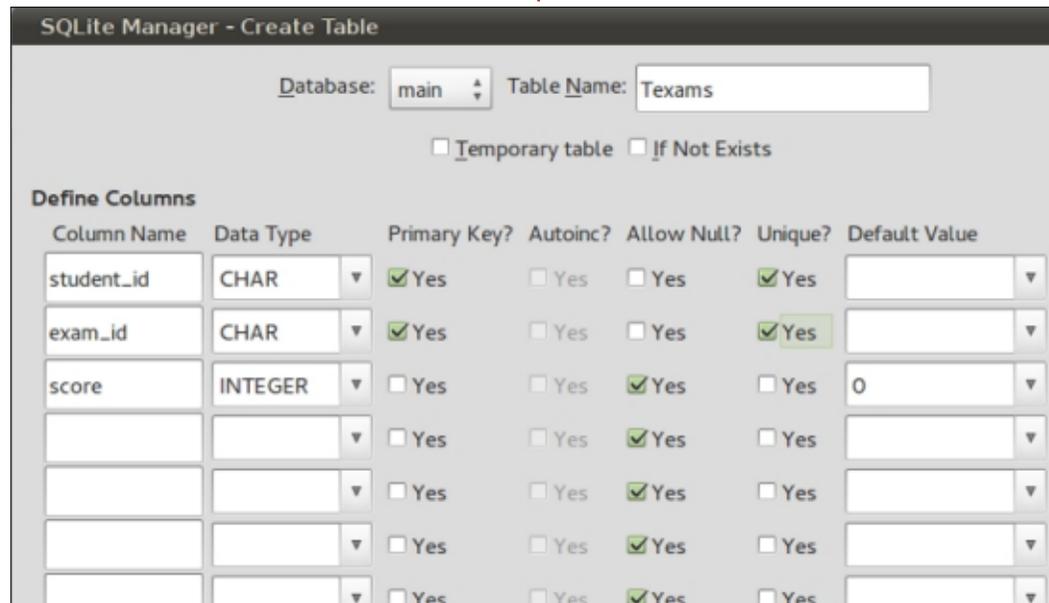
The last major feature that can be used is the TRIGGER statement – where it is desirable that some database event should 'trigger' a sequence of actions. This is really a rather advanced topic and I refer you elsewhere!

We still have one last table to construct—the one that links the students with their exams.

```
Texams      student_id exam_id
score
```

The exam score will be zero if they have not sat the exam yet. To access the score, we need the combination of student_id and exam_id to be our unique (primary key). This is a slightly tricky case, because we don't allow a student to take the same exam twice, but the data structure means that we need to accept duplicate student_id's and duplicate exam_id's, but reject any combinations of the two which are not unique. This is a situation where a composite primary key has the effect we want.

So Firefox produces:



```
CREATE TABLE "Texams"
("student_id" CHAR NOT NULL,
"exam_id" CHAR NOT NULL,
"score" INTEGER DEFAULT 0,
PRIMARY KEY ("student_id",
"exam_id"))
```

We should really declare student_id to be a foreign key so that it is validated against Tstudent and similarly exam_id should be a foreign key so that it is validated against Texam_name. So we delete (with DROP Texams) and execute the following SQL; as you can see, it is effectively similar to our previous encounter with foreign keys.

```
CREATE TABLE "Texams"
("student_id" CHAR NOT NULL,
"exam_id" CHAR NOT NULL,
"score" INTEGER DEFAULT 0,
```

```
CHECK (score >= 0),
PRIMARY KEY ("student_id",
"exam_id"),
FOREIGN KEY("student_id")
REFERENCES Tstudent
("student_id"),
FOREIGN KEY("exam_id")
REFERENCES Texam_name
("exam_id"));
```

(Actually, this is not quite correct as SQLite allows character values to be stored in numeric columns—so the CHECK statement would not work properly; we could fix this with a more complicated CHECK statement—but it wouldn't add anything to the readability. So we will leave it alone).

We can enter all of the test cases using INSERT, and they should all behave properly.

With our last table we are in a position to do something typical. The college has a few rather arbitrary rules, which change from time to time, so they don't really need to be enforced by the database. For example: "No student can enroll for M829, without achieving a pass in M823 previously". This is easy to do in SQL with a little bit of decision in a

HOWTO - AN INTRO TO SQLITE

program.

As a slight variation, I've supplied a version that runs in a terminal screen; it could easily be converted to a BASH script. Many programs can have the database open, concurrently.

```
jeremy@HECTOR:~$ # An example
where student K1001001 wants
to enroll on M829
```

```
jeremy@HECTOR:~$ sqlite3
Exam.sqlite      # Open
database
```

```
SQLite version 3.7.9 2011-11-
01 00:52:41
```

```
Enter ".help" for
instructions
```

```
Enter SQL statements
terminated with a ";"
```

```
sqlite> SELECT count(*) FROM
Texams WHERE ("student_id" =
"K1001001" AND
```

```
...> "exam_id" = "M823"
AND "score" >= 40 );
```

```
1
```

```
sqlite> INSERT INTO Texams
VALUES("K1001001", "M829",
0);
```

```
sqlite> .exit
```

```
jeremy@HECTOR:~$
```

The SELECT count(*) ... statement is an example of one of the many built-in "aggregate" functions – here the number of rows that meet the conditions in the WHERE conditional, in this case a value of '1' is returned. So we can add a row (with a score of zero) for M829.

I shall give a number of references for more advanced use; but even if you want only a single keyed file or two—perhaps for an address book—a database is a big advance over some complex coding solution.

References:

<http://www.sqlite.org/docs.html> - The full reference; not a tutorial.

<http://zetcode.com/databases/sqlitetutorial/> - A very concise SQL tutorial.

<http://zetcode.com/db/sqlitepythontutorial/> - Python.

<http://zetcode.com/databases/sqlitephptutorial/> - PHP version.

<http://zetcode.com/db/sqliteperltutorial/> - Perl.

<http://zetcode.com/db/sqliteruby/> - Ruby.

<http://zetcode.com/db/sqlitecsharp/> - C#.

<http://zetcode.com/db/sqlitevb/> - Visual Basic.

http://en.wikipedia.org/wiki/List_of_relational_database_management_systems - general interest only.



Jeremy started his computing career on the ICL1900, later moving onto the IBM System 38 and its descendants (the AS400 and i-series machines) and has since taken early retirement.



The Ubuntu Podcast covers all the latest news and issues facing Ubuntu Linux users and Free Software fans in general. The show appeals to the newest user and the oldest coder. Our discussions cover the development of Ubuntu but aren't overly technical. We are lucky enough to have some great guests on the show, telling us first hand about the latest exciting developments they are working on, in a way that we can all understand! We also talk about the Ubuntu community and what it gets up to.

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The show is broadcast live every fortnight on a Tuesday evening (British time) and is available for download the following day.

podcast.ubuntu-uk.org



HOW-TO

Written by Nicholas Kopakakis

Blender - Part 6a

By default, blender has its own renderer called Blender Render, but my favorite is one called "Cycles". It is included as an enabled add-on since version 2.64 (we are now at 2.67), and I find it fantastic because among others things, you can actually see the rendered result of your models in real-time!

But, first things first. Locate at the top of your blender window the pull-down button that says "Blender Render".



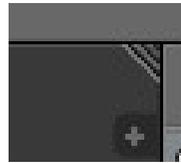
Press it to open the menu and select "Cycles Render".



Now, let's arrange our windows to take advantage of the interactive cycles renderer.

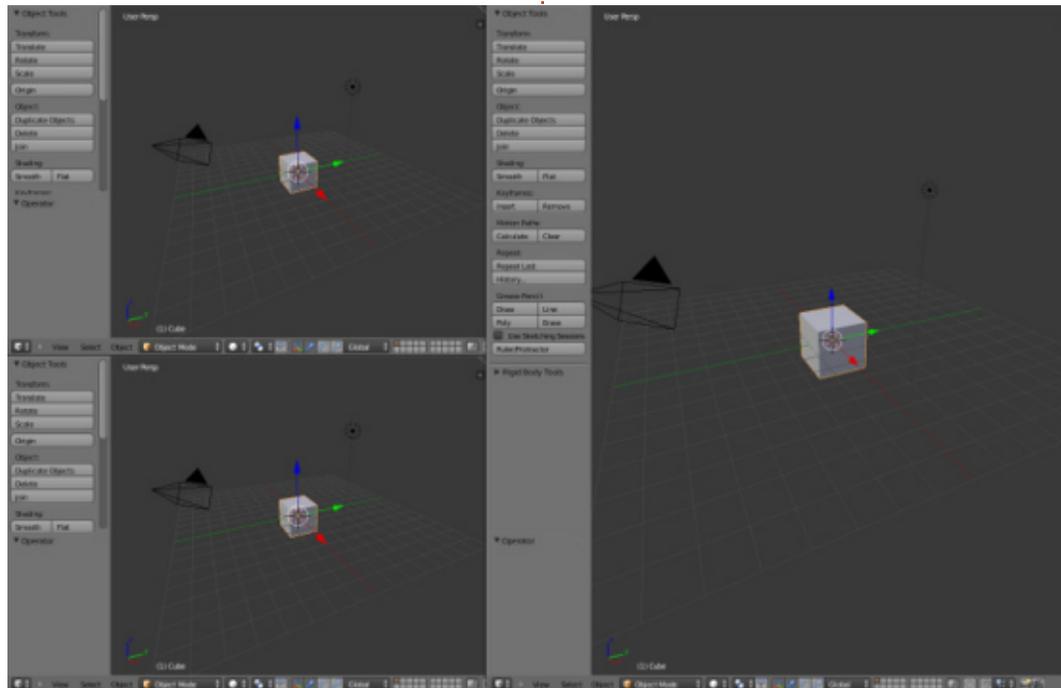
On the upper right corner of the 3d view window (main

window), press the LMB and drag the mouse left to create a new 3d view

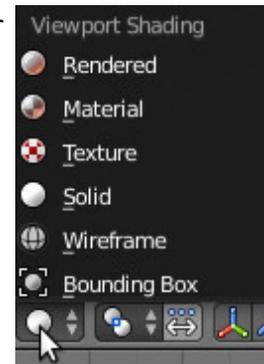


Then do the same with the left window that you have, but this time drag the mouse down to create a third window. You must have something like the image below.

Move the mouse on the upper left window, and press Numpad-0 to have camera view on it.



On the lower left window, press the small white sphere next to Object Mode button to display the Viewport shading menu



From that menu select "Rendered".

Now, what is actually happening is that, in this window, the cycles

render engine creates "on the fly" a photorealistic image of your model. You can navigate in that window, you can zoom in or zoom out using the mouse wheel or +, - from the numpad, you can pan the view by holding the shift key and moving the mouse, rotate the view by holding the middle mouse button and moving the mouse, and, in general, any movement of the view that we examine in part one (FCM#68) of these articles.

This is a good time to save our setup. On the info header (the one that by default is the upper window), locate the screen button with the "Default" value in it (foolishly named, as a bunch of setups are the defaults in blender).

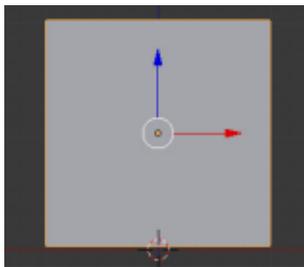


By pressing the small icon on the left (red square), you can select from a list of default setups. Press the + sign next to "Default". A "Default.001" value appears. Change it to a distinctive name for example "Model" to indicate that you use this setup when you model

objects. Then save your file with a unique name, I saved mine as "Basic_shapes.blend". The next time you open this file, the "Model" setup will be opened as well.

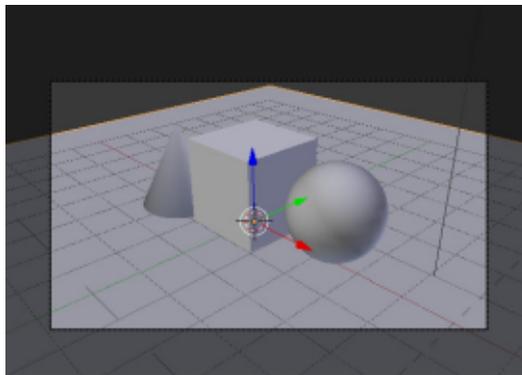
TIP: If you start a new project, or load an old one, your custom setup will NOT be there. Just the defaults with blender. To have your defaults with blender. To have your custom setup available anytime you start a new project, you must save it as the startup file by pressing Ctrl-U. Note that if you overwrite the startup file (by pressing Ctrl-U), ANYTHING that you have changed will be saved as well. For example, if you delete the cube and you overwrite the startup file, then the next time the cube won't be there! Of course you can revert to the original startup file (File > Load Factory Settings).

Move your mouse over the right 3d view window, and press Numpad-5 and Numpad-1 for Orthographic Front view. Grab the blue arrow of the cube and move it up just over the grip as shown:



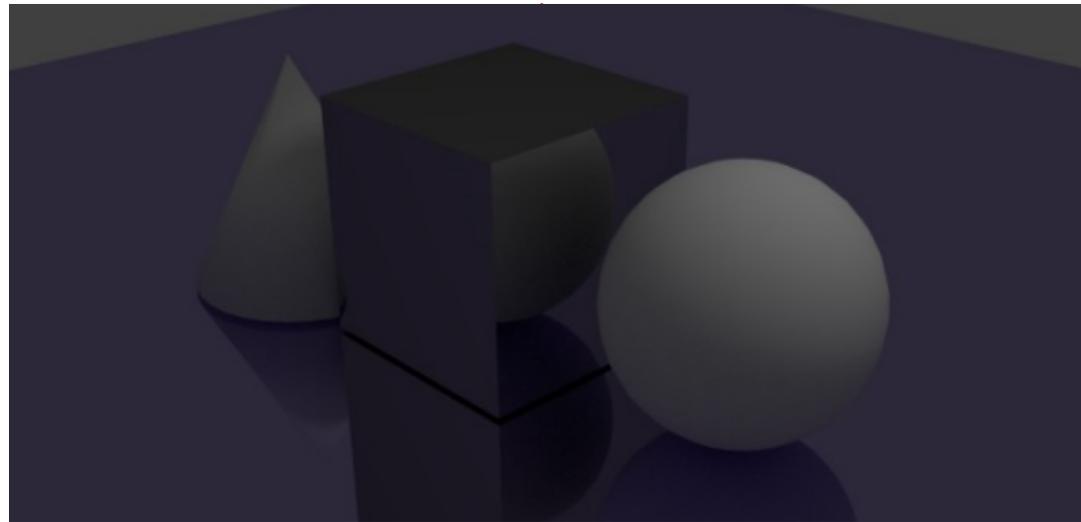
Press Shift-S and select Cursor to Center if it isn't already or Press Ctrl-C. Now add a plane and scale it up by 10 times (by now you must know how to do that). Create a Cone and a UV Sphere. Also smooth them. Move them in order to have them in good view on the upper left 3d view window (the camera view window).

Like the image below.



Select the plane and press the material tab on the right under properties window (shown top right).

A different set of things to tweak than the Blender Render! Press the New button (as in Blender Render) to add a new material. Name it "ground". Under Surface, you see the default value that is "Diffuse BSDF". This is like the Diffuse that we used in



FCM#72 to paint our objects. Press it and from the menu select "Glossy".

Almost instantly (depending upon your CPU power) you can inspect the Rendered 3d window what you've achieved so far. Impressive for just few clicks! Now, if you like, press the color button and assign a color to your glossy, mirror like, surface. I made it purple (R:0.5,G:0.4,B:0.8). As you change the color, Cycles starts to render the result. You have a preview really fast.

Now select the cube, add a new material, and set the surface type

to Anisotropic BSDF to give a metallic feeling to our cube. Maybe my favorite material shader.

Above is what we have so far.

More on this subject next month...



Nicholas lives and works in Greece. He has worked for a post-production house for several years and migrated to Ubuntu because "it renders faster." You can email him at: blender5d@gmail.com



HOW-TO

Written by Mark Crutch

Inkscape - Part 13

One thing you've probably noticed about Inkscape throughout the course of this series is that it operates with a stack of objects placed one above another—the "z-order." You can introduce some overall structure by putting objects into groups and layers, but it's simply not possible to create an element that passes both over and under another object.

Because we're mostly interested in creating an artistic result, the solution is simply to put the object on top, and then remove the part that would be hidden behind our second object. One way to remove the hidden part is to edit the paths that make up our problem object, perhaps using Boolean operations to cut out sections. But what if the object is complex, such as a group of many individual elements that would each have to be cut independently? A better option in this case would be to tell Inkscape that it should draw only certain areas, and leave the others transparent for the background

object to show through. This is done by creating a path and applying it as a "clip path." Any part of the object inside the path will be visible, whereas the parts that are outside it are not drawn at all.

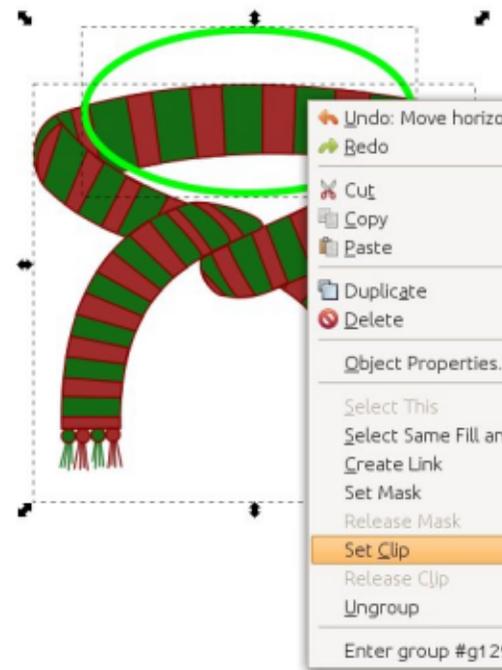
As an example let's resurrect the snowman from earlier in this series, and give him a scarf. We could do this simply by drawing the front part of the scarf onto the snowman, but, in this contrived case, our scarf already has a back section that we need to clip out of the final image.



Despite its name, a clip path doesn't have to be a path. It can be any closed shape—a rectangle, oval, star or polygon. It can also be a complex path which contains

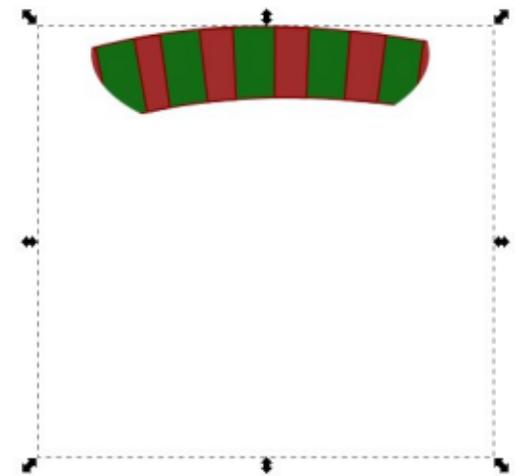
multiple sub-paths (more on that later). Whatever shape you use, however, it must be a single object rather than a group or a selection of several elements.

Defining a clip path is simple: just draw the path or shape you want, ensuring that it sits higher in the z-order than the object or group you want to clip. Now select both the clip path and the object you wish to clip, and use the "Set Clip" option on the right-click context menu. The Object > Clip >

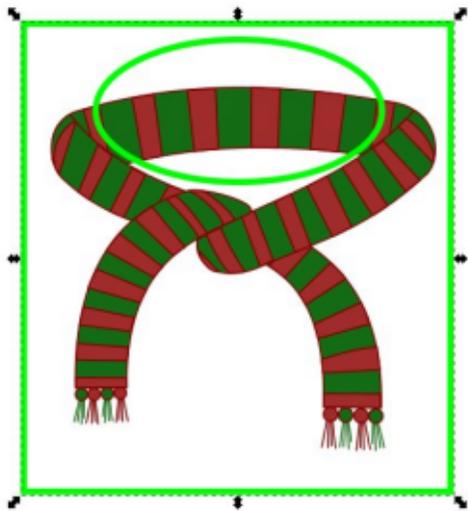


Set menu item has the same effect. Here, I've created an oval on top of the scarf. I usually draw my clipping paths with a bright green stroke and no fill—so that they're easy to spot against the item I'm clipping. The color is irrelevant, as is the thickness of the stroke: it's purely the shape of the path that is used to define the clip.

Unfortunately the result of this clip is the opposite of the effect we're looking for. Instead of removing the back of the scarf, we're left with nothing but the back of the scarf!



Remember, clipping always leaves the content inside the clip path visible, and hides everything outside it. There's no way to invert this behaviour to hide the content of the path, so, instead you have to work around it by creating a more complex path that does the job for you. This is an ideal opportunity to use the Boolean operations that were introduced in Part 7 of this series. In this case, you just draw a rectangle that's large enough to encompass the whole of the scarf then, ensuring the oval is on top, use Path > Difference to "subtract" the oval from the rectangle.



At first glance this may appear to simply be a rectangle with an oval on top of it, but, in practice,

this is now a single complex path. "Complex" simply means that it's made up of separate sub-paths. The rectangle is one sub-path, and the oval is a second sub-path, but the whole object is still considered to be a single path and can therefore be used for clipping. Once again, only the area inside the path will remain, but in this case "inside" consists of the space between the oval and the rectangle; "outside" is anything beyond the rectangle, or within the oval. Try setting a fill if the difference between inside and outside isn't clear. Clipping with this complex path gets us much closer to our desired result.



Remember, this is a purely visual effect. The original scarf remains the same, it's just that

parts of it are not being drawn. You can undo the effect at any time by selecting a clipped object then choosing Release Clip from the context menu, or Object > Clip > Release from the main menu bar. This will return the object to its normal appearance, and also make the clipping path visible again.

If we add the scarf to the snowman you can see that we're close to the effect we're looking for, but there are still parts of the scarf that are being drawn in front of the character's head.



The problem is that the clip path we've used was just an approximation, and needs to be tweaked to more closely match the section that we want to hide. In earlier versions of Inkscape, the

only way to do this was to release the clip, adjust the path, then re-clip. Even with the latest version, that's still the only option if your clip "path" is actually a rectangle, star, oval or other primitive object. Thankfully, our Boolean operation has turned our combination of an oval and a rectangle into a fully fledged path, which can be edited without releasing the clip since the 0.48 version of Inkscape.

To switch to editing mode, you have to select the clipped object (as usual keep an eye on the status bar where a clipped object will be described as such), then switch to the node tool—using the icon on the tool palette or by pressing "n" or F2. You should now see your clipping path rendered as a single pixel green path, regardless of the color or thickness of the original path. The green color in this mode is the reason I choose bright green when drawing my path in the first place—it helps to reinforce the mental link between green paths and clipping. If you don't see the green path, make sure the "Show clipping path(s) of selected object(s)" button (in the tool control palette) is active.

From this point you can just edit

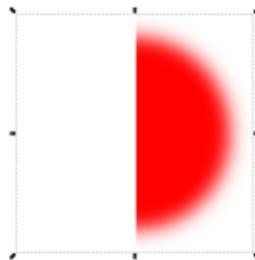
the path using the node tools that were described in Part 6. You may find it easier to reduce the opacity of your clipped object so that you can see how your clipping path relates to the objects behind. The changes to the clipping path will be applied live, so you can see the result as you work. Once you've finished editing, return your object's opacity to 100% if you need to, and change to the selection tool to hide the green clipping path and see your results. Remember that the spacebar can be used as a convenient shortcut to switch to the selection tool and then back to the node tool during editing, if you find that the nodes are obscuring your view.

With a little time spent on node editing, you should be able to adjust the clipping path to follow the head of the snowman and make the scarf seem to disappear behind it.



Sometimes you will be able to get away with a simple rectangle or oval as a clipping path, but usually it's worth pressing CTRL-SHIFT-C (or using Path > Object to Path) before setting the clip, simply for the advantage of being able to edit the path without having to un-set then re-set the clip.

Because clipping always results in a hard edge, it can be used to create some effects that would otherwise be very difficult to produce. Wherever you have to stop a blur from spilling over an edge, clipping can provide a solution. Consider something like a semicircle which should only be blurred on the curved edge and cut cleanly on the straight edge. Without clipping this would be a very difficult image to create.



The ability to cut out parts of a blurred object can lead to some particularly interesting effects when used with text. For each of these examples, I've created two copies of a text object. One of

them is blurred, whilst the other has been converted to a path and used to clip the blurred version. Different arrangements of clip path, blur, text, background and color choices can produce a variety of results.



Blurred,
Clipped
Text



Blurred,
Clipped
Text

Clipping can also be used to work around the limited selection of gradient types. Inkscape follows the SVG standard in supporting only linear and radial gradients, but other types can often be emulated through careful use of blurred objects and clip paths. In this example, a few blurred segments and a donut-shaped clipping path makes an acceptable substitute for a conical gradient when drawing a CD.



Although clipping has many uses, and is a technique that's well worth getting to grips with, sometimes you need a little more subtlety than the hard edges it creates. Next time, we'll look at masking—a related technique that lets you fade objects out gradually, rather than just stopping them dead at the edge of a path.



Mark has been using Linux since 1994, and uses Inkscape to create two webcomics, 'The Greys' and 'Monsters, Inked' which can both be found at:

<http://www.peppertop.com/>



GUIDELINES

The single rule for an article is that **it must somehow be linked to Ubuntu or one of the many derivatives of Ubuntu (Kubuntu, Xubuntu, Lubuntu, etc).**

RULES

• There is no word limit for articles, but be advised that long articles may be split across several issues.

• For advice, please refer to the **Official Full Circle Style Guide:** <http://url.fullcirclemagazine.org/75d471>

• Write your article in whichever software you choose, I would recommend LibreOffice, but most importantly - **PLEASE SPELL AND GRAMMAR CHECK IT!**

• In your article, please indicate where you would like a particular image to be placed by indicating the image name in a new paragraph or by embedding the image in the ODT (Open Office)

document.

• Images should be JPG, no wider than 800 pixels, and use low compression.

• Do not use tables or any type of **bold** or *italic* formatting.

If you are writing a review, please follow these guidelines :

When you are ready to submit your article please email it to: articles@fullcirclemagazine.org

TRANSLATIONS

If you would like to translate Full Circle into your native language please send an email to ronnie@fullcirclemagazine.org and we will either put you in touch with an existing team, or give you access to the raw text to translate from. With a completed PDF, you will be able to upload your file to the main Full Circle site.

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When reviewing games/applications please state clearly:

- title of the game
- who makes the game
- is it free, or a paid download?
- where to get it from (give download/homepage URL)
- is it Linux native, or did you use Wine?
- your marks out of five
- a summary with positive and negative points

HARDWARE

When reviewing hardware please state clearly:

- make and model of the hardware
- what category would you put this hardware into?
- any glitches that you may have had while using the hardware?
- easy to get the hardware working in Linux?
- did you have to use Windows drivers?
- marks out of five
- a summary with positive and negative points

You don't need to be an expert to write an article - write about the games, applications and hardware that you use every day.





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ASK THE NEW GUY

Written by Copil Yáñez

Welcome back to Ask the New Guy!

If you have a simple question, and the words “rolling release model” sound like they refer to a new Kia electric vehicle, contact me at copil.yanez@gmail.com.

Today’s question is:

Q: I’ve been hearing a lot about the new version of Ubuntu, and want to give it a try. How hard is it to get started?

A: You’re probably talking about Ubuntu 13.04, codenamed Raring Ringtail. Which is a terrible codename, by the way. There isn’t a self-respecting undercover police force in the world that would be fooled by that name. Seriously, Ubuntu, if you guys want to be counted among the elite fake spies (James Bond, Emma Peel, Johnny English), you need a better name. And British parents, apparently.

But I digress. Which is, like, eighty-percent of these things anyway, so I think we’re on track.

Ubuntu 13.04 was just released, and continues the evolution toward a faster, better, stronger operating system. It’s like the Iron Man of operating systems. Note to Mark Shuttleworth: I would pay good money to see the Ubuntu logo on the Mark 42 start-up screen.

There’s plenty of talk about this version feeling peppier on older hardware and running faster and lighter in daily operation. This all makes sense to those of you who’ve been using Ubuntu forever, and have it installed on everything including your electric toothbrush (in which case, may I suggest the Gingivitis Lens?). But, for a lot of people, this will be their first point of contact with Linux.

The introduction of a new version of Ubuntu is a perfect opportunity to remind new users how easy it is to get started in the glamorous world of Linux! And by glamorous, I mean exactly the opposite of glamorous. Unless Mark takes my suggestion from the third paragraph. I’m just saying, can

you imagine the marketing benefit if Robert Downey, Jr. was heard to say, “*Jarvis, hand to God, I will replace you with a Roomba if you don’t run the Ubuntu Software Updater before every mission!*”

Let’s take a look at the installation process on an older machine, and see if, (a) it’s easy and, (b) it results in any improvement.

I have an old Vaio that runs like a tired dog on a hot day. I tried installing an earlier version of Ubuntu a while back. It did run faster than the original OS but it was still sluggish and, in the end, I opted for Lubuntu, a lighter, slimmer version of Ubuntu specifically formulated to work better on older laptops like mine.

With Raring Ringtail out in the wild, let’s use the Vaio as a



testbed. Here are the specs:
Vaio running 12.10 Lubuntu
2GB RAM
Intel Core Duo 1.83 GHz

From startup, it took 25 seconds to get a login screen and another 60 seconds to open a browser window. Experienced users are probably laughing right about now because they like to tweak their machines to minimize startup times. AND THEY'LL SPEND WEEKS DOING IT! Oh, hai, have you met my good friend Irony?

Seriously, my startup time isn't bad, right? Less than 90 seconds from a cold start to surfing my Bronie fan sites. I can live with that.

Okay, let's put the laptop aside for a moment and take our new users through the process of finding, downloading and burning Ubuntu 13.04 to a DVD. That may sound daunting but it's really easy. If that seems too intimidating, though, there are other options. You can buy a DVD with the latest version of Ubuntu from the Ubuntu Store at <http://shop.canonical.com/index.php?cPath=17>. It'll run you £5.04,

which is, like, a million dollars or something. If you don't want to wait for the DVD, you can take a trip to your local bookstore where you'll find Ubuntu and Linux magazines with bundled DVDs and articles aimed at new users. The latter option has some advantages. First, it gets you outdoors (that's the thing people spent their time immersed in before World of Warcraft came along). Second, the bundled DVD usually includes a bunch of different Linux flavors that you can try—without installing anything until you find one you really like. The Ubuntu version you burn yourself also gives you this "LiveCD" option.

Skip ahead if you already have an Ubuntu DVD. Otherwise, let's get started.

I did all the following from my Ubuntu desktop. But you can do this from a PC or Mac if that's how you roll.

The first thing you need is the newest ISO image which is. . .who cares? It's some kind of packaged program that blah, blah, blah. Listen, do you need to know how those 3D glasses work in order to watch Tony Stark flying toward

your face? No. You just perch them on your nose and look toward the screen. Go here <http://www.ubuntu.com/download/desktop>, and click on UBUNTU 13.04. But it says Choose Your Flavor? Flavor, shmavor, just click already.

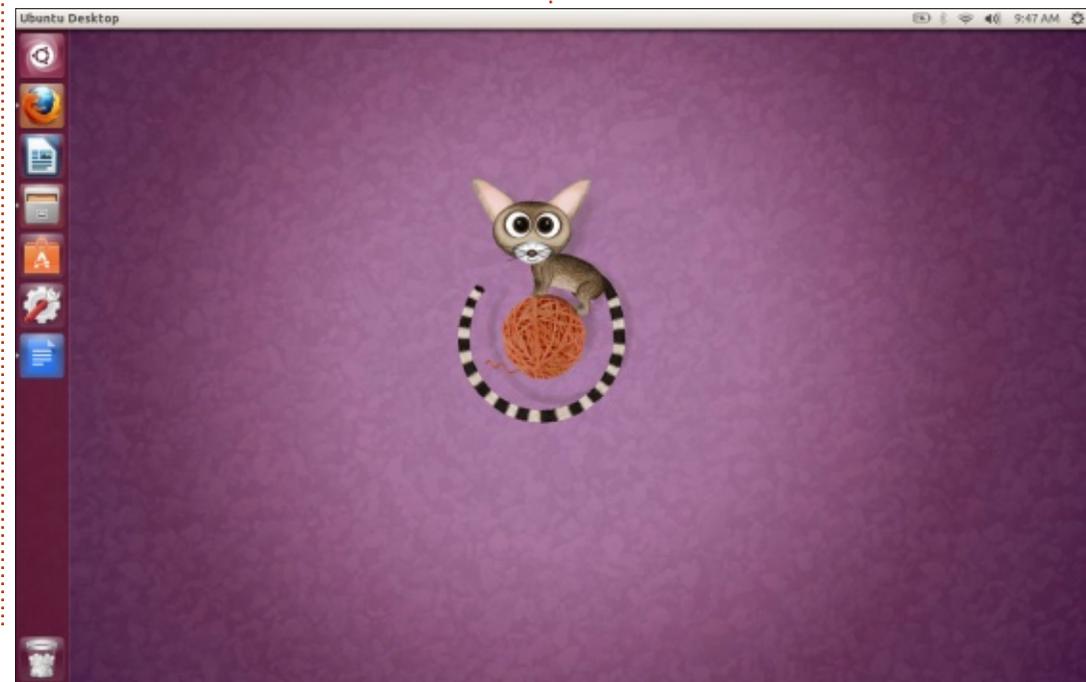
If you're feeling generous, you can contribute to the Ubuntu Project. Otherwise, just click on Not Now, Take Me To The Download. Choose where to put the file and go get yourself a beer. You've earned it.

If you're feeling frisky and know about torrents, you can download

the same file here <http://www.ubuntu.com/download/alternative-downloads>, choose the Ubuntu 13.04 Desktop (32-bit). In my case, the download took about 10 minutes.

Once you have a file labeled ubuntu-13.04-desktop-i386.iso on your computer, put a blank DVD in your optical drive, right click on the iso file and select Write to Disk (that's in Ubuntu, other OSs will have a similar way of writing the file to DVD). Once you click Burn, go get yourself another beer. You've earned this one, too.

How long did burning the DVD



take? I dunno, five minutes? I was too drunk from all my celebratory alcohol to do a very good job of timing the process.

Once I sobered up and found my pants, I put the shiny new DVD into the Vaio's drive and rebooted. The process should be pretty automatic from this point forward, but if you have trouble with your computer not booting from the DVD, the documentation here might help <https://help.ubuntu.com/community/BootFromCD>.

On my Vaio, it took about 5 minutes to get to a Welcome screen where I could choose between trying Ubuntu 13.04 without making any changes to my laptop or installing it. I chose to completely overwrite my previous install. After a few questions, about 20 minutes and another beer, I had a new version of Ubuntu running on my old laptop.

That's it. **Seriously!** I've had farts that were more complicated

Time to test things out. I restarted and found it took about 40 seconds to get to a login screen and another 35 seconds to open a

browser window. That's a net savings of 10 seconds off my old time, and makes me wonder how much faster a newer version of Ubuntu might be. It also makes me wonder if I've become a nerd who cares about ten-second startup savings. Spoiler Alert: the nerd ship sailed when I wrote a strongly worded letter to the Astronomical Union about Pluto's demotion.

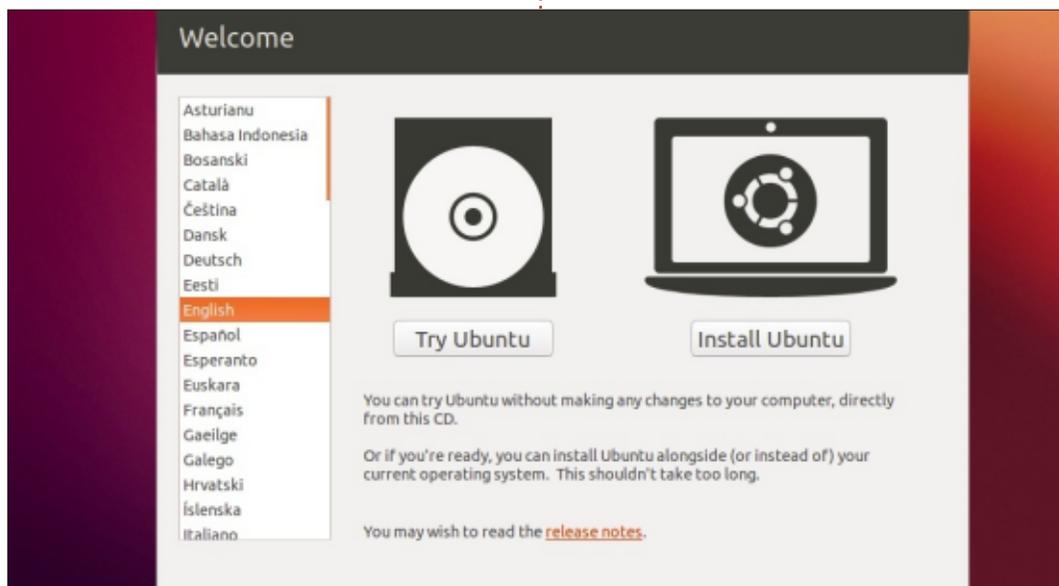
Look, ten seconds might not seem like a lot and, frankly, except for people who have no impulse control and need to check the Reese Witherspoon mugshot on TMZ, like, NOW, 10 seconds isn't much.

The real advantage is how fast the Vaio runs now compared to the previous install. The change was noticeable from the moment I clicked on Firefox and watched it pop open with almost no hesitation. LibreOffice did the same. And running multiple programs at once didn't feel like trying to pass a kidney stone. Everything just felt snappier. It was like waking from one of those dreams where you're trying to run through molasses with a 300lb naked zombie throwing Superman Underoos at you. No? Not a shared experience?

The point is, installing Ubuntu is really, really simple these days. Any simpler and Mark Shuttleworth

would have to come to your home and personally do the install for you. If you've got an older machine you've been hoping to resurrect, you might be surprised just how speedy it can be without sacrificing power. For a few million dollars (or whatever the hell £5.04 converts to), you can have the most up-to-date operating system in existence. For many of you, the cost will be next to nothing.

Raring Ringtail is a good place to start for anyone waiting to jump into the Ubuntu end of the pool. I'll be there waiting for you, I'm the one with the chartreuse floaties and the Vitamin D deficiency. Yeah, um, Tony Stark couldn't make it but he sends his regards. He did send Jarvis, though. No, Jarvis, you can't get in the pool, you're still plugged into the--No, **STOP**, you're going to--**BZZT!**



Copil is an Aztec name that roughly translates to "you need my heart for what again?" His love of women's shoes is chronicled at yaconfidential.blogspot.com. You can also watch him embarrass himself on Twitter (@copil).



When family or friends come to visit, we usually end up taking a lot of pictures. We could share those pictures on social networking sites or dump them on a private ftp server, but, as shocking as it sounds, not everyone in our family has a permanent Internet connection. To solve this problem we needed to come up with a little imaginative thinking, the solution: imagination.

Imagination is an easy-to-use DVD slideshow creator based on GTK+2 libraries. It's lightweight,

requiring only a few small files, and, best of all, very easy to use. Imagination is available in the Ubuntu Universe repositories so a simple `sudo apt-get install imagination` is all you need to get started.

When you first create a new project with imagination, you'll be prompted to choose the video format, size and background color. Current versions of imagination have four choices VOB (DVD video), OGV (Theora vorbis video), FLV (Flash video), and 3GP for

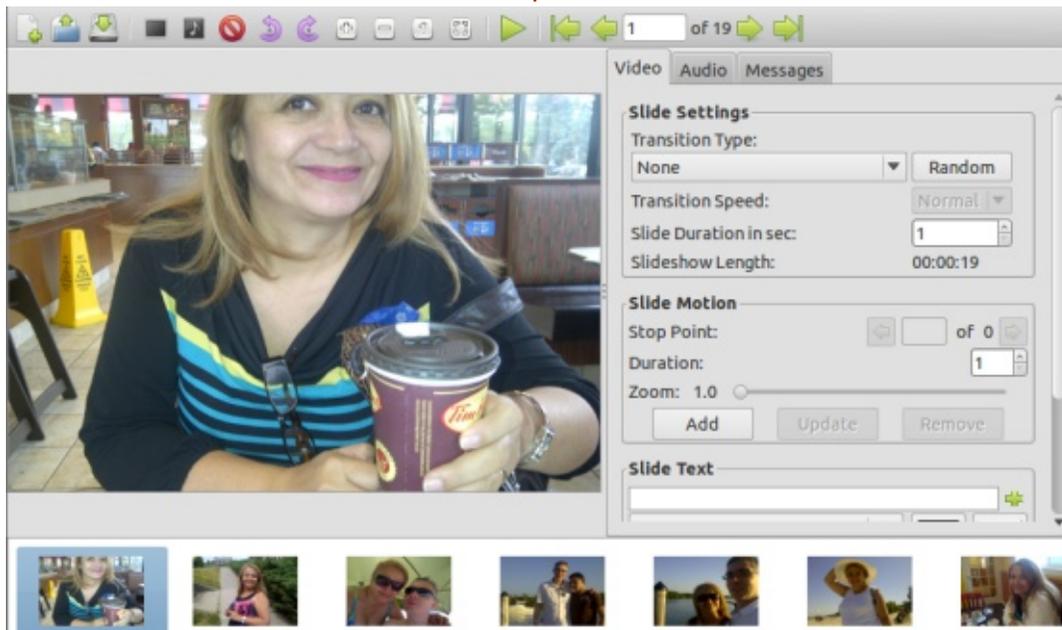
mobile phones. We like to send family and friends home with a DVD, so we chose to export to VOB format. There are also four size choices to choose from 720x480 NTSC, 720x576 PAL, 1280x720 HD and 1920x1080 HD. Choose the size that best suits your region of the world.

Adding photographs is a simple matter of either selecting Slideshow > Import Pictures from the menu, or clicking on the small black picture frame icon from the icon bar (just under the Slide menu option). Use CTRL or SHIFT to selectively identify the pictures to import (or select all), and click Open. Once you've added pictures, reordering is a simple matter of dragging the pictures at the bottom of the interface so they're in the order you want them to be.

If you don't like the orientation of a slide, you can rotate the slide by selecting the appropriate button under the Slide menu option. You can also add a blank slide. Blank slides can be a solid color or either a linear or radial

gradient. If you're creating a slideshow with multiple sections or locations, it's sometimes helpful to insert a blank slide with some information. To add text to the slide, first click on the slide, then click over in the Slide Text section on the right-hand-side and enter your text. Click the font choice to bring up a dialog box that lets you choose the font family, style and size. Beside the font, there are a couple of colors for the font foreground and background. Below this are some animation settings so you can make the text fade, slide or grow. The same text options can be used on regular photographic slides, but make sure you don't have all slides chosen or the option appears greyed out.

This is a slide show, of course, and a slide show wouldn't be complete without some kind of between-frame animation. To provide uniform transitions from slide to slide, select all the slides (choose one slide then hit CTRL+A), and choose a Transition type from the slide settings near the top right of the interface

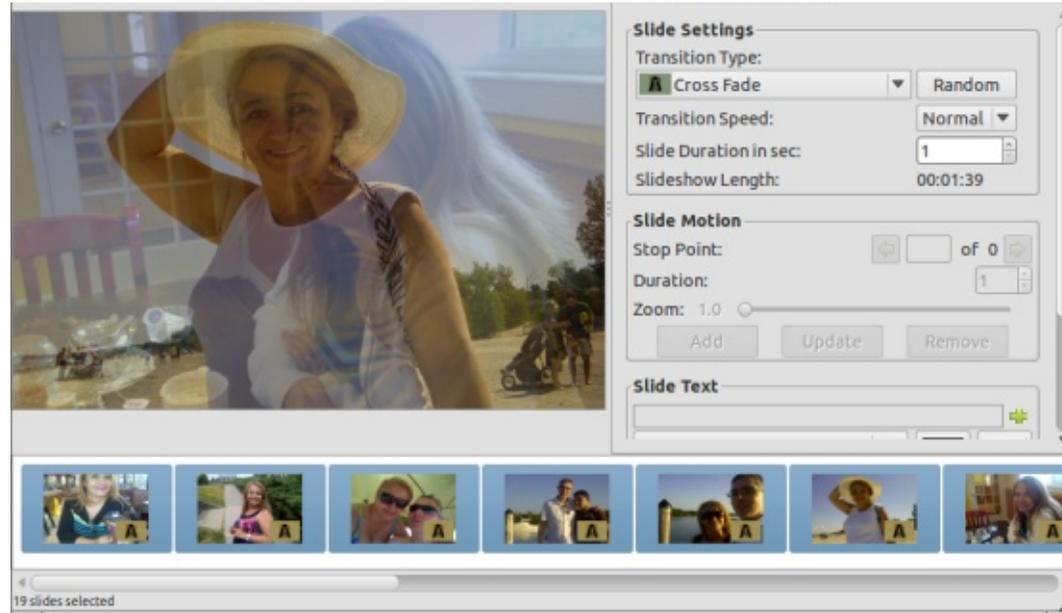


(Crossfade is a nice effect).

A small icon of the transition is displayed on each picture at the bottom of the interface so you know which slides have which transitions. You might be tempted to create a different transition for each slide - don't do it, looking at multiple transitions is bad form.

All this concentration on pictures and we haven't even added any audio yet. Before we do, have a look at the Slideshow length under the Slide settings on the top left. Each slide's display time is adjustable, you could display a picture longer for the first and last slides if you wanted. The length of the slideshow will determine how long a song (or songs) you'll need. You can add multiple songs.

To add music, click the black frame with the music note in it, or click Slideshow > Import Music from the menu. To reorder the music, click the Audio tab, the song you want to reorder, and the move file up or down arrows at the bottom of the audio tab. Remember to select enough music to cover the entire slideshow. Take into consideration the length of



the slideshow if you're trying to hit a particular point in a song. Remember you can always adjust slide length, but this can be tricky since you don't also want people to get bored looking at the same slide for too long.

At the top of the interface there's a play icon that lets you preview the slideshow. In version 3.0-r1, the play option didn't seem to play our music, it only transitioned through the slides, however when we exported the slideshow to VOB format, the music played just fine.

One thing to note when saving

the VOB file: be sure to add the .vob extension, imagination doesn't seem to do this by default. After exporting the VOB file, we now need to get it to DVD. To create the DVD we need to create the DVD structure. First make a dvd/ directory, mkdir dvd. Next make sub-directories called VIDEO_TS and AUDIO_TS, mkdir dvd/VIDEO_TS dvd/AUDIO_TS (note the space between VIDEO_TS and dvd/AUDIO_TS). Now copy the exported VOB file to the dvd/VIDEO_TS and run the mkisofs command to make an ISO file that can be burned by k3b, Brasero or XFBurn:

```
mkisofs -dvd-video -o  
mydvdname.iso dvd/
```

Where mydvdname.iso is the name you want to give your ISO file. The VOB file should be in your dvd/VIDEO_TS directory or this won't work correctly. Now you're ready to burn multiple copies of your slideshow movie.

Some people reviewing imagination have mentioned that this doesn't give you fancy menus. For that, programs like DeVeDe or KMediaFactory (old) can help.

I've glossed over a few options available in imagination, with a little thought and toying it's possible to come up with some amazing slideshows. There are over 50 transitions, the ability to overlay text and music, hold slides for longer periods, and reorder any slide. What you come up with is really up to your imagination.



Charles is a step-father, husband, and Linux fan, who hosts a not-for-profit computer refurbishing project. He maintains a blog at: <http://www.charlesmccolm.com/>



The Ubuntu saga continues. Yes, it is a saga with new twists and turns every now and then, many unexpected and unknown, but then Linux was never planned in the first place.

I bumped into Ubuntu in late 2007 when I bought a local magazine called CHIP about computing here in India. The magazine had a CD of Ubuntu's latest release at that time, with the CD in the sealed cover. Also the editor ran a story about how to use it, and also shared the experiences the staff had after using it. I tried it off the CD boot and was impressed. I then placed a request for a free CD & DVD of Ubuntu, Kubuntu and Edubuntu to try all, since the shipping was free and there were no hassles. I got the Disks in 2 weeks time and I ran all the versions. I was impressed and amazed at how open source worked and what a huge contribution was made resulting in a new OS.

Some months passed and I kept playing with Ubuntu, and then, one

day, the nightmare of Windows Users arrived. In simple words, my PC crashed. The PC which contained my whole family's data crashed, sending shivers and tension across my house (well, that was 80GB+ of data of more than 4 users, to say the least). I was first shocked and tense as how to get back the data, since recovery options are money matters here, and very few know how to recover the data from a damaged Windows disk. But then Ubuntu came to the rescue. All I did was boot the CD from the CD drive, and run a Live session, and copied the data onto another disk borrowed from a friend on which there was enough disk space.

The next thing I did was coax my family to start using Ubuntu and replace Windows. First there were raised eyebrows, questions asked (which were answered thanks to the community since even I did not know much then), approvals were rejected, but then finally everyone agreed. I gave them the word that data would not be lost and/or hampered; the only thing that

would change was the OS. Then every user was provided some basic knowledge along with user specific application training.

Thus Ubuntu 8.04 (Hardy Heron) was installed in 2008 and my PC was now alive and rocking with the new OS. Updates came in from time to time but these were to be monitored since unlimited plans for broadband were still too pricey, and we were still using limited broadband data plans. A year passed and things changed. New versions of Ubuntu released, updates created some mess since new updates would either cause some old function not to work or had to be tweaked, but the community support kept flowing in (forums were helpful and so was the documentation). Also in the meantime the unlimited data plans in India became affordable and I switched to one. Now the system was always fully updated, and no user had any issues since now everyone was habituated to Ubuntu and would do their own customising.

Then came 2011, when mobility became a factor for computing. This year saw India shifting towards mobile devices, and so did my family. Now emails, social networking and consumption activities were done right from the cell phones since data connectivity across the country along with smartphones, esp Android phones, provided a good option to be connected 24x7. This period saw a decline in PC usage. One thing never changed which was the creation of content. It was still done on the PC since on mobile devices it was a cumbersome task – though typing is possible, but presentation & excels are still good on a computer. Ubuntu, too, changed a bit in this period. My PC still ran Hardy Heron and I did not upgrade it to the new LTS. Since the PC usage had declined, the PC was not used much, though the data was still stored on it.

June 2011. On a fine Sunday morning I switched on my PC and a new bolt fell. No, Ubuntu did not crash, but the hardware did. My PC went into a coma with multiple

component failures. I had to replace the Motherboard, power supply and the RAM. The Hard Disk was still intact. I now started looking for options but could not reach a single decision about what to do. Moving data of the whole family to the cloud would mean some good amount of spending. I suggested that data be backed up on multiple devices and each user should take care of his/her own data. This was promptly accepted by all, and each user did take a backup of the data. Months passed and I too was unable to arrive at a good solution. Since laptops had the backed up data, and mobile devices were used on a larger context, the family was not disturbed as had happened in 2008. But still I had to find a solution for backups since even Laptops are prone to crashes – be it in terms of software or hardware.

A viable and logical solution that came to my mind was storing data on an external hard drive. All I did was buy a portable hard disk and transfer the data to it. But then if I just did that there was an imminent risk of virus and trojans. Hence, I decided to install Ubuntu on it. Yes I installed Ubuntu on my

new portable hard disk. Why portable? The reasons are quite good to make you do so. First, since it's Ubuntu, data is safe (at least safer than Windows). Second, when the system is on a portable disk, you can carry it anywhere (the hard disk is hardly bigger than your palm size). Third, you have everything in one place (if you work on multiple machines, transferring data is a task). Fourth, almost all PCs & laptops support the USB HDD boot so no worries of any hardware boot issue (I did come across some PCs whose BIOS had to be tweaked to activate US HDD boot). Fifth, technology today has improved to the extent that these are more rugged and safe and equivalent to internal hard disks.

Now the install had to be done. First step was to download the LTS (I normally jump from one LTS to another) of Ubuntu, so I downloaded Ubuntu 12.04 (Precise Pangolin). Before starting the Install, I was clear about how many and how big partitions I wanted. Also I did refer to issue 15 of FCM since it had an article to move your Home partition to a separate partition. After booting from the CD, I clicked on the install shortcut

which is there on the desktop of the live session. Since I wanted a custom install, I chose the custom options and made three partitions: one was the root, second was a home partition, and the third was a FAT32 partition for data which is cross platform along with the swap partition. The partitions were now in place and I just followed the steps which came when one pressed the Next button. One thing to remember is that while the partitions are made, please be sure of the sizes since their extension and/or deletion and/or creation is a risky task. Also I would advise to keep the home partition as a separate one since in case of an upgrade via a fresh install, the data will be safe. Also keep the FAT32 or NTFS partition of reasonable size since a large partition may not be of much help as the data copied might be moved ultimately to your Home Folder. Finishing the install I reboot the device and voila! The system was up and running. The next step was obvious – get the data into my Home sub-Folders and that is what I did. I transferred all my data – from documents to pictures to audio and video files. Simultaneously I ran the new software manager Ubuntu

Software Manager for updates. Since I was a bit uncomfortable with it, I installed Update Manager which was there in earlier versions. This was installed – with some more programs which are not in the standard install – and then updated. Customisations were made and the system was ready for use.

As of this date, the system is working fine (in fact I am writing this article on it). My data and work is safe. Also I am trying to coax people to try my new strategy of keeping data on a portable device running Ubuntu. Hope my experience shared here will be of use to you all. Till the next twist and turn, keep rocking!



MY OPINION

Written by Knightwise

If you want to do something, use a PC. If you want to get something done, use a Mac. Those were the very words I spoke about 8 years ago when I mastered the art of working with my very first Apple computer. The simplicity, elegance and productivity of the Cupertino experience had me convinced that the core business of Windows computers was not getting things done for you, but running spyware and participating in botnets to 'get things done' for some dingy hacker in his mother's basement in the southwest of the Ukraine.

And in many ways my statement was correct. I had been lured into the Cupertino crack the same way a lot of people got into Apple: I got an iPod, after the iPod came the first iBook, then the first Mac Mini, and so on. These days my house consists mostly of hardware that bears the seal of Newton's falling fruit... Yet I start to wonder ... is that still something that is absolutely necessary?

To answer this question, let us

look back to the state of the technological landscape back in those times. Apple had just released "Tiger," bringing some sense of stability and usability to the fairly new tenth iteration of its operating system. Where OS 1 to 9 still leaned heavily on its Xerox roots, OSX stood on the shoulders of a Unix kernel and offered a clean but fairly customizable interface. Windows had just delivered its long overdue baby called Vista, and, even though many people in the industry considered it to be a miscarriage, decided to release its fledgling to the world.

The Linux wars were still raging in full force as different factions in

the Debian and Red Hat camps fought in a pyroclastic flame war in the Newsgroups, incinerating each other's arguments and scorching any newbie who dared to come close with a novice question.

In that landscape, Apple was truly a shining beacon of

productivity with its life and iWords suite, its slick hardware and elegant operating system, its fancy MP3 player and its

endorsement by the graphic and intellectual society that "this was the way to go". ... But today it is perhaps a different story.

The one thing that has dramatically changed is Apple's

focus. To me, the first sign was its infatuation with the iPhone and the mobile market. Probably considered Apple's most popular and profitable product of all time, the iPhone also changed the very DNA of its maker. Apple used to be about creativity, and I emphasize 'Create'. Want to write a novel? Get a Mac. Want to get into graphic design? Get a Mac. Want to call your mom or play a game where you throw birds at blocks? Sorry, WHAT?

Indeed. Back then the core focus of Apple was not aimed towards entertainment or communication, at least not until the iPhone came along. And in those years since Steve Jobs picked that 'Magical' device from his pocket, Apple has changed considerably. As I looked around the workspaces of my friends who did graphic design, I saw their Apple workstations age with time. The near orgasmic cries of joys – that they uttered whenever an update was released – diminished with every iteration and turned into small grunts of frustration as



the upgrades to their shiny silver towers were once again postponed.

But for the rest of us grunts, Apple still had something to offer: superior hardware and a powerful operating system. But the decay of the latter started to show its flatulent underbelly with the arrival of Snow Leopard. In the spirit of "IOS-i-fying" the operating system, certain power features got 'hidden away' in favor of some 'IOS like' enhancements that were supposed to bridge both operating systems. In essence, OSX was getting dumbed down.

Oh well, If you are a slider, and don't like a certain kind of operating system, you just dual-boot a second operating system onto Apple's superior hardware ... right? As long as that hardware remains superior, there is no problem, but, aside from the fact that Apple's "innovation curve" on its desktop and laptop platforms was becoming an exceedingly flatter slope, its prices continued to keep the same high standards. As the competition (Samsung, Acer, Asus) caught up with equally fancy ultrabooks (with an equally fancy price), Apple decided it

would be a good idea to remove all of the removable parts from its hardware. The new iMacs got glued shut, the Macbook Pro's had no user replaceable parts .. The (power) user started to lose the one thing he had over his Apple experience: control.

So do I still buy the Cupertino party line when I'm out shopping for a new computer? I used to say 'of course,' but that is starting to change. Advising a friend (aspiring power user) on a new laptop yesterday, I heard myself utter the words "Asus" and "Linux" in one sentence. The request that queried this answer was one motivated by the option of "control". Being able to "do" stuff with hardware you can "do" stuff with. As many flavors of Linux start to mature, "Apple" is not the default answer anymore, not even for the creative minds! And if you are on a budget and would like to add your own sticks of RAM (or an SSD drive), the polished silver of Cupertino is also no longer the default solution.

What it comes down to is that there are no certainties in the computer industry. With the ever faster pace of digital evolution, today's masters of the industry

become tomorrow's outcasts -- where the outcasts become the underdogs and the underdogs become the new heroes. In a couple of years, I've seen companies and technologies fade to the background, step back up to the plate, and be embraced or rejected by the ever growing crowd of consumers. In the end Apple has not lost its shine but it is no longer the company it was when it crawled out of the shadows of oblivion. It is no longer the underdog, nor is it the prettiest girl at the ball. Microsoft is no longer the corporate suit, and Linux seems to have trimmed its wildest beard. Everybody loses some shine, and everybody gains some. The great thing about this is that there are no longer default answers to standard questions. And as the defaults subside, the power of choice arises.



Knightwise is a blogger, and producer of the [Knightwise.com](http://knightwise.com) podcast. His website offers hacks, tips and tweaks for cross-platform geeks. Knightwisemoves with ease across Linux, OSX, Windows, OIS, Android and more.

Full Circle Podcast Episode 34, Raspberry Jamboree 2013

Your hosts:

- Les Pounder
- Tony Hughes
- Jon Chamberlain
- Oliver Clark
and Freaky Clown



from the Blackpool (UK) LUG
<http://blackpool.lug.org.uk>

Welcome to the first of a 2 part conference special, in this episode the presenters reflect on the first ever **Raspberry Jamboree** held at the Manchester Central Conference Centre on 9th March 2013

Download



REVIEW

Written by Ronnie Tucker

TV Browser

Having used this software nearly every day since I started using Ubuntu 11.10, I would have rated it 5 stars in the Software Centre, but this is not possible as it is not in the Software Centre and I downloaded it myself.

The latest version can be downloaded for free from: <http://tvbrowser.org/>, and comes in a .deb version which can be opened and installed easily using the Ubuntu software centre, or, if you are using a Debian based distribution, the software package manager. It is platform independent but does depend on Java or similar, so I guess that may put some folk off. It is open source and contains no advertisements unlike most web-based TV guides.

WHAT IS IT?

The site tells you all about it, but, as its name suggests, TV Browser is a digital TV guide which you can customize with your favourite channels. It offers various plugins. These can add various options like e-mail,

calendar reminders, or Internet Movie Database (IMDB) ratings, and it can also, I believe, work with TV cards as an EPG and scheduler.

WHO DEVELOPS IT?

It appears to be German based, although it is possible to download TV listings from around the world—I use TV listings from the Radio Times in the UK, for

example, but check the site for your particular location. The current authors as listed on the website are as follows:

- René Mach (Release-Manager, Developer)*
- Michael Keppler aka. Bananeweizen (Developer)*
- Björn Balazs (Usability-Consultant)*
- Nelson Darkwah Oppong (Grafic artist)*
- Klaus Blessing (Beta-Tester)*

SUMMARY AND CONCLUSION.

TV Guide is a useful piece of software to plan your TV viewing and help ensure that you don't miss or forget to record your favourites – thanks to its reminders, favorites, and search functions. It is also highly customizable to suit your tastes in viewing, and could also help you if you are using your PC as a media centre which records TV. I would rate it as five stars if I could, but, as I mentioned, I am unable to do so in the Ubuntu Software Centre, hence this much-overdue review—Happy viewing.

Time	Program	Time
20:00	EastEnders 25/02/2013 - When Sharon receives an offer she cannot refuse, Jack takes matters...	20:00
20:30	Panorama	20:30
21:00	Penguins - Spy in the Huddle	21:00
22:00	BBC News at Ten	22:30
22:25	BBC Wales Today	
22:32	BBC Weather	
22:35	Great Welsh Writers	23:20
23:05	Being Eileen	
23:35	The Graham Norton Show	
00:20	The Apprentice USA	00:20
00:20	The Apprentice USA	00:20



I've been using Ubuntu for a few years and, thanks in part to Lucas' column Command and Conquer, I've become a fan of the command line.

A couple of months ago, I decided to try to find a good console-based music program. Rhythmbox comes installed on Ubuntu 12.04 and it is a fine program. It reminds me a lot of iTunes, unfortunately I really don't like iTunes. It just feels so big and bloated. I don't really care about seeing the album covers of my music collection. I wanted something that is small, fast, and yet still easy to use. This is for playing music after all, it should be enjoyable, not a chore.

A Google search took me to a post somewhere about cmus. It sounded like just what I was looking for. I checked the Ubuntu repository and there it was, cmus version 2.4.3, as well as the cmus ffmpeg-plugin 2.4.3. "That was easy!" I thought as the program installed.

After I installed the program, I had to add music to the library. This is easy enough. Simply type a for add and then specify the path to your music collection. Cmus will then scan the target directory and add everything in that directory. As you can see from the screenshot, it picks up the artist, album and track names, the year the song was recorded/produced, and the length of the song.

You can use the arrow keys to scroll through the list of artists. If you hit the space-bar, an artist's entry will expand to show a list of albums by that artist. When you highlight an album, the tracks on that album appear in the main window. Pressing the tab key will move you over to the main window where you can scroll through the

list of tracks. Pressing enter will start a track.

Pressing c will pause a track. Pressing q will give you the option of quitting cmus by pressing y or n. Pressing p will add a track to the playlist while e adds a track to the queue. I usually just select an album and press enter to start the first song. The rest of the songs on the album are played in sequence.

Typing / will allow you to search for an artist, album or song. The [] keys increase the volume and the { } keys decrease the volume. Typing cmus -plugins in the terminal will bring up a list of all the different types of files cmus should be able to play. The list is quite long and the most common formats are on the list (.aac, .mp3, flac, wma). I

said should, because, even though ffmpeg is shown in my list of plugins and below ffmpeg .wma is written as a supported format, I cannot play the few Windows Media Audio files I have in cmus. A Google search did reveal that a bug report has been filed about this problem.

I usually use the default view that appears when the program launches. The number keys one through seven will cycle through different views. One takes you to the default layout. Two brings up a listing of every song in your library.

Three and four open the playlist and queue views respectively, while five opens the file browser. Pressing the number six shows a list of library filters, and pressing seven shows all of the settings and keybindings for cmus.

All in all, I am very happy with the program. It does what I want, is quick, lightweight, and was simple to set up.





LETTERS

If you would like to submit a letter for publication, compliment or complaint, please email it to: letters@fullcirclemagazine.org. PLEASE NOTE: some letters may be edited for space.



SOLYDXK

I received a Full Circle preview of the upcoming issue. Having never seen SolydXK, I gave it a try.

I tried the LMDE conversion script, which failed for me, I had Mate edition with Package Manager installed "KDE Full" and thought it could go. Thanks to backups, no problem. I ended up installing SolydXK KDE. For my old Dell D600 laptop, it is getting hard to find a distribution that will run on a Pentium M. It runs and runs well. I had a very smooth install, and it will do PAE and non-PAE as needed, apparently. Very polished for a new distro.

My biggest surprise was when I clicked the add printer icon under "System Settings". The usual options appeared in the left column, to my surprise the wireless printer, a Brother HL-3075, was at the top of the list. I clicked it and kept hitting the next button and all looked good. I clicked "print test page" and was prepared to manually edit the address.

The printer worked first time and I am surprised. Linux is all I use, and that printer has been very easy to get going, well, except in Windows 7 – which takes a long time and required a USB connection. No Linux PC ever did, but most required additional setup tweaks.

I recommend this distribution to anyone who needs support for an older processor like the Pentium M. By the way, all desktop eye candy, even "wobbly windows" work just fine. Great job SolydXK team!

Mike Lewis

MEDIA SERVER

I would like to see an article on how to setup a media server with Ubuntu to stream media to the other computers on the network and android phone.

Jorge Martinez

Ronnie says: *if there's anyone out*

there with the knowledge of how to create such a media server, please send your article to ronnie@fullcirclemagazine.org.

Gord notes: *see the Q&A in this issue.*

WHAT, NO LINK?

How come the email sent out to subscribers about issue 72 has no link to your website (that I could find)? There are two links to other websites, why not yours? In order to download issue 72 from your website, I had to start up my browser, use Goggle to learn your website address, and finally go to your page with the current issue. Or would you rather subscribers use the link in your message to issuu.com/fullcirclemagazine instead??

Lou

Ronnie says: *Surely I'm allowed one slip-up in six years?*

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ubuntuforums.org/forum-display.php?f=270

FULL CIRCLE NEEDS YOU!



Without reader input **Full Circle** would be an empty PDF file (which I don't think many people would find particularly interesting). We are always looking for articles, reviews, anything! Even small things like letters and desktop screens help fill the magazine.

See [page 25](#) to read our basic guidelines. Follow those and you're almost guaranteed success.

[Have a look at the last page](#) (of any issue) to get the details of where to send your contributions.

LIBREOFFICE SPECIAL EDITIONS

I thoroughly enjoyed the LibreOffice Special Edition Vol.1 (Parts 1-7 from FCM#46 - FCM#52).

I appreciate your service of providing the whole world with the opportunity of reading FullCircle for free, and would also like to thank Elmer Perry for his efforts.

Please can we have more of this useful content for both LibreOffice as well as Ubuntu?

Paul

Ronnie says: *Yes, there will be more special editions in the coming months. Robin (who creates the special edition PDF's) has already created LibreOffice Vol.3 and will shortly be creating several other volumes, so keep an eye on the FCM site for more.*

FOR BEGINNERS

I'm a 64 yr-old who has decided to leave Microsoft Windows and

I came upon a Linux article in the August issue of Maximum PC magazine.

In Sept. I downloaded Ubuntu 12.04 LTS; it sat on my desk until 3 weeks ago when I installed it. In the software Center I found a listing for the Second Edition Users Manual and found a link to your Magazine which I have been reading.

My question is would it be possible for you or possibly someone else to write a 1 or 2 page spread just for us beginners, telling us in plain english how to do updates, move around the file system, and to download certain programs?

LT Day

Ronnie says: *any takers for this article idea? In the meantime, I'd point beginners to the Closing Windows series that ran in several issues of FCM; it showed Windows users where to find things in various Ubuntu flavors and discussed updates and applications.*

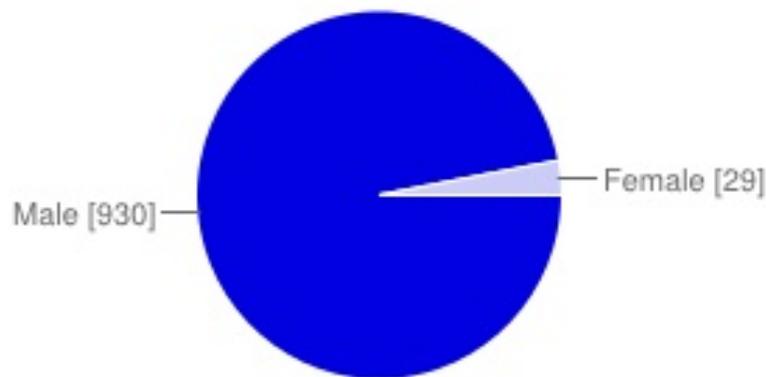


SURVEY RESULTS

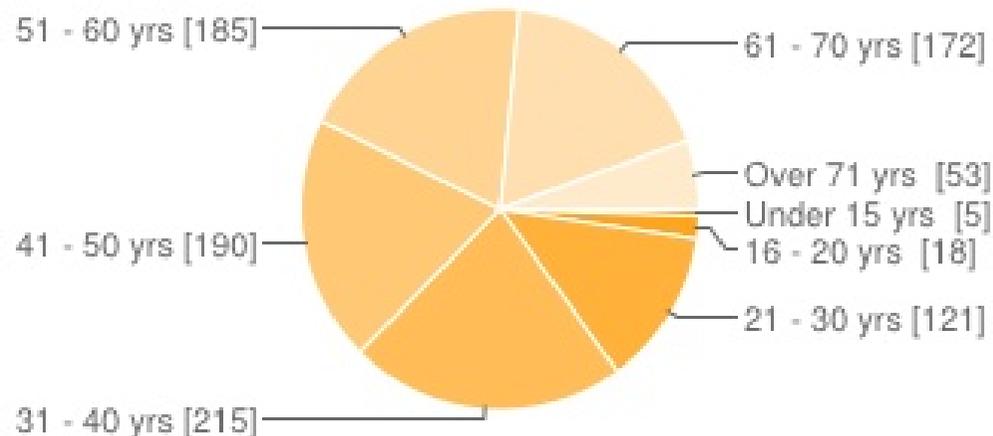
I'd like to thank everyone who took the time to fill in the survey from last month. While I can't guarantee we'll cover everything you suggested, I hope the results will give you, the readers, some ideas on what to write about for future issues.

Results are taken from 959 responses.

GENDER:



AGE:



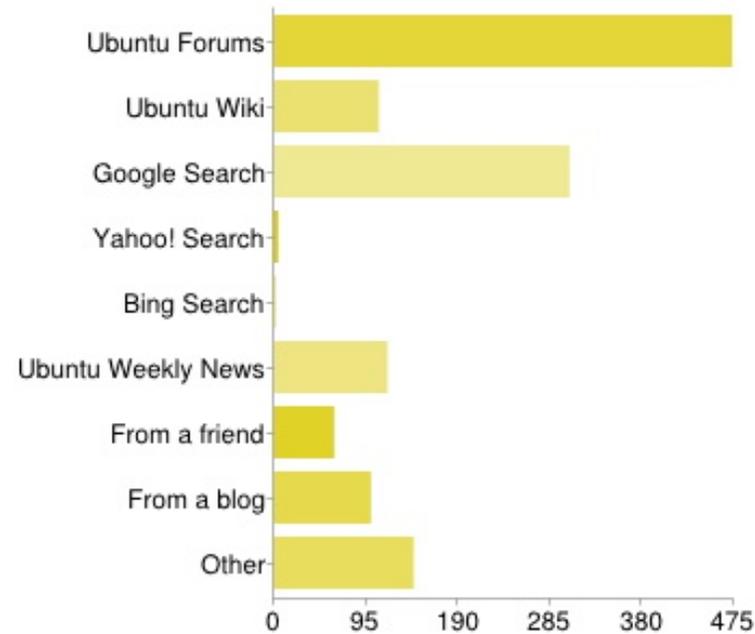
SURVEY RESULTS

WHERE DO YOU LIVE?:

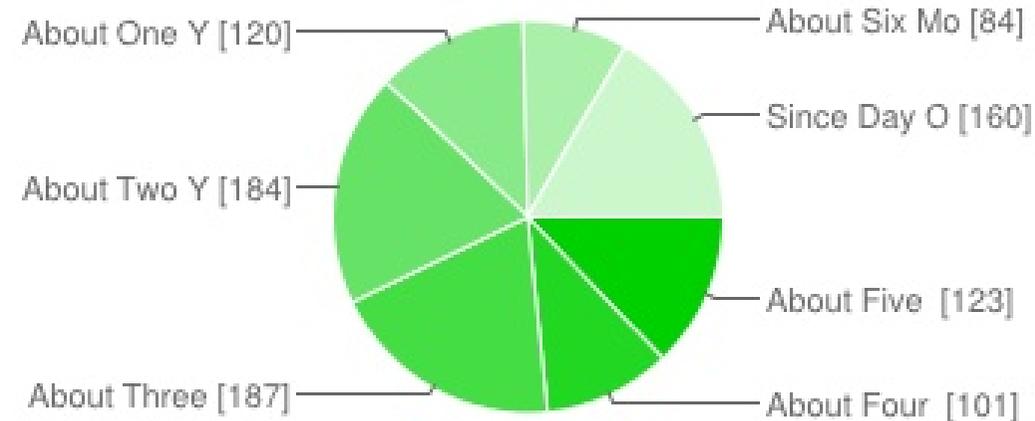
TOP 5

United States	256	27%	Italy	51	5%
United Kingdom	70	7%	India	44	4%
			Australia	41	4%

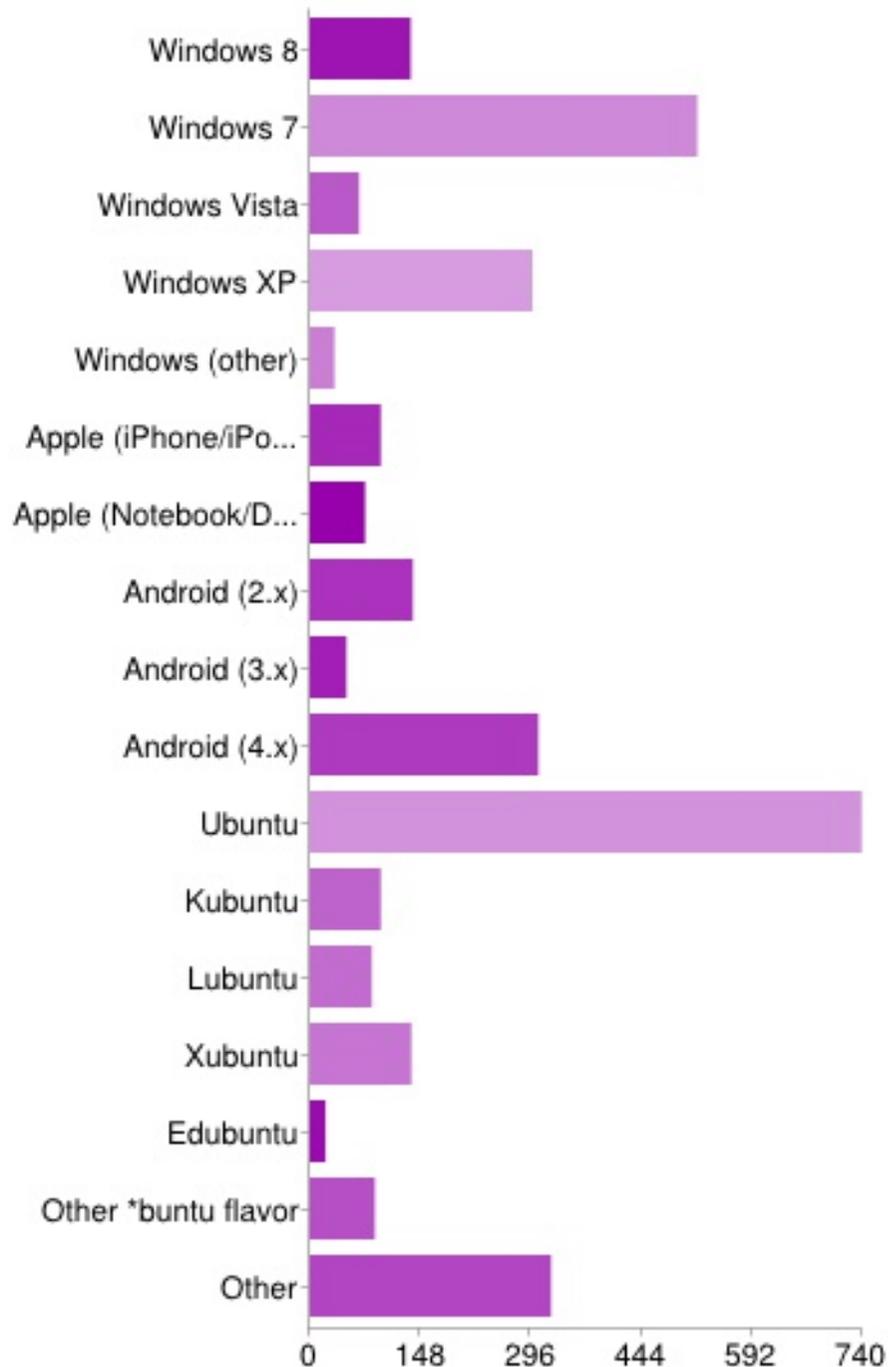
HOW DID YOU FIND OUT ABOUT FULL CIRCLE?:



HOW LONG HAVE YOU BEEN READING FULL CIRCLE?:

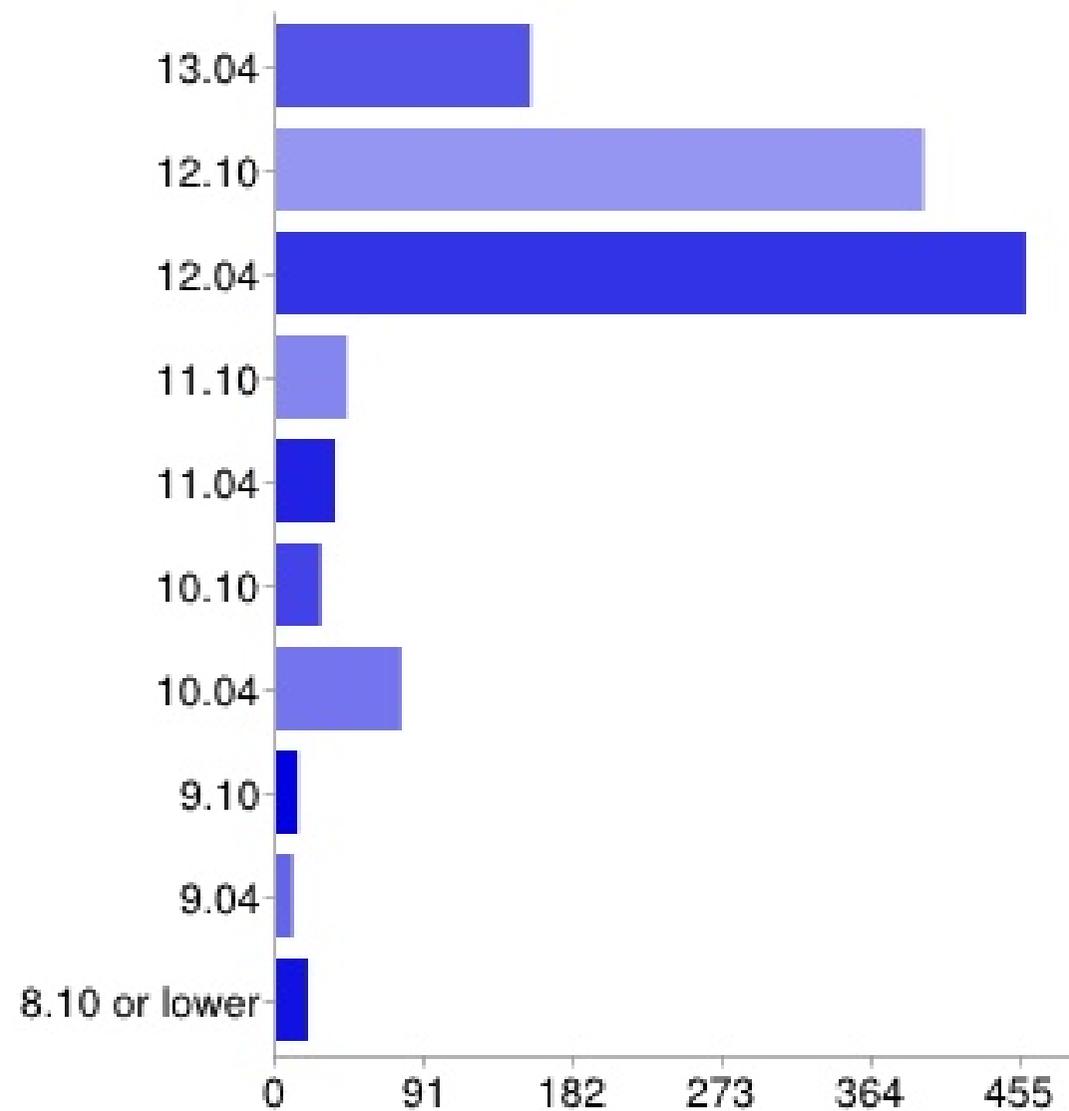


WHICH OPERATING SYSTEM(S) DO YOU USE?:

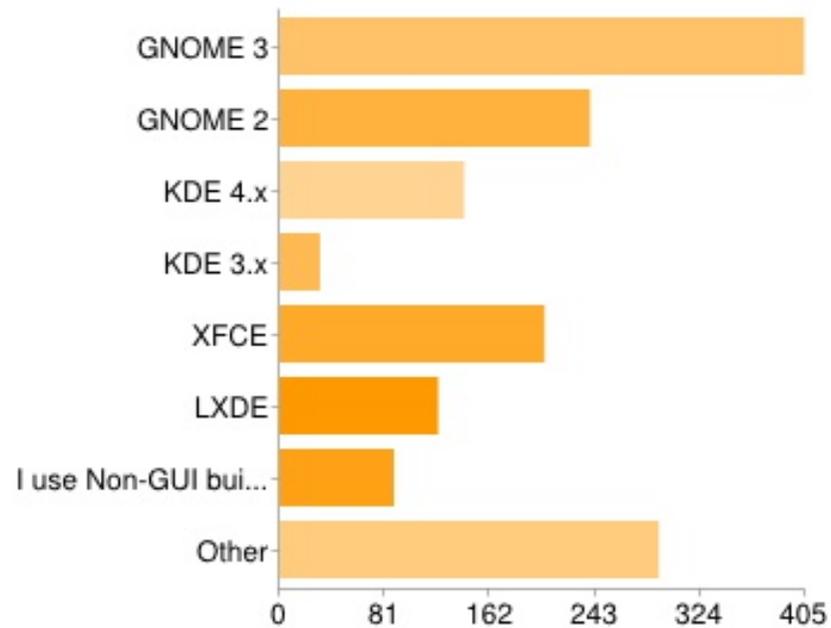


SURVEY RESULTS

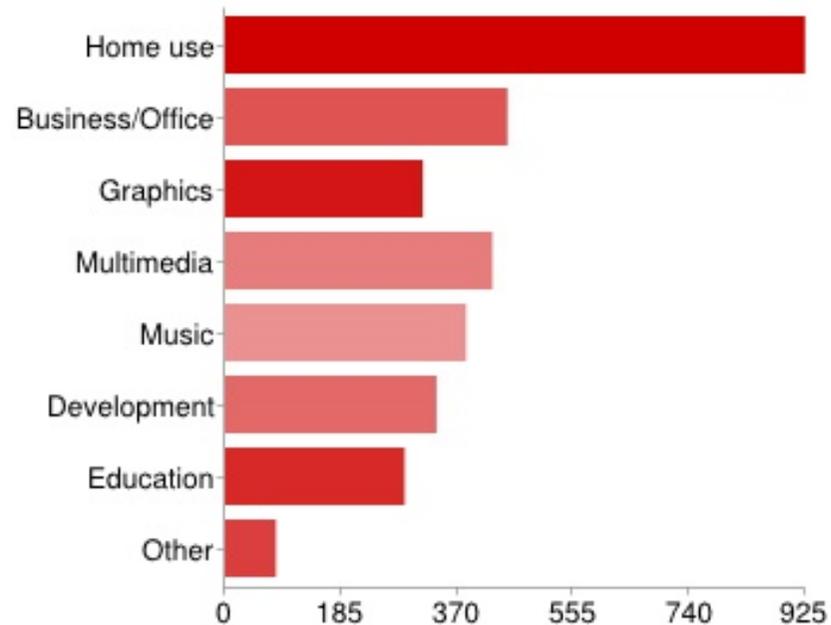
IF YOU USE A *BUNTU FLAVOR, WHICH ONE(S)?:



WHICH DESKTOP ENVIRONMENTS DO YOU USE?:

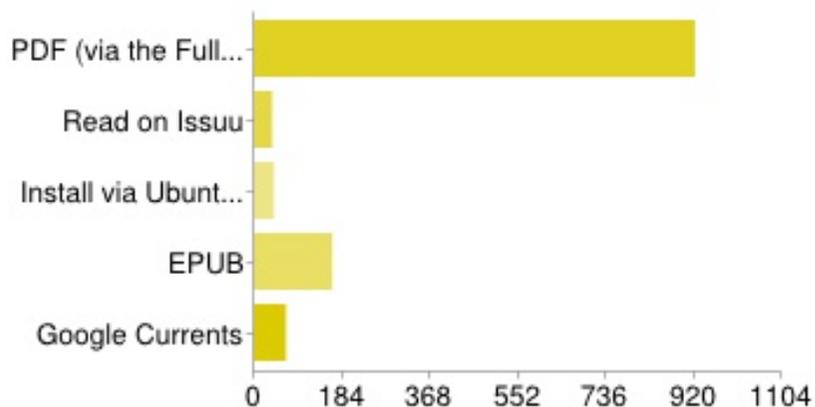


WHAT DO YOU USE LINUX FOR?:

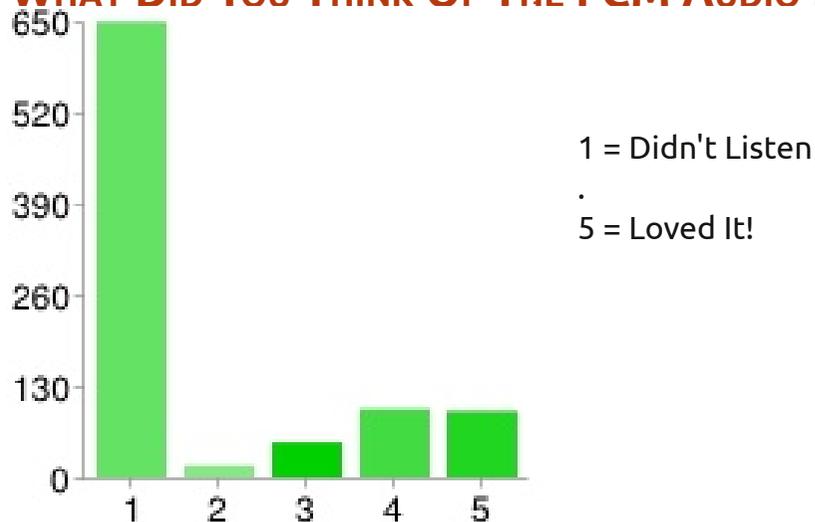


SURVEY RESULTS

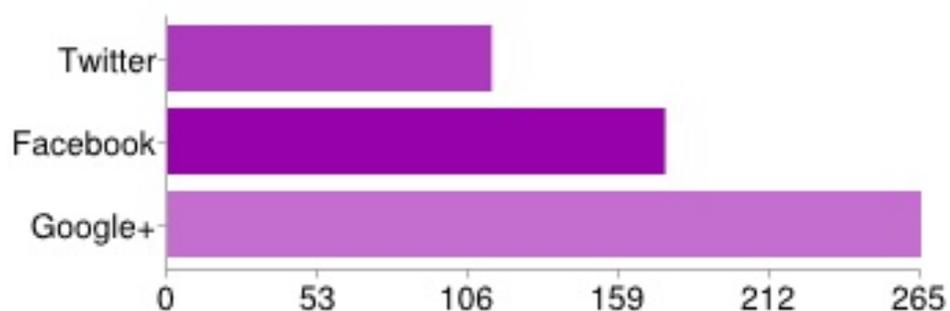
WHICH ENGLISH EDITIONS DO YOU READ?:



WHAT DID YOU THINK OF THE FCM AUDIO EDITION?:



DO YOU FOLLOW FULL CIRCLE ON SOCIAL MEDIA?:

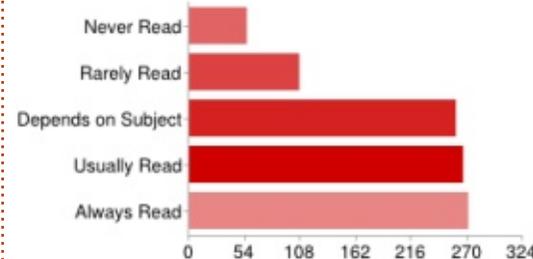


SECTIONS

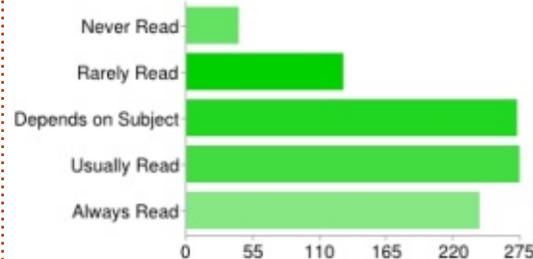
EDITORIAL



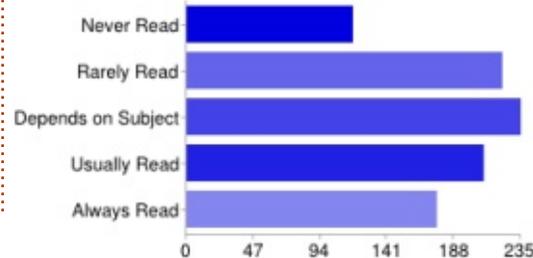
COMMAND & CONQUER



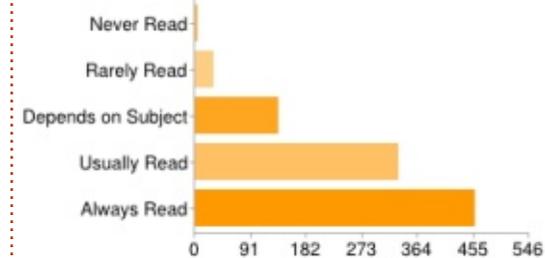
HOWTO - LIBREOFFICE



GRAPHICS - INKSCAPE



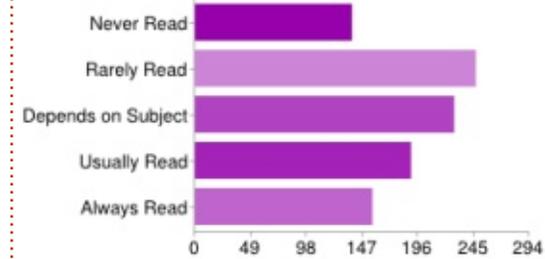
UBUNTU NEWS



HOWTO - PYTHON



GRAPHICS - BLENDER



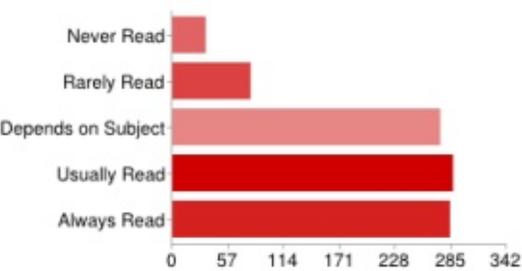
WEBDEV



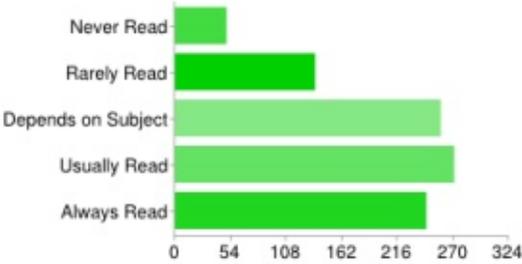
SURVEY RESULTS

SECTIONS

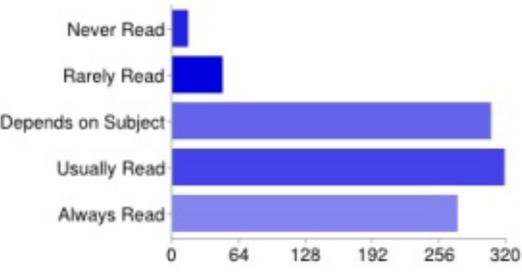
ASK THE NEW GUY



MY STORY



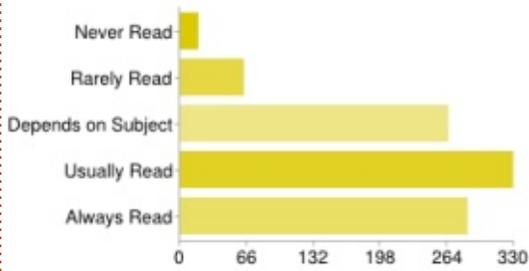
REVIEW



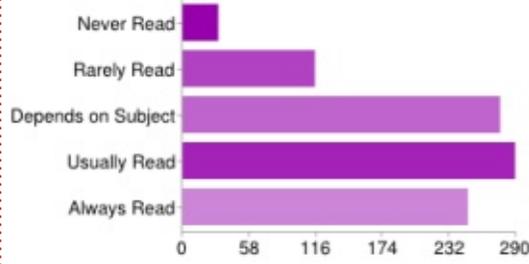
Q&A



LINUX LABS



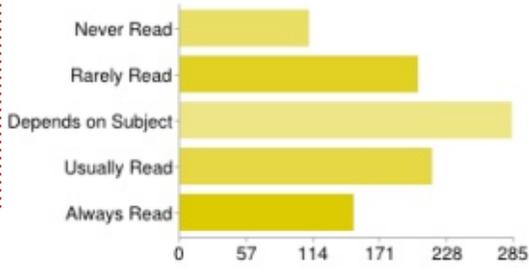
MY OPINION



LETTERS

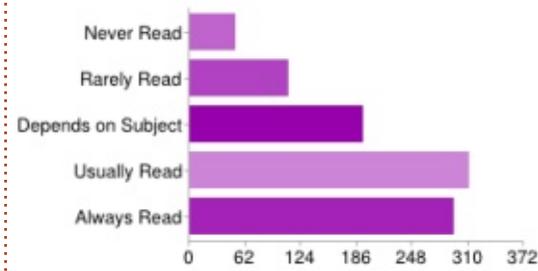


UBUNTU WOMEN



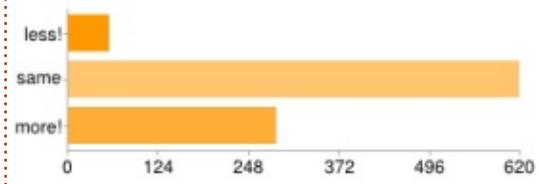
SECTIONS

MY DESKTOP

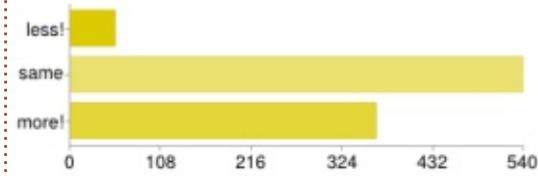


MORE OR LESS?

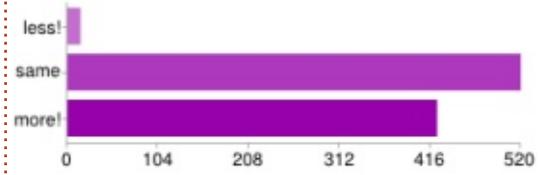
GRAPHICS



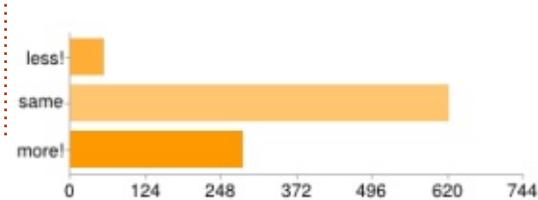
OFFICE



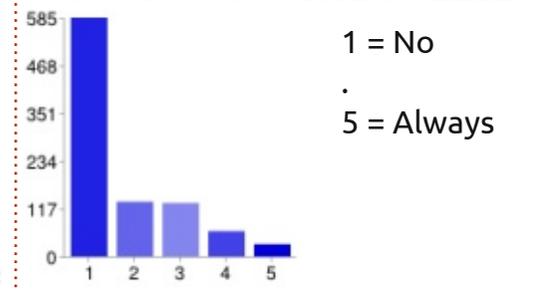
INTERNET



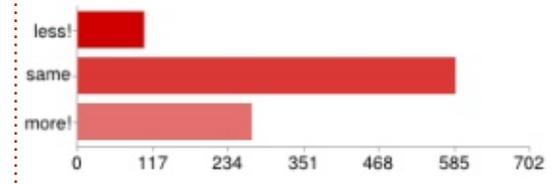
VIDEO



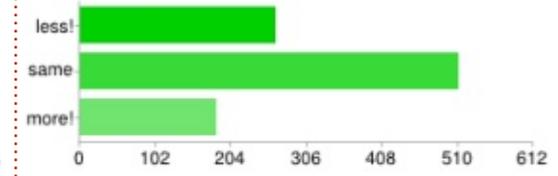
DO YOU DO THE PUZZLES?



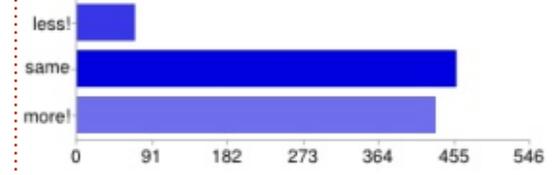
MUSIC



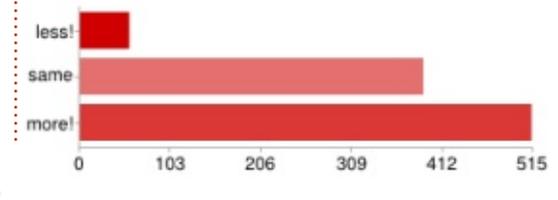
GAMES



DEVELOPMENT

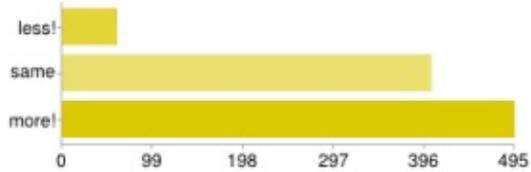


COMMAND LINE



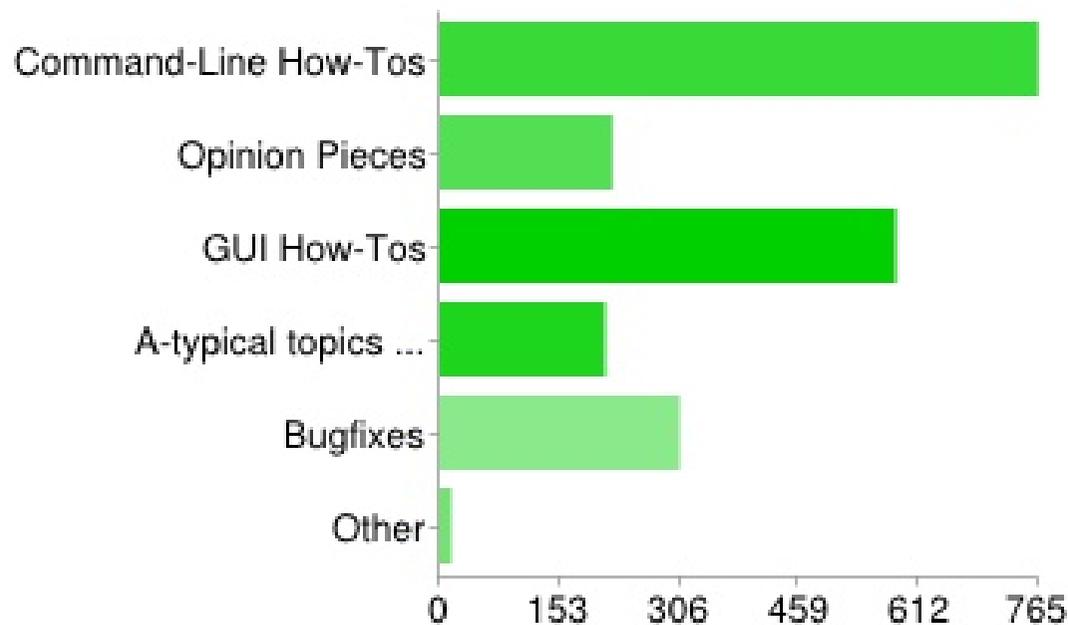
SURVEY RESULTS

CUSTOMIZING THE DESKTOP



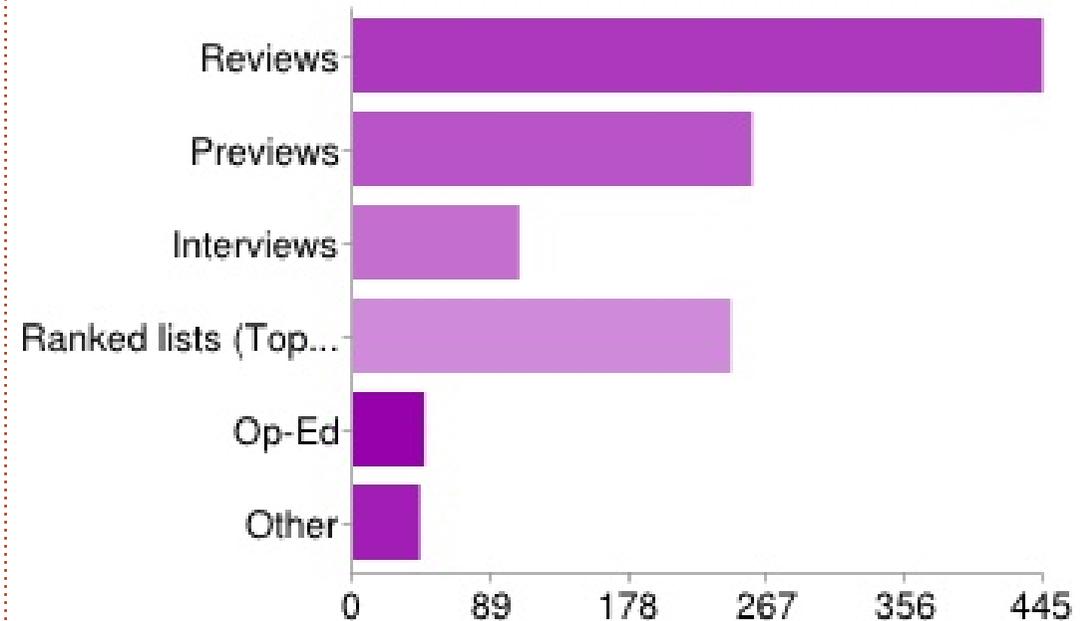
COMMAND & CONQUER

WHICH TYPES OF ARTICLES DO YOU FIND MOST HELPFUL?



UBUNTU GAMES

WHAT WOULD YOU LIKE TO SEE MORE OF?



YOUR SUGGESTIONS FOR ARTICLES

If you're interested in picking up one of these ideas, please read the submission guidelines first, then email your article to ronnie@fullcirclemagazine.org.

Hot questions from AskUbuntu

like Amateur Radio, Science, Photography.

Other Distro. Even though FCM is about Ubuntu, other distros deserve your attention

Any ubuntu based distro review would be great, cover some advanced kernel aspects (or kernel updates).

Alternative desktop environments. Maybe some Niche' environments

SURVEY RESULTS

Installing alternate/non-standard desktop environments.

I would love to see a section on Ubuntu Server Admin.

Would be nice to have a step-by-step basic ubuntu server administration for those who do not have experience with command-line.

UDS related details, and in-depth details of important decisions made by community that affect Ubuntu.

Troubleshooting, System & Data Recovery, Testing.

Dual boot, especially with Win7/8 and UEFI

I'd like to see articles about how open source changes the way we do business. So, not only the technical aspects of open source, but also what it means for (small) business owners (by example).

Amateur Radio programs.

How-to on Linux From Scratch.

Wine - running Windows programs on Linux (particular interest simulation games). I'd love to dump Windows completely.

Home media center related programs.

How to set up ubuntu server for low power always-on backup and plex server. graphic interface.

How to deal with internet privacy in a world of government and corp intrusion.

Interoperability with windows. Most of us have a windows pc.

More about backup strategies and programs to use, particularly for the home user.

Explain terms such as the kernel (updates on updates), memory, SSD, and such.

Hardware "how to do articles" cameras, old gear, new gear, printers, scanners, graphics tablets, etc.

How to make Linux computers more useful on home networks, media servers, NAS.

Short pieces on specific instances of who is using Linux in the world, and how... Example: How does NASA use Linux, How is it use in robotic factories?

How-to on using ipods without iTunes.

Making Netflix run under Linux at speeds that work.

Customizing your own distro, more on scientific/productivity apps (for example mindmapping, Zotero).

Would really like to see stories of how people use Linux around their house to help them through the day. Home automation, having linux update calendar/schedule displays throughout the house. Memory prompting for my Mom who has Alzheimers, voice recognition and voice response.

Anything doing with adding PPAs for new programs.

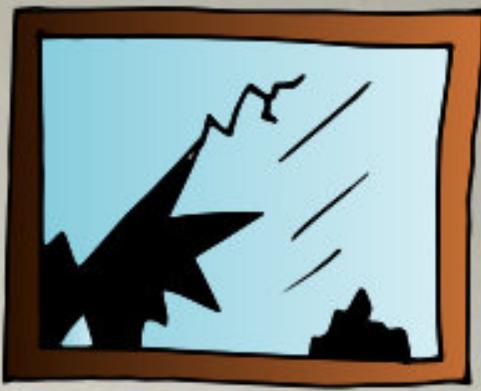
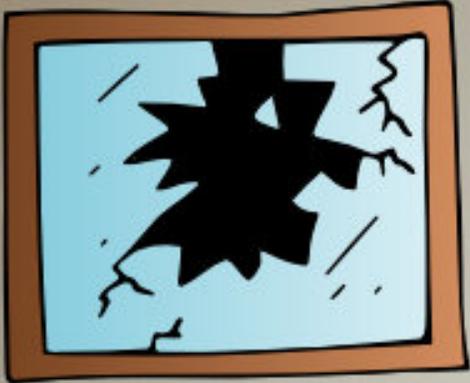
I can't guarantee we'll cover all these subjects. As I always say: **we can only publish what you, the readers, send us**. So, if there's anything in those suggestions you'd like to pick up, drop me an email. Let me know whether you want to write something as a one-off article, whether it'll be a series, or whether you want to pick up the idea as a monthly column.

Remember: anyone can write for Full Circle.

Thanks!

Ronnie

Tuxidermy



OK, WHICH ONE OF YOU JERKS BROKE MY WINDOWS?





Q&A

Compiled by Gord Campbell

If you have Ubuntu-related questions, email them to: questions@fullcirclemagazine.org, and Gord will answer them in a future issue. Please include as much information as you can about your problem.

Q In FCM#37, you talked about helping a new user. However, the Ubuntu Forums have changed. What is the new procedure?

A Open the Ubuntu Forums. Click on "Activity Page." Click on "New Posts." On the right, near the top, it will show "1 2 3 4," click on 4, then click on 7, then click on 10. Look for messages with "Replies: 0".

Some of the people have not provided enough information, ask them for more. Some of them are "English as a second language," ask for clarification. Some are asking questions which were solved eons ago, Google them a link. And some have complex questions about rare hardware/software combinations, ask them a question which will keep the conversation moving.

It's even possible that you will see a question which you can answer, and that's the best feeling of all!

Q I've heard a new term, "restricted boot," but I don't understand it.

A Here's a nice writeup by Matthew Garrett: <http://mjpg59.dreamwidth.org/23817.html>

Q I have just upgraded two computers to Xubuntu 13.04. Now the External USB drive connected to the Modem/Router cannot be mounted.

A (Thanks to **Alan.Brown** in the Ubuntu Forums) This is due to the new kernel version. Add the option `sec=ntlm` in the `fstab` entry. To mount it manually in my case:

```
sudo mount -t cifs -o sec=ntlm,uid=1000,gid=1000,ghost,_netdev //192.168.0.1/USB /home/user/USB
```

Q How can I get an in-depth understanding of Linux?

A Install **Linux From Scratch** on a spare machine.

<http://www.linuxfromscratch.org>

Don't expect a working system in the first week.

Q I want to set up a media server, but I don't know where to begin.

A Linux Magazine had a recent article which might help: <http://www.linux-magazine.com/Online/Blogs/Productivity-Sauce/Set-up-a-DLNA-Server-in-a-Minute>

Q Every time I eject a device (CD, Zip disk, flash drive, whatever), I get this message and I have to click OK on it: "The device "ZIP100" is being ejected. This may take some time." I use Xubuntu 12.10. How can I get it to stop doing this? It's unnecessary and annoying.

A (Thanks to **LewisTM** in the Ubuntu Forums) You should try to remove `notify-osd`, and install `xfce4-notifyd`, then reboot.

To configure the Xfce notification daemon, run `xfce4-notifyd-config`.

Q I'm trying to write a script that would loop through the files of a directory and add the names of each file to a text file.

A (Thanks to **r-senior** in the Ubuntu Forums) You don't need a script, just use this command:

```
ls -1 > files.txt
```

Q Let me first give you my NAS setup: Ubuntu 12.10 on a single system drive, RAID5 setup over 5 hard drives for data.

If my system drive fails, is it possible to reinstall Ubuntu and have the NAS (i.e. the RAID5 array) back up and running with hopefully all data intact?

A (Thanks to **rubylaser** in the Ubuntu Forums) On my home server (media server), since the base OS doesn't change much, I



Q & A

occasionally dd the OS disk to a backup disk. That way, if the hard drive dies, I throw the new disk in, turn the computer on, and I'm right back where I was previously. (Gord notes: dd copies things. See <http://www.howtogeek.com/howto/19141/clone-a-hard-drive-using-an-ubuntu-live-cd/>)

Q I do not know how to use my android mobile's internet on my laptop, through USB.

A (Thanks to **3dmatrix** in the Ubuntu Forums) I just needed to check USB tethering ON in my phone.

Q When I go to a site which has Flash videos, I get a message about having an old version of Flash installed.

A In your favorite software installer, search for "flashplugin," and install it. (I have seen adobe-flashplugin and flashplugin-installer, they both work.)

Q Skype doesn't work in Ubuntu 13.04.



A See this fix: <http://www.webupd8.org/2013/04/fix-skype-not-working-in-ubuntu-1304.html>

Q A program I'm looking at says I need Mono. When I searched Synaptic for Mono about 50 entries came up. Which one do I need?

A mono-runtime



Q Can I use the COBOL programming language in Ubuntu?

A Yes, install open-cobol.

Q I'm trying to compile a c++ program in Ubuntu. However I am getting errors using "gcc testcpp.cpp -x c++ -o test"

A (Thanks to **steeldriver** in the Ubuntu Forums) To compile C++ it's preferable to explicitly invoke g++ rather than gcc: g++ testcpp.cpp -o test

Q I have a current generation System76 Lemur Ultra. I have a KomputerBay 128 GB 400X Class 10 UHS-1 SDXC card. I want to use LUKS volume encryption. Adding several gigabytes of new data to the SDXC card results in input/output errors.

A (Thanks to **System76** support staff) Our card readers don't support 128 GB SDXC cards with LUKS encryption. Going with a 64 GB card is better.

Q I wanted to change my password, and used the command:

```
sudo passwd
```

However, my password was not changed.

A (Thanks to **Cheesemill** in the Ubuntu Forums) By using sudo, you have changed root's password, which is usually disabled, not your own. Use the command: passwd

Q I want to change the login screen background.

A (Thanks to **grahammechanical** in the Ubuntu Forums) Replace usr/share/backgrounds/warty-final-ubuntu.png.

TIPS AND TECHNIQUES

Upgrade time for some



By the time you read this, three versions of Ubuntu have fallen into the "not supported" bin: 8.04 Server, 10.04 Desktop and 11.10.

Not only that, but there have been changes to the duration of support for new versions. As of 12.04, "Long Term Support" (LTS) means five years of support. Effective with 13.04, support for "standard" releases has been reduced to nine months. Makes sense to me.

If you want to just get things done, stick to an LTS release. After two years and a few months, have a look at the next LTS release and decide whether you want to move to it. Otherwise, you will need to switch a few months after the following LTS arrives, eg. 16.04. A change every four years isn't very disruptive.

If you want the latest shiny, move to each new release shortly after it appears.

I use an LTS, and I have the latest release installed in VirtualBox -- but that's just so I can answer questions.

There's one factor which can throw a spanner into the works: you get a new computer, and it works fine with the latest "standard" release, not so much

with the most recent LTS. I ran into this myself: the computer I am writing this on was "fully supported" by 10.10, but some things didn't work in 10.04 LTS. I also own a USB WiFi adapter which was not supported before 11.04. It just means you need frequent switches until the next LTS arrives.

I'm still not a fan of upgrades. When I install, I make separate root and home partitions, then I do a clean install for any new version. So far, this has been problem-free. One example: if you do a clean install and the power goes off part-way through, you just start over. If you're doing an upgrade and the power goes off, your system might be unusable -- and maybe your data is gone.



After a long career in the computer industry, including a stint as editor of Computing Canada and Computer Dealer News, **Gord** is now more-or-less retired.

ZATO

A newly released project, **Zato**, is an Enterprise Service Bus (ESB) and application server written in Python.

Out of the box Zato offers HTTP, JSON, SOAP, REST, Redis, AMQP, JMS WebSphere MQ, ZeroMQ, FTP, SQL, hot-deployment, job scheduling, statistics, and high-availability load balancing.

There's a Django-based GUI, command line interface for admins and a JSON/SOAP API for hackers wishing to build alternative tools on top of services offered by Zato.

The 1.0 release comes with several hundred pages of documentation and is available under LGPL at <https://zato.io>

Name	At	SOAP	SOAP action	SOAP version	
1	zato.channel.amqp.create	Yes	zato.channel.amqp.create	1.1	
2	zato.channel.amqp.delete	Yes	/zato/soap	zato.channel.amqp.delete	1.1
3	zato.channel.amqp.edit	Yes	/zato/soap	zato.channel.amqp.edit	1.1
4	zato.channel.amqp.get-list	Yes	/zato/soap	zato.channel.amqp.get-list	1.1
5	zato.channel.jms-wmq.create	Yes	/zato/soap	zato.channel.jms-wmq.create	1.1
6	zato.channel.jms-wmq.delete	Yes	/zato/soap	zato.channel.jms-wmq.delete	1.1
7	zato.channel.jms-wmq.edit	Yes	/zato/soap	zato.channel.jms-wmq.edit	1.1
8	zato.channel.jms-wmq.get-list	Yes	/zato/soap	zato.channel.jms-wmq.get-list	1.1
9	zato.channel.zmq.create	Yes	/zato/soap	zato.channel.zmq.create	1.1
10	zato.channel.zmq.delete	Yes	/zato/soap	zato.channel.zmq.delete	1.1
11	zato.channel.zmq.edit	Yes	/zato/soap	zato.channel.zmq.edit	1.1



First off, if you haven't heard the sad news a few months ago, LGP (Linux Gaming Publishers) lost the rights to sell Egosoft's X series of games (**X2-The Threat** and **X3-Reunion**); the good news is Egosoft is now actively developing its games for Linux—so, if anyone has purchased the X-series superbundle or X3-Reunion on Steam, you have access to the Linux version as well. Work continues on X-Beyond, X2 and X3-Terran Conflict, but is not yet available outside of closed beta.

Next up, Unigine has finally released **Oil Rush** and its DLC on Steam for Linux this week, meaning if you purchased the game directly from them, it's now available for installation via the Steam for Linux client.

Now for the games that are coming soon. Most come from Steam's **Project Greenlight** and all are from Indie Developer Studios.

First up is **Starbound** (www.playstarbound.com) from Chucklefish. This is a 2D

sidescroller in the vein of Terraria and Minecraft, except this time, along with an open sandbox world, you also get a single player storyline. The game is available now for pre-order, and those who do pre-order get beta access. Read more here

<http://playstarbound.com/about/>,

Next up we have **Legends Of Aethereus** from Three Gates Studios. This Action RPG was successfully funded last year via Kickstarter, has beta access for Kickstarter backers, and has now been Greenlit by the Steam Community. See more here <http://www.aethereusgame.com/index.html>. Finally, the developers are now taking pre-orders for the game.

Third on the list is **Hammerwatch** from HipShot. In the developer's own words about the game: *"A hack and slash action adventure, set in a fantasy pixel art environment. Solo or cooperate in this adventure from bottom to top of Castle Hammerwatch. Kill hordes*

of enemies with varied looks and features, through four unique environments with traps, hidden secrets and puzzles.

The game is inspired by the old Gauntlet-series, but adds a lot with online support, character development, complex levels, bosses, and much more. Like gauntlet, the focus is fast paced action, but with elements that force you to think just a bit more!"

A playable demo (unfortunately, for the Windows OS) is available; another greenlit steam game; find out more here <http://steamcommunity.com/sharedfiles/filedetails/?id=122788084>

"Legend of Dungeon is part Beat'Em'Up, like those awesome old-school 4-player arcade games (it

plays a little like TMNT and X-Men), and it's part RogueLike in its setting and content generation." So states the introduction for the next Greenlit Game **Legend of Dungeon** from developer RobotLovesKitty. The game is set for a summer 2013 release, and is currently taking pre-orders that grant access to a playable version of the game. Read more here

<http://www.robotloveskitty.com/LOD/> and here <http://steamcommunity.com/sharedfiles/filedetails/?id=108895757>

And that's it for games that are projected for a 2013 summer release date. There are several other games on the horizon, but their release dates are either early next year or December 2013. So nothing much to talk about since the dates are so far out.



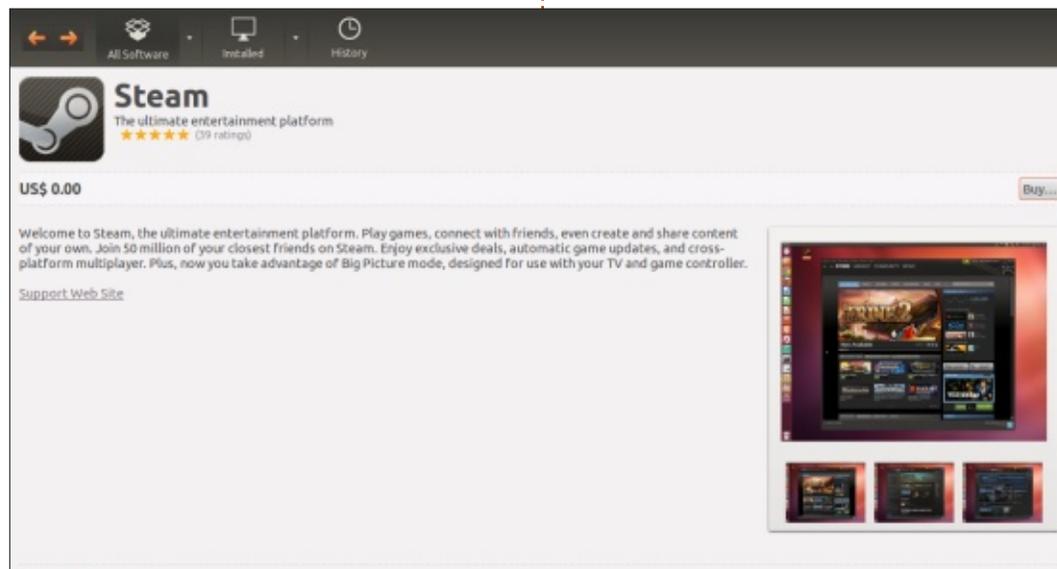


When the opportunity to try out for the position of game reviewer at FCM came up, I jumped at it for three reasons. I am a huge fan of the Ubuntu operating system and its variants, I have had a love for gaming since I was about 10 years old and typed 'open door' in my first Sierra adventure, and, for a long time, I've been keen to somehow capture my thoughts on the topics of gaming and Ubuntu in one place. The chance to actually do this was too good to pass up.

But what game would I review? FCM has been running for quite some time now. Do I take an older game, or find something new to review? Fortunately the gaming gods took pity on me, and, just over a week ago, Valve announced that they would be releasing their 2007 smash hit Portal on Steam for Linux. I was too busy with other FPS games at the time when Portal was initially released (sigh, I'm looking at you Call of Duty 4: Modern Warfare), so this presented the perfect chance to complete and review a game that was freshly released to the Ubuntu

world.

At this point I am ashamed to admit that I missed out on the big launch of Steam on Ubuntu. Due to various factors in my life at the time, I wasn't involved in Ubuntu gaming in any way over the course of 2010/2012. My memories of Ubuntu gaming were either open source games developed by the community, or porting Counter Strike over to Ubuntu using Wine for office lunch time frags. The launch of Portal on Steam in Ubuntu would be the perfect opportunity to get back into Ubuntu gaming and I grabbed it.



However, what I planned to be a review of a great Valve game on a different platform turned out to be an exploration into the world of gaming on Steam in Ubuntu. As soon as I booted up my Ubuntu partition on my gaming PC (with a fresh install of 12.10) and proceeded with the Steam installation, I found myself finding the process of installing Steam and the actual implementation of it on an Ubuntu system way more interesting than the game itself. Suddenly I found myself rewriting my first article – from a review of a game to a review of the gaming

delivery platform itself.

The first thing I found interesting was how Steam is listed in the Ubuntu software manager. I know that the product is free to download, but why the \$0.00 price tag? As I had not installed software on Ubuntu for a few years, I assumed this was just the usual practice. I guess I just expected it to say 'Free' or similar. What I did find refreshing was that it was available in the Software manager and didn't require me to run any terminal commands.

As a user of Steam on 'that other OS,' I was pleased to find myself on familiar ground once the install had completed. The login screen was an exact replica of what I was used to. In fact, once I was logged in, the actual client itself was unchanged, even the window buttons were the same, which made things a little tricky, as the default Ubuntu install I was running was utilising the new Unity interface which means other windows' buttons were on the opposite side.

Once I logged in I realised the reason for this. Valve had merely ported the Steam client directly to Ubuntu, without making any major changes to the interface (none at all as far as I can see). Some small part of me was hoping it would be all shiny and new and specific to Ubuntu, but I understand why this is not the case. That doesn't mean to say I am happy about it...

I was interested to find out that due to the direct port of the Steam software, it meant that all the games I had purchased via Steam over the years were listed as part of my library on Ubuntu. Obviously all these games weren't going to run (I'm too scared to try in case something explodes), but it would have been nice if Valve had made it so that Steam detects what OS you are running on and then filters the games you can play. As it is, I had to select 'Linux Games' from the 'Library' menu before I could filter the games I was actually going to be able to play.

Sure enough, right there between Half Life : Opposing Force and Ricochet was the Portal (Beta) game. It must be noted that I had already purchased Portal

previously, and I was pleased to see I wasn't going to have to repurchase it to be able to play it on Ubuntu.

At this point, after the Ubuntu OS reinstall, installing the third party graphics drivers for my nVidia card, and installing and logging into Steam, it was just too late to start playing Portal on Ubuntu with enough time to complete the game and write a

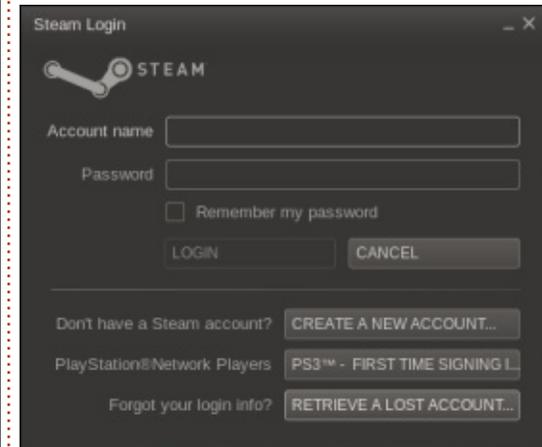
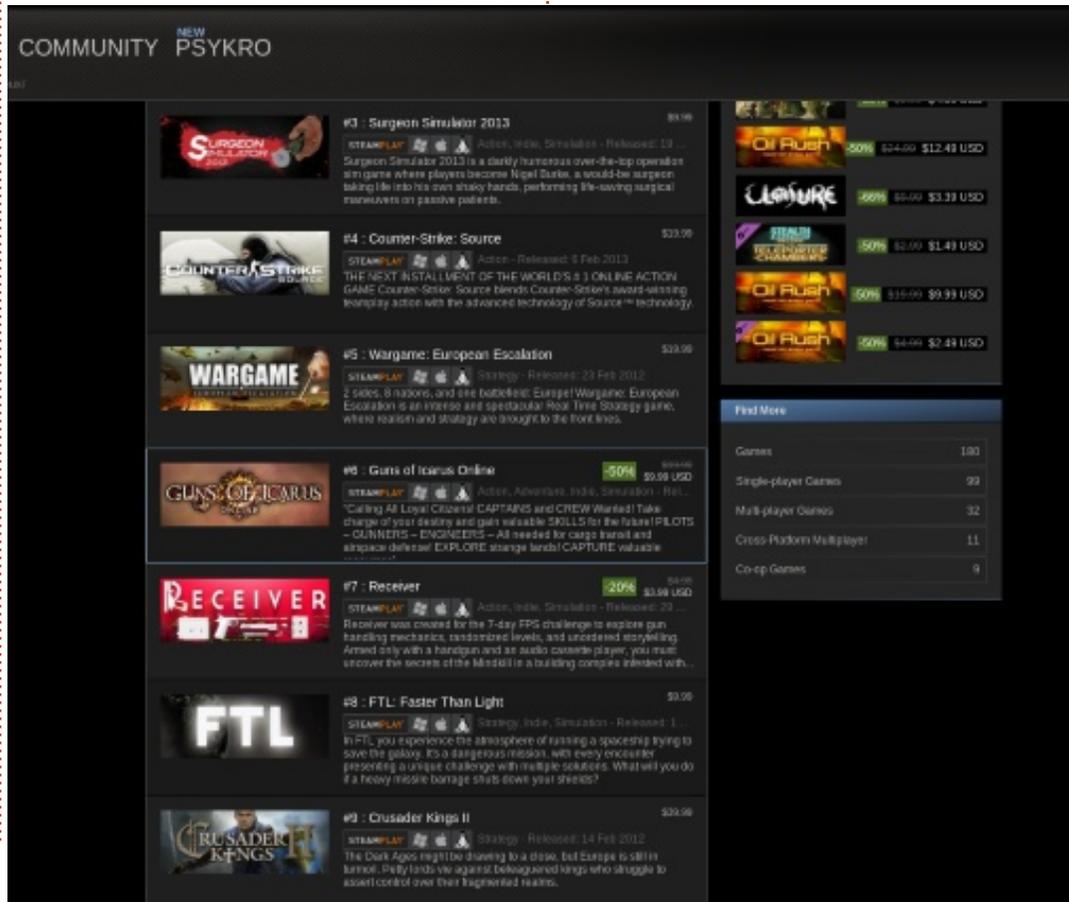
review. So I poked around a bit more to see what else I could find. What I did come across is the fact that there are, at the time of this article, 180 Steam games that can be installed and played on your copy of Ubuntu.

I take this as a serious step in the right direction. As a gamer I am tired of having to own a copy of Windows just to play my favourite titles. I really, truly hope that Gabe

and the boys over at Valve are successful in turning game developers on to the idea of selling/porting their products to Linux through Steam. Part of me wants to jump up and run to the highest hilltop and scream and shout for joy.

But for now, I have some Portal to play.

Apparently there's cake!



Jonathan is a developer and gamer living in Cape Town, South Africa. When not writing code, writing articles or gaming, he spends time with his wife and young son.



Strategy games are known for their steep learning curves and long play times. **Aeon Command**, however, is a casual strategy game that is easy to learn and fun to play. It combines casual arcade gaming with resource management, research, and ship production to produce an unique gaming experience. The main goal of the player is to defend his or her mothership and to destroy the enemy's mothership.

There is a brief tutorial to teach you how to manage resources. From there one can either play in campaign, skirmish or multiplayer mode. Campaign mode unlocks more ships, more technology, and more abilities as you play through each mission. There are three factions: the Alliance, the Exiles and the Cyborgs. Each faction has its own ships and abilities. The factions are fighting over the resources contained in a particularly resource-rich nebula. In the beginning of campaign mode, the player cannot do research until given charge of the fleet by defeating the current

commander.

As Campaign mode unfolds, the player is given access to new abilities such as an EMP, and the ability to heal ships in combat. These abilities depend on energy taken from enemy ships, which appears after they are destroyed. A player needs to click on the leftover energy before it disappears, similar to bonuses in arcade games.

In order to build ships and conduct research, the player must collect mineral resources from asteroids. A player is allowed only 10 mining ships so resource collection in later stages of the

game must be supplemented by capturing enemy vessels with tow ships. It is imperative to protect tow ships as they bring back their cargo. There are shield ships that can project a field around tow ships and other vessels to protect them from enemy fire for a short time.

The graphics in the game are nothing special, but they get the job done. It can sometimes be difficult to tell which ships are of which type, especially when fighting the cyborgs. This a problem, because in order to adequately defend your mothership, you need to know which ships to build to engage

certain enemy vessels. The audio is fitting to the genre, and of fairly high quality. The sound effects are traditional space battle sounds. The music is neither repetitive nor boring.

The game is currently \$2.99 at Desura. If you like strategy games, or if you'd like an interesting casual game, I highly recommend Aeon Command, both for its value and its playability. If you're curious about strategy games, Aeon Command is a great and simple introduction to the genre.

Pros: Low price, good sound, fun, and easy to learn.

Cons: Graphics that make it difficult to distinguish ship types.



Joseph is a Communications major at Keystone College in La Plume, PA. He's also the Director of Technology for Gamers Against Bigotry. You can follow Joe on twitter ([@dogboi](#)) and find his blog at [jejohaneman.com](#)





ADDENDUM

To my horror, having proudly informed you all of how to create your first alias, I restarted my computer only to notice that my alias commands had disappeared. I repeated the process: set the alias, restarted the puter. Nothing. So: how can an alias survive a restart?

.BASHRC

The .bashrc file is for user-specific (just your account, not for the whole computer) changes to your terminal. Open .bashrc with your favorite editor. (If I had been a very good boy, I'd have made a copy of it before editing). It's located in your home directory. Run a search for alias on the file contents. You should, with a minimal amount of searching, come across something that looks a bit like this:

```
...
# some more ls aliases
alias ll='ls -alF'
alias la='ls -A'
alias l='ls -CF'
...
```

If you remember from last

month, I wanted to change how folders and files were listed when I used ls. I wanted to: i) list files & folders vertically; and ii) list directories first. The more observant of you will realise that the aliases listed above determine the functionality of ll, la & l not ls. The ls alias is sitting above them amidst some code. In my .bashrc file, it looks like the code below.

```
...
# enable color support of ls
and also add handy aliases
if [ -x /usr/bin/dircolors ];
then
test -r ~/.dircolors && eval
"$(dircolors -b
~/.dircolors)" || eval
"$(dircolors -b)"
    alias ls='ls --
color=auto'
...
fi
...
```

For Ubuntu 12.04 LTS, ls is preset to list files and folders in different colors. Hence, an alias already exists for ls, as seen in the code above. I merely need to add my two preferences to the existing alias.

...

```
alias ls='ls -l --group-
directories-first --
color=auto'
...
```

Save the .bashrc file, restart the computer, and the alias settings remained. Problem solved.

SHOWING OFF

Following this small success, I added two more aliases to make my Ubuntu-ing a little quicker.

```
#firefox alias
alias firefox='firefox --
private &'
```

```
#evolution alias
alias evolution='evolution &'
```

Also, I often turn on my puter and want to open both a browser and my email, but not always. So I added one more alias for this:

```
#open evolution & firefox
together
alias internet='evolution
firefox'
```

One important thing to note about this piece of code is the missing && between evolution and firefox, which would be necessary

if I were to run two commands simultaneously at the command line. However, one ampersand & as set in the initial alias alias evolution='evolution &' already returns the command line when the program has been launched so it's not necessary to inform the computer you are launching two commands simultaneously with &&.

To finish, please tell how you use alias on your machine.

NB. The alias command & .bashrc is a part of LPIC learning statement 1.105.1 Customize and use the shell environment. (weight: 4)



Richard Philip Witt, 30, living in Switzerland. I've been using Ubuntu desktop and server for roughly 2 years. But only for the basics. Now I want to discover its capabilities. Any mentors out there? Email me: chilledwinston2@hotmail.com.



MY DESKTOP

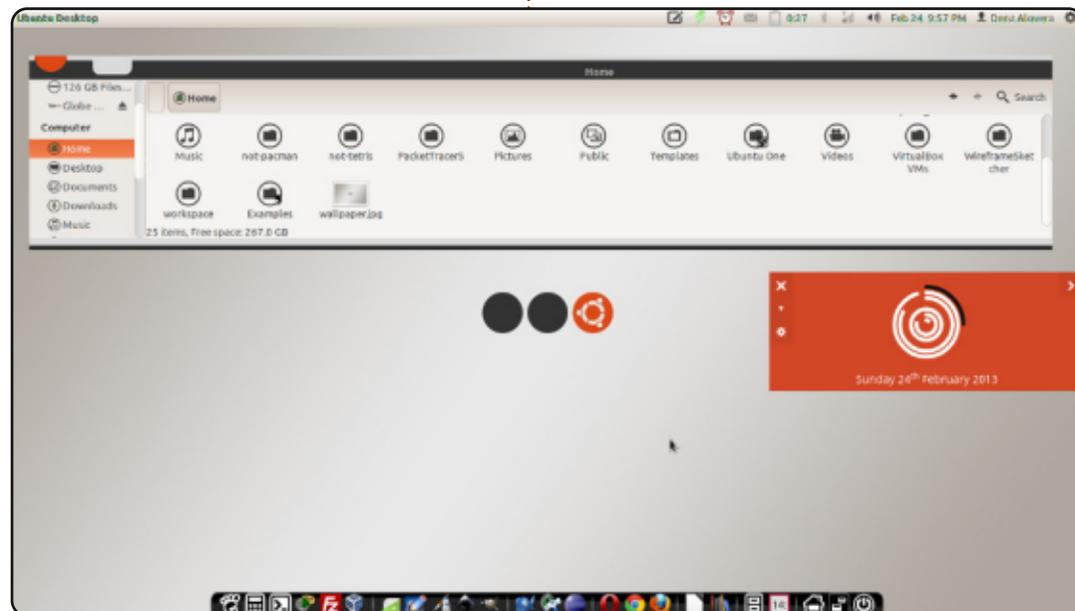
Your chance to show the world your desktop or PC. Email your screenshots and photos to: misc@fullcirclemagazine.org and include a brief paragraph about your desktop, your PC's specs and any other interesting tidbits about your setup.



I'm running Ubuntu 12.04 and make use of Conky and Quick Lists quite a bit.

In the desktop shot, you can see: my To Do list, which is powered by ToDo.txt, a really cool program that also has an iPhone / Android app and uses Dropbox. Below that is my mail conky which, thanks to DavMail, allows me to see new messages on the Exchange server at work. I use Mutt for my personal email, but Thunderbird for the Exchange stuff. Next is this week's schedule pulled from Google calendar. At the bottom is a calendar—not connected to Google calendar. Over on the right is my weather conky.

John Niendorf



I've been using Linux and open source for more than a year now since I brought my laptop pre-installed with Ubuntu 10.10. Upgraded it to Ubuntu 12.04. I loved all the enhancements in the release and have been using it ever since.

I have a Dell Inspiron N4050 with Ubuntu 12.04.2 LTS installed. My processor: Intel® Core™ i3-2330M CPU @ 2.20GHz × 2 - Graphics: AMD Radeon HD 6400M Series - Memory: 2 GB

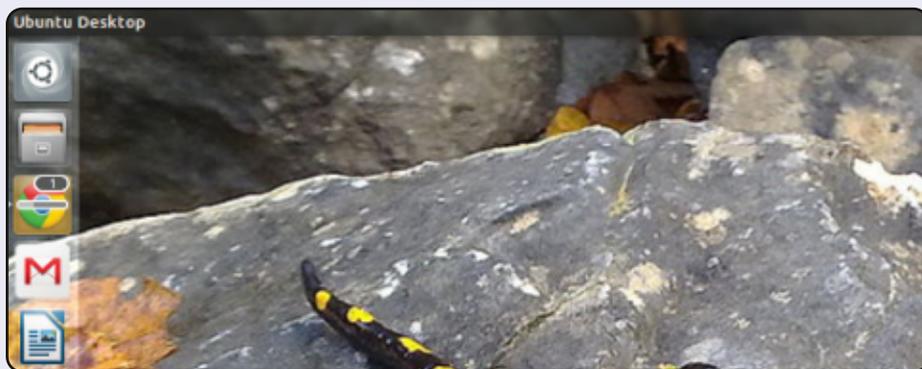
GTK Theme: Faience
Icon Theme: malys-uniblack
Cursor Theme: DMZ-Black
Window Theme: malys-futuree

Denz Alovera



Here's my desktop, stock Ubuntu 13.04 x64 with Unity Tweak Tool used to create a Transparent Notification Bar and a nice salamander wallpaper ready for when the 13.10 Repos go active. Running on a Toshiba Satellite C660-15R, Intel Celeron 900 2.20GHZ CPU, 4GB of RAM with 3.7GB available to the system and the rest used by integrated Mobile Intel GM45 Express Graphics.

Roland Hurt



Hardware:

MB: MSI 945GCM5 V2
Processor: Dual-Core at 1.6 GHz
RAM: 2 GB
HDD: 160 GB
Graphics onboard

Software:

Linux distribution: Ubuntu 12.04 precise
Unity 3D and Conky
GTK Theme: Ambiance
Icon-Theme: fs-icons-ubuntu-mono-dark
Cursor Theme: DMZ-Black
Wallpaper: nastol.com.ua-10332.jpg

Yeinier Ferrás



HOW TO CONTRIBUTE

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