



Full Circle

THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY

ISSUE #71 - March 2013



BOOK REVIEW:

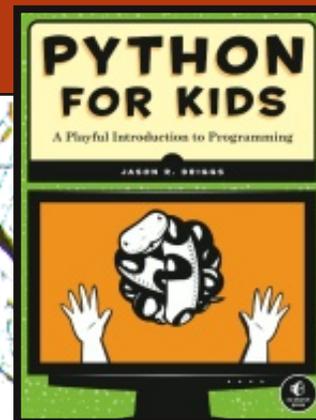


Photo: Ella's Dad (Flickr.com)

GROW YOUR FAMILY TREE USING PERSONAL ANCESTRAL FILE IN WINE

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αδιπσχινγελιτ. Μορβι τυρπισ α
Suspendisse pot
Donec diam eros, tristique sit amet, pretium vel, p
ut, neque. Fusce **consectetur** tellus ut nis
blandit justo a metus. Nam sed nisl nec p

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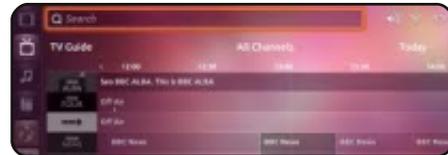
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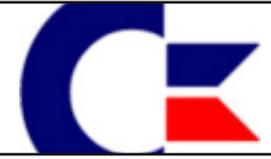


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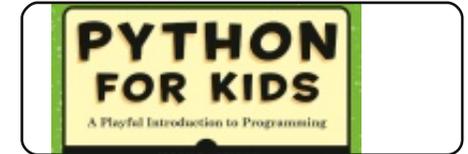
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@ Web Dev



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WELCOME TO ANOTHER ISSUE OF FULL CIRCLE!

We have the usual Python, LibreOffice, Inkscape and Blender HowTo's. Joining them this month is an extensive HowTo on the genealogy app Personal Ancestral File. A Windows app! Fear not, David O. Rowell shows you how to install it using Wine, then how to use PAF for entering your family history. Yes, Linux has GRAMPs, but there's not much else should you need an alternative. Thankfully, PAF works pretty flawlessly using Wine.

No doubt you've all heard about Ubuntu for phones and tablets by now. This month, we have two articles dealing with just that. First is Lucas (Command and Conquer) who discusses what it is. Later in the issue, Copil (Ask The New Guy) mentions it in his roundup of what else Ubuntu has to offer and what its future might hold.

Need something to keep the kids busy over the coming holidays? Check out Copil's review of Python For Kids (from No Starch Press). And, if Copil can understand it, your kids will find it a breeze. Just kidding, Copil! On the subject of reviews, you might like Art's review of Chrome OS. Is it even a threat to Windows or OSX? Art thinks so. So much so that it might even be a threat to our beloved Linux! Speaking of crazy things, I'm hoping that the opinion piece from Knightwise will prompt some discussion (the one from former FCM podcaster Ed didn't). He even mentions Windows. I told you he was crazy!

As ever, keep sending in your articles, desktop screens, reviews, stories, opinions, and anything else Linux related.

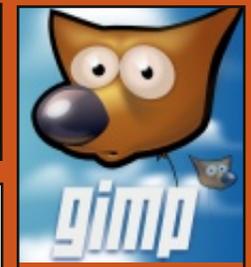
All the best, and keep in touch!

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>



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UBUNTU UNVEILS TABLET EXPERIENCE WITH MULTI-TASKING

This week Canonical announced the availability of an SDK for Ubuntu for tablets. Ubuntu for tablets provides manufacturers with an alternative to Android that can be managed with the same tools as Ubuntu server or desktop. Ubuntu for tablets is an elegant, non-fragmented solution that provides a secure multi-user experience.

<http://www.canonical.com/content/ubuntu-unveils-tablet-experience-multi-tasking>

RELEASING THE UBUNTU TOUCH DEVELOPER PREVIEW AND SDK ALPHA AND TAKING UBUNTU TOUCH DEVELOPER PREVIEW TO NEW LEVELS

David Planella and Daniel Holbach write about the new Ubuntu Touch Developer Preview

which can be used in the Galaxy Nexus, Nexus 4, Nexus 7, and Nexus 10 devices. They also mention the features included as well as a guide on how to contribute to the current project. <http://developer.ubuntu.com/2013/02/releasing-the-ubuntu-touch-developer-preview-and-sdk-alpha/>

<http://developer.ubuntu.com/2013/02/taking-ubuntu-touch-to-new-levels/>

UBUNTU DEVELOPER SUMMITS NOW ONLINE AND EVERY THREE MONTHS

Jono Bacon announces a change to the Ubuntu Developer Summit schedule which will be exclusively online and take place every three months, writing that the “new format of UDS provides an enhanced level of openness and transparency that is optimized for online participants.” Bacon announces that the “first online UDS will be taking place next week on March 5th-6th, 2013 from 2pm UTC – 8pm UTC, and the next event

will take place around the same time as the originally scheduled physical UDS in Oakland.” <http://fridge.ubuntu.com/2013/02/26/ubuntu-developer-summits-now-online-and-every-three-months/>

LET'S DISCUSS INTERIM RELEASES (AND A ROLLING RELEASE)

Rick Spencer kicks off discussion about the Ubuntu development list of a proposals which suggests “dropping non-LTS releases and move to a rolling release plus LTS releases right now.” <https://lists.ubuntu.com/archives/ubuntu-devel/2013-February/036537.html>

MIR + UNITY QML + UNITY APIs = UNITY

Olli Ries, Engineering Director for Unity and Display Server at Canonical, announces and shares some insights about the Mir

display server and Unity QML. According to what Ries calls their ambitious goal, Unity will transition back to Qt/QML, and Mir will replace Xserver in 2013. <http://fridge.ubuntu.com/2013/03/04/mir-unity-qml-unity-apis-unity/>

NOT CONVINCED BY ROLLING RELEASES

Mark Shuttleworth, responded to the case of rolling releases. Shuttleworth expresses that he is not convinced of the idea as it injects uncertainty where certainty is needed, among other issues. The proposal rose up again this year and Shuttleworth allowed the core engineering team at Canonical to create a “trial balloon” proposal. Shuttleworth noted that the proposal put forward by Rick Spencer was not final action as it was not put forward to the Technical Board and that, though the Community Council was briefed on it, they had not taken action either.

Shuttleworth indicated that



there were unexpected findings by the team putting the proposal together. The releases, the mechanisms for releases, and the release paradigms all presented conundrums that needed to be untangled. Shuttleworth also indicated that some expectations expressed by stakeholders, such as providing support for PowerPC architecture, were unrealistic based on the nature of today's consumer market.

Beyond that, Shuttleworth called for an end to what he termed as "melodrama" and indicated that the "sky was not falling." While noting that there has been a paradigm shift from integration to leadership, Shuttleworth also stated that those who feel the need to move on should not "poison the well behind them." Shuttleworth noted that there is now - what he calls - a once-in-a-lifetime opportunity for Ubuntu to dominate in the consumer electronics space, and it is time to strike while the iron is hot.

The post ends with questions to try to steer the discussion back into debating the rolling release proposal prior to it being

submitted to the Technical Board later in March.

<http://www.markshuttleworth.com/archives/1228>

13.04 (RARING RINGTAIL) BETA 1 RELEASED!

Stéphane Graber, on behalf of the Ubuntu release team, announces the release of the 13.04 (Raring Ringtail) Beta 1.

Beta 1 includes a number of software updates that are ready for wider testing. This is an early set of images, so you should expect some bugs. For a more detailed description of the changes in the Beta 1 release and the known bugs (which can save you the effort of reporting a duplicate bug, or help you find proven workarounds), please see:

<http://www.ubuntu.com/testing/>

Full announcement here:

<https://lists.ubuntu.com/archives/ubuntu-devel-announce/2013-March/001024.html>

UBUNTU GNOME IS APPROVED AS AN OFFICIAL FLAVOUR



GNOME

Tim Lunn announces, on behalf of the Ubuntu GNOME developers, that their flavour, which "aims to bring a mostly pure GNOME desktop experience to Ubuntu. Ubuntu GNOME Remix" has been accepted as an official flavour by the Ubuntu Technical Board.

Congratulations to the Ubuntu GNOME developers!

<https://lists.ubuntu.com/archives/ubuntu-gnome/2013-March/000035.html>

MANY THANKS TO THE UBUNTU NEWS TEAM FOR THEIR CONTRIBUTION THIS MONTH.

News this month comes from:

<https://wiki.ubuntu.com/UbuntuWeeklyNewsletter/Issue305>

<https://wiki.ubuntu.com/UbuntuWeeklyNewsletter/Issue306>

<https://wiki.ubuntu.com/UbuntuWeeklyNewsletter/Issue307>

<https://wiki.ubuntu.com/UbuntuWeeklyNewsletter/Issue308>





COMMAND & CONQUER

Written by Lucas Westermann

Ubuntu Touch

I originally wanted to write this article on my first impressions for the developer preview of Ubuntu Touch. However, as I couldn't get the work-in-progress version working on my TF101 (Asus Transformer), and as I wasn't willing to sacrifice my brand new Nexus 7's warranty (and data) to test a very basic version of Ubuntu Touch, I had to head back to the drawing board. When sharing my situation with Ronnie, we ended up having a discussion on whether or not Ubuntu Touch would be replacing Android for us. Ronnie was skeptical about it, while I was fairly open to the idea. Long story short, I decided to write up my opinions on why Ubuntu Touch could be interesting to mobile users, and why it might not manage to lure you away from Android. I will be ignoring any other mobile operating systems, as Ubuntu Touch can, at least for the moment, be installed on only Android devices. For those of you who were expecting my typical how-to articles: they should be back as of the next issue!

WHAT IS UBUNTU TOUCH?

For those of you who missed the announcements, Ubuntu Touch is a version of Ubuntu being developed for android-based devices with screen sizes between 4" and 10" screens. The Further Reading section has links to the official announcement pages. A few interesting features that the end product is aiming to have are as follows:

- The ability to dock to a keyboard, mouse and screen for a full Ubuntu desktop experience (similar to Ubuntu for Android).
- The ability to seamlessly move work between devices (phone, tablet, TV, desktop).
- Utilize the entire screen space (accomplished by utilizing swiping in from edges, and hiding the

interface buttons and options until required).

- A lock screen that is "tailored to you". Essentially, the lock screen should display information relevant to you based on your frequent tasks.
- Minimize steps in order to get to the apps you want. For example, the app tray is revealed by swiping in from the left side, regardless of where you are (even on the lock screen), allowing you to jump straight into the application, instead of having to first unlock and then locate the launcher for the app.

- Ability to run phone apps (such as texting/chatting) alongside tablet apps (media applications, video chat, etc.). This is available only for the larger screen sizes, but appeals greatly to me, who is an avid tiling window



manager user.

There are, of course, many other features too. However, these are the ones that had me nodding along in agreement when they were presented.

WHAT'S KEEPING YOU ON ANDROID?

I used an Asus Transformer TF101 for a good couple of years, and only recently replaced it with a Google Nexus 7. While I mainly used either device for productive tasks (checking email, testing websites, reading articles or books, and, occasionally, for writing up notes/articles), I did occasionally enjoy a game or two. Productivity tasks should be as easily accomplished on Ubuntu Touch as on any Ubuntu desktop, or any Android device. The "problem" lies with those apps that occupy roles we wouldn't usually associate with desktops. This includes touchscreen-based games (for example, the Simpsons Tapped Out, Draw Something, or anything



of the sort), and any productivity apps that were developed with a touchscreen device in mind. Due to the fact that Ubuntu Touch is aiming to offer desktop applications which can be found in Ubuntu on a mobile device, many applications geared towards the mobile will probably be more error-prone when the first devices are released. This is simply due to the fact that Ubuntu Touch is new, while Android has been around for a number of years now. As such, some apps are more matured, and could very well cause some adopters to hesitate before looking for alternatives in Ubuntu. Canonical is trying to improve this situation by integrating small-screen support into their API, in the hopes that developers will start adding support for Ubuntu Touch long before the stable release. Ultimately, you can't do anything besides waiting for the release before deciding whether or not it's worth it.

Do you have any Android apps you don't think you could live without? Let me know in an email (address in the last paragraph of this article).

DOESN'T UBUNTU TOUCH USE ANDROID?

Ubuntu Touch is based off CyanogenMod 10.1 (jelly bean). However, besides the device support, and the system with which Ubuntu is flashed/booted, there isn't a lot left of the ROM. Ubuntu itself is being run from a chroot environment the moment all device drivers are loaded from the Android framework. The reasoning for this, I imagine, is that it enables wider support for devices, and avoids the need to write new drivers for every piece of hardware. I don't see a lot of potential downsides with this method.

DOES UBUNTU TOUCH HAVE A FUTURE?

I think it most definitely will continue to be developed. If the speed with which the developer preview was ported to different devices is any indicator, it may grow very, very quickly. I doubt it will replace Android, just as Web OS, Windows Phone and iOS failed to eliminate other mobile OSes. It will probably carve out a market

share for itself, and be especially interesting to businesses. The reason for this is the fact that, once enough phones meet the requirements, Ubuntu Touch can easily be used as a desktop (with the correct docking tools). It will probably appeal to those companies who are currently assigning each employee a work phone, a work laptop, and/or a work tablet. With Ubuntu Touch, you could issue a phone and a dock, and simply fill your offices with docks, keyboards, mice and monitors. How feasible this is depends entirely on the actual implementation of this desktop feature in the final product.

CONCLUSION

There is little anyone can say for certain. However, knowing FOSS development, we'll be sure to see rapid progress as we approach the estimated late 2013/early 2014 release date for Ubuntu Touch devices. The basic premise, and the features Canonical is trying to integrate, are both things I am extremely interested in. If they can pull it off, I will definitely be giving the Ubuntu devices a fair chance. The moment it becomes more

functional (and device support is a little better), I'll be sure to give installing it on my TF101 another shot.

As always, I hope at least a few readers have found this article interesting. If you have an opinion on Ubuntu Touch (or simply agree/disagree with my opinions), feel free to send me an email at lswest34@gmail.com. Please put "C&C" or "FCM" in the subject, so that it doesn't get lost in my inbox.

Further Reading

<http://www.ubuntu.com/devices/tablet> (Tablet page)

<http://www.ubuntu.com/devices/phone> (Phone page)

<https://wiki.ubuntu.com/Touch/Devices> (List of devices and their current port progress)



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.



Let's assume that you have decided to create a multimedia center for your family room. You have a dedicated computer for the wonderful program called XBMC. You've spent days ripping your DVD movies and TV series onto the computer. You have done the research and named the files the correct way. But let's say that one of your favorite shows is "NCIS," and you have every episode that you can get on DVD. You found a place that provides the current episodes as well. You want to find out what the next episode is and when it will be broadcast. Plus, you want to create a list of all the TV episodes that you have to impress your friends.

This is the project we will be starting this month. Our first task is to dig through the folder containing your TV shows, grabbing the series name, and each episode – including the name and season number, and the episode number. All this information will go into a database for easy storage.

According to XBMC, you should name each of your tv episode files like this:

```
Tv.Show.Name.SxxExx.Episode
name here if you
care.extension
```

So, let's use the very first episode of NCIS as an example. The filename for an AVI file would be:

```
NCIS.S01E01.Yankee White.avi
```

and the very latest episode would be:

```
NCIS.S10E17.Prime Suspect.avi
```

If you have a show name that has more than one word, it could look like this:

```
Doctor.Who.2005.S07E04.The
Power of Three.mp4
```

The directory structure should be as follows:

```
TVShows
  2 Broke Girls
    Season 1
      Episode 1
      Episode 2
    ...
  Season 2
```

```
...
Doctor Who 2005
  Season 1
  ...
  Season 2
  ...
```

and so on. Now that we know what we will be looking for and where it will be, let's move on.

A very long time ago, we created a program to make a database of our MP3 files. That was back in issue #35 I believe, which was part number 9 of this series. We used a routine called WalkThePath to recursively dig through all the folders from a starting path, and pull out the filenames that had a ".mp3" extension. We will reuse most of that routine and modify it for our purposes. In this version, we will be looking for video files that have one of the following extensions:

```
.avi
.mkv
.m4v
.mp4
```

Which are very common extensions for video files in the media PC world.

Now we will get started with the first part of our project. Create a file called "tvfilesearch.py". Be sure to save it when we are done this month, because we will be building on it next month.

Let's start with our imports:

```
import os
from os.path import join,
getsize, exists
import sys
import apsw
import re
```

As you can see, we are importing the os, sys and apsw libraries. We've used them all before. We are also importing the re library to support Regular Expressions. We'll touch on that quickly this time, but more in the next article.

Now, let's do our last two routines next (next page). All our other code will go in between the imports and these last two routines.

This (next page, bottom right) is our main worker routine. In it, we

HOWTO - PROGRAMMING PYTHON Pt42

create a connection to the SQLite database provided by apsw. Next we create a cursor to interact with it. Then we call the MakeDatabase routine which will create the database if it doesn't exist.

My TV files are located on two hard drives. So I created a list to hold the path names. If you have only one location, you can change the three lines to be as follows:

```
startfolder =  
"/filepath/folder/"
```

```
WalkThePath(startfolder)
```

Next, we create our "standard" if __name__ routine.

```
#####  
if __name__ == '__main__':  
    main()
```

Now all the dull stuff is done, so we can move on to the meat and potatoes of our project. We'll start with the MakeDataBase routine (middle right). Put it right after the imports.

We discussed this routine before when we dealt with the MP3 scanner, so I'll just remind you that, in this routine, we check to see if the table exists, and if not,

we create it.

Now we'll create the WalkThePath routine (right, second from bottom).

When we enter the routine (as

```
#####  
def MakeDataBase():  
    # IF the table does not exist, this will create the table.  
    # Otherwise, this will be ignored due to the 'IF NOT EXISTS' clause  
    sql = 'CREATE TABLE IF NOT EXISTS TvShows (pkID INTEGER PRIMARY KEY, Series TEXT,  
RootPath TEXT, Filename TEXT, Season TEXT, EPISODE TEXT);'  
    cursor.execute(sql)
```

we talked about way back when), we give the filepath that we are going to search through. We clear the showname variable, which we will use later, and open an error log file. Then we let the routine do its thing. We get back from the call (os.walk) a 3-tuple (directory path, directory names, filenames). The directory path is a string which is the path to the directory, directory names is a list of the names of

```
#####  
def main():  
    global connection  
    global cursor  
    # Create the connection and cursor.  
    connection = apsw.Connection("TvShows.db3")  
    cursor = connection.cursor()  
    MakeDataBase()
```

```
#####  
def WalkThePath(filepath):  
    showname = ""  
    # Open the error log file  
    efile = open('errors.log', "w")  
    for root, dirs, files in  
os.walk(filepath, topdown=True):
```

subdirectories in the path, and the filenames is a list of non-directory names. We then parse through the list of filenames, checking to see if the filename ends with one of our

target extensions.

```
for file in [f for f in files  
if f.endswith  
(('.avi', 'mkv', 'mp4', 'm4v'))]  
:
```

```
#####  
# Set your video media paths  
#####  
startfolder = ["/extramedia/tv_files/", "/media/freeagnt/tv_files_2/"]  
for cntnr in range(0,2):  
    WalkThePath(startfolder[cntnr])  
    # Close the cursor and the database  
cursor.close()  
connection.close()  
print("Finished")
```

HOWTO - PROGRAMMING PYTHON Pt42

Now, we split the filename into the extension and the filename (without the extension). Next, we call the GetSeasonEpisode routine to pull out the Season/Episode information that is embedded in the filename, assuming it is correctly formatted.

```
OriginalFilename,ext =  
os.path.splitext(file)
```

```
fl = file
```

```
isok,data =  
GetSeasonEpisode(fl)
```

GetSeasonEpisode returns a boolean and a list (in this case "data") which holds the name of the series, the season, and the episode numbers. If a filename doesn't have the correct format, the "isok" boolean variable (top right) will be false.

Next (middle right), we will check to see if the file is in the database. If so, we don't want to duplicate it. We simply check for the filename. We could go deeper and make sure the path is the same as well, but for this time, this is enough.

If everything works as it should, the response from the query

```
        if isok:  
            showname = data[0]  
            season = data[1]  
            episode = data[2]  
            print("Season {0} Episode {1}".format(season,episode))  
        else:  
            print("No Season/EPisode")  
            efile.writelines('-----\n')  
            efile.writelines('{0} has no series/episode information\n'.format(file))  
            efile.writelines('-----\n\n')
```

```
        sqlquery = 'SELECT count(pkid) as rowcount from TvShows where Filename =  
"%s";' % fl  
        try:  
            for x in cursor.execute(sqlquery):  
                rcntr = x[0]  
                if rcntr == 0: # It's not there, so add it
```

```
            try:  
                sql = 'INSERT INTO TvShows (Series,RootPath,Filename,Season,Episode)  
VALUES (?, ?, ?, ?, ?) '  
                cursor.execute(sql, (showname, root, fl, season, episode))  
            except:  
                print("Error")  
                efile.writelines('-----\n')  
                efile.writelines('Error writing to database...\n')  
                efile.writelines('Filename = {0}\n'.format(file))  
                efile.writelines('-----\n\n')  
        except:  
            print("Error")  
            print('Series - {0} File - {1}'.format(showname, file))
```

should only be a 1 or a 0. If it's a 0, then it's not there, and we will write the information to the database. If it is, we just move past. Notice the Try Except commands above and below. If something goes wrong, like some character that the database doesn't like, it will keep the

program from aborting. We will, however, log the error so we can check it out later on.

We are simply inserting a new record into the database or writing to the error file.

```
# Close the log
```

```
file  
        efile.close  
        # End of WalkThePath
```

Now, let's look at the GetSeasonEpisode routine.

```
#=====  
=====  
def
```

```
GetSeasonEpisode(filename):  
    filename =  
    filename.upper()  
    resp =  
    re.search(r'(.*)\.S\d\dE\d\d(\.  
.*)', filename, re.M|re.I)
```

The re.search portion of the code is part of the re library. It uses a pattern string, and, in this case, the filename that we want to parse. The re.M|re.I are parameters that say that we want to use a multiline type search (re.M) combined with an ignore-case (re.I). As I said earlier, we'll deal with the regular expressions more next month, since our routine will match only one type of series|episode string. As for the search pattern we are looking for: ".S", followed by two decimal numbers, followed by an uppercase "E", then two more numbers, then a period. If our filename looked like "tvshow.S01E03.avi", this would match. However, some people encode their shows like this "tvshow.s01e03.avi", or "tvshow.103.avi", which makes it harder to deal with. We'll modify this routine next month to cover the majority of the instances. The "r" allows for a raw string to be used within the search.

Continuing on, the search returns a match object that we can look at. "resp" is a response that is empty if there is no match, and, in this case, two groups of returned information. The first one will give us the characters up to the match, and the second including the match. So, in the case above, group(1) would be "tvshow", and the second group would be "tvshow.S01E03.". This is specified by the parens in the search "(.*)" and "(.*)".

```
    if resp:  
        showname =  
        resp.group(1)
```

We take the show name from group number one. Then we get the length of that so we can grab the series and episode string with a substring command.

```
        shownamelength =  
        len(showname) + 1  
        se =  
        filename[shownamelength:showna  
        melength+6]  
        season = se[1:3]  
        episode = se[4:6]
```

Next, we replace any periods in the showname with a space – to be more "Human Readable".

```
        showname =  
        showname.replace(".", " ")
```

We create a list to include the show name, season and episode, and return it along with the True boolean to say things went well.

```
        ret =  
        [showname, season, episode]  
        return True, ret
```

Otherwise, if we didn't find a match, we create our list containing no show name and two "-1" numbers, and this gets returned with a boolean False.

```
    else:  
        ret = ["", -1, -1]  
        return False, ret
```

That's all the code. Now let's see what the output would look like. Assuming your file structures are exactly like mine, some of the output on the screen would look like this...

```
Season 02 Episode 04  
SELECT count(pkid) as  
rowcount from TvShows where  
Filename =  
"InSecurity.S02E04.avi";  
Series - INSECURITY File -  
InSecurity.S02E04.avi  
Season 01 Episode 08  
SELECT count(pkid) as  
rowcount from TvShows where  
Filename =  
"Prime.Suspect.US.S01E08.Unde  
rwater.avi";  
Series - PRIME SUSPECT US  
File -
```

```
Prime.Suspect.US.S01E08.Unde  
rwater.avi
```

and so on. You can shorten the output to keep the screen from driving you crazy if you would like. As we said earlier, each entry we find gets put to the database. Something like this:

pkID	Series	Root Path	
	Filename		
	Season	Episode	
2526	NCIS		
/extramedia/tv_files/NCIS/Sea son			
7	NCIS.S07E04.Good.Cop.Bad.Co p.avi	7	4

As always, the full code listing is available on PasteBin.com at <http://pastebin.com/txmmagkL>

Next time, we will deal with more Season|Episode formats, and do some other things to flesh out our program.

See you soon.



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.



Have you ever been working in a word processor and needed to insert a formula into the text? Perhaps you were writing a math or scientific paper for college, or even answering a question about statistics. If you need to enter anything beyond elementary math, you will quickly run into formatting issues. LibreOffice overcomes this problem by providing us with the Math or Formula module. You can use the module independently to create formulas, or use it directly in the other modules of LibreOffice. Today, we will learn how to enter formulas in the Math editor, and, in later articles, we will learn how to use formulas in Writer.

Open a new Math window by clicking on the Formula button on the LibreOffice Start Center, or through the menus with File > New > Formula.

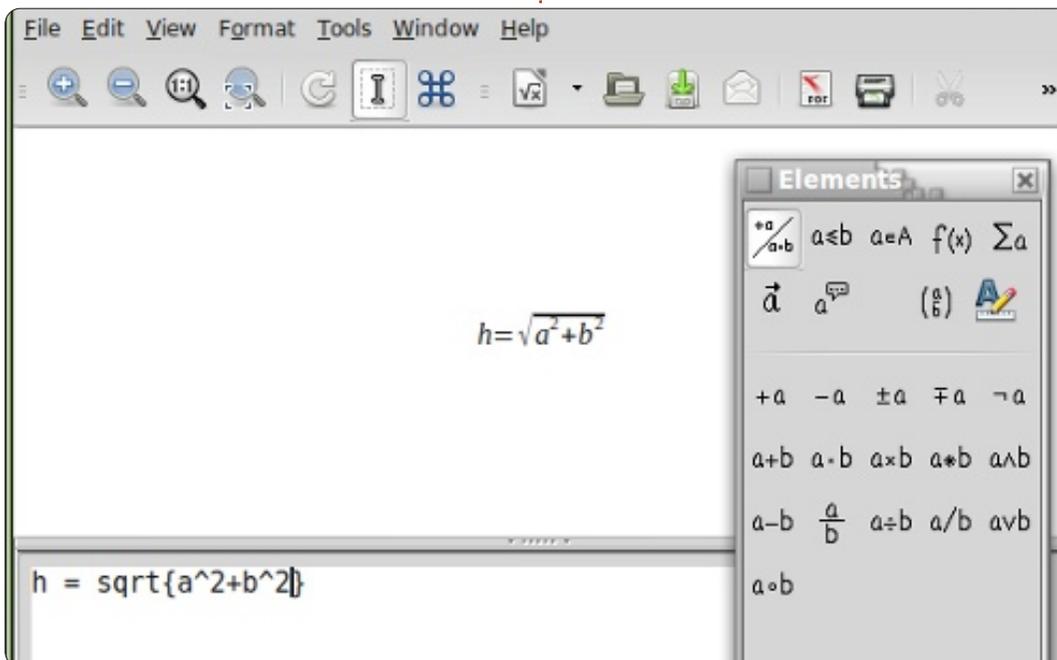
THE FORMULA WINDOW

The formula window has three pieces: the preview pane, the formula editor, and the elements

window. The preview pane at the top shows you your formula as it is created. The formula editor at the bottom is where you enter your formula. The floating Elements window provides you with shortcuts to different formula elements. Think of the elements as building blocks for creating your formula.

THREE WAYS TO ENTER FORMULAS

There are three ways to enter



formulas into the formula editor: through the Elements window, through a context menu, or by direct entry.

THE ELEMENTS WINDOW

The Elements window is divided into two sections. The top section is the category section, and the lower section contains the elements in that category. If you select a category then click on one of the elements in that category, the program will enter the element

into the editor with `<?>` as placeholders for the variables of the element. The first placeholder is highlighted. Use the F4 key to move to the next element. Shift-F4 will move backwards through the placeholders.

To get you familiar with the Elements window, I will walk you through the steps to write a formula using the Elements window. Starting with a new formula window, select the Relations category, then the equals element. `<?> = <?>` appears in the formula editor. The first `<?>` is highlighted. Enter the letter "h". Press F4 to move to the other `<?>`. Select the Functions category, then the square root element. The `<?>` is replaced with `sqrt{<?>}` and the placeholder in the brackets is highlighted. Select the Unary/Binary category, then the addition element. The program inserts `<?> + <?>` into the square root's brackets. Select the Formats category, then the Superscript Right element. `<?>^{<?>}` replaces the highlighted placeholder. Enter the letter "a" and press F4 to move

to the next placeholder. Enter the the number "2". Press F4 to move to the next placeholder. Select the Superscript Right from the Formats category. Enter the letter "b" and press F4 to move to the last placeholder. Enter the number "2". The final result will look like this:

$$h = \sqrt{a^2 + b^2}$$

and the text in the formula editor is:

```
h = sqrt{a^{2} + b^{2} }
```

THE CONTEXT MENU

The context menu (shown below right) is much like the Elements window. Right-click in the formula editor, and you get a menu of all the categories. Each category has a submenu of the elements. Click on the element to insert it into the formula editor. Follow the example above again, but this time use the right-click context menu to create the formula. You should get the same results.

DIRECT ENTRY

As you work with Math and learn the elements, you can enter the formulas directly in the formula editor. By far, this is the quickest way to enter a formula. Now that you have created the formula twice, using the Elements window and context menu, see if you can enter it directly into the editor without using the element tools. If you need help, just reference the editor text shown above.

SPECIAL CHARACTERS

You won't find everything you need in the Elements window and context menu. Many equations use Greek characters and other symbols. LibreOffice Math allows you to enter special characters into your equation. If you find you need

a special character not listed in the special characters, you can even add your own.

ADDING GREEK CHARACTERS

Through the menus Tools > Catalog, you can access the Greek letters through the character subsets Greek and iGreek. Greek is the letters in plain text and iGreek is the letters in italics. Just select the letter you want and click the Insert button. When finished, click the Close button.

For direct entry, type in % followed by the Greek letter name. For example, to get the Greek letter pi, enter %pi. To get the uppercase letter, make the name uppercase, %PI. To make the character italics, place a lowercase "i" before the letter's name, %ipi.

OTHER SPECIAL CHARACTERS

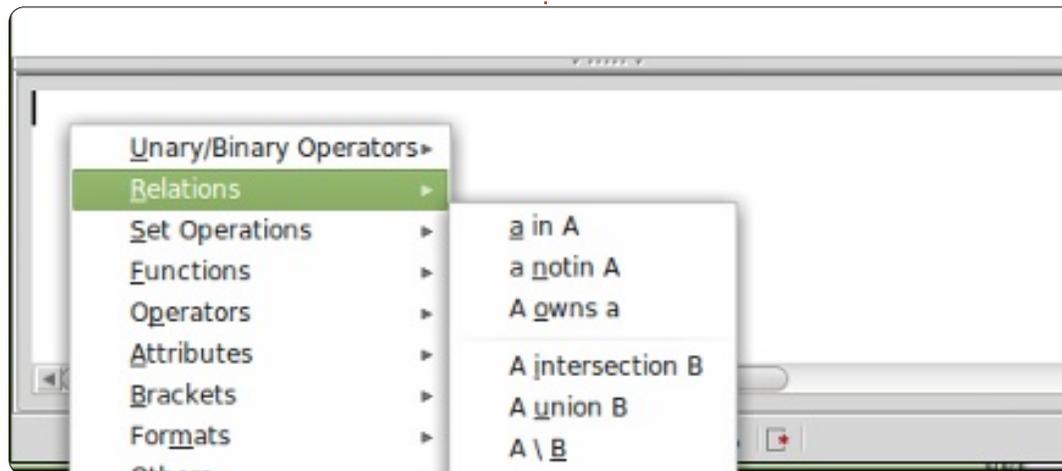
Other special characters are found in Tools > Catalog under the Special subset. Select the symbol you need and click the Insert button. As you use and learn the names of the symbols, you can enter them directly using the % and then the name of the symbol.

NOTE: The lowercase "i" for italics works with only the Greek letters. We will discuss inserting italics for other elements in the next How-To.

ADDING SPECIAL CHARACTERS

If the catalog does not have the special character you need, you can add it to the catalog. One such character is the prime symbol. Let's add it to our special subset.

Tools > Catalog and select the Special symbol set. Click on the Edit button. This brings up the Edit Symbol dialog. For the font select DejaVu Sans, and for the subset select General Punctuation. The symbol you want is Ux2023. For the symbol name type in prime.



Click the Add and OK buttons. The prime symbol has now been added to the Special symbols list. You can use it by selecting it from the catalog, or enter it directly by typing %prime.

CONCLUSIONS

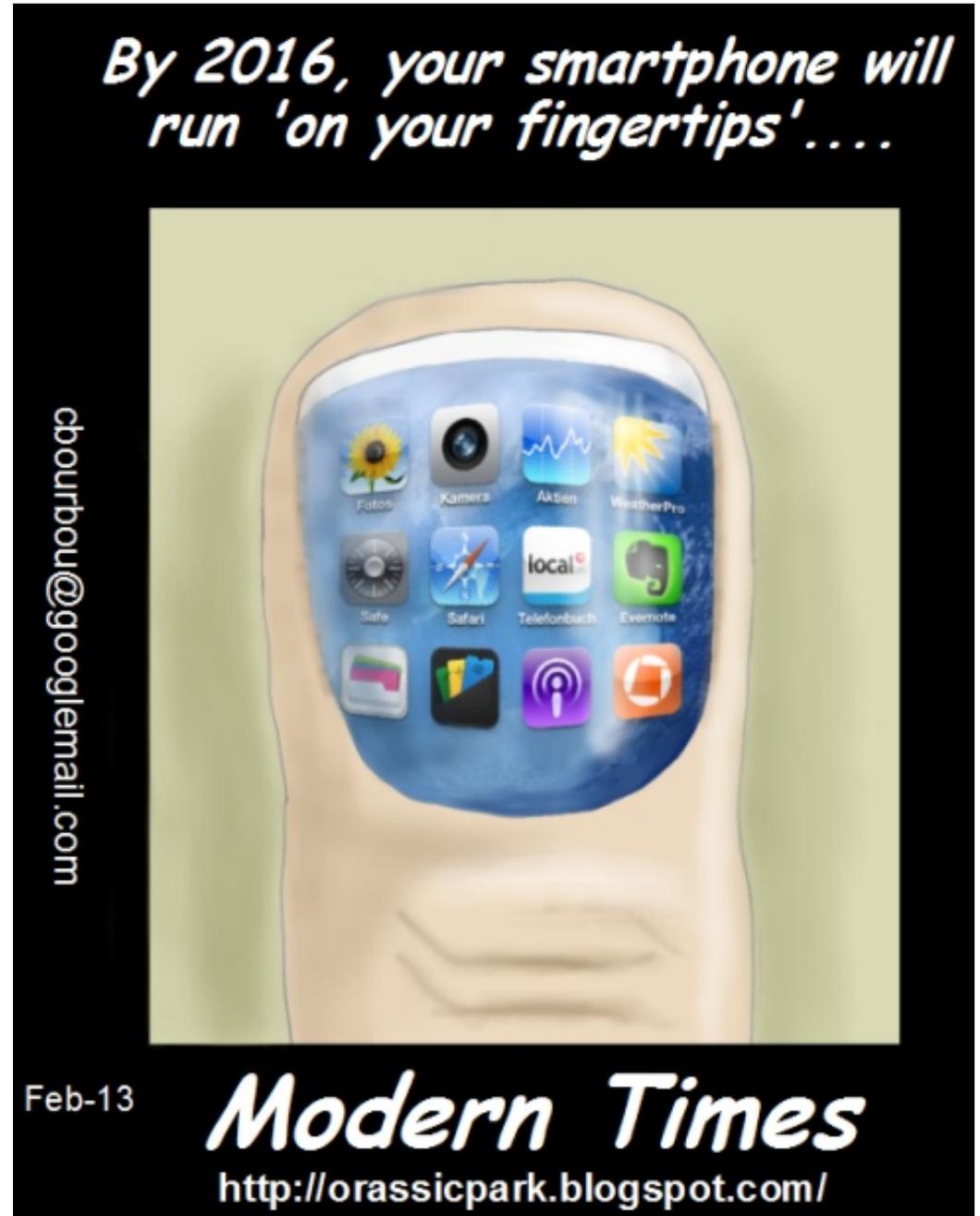
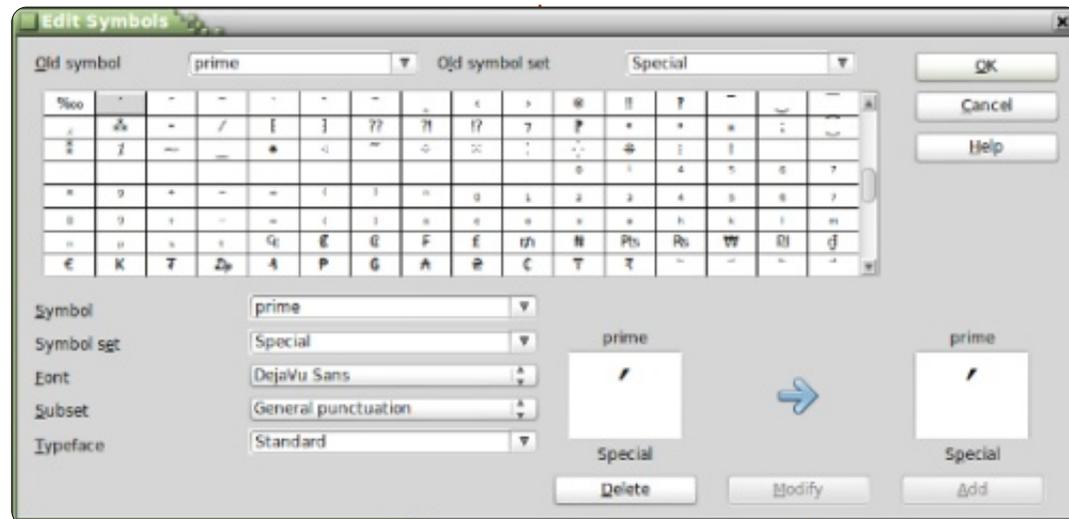
Math allows you to create formulas you can insert into your documents. You have three methods for entering formulas into the formula editor: through the Elements window, through the context menu, and by direct entry. The Elements window and the context menu help you to learn how to enter the different elements of a formula, but once you know how to enter an element, direct entry is the

quickest way to create a formula.

In the next LibreOffice How-To, we will look at ways to format our formulas so they look the way you want them.



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.





If you're interested in genealogy, but don't want all the "features" found in the latest programs (such as Gramps), perhaps Personal Ancestral File, PAF, will be your best bet. PAF is certainly great for beginners – thanks to its simple uncluttered interface, bullet-proof data handling, and ability to export seamlessly to just about any serious genealogy program.

Why am I touting a Windows program in a Ubuntu magazine? Well, Gramps is just too feature rich for many beginners or more casual researchers. The myriad features and the wealth of places to record data seem to overwhelm many would-be users. They certainly overwhelm me – and I've been researching family history since the 90's. Then too, much of the richness comes from add-on subprograms that don't necessarily update along with the main program.

PAF is available at no cost from the Family Search website thanks to the generosity of The Church of Jesus Christ of Latter-day Saints,

LDS. No, the Mormons won't try to convert you or subvert your research, it's truly free. No strings attached. PAF 5 will do almost anything that a family history researcher needs, and do it well. Furthermore, PAF will not expose any of your data on the Internet. It runs strictly on your computer with no Internet connection required. But it's available only for Windows, so we first need to -

INSTALL WINE

As usual in Linux, there are several ways to do this:

- Open your distribution's package manager – Synaptic Package Manager for Ubuntu and derivatives – click Reload to update the database, type "wine" in the search box, choose and install the default Wine meta-package. See the note regarding 'ttf-mscorefonts-installer'.
- To install the latest version of wine directly from the author's site, open a browser and navigate to <http://www.winehq.org/>, click 'Download', select the right binary for your distribution (Linux Mint

works well with the Ubuntu binary), and follow the instructions. Get and then install the latest stable version.

- Open your distribution's Software Manager, Software Center or whatever they call it, search for Wine, then choose and install the Wine default meta-package. In my experience, this choice often has considerable difficulty with the 'ttf-mscorefonts-installer' – which is part of Wine.

You may have difficulty installing wine when it comes to installing 'ttf-mscorefonts-installer'. MS wants you to agree with their license. This spawns a child window, requesting your response, that you may find hard to see. Once you've agreed and clicked OK, the installer will do its job – go get a cuppa!

You'll want to review the "installation and configuration how-to" when done. Wine will install a "Wine" entry on your menu. Programs you've installed may be found there or in an "Other" menu entry.

As an aside, this latest version should also allow Ancestral Quest and the Windows version of the Kindle reader to install.

INSTALL PAF 5.2

Open a browser and navigate to <http://www.familysearch.org/eng/paf/> Provide any required registration information – LDS won't spam you – you're safe here. Click to download the latest version for your language – save the file in your 'Downloads' folder.

Install the "official" way:

- Navigate to your 'Home > Downloads' folder.
- Right-click 'PAF5EnglishSetup.exe'
- Select 'Open With Wine Windows Program Loader' from the 'Open With' option.
- Choose the installer's defaults and PAF5 should install correctly. Let the installer place a shortcut on the Desktop because the link in the Wine Menu might not work right!
- You will probably want to un-



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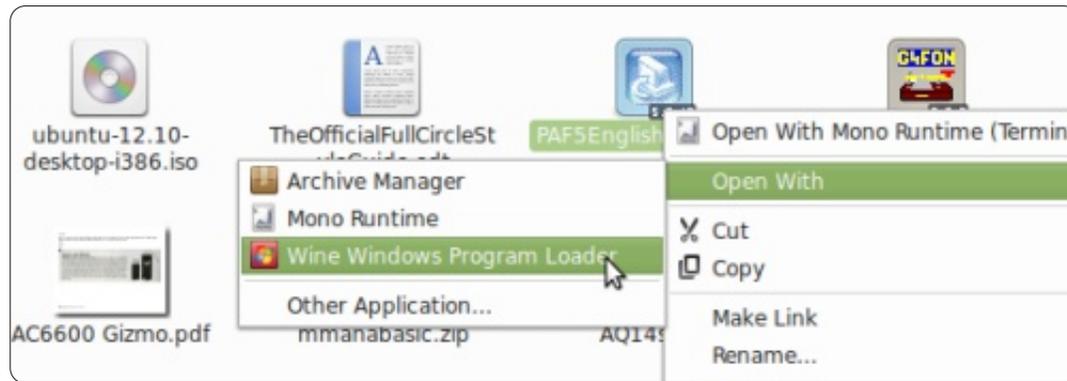
select the 'Use LDS data' block unless you're a Mormon.

Install the other way:

- Open your 'Downloads' folder.
- Right-click an empty place and select 'Open in Terminal'. If you lack that option, open a terminal and navigate to your 'Downloads' folder.
- Type 'wine PAF5' and press [Tab]. (Upper- and lower-case are important here.) The full filename will fill-in for you. Press [Enter] and you're on your way.
- Choose the installer's defaults and PAF5 should install correctly. Let the installer place a shortcut on the Desktop because the link in the Wine Menu might not work right!
- You will probably want to unselect the 'Use LDS data' block unless you're a Mormon, that is.

WORKING WITH PAF

If you're the patient sort, reading the "User's Guide" file will help you more than this brief note. After installing PAF, the user guide can be found by using Wine's 'Browse c: Drive' to navigate to C:\Program Files\Family Search\PAF5. The guide is named



"paf5.pdf".

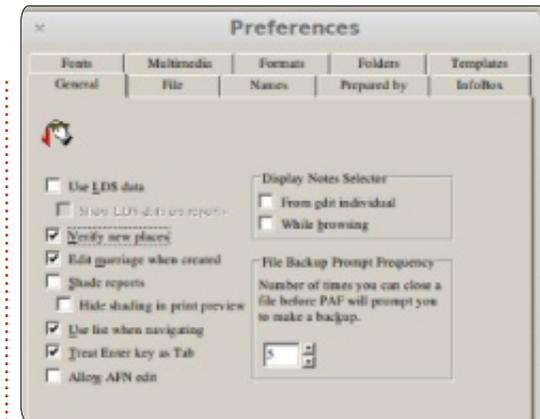
For the rest of us: Double-click the icon on your desktop and an empty PAF window will open, a 'Welcome' window will then open briefly, followed by another giving user choices. Your obvious choice here is 'New'. Choosing 'New' will open the 'New File' window – where you should give the file a meaningful name and choose where to store it.



Give some thought to the storage location. Maybe you have an existing Home/Genealogy folder, but it is, or will be, pretty cluttered with other information. Perhaps a better choice would be Home/user-name/PAF (z:\home\user-name\PAF in wine terms) folder reserved for the data file, backups, and a Media folder. I wouldn't suggest using the Wine c:\ drive because it is hard to find except when Wine is active. The New File dialog will allow you to navigate back to your home folder and create the PAF folder.

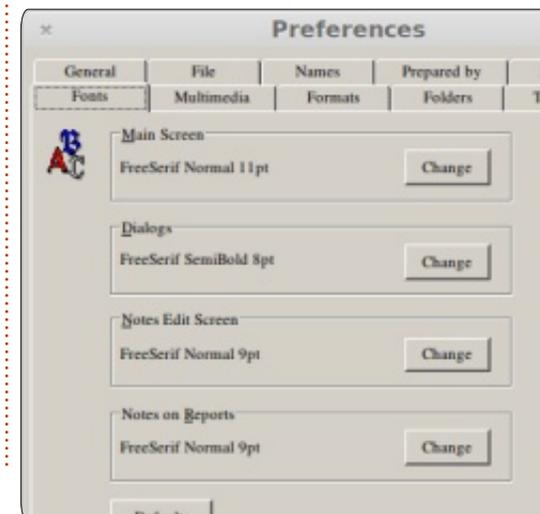
The window will transform into a blank working screen with the main 'Individual' tab selected. On top of that, 'Preferences' will open.

- The first tab open will be where you enter your preparer data. This data will be available to the



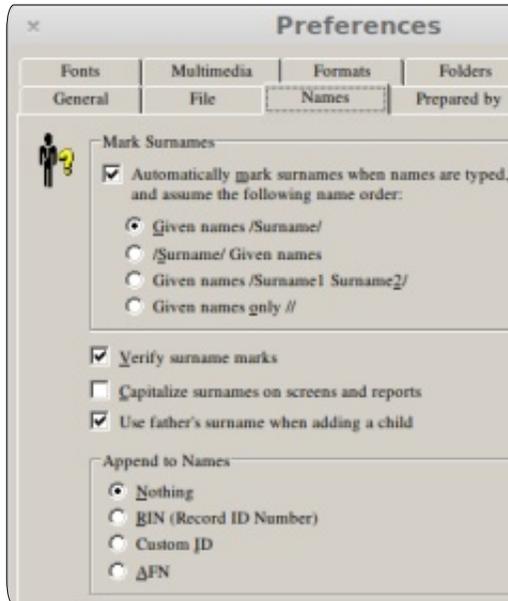
program so that it can mark the various reports it generates. Might as well fill it in now.

- Select the 'General' tab and check your choice of boxes. Some suggested choices are selected in the example.
- If your display is unclear select the 'Fonts' tab. The fonts I've selected are the ones used in the various screenshots. This may be a non-issue on your machine.



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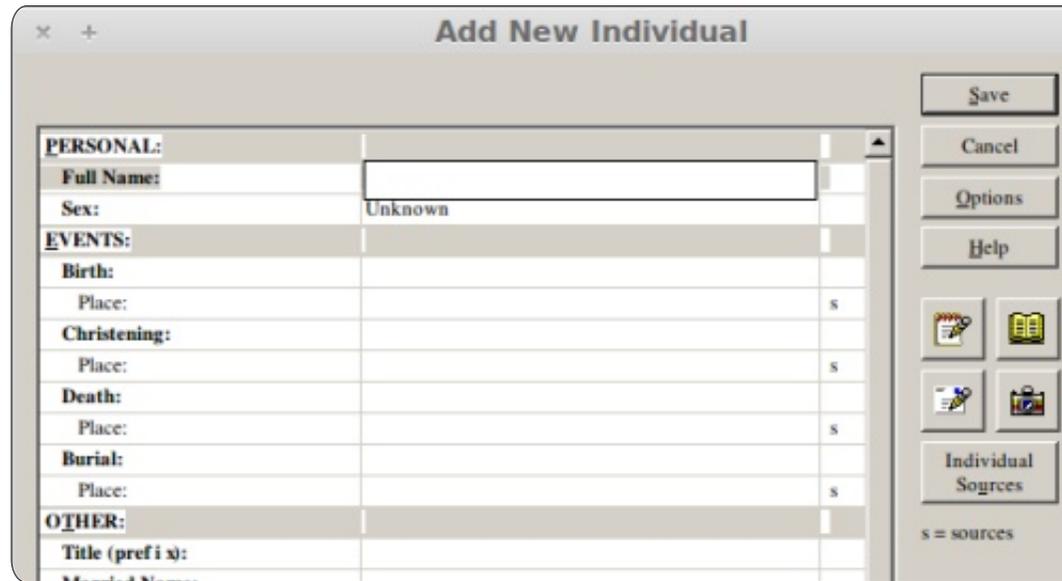
- Select the 'Names' tab. I suggest the selected choices.



- You can return to 'Preferences' at any time by selecting Tools>Preferences on the program toolbar. Some data-entry screens will also have this screen available.
- Click 'OK' to exit 'Preferences'.

PAF's working window will be displayed with the main 'Individual' tab selected.

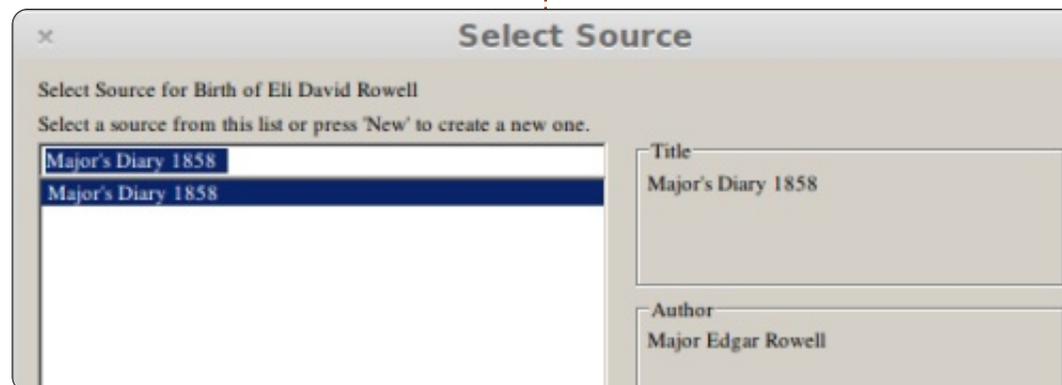
Either right-click in the name field or click the 'New Person' icon on the program toolbar, and the 'Add New Individual' window will open.



Enter the first person's name in the order you selected in the preferences dialog. A small window will open asking you to confirm that the program "knows" the right surname – it denotes surnames with //. I generally add them as I go. Be sure to select the correct gender – in any program it's difficult to fix it later.

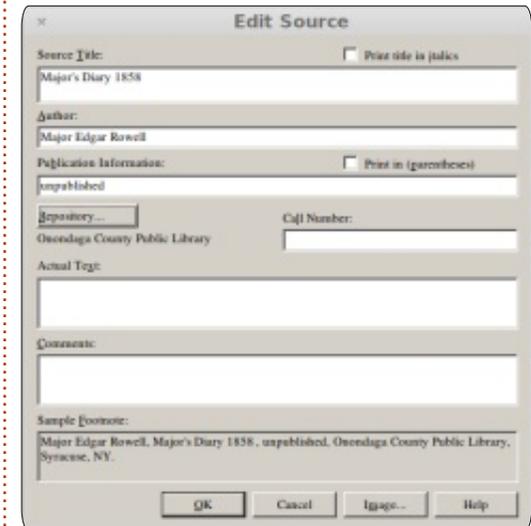
Add dates and places as appropriate to this individual. Click the small 'S' to the right to enter your source for the event.

As you use the program and add sources, they will be listed here. You can select a listed source or add a new one. Select 'New', enter the source details then click



'Select'.

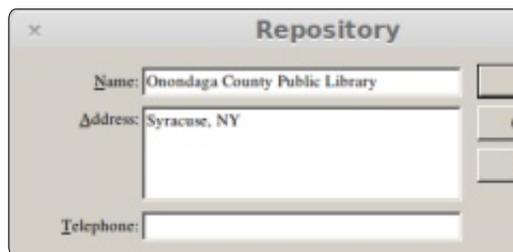
The 'Edit Source' window will open; fill in the details for this specific source.



Think of the top part of this window as if it were a bibliographic entry, and the bottom as the specific citation. In the middle is a button to add the repository (library, web page ...) where you actually found the source. The bibliographic entry can be reused (think of a book), while the citation is very specific (think page number). I've not been very rigorous in this example. For a source like that shown, quoting the 'Actual Text' in the space provided would be a fine idea.

HOWTO - USE PERSONAL ANCESTRAL FILE IN WINE

At some point, click the 'Repository' button and fill in the location where you found the cited source.



Repository

Name: Onondaga County Public Library

Address: Syracuse, NY

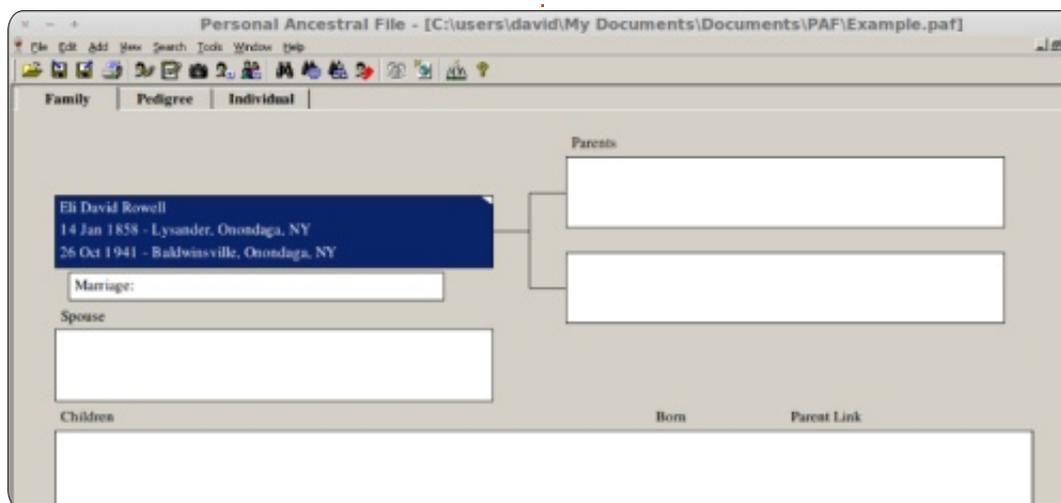
Telephone:

It is accepted that you will have a personal file where some of your specific documents are located. You should create a formal repository for that.

The five icons to the right?

- The one that looks like a notebook and pencil opens the 'Notes' window where you can add information as you choose. A great place to record residences the person occupied over time - jobs, education, research notes, to-do lists ... If you begin a new line in notes with the tilde '~' followed by a space, that note becomes private. You can control whether that note is included in GED files or printed in reports.
- The icon that looks like a book allows you to examine all of the sources cited for that individual.

- The icon looking like a mail envelope allows you to enter contact information for that person.
- The camera icon allows you to link multimedia to the person. My preference here is to create a multimedia folder in the same place that the main PAF file is located. The first picture here will be the default shown on many screens. Cropping and editing a copy here will make the picture more relevant and it won't mess up the original. Multimedia does not have to be a picture – an item could be a scan of a birth certificate for instance.
- 'Individual Sources' will open the 'Select Source' window allowing you to add sourcing for the individual rather than for an event.



Personal Ancestral File - [C:\users\david\My Documents\Documents\PAF\Example.paf]

Family Pedigree Individual

Eli David Rowell
14 Jan 1858 - Lysander, Onondaga, NY
28 Oct 1941 - Baldwinsville, Onondaga, NY

Marriage:

Spouse

Children

Parents

Born Parent Link

Click 'Save' to enter the person's data into the database and return to the main window.

Select the 'Family' tab (shown below). A family window will open with data for the person you just entered highlighted as the 'selected' person.

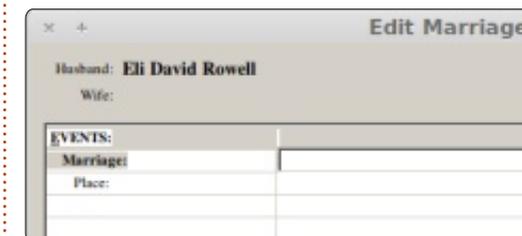
You'll note that the upper right corner of the blue selection is missing. That indicates that the person has source data or notes. Having multimedia files adds a small square to the corner.

Click the space for spouse or either parent, and the New Person screen will open – you know how to handle that. If multiple spouses have been added, an 'Other

Marriages' block will appear above the spouse block. Clicking the arrow will open a screen allowing you to exchange the spouses (spice?). If the family you're mainly interested in isn't the one displayed by default, you can use the 'Edit>Order Spouses' tool to bring the focus to the spouse so that you can select which one appears.

Right-click an empty space in the 'Children' block and you can select 'Add Child' – you know how to handle the screen that will open. If you don't enter the children in order, use the 'Edit>Order Children' tool to arrange them in oldest to youngest order.

Right-clicking the 'Marriage' block, and then clicking 'Add', will open the 'Edit Marriage' screen.



Edit Marriage

Husband: Eli David Rowell

Wife:

EVENTS:	
Marriage:	
Place:	

Dates, places, notes and sources are entered in the way you've done it already. Note there

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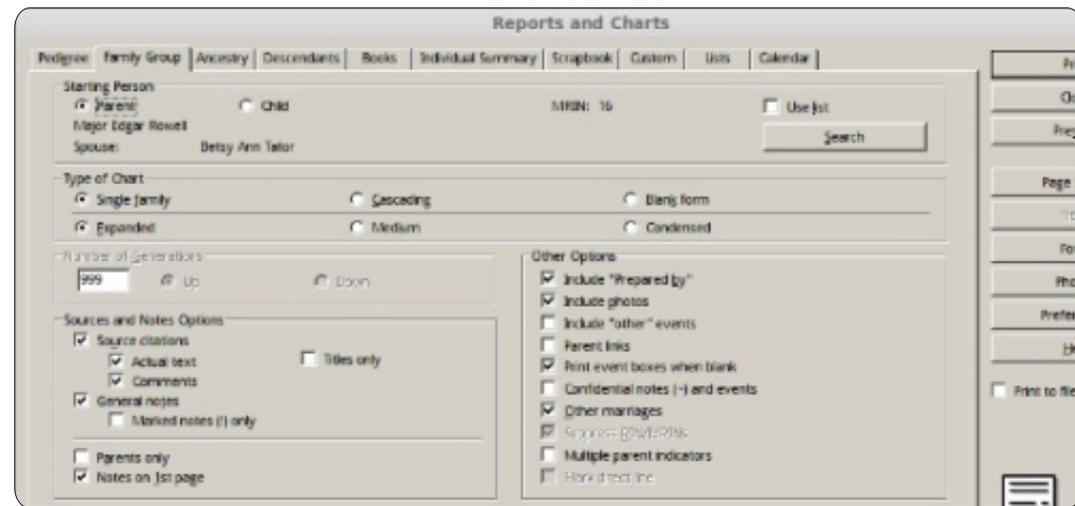
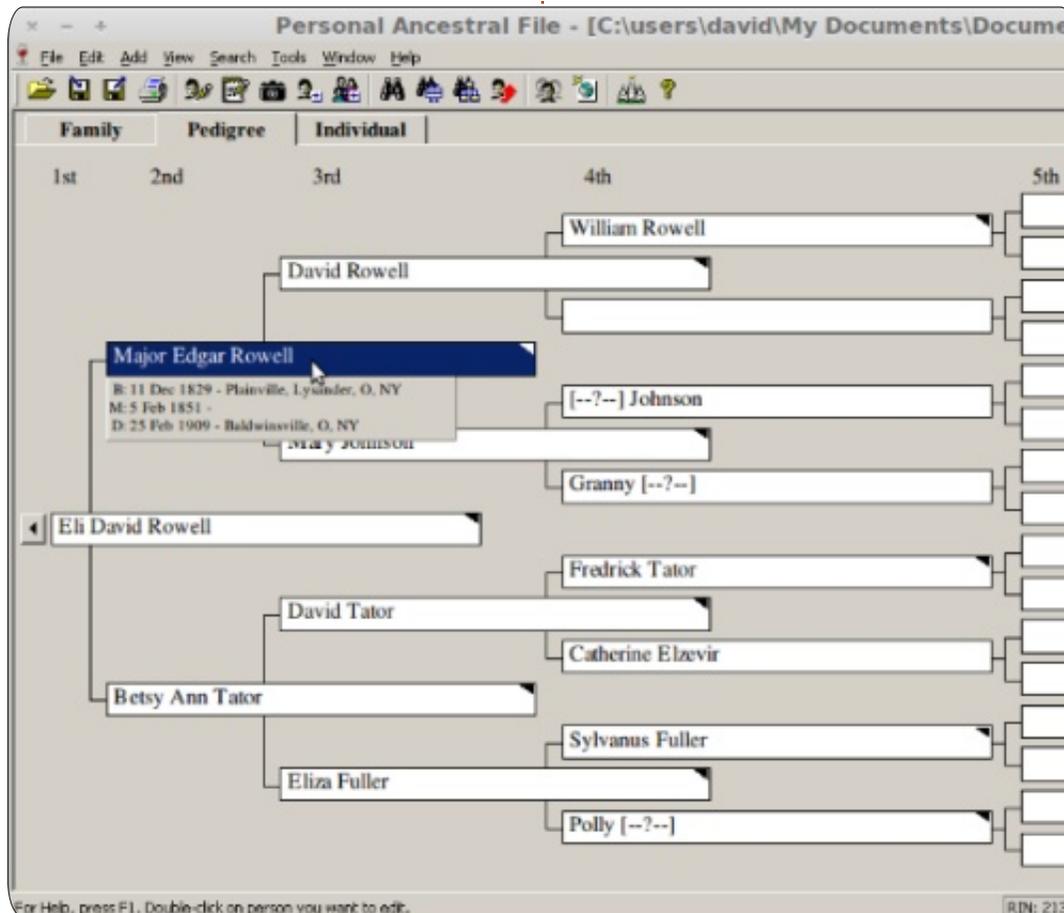
is a box for divorced. Adding a spouse will also open the 'Edit Marriage' screen. When there are multiple spouses a double-headed arrow will appear to the right of the appropriate name.

At some time, you will come across a GEDCOM file containing information you'd like to add to your data. Ideally it will incorporate sourcing information. BACK-UP your file, then use the 'File>Import...' tool to bring it in. I'd suggest closing your working file then creating a new file and importing the GEDCOM into it. Do this before you even think of adding it to your main file. After importing a GED into an existing file a window will open offering help in linking the imported data into the existing database. Reading it will help avoid really messing up your hard work! Be especially careful in merging information contained in both files – it's not at all unusual to have people with similar or even exactly the same name in the same place at the same time! In Onondaga County, NY, there are apparently two George Wellington Wilsons – both born at roughly the same time!

Select the 'Pedigree' tab. PAF

will generate a five generation pedigree (shown below) for the person highlighted in the previous tab.

The illustration shows the data I've entered in my example database. Note that hovering the cursor on a person drops down a list of more complete information.



I urge you to more fully explore the functions available from the main toolbar:

- You'll want to visit 'File>Check/Repair' if you have problems especially after a merge session.
- I'd back up using the file 'File>Backup...' tool after any significant work has been done, and especially before importing anything into the database. PAF will automatically back up the file as often as you selected in 'Preferences'.
- 'File>Print Reports' will open the 'Reports and Charts' screen (shown above) where you can choose to print several different detailed reports based on your data.

Your default printer should be

available for your use under Wine. You may also have the Linux PDF printer installed on your system, it too should work. PDF Printer should be available from the Software Manager or through the Package Manager; I'd suggest installing it.

- I recommend that you maintain a notebook of 'Family Group Sheets' for each family.

- "Printing" reports to PDF is a great way to share information through e-mail. Hint – PDF Printer puts its output in a folder 'Home/PDF'.

- Once in a while, you should visit the 'Lists' tab to generate a list of unlinked individuals (people with no family), duplicate individuals (careful here), and 'Possible Problems'.

The 'Tools' tab contains many useful tools:

- After importing a GED file you might use 'Match/Merge' to merge-in duplicate people.

- If you've consistently misspelled your hometown's name 'Global Search and Replace' is the tool to fix it.

- The old naming convention was to use all caps for surnames. 'Change Names to Mixed Case' tool will fix that.

- And, yes, you can generate the basic files for a web page using the 'Create Web Page' tool.

- Can't remember whether old Sam was your fourth cousin or third cousin twice removed? The 'Relationship Calculator' will help you remember.

- The 'Date Calculator' is a nifty tool that will calculate a birth date from a tombstone's 64 y 4 m 23 d inscription. Works the other way too.

GENEALOGY HINTS FOR BEGINNERS:

Before you begin to record your family history, here's some hints gained from many researcher's experience and mistakes.

- DO NOT start by trying to find family data on the Internet.

- Begin by recording what you know about yourself – your birth date and place. How did you know that? Gather copies of your birth record if you don't have it already. In the US, a birth certificate will generally include only a minimum of extracted data. Try to get a copy of the actual courthouse journal entries.

- Dates are usually entered in day-month-year (08 Jun 2011) format

to avoid confusion. Enter as much of the date as you know. Some useful common abbreviations are – cal, Calculated; bef, Before; aft, After; ca, Circa; abt, About; est, Estimated; bet, Between.

- Place names are generally entered in small-to-large order - parish, township or city; county; state; country, e.g. Lysander Township, Onondaga County, NY, US of A. It is important that places be entered as they existed when the event took place. Knowing that will help in locating primary records. For example, the present Oswego County, NY was formed from Oneida and Onondaga Counties in 1816. Hinmansville and its records would have been in Onondaga County in 1810, even though it is in Oswego County now. You won't find an 1810 census for Oswego County.

- I guarantee that you will want to revisit your source data at some time in the future. Data on the Internet had to come from somewhere else. Cite the source of your source. In that manner, you have some assurance of finding the data even if the site changes. It may seem a tedious waste of effort to find and record the source information for your data, but it's not. Just do it.

- If you're married, record your spouse's and children's data in the same way. All this information is recorded on a 'family group sheet'. Your genealogy program will make it for you.

- Now it's time to record yourself as a member of your parents' family. Record your siblings too. Again, secure copies of documents that verify the data.

- Genealogy isn't just dates and numbers. Try to flesh out your knowledge with pictures, recordings, letters, medical information, precious objects and interviews. Talk to your parents about events that have special meaning to them. Have them identify people and places in pictures.

- Working backward in time, record your parents as members of your grandparents' families. You may begin to find that documentation is getting hard to find. Record what you know and make a to-do list for the unknowns. Try to find pictures and get your grandparents to talk about the people and places in them.

- If you don't know a person's name DO NOT enter unk or unknown – that will bite you, guaranteed! I type [–?] and there's no question that that's a symbol – and not a

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name.

- Contact your cousins, aunts and uncles. Find out about your family history from "the horse's mouth" so to speak. One day, my cousin and I looked at each other and realized that we were 'the older generation'!
- Start some sort of filing system to keep track of the paper documents you're gathering. Some file by person, some by family. Some use notebooks, some use folders in a file; your choice. But do something, or you'll find yourself staring at a pile of half-remembered papers! Develop a system to preserve the names and places you've identified in those old pictures. I generally use long filenames.
- It is helpful to keep a record of places (books, web sites ...) you've researched, what you searched for and what you found. "Nothing" is a perfectly valid and useful fact! This practice will help prevent searching again for the same item in the same place. Of course, this isn't strictly true in the case of searching on the Internet since URL's and content vary with time.
- At some point, hopefully after you've recorded some data for your grandparents or even great grandparents, you will want to

seek further information on the Internet. Learn to develop a skeptical attitude toward what you find – some "researchers" aren't at all careful about what they record. There are even known cases of fraud. There's a lot of garbage and copies of garbage out there. You want to get back to hard evidence – original records if they exist.

- As a newcomer to genealogy I'd suggest that you visit https://www.familysearch.org/learn/getting_started, and work through some of the guides provided. The Family Search site is provided by The Church of Jesus Christ of Latter-day Saints, the Mormons. I understand that family history is very important in their religion. LDS have undertaken some very large international projects to digitize original records – much of this work is available for your research on the Family Search website at no cost. They also have a worldwide network of FamilySearch Centers. At these Centers you can view microfilm of these original records and use some for-fee sites at no cost on their computers. Microfilm not found at a Center can be rented very reasonably from their main library in Salt Lake City. No, I'm not evangelizing here, it's just that LDS

have generously provided these services for our use at no cost and with no strings attached.

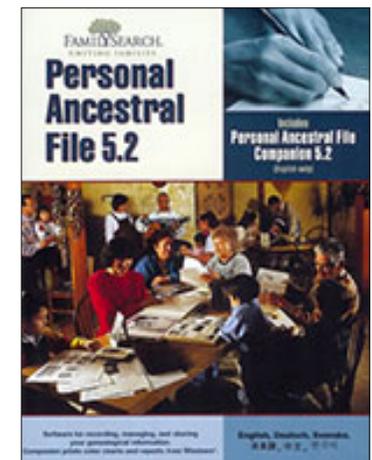
- At some time, you will need to visit <http://www.rootsweb.ancestry.com/> to consult and register for some of their lists. You'll find a wealth of background information on RootsWeb. RootsWeb is hosted by Ancestry, but has remained free and independent of commercial influence.
- Other resources include www.worldgenweb.org, which will link to www.usgenweb.org www.canadagenweb.org and other national sites. The information you'll find here is organized geographically and may contain information you need.
- There is a tutorial and other helpful guidance at <http://paftutorial.byu.edu/introfh.htm>
- There is a PAF5-USERS Group at <http://groups.yahoo.com/> with lots of helpful members who don't mind helping beginners.
- The Silicon Valley Computer Genealogy Group has a very helpful free download section and an online store. They're at <http://www.svpafug.org/>
- If you can afford it, www.ancestry.com has, probably,

the most complete on-line digital content. Remember the "Who do You Think You Are?" TV series? You can search for events, names or places, find and view original and secondary sources, and participate in online training. Considering Ancestry's vast content, the price is reasonable.

- Google is your friend even for genealogy!

I find it hard to rationalize this – I use Linux Mint for my OS, but I'm uncomfortable using Gramps – my primary system is Ancestral Quest (on Wine) – but I'd rather work with PAF 5 than any of the others.

This brief note should get you well started on the path to building a good sound family history database. Don't forget those sources!





HOW-TO

Written by Nicholas Kopakakis

Blender - Part 4

Textures and materials are very crucial. Without them, for example, what we have created so far is a grey snowman, with a grey nose, grey hands and a grey hat. Not so realistic. So, materials and textures is a way to add realism to the look of our models with images, plain colors, etc.

You must have a material to apply a texture on it (by default blender adds a material to your objects in order to see their surfaces).

So, for this month we will introduce materials – leaving textures for next month, as it is impossible to fit them both in an article.

But, before anything else, let's upgrade blender. A new release (2.66a) is available at <http://www.blender.org/download/get-blender/> with a bunch of new features and over 250 bugfixes.

Let's load the snowman blend file that we created last month. It has to look something like this in

object mode (shown below).

Notice the small icons at the right of your 3D view window. The fourth icon from the right (highlighted) is the Materials tab.



Select the hat and press the New button:

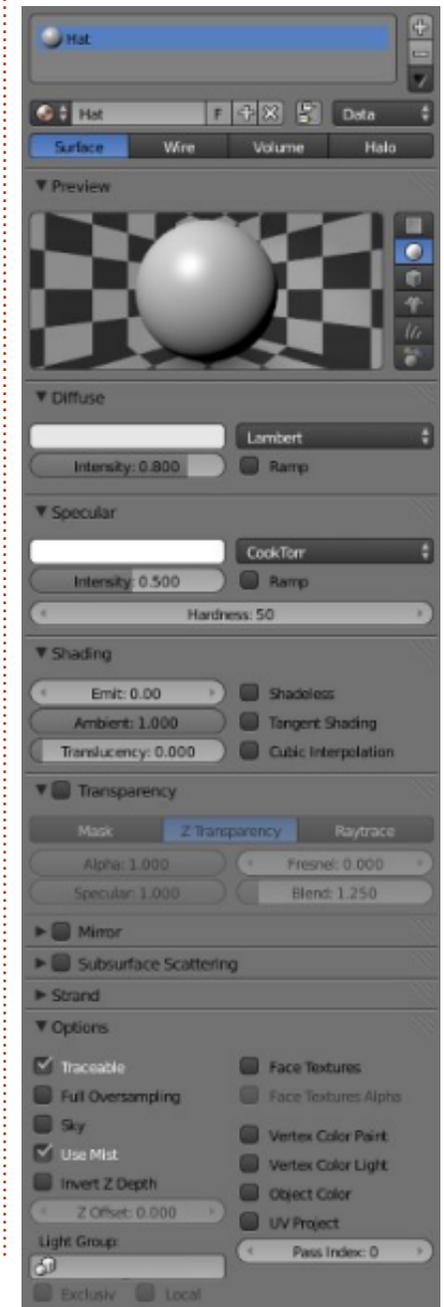
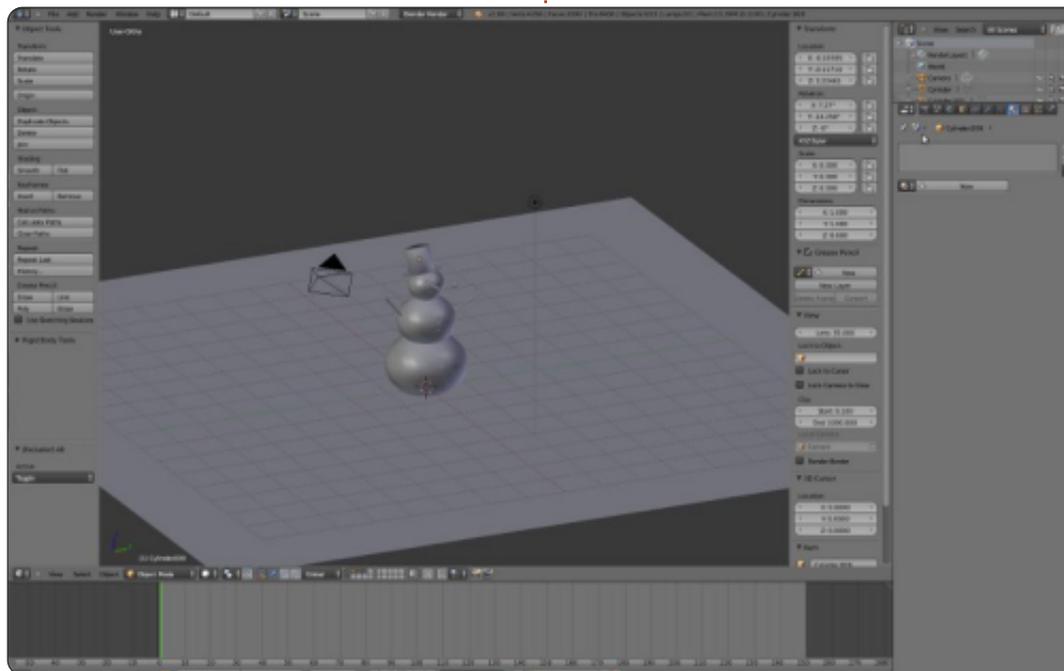


Name your material "Hat". Your material tab has to look something

like the one shown right.

As you can see, there are a lot of things that we can tweak, but we will introduce the very basics to create a kind of realistic environment (maybe, in a later stage of this article-series, we can focus on materials and textures explaining all in detail, but, for now, feel free to experiment with those).

Blender gives us a preview window where we can inspect the



color of our material. Also, on the right, we can change the basic object that we are previewing (this doesn't affect our object at all, but helps us to understand how the color looks – for example on spheres or boxes).

Under Diffuse, there is a white strip. Press with your LMB (Left Mouse Button) on it to change the color. Select the color of your choice from the color wheel, or enter manually the values of Red, Green and Blue below the wheel, or you can use the color picker – well known from other graphic applications.

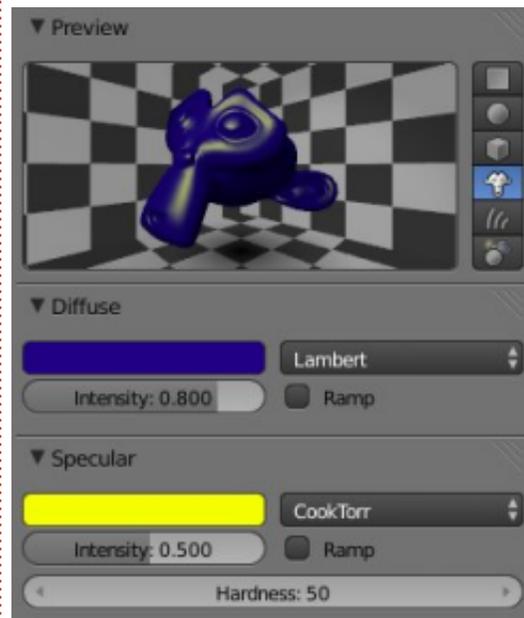
You can use the HSV button to choose your color by Hue Saturation and Value, or you can use the Hexadecimal numbers that are commonly used on web pages to specify colors. I personally use only the RGB values. The values can vary from 0 to 1 indicating the percentage of the color (0.2 = 20% for example).

On the right of the wheel there is a slider controlling the intensity of the color. If you slide it all the way down we have absolute black. Also notice that values of Red, Green and Blue are all changed to

0. Under Specular, there is also a white strip. From there we choose the color of the reflection on shining objects. For example choose for diffuse: color Red = 0.015, Green = 0, Blue = 0.24, and for specular: Red = 0.915, Green = 1, Blue = 0.

Also on the preview window, change the basic object to monkey.

Looks like the image below?



NOTE: The monkey of blender is actually a chimpanzee, called Suzanne. This 3d mode, created by Willem-Paul van Overbruggen, was introduced to the blender

community as a test model for materials, textures, lights, etc. The Suzanne awards (something like the Oscars awards) are held annually for blender artists. http://en.wikipedia.org/wiki/Suzanne_Award

Now, let's go back to our snowman. Reload the snowman.blend file, select the plane that we use as ground and LMB on the material tab.



Press New to create a new material and rename it from "Material" to "Ground".

Under Diffuse, press LMB on the white strip and put the values 0.5 for Red and Blue and 0.8 for Green. On the 3d view window, you can see that the color of the ground changes to a green looking surface.

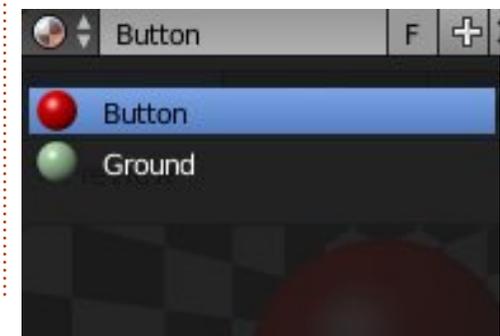
Select one button of the snowman, and press the new Button on the material tab. Name it "Button", and, under Diffuse, color it red (by now you must know the way to do that, but, in case you don't, just put R = 1, G and B to 0):



Now, with your RMB, select another button of the snowman. Under the material tab, you can see the New button that we used earlier to create a new material. Left of this there is an icon similar to the "materials" one in blender.



Press it and select Button from the list:



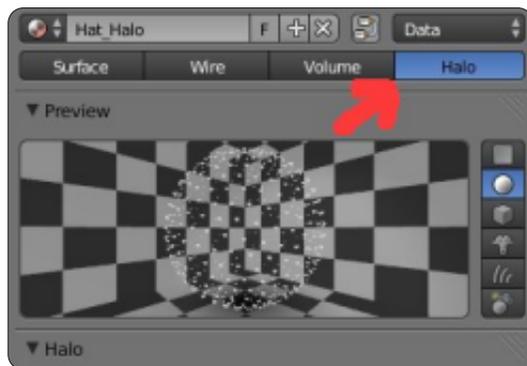
The materials that we create are stored for later use in the blend file, and many different objects can share the same material.

Keeping that in mind, create materials for the hands, the hat, the nose, and the pipe. Also assign the Button material to the other buttons, or create a new material for each button if you like.



For the hat I created a material with a Halo behavior – just to make a Saint snowman with two Halos!!!! Very Saint!

You can experiment with the other two kinds of materials behavior: Wire and Volume.



For this month, I recommend that you download and play a game created in blender with the blender game engine. Yo frankie!
<http://www.yofrankie.org/>

Also you can check out [blenderguru.com](http://www.blenderguru.com). A site dedicated to blender, with a lot of tutorials for beginner and advanced users, created and hosted by Andrew Price, a very talented blender artist. Enjoy.
<http://www.blenderguru.com>



Nicholas lives and works in Greece. He is working for a post-production house (commercials - films) for several years. Three months ago he migrated to Ubuntu because "it renders faster". Blender found him two years ago.

CODEWORD

Every number in the grid is 'code' for a letter of the alphabet. Thus the number '2' may correspond to the letter 'L', for instance. All - except the difficult codeword puzzles - come with a few letters to start you off

3	2	24	18	2	20	25	13		24	13	4	22													
	20		14		14		3		2		24														
23	2	11	8	13	24		22	24	4	13	2	18													
	6		6		6	2	16		7		11														
10	22	11	8		14		1	13	2	24	20	8													
	21				24				6																
18	1	8	7	20	13		22	25	13	18	22	6													
			6				5				24														
26	14	2	25	19	8		13		12	2	7	18													
	20		23		6	22	24		22		9														
5	7	15	7	13	24		24	2	7	8	7	20													
	22		20		22		14		20		25														
8	20	22	17		3	14	20	7	8	23	13	8													
1	2	3	4	5	6	7	8	9	10	11	12	13													
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14	15	16	17	18	19	20	21	22	23	24	25	26													
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A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z

Solutions are on the second last page.

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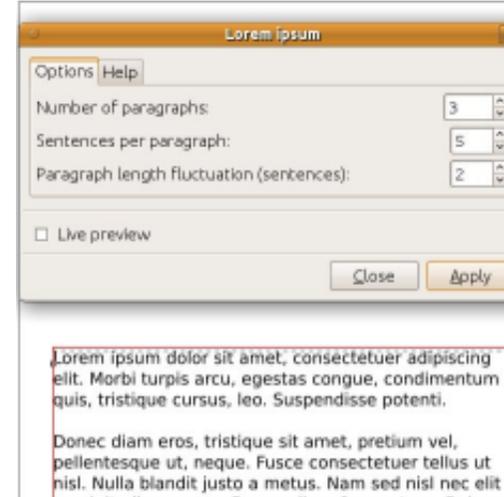
In this instalment, we'll be continuing our investigation of Inkscape's text tools. Previously, you learned how to create SVG Text (compliant with the SVG 1.1 spec, and supported in many other applications), and a couple of ways to create Flowed Text (not compatible with any official SVG spec, so practically restricted to use within Inkscape). Whichever sort of text you use, when the Text tool is selected, you are presented with the same Tool Control Bar. Last time, we looked at the left half of this toolbar, where you can select a font, size, style and justification.

We used these controls to choose the settings for an entire block of text at a time, but Inkscape also lets you apply most of them to individual words or characters within a text object. The obvious use for this is to emphasise particular words by making them bold, italic, or bold and italic, but you can also change the font, size and color of parts of your text, should you need to.



To begin with, you need to have some text to modify. If you're stuck for ideas as to what to type, why not try the Lorem Ipsum extension, which will generate paragraphs of the classic nonsense Latin text that typesetters traditionally use as a placeholder. Simply select the Extensions > Text > Lorem Ipsum menu item, pick some values for the three fields, and click Apply. A Flowed Text object will be created on a new layer, with its flow box set to the size of the page. You may want to change the size of the flow box by double-clicking on the text and then moving the small diamond handle at the bottom right, or you could just make it flow into a new object using the Text > Flow into Frame menu that we looked at last time.

With the Text tool selected, click in the flowed text at the point that you would like to place the text editing cursor (from now on, I'll use the term caret to



differentiate it from the mouse cursor or cursor keys on the keyboard). Alternatively, if the Select tool is active, you can just double click in the flowed text to both position the caret and switch to the Text tool in one fell swoop.

With the caret happily flashing in the middle of your text, you should be able to move it around using the cursor keys, just as you would in a word processor. Pressing the Home and End keys will jump the caret to the start or end of the current line,

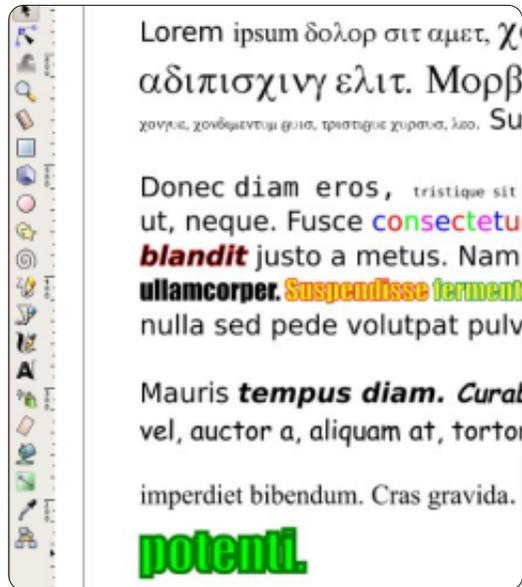
respectively, and holding down the Shift key whilst performing any of these movements will select the appropriate section of text. The mouse isn't without its uses either: click to immediately position the caret, or click and drag to select a contiguous section of the text. Double-click to select a word, triple-click to select a whole line.

With a portion of the text selected, it's time to play with the style. Start by setting the fill to a different color, or perhaps adding a stroke. You can set the stroke-width and join-type using the Fill and Stroke dialog, but adding markers will have no effect. Other parts of the dialog affect the text in different ways: you can set an alpha level on the fill or stroke to give it some transparency, but changing the opacity setting has no effect. If you try to use blur, gradients or patterns, you'll find the whole text object is affected, rather than just the selected section. Setting a dash style on the stroke will also affect the whole text object, though you won't notice it on any words that don't



have a stroke applied.

On the text control bar, you can change the font for the selection, alter its size, or use the bold and italic buttons. The justification buttons work for only the whole text object, not individual selections. This does, however, mean that, if you want to left-justify one paragraph and right-justify the next, you'll have to split them into separate text objects. Nevertheless, by playing with fonts, fills, strokes and more, you can easily create some truly awful text designs.



Now that you've got the hang of positioning the caret and selecting parts of the text, it's time

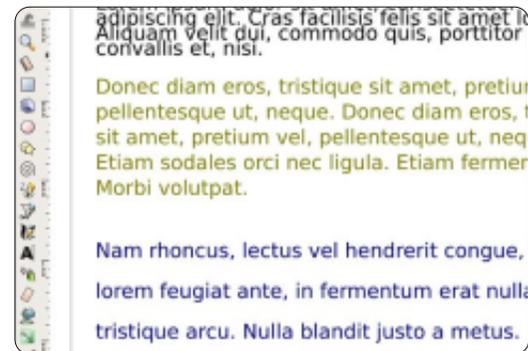


to investigate the less frequently used icons and controls that remain on the rest of the bar.

The first of these you may recognise as Superscript and Subscript. Although you can apply them to an entire text object, they work best on a selection of just a few characters at a time. They have the effect of reducing the font size for the selection, and adjusting the text's baseline up or down. The size can subsequently be modified using the toolbar, but adjusting the position isn't so straightforward, so although these buttons are useful for simple super- and subscripts such as chemical formulae, they're not very useful if you want to finely position your text.

Fine positioning is precisely what the next six controls are all about. The first three work on both SVG Text and Flowed Text, whereas the last three are disabled for Flowed Text objects. The former all deal with the general spacing of your text, whereas the latter allow fine control over individual characters.

The first of the spacing controls affects the spacing between lines in a paragraph of text. The value in here is multiplied by the font size in order to produce the final spacing. You can reduce this as low as 0, in which case all the lines will be on top of each other, but it doesn't allow negative values so you can't use it as a way to make your paragraphs run from bottom to top. Typically it's set to 1.25 for normal paragraphs, though you may wish to adjust it for a looser or tighter design. This image shows three paragraphs of our Lorem Ipsum text, set to 0.75, 1.25 and 2.0 respectively.



The next two controls are used to set the standard spacing between individual letters, and the spacing between words. The tooltips claim that both these

values are in pixels, but, in my experience, typing a value directly into these – even if your document is set to use pixels as the default units – results in the value being converted to something different. In practice, it's not too great a problem as it's rare to need specific values in these fields. More usually you will adjust them up and down to make your text a little tighter or looser. These fields will allow you to enter negative values, if you really do want your text to run backwards!

Positive letter
and word spacing

rettel evitagen
!gnicaps drow dna

as emsa elt not ei hcihW
tsojdo ttxt etht gniorim

The next control is used to adjust horizontal kerning on SVG Text. Kerning is the term used to describe the spacing between two individual characters. By adjusting the kerning, you can arrange for characters to slot together a little more neatly, giving a more pleasing look to text, with fewer blank areas that can form visual "rivers" of white on a page. Using

this field is as simple as placing the caret between the pair of letters that you wish to kern, and then entering a value to adjust the spacing. Negative values are most commonly used, to encourage the second character to tuck-in to the white space within the shape of the first, but you can also use a positive value to force a pair of characters further apart. This image shows the effect on a few pairs of characters with no kerning, and then with a negative value.



Ve To LT AV
Ve To LT AV

After the Horizontal Kerning control, there's a similar field for adjusting the vertical position of your characters. If you simply position the caret, then it shifts the text from that point to the end of the line up or down. Alternatively you can select specific characters or words to limit its effects – although, if your selection spans more than one line, the behaviour can be a little unexpected. Negative values in this field will move your text upwards, positive numbers will move it downwards. Combined

with changing the font size, this can give you more fine-grained control than you get from using the Superscript and Subscript buttons.

The last of this group of controls lets you rotate individual characters, with the value being a figure in degrees. Positive numbers rotate clockwise, negative numbers counter-clockwise. Placing the caret will cause it to rotate just the following character. Selecting some text will rotate the individual characters of the selection, not the whole selection as one. It's not possible to select the rotation centre, but using the Horizontal Kerning and Vertical Shift controls can allow you to compensate for this if you need to.

In practice, the Horizontal Kerning, Vertical Shift and Character Rotation controls are often best adjusted using keyboard shortcuts. Holding ALT while using the cursor keys will adjust the kerning and vertical shift, whilst ALT-] and ALT-[can be used for character rotation. The Text > Remove Manual Kerns menu entry will remove all the Horizontal Kerning, Vertical Shift and Character Rotation adjustments

for the whole text object, but won't remove any changes to the line, letter or word spacing controls.

The final buttons on the toolbar let you switch between creating horizontal and vertical text. In the latter case, the individual characters are the right way up, but the words run vertically down the page – as opposed to simply rotating the text object, in which case the characters are also rotated.

There's one big elephant in the room which can't go unmentioned when discussing text and SVG files: SVG fonts. The SVG specification includes a font format where the individual glyphs are defined using standard SVG objects. In theory, this should allow fonts to be created that contain colour and animations, and that can be dynamically changed by using standard Javascript code in a web browser – all while still presenting understandable text content to search engines.

Although Inkscape contains a dedicated interface for creating SVG fonts, via the Text > SVG Font Editor menu, there are a couple of reasons why it's probably not

worth using. The first is that the Firefox developers have specifically rejected the idea of supporting SVG fonts, due to their lack of some layout and internationalisation features that are available in other font formats. Their concerns are certainly valid for a general purpose font format, but I think that misses some of the advantages that SVG fonts can offer when used in an SVG image, and which no other format can.

An even bigger reason not to use SVG fonts, ironically, is Inkscape itself. Although it has an interface to help create them, it has no mechanism to actually use them once they've been created. The Font Editor, therefore, is useful only if you're creating SVG fonts as an interim step towards generating a TrueType or Postscript font using an application such as FontForge.



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

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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.

REVIEWS

GAMES/APPLICATIONS

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

Hi, everyone! Welcome back to Ask the New Guy!

If you have a simple question, and want an answer that doesn't require you to enter your superuser password, contact me at copil.yanez@gmail.com.

Today's question is:

Q: Ubuntu seems pretty mature. Most things just work. Is there anything left to be excited about?

A: Well la-dee-da, you poor thing, sitting over there bored out of your superior mind. What, your pygmy giraffes, and your heated toilet seats, and your shoes that are shaped like human feet (and made from ACTUAL human feet) not exciting enough for you? Maybe if Mark Shuttleworth included a free trip to the International Space Station with every install, you'd be less fatigued by life?

I know how it is. If you're like me, you probably approached the

idea of a new OS like a first level mage on your inaugural dungeon campaign, exploring dark corners, discovering treasure, gaining XP (experience points), and leveling up as you became more confident in your abilities.

Eventually, though, you're sitting in a tavern, drinking mead from the hollowed out skull of a lowland Orc, and huffing drunkenly as some new explorer stops in for directions to a nearby dragon's lair.

"Look at thish guy over here," you mumble. "Probably never been attacked by a Throat Leach or shmelled the insides of a dead Ice Lizard. Think you can make it out here? I don't think sho." Eventually someone calls you a cab.

My point is, sometimes it's hard to sustain that level of excitement, especially when things are going right. If you're trying to figure out how to get your laptop to see your wireless router, seeking help from a forum of fellow enthusiasts can be fun and social. But if everything works almost perfectly out of the

box, well, that's exciting, too, but not in the same way. And it means the community, a great source of camaraderie and entertainment, gets bypassed by some new users.

Becoming a power user brings its own excitement, of course, and means you're likely to encounter and overcome bigger challenges as you go. But this is Ask-the-New-Guy, not Ask-A-Guy-Who-Knows-What-The-Hell-He's-Talking-About. So what do average Joes like me have to look forward to? What's exciting about Ubuntu other than the fact that it just works?

Plenty!

In many ways, new and casual users are the ones who have the most to look forward to over the next few years. Not only does Ubuntu get better with each release, the project is expanding into some really exciting areas.

Let's take a look at what's on the Ubuntu horizon.

GAMING

For the longest time, the single biggest lament for many users who didn't want to make the switch to Ubuntu was that there weren't enough games for it. This was never really true, of course, there have always been decent titles for Linux, and the Ubuntu Software Center made it criminally easy to download the best ones.



But Steam, a popular digital distribution platform with a deep inventory of gaming titles, was recently released for Linux and is available from the Software Center. I believe this is a game-changer (pun totally intended exactly two seconds after I realized I had unintentionally made it). By

downloading the Steam software, you can browse, download, and buy the ever-growing list of games that work on Linux – including Counter-Strike and Runner2. And this is just the beginning. Valve, the maker of Steam, has promised to release Left 4 Dead 2 and other long-awaited titles in the next few months.

Soon, you too will feel the horror as Boomer, a bloated zombie with infectious bile, stumbles into your room looking for night-night cuddles.

Some people might argue that this is just one more company looking to make money off Linux users with no real love for its ideals. But even putting aside Valve's past support for the Linux community, that's just the cynical, eightieth-level mage in them talking. I believe this will encourage other developers to port their popular free titles over to Linux to engage a whole new community of players.

Gaming isn't going away and neither is Linux. This is a good marriage, more Julie Andrews and Blake Edwards than Kim Kardashian and Kris Humphries.

UBUNTU ON TABLETS

The biggest surprise at Ubuntu's recent unveiling of its tablet OS was not that it had one, but that the one it exhibited seemed so polished and close to being ready for prime time. Early preview versions of heavy-use software like this usually include several blank screens, lots of freezing, and a couple error messages that say "And then a miracle happens here." Sure, there will be growing pains as Ubuntu moves from a developer version to the end user install, but there's a lot to like here. Take a look for



yourself:
<http://youtu.be/h384z7Ph0qU>.

Be warned, the video involves some of Mark Shuttleworth's chest hair, a 70's-era peace sign belt buckle, and a weird self-help vibe that may be disturbing to former cult members and recovering hippies. Mark, talk faster! By. The. Time. . . You. . . Get. . . . To. . . The. Next. Word. . . . I. forget. . . . what. I'm. watching.

Tablet and phone devices, in my very unhumble opinion, are the future of computing. Most of us don't need a Cray Titan to do all

that web browsing and memo writing we do. (And seriously, we could probably knock out the memo writing altogether – who are you writing all those memos to?). A decent tablet with a good keyboard and a fast Internet connection will handle something like 99% of our needs. It's like driving to work. Our average commute is something like 32 miles round trip, so we don't need 8-mile-per-gallon Ferraris when Elon Musk's Tesla will do it in carbon-neutral style.

Holy Steaks! The most glorious fantasy just occurred to me! What if Elon Musk got into the Linux game, and suddenly you had two super-rich brainiacs competing with each other to come up with software indistinguishable from magic?! It'd be like two Bond Villains battling at the command line! Can self-aware dishwashers, and nanobots that turn human fat into gold, be far behind? The answer is no. No, they can't.

UBUNTU TV

If Matthew's death in the Season 3 finale of Downton Abbey was ruined by someone you follow

on Twitter, then Ubuntu TV was built for the way you watch TV, as an interactive experience with a community component. If Mathew's death was ruined by me at the start of this paragraph, then you need to catch up on your recordings more often. C'mon, TiVo is not a license to keep the FireFly series finale in stasis in the unhinged belief that the series might still be picked up for another season. Time-shifting is a privilege, not a right, people!

Imagine you're watching your favorite episode of So You Think You Can Dance? and a commercial comes on for some kind of hybrid breakfast cereal/pain reliever. Instead of watching a cartoon spinal disk sing about how Ibuprophen-O's are contraindicated with milk, you switch over to YouTube and call up clips of Mary Murphy screaming about the Hot Tamale Train! See? The future is awesome!

If that doesn't excite you, then think about Ubuntu TV giving you the functionality of a DVR coupled with integrated social media and access to all your media files. It's not so much a revolution as an evolution of the smart TVs already



on the market mated with your favorite operating system. Yes, it's quite possible that Canonical's master plan is to combine all digital products and make them operable from the most comfortable seat in your house. If you see them, buy Ikea – remember, I told you so.

Check out this video http://youtu.be/jq_WaOLjdyQ which champions the idea that DVRs don't need to be separate boxes, the functionality can be built directly into the TV. Plus, apparently creepy giant bunnies figure prominently in our future.

UBUNTU ON PHONES

For my money, Ubuntu's phone OS has the potential to be the most disruptive. The first smartphone I owned completely changed the way I interacted with the Internet and the services I found there. Having my favorite OS on my phone, with all the philosophical and practical changes it brings with it, could have a similar effect, at least on me.

The phone OS seems to have all the features you've come to expect from a smartphone. The things that make it Ubuntu are tweaks familiar from the desktop OS – like lens-based search options and customizable side panes that give you access to frequently-used programs and apps.

That apps ecosystem, in my opinion, is what makes this OS a game-changer. All the most popular paid apps will likely make their way over relatively quickly because mortgages on Finnish S&M dungeons don't come cheap (and don't tell me you didn't know that's exactly what Rovio was doing with all that avian loot they've been raking in). The more interesting apps, however, are merely gleams in a Linux developer's eye right now. I can't wait to see what Linux enthusiasts bring to the phone world. When SETI-Phone-Home becomes the most popular app on the Ubuntu phone, and we discover alien life shortly thereafter, I want to be named ambassador to Kepler 22b. I will finally be able to say Klaatu Barada Nikto unironically.

And, of course, the Ubuntu philosophy of doing more with less will also be ported to the smaller screen. If you've ever run a perfectly stable and useful Ubuntu install on a machine others had given up for dead, you'll probably appreciate having all the modern conveniences of a powerful smartphone running on a handset a few generations old.

One of the really interesting things about the phone OS is that, for many people, this may be their first point of contact for Ubuntu. Once these new users discover that the powerful, stable and secure OS they're using on their phones is available also for their desktops (and tablets and TVs), the time of massive Ubuntu take-up could be upon us.

Check out this video for more Mark Shuttleworth chest hair:
<http://youtu.be/cpWHJDLsqTU>.

There's also a project to put Ubuntu on Android handsets and make your phone a full-fledged desktop by adding a full-sized keyboard and monitor. I'm not entirely clear on how the Ubuntu phone OS overlaps with Ubuntu for Android, or if that docking functionality is part of the former. But the idea of having one device that works like a Transformer, without any Michael Bay quick-cuts to make me dizzy, is pretty appealing.

CONCLUSION

The operative word for all these OSs seems to be convergence. Any



cloud-based files and services should be available across all devices along with apps, bookmarks and settings. And familiar functions, like side panes and drawers, should work similarly on all screens.

What stands in the way of this seamless Ubuntopia? Not the software, certainly, since its greatest strength is that it can become whatever its users need it to be. Even if the first versions of each OS are mere shadows of their mature potential, the energetic give-and-take between Canonical and the community will produce, as it has so far, a decent compromise between competing interests.

More likely, the real challenges will come from hardware manufacturers and existing service providers who have a vested interest in keeping existing revenue streams in place (*cough* wireless carriers *cough*).

The idea of opening the world of phones, tablets and TVs to neckbeards like me must just scare the hell out of them. And that may be the most exciting thing of all.

I know, I know, this is all a little too fangirl for some of you. And forget about Ubuntu hipsters, the ones who talk about seeing Ubuntu Warty Warthog doing open mic nights at smoky Dublin pubs

back in the late 90's. They're not going to be happy with this new world where Ubuntu is as popular as a Happy Meal (albeit much healthier).

But the rest of us are likely to enjoy new campaigns and treasures as we slay dragons and fight orcs in the Sauronic pursuit of one OS to rule them all!

Good luck and happy Ubuntuing!



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).



Several years ago, netbooks were all the rage. I got my Dell Inspiron Mini 10 (1012) at the height of the netbook boom. For two days I tried to use the Windows 7 Starter Edition that came with the netbook, but, after removing all the junkware and making a backup to an external DVD burner, I still found the netbook extremely slow. I gave Windows a shot, it didn't work out, so I tried Ubuntu 10.04 from USB, and the experience was magical. Not only was Ubuntu 10.04 significantly faster, it came with software I actually use. It was an easy decision to erase Windows 7 and install Ubuntu.

I already had a notebook, so I found myself not really using the netbook. The small keyboard made it somewhat difficult to type (long fingers), and looking down isn't great for the neck. So I decided to put the netbook to another use: it became our family media center after I added a remote control, receiver, a couple of drives attached via USB and XBMC (formerly known as Xbox Media

Center). It served that purpose for a couple of years until I recently replaced it with a desktop machine. As much as I don't like craning my neck down to look at the netbook, I'd been missing it at the local Ubuntu hour meetings I hold each month. My notebook is a bit big for the cramped desk space where we have the meetings (the desk is usually covered with food).

Initially I tried Ubuntu 12.10 on the netbook. Ubuntu ran on it, but just barely. Performance was as bad as, if not worse than, Windows 7 Starter Edition. I could have tried

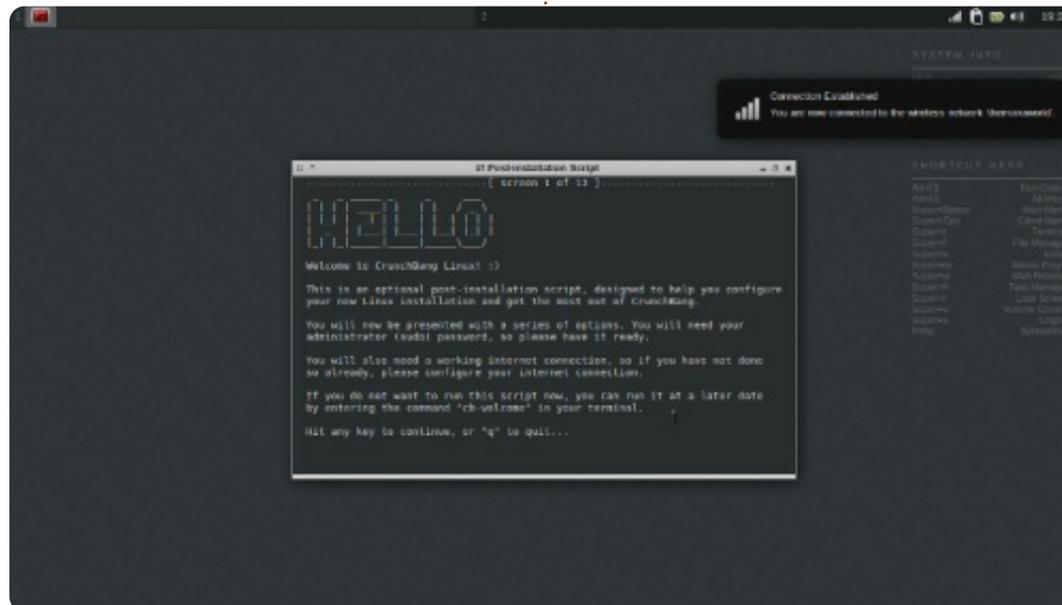
Xubuntu or Lubuntu, both of which run lighter than Ubuntu 12.10, but a friend suggested I give Crunchbang a try.

Crunchbang is Debian-based so it shares some of the roots of Ubuntu. Installing it to USB key wasn't as simple as other Ubuntu-based distributions I've installed. Normally, I use the usb-creator-gtk application to install distributions to a USB key, but Crunchbang kept failing at the bootloader install stage. I ended up unmounting the USB key, running mkfs.vfat to format the key, pulling it out and

installing using unetbootin. The Inspiron Mini 10 uses a 64-bit Atom processor so I installed the 64-bit version of Crunchbang.

Once I figured out how to get Crunchbang to the USB key, the rest of the installation was very similar to a graphical Ubuntu install. Crunchbang uses the Openbox window manager, so it's very lightweight. The initial installation installs a handful of desktop programs: Abiword, Gnumeric, Gimp, VLC, XFBurn, gFTP, Transmission and XChat are among the more common programs.

To keep things lean and mean, Crunchbang doesn't include LibreOffice, but installing LibreOffice is one of the options of the firstboot program that loads in a terminal when Crunchbang boots for the first time. The firstboot program asks if you want to update the system, install development packages, install OpenSSH server, install a LAMP (Linux Apache MySQL PHP) stack, and install LibreOffice. Though it



seems very developer-oriented, I still like Crunchbang for the speed.

One of the Openbox claims is that it's infinitely configurable. This does appear to be true, but configuration isn't quite as easy as the days when Gnome 2 was actively developed. Part of the Openbox configuration can be found in Settings > Openbox > GUI Config Tool the other part in Settings > User Interface Settings. If you want to set the background you need to use a third menu option Settings > Choose Wallpaper, and, if you want your own wallpaper, you'll need to click the Preferences button in Nitrogen's (the wallpaper program) UI to add the path to the wallpapers you want to add. I suppose this could be following the UNIX philosophy – one tool doing one thing really well, but a single tool to do all three activities would be nice for new Linux users. I found Nitrogen to be buggy; it seemed to forget the path added the next time I launched it. The path remained in the preferences, but the images didn't show in the Nitrogen wallpaper selection. Looking through the various Settings, you'll see there are a large number of configuration

options, almost all of which require knowing the format of some configuration file. While the configuration files are well documented (and somewhat obvious), it might be a bit much for someone new to Linux.

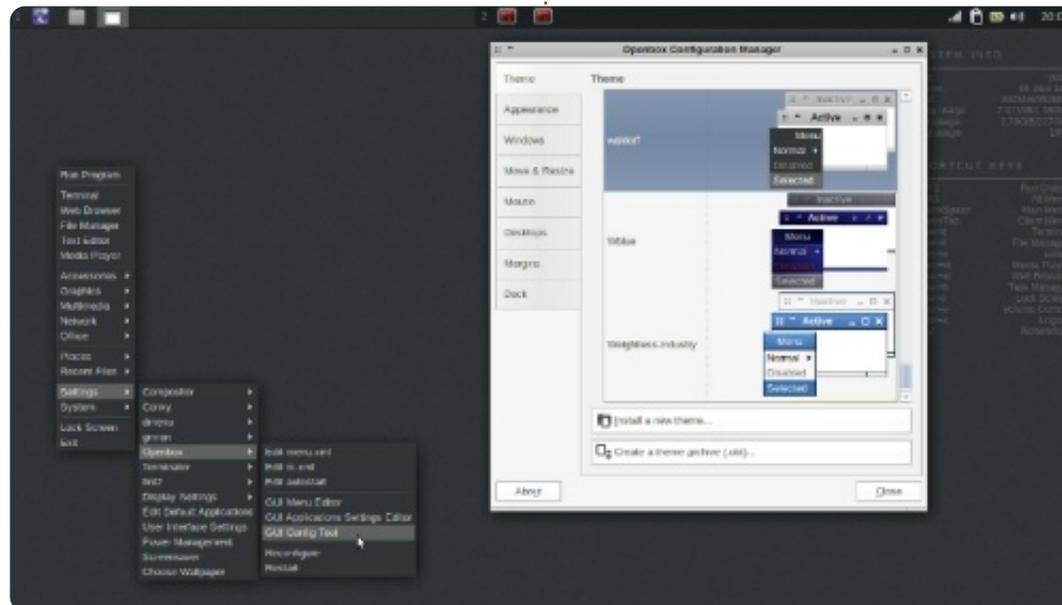
Many of the hot keys that work in Gnome 2, such as Ctrl+Alt+arrow to switch workspaces, work in the Openbox window manager. When Crunchbang first loads, it also loads a Conky file that shows some common hotkeys to do things like launch VLC, control volume, open the Geany text editor, or launch the run dialog. The super key (Windows key) based programs are generally commonly used

programs like the web browser, a terminal, VLC, and text editor, in addition to Logout and a couple of menus.

From the perspective of someone who doesn't mind editing a .config file, I really like Crunchbang. Crunchbang is fast, the super hotkeys make doing the most common tasks easy, it's based on Debian, and everything worked out of the box for me after the install (including the wireless).

I'm not quite sure Crunchbang will appeal to everyone, but, if you don't mind doing a bit of editing, and love your system fast, Crunchbang might just be for you.

P.S. if you like conky, the .conkyrc I'm using can be found here: <http://charlesmccolm.com/2011/07/10/conky-modded-for-my-notebook/>



Charles is a step-father, husband, and Linux fan, who hosts a not-for-profit computer refurbishing project. When not breaking hardware/servers, he maintains a blog at:

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



MY STORY

Written by Amichai Rotman

I stumbled upon the free software world entirely by accident. It was around 1999. I was living with roommates and one of them started a software development course at his college. I had Windows 98 installed on my PC, and an analogue TV Capture card that refused to work at full-screen, even with all drivers updated and reinstalled!

One day, I saw my roommate playing around with a brand new system on his computer: Red Hat Linux. He used the command line a lot, typing in a black-and-green window – but still, I was mesmerized. It seemed very easy to use it, and he claimed it all worked out of the box: no drivers necessary. I asked if I could try it on my own PC. He then revealed to me it is free and no license key is needed – that last bit made the sale – no more tinkering endlessly just to get my PC to work without crashing every 5-10 minutes....

He burned me a copy of the CD. Those were the 14.4 Kbps dial-up modem days, so downloading

another copy would have delayed me another day or two. I installed it alongside my Windows 98, and tried to see if everything worked. And it did. Well, except my modem, which was a Winmodem. But that was easily fixed after searching the Internet, using AltaVista Search in the pre-Google days.

I started my journey with computers at the age of 13, back in the mid 80s, with a Commodore 64. I used it mostly for gaming, of course, but I even tried to program a bit of BASIC with it. I then moved to the PC world using DOS 1.0 and all through Window 3.1, Windows 95 (I even touched Windows Millennium Edition for a bit!), so I was no stranger to the command line. I always liked to see how things worked under the hood, so I felt right at home with my new Linux-based machine. After two weeks – during which I made sure all I

needed works, even my TV Capture card worked better in Linux – I backed up my files, formatted my entire hard drive, and made the move to the Free Software world – and never looked back!

The first Ubuntu I installed was version 5.04, back in 2005.

I read up a lot about it in the Linux news sites, and I grew tired of KDE at the time and wanted to try something new. I stuck with Ubuntu since then. I tried

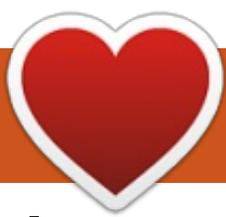
LiveCD versions of Fedora now and then, but none of them were as usable and stable as Ubuntu. I also liked the fact that all new applications come out with Ubuntu clients first (eg, Steam by Valve), and the way it's set up out of the box: the most popular applications in each category, and the fact the primary user has to use the “sudo” command and is not allowed to log



in as the root user by default. I think this strategy saves a lot of grief from inexperienced users. Another thing I love about Ubuntu, although controversial, is the Unity interface. It takes some time to get used to, especially for experienced Linux users, but once you get used to it, it is a cinch to use and prevents clutter on the desktop. From my experience, it is easier for computer illiterate people to understand, once you spend a few minutes to explain the basic use. They are so used to working with badly designed User Interfaces, it takes them a few minutes to understand how Ubuntu / Unity is simpler...



Amichai has been a computer solutions provider for the last 13 years. He specializes in FOSS solutions in his home town. You can ask him anything Ubuntu/Linux by emailing: support@penguincsc.co.il.



MY OPINION

Written by Knightwise

As I'm punching this out on my old but trusty HP Pavilion DM1, I'm somehow overpowered by a sense of nostalgia, and ... irony.

I remember getting into computers years ago, starting out on machines like these, back in the days when they were home-built beige boxes, using a predecessor (or should I say forefather) of the operating system that is running today. The last couple of years I have swayed from that path of using a 'Redmond Based' operating system on my primary machines in favor of the one created in Cupertino. The last year or so, I have even moved away from that one, to start using 'the penguin' full time. For those of you baffled by my ramblings, I'm a slider. I move from operating system to operating system, and use the one that works for me. From Android to iOS, from Windows to OSX to Linux ... and today .. back to Windows again. The new Windows 8 Metro interface was not something that stalked in quietly in the night. The press had seen

this one coming, and had been tooting their horns on how "different" it was from Windows 7. The Redmond company had had rough times. The 'Vista disaster' had left its mark, and, even though Windows 7 was a decent project, the flame of innovation was lost in Balmer's ranks. Windows was going the way of the Blackberry ... or was it?

Windows 8 brought a unified 'metro' interface that was radically

different from anything they had done before. Not only did they launch a version for the PC, there was also a unified interface for the mobile world and their own tablet device. Microsoft, being Microsoft, did make a simple strategy like this very complicated to explain, and pretty soon you had Windows 8 Pro, RT and Phone, and we even thought we would get an oreo-flavored version of the OS sometime later this year.

But never mind all that. Windows 8 is here, and this week I decided to dive in deep and install it on one of my laptops. After poking it with a stick in a VM on my Linux machine, I was confident (or should I say 'Daring') enough to try out a full install. And I must say, I'm quite impressed with Windows 8. Because it is radically different from anything Microsoft has done the last couple of years. It is BOLD! The Metro interface takes some getting used to, and everywhere I hear people spouting tips and tricks on how to get "past" it and crawl back to the Start Menu... but I say to you: embrace it. Give it a try for a couple of days, and give your human brain (that has been accustomed to the Start Button approach for years) a chance to adapt. Because, even beyond the 'in your face' start menu, the operating system performs fast enough, and lets you do what you want to do. So, as a passionate Mac and Linux user I dare to say, I like Windows 8.

And now for me to tell you why.



Windows 8 has one specific quality that is very VERY important to an operating system. You hardly know it's there. Once you are working in your application full screen (or in a window), you do not notice the operating system is there. When you NEED it, all you need to hit is the Windows button to bring up the menu, or poke the sides of your screen with your mouse. And the rest is business as usual. Using cross platform applications like Chrome, Firefox, Thunderbird don't even give you a clue that there is in fact a 'different' OS running under the hood than the OSX or Linux flavour of your choice.

So what's the deal then?

Humankind is genetically designed to gang up on a certain individual and make fun of him. Microsoft-bashing is SO OLD that its first instances are now the subject of historical re-enactments at county fairs. It's easy to bash Microsoft. We always did, so why not now? The problem with this approach (and the scoffing at anything that is 'different') is the fact that it is somewhere based on bias. And bias is a self-inflicted restriction of personal freedom.

You decide to dislike something (or someone) without getting to know it or him.

A lot of this bias is based on the fear of change. The uproar – when Canonical decided to go for the Unity interface – has still not died down. The rage against Microsoft – because of the Metro interface – will surely echo into eternity. The reason for this? We are afraid of change. We are the generation that is in the transition between the 'Classic OS' with the tiled windows (not Windows) and the start buttons. You can find them back in rock-paintings of the very first version of Xerox-OS through many versions of both Windows and Linux. But that ship has sailed. We are going to have to adapt and learn how to work with our computers differently. The age of the "visible" OS is over, and, with the advent of 'full screen applications,' comes the clear message that the OS is but a means... not a goal.

So, put down your pitchforks and step away from the angry mob to take a good look at Windows 8. A product from a very 'old' company that has been bold enough to innovate and to change.

To bring something to market that is not perfect (it has its flaws), but DIFFERENT from the competition. And, in times of economic crisis, that takes balls.

And, before you decide to burn ME at the stake for my heretical suggestions, let me finish up and get out of here. Computers are about YOU. They are the enablers of your digital power. They are coated with the fine slime of an operating system that should facilitate the smooth interaction between you and your applications. Your applications should be your toolset to interact with your data... and whatever you do with that data should be directly tied to whatever personal goal you have. Nowhere, nowhere in this process should you hinder yourself by making an uninformed choice about why you should not want to use X or Y. Computers are about YOU, not about computers.

So, let me slide back to another computer lying around the house. Whether that's my Macbook Air running Ubuntu, my Macbook Pro running Mountain Lion, I might get a call on my LG Nexus 4 (running Android) or pick up my book where I left off on my iPad .. I don't care ..

and neither should you. Windows 8 might be your thing, or not (you should at least try it). As for me, it has one good quality of a good operating system: it is invisible. In the end, I forget what device runs what OS: in the end, it does not matter anymore.



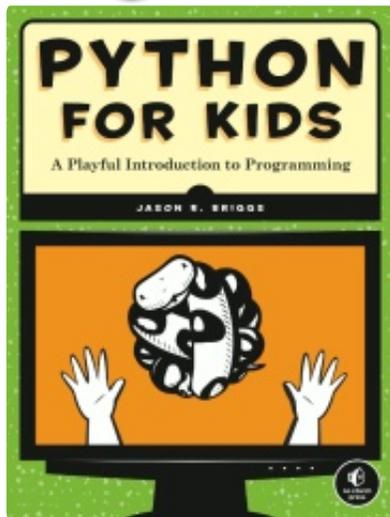
Knightwise is a blogger, and producer of the knightwise.com podcast. His website offers hacks, tips and tweaks for cross-platform geeks. Knightwisemoves with ease across Linux, OSX, Windows, OIS, Android and more.



BOOK REVIEW

Written by Copil Yáñez

Python For Kids



Publisher: No Starch Press

Pages: 318

Ideal For: Anyone with an interest in programming, no previous knowledge necessary

Writing a book on learning to program has got to be difficult. Most of us think we know what programming entails, right? You type in some goofy-looking code that tells your computer what to do and, voila, Skyrim! How hard can it be?

Very, it turns out. Even the most basic concepts in programming (functions, for

example), require careful explanations that nest comfortably within one another like coded Matryoshka dolls. Leave out one of the dolls and you have an incomplete arrangement and, likely, a non-working program.

Now imagine scaling that complexity down so that a child or, say, yours truly can understand it. Now you're talking orders of magnitude harder than simply teaching someone how to code. Not only do you have to explain non-intuitive concepts carefully, you also have to do it in an entertaining way. It's like a pediatric dentist who dresses like a clown to keep her patient from running away in tears at the first sound of drilling.

Cavity prone kids have Dr. Funny Tooth, and kids interested in programming have No Starch Press. Python for Kids basically dresses up the complexities of programming in a fun package, and tries to keep things light, while still working toward a functional program.

I am clearly the right demographic for this book. I'm not a kid, but I pretty much eat like a teenager, so it's almost the same thing. Plus, I have no working knowledge of programming, barely any knowledge about computers, and only a passing familiarity with the English language. If Python for Kids can teach me to program, it's quite possible it was written by a wizard.

The first thing I learned from this book was that Python was named after Monty Python, the English comedy troupe. If that's all I'd learned then the book would be worth its cover price, because I LOVE Monty Python. But the learning continued, mostly because the book is well-written, engaging, and full of simple words for simple people like me.

Installing Python for use with the book seems like it would be very straightforward. I say seems because Python came pre-installed in desktop Ubuntu. Woohoo, I'm a programmer already!

For non-Ubuntu platforms, the book offers clear installation instructions along with screen caps. Another point for No Starch: the screen caps in each chapter typically looked exactly like what I was seeing on my screen. It's a small thing, but I always hate it when you have to take a moment to make sure you didn't do something wrong because your picture doesn't match up with what's in the book.

I also had to install the latest version of Idle (which allows you to run Python programs) and that took about 3 seconds. What is taking so long?! Kidding.

After installing Idle and running through the first few chapters, I had my first "Hello World" moment finished in under 5 minutes. Not bad, especially when you consider the attention span of the average kid, which is on par with the attention span of the average door knob. Source: I'm the father of two kids.

As I progressed through the

book, I learned about calls, functions, strings, lists and loops. Each time a concept was introduced, I was given a small snippet of code to enter, and an explanation of how it worked. The only time something didn't work as expected was when I had entered the code incorrectly. Since the code was short and simple, it was an easy matter of looking through it to identify the problem.

At this point, allow me to rant on an issue all programming books have in common. Why the \$#%! aren't these books spiral bound so that I can read them comfortably while, you know, TYPING ON A KEYBOARD?!

/rant

Within an hour of opening the book, I was drawing squares using the turtle module (which, since it leaves a trail, is really more accurately referred to as a snail or a hobo - presumably those are different modules we learn about later).

Each chapter builds on the previous, and puzzles at the end of each chapter test your knowledge. I have to say, these were not

simple recreations of what had been done already but were, themselves, extensions of existing concepts. I actually got a little clammy-handed working through them, feeling like a high-school student taking a pop quiz. Thankfully, all the answers are available at <http://nostarch.com/pythonforkids>

One of the neat things about reading beginner programming books is that you start to see the evolution of games. As I read through the creation of classes and objects, and learned about functions asking for the user to input information (age, number,

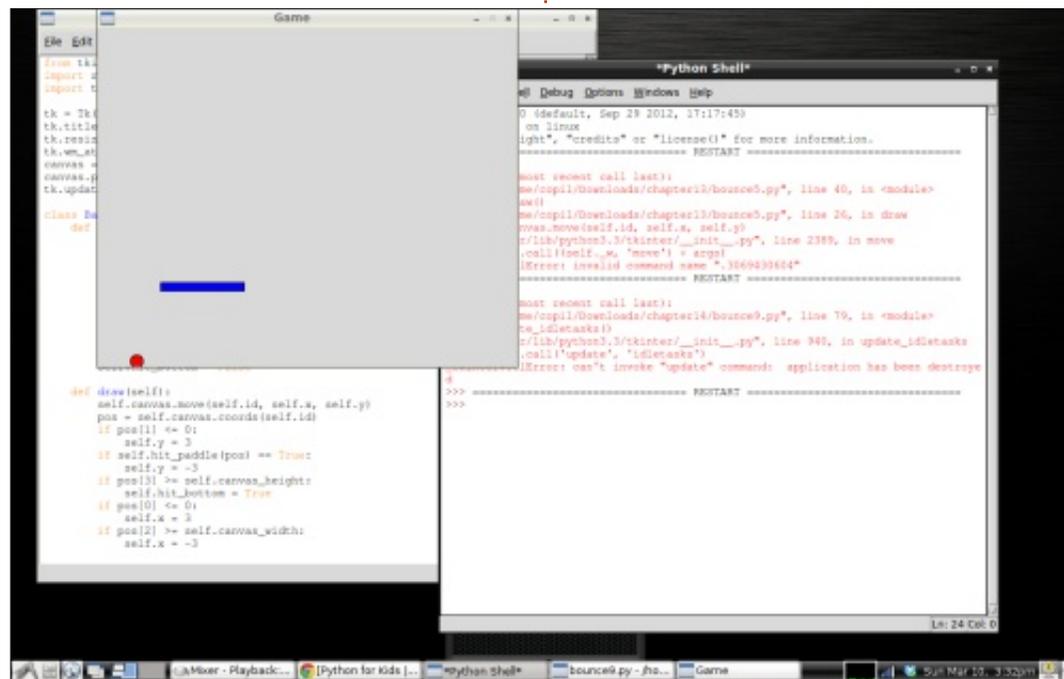
direction, action, etc), I felt like I was peeking behind the curtain of the earliest text-based dungeon-crawling games I played as a kid. Modern kids, with their Facetube and their YouBooks and their X-Wiis, probably won't have that sense of nostalgia, but maybe their parents will.

By the end of the book, I had a cute little ball-and-paddle game up and running and a rudimentary understanding of the concepts used in its creation. While I'm not likely to get called up by Rockstar Games to work on Grand Theft Auto VI: Life in Sing-Sing, I do feel comfortable recommending the

book to interested kids, or picking up some more beginner programming books for myself. There's nothing quite like seeing the simple lines of code create something on the screen and knowing how and why it happened.

I only have a few complaints about the book and none of them would keep me from recommending it (although they might be helpful in managing expectations for potential readers).

First, of the games you get to program yourself, the first one, a ball-and-paddle game, doesn't make an appearance until page 190. While all the concepts leading up to the creation of the game are explained clearly, and make up the bulk of what you're learning, I felt the game came a little late. An easy fix for anyone interested in getting the book who thinks this might be an issue: simply download the final version of the ball-and-paddle game (available free at the publisher's website), run it, and then take a look at the code. It will seem like gibberish at first, but, as you go through the book, you'll start to see how certain modules and functions



BOOK REVIEW

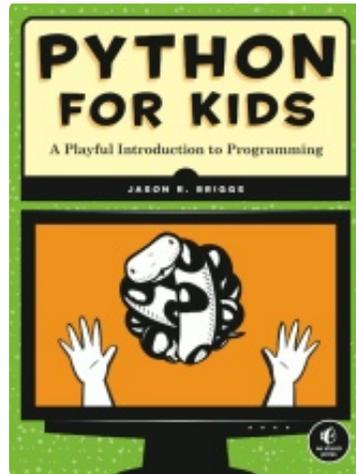
could be used to create the game.

Second, while the book says it's for kids, it is important to explain to young readers what the book can and cannot do. When I showed the book to my seven year old, he got very excited and came up with a laundry list of things he wanted to see in the game I was apparently going to program for him, none of which I could accommodate (with the exception of naming the game Kitchen Confidential: The Ginsu Offensive - yeah, my kid is weird). If the target reader has a deep interest in programming, and understands that the final result will be rudimentary by comparison to even the simplest iPad app she might be familiar with, age shouldn't be an issue. Otherwise, younger kids with unreasonable expectations and/or short attention spans are not likely to make it all the way through the book without boredom or frustration.

As a side note, whenever someone is ready to pay me to write a beginner programming book using the Diary of a Wimpy Kid model (basically bathroom humor and silly cartoons), get in

touch. I have some perfect fart jokes analogies for explaining inherited classes.

Until my spiral bound New York Times Bestseller comes out, Python for Kids is a perfect substitute!



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).

16x16 SUDOKU

Numbers 0 to 9 and letters A to F are to be filled into the 16x16 grid so that every row, every column, and every 4x4 box contains 0 to 9 and A - F.

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Solutions are on the second last page.

Puzzles are copyright, and kindly provided by, **The Puzzle Club** - www.thepuzzleclub.com



In personal computing, choices include Windows, Apple, or Linux, while tablets make do with iOS, Android, or RT. However, Google has been working in the background for the past couple years to polish its Linux/Android knock-off, Chrome OS.

Overwhelm is not a word you'll find to describe the early \$600 Chromebook laptops with their puny 16GB flash drives, weak ARM processors normally found in tablets, and 12-inch screens. Those on a budget could opt for the \$300+ Chromebox, a desktop looking suspiciously like a Mac Mini but still packing the small flash drive, and requiring that a monitor, keyboard and mouse be purchased separately.

No, the flurry of interest wouldn't peak until the release of the \$200 Acer C7 Chromebook in late 2012, sporting a beefier (although much maligned) Intel Sandy Bridge Celeron processor and a more adequate 320GB spinning hard drive. Same basic screen size, though.

Since the Acer release sales have skyrocketed, and finding a new one can be tough (go to Google, they still sell them for the list price instead of the \$40 to \$50 markup seen elsewhere) but I got mine the old-fashioned way -- got it from a kid who bought one and got another for Christmas. Ah, how I love a discount!

But does it live up to the hype? Can Chrome OS be the next best OS and a serious threat to the big boys?

Before we get to that question, it would be wise to give a brief history of this operating system and a little background on this sub-\$200 laptop.

First there are two versions, both based upon current Google browser offerings. Chromium OS is the beta testbed that anybody can attempt to run and/or install on their computer (have fun, it works on a limited few). Although releases are issued daily, it's possible to find a dud or two and they come with zero support and

no guarantees. Those itching to give Chromium OS a shot can go to <http://chromeos.hexxeh.net/> for downloads and detailed instructions.

Chrome OS is the release product, and isn't publically available unless you fork over \$200 to \$600 for the dedicated desktops or laptops. It comes with daily updates (with Chromium you're stuck with what you get, it's never updated), and security features such as data encryption, verified logon and sandboxing.

As for the computer, you've seen it a million times before from the Acer netbook class. Sporting a standard 11.6" glossy screen (all Chromebooks, for whatever reason, don't come any larger), it has 3 USB ports, no optical drive, HDMI out, wireless (plus an Ethernet jack), and the ubiquitous SD card slot. The only Chrome identifier is the logo on the lid, otherwise it's similar to the Windows 7 or 8 variation seen in stores for at least \$100 more.

It's the operating system that warrants the most attention, though.

Pay close attention MS, Apple and Linux (you, too, Android, even if Google does own you), here's a lesson for all of you in ease and efficiency in 3 easy steps.

1. Turn on the power.
2. Choose your wireless signal or plug in your landline connection.
3. Enter your Gmail account info, or opt for Guest Mode if you don't have Gmail yet.

That's it. All of maybe 2 minutes, some of which was spent fishing for my wireless security code. Add another few minutes as Chrome syncs the info from your Gmail account, and you're out all of 10 minutes.

And what of the reviews that state Chrome OS boots in under 10 seconds? True, but only for the flash drive models. Those with standard hard drives will see that time doubled, but 20 seconds is nothing to gripe about, and is still

better than even the much ballyhooed OS X running off a flash drive.

Truly impressive is the recovery time from deep sleep mode (initiated, as always, by closing the lid on an active session and then reopening it), which often was less than a second! Those interested in shutdown figures will be amazed at times averaging 2 seconds.

How can this machine be so quick? First the OS weighs in at just 250MB, which puts it in the flyweight class along with Puppy Linux and the like. Second, the BIOS is locked, prohibiting the introduction of other operating systems. Press F12 all you want at boot, but all it'll do is ignore you (in normal operation post-boot, F12 brings up the page elements info area). Third, it doesn't use programs, it uses apps (more on this later).

Another reason for the quick boot time can be attributed to what you see post-boot, mainly an abbreviated desktop consisting of a background image and two taskbars at the bottom. The left one is called "launcher" and consists of app icons. To the right

is an area for wireless signal, battery life, and the time. In addition, the photo chosen by the user is also displayed at the far right bottom and this acts as a menu for settings when clicked.

While additional icons can be added to the launcher, the right one is set with no adjustments allowed. In fact, other than changing position and allowing for autohide, there is nothing else to be done with either taskbar.

At this point one should notice that Chrome OS didn't get its name from the metal coating, that honor comes from the only native program included -- the Chrome browser. Everything else you choose to add is an app that works in that browser.

Open Chrome (first time users will get a blank page), and click the link in the lower right corner for the Web Store. That opens a bevy of apps under various categories. Click on any one of these and the option to "Add to Chrome" appears. Click on that and it's installed, or is it?

Actually, no. Unlike your Android tablet where apps are

either installed or held in the cloud, Chrome OS apps are merely icons that link to websites. Nothing is physically installed other than the linked icons. Those desiring to install and run programs like Microsoft Office, Quicken, Skype, etc, will be dismayed to discover programs don't work -- Chrome is it in that respect; however, there are workarounds for some programs and that'll be discussed shortly.

Might explain why my hard drive space never decreased.

Expect more of the same with peripheral devices, too. USB flash and hard drives work fine along with some (but not all) DVD players and mice, but you can kiss your standard printers and DVD burners goodbye -- no drivers and no way of installing them.

But there are other curiosities, too. For example:

- Apps are thrown into the Apps library as they are installed, not alphabetically. After a couple hundred entries it became so confusing I had to install yet another app (Simple Launcher) to put everything in order (another hint to Google -- correct this issue).

Also, unlike the Chrome browser used in Apple, Microsoft, and Linux systems, this version does not list installed apps when a blank page is opened -- everything goes into the Apps library. If you see an online screenshot with app icons on the desktop outside of the browser, that's an older version (apparently discontinued probably because it required the browser to be minimized in order to see apps).

- Google recommends creating a recovery flash drive (a 2GB unit will do) and there's a reason. Should Chrome OS die, the only other way to get a copy of the recovery file is to go online, something that may be a tad difficult if your Chromebook won't boot and you don't have another computer. There is no buying a DVD or bugging someone's flash drive since the recovery files differ from one unit to another; however, Google is more than happy to give you a copy for later use.

- The included Chrome browser is nearly identical to what you're probably using now, but it does have subtle differences. Pinning tabs (right clicking to reduce them to 1/4 size and leaving them permanently in the windows area

for future use) doesn't work here. Pin all the tabs you like but they'll be gone at next boot (Google is working on this one). The minimize/maximize/close buttons found in most other browsers don't exist here, at least not together. Maximize pulls multiple duties, but you wouldn't know that by just looking, and the only way to expose the other options is by doing a mouseover at which time several choices are presented (move window right or left, minimize, restore, and go back).

- Like the idea of a Recycle Bin, trash can, or whatever your current OS calls the place to hold deleted files? Well, there is a slight bent here. There is no trash receptacle in Chrome OS itself, it's in the Google Drive online. I've seen many complaints about the inability to retrieve deleted files, but these users apparently don't know its location; however, it is odd that it doesn't exist in the OS but in the cloud.

- There are thousands of apps available in the Web Store, but many of them are repeats, just like in any other app store I've seen. Hardly scientific, but I'd be willing to bet that nearly a third are

repeats with different names. Yet other apps linked to websites offering a boatload of additional apps in addition to the one I initially picked, so I guess it all evens out.

- One could assume that if it's in the Web Store, it should work in Chrome OS; however, that's not the case. Much like Linux and Android, what you see is not always what you get.
- Updating is done in the background like Windows, and this process may produce a noticeable slowdown in system operations. Since there is no warning about background issues, it's easy to blame a bad connection when such may not be the case. Rarely happens, but it's an aggravation when it does.

So, if nearly everything is cloud based, does that mean your Chromebook is a brick if no connection is available?

Contrary to other reviews I've read, not true at all. Go to: https://chrome.google.com/webstore/category/collection/offline_enabled?utm_source=chrome-ntp-icon, and you'll find roughly 500

apps that can be run without having an active connection (but, of course, you have to have an active connection to get apps that work without one -- how ironic).

So, if you can't run programs, and you're limited to apps, how do you perform basic office functions such as word processing?

Enter Google Drive, a poor man's version of MS Office. Those buying new Chrome OS devices get 100GB storage space free for 2 years (at \$5 monthly as the normal fee, that represents a savings of \$120), and with that comes a series of online programs (or are they apps, too?) to handle office functions. This includes Google Docs, Sheets, Slides, Forms and Drawings, all self-explanatory in naming (nobody can accuse Google of wasting marketing funds on program titles).

These are worthy competitors to the likes of LibreOffice, and do contain most of the basic functions, with the major difference being the method of saving files. For example, instead of the usual .doc you might find in Word, Docs uses .gdoc, but files downloaded away from the Google

drive can be reset to formats including .docx, .txt, .rtf, and even .odt (normally associated with open document formats used by LibreOffice Writer).

Word of warning, though. Google Drive's office offerings cannot open Open Document (.odt) files. I found this out when I created a review in Docs, downloaded it as .odt and then decided to go back for editing only to discover Docs couldn't open it again.

One good point about Google Drive is that you can set the parameters to allow for offline editing, with any changes made without an internet connection being uploaded the next time one is present. It does have a tick in that spreadsheets and drawings can only be viewed, but not altered; yet documents and presentations can be changed.

For those tethered to LibreOffice, there is the rollApp app which installs a link to www.rollapp.com (any OS can use this site). Pay a visit and you'll be greeted by nearly all of the programs normally found in nearly all Ubuntu variants, even games,

but there is a price to pay. Since these are actual programs attempting to operate in a browser window, there is some lag (I could outtype the cursor), but I got used to it.

What of music and video files? Take your choice of Play Movies or Play Music, and, while either one is as plain as beige paint, they are instant (less than 2 seconds from click to play), and do an admirable job even if controls are limited to volume, rewind, reverse, and stop/play. The only failure experienced on my end was an inability to play .flv files, but those are easily converted to mp3 or mp4 and then played.

Chances are if you look long and hard enough in the Web Store, you'll find something to replace your favorite program. For Facebook and Skype, that replacement was imo messenger (all lower case), and, for Quicken or MS Money, the Finance41 app will probably do the trick (for those needing just a checkbook, there are several nice templates in Sheets in Google Drive).

Carrying the minimalist tradition forward, Chrome OS calls

its file manager Files, but the name isn't the only thing lacking pizzazz. Opening Files presents the user with a gray box consisting of two folders marked Downloads and Google Drive.

What about Pictures, Documents, Videos, and the like? Sorry, no folders for them, nor can you add any to the Files area directly. The only option is to add subfolders to either Downloads or Google Drive, or insert a flash drive or SD card at which point a new folder is created.

In short, anything you download or add to your computer from flash or other external drives goes to Downloads, never mind the fact you may not have downloaded any of it. Anything you want shifted to the cloud goes to Google Drive (yes, you can use Dropbox, Spideroak, and others, too). End of story.

Ah, but now for the bizarre aspect of Chrome OS -- printing. Unlike wired, wireless or networked printing formats, this OS uses Google Cloud Print, a system in which your files are sent to a server that eventually connects to your wireless cloud-

aware printer and finishes the job.

Notice the word eventually. In my testing of two documents (both just one sentence) one took nearly 5 minutes to finally print, and the other took almost an hour. Checking online, I discovered some complaints that jobs were delayed nearly a day before finally printing. Welcome to server based printing -- where you're at the mercy of somebody's server in Timbuktu.

Not only that, but this OS is snotty about the printers it'll play nice with. Go to <http://www.google.com/cloudprint/learn/printers.html#> for a current and extremely limited listing. Unless you have one of these hanging around, the only other option is to have a Windows, Apple or Linux computer with the Chrome browser installed in which case it can be set to accept your Chrome OS documents for printing (not as complicated as it sounds).

Finally, what of reviews that state Ubuntu 12.04 can run quite fine on this unit? No fiction there and it does work, but be aware of the limitations.

Essentially, you'll need roughly

3 hours of your time (most of which is spent downloading a special version of Ubuntu just for Chrome OS), and a thorough review of the tutorial at <http://liliputing.com/2012/11/how-to-install-ubuntu-12-04-on-the-199-acer-c7-chromebook.html>.

If all goes well, you get ChrUbuntu, an Ubuntu variant in which user ID and password are set to "user". Otherwise, the only major difference is the method of introduction. Since Chrome OS doesn't allow for USB or optical drive booting, this OS is strictly a "download and immediately install" affair.

The other limitation has to do with the locked BIOS. With no dual-booting allowed, users have to choose early-on which OS they desire at boot, and there is no switching back and forth without doing a reboot. In fact, to go from one OS to the next requires code entry before shutting down, and, while it's just one line, it's not as easy as keying in "switch to ChrUbuntu" (see the website mentioned early).

The good in doing this? Ubuntu runs quicker on the Chromebook

than on my dual core i3 pushing 8GB RAM. You also now have programs instead of apps, so online access isn't as critical, and, since the computer's hardware is generic, everything (sound, video, etc) works perfectly.

The bad? You will have to remember to key in Ctrl + D at every boot to bypass the Chrome OS checker and if you ever desire to return to Chrome OS by reinstating the checker, it may very well blow off the Ubuntu partition. If you forget to do the keystroke above, Chrome OS takes an additional 25 seconds or so looking for its boot order before giving up and going to Ubuntu.

So, what's the final verdict?

If ever a threat to Apple, MS or Linux existed, this is it.

First, you get a \$200 computer with decent specs that can be upgraded. If that doesn't corner the market, I don't know what will. Cripes, you can't get a decent tablet for that price, and, if you want a keyboard, that'll cost even more.

Second, it's fast. Fast to boot,

and fast to operate, even if apps are only as good as the website posting them. When I tested the MS Windows 8 RT tablet, I was appalled at the lethargic nature of operations and equalled shocked by the \$600 price tag. Chrome OS is a blessing by comparison.

Third, Google Drive and its office suite are a real threat, and I can see a day when it could seriously hurt Microsoft's Office offering (especially since the price is free).

Further complicating matters for the competition is the persistent rumor that Google may actually establish Android compatibility opening up another million or so apps for general use. To mix fruit metaphors, that'll really upset the apple cart.

But this isn't to say it's all peachy with Chrome OS. It's fast and relatively easy to use (my neighbor still swears trying to decipher Windows 8 but he caught on to Chrome OS quickly), but it still doesn't use programs, and many may find the offline capabilities somewhat lacking. In addition, the one major thing it lacks is the ability to handle virtual

machines. Unless you jump through hoops to add Ubuntu, you're pretty much stuck with what you see. No testing of anything else -- period.

In addition, Google has taken what I call the "Atari" position. Those who may remember the original Atari gaming systems from the 80s know they died because the company made the systems but ignored those making the games. Quality control became a real issue with many games being absolute garbage. Apps are great when they do what they are supposed to, but since Google's interest is in the OS, and not what you run on the app websites, quality control is somewhat lacking in this respect. Much like Android, most of the apps are good to great but those that are awful can really ruin your day: a couple have induced page freezing.

This means it's not quite up to standard computer replacement yet, but it may be quickly. Remember that many laughed at the pre-Google Android, and got caught off-guard when it nearly creamed the equivalent MS Metro UI, and Chrome OS could prove to be the next big breakout.

Although I rarely recommend computers, and usually concentrate on the operating systems, I can see no reason not to get this inexpensive Chromebook. If you can find another \$200 laptop that isn't a beater, refurbished, or foreign junk posing as a computer, let me know.

Overall, I give Chrome OS and the Acer C7 a solid 4 out of 5 stars.



Chrome OS



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.

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ubuntuforums.org/forumdisplay.php?f=270

WHERE IS FOSS?

Apps for sale everywhere. Google Play, Apple's App Store, and now Ubuntu Software Centre. Now, I have nothing against paying for a very good application, and I also realize that it takes a lot of time and effort to create an application. But, there are a lot of applications out there that shouldn't cost a cent. Now just look at Ubuntu Software Centre and the number of applications that aren't free that have sprung up over the last year. My challenge to the developers out there who want to create great programs for Ubuntu and the soon-to-be Ubuntu phone is: Keep it free and Keep it open. Then people will want to use Ubuntu over other devices.

Chris Love

CRON + GUI

I read Jeremy Boden's interesting article on cron, a useful and sometimes under-appreciated tool. For those who prefer to use GUI

editors rather than vi or nano, readers may be interested to know how to do this. As Jeremy already wrote, the way to edit cron is:

```
crontab -e
```

However, you can change the default editor to a GUI one as follows:

```
VISUAL=gedit crontab -e
```

You can replace gedit with leafpad, or whatever your preferred editor is. Or, you can set VISUAL in your .bashrc file to make this permanent and avoid having to type it each time.

The two find commands as used can also be simplified to avoid using the -exec option, as follows.

```
find ~/.thumbnails -type f -atime +7 -delete
```

```
find ~/.thumbnails -type f -atime +7 -ls | more
```

You could substitute -print for -ls in the second command – depending on how you prefer the output. In certain cases, the

commands as shown are safer than the original, although this is unlikely to happen in the thumbnails folder.

Paddy Landau

SOLYDXK

I saw your facebook post the other day, and downloaded SolydK to try it out.

I am not a Linux guru, but I do like trying new Distros. I have been using various Linux distros exclusively for the last 3 years (hint, NO Windows). I think Solyd is a great distro. I am using the live version on my home-built desktop, after trying it out on my Toshiba laptop (which worked great).

I like it so much I planned to install it alongside my Zorin 6, which has not impressed me much. Zorin 6 doesn't seem that much different from version 5, so I was looking for something new.

One thing that really appeals to

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 29](#) 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.

me is the fact that, when I hover over a file, I get a lot more info than any Ubuntu version I've tried.

I have six old Windows virus infected hard drives that have music I want to keep. I used the recovery disk to get what ended up being recovered files with not much info on them. A different and much, much better info with Solyd.

I read today that, on March 1st, SolydK is coming out with another version. I will happily use the live version till March 1st at which time I'll install it on my hard drive next to Zorin 6, and, hopefully, replace it. I'm not badmouthing any Ubuntu distro, but am hoping the best for SolydXK.

Dennis McClellan

Ronnie says: *Check next month's FCM for a full review of SolydXK from long-time reviewer Art.*

TABLE OF CONTENTS

I have been reading this magazine for many years now and I keep older issues on my laptop for reference.

But...sometimes, I want to read again an article about something specific I remember having read in a former issue. Finding the article again in my collection of FCM issue is... very tedious and time consuming!

That is why I had this idea: how about building a compilation of all articles published, let's say on a yearly basis. The list could be sorted out by themes, making it easy to find the specific FCM issue containing that article.

Gilles Tournier

Ronnie says: *Good idea, but we beat you to it. At the top of the FCM site is a button marked 'Table of Contents' which links to: <https://wiki.ubuntu.com/UbuntuMagazine/FullIssueIndex>. It's not bang up-to-date, but it's close! Gord has also just released a Google Docs file which lists all how-to's and even questions answered since the beginning of (Full Circle) time: <http://goo.gl/C6Jil>.*



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.

The show is presented by members of the UK's Ubuntu Linux community. Because it is covered by the Ubuntu Code of Conduct it is suitable for all.

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

Full Circle Podcast Episode 33, With Added Horsepower

Your hosts:

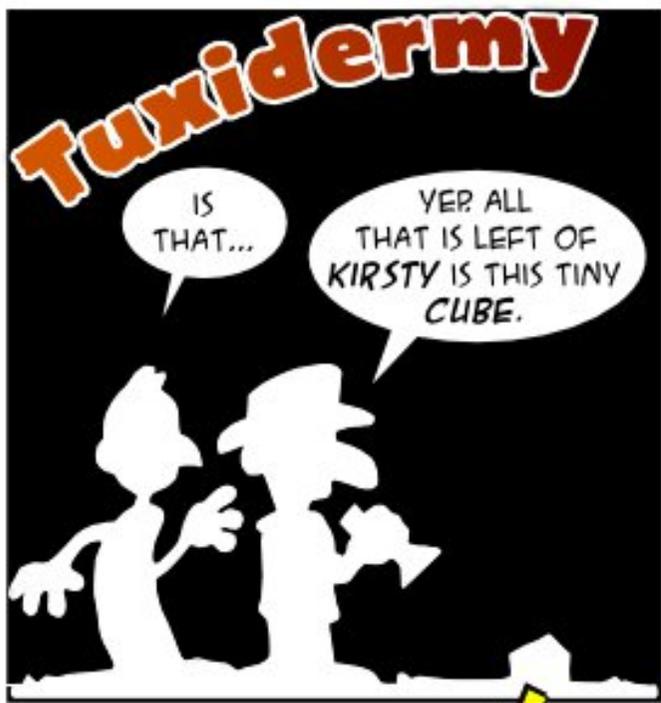
- Les Pounder
- Tony Hughes
- Jon Chamberlain
- Oliver Clark and Freaky Clown



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

In this episode we are joined by Freaky Clown, we talk about the Ubuntu Phone release, Linux peripherals and some events.

Download



...BUT I HAVE A FEELING SHE OPENED A DOOR TO SOME PLACE REALLY NICE.





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 Is there a guide to Ubuntu on the new UEFI motherboards?

A Yes: <https://help.ubuntu.com/community/UEFI>

Note that the starting point is 64-bit Ubuntu, versions 12.10 or 12.04.2 -- and the point two is important.

Q Can I run the latest Adobe Flash plugin on an old Athlon XP CPU?

A (Thanks to **Troon2** in the Ubuntu Forums) No, the plugin requires a CPU instruction set extension called SSE2, which the Athlon XP does not include. If you can find version 10.2 of the plugin, it should work.

Q How can I download the "Ubuntu Desktop Manual" so that I can get a printout?

A (Thanks to **deadflowr** in the Ubuntu Forums) You can use

the print option for Ubuntu Manual: <http://ubuntu-manual.org/downloads>

Q We have a network which includes Mint 12 and 13, and Windows XP and 7. The Mint 12 computer has a printer attached, how can we use that printer from the other computers?

A There's an excellent writeup in the community docs: <https://help.ubuntu.com/community/NetworkPrintingWithUbuntu>

When I went through it, the only discrepancy I found was that my shared printers appeared after a few seconds in the Windows "add a printer" dialogue. The author calls that a miracle!

Q I'm building a high-performance computer, what size SSD do I need?

A If you will also have a hard drive, 120 GB should be more

than enough. Even if you dual-boot with Windows, it should be happy with 80 GB, and then use 40 GB for /, and put /home on the hard drive. If you don't plan to have a hard drive, the important factor is how much media (pictures, songs and videos) you expect to have. I consume a lot of media; my Music and Pictures folders contain about 15 GB each, but my Videos folder, and sub-folders, is over 200 GB.

Q How can I run Ubuntu from a USB stick without the shopping lens? I have tried a "persistent" stick, and it's very slow.

A Install Ubuntu onto the stick, formatted as EXT2. You might also want to use "noatime," as explained here: <http://tldp.org/LDP/solrhe/Securing-Optimizing-Linux-RH-Edition-v1.3/chap6sec73.html>

Then, of course, turn off the shopping lens: `sudo apt-get remove unity-lens-shopping`

Q My goal is to install the original Tomb Raider game that I have on CD, and that runs on both Windows 95 and MS-DOS. I tried to install it under WINE, but the window immediately closed.

A (Thanks to **ibjsb4** in the Ubuntu Forums) For old DOS games, use DOSbox, it's in the software center.

Q I am using ClamAv with Linux Mint 14 and have just run it on some old files that were produced using Windows MS Word. ClamAv found viruses in 3 files, and it lets you quarantine or delete the file but not to repair it. My question is, are there no Linux Viruses that we should worry about?

A There was one Linux trojan mentioned in the news a few issues back, and there was a follow-up describing how to ensure it can not be installed on your system. (FCM#67, Q&A)

ClamAV searches for Windows malware, so you avoid the



embarrassment of infecting your friends. Also, a lot of people run mail servers on Linux, with Windows clients. To the best of my knowledge, Word viruses can not infect a Linux system.

There are mixed opinions about Java. I'm no expert, but it appears that Java is inherently insecure; many experts suggest removing it from your system. However, that means some web sites don't work. I have it installed on my system, and visit sites which use it. Note that Java is not the same as Javascript, which is OK.

I am convinced that the biggest danger is responding to fake emails. If you get an unexpected email, hover over any links, and you will find they don't go where they say they will.

Q How can I run the Shrew Soft VPN client in Ubuntu 12.10?

A See post 4 of this thread: <http://ubuntuforums.org/showthread.php?t=2078420>

Q How can I find Keyboard/Mouse serial

number or information through terminal?

A This is from a source who should know: "keyboards do not, as a rule, communicate about what they are to the computer." Mice are even worse.

Q What do you sages use for automatic backup of your systems?

A Good question! I don't use an automatic backup. Somewhere around here, I have a 250 GB hard drive which contains my historical "good stuff." I don't bother with backup of downloaded videos; if they all disappeared, I would say, "oh, well." I use Dropbox for the stuff I'm currently working on, which means it gets synched to my other computers.

The downside of Dropbox: if I delete a file, it gets deleted everywhere.

TIPS AND TECHNIQUES
So Easy



Sometime around 2006, I couldn't resist buying a

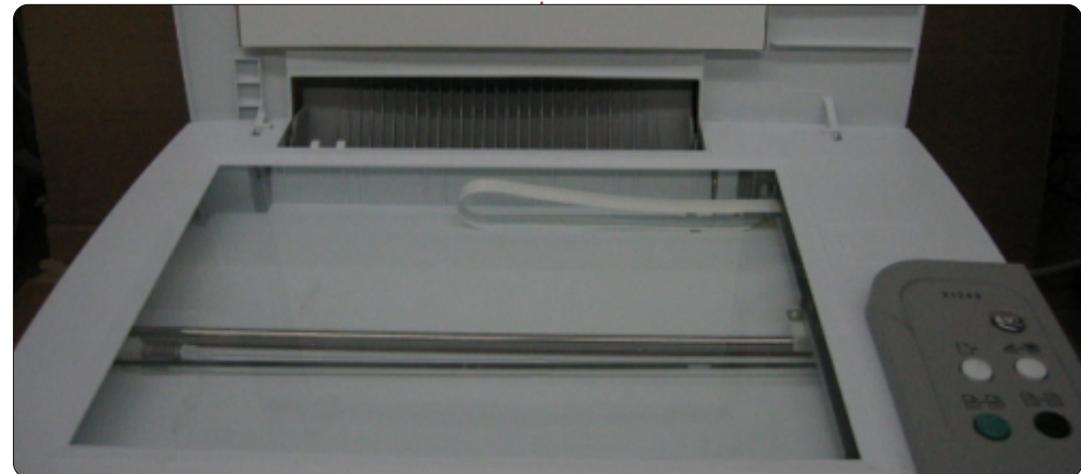
Lexmark X1240 multi-function printer/scanner at Walmart, for about \$60 (Canadian) if memory serves. It was connected to the XP machine, and worked fine. However, it had the usual problem of ink cartridges drying out when you don't print much, so by 2009 it became a scanner, and I bought a networked Brother laser printer WITH NO INK CARTRIDGES.

Soon after getting the X1240, I moved to Ubuntu. When I upgraded my wife to a newer computer running Windows 7, I couldn't find the driver disc for the Lexmark. OK, go online, I still couldn't find the drivers. (I later found not just the drivers, but all the software which was included with the multi-function unit -- but it took several tries.)

Today I wanted to scan something, so I decided to try the Lexmark. I connected it to my computer, turned it on, Linux said, "a Lexmark 1200 series has appeared." The ink cartridges have been dry for years, so I wasn't able to test that it can actually print, but I could run "simple scan" and scan documents to my heart's content. Total setup time, 30 seconds to plug in the power cord and the USB cable.

The Lexmark software had an OCR option, which Simple Scan doesn't include. However, there are a couple of programs I could use to go from image to text, if I ever need to.

Everything should work this easily.





UBUNTU GAMES

Written by Jennifer Roger

KRUNCH

It's safe to say that most games require a certain degree of skill and precision, but KRUNCH is a game that takes it up a notch, or two... or three. KRUNCH is the debut from LeGrudge & Rugged in which your goal is to navigate through deadly obstacles and find the exit as quickly as you can. It gets more challenging and frustrating as you progress, but it's always rewarding once you do advance. KRUNCH certainly demands precision and speed, but, without a little patience, you'll find yourself hacked in half or electrocuted in no time.

Oh, speaking of time, your health gauge gradually decreases

so you're never without a sense of urgency. There is a speed boost to help you outrun enemies, but this drains your life faster, and it's limited to a certain amount that is reserved strictly for health. In most levels, monsters are an infrequent nuisance that offer a slow demise rather than an abrupt end like other obstacles.

Never be too certain that you've made it through a level unscathed. There are sometimes unpleasant surprises that await you. And don't bother trying to hide in a safe spot, because there are none in KRUNCH. You can never let your guard down; only timing, precision, and quick thinking will help you survive a

level. But death is certain in this game, and it's not shy about reminding you either. Each time you die, the following screen taunts you with stats like how many times you've died in a certain amount of time and in what manner.

Keyboard controls are simple and intuitive, but, since you're technically floating, there is an added element of movement. Overdoing it with the space-key can send you flying into danger. There's little room for error so even subtle movements can have you bouncing into a wall of spikes. Luckily, the game supports gamepads which does add a level of smoothness to the controls and worked perfectly with my Afterglow controller and Xpadder.

Aesthetically, KRUNCH is extremely polished and well done. It has great retro graphics, but the soundtrack is what really stood out for me. The tracks provide the intensity and urgency throughout the stages to keep up the flow of the game. The music and sounds

are never intrusive or annoying and always fit the mood of the level.

Overall, KRUNCH proves to be engaging, fast paced, and rewarding – even after dying countless times. With over 100 levels, boss battles, and leaderboards, there is a lot of content packed into the game for extra replayability. KRUNCH is available now for Windows, Mac, and Linux, at <http://krunchgame.com/>. You can purchase the game only for \$9.99, or you can get the game and soundtrack for \$13.99.

Pros: Challenging yet rewarding, great soundtrack

Cons: Sensitive controls



Jennifer is a fine arts student from the Chicagoland area. You can follow @missjendie on Twitter or visit her blog at missjendie.com.



LINUX CERTIFIED

Written by Richard Philip Witt

Let's face it, when done poorly, learning can be very dull indeed. My uninspired flashcard approach had been slowing my progress and, last month, brought it to a grinding halt. Hence my missing article from FCM#70. As it happens, this in itself is quite ironic; I initially decided to write monthly articles to act as a check, to discipline myself to cover material in order to be able to report on it. Needless to say, it failed, but at the same time it forced me to rethink my approach to learning, and the tentative solution came in the form of 'Linux from Scratch'.

PROWESS

To cover it briefly, as the name suggests, Linux from Scratch (LFS) is a guide to building your own linux distribution from the ground up. What I've realised is that sexy is motivating (yes engineering an operating system is sexy). As the adage goes: "If you want to build a ship, don't drum up the men to gather wood, divide the work, and

give orders. Instead, teach them to yearn for the vast and endless sea."

Before you can build your LFS operating system, you must partition off about 10-15GB.* This task brought about a great deal of LPIC-relevant learning (Linux Professional Institute Certification). I learned how to use the fdisk and parted commands and to interpret their outputs. Output interpretation requires a basic understanding of file systems. This partition-task focussed my reading, and here LPIC-relevant texts are valuable. They give plenty of background information and clearly explain the

command and its options. There's a second salient point here. Within the confines of my everyday Ubuntu-ing (reading email, playing chess, internet, FCM, watching films), I would never come to partition a hard drive. It just wouldn't enter my horizon, and arbitrarily exploring partitioning seems abstract and contrived. On the other hand, when I successfully partition my hard drive for my own operating system, I gain a sense of achievement. In short, LPIC is designed to train up System Admins: it's a professional qualification. Until command-line LPIC training materials exist, making use of LFS to learn about

partitioning and filesystems is a pragmatic option.

*I haven't successfully created the partition yet. When I installed Ubuntu 12.04 LTS, I created one huge ext4 partition (110GB), and one swap partition (10GB). I never thought I'd need to partition further. Another lesson learned.



**Linux
Professional
Institute**



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.



Greetings from Ecuador!
I'm new to Linux. Just started last September with Ubuntu 12.04 LTS (Precise Pangolin) after Windows 7 crashed. I'm still learning the basics but honestly I can say I'm feeling satisfied. My laptop is much faster than before.

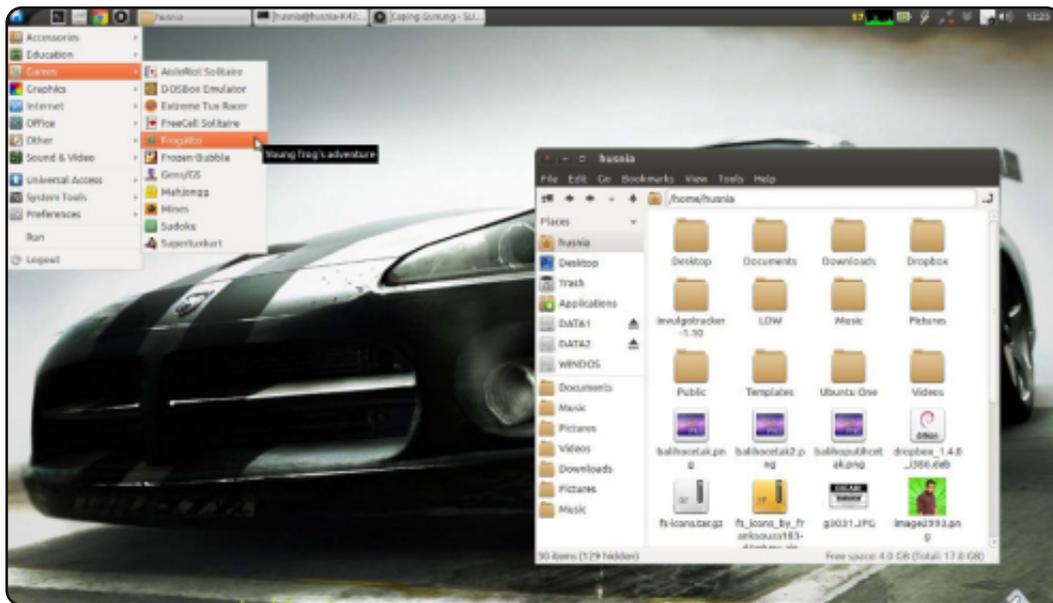
My specs:
Laptop: Dell Inspiron with Unity
Memory: 2 GB
Processor: Intel® Core™ i3 CPU M 380 @ 2.53GHZ x 2
Graphics: Intel® Ironlake Mobile
Disk: 313.1 GB

Francisco J. Robles

This is my desktop screenshot. As you can see, my desktop uses Cairo Dock at the bottom and Conky on the right.

OS: Ubuntu 12.10 (quantal) 32-bit Kernel Linux 3.5.0-21-generic
GNOME 3.6.0
Processor: Intel Core i3-2100 CPU @ 3.10GHz x 2
Memory: 3.9 GiB
Theme: Mac-os-x-theme
Cursor theme: Macbuntu-Xii-Cursor
Icon theme: Matrilineare
GTK+Theme: Mac-os-x-theme

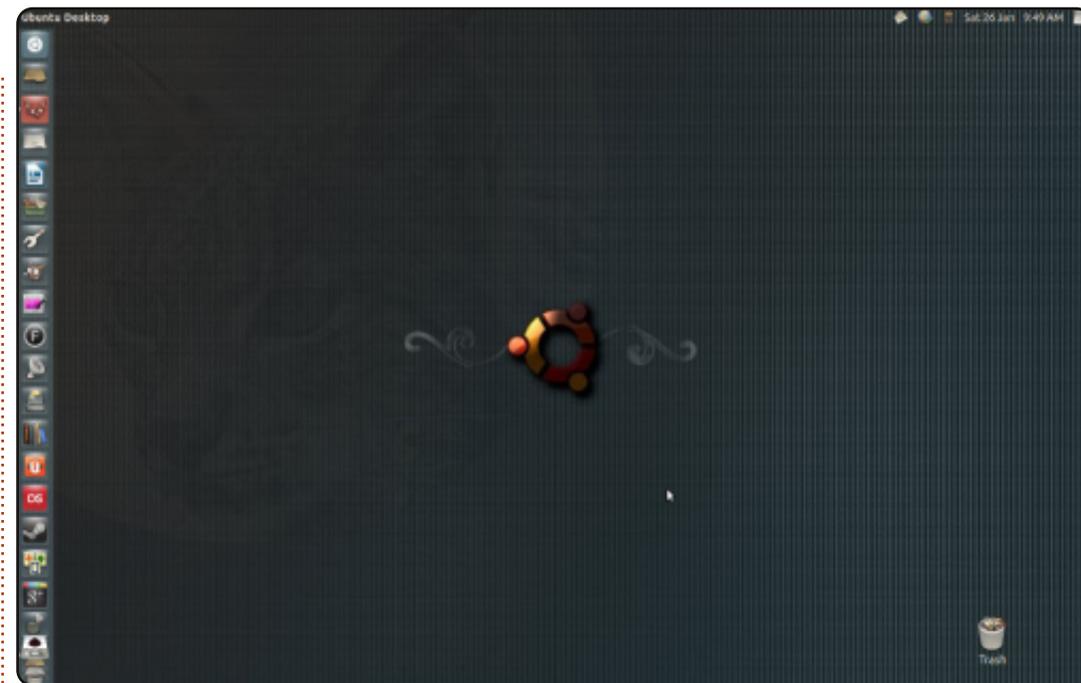
Halidi Doank



I run Ubuntu 12.04 on my laptop ASUS A42N. It uses LXDE and Metacity for window manager. Why did I choose Metacity? Because I think it has 'more colors' than the default LXDE's Openbox.

gtk theme : Ambiance
Metacity : Ambiance Squared
Icons: Faenza

Husni Amri



Long time reader; first time contributor.

I have been using Ubuntu since 7.04, and, apart from a brief spell with Bodhi (which I loved, but which required a little more maintenance than I like), have been an Ubuntu user all that time.

I have used the BUUF icon set almost as long. It is beautiful, and it makes Unity look a little less glib and a little more homely. I found the wallpaper on Deviant art, and have stuck with it even though it's designed for Lucid Lynx and I'm now on 12:10. I love the texture of it, and the Ubuntu circle has never looked more beautiful.

It's not flashy, but this is my desktop, and it feels like home.

Peter Mason

5	D	4	E	A	C	1	3	7	2	B	9	8	0	F	6
6	2	3	0	E	B	4	9	C	A	8	F	1	5	D	7
1	A	C	8	5	D	7	F	4	E	6	0	9	3	2	B
F	7	9	B	8	6	2	0	1	D	3	5	A	E	4	C
A	C	7	2	9	1	6	B	5	3	E	D	4	F	8	0
E	1	6	5	7	8	C	2	9	F	0	4	D	A	B	3
4	8	0	9	3	E	F	D	2	1	A	B	6	7	C	5
D	B	F	3	0	5	A	4	8	C	7	6	E	9	1	2
B	0	5	6	4	A	8	7	3	9	D	2	C	1	E	F
8	F	D	1	6	3	0	5	A	4	C	E	2	B	7	9
C	9	2	A	1	F	B	E	6	7	5	8	3	4	0	D
7	3	E	4	D	2	9	C	B	0	F	1	5	6	A	8
0	4	B	C	2	7	D	1	E	6	9	3	F	8	5	A
2	6	8	D	F	9	E	A	0	5	1	7	B	C	3	4
9	5	1	F	C	0	3	8	D	B	4	A	7	2	6	E
3	E	A	7	B	4	5	6	F	8	2	C	0	D	9	1

SUDOKU

P	A	R	L	A	N	C	E			R	E	D	O
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	T		T		T	A	X		I		W		
B	O	W	S			U		Y	E	A	R	N	S
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L	Y	S	I	N	E			O	C	E	L	O	T
			T					V				R	
Q	U	A	C	K	S		E		J	A	I	L	
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S	N	O	G			P	U	N	I	S	H	E	S
1	2	3	4	5	6	7	8	9	10	11	12	13	
Y	A	P	D	V	T	I	S	F	B	W	J	E	
14	15	16	17	18	19	20	21	22	23	24	25	26	
U	Z	X	G	L	K	N	M	O	H	R	C	Q	

CODE WORD

ABCDEFGHIJKLMNOPQRSTUVWXYZ



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