



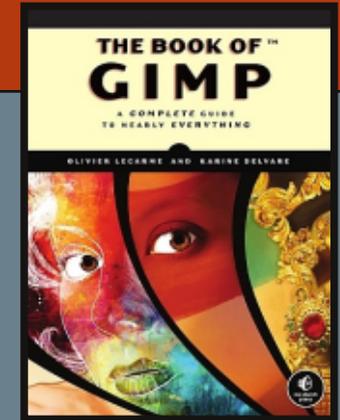
Full Circle

THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY

ISSUE #72 - April 2013



BOOK REVIEW:



Solyd



SOLYDX AND SOLYDK REVIEWED

A DEBIAN BASED DISTRO WITH XFCE OR KDE

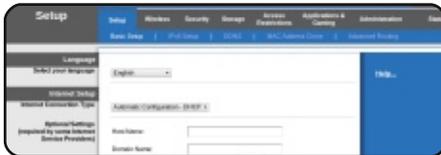
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$$\sum_{x=0}^{x=n} f(n) \text{ or } \int_x^n f(n+1)$$

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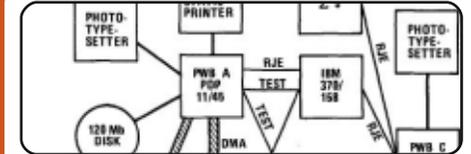


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WELCOME TO ANOTHER ISSUE OF FULL CIRCLE!

That's right, folks. Full Circle is six years old this month. Incredible! Never, when I started FCM all those years ago, did I imagine that it would still be going strong six years later. I can't stress enough that every issue is created by a team of folks, not just me, so a **BIG** thanks to all of them. Their names are listed on the last page of every issue and at the top of each article. My thanks also go out to the many translation teams around the world.

The one thing I like to do each birthday issue is to have a survey where you, the readers, can give us your opinion on FCM. What would you like to see more/less of? What do you like/dislike? Full details are on [page 38](#); the survey is at: <http://goo.gl/hR7zc>.

I'm sure you Python fans will know about the Special Editions that Robin Catling has been putting together (which, by the way, is up to volume six). Well, he's now creating a series of Special Editions from the LibreOffice series, so, if you've been wanting to gather them into one handy dandy issue, volume one is up on the main Full Circle site. The easiest way to find the Special Editions is to use the search box on the site.

Anyway, I shan't keep you any longer. Enjoy the issue, and please fill in the survey!

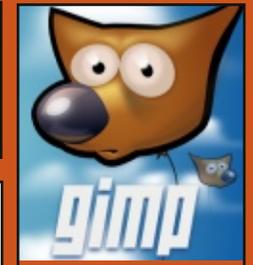
All the best, and keep in touch!

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



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CHANGES IN UBUNTU RELEASES DECIDED BY THE UBUNTU TECHNICAL BOARD

The Ubuntu Technical Board announce their decision to change support for non-LTS releases from 18 to 9 months, and the adoption of a mechanism to allow users to continuously track the development focus without explicitly upgrading from release to release.

<http://fridge.ubuntu.com/2013/03/19/changes-in-ubuntu-releases-decided-by-the-ubuntu-technical-board/>

Also read the follow-up post by Rick Spencer, Vice President of Ubuntu Engineering, for his comments on the decisions by the Ubuntu Technical Board, and how they will impact users:

<http://fridge.ubuntu.com/2013/03/19/ubuntu-technical-board-looks-at-shuttleworths-proposal-for-release-management-methodology/>

Visit the following articles for

some other takes on the announcement:

Ubuntu Technical Board Meeting Decisions Regarding The New Release Proposals - <http://www.webupd8.org/2013/03/ubuntu-technical-board-meeting.html>

Ubuntu To Halve Support Window for 'Regular' Releases - <http://www.omgubuntu.co.uk/2013/03/ubuntu-to-halve-support-window-for-regular-releases>

Canonical to halve support for standard Ubuntu releases - <http://www.linuxuser.co.uk/news/canonical-to-halve-support-for-standard-ubuntu-releases>

UBUNTU MEMBERSHIP BOARD CALL FOR NOMINATIONS

Elizabeth Krumbach, on behalf of the Community Council, makes a call out for restaffing the Membership Board, which is responsible for voting new Ubuntu members. The Membership Board

is in need of 9 Ubuntu Members with a good community track record and enough time available for meetings once a month. Nominations will be accepted through Friday April 5th at 12:00 UTC for ubuntu-membership-boards at lists.ubuntu.com

<http://fridge.ubuntu.com/2013/03/22/ubuntu-membership-board-call-for-nominations/>

CANONICAL AND CHINESE STANDARDS BODY ANNOUNCE UBUNTU COLLABORATION

The CSIP (China Software and Integrated Chip Promotions Centre), National University of Defense Technology (NUDT) and Canonical join forces to create Ubuntu Kylin, a China-focused Ubuntu desktop system. This announcement represents the first step into the government's five year plan to promote open source software and accelerate the growth of the open source ecosystem within the country.

<http://www.canonical.com/content/canonical-and-chinese-standards-body-announce-ubuntu-collaboration>

This story has also been covered in the wider press:

China to create home-grown operating system - <http://www.bbc.co.uk/news/technology-21895723>

Ubuntu tapped by China for national operating system - http://www.theregister.co.uk/2013/03/22/china_makes_linux_os_with_canonical_help/

China chooses Ubuntu for a national reference OS coming in April - <http://www.engadget.com/2013/03/23/china-chooses-ubuntu-for-a-national-reference-os-coming-in-april/>

Goodbye Windows: China to create home-grown OS based on Ubuntu - <http://arstechnica.com/information-technology/2013/03/goodbye->



windows-china-to-create-home-grown-os-based-on-ubuntu/

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

Adam Conrad, on behalf of the Ubuntu Release Team, announces the formal End of Life (EOL) dates of Ubuntu 8.04 (Hardy Heron) server, 10.04 (Lucid Lynx) desktop and 11.10 (Oneiric Ocelot) desktop and server.

<http://fridge.ubuntu.com/2013/03/29/ubuntu-8-04-hardy-heron-server-10-04-lucid-lynx-desktop-and-11-10-oneiric-ocelot-reaching-end-of-life-on-may-9-2013/>

UDS 13.05: UBUNTU'S SECOND ONLINE DEVELOPER SUMMIT

Michael Hall announces the next Ubuntu Developer

Summit May 14th-16th, 2013 from 14:00 UTC to 20:00 UTC. He encourages people to register a blueprint and ask the track leads to add a session for them. He also outlines some improvements to the Google+ Hangouts, the plenaries, the schedule, summit scheduler, and registration processes.

<http://mhall119.com/2013/04/uds-13-05-ubuntus-second-online-developer-summit/>

NEW UBUNTU MEMBERSHIP BOARD MEMBERS

Elizabeth Krumbach announces the Ubuntu Membership Board Members approved by the Ubuntu Community Council. Zhengpeng Hou, Mathieu Trudel-Lapierre, Jared Norris, Eleanor Chen, and Penelope Stowe are welcomed (or welcomed back!) into the 1200 UTC Membership Board and Iulian Udrea, Javier Lopez, and Benjamin Kerensa were welcomed (or welcomed back!) into the 2200 UTC Membership Board.

<https://lists.ubuntu.com/archives/ubuntu-news-team/2013-April/001777.html>

Many Thanks to the Ubuntu News Team for their contribution this month.

News this month comes from:

<https://wiki.ubuntu.com/UbuntuWeeklyNewsletter/Issue309>

<https://wiki.ubuntu.com/UbuntuWeeklyNewsletter/Issue310>

<https://wiki.ubuntu.com/UbuntuWeeklyNewsletter/Issue311>

<https://wiki.ubuntu.com/UbuntuWeeklyNewsletter/Issue312>



UBUNTU 13.04 RELEASED!

Ubuntu 13.04 continues Ubuntu's proud tradition of integrating the latest and greatest open source technologies into a high-quality, easy-to-use Linux distribution. This release cycle has seen a significant push toward daily quality, which has allowed most developers and users to participate more actively throughout the cycle, and we feel this also shows in the final quality of this release.

Along with performance improvements to Unity, updates to common desktop packages, and updated core and toolchain components, Ubuntu 13.04 also includes the new Friends service, to consolidate all social networking accounts via Ubuntu Online Accounts. Also included is a tech preview of Upstart's new user session feature.

Read more about the new features of Ubuntu 13.04 in the following press releases: <http://ubunt.eu/1304Server> and: <http://ubunt.eu/1304Client>



After my article last month on Ubuntu Touch, I received a relative flurry of responses from readers (more so than for any other article I've ever written). Due to the response, I thought it might be nice to share readers' responses in a follow-up article. The first weekend of April also saw a big change in the TF101 Ubuntu Touch packages, and I was finally able to get the developer preview running on my tablet. However, as hardly any functionality exists at this time, I will save a full-on review for a later date (an official Beta release, for example).

The first response I received was from a reader who shared his opinion that Ubuntu Touch absolutely must have integrated support for Google accounts (Google Mail, Google Contacts, Google Calendar (with emphasis on the reminders), Google Maps and Navigation). Upon reading the article, I realised I had neglected to mention anything of the sort. That being said, I imagine Ubuntu will ship with some form of mail client (Evolution/Thunderbird). Google

Mail support was very effective in either of those applications, the last time I used them. Thunderbird also offers the Lightning plug-in for calendars, which works well with Google Calendar. There are also numerous plug-ins for Thunderbird that allow the syncing of contacts. As such, I think it highly unlikely that Ubuntu Touch releases will be lacking a tool with similar features. That leaves Google Maps and Navigation. My fear is that Canonical will decide to include some new map/navigation tool, instead of trying to include Google's tried-and-tested applications. There is always the argument "Google Maps can easily be accessed through a browser", but it defeats the purpose of a quick and handy maps tool. At this point, all we can do is wait and see.

This same reader also stated that he wished to see a highly functional/usable keyboard in Ubuntu. While I haven't had issues with the default Android keyboards, there seems to be a large number of Android users who prefer keyboards such as Swype. In

the reader's case, he mentioned TouchPal's Keyboard, Dialer and Contacts app. This does more than just replace the keyboard, but also offers a custom dialer and contacts app. His reasoning for why this app is worthwhile was because he found typing on the typical Android keyboard to be "slow, boring and error-prone". He found the "swipe to type" method of TouchPal's keyboard much more intuitive, and, due to the learning algorithm, less error-prone. The reader also notes that while TouchPal's keyboard app offers predictive features, they are turned off by default, and it's not necessarily clear how to enable them. According to a Sprint user guide, sliding right on the space bar enables predictive typing, and sliding to the left disables it again.

The Dialer and Contacts apps included in the TouchPal package are useful for the reader, because the default Contacts app tends to lose data included in the Notes sections of contacts when they contain a lot of text. As the reader creates these Contacts on the PC,

it's impractical to deal with, and TouchPal's Contacts and Dialer app (one shortcut for both tools) apparently does not suffer from this limitation, and the reader once again finds it more flexible and easier to use.

The second email I received was short and to the point. The reader felt the possible lack of Aldiko (an e-reader application), and Kindle apps on Ubuntu Touch would be something to consider. Now, I'm not sure Aldiko will be ported/available for Ubuntu Touch, but I think Canonical would be remiss if they didn't include some form of Kindle app. Once again, Amazon does allow reading of Kindle books online ("Amazon Cloud Reader"), but it's hardly an ideal solution. That being said, the list of dummy applications in the Developer Preview does include an Amazon store shortcut, which makes me believe Ubuntu will do its best to integrate Amazon services. I would supply further information about the apps included, but, as the keyboard isn't working properly, I can't connect to

the wireless, making nearly every app throw “not connected” errors, or disabling those features I'd be interested in testing.

Lastly, I had a reader explain to me that he wanted to install Ubuntu Touch on a Samsung Galaxy S III, but cited the Ubuntu Wiki page where it was listed as a “work in progress”. So, for anyone else who was wondering something similar, I say this: if you're willing to give up a perfectly functional device in order to install a pretty much non-functional Developer Preview just to see what it looks like, you can generally expect any of the Wiki pages for your device to include decent instructions. That being said, Ubuntu Touch is not in an alpha, beta, or release candidate stage. It is quite literally a snapshot of their demo device, including multiple accounts you can't access, a guest account you need to use, and examples of applications they want to include. If, however, you have a second or third Android device just sitting around (such as my TF101), then feel free to flash it and play around a little, just don't expect to be breathing new life into an old device (just yet). Lastly, the Wiki

page is split up in this way:

- Working with phablet-flash (official Ubuntu method, contains just the Galaxy Nexus, and the Nexus 4, 7 and 10);
- Working, but not available from cdiimage.u.c (unofficial ports, maintained by the community, but fairly functional); and
- Work-In-Progress (basically the waiting point for any port that hasn't yet gotten unlocking/installing instructions, working code or an image).

Unless you want to help debug and develop, Work-In-Progress

devices are probably not worth flashing.

On a completely unrelated note. After my article on the Rocksmith Real Tone Cable for recording electric guitar, I had a reader request an article or two on using Audacity to record acoustic guitar. These articles will happen as soon as I have a working audio interface available to me, and I will be covering recording acoustic guitar with a microphone, with pickups, electric guitar (direct-in), and with a microphone in front of the amp. If all goes well, this will happen within the next two issues

of FCM. If any musicians out there have suggestions on audio interfaces they have had working with Ubuntu, or if anyone has specific questions they'd like me to cover in the articles, feel free to email me at lswest34@gmail.com. Please include the words “FCM Guitar Article” in the subject line, so I can separate them from usual C&C emails.

I hope at least a few people have found the reader responses useful and/or interesting! I had definitely never heard of the TouchPal Keyboard, Dialer and Contacts app. Got any questions? Suggestions? Then feel free to email me at lswest34@gmail.com. Please include either “FCM” or “C&C” in the subject line, so it doesn't get lost in my inbox!



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.



Last time, we started a project that would eventually use the TvRage module that we created the month before that. Now we will continue the project. This time we will be adding functionality to our program: tweaking the filename parse routine and adding two fields (TvRageId and Status) to the database. So, let's jump right in.

First, we will make the changes to our import lines. For those who are just joining us, I'll include the ones from last time (shown top right).

The lines after 'import re' are the new ones for this time.

The next thing we will do is rewrite the GetSeasonEpisode routine. We are going to throw out pretty much everything we did last month, and make it more flexible across the possible season/episode schemes. In this iteration, we will be able to support the following schemes...

`Series.S00E00`

`Series.s00e00`

`Series.S00E00.S00E01`

`Series.00x00`

`Series.S0000`

`Series.0x00`

We will also fix any 'missing leading zero' issues before we write to the database.

Our first pattern tries to catch multi-episode files. There are various naming schemes, but the one we will support is similar to 'S01E03.S01E04'. We use the pattern string `"(.*)\.s(\d{1,2})e(\d{1,2})\.s(\d{1,2})e(\d{1,2})"`. This returns (hopefully) five groups which consist of: the series name (S[1]), season(S[2]), episode number 1 (S[3]), season (S[4]), and episode number 2 (S[5]). Remember that the parens create each group for returns. In the case above, we group anything from the first character up to the ".s", then two numbers, skip the "e", then two numbers, and repeat. So the filename "Monk.S01E05.S01E06.avi" returns

```
import os
from os.path import join, getsize, exists
import sys
import apsw
import re
#-----
#   NEW LINES START HERE
#-----
from xml.etree import ElementTree as ET
import urllib
import string
from TvRage import TvRage
```

the following groups...

`S[1] = Monk`

`S[2] = 01`

`S[3] = 05`

`S[4] = 01`

`S[5] = 06`

We are using only groups S[1], S[2] and S[3] in this code, but you can see where we are going with this. If we find a match, we set a variable named "GoOn" to true. This allows us to know what we should do after we've fallen through the various If lines.

So, next page (top right) is the code for the GetSeasonEpisode routine.

When we get to this point, (next page, bottom left) we prepare the show name by removing any periods in the show name, and then pull the season and episode information from the various groups, and return them. For the season information, if we have a pattern like "S00E00", the season number will have a leading zero. However if the pattern is like "xxx", then the season is assumed to be the first character, and the trailing two are the episode. In order to be forward thinking, we want to make the season a two-digit number with a leading zero if needed.

Next, in our MakeDatabase routine, we will change the create

SQL statement to add the two new fields (next page, top).

Again, the only thing that has changed from last time is the last two field definitions.

In our WalkThePath routine, the only changes are the lines that actually insert into the database. This is to support the new structure. If you remember from last time, we pass the folder that holds our TV files to this routine. In my case, there are two folders, so it's set into a list and we use a for loop to pass each into the routine. As we go through the routine, we walk through each directory looking for files with extensions of .avi, .mkv, .mp4 and .m4v. When we find a file that matches, we send it to the GetSeasonEpisode routine. We then check to see if we already

```
def GetSeasonEpisode(filename):
    GoOn = False
    filename = filename.upper()
```

This is our first pattern check.

```
#Should catch multi episode .S01E01.S01E02 type filenames
resp = re.search(r'(.*)\.s(\d{1,2})e(\d{1,2})\.s(\d{1,2})e(\d{1,2})', filename, re.I)
if resp:
    showname = resp.group(1)
    GoOn = True
else:
```

Our second pattern check looks for SddEdd or sddedd...

```
# Should catch SddEdd or sddedd
resp = re.search(r'(.*)S(\d\d?)E(\d\d?)', filename, re.I)
if resp:
    showname = resp.group(1)
    GoOn = True
else:
```

The next pattern looks for ddxdd.

```
#check for ddxdd
resp = re.search(r'(.*)\.(?!\d{1,2})x(\d{1,2})(.*)', filename, re.I)
if resp:
    showname = resp.group(1)
    GoOn = True
else:
```

This pattern checks for Sdddd.

```
#check for Sdddd
resp = re.search(r'(.*)S(\d\d)(?!\d\d?)', filename, re.I)
if resp:
    showname = resp.group(1)
    GoOn = True
else:
```

And finally we try for ddd

```
# Should catch xxx
resp = re.search(r'(.*)\d(?!\d\d?)', filename, re.I)
if resp:
    showname = resp.group(1)
    GoOn = True
```

```
if GoOn:
    shownamelength = len(showname) + 1
    showname = showname.replace(".", " ")
    season = resp.group(2)
    if len(season) == 1:
        season = "0" + season
    episode = resp.group(3)
    ret = [showname, season, episode]
    return True, ret
else:
    ret = ["", -1, -1]
    return False, ret
```

```
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, tvrageid TEXT,status TEXT);'
    cursor.execute(sql)
```

have it entered into the database, and, if not, we add it. I'm going to give you (top right) only part of the routine from last month.

The two lines in black are the ones that are new this time.

We are already over halfway done. Next are some support routines that work with our TvRage routine to fill in the database fields. Our first routine runs after the WalkThePath routine, and runs through the database, getting the series name and querying the TvRage server for the id number. Once we have that, we update the database, then use that id number to once again query TvRage to get the current status of the series. This status can be "New Series", "Returning Series", "Canceled", "Ended" and "On Hatus". The reason we want this information is that, when we go to check for new episodes, we don't want to bother with series that won't have any new episodes

```
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,tvrageid) VALUES (?, ?, ?, ?, ?, ?)'
                cursor.execute(sql, (showname, root, fl, season, episode, -1))
            except:
```

```
def WalkTheDatabase():
    tr = TvRage()
    SeriesCursor = connection.cursor()
    sqlstring = "SELECT DISTINCT series FROM TvShows WHERE tvrageid = -1"
```

because they are cancelled. So, now we have the status and can write that to the database (above).

We will pause here in our code and look at the SQL query we are using. It's a bit different from anything we've done before. The string is:

```
SELECT DISTINCT series FROM
TvShows WHERE tvrageid = -1
```

Which says, give me just one

instance of the series name, no matter how many of them I have, where the field tvrageid is equal to "-1". If, for example, we have 103 episodes of Doctor Who 2005. By using the Distinct, I will get back only one record, assuming that we haven't gotten a TvRageID yet.

```
for x in
SeriesCursor.execute(sqlstring):
    seriesname = x[0]
    searchname =
```

```
string.capwords(x[0], " ")
```

We are using the capwords routine from the string library to change the series name (x[0]) to a "proper case" from the all-uppercase we currently store the show name in. We do this because TvRage expects something other than all-uppercase entries, and we won't get the results we are looking for. So the series name "THE MAN FROM UNCLE" will be converted to "The Man From

```
def UpdateDatabase(seriesname, id) :
    idcursor = connection.cursor()
    sqlstring = 'UPDATE tvshows SET tvrageid = ' + id + ' WHERE series = "' + seriesname + '"'
    try:
        idcursor.execute(sqlstring)
    except:
        print "error"
```

```
def GetShowStatus(seriesname, id) :
    tr = TvRage()
    idcursor = connection.cursor()
    dict = tr.GetShowInfo(id)
    status = dict['Status']
    sqlstring = 'UPDATE tvshows SET status = "' + status + '" WHERE series = "' + seriesname + '"'
    try:
        idcursor.execute(sqlstring)
    except:
        print "Error"
```

Uncle". We use that in the call to our TvRage Library FindIdByName. This gets the list of matching shows, and displays them for us to pick the best one. Once we pick one, we update the database with the id number and then call the GetShowStatus routine to get the current show status from TvRage (bottom right).

The UpdateDatabase routine (top) simply uses the series name as the key to update all the records with the proper TvRage ID.

GetShowStatus (above) is also very simple. We call the GetShowInfo routine from the TvRage library by passing the id

that we just got to TvRage – to get the series information. If you remember, there is a lot of information provided about the series from TvRage, but all we are concerned about at this point is the show status. Since everything is returned in a dictionary, we just look for the ['Status'] key. Once we have it, we update the database with that and move on.

```
print("Requesting information on " + searchname)
sl = tr.FindIdByName(searchname)
which = tr.DisplayShowResult(sl)
if which == 0:
    print("Nothing found for %s" % seriesname)
else:
    option = int(which)-1
    id = sl[option]['ID']
    UpdateDatabase(seriesname, id)
    GetShowStatus(seriesname, id)
```

We are almost done with our code. We finally add one line to our main routine from last month (in

black, below) to call the "WalkTheDatabase" routine after we are done getting all our

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

filenames. Again, I'm going to give you only part of the Main routine, just so you can find the correct place to put the new line.

That's all our code. Let's mentally go over what happens when we run the program.

First, we create the database if it doesn't exist.

Next, we walk through the predefined paths, looking for files that have any one of the following extensions:

```
.AVI, .MKV, .M4V, .MP4
```

When we find one, we go through and try to parse the filename looking for a series name, Season number, and episode number. We take that information and put it into a database, if it does not already exist there.

Once we are through looking for files, we query the database looking for series names that don't have a TvRage ID associated with them. We then will query the TvRage API and ask for matching files to gather that ID. Each series will go through that step once. The following screenshot shows the

options for, in this case, the tv series Midsomer Murders.

I entered (in this case) 1, which associates that series with the TvRage ID 4466. That's entered into the database, and we then use that ID to request the current status for the series, again from TvRage. In this case, we got back "Returning Series". This is then entered into the database and we move on.

While doing the initial "run" into the database, it will take a while and require your attention, because each and every series needs to ask about the ID number match. The good news is that this has to be done only once. If you are "somewhat normal", you won't have that many to deal with. I had 157 different series to do, so it took a little while. Since I was careful when I set up my filenames (checking TvRage and TheTvDB.com for the proper wording of the series name), the majority of the searches were the #1 option.

Just to let you know, over half of the TV series that I have either ended or have been canceled. That should tell you something about

```
Requesting information on Midsomer Murders  
5 Found
```

```
-----  
1 - Midsomer Murders - 4466  
2 - Motives and Murders - 31373  
3 - See No Evil: The Moors Murders - 11199  
4 - The Atlanta Child Murders - 26402  
5 - Motives & Murders: Cracking the Case - 33322  
Enter Selection or 0 to exit ->
```

the age group I fall in.

The full code is, as always, available on PasteBin at <http://pastebin.com/MeuGyKpX>

Next time we will continue with the integration with TvRage. Until then have a great month!



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.





As you create more complex formulas in Math, you will soon discover that things don't always display the way you were expecting. There are a few tricks to making formulas display the way we want them, especially complex formulas. Today, we will look at many of these tricks to make our formulas come out right.

GROUP ELEMENTS WITH BRACKETS

The curly brackets, {}, have a special use in formulas. They help you to group elements together. Without them you can get a different formula than the one you were expecting. Here are a couple of examples to show you what I mean.

Enter the following into the formula editor:

`2 over x + 1`

You will get the following result: $\frac{2}{x}+1$

But what if you actually wanted

the $x + 1$ in the denominator of the fraction? You can use curly brackets to group the two elements together.

Enter the same formula in the editor, but with curly brackets grouping the addition:

`2 over {x + 1}`

You then get the result you wanted: $\frac{2}{x+1}$

Any time the formula doesn't flow the way you were expecting, you can use curly brackets to group items together to make things come out right. You will see more use of brackets as we work through other examples in this How-To.

EQUATIONS SPANNING MORE THAN ONE LINE

Some equations make more sense if they are broken into multiple lines, or you need to show the progression of a formula through each step to its conclusion. Doing this all on one

line would make the formula difficult to read. However, just pressing the Enter key in the editor does not result in a new line. In order to get a new line in the formula, you use the newline element.

Editor example:

`x over 250 = 5 over 100
newline
100x = 250(5) newline
100x = 1250 newline
100x over 100 = 1250 over
100 newline
x = 12.5`

Result:

$$\frac{x}{250} = \frac{5}{100}$$

$$100x = 250(5)$$

$$100x = 1250$$

$$\frac{100x}{100} = \frac{1250}{100}$$

$$x = 12.5$$

SUM / INTEGRAL LIMITS

The sum and int commands can take optional parameters to signify the range of the sum or integral.

The keywords 'from' and 'to' generate the lower and upper range of these commands. The following markup demonstrates:

`sum from x=0 to x=n f(n) "
or "
int from x to n f(n+1)`

Result: $\sum_{x=0}^{x=n} f(n)$ or $\int_x^n f(n+1)$

SCALED BRACKETS

Sometimes, you need a bracket to span more than one line. A good example of this is with a matrix. If you just use the bracket characters, you get an ugly looking matrix.

The markup:

`(matrix {x#x+1##y#y+1})`

The result: $\begin{pmatrix} x & x+1 \\ y & y+1 \end{pmatrix}$

To get brackets that scale to the size of our matrix we use the markup "left (" and "right)". This results in a much nicer looking matrix.

The markup:

```
left(matrix {x#x+1##y#y+1}
right)
```

The result: $\begin{pmatrix} x & x+1 \\ y & y+1 \end{pmatrix}$

To get scalable square brackets use “left [” and “right]”. To get scalable curly brackets use “left lbrace” and “right rbrace”. You can find a full list of all the brackets in the LibreOffice help documentation.

UNPAIRED BRACKETS

Sometimes, you only need a bracket on one side, but not the other. If you don't put a closing bracket, you get an inverted question mark and the equation will look messy. To fix this problem, use the markup “left none” or “right none”, depending on your needs, to indicate you have no opening or closing bracket.

A good example of this is the mathematical definition of the Lucas Numbers.

The markup:

```
L_n = left lbrace
matrix{2 # if n = 0; ##
1 # if n = 1; ##
right none
```

```
L_{n-1} + L_{n-2} # if n >
1.)
right none
```

The result:

$$L_n = \begin{cases} 2 & \text{if } n=0; \\ 1 & \text{if } n=1; \\ L_{n-1} + L_{n-2} & \text{if } n>1. \end{cases}$$

Notice that I ended the definition with “right none” to get our definition to show correctly.

ALIGNING ELEMENTS USING MATRIX

You will notice (in the Lucas numbers definition) I used a matrix to get everything to line up correctly. The matrix command is useful for this because Math doesn't have a command for aligning on a certain element. With the matrix command, we can use the columns and rows to get elements to align the way we want them. A good example of this is to get equations to align on the equals sign.

For example:

```
matrix {
3x + 2x # `=` # 45 ##
```

```
alignr 6x # `=` # 45
}
```

The result:
$$\begin{array}{rcl} 3x+2x & = & 45 \\ 6x & = & 45 \end{array}$$

You will notice the back tick or grave (`) marks around the equals signs. This is necessary because the equals sign is a binary operator and requires an expression on both sides. The back tick (`) is the small space mark in Math. You could accomplish the same thing with the Math symbol for a long space (~) or empty brackets ({}). Remember in a matrix that everything between the hashes is an independent expression.

You will also notice, in the second row, I use the command “alignr” to align the 6x to the right in its column. Use “alignl” to align to the left and “alignc” to align to the center. Center alignment is the default, except in a matrix, which defaults to left alignment.

TEXT IN A FORMULA

Sometimes, you will need to add notes or text to your formula. You can add text by enclosing the text in quotation marks (“”).

Example:

```
c^2 = a^2 + b^2 newline
"The Pythagorean Theorem."
```

Result:

$$c^2 = a^2 + b^2$$

The Pythagorean Theorem

CHEMICAL FORMULAS

Math was designed for mathematical equations, but you can make chemical formulas, too. Since variables are usually in italics, you will want to turn off the italics for variables (explained later).

Example:

```
matrix {
"molecules" # H_2 SO_4 ##
"Isotopes" # U lsub 92 lsup
238 ##
"Ions" # SO_4^{2-}}
}
```

Result:

molecules	H_2SO_4
Isotopes	${}^{238}_{92}U$
Ions	SO_4^{2-}

Note the “lsub” and “lsup” in the isotope formula. The “lsub” makes a left subscript, and the “lsup” makes a left superscript. You

will also need to add some special double arrows to your catalog for chemical formulas.

COLOR, BOLD, AND ITALICS

The color, bold, and ital commands allow you to emphasize certain parts of your formula. They affect only the elements which follow them. To affect more elements you need to group them together with brackets.

Example:

bold color blue $c^2 =$ **color red** $\{a^2 + b^2\}$ **newline italic color green** "The Pythagorean Theorem"

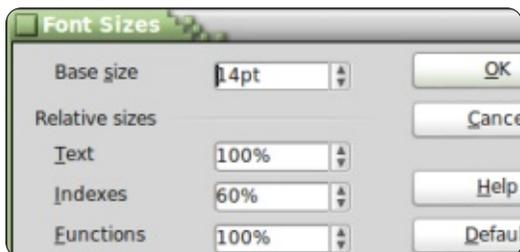
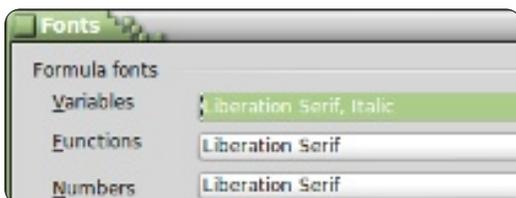
Result:

$c^2 = a^2 + b^2$
The Pythagorean Theorem

Notice that I put brackets around the elements in the square root to make them red. Also, for the c^2 , I combined color with the bold command. You can choose from eight colors: black, white, cyan, magenta, red, blue, green, and yellow.

CHANGING THE FONT AND FONT SIZE

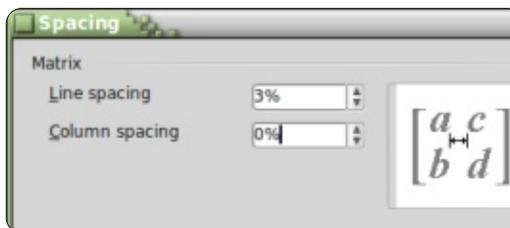
Sometimes, you will want to use a font or font size other than the defaults. Format > Fonts brings up the dialog to change the fonts for variables, functions, numbers, and text. You can also set some custom fonts here as well. Format > Font Size brings up the dialog for font sizes. You set the base font, and then the element sizes are set as percentages of the base.



CHANGING ELEMENT SPACING AND ALIGNMENT

Sometimes, it is necessary to change the spacing and alignment of the overall formula. Format > Spacing bring up the spacing

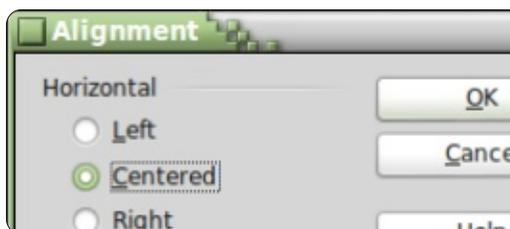
dialog. In the Category dropdown, you select the type of element spacing you want to control. You set the different spacing for the elements as percentages of the elements width or height, depending on the spacing type.



For example, if we wanted to change the spacing for the alignment on the equals signs we did earlier, we would select matrix from the category. If we set the column spacing to 0%, the expressions will butt up against the equals sign.

Result: $3x + 2x = 45$
 $6x = 45$

Format > Alignment brings up the alignment dialog. Here we can change the default alignment for the formula, left, right, or center.



CONCLUSION

All the different options for formatting your formula can seem overwhelming, but you will get the hang of it with practice. The first and most important thing to remember is using curly brackets to group elements in a formula. Look in the Elements dialog or the context menu when in doubt about how to do something, and you might want to keep this article on hand as a reference.

Next month, we will discuss using formulas in LibreOffice Writer.



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.



When you connect your desktop, laptop, printer/scanner, tablet, cellphone or whatever other device you might have, to a network, you need to set a few things straight in order to get connected.

The first choice you make is whether you use a wired or a wireless connection. For the tablet and the cellphone, this choice is easy: only a wireless connection is possible.

For the laptop and printer you can, almost always, choose between the two, and for desktops the choice is probably made already, with the presence of the Ethernet port and the missing wireless card.

The second choice is how do you want your device to be connect to your network. Do you use the devices (cellphone, tablet, laptop) also on other networks, wifi at the office, school, mall or maybe even in the train, or is it (desktop, printer/scanner) connected to only your own

private network? When using other networks as well, the choice, if there is even a choice, is simple: you will use DHCP to set all parameters automatically for a working connection.

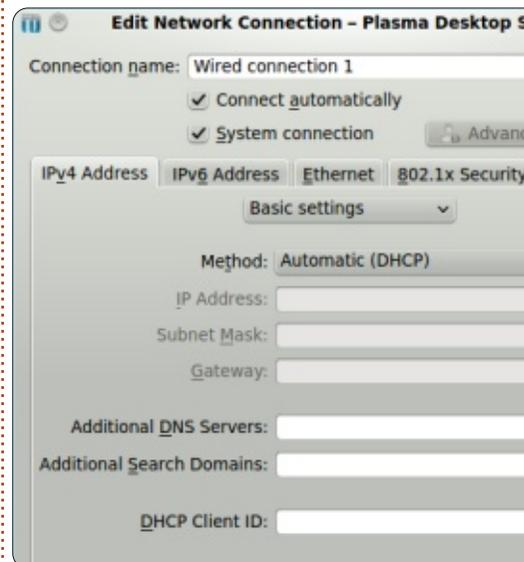
DHCP stands for: Dynamic Host Configuration Protocol (See http://en.wikipedia.org/wiki/Dynamic_Host_Configuration_Protocol for more info about DHCP). Here a DHCP server handles all requests for a connection, it hands out the IP address, sets the gateway, and takes care of the correct DNS addresses.

Routers have a DHCP server on board so you can use it very easily.

Using DHCP, the router will give your connected device the first free address in the range of addresses it can use, meaning it might use a different address each time it is connected.

For a desktop, which is placed under or on your table and which will be there till it falls apart, you can also use the manual “fixed

address” settings. This way, you are in control: you decide which address the computer uses, and you know it always uses that one same address.



Both ways have advantages.

When using DHCP, your device will almost automatically be connected to a network when it comes in range AND you have permission to connect to it. You just need to chose the security used by the network (if any) and probably type in a password.

When using a fixed address, you always know which address it is and you can use this in scripts to address the computer.

What do you have to do to setup a connection?

I will explain this using a Kubuntu system. For other systems, there will be differences in setting it up, but they will be minor.

When you open the Network connection settings, you see what is shown in the picture above. I use a wired connection, since this is the only connection the computer has. The connection is called: “Wired connection 1”. Now this is just a name, you can use anything you want here. You can make more than one connection if you need to, each using its own settings.

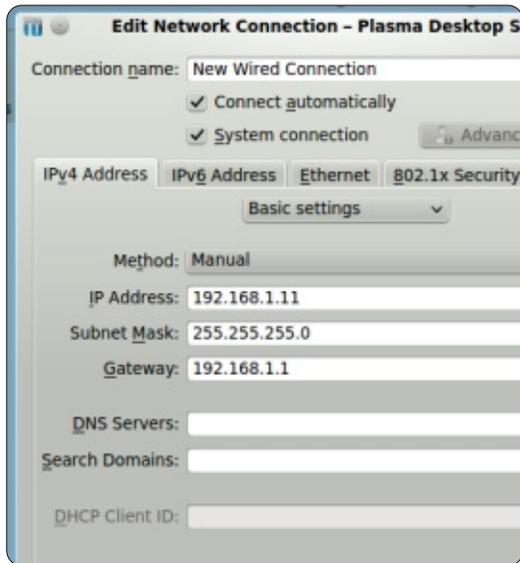
Each time the computer is booted, the connection is switched on automatically—which makes life easy.

As you can see, I use the

HOWTO - NETWORK SETTINGS

Automatic (DHCP) method of connecting to my router. In the middle of the screen I chose DHCP, and now the other fields for setting IP address, Subnet mask and Gateway are grayed out. They don't need to be filled out since the DHCP router takes care of them.

In the second picture, I chose the manual settings and typed the values of IP address, Subnet Mask and Gateway.



A few explanations:

- IP address is the address your device gets. It is like your home address. In a network it is used to find the device.

- The subnet mask is used to organize your network. It tells which addresses can be used by means of a filter. In my case the value is set to 255.255.255.0. This means when placing this filter on top of the address, the DHCP server can use only the addresses 192.168.1.0 until 192.168.1.255. Only the part after the last decimal point can change. This is caused by the value "0" in the mask. Mind you, in this range there are a few addresses which will not be used for connected devices since they are used by the network itself.

- The Gateway is the door which connects your local private network to the Internet. It is the address for the "inside" part of the router, the local LAN side of the router.

On the other side, the WAN side of the router, the address is the IP address your Internet Service Provider gave you, either by means of a fixed or a DHCP address.

Using DHCP (on a private network) has the big advantage that you don't need to know anything about the network, or about somebody else's network,

when you want to connect to it. It is not important which address you get, it is not important to know which addresses the network uses. Local networks can use one of a couple of address ranges, either the 192.168.x.x series or the 10.10.x.x series. Your device receives an IP address and that's it: you're connected. It is not important to know which address it is, what the gateway is—it all works automatically.

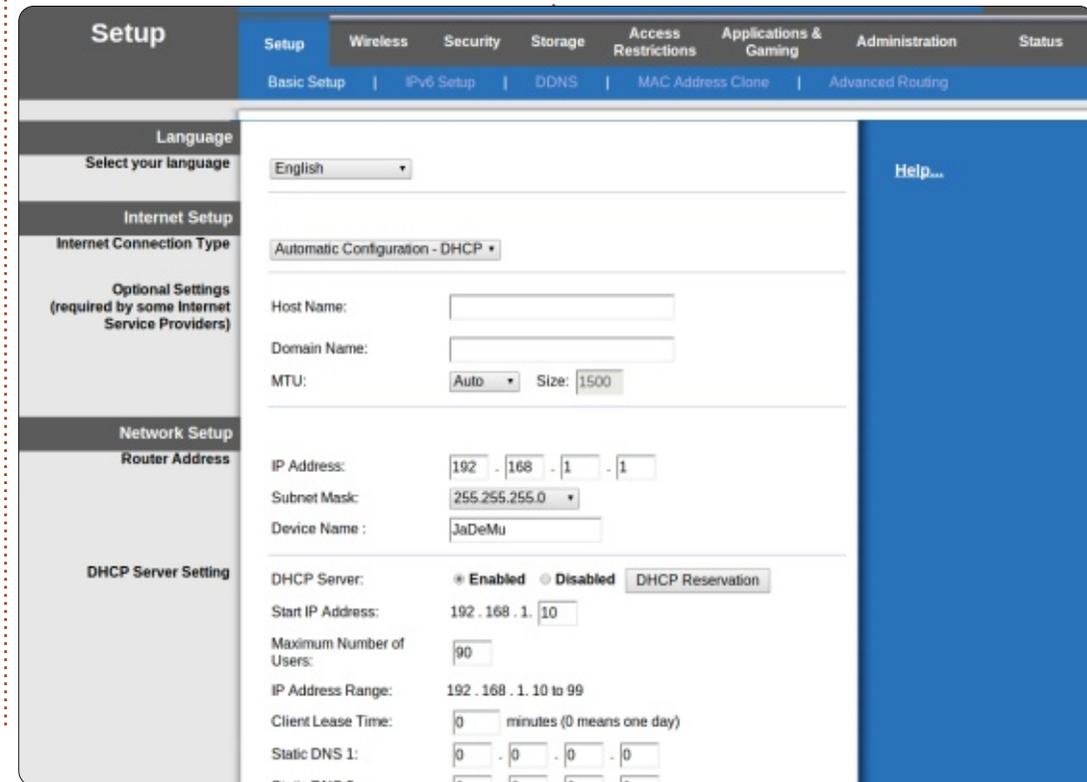
But what if you want to have the ease of use of the DHCP server,

and still want a fixed address so you can use that address in scripts when connecting to that device?

There is a way, but it depends on your router whether it is possible to use it.

Some routers can be told that when device X is trying to connect, it always gets the same address, no matter how few or how many devices are connected to the router already.

This is done by means of the



HOWTO - NETWORK SETTINGS

MAC address. MAC stands for Media Access Control. See http://en.wikipedia.org/wiki/MAC_address for more info.

The MAC address is a unique address for each network card/chip, and is stored in the read only memory of the card, or in the chip which handles network traffic.

There are no two chips/cards in the world with the same MAC address. This makes them unique. (However, on most network hardware, you can spoof a MAC address, tell it to use an address you specify, not what is on the chip.)

Now, how to use the MAC address? This depends on your router, if it is possible, and, if so, how to do that.

My router, a Cisco Linksys E4200, has the ability of combining the MAC address of a connected device to a handed-out IP address.

In the Setup tab you find the settings for your Internet connection. As can be seen here, I have a DHCP address from my provider. This means, whenever the modem shuts down, I could get

a different IP address from my ISP. Since we are connected 24/7 it will not happen frequently.

Below that you see the local network setup.

The router has the address 192.168.1.1, with a subnet mask of 255.255.255.0, meaning addresses 192.168.1.1 – 192.168.1.255 can be used.

DHCP Server is enabled, because I want to make it easy for devices to connect to the network. DHCP is using the addresses 192.168.1.100 – 192.168.1.199 (100 addresses, this should be enough

for my wife and me).

In this section of the setup, you find the button DHCP Reservation. This is the one to use if you want to combine DHCP with fixed addresses.

When clicking the button you will see the next picture, which is a part of the total screen which shows up.

In here you see a table with connected devices, their assigned IP address, their MAC addresses and buttons to remove them from the list.

Give your device a name which is easy to remember, choose an IP address, find the MAC address the device uses, and add it here on this page. (This is done in another part of the page, which is not shown here.) Save your settings.

Reboot your device and check the IP address it received. It should match the entry in the table.

Now you have the best of both worlds, and the ease of using a DHCP server, and the fact your devices always use the same fixed IP addresses.

Clients Already Reserved			
Client Name	Assign IP Address	To This MAC Address	MAC Address
dell-dea	192.168.1.11	00:02:2A:DC:EE:73	Remove
LinuxLaptop22-w	192.168.1.23	4C:ED:DE:EB:31:46	Remove
LinuxDesktop21	192.168.1.21	00:1E:8C:BD:F3:CA	Remove
LinuxLaptop22	192.168.1.22	E8:11:32:0E:D2:BA	Remove
PlayonHD	192.168.1.12	00:CE:39:A3:03:0D	Remove
Epson SX430W	192.168.1.24	A4:EE:57:00:27:6D	Remove
Samsung Tablet	192.168.1.13	BC:B1:F3:B3:FA:CE	Remove
LG Wireless	192.168.1.14	74:31:70:ED:F7:BC	Remove
...



HOW-TO

Written by Nicholas Kopakakis

Blender - Part 5

Having a lousy model is not something that you want for your models, of course, but, as a good friend of mine (and experienced 3D artist) told me: “you can save a lousy model with good texturing.”

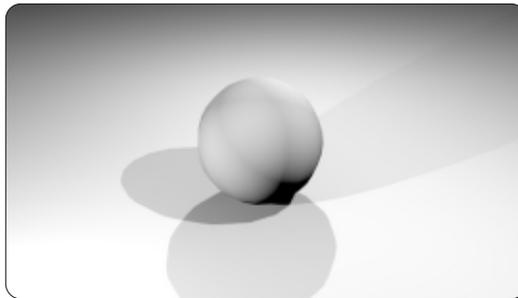
This month, I will try to explain the very basics of texturing (the truth is that I know the very basics). There are a lot of books out there describing texturing techniques—as textures are a very important matter for 3D modeling.

Low poly is a polygon mesh in 3D computer graphics that has a relatively small number of polygons. We usually use low poly models for performance reasons, in real-time applications such as games.

High poly models are usually used for animated movies or high detail pictures, in conditions, in general, where we don't have real-time performance restrictions. (http://en.wikipedia.org/wiki/Low_poly)

I will give you an example to make it more clear what textures are and what they are capable of.

In the image below, we have a sphere with a plane, and illuminated by 3 lights.



Next, we have the same objects, but this time with textures and image mapping to create the surface filling on earth.



Next, we have the same objects with different textures on them.



And, finally, we have ball of aluminum foil garbage on a beach (very sad).



For the last picture I used an image for the sand, and, for the foil, the cloud texture with some normal map displacement.

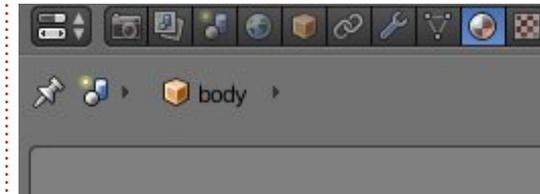
But enough with the examples. Let's load our snowman.blend file.

Select the three spheres (body) of our snowman, and press Ctrl+J to Join the three meshes to one. Name it “body” under the object

tab.

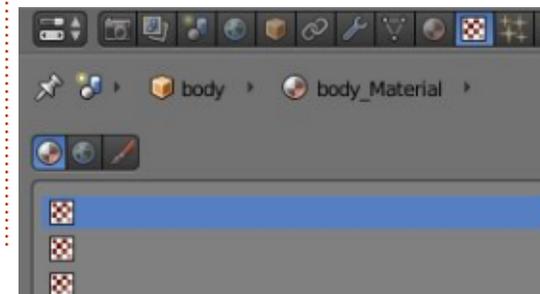


Now, go to the material tab and press the New button to create a material for the body of our snowman.



Name the material with a unique name—for example, “body_Material”.

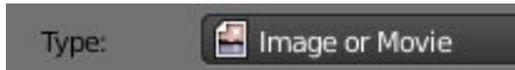
Next, press the tab next to the material tab called Textures.



Press New to create a new texture. Name it body_Texture, or whatever you like.

Find a picture of snow to use as a texture. There is a very interesting site that I use a lot at <http://www.cgtextures.com>. You can register and have access to thousands of images that you can use as a texture (with the free registration you can download up to 15MB of images per month. Download the low resolution images and you will be just fine). For our snowman, I downloaded the image Snow0041_5_S.jpg.

Under the type button, select image or movie.



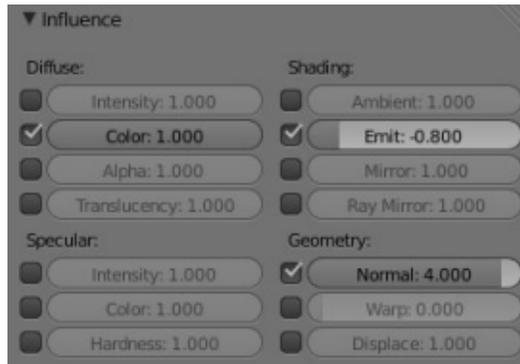
Then press Open under the Image section, and navigate to your file system to select your image.



Under the Mapping section, select Sphere for the Projection and leave Coordinates as it is (Generated).



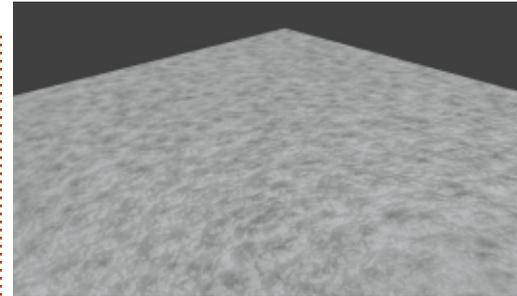
Under the Influence section, tick on Emit and put the value -0.800 to light up your image a little, and, under Geometry, tick Normal and enter 4 for value to give a hard surface feeling.



Leave the rest to default, or experiment with them to see what you get (remember that experimenting is one of the three things that you need to master blender, the other two are practice!).

Now, for the ground, here's what I have done (of course, you can use an image instead). I created a texture from the type Clouds, adjusting some of the settings.

with these settings:

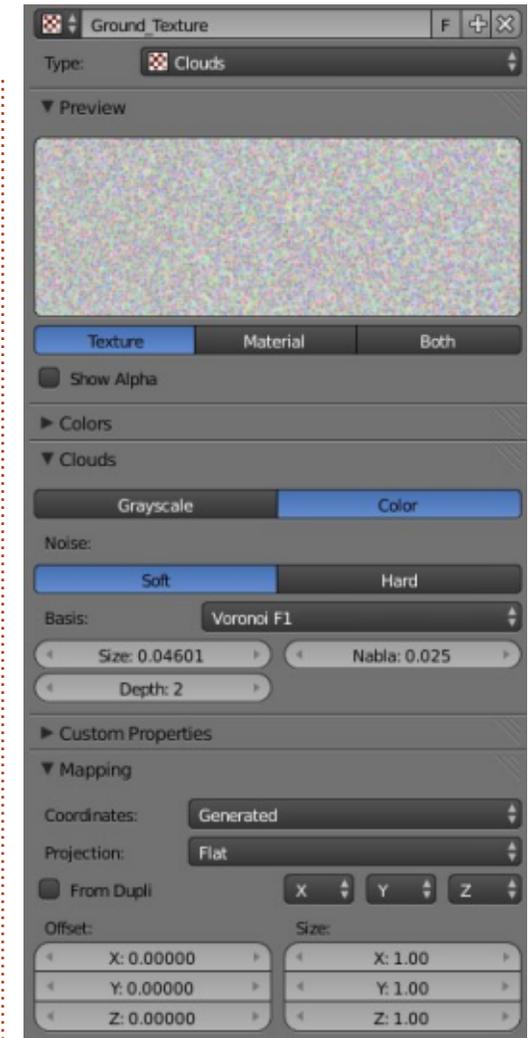


Finish the snowman by creating and applying textures to the rest of the meshes (hands, nose, mouth, etc.)

Feel free to send me your creations of the snowman project at blender5d@gmail.com, and I'll present the best here at Full Circle Magazine.

Next month, I'll introduce you to the Cycles render engine—a very powerful renderer that has been included with the blender distribution ever since version 2.64. Also, we will start a new project. Send me your ideas.

For this month, I have a game called Dead Cyborg created by Endre Barath (<http://www.deadcycborg.com>). Another game created with the blender game engine. Enjoy!



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



HOW-TO

Written by Mark Crutch

Inkscape - Part 12

Creating images, diagrams and drawings in Inkscape is all very well, but, at some point, you are likely to need them in a format other than Inkscape's own variation of SVG. Inkscape has many import and export formats, with the exact selection depending on various external applications as well. In this article I will introduce the most common and most useful formats, generally found in the file format popup of the File > Save As... dialog. Let's start with a very common file type amongst Inkscape users: SVG.

You may not have given much thought to SVG as an export format, other than knowing that it's Inkscape's default file type. Yet Inkscape actually offers six variations of SVG in its Save As... dialog, each making different trade-offs between file size and content. The first, simply referred to as "Inkscape SVG", is the standard Inkscape format, and is the one you should probably use to store the master copies of your Inkscape drawings. It preserves all the Inkscape-specific data, which is

great for use as a master format, but does mean that the file size is large, and it's saving a lot of information that most other applications won't understand.

If the size of the file is your main concern, but you still want to preserve the Inkscape-specific data, then you should use "Compressed Inkscape SVG". This has an svgz file extension, and is the same as a standard Inkscape SVG file, but compressed using the Gzip algorithm. This can typically reduce the file size by fifty percent or more. Compressed files are more prone to data loss if the file becomes corrupted, and sometimes won't display in applications that are otherwise happy to render SVG files. Some web browsers won't render them when loaded as local files, despite being happy to accept them when issued from a web server.

Most other applications won't understand the Inkscape-specific data in an SVG file, so you can also save a version with this stripped out. This is the "Plain SVG" option,

and its Gzipped counterpart, "Compressed Plain SVG". These will save you a few bytes and produce a purer version of the SVG that can be easier to work with if you subsequently have to edit the file by hand, or if you want to use it on a site like Wikipedia—where simple SVG files are favoured over application-specific versions. Although this might appear to be an ideal format for serving on the web, it does remove <script> elements, which limits its appeal for some web content.

If you really want to remove every redundant byte from your files, then the "Optimised SVG" option (below right) is the one to go for. This runs the output through a Python script called "scour" which is also available as a stand-alone application. It presents a dialog to let you fine-tune the optimisations it will perform, and can take a while to run if the file is complex.

Getting the best out of Scour relies on some knowledge about the structure of SVG files. There's



no compressed version of the “Optimised SVG” format available from within Inkscape's save dialog, but you can manually Gzip the resultant SVG file for the same effect.

The final SVG format is “Compressed Inkscape SVG with media”. This actually creates a zip file (not Gzip) which contains an Inkscape SVG file, plus copies of any linked media. The linked media are typically bitmap images that have been added to a drawing, but not embedded. Adding bitmap graphics is a subject we'll be covering later in this series. This format is useful for transferring an Inkscape drawing, and all its linked media, to another machine, but, ironically, it can't be opened by a copy of Inkscape on the receiving end. Instead, the zip file has to be decompressed, and only then can the included SVG file be opened.

As a comparison between the sizes of these SVG variants, I saved a copy of the snowman drawing from part nine of this series in each format. I also did the same for one of my longer comic strips. The “Compressed Optimised SVG” was manually compressed using “gzip -9 filename.svg” to give the

<u>Format</u>	<u>Snowman</u>	<u>Comic</u>
Inkscape SVG	172KB	849KB
Plain SVG	154KB	769KB
Optimised SVG	133KB	504KB
Compressed Inkscape SVG	93KB	274KB
Compressed plain SVG	90KB	261KB
Compressed Optimised SVG	87KB	209KB
PNG exported at 90dpi	211KB	1400KB

best compression, and the filename extension then changed from “svg.gz” to “svgz”. Finally I also exported both files to PNG format to show the difference (shown above) in size between bitmap and vector graphics.

As you can see, the differences become more significant as the complexity and size of the image increase; however, we're still talking about relatively small savings in these days of multi-terabyte hard drives. Saving plain, optimised or compressed files is generally only worth doing if you have a specific reason or requirement – such as wanting to hand edit the files, or use them on a site like Wikipedia. If you've got plenty of space on your web server, it's not even worth compressing your files for online use: instead ensure that your web server software is configured to gzip the data on the fly. In my own case, I

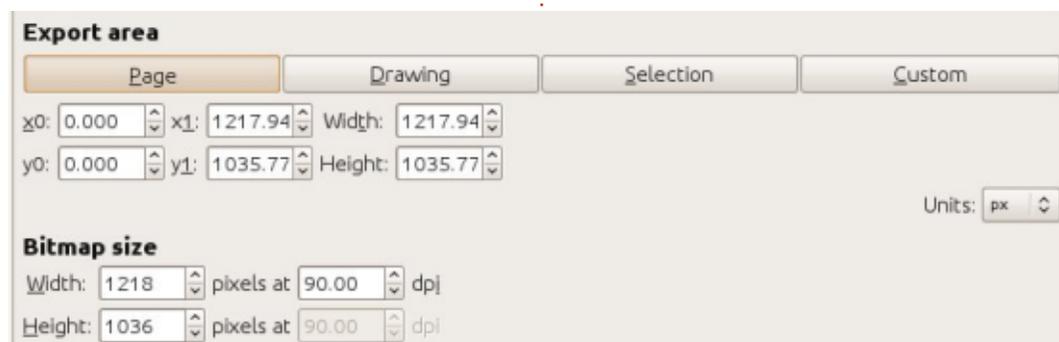
use compressed Inkscape format for the files that can be downloaded from my website – with over 200 comics available to download, it helps keep storage costs down – but I use the uncompressed Inkscape format when storing files locally.

After SVG, the most common export format is probably PNG. This is a bitmap format that can be viewed by almost all web browsers and graphics programs. It's the only standard bitmap format that Inkscape can export to, so if you want to convert your image to a JPEG, TIFF, Windows BMP file or

any other type of bitmap graphic your first step will be to create a PNG and then convert it in another application.

A very common—and understandable—mistake that new Inkscape users make is to use the “Cairo PNG” option from the File > Save As... dialog. Unfortunately, this is almost never the right way to create PNGs, as it doesn't support transparency or filters. Instead you should use the File > Export Bitmap... menu entry, which will open the PNG export dialog.

The four buttons at the top of the dialog are handy shortcuts for choosing what part of your image you would like to export: the whole page, a rectangle large enough to enclose the whole drawing – which could be larger or smaller than the page, a rectangle large enough to enclose all the objects you currently have selected, or a



custom rectangle whose size is set by the x0, x1, y0 and y1 coordinates. You can also specify a custom rectangle using x0, y0, Width and Height, in which case the x1 and y1 figures will be updated automatically.

Usually everything that's visible on screen and which lies within the specified rectangle is exported. If you want only the selected object or group exported, without any background elements, you can check the "Hide all except selected" box at the bottom of the dialog. If you have more than one object or group selected, you can use the "Batch export" checkbox to save each of them to a separate file.

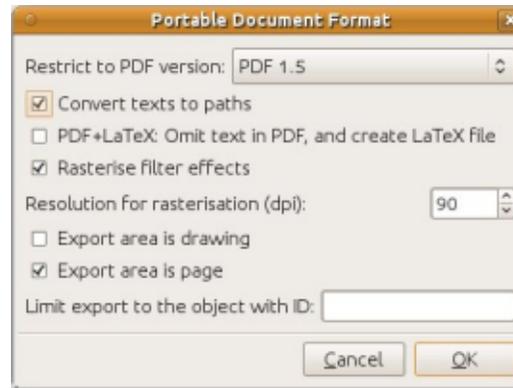
The "Bitmap Size" part of the dialog allows you to set the Width and Height of the PNG file that will be created. Alternatively, you can set the "dots per inch" or "dpi", which will also change the Width and Height fields. Increasing the dpi will produce a file that is larger, with more pixels; reducing the dpi will result in a smaller file with fewer pixels. 90dpi is usually good for web graphics, but you might want to use 300dpi for a file that is going to be printed. If you want it

printed twice as large, use 600dpi instead, or 150dpi for half the size. The rule here is the same as with a digital camera: more pixels equals more detail, but a bigger file size.

The last part of this dialog, the "Filename" section, is a little deceptive. You can type a path and name, although whatever name you use, Inkscape will always produce a PNG file. Alternatively, you can click on the "Browse..." button to bring up a file selector. The catch with this is that the file selector has a "Save" button which doesn't actually save the file. Instead it simply puts the selected path and filename into the "Filename" field, but the image isn't actually created on disk until you click the "Export" button. Exporting is usually quite fast, but can take a while for large dpi values, or if the image contains complex filters.

Moving back to the "Save As..." file selector, the "Portable Document Format", "Postscript" and "Encapsulated Postscript" options are all variations on a theme. These are most useful when creating files for a print bureau, as they often expect to receive these "industry standard"

formats. They all present a very similar looking dialog in which to set a few options.



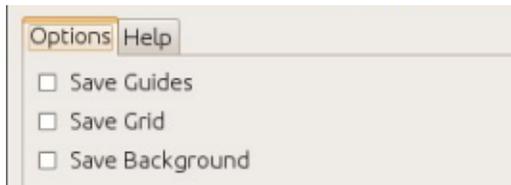
The most important options are "Convert texts to paths" and "Rasterise filter effects". The former will automatically convert your text objects into paths within the exported file, which prevents problems caused by using fonts on your machine that aren't present on the target machine. None of these formats support the filter effects – including the simple blur – that SVG offers, so if you don't choose to "rasterise" these, the corresponding objects will simply be omitted from the file. Rasterising consists of creating a bitmap version of the filtered content, so, much like the Export Bitmap dialog, there's a setting for the dpi. Once again a high value in here will produce more detail in the output file. If you're creating a

PDF to view on a computer screen, then 90dpi may be sufficient, but, if you want a high quality print, or you expect your readers to zoom in, you should probably set this higher.

An alternative way to create a PDF for a print bureau is to import your SVG file into Scribus and use that to generate the PDF file. Unfortunately, Scribus doesn't support all of Inkscape's SVG features, so this approach may not work for more complex drawings. My experience has been that it's often easiest to simply export a high resolution PNG file and let the print bureau deal with getting it into a suitable format for their systems. The downside of this approach, other than the large file you'll need to create, is that your vectors are rasterized prematurely, so you probably won't get the smoothest possible output. For small items, that may not matter, but, if your plan is to create posters or billboards, it can make all the difference. Inkscape's PNG files are all in RGB format, and some particularly fussy bureaus may complain that they want CMYK files. Even if they're happy to work with PNG files, do make sure you get a proof from them

first to check that the colors are what you expect.

There are a variety of other export formats available in the Save As... file selector, serving various niches. Each has its own limitations on what Inkscape and SVG features can be successfully represented. For more details about many of these formats read the Exporting Files section of Tavmjong Bah's excellent Inkscape manual (link at the end of the article). Given the target audience of Full Circle Magazine, though, there's one more format that should be discussed: "GIMP XCF maintaining layers".



This export format is available only if GIMP can be found in the system path. For most Linux systems, this will be done automatically if you install the application using your package manager, or if it's installed as part of the default installation. Once it's available to you, selecting it will present a dialog with a few options for the export.

The "Save Guides" and "Save Grid" options will include any Inkscape guides, and the first rectangular grid, as their GIMP counterparts. We haven't talked about guides and grids yet in this series, but, if you've stumbled across them on your own, these options might be useful. In practice, the guides may be useful, but the grid will appear much denser in The GIMP than in the original Inkscape file, and can even be so dense as to obscure the image entirely! The "Save Background" option is also a problem as it applies the document background color (set in File > Document Properties... within Inkscape) to every single layer, rather than just creating a single background layer. In practice, therefore, I would suggest leaving at least the latter two options unchecked unless you have a particular reason to do otherwise.

Loading the resultant XCF file into The GIMP will produce exactly what you expect – a bitmap representation of your Inkscape file with each of the Inkscape layers present in a corresponding GIMP layer... almost. Unfortunately, any sub-layers are

automatically rendered into the parent layer, rather than remaining as separate layers in The GIMP. If you want to keep your sub-layers separate, you'll need to promote them to top-level layers before you export the file. The images created by this export option are fixed at 90dpi – if you want a different sized image then you have to scale the objects within Inkscape first.

An alternative to creating an XCF file from Inkscape is to instead load an SVG file directly into The GIMP. This will not preserve any layers, flattening the image down to a single layer instead. Some more advanced SVG features, or Inkscape-specific additions, may not render correctly. Loading an SVG file into The GIMP does, however, let you set the size of the rendered bitmap



The "Import paths" option will create a GIMP path for each object in your SVG file. This can be useful

if you wish to convert one or more paths into a selection in order to limit the scope of your GIMP edits. Generally, it's worth checking this box – you can simply ignore the paths if you don't need them, but, having them available can make some editing tasks a lot easier. The "Merge imported paths" option is less useful. It creates a path for each object in the SVG file, then merges them all into a single path. Given that you can combine multiple paths into a single selection within The GIMP, leaving them separate still allows you to create a single unified path if you need to.

LINKS:

Scour: <https://launchpad.net/scour>

"Exporting Files" in the Inkscape manual:

<http://tavmjong.free.fr/INKSCAPE/MANUAL/html/File-Export.html>



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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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 know the difference between Mir (the display server) and Mir (the Russian space station), contact me at copil.yanez@gmail.com.

Today's question is:

Q: I want to run Ubuntu on a laptop but can't afford one with all the bells and whistles. Can you recommend one?

A: Well, your first problem is that you're looking for a laptop with bells and whistles. What are you, a steampunk accountant? The only people selling laptops with bells and whistles have names like Mistress Infinity and live in the wondrous City of Neverling, where the Kittenmen pilot steam-powered dirigibles in their fight against The Omnicult. But if that's where you're shopping for laptops, remember it's rude not to haggle. AND DON'T BUY THE EXTENDED

WARRANTY!

For the rest of you, finding a laptop that works with Ubuntu is surprisingly easy. Ubuntu's minimum requirements were determined during the Dark Ages, when copy/paste meant asking a Franciscan monk to cut up an illuminated manuscript. Ubuntu should run comfortably on anything with a 1 GHz processor, 1 GB of RAM and around 8 GB of hard drive space. Pretty sure your toaster has that. If not, ask around. Some of your friends probably have computers more than four years old with better specs than the minimum. Currently, those laptops are being used as hipster coasters. Tell your friends you've started a non-profit that turns old computer equipment into braces for crooked-toothed ocelots. In very short order, you'll have, like, six almost-new Dells ready to be resurrected.

If that isn't an option (because you don't put quotes around the word "ethics" like I do), you might be tempted to ask one of your

super-tech-savvy friends for help. DON'T DO IT! Ubuntu seems to bring out the weird in some people. You'll tell your friend you need a laptop and ask for suggestions. Your friend will then tell you why you're all wrong and why laptops are on the way out. The REAL action is in DIY small form factor PCs with custom 3D-printed enclosures and a roll-your-own distro that launches to a terminal window on startup. Ugh. If he or she starts talking about embedding Ubuntu in a soda can or a belt, run for your life. Your friend belongs to a unique subset of computer users known as BDSM Geeks. These people are happy only when their homegrown systems make them miserable. Still, BDSM Geeks are better than BSD Geeks. OH, SNAP!

Let's see, so far I've suggested you acquire a laptop under false pretenses, and then I invented a sadist geek culture to make fun of hard-core enthusiasts who are just as happy running a different distro ever hour, on the hour. I'm making friends right and left but I still

haven't given you a decent suggestion for your own laptop needs.

Let's remedy that.

There are plenty of laptops, in just about every price range, that will run Ubuntu comfortably, more if you are open to getting something used or refurbished. The biggest determining factor, in my opinion, is how you'll use your laptop. For most of us, we don't need a desktop replacement, we just need something for web browsing, email, chat, and the occasional strongly worded letter to the dry cleaner who keeps ruining our shirts. The ideal machine can run Ubuntu without



stuttering, has decent battery life, and doesn't require you to sell plasma for the next year to make payments.

Lots of laptops fit the bill but, for my money, the most interesting player right now is the Google Chromebook.

Huh? Isn't that a Chrome OS machine?

It is. But bear with me and you'll see why I think this is one of the most interesting values out there.

Let's look at the specs of the Samsung Chromebook:

- 11.6" (1366x768) display
- 0.7 inches thin – 2.42 lbs / 1.1 kg
- Over 6.5 hours of battery
- Samsung Exynos 5 Dual Processor
- 100 GB Google Drive Cloud Storage with 16GB Solid State Drive
- Built-in dual band Wi-Fi 802.11 a/b/g/n
- VGA Camera
- 1 x USB 3.0, 1 x USB 2.0
- HDMI Port
- Bluetooth 3.0™ Compatible

All of this is kinda interesting and inexpensive at \$249. Not

exactly an impulse purchase, but it doesn't require a visit to a loan officer, either.

What really makes this an interesting purchase—one I couldn't pass up—is that you can run Ubuntu on it.

Whaaaaaaat?!

Oh, yeah.

Here's what I love about the Linux community. When I started looking for ways to run Ubuntu on the Samsung Chromebook, I couldn't find one. I found TWO! Both will give you stock Ubuntu (with a few limitations), and allow you to switch back over to the installed ChromeOS whenever you want.

It's easy, it works and it turns a \$249 browser-based laptop into something far more intriguing.

Purchasing the laptop was easy. I used Amazon but you can go through the Google Play Store or even pick one up at Best Buy. I never quite understood "unboxing videos", so I won't provide one here. It's just too much like stripping, and I feel weird about

chanting "Take it off, take it ALL OFF!" to a laptop. YMMV.

The design is sleek and light. The chicklet keyboard feels a bit thin but it is full-sized and comfortable. The screen won't win any awards but I watched the opening of Top Gun via Netflix, and suddenly had the urge to play beach volleyball. The browser is fast and responsive, and opened all my favorite web pages quickly. All of this was on the Chrome OS, which seems well suited to the typical user needs I mentioned above (email, browsing, word processing).

But this is an Ubuntu magazine, so let's get Ubunting!

I mentioned there are two ways to run Ubuntu. One is called ChrUbuntu and the other is called Crouton.

I chose ChrUbuntu because the installed base seemed deeper. More people means more places to turn when I run into trouble. I'm like the John Dillinger of Ubuntu enthusiasts; I always need an exit strategy. \$249 isn't a king's ransom, but, if I brick the machine, I'll have to explain to my wife why I

bought a \$249 hipster coaster when we could have just borrowed one from a friend.

I followed the instructions here: <http://chromeos-cr48.blogspot.com/2012/10/arm-chrubuntu-1204-alpha-1-now.html>

I read them through a couple times before attempting the install, and made sure I typed in everything exactly as it appeared on the page. Note that this works with the Samsung Chromebook and that there are different instructions for the Acer model.

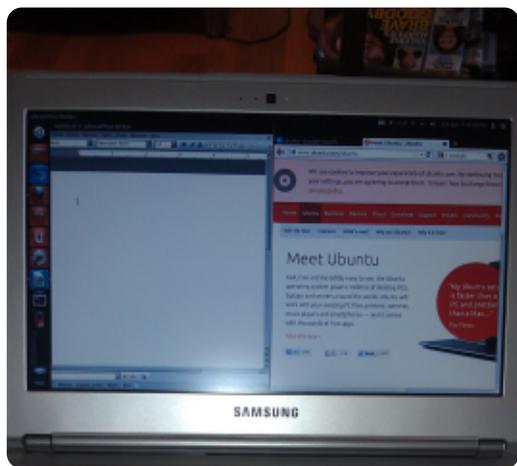
Basically, you put the Chromebook into Developer Mode and then run a script that loads the modified Ubuntu distro onto either the internal drive, a USB drive, or an SD card.

It is no false modesty to say this was drop dead simple. I followed the instructions for loading ChrUbuntu onto the internal SSD drive, and everything ran as advertised. All told, it took about twenty minutes from discovering ChrUbuntu to seeing the familiar app ribbon along the left.

Here's how Ubuntu 12.04 looks



running on the Samsung Chromebook. Sexy, right?



So how does it run?

If you're hoping for a balls-to-the-wall overclocker's wet dream, you're going to be sorely disappointed. Actually, if your wet dreams involve processors, you're probably already disappointed. Just saying, this is a stripped down laptop running a non-standard OS. Expectation management is the game here.

The two main things that don't work out of the box are sound and Flash. There are fixes for both but it does require some work at the command line. Also, the trackpad doesn't work as smoothly as it does on the Chrome OS side. After a while, I knew to use the fleshy

pad of my finger (instead of the fingertip) to move my cursor around. I am hoping this gets fixed soon but it didn't keep me from using the machine.

Another negative, there's no graphics acceleration. Videos run fairly well in a smaller window, but expanding them to full-screen results in an unwatchable stutter. This isn't the machine you use if you're editing the new Star Wars movie for Disney. Unless you intend to have Jar-Jar in it, in which case, this is **TOTALLY** the right machine to edit that movie.

That said, the experience wasn't unpleasant, and using my new ChrUbuntu install worked perfectly well for surfing the web, sending emails, and opening word documents. That last bit was accomplished by downloading LibreOffice from the Ubuntu Software Center. Not all programs work with ChrUbuntu (Dropbox is unavailable, for example), but I was happy to see this one does.

Another plus is that the Samsung uses a 16GB solid state drive. You have to split that between the two OSs, but once you install ChrUbuntu, you have a

silent Linux laptop with decent battery life.

Probably the biggest downside I've found so far is that switching between OSs is a pain. You can't choose one or the other at startup, you have to choose a default using a (for me) non-intuitive terminal command. The new OS starts on reboot. This isn't a big deal, but it does keep you from jumping from one to the other as needed.

This is probably the right time to mention the other solution, called Crouton. Crouton offers something called a chroot environment. Basically, you're running Ubuntu using the underlying Chrome OS. The technical details were lost on me, but one reason I'm going to give it a try soon is that switching between OSs is a simple matter of hitting **CRTL-ALT-SHIFT-FORWARD**.

The most promising aspect of these solutions is that they're in their infancy. ChrUbuntu is stable and much of it works out of the box. Yes, the Samsung is optimized to use the Chrome OS side. So battery life and user experience are going to be less than optimal right now. But the community is

already working on fixes for the most common issues. It's likely that this is the worst it will ever be, meaning, the future looks pretty bright.

As a huge Ubuntu fan, I sometimes get a little tired of feeling like a computing hobo, using hand-me-downs and machines held together with chewing gum. Even though one of the benefits of using Ubuntu is being able to run it on almost anything, it's nice to get a new piece of kit every once in a while.

If you've been looking for a new laptop, include the Google Chromebooks in your search. They might not be perfect for your needs, but they work well enough that they deserve to be in the mix.

Whatever you choose, 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).



Sony's Dash HID-C10/TX is a wifi-enabled touch-screen Home Information Device (HID). Our device came in as a donation to our local computer reuse project. We were excited because we discovered the device was a collaboration between Sony and Chumby. In Issue #62, I wrote about my effort to create a Twitter screen based on a small device I'd seen at our local hackerspace. That device was an original Linux-based Chumby.

Setup of the HID-C10 requires a wireless network and a PC to complete the activation/registration process. Initially when we attempted to set up our HID-C10, the setup failed. We looked up the code the HID-C10 gave – which suggested we contact Sony. It was after-hours so we put the device away. The next day we booted the device and setup continued without problems. We were able to register our HID-C10 using one of our Linux workstations, and the registration seemed to take on the device, but, when we went to add new apps,

we kept getting a Load failed, unable to load catalog. As a result, we weren't able to add new applications. Despite our device registering, we believe the account we set up didn't get associated correctly with our registration, and subsequently we couldn't add apps.

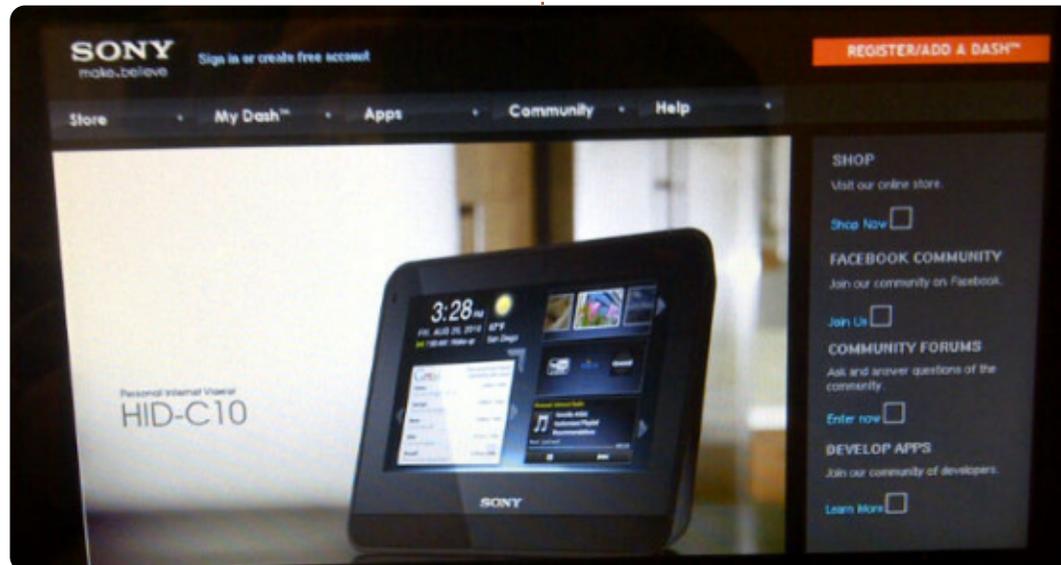
We checked the Sony Dash web site (link below) – where the HID-C10 is one of two Dashes featured there – to see if there was a solution. The site had several suggestions ranging from unplugging the device to doing a normal restore, but none of the

solutions helped us get the applications catalog loaded. The HID-C10 purportedly supported Chumby applications, but, sadly, Chumby itself went out of business in December, 2011. Volunteers maintained the Chumby site through funding from a succession of companies, but funding ceased February, 2013. One volunteer made an effort to acquire the assets of Cumby in January, 2013, with the intention of continuing the service, but the short time left in existing funding made it difficult to continue maintaining the service as it was before. This might have been the reason applications

weren't working on our Dash, except for a blurb on the web site which indicated all service for the Dash was now through Sony.

Sony appears to have kept many of the Chumby applications for the Dash alive. Some third-party developers still appeared to be providing updates for their applications until early 2013. That said, a lot of the applications didn't seem to have the polish you'd expect from the Ubuntu software center, Android market, or other app store. So what did work?

Pressing the left side of the snooze button brings up a toolbar. Clicking menu brings up a side menu showing clock & weather, Themes and Apps, Video, Music, Photo, and System sub-menus. Of the menu options, only the Apps portion didn't work. We were able to change themes, play video through Youtube, eHow, Wired's What's Next in Tech (to name a few of the sources), music through Slacker Radio (wife loved the Latin Salsa channel), but not Shoutcast or blue octy radio (which we figure



is due to Chumby being out of service and the volunteer site at half-mast). Photos can be displayed from a USB flash drive or through the Photobucket online service.

Various reviews we looked at slagged the HID-C10 as a glorified alarm clock and knocked it for the lack of applications. Compared to most Android-driven cell phones (even old ones running Android 2.3), the Dash's application collection is pretty small. Thankfully, the alarm clock portion actually did work. We were able to set and store an alarm to wake us on particular days at particular times. We found the video playback to be quite good. Better quality videos show up crisply on the HID-C10. We also found Slacker radio streamed without any interruptions. Once we changed the theme of the HID-C10, it felt a bit more useful because the theme we started with concentrated on apps rather than what was pre-installed.

The HID-C10 features a hidden side output for headphones and a side input for a USB flash drive. The top has a large snooze button, the left side of which brings up the

on-screen menu. The top also features a couple of volume buttons. The Dash is powered by a corded plug and doesn't support batteries, so, despite the wireless radio inside, it's not a completely wireless device. We saw the device more as a kitchen appliance for playing music and video while preparing food rather than a slick hackable device.

The Dash features a chronometer which is a bit odd since the device isn't really the kind of thing you'd carry around, and the shape isn't conducive to standing on its top or sides. Perhaps the most tragic flaw of the

Dash is the fact that service for it is available only in the United States and Canada. Again, we thought this was strange since the Dash is suppose to be an Internet-connected device.

We didn't get a chance to talk to Sony before this review was due, but that's our next step. It appears the Dash should be working and that Sony is still providing limited support for the device. Sadly, they closed developer support as of February 2013, which means third party developers and open source developers can no longer update their apps for the Dash, effectively

rendering it obsolete. Despite this apparent obsolescence, and the trouble with maintaining Chumby, the Chumby forums appear quite active. As a reuse and refurbishing project, we hope someone comes along and supports the parent volunteer Chumby revival project to allow free software developers to continue making these devices useful.

USEFUL LINKS:

Sony's Dash support site:
<https://dash.dash.sel.sony.com/>
Sony's larger community forums:
<http://community.sony.com/>
Chumby Company Site:
<http://www.chumby.com/>
Chumby forums:
<http://forum.chumby.com/>
Chumby wiki:
http://wiki.blueocty.com/index.php?title=Main_Page



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 Vince Du Beau

My first introduction to Unix was in 1979. The company I was working for at the time got the PWB (Programmer's Workbench) version to experiment with. We needed this for its ability to do remote job entry to the IBM mainframe. I just loved the simplicity of Unix on the surface, but also loved the powerful beast (maybe a grue?) lying beneath the surface.

For the next 18 months we learned about Unix and programming in C. It was a great time.

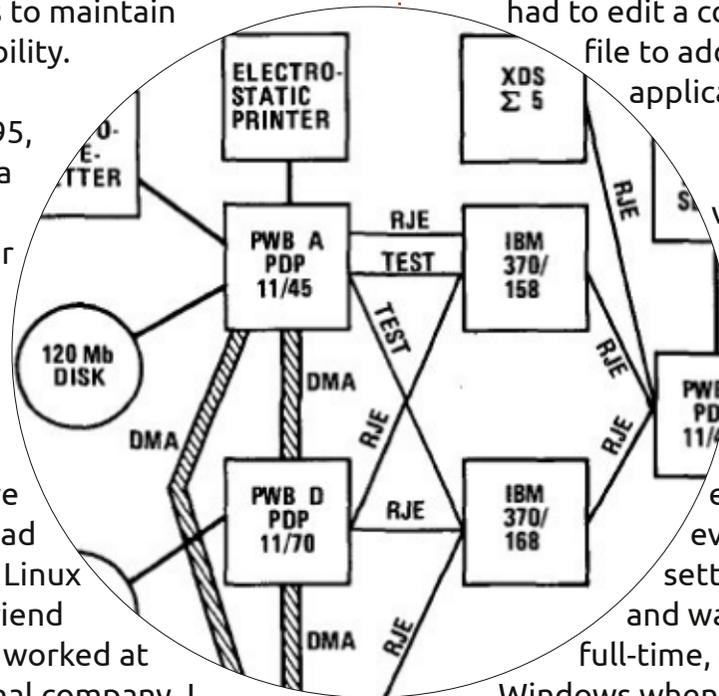
In late 1980, I got an offer from another company for a much better opportunity. I left the Unix environment. I've always had some regrets about leaving: from a personal angle, leaving something I enjoyed working with, and, on the professional side, wondering what paths my career would have taken. (Would it have been worse or better?)

Through the 1980's, I considered Unix variants Coherent

and Xenix. The AT&T PC7300 would have been my ideal choice but it was around \$5,500.00.

I eventually succumbed to the corporate standards, and adopted Microsoft Windows and office products to maintain compatibility.

In 1995, while at a local computer show, I came across a fellow selling Slackware Linux. I had heard of Linux from a friend who still worked at my original company. I bought a copy and installed it on an extra drive in my computer. Unlike today's Linux distros, once installed, you had to go through a series of screens to configure the kernel for your hardware and other options, and recompile the kernel.



Even after using Windows for years, I was having a great time.

The various window managers at the time were rough. I settled on FVWM (F Virtual Window Manager). It worked fine, but you had to edit a configuration file to add any applications to it.

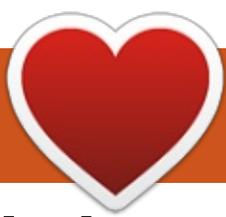
I played with various distributions over the years as they came out. I used Red Hat, Caldera, Corel, etc. I eventually settled on SuSE, and was using Linux full-time, delving into Windows when I needed to for something with a client company.

In 2002, I decided to jump to an Apple iBook (no flames please). I liked it, but still wasn't giving up on Linux. When Ubuntu came around,

I looked into and followed it. Linux support for Apple hardware at the time was not very good. It wasn't until 10.04 that I was able to install it on a spare drive on my MacBook with almost no issues. My MacBook was starting to develop an overheating problem, which was minor when running OS X but was worse under Linux. It was enough to see that I could use it for my day-to-day needs.

These days, I am one of the many IT professionals forced to work in a lousy job due to a lack of work in my area of expertise. My idea is to try to build a small business—installing and supporting Ubuntu for ordinary people who are fed up with viruses and spyware, or who have decent hardware but still can't run the latest and greatest versions of Windows. Not an easy goal, but I feel it is worth trying. To this end, I was able to get a new Acer computer, and I am running Quantal Quetzal and loving it.





MY OPINION

Written by Robin Catling

With time to let the dust settle and reflect on the bust-up between Canonical and some parts of the Ubuntu community, what can we really say about the state of relations between the sponsor and its contributors?

Last month, Canonical caused some upset by unveiling its Project X, the new compositing and rendering engine, Mir, turning away from Wayland, which Mark Shuttleworth had been supporting for the best part of two years.

Mir will be a substantial technical prop for Ubuntu across devices and platforms, as Canonical seeks commonality of code and toolkits for development. However, not only is Mir looking somewhat proprietary, but the nature of the announcement, and the revelation that Mir was developed under wraps for nine months, has caused some friction within the community—to say the least.

Suddenly, the Ubuntu Council,

project leaders and developers—basically anyone outside the hallowed portals of Canonical—have to question what they are and aren't “allowed” to contribute, and whether or not that contribution has any value or place in the increasingly centralised and less Open Source Ubuntu OS. Community Council member Elizabeth Krumbach asked that very question in a very reasonable blog post.

With one notable project leader, Jonathan Ridell, effectively resigning his Ubuntu Member status, Shuttleworth then made things worse by going on the attack instead of taking it on the chin—accusing Ridell of 'divisive leadership.' Call it toy-throwing or blatant hypocrisy, this may go down as the 'Benevolent Dictator for Life's shark-jumping moment, proving that the words 'benevolent' and 'dictator' simply cannot sit side-by-side.

Now join the dots to another announcement which went out last month.

No one doubts Canonical's ambition and drive to get Ubuntu onto as many devices as possible, even to the extent of working with the Chinese state. Canonical is working with the Chinese regulators to get a version of Ubuntu certified for public use. For now, let's just say that however you try to dress that up, software freedom and the People's Republic of China do NOT go together.

What this adds up to is a double-whammy of disappointment if you were marching behind Canonical as a beneficent flag-bearer for community-driven development and software freedom.

At the risk of repeating myself, however, I'd like to emphasise that Canonical is a commercial entity. Although it has a long way to go to reach the level of Oracle Corp in its single-minded pursuit of the dollar, as a commercial venture, Canonical needs to get product out to consumers to make money.

It was unfortunate that Randall

Ross, in attempting to explain and excuse Canonical's behavior, likened Ubuntu to a multi-stage rocket in which we all play a part in reaching for the stars. I say unfortunate because many contributors chose to see their efforts jettisoned with the booster rockets as the Canonical command module blasts onward to new worlds.

Whether or not Canonical's Apple-esque attempt to build its own controlled and exclusive framework for Ubuntu succeeds, whether or not the rocketship reaches its destination, the rest of us have to accept that a commercial sponsor reserves the right to put its money where it chooses. You can follow the money, or go with the community. That's just the way it is.

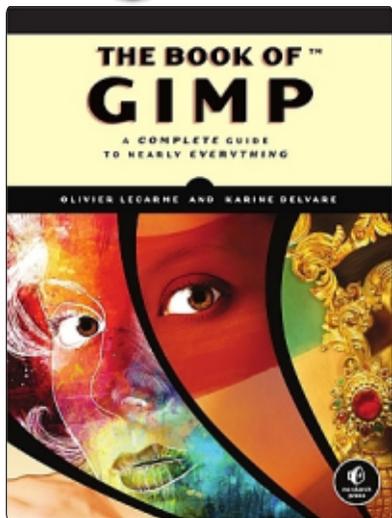




BOOK REVIEW

Written by Ronnie Tucker

Book Of GIMP



Publisher: No Starch Press

Pages: 676

January 2013, 676 pp.

ISBN: 978-1-59327-383-5

<http://nostarch.com/gimp>

If you've always wanted a full manual for GIMP, then The Book of GIMP is about as close as you'll get. Covering GIMP 2.8 and almost every feature of it, you'll be a GIMP master in no time.

The book starts with learning the basics, such as the screen layout (single window FTW!), opening and resizing images, using layers, and how to use a graphics

tablet in GIMP. After that, it's into the deep end with photograph retouching stuff like cloning, color correction, and restoration.

"Drawing and Illustration" comes next, including using the paint/pencil tools, shapes, fills and much more. "Logos and Textures" is a short chapter which is followed by composite photography, where you'll combine several photos into one. Chapter 6 even covers animation in GIMP which I was surprised to see. Same with using GIMP to design a website (Chapter 8).

Having survived Part One, you're thrust into Part Two, which goes into the features of GIMP in more depth—such as showing you layer masks, layer blending modes, tools, and filters. Even dipping into things like scanning, installing plug-ins (such as the awesome G'MIC) and then customizing your GIMP interface.

Part Three (the finale) is interesting in that it gives some good information on how the human eye works regarding vision,

perception and color representation. I thought that was a nice touch.

I really can't fault The Book of GIMP. It's well laid out, tells you exactly where you need to go in the menus (for example: Image: Edit > Copy), gives you the keyboard shortcut where possible, and has plenty of screenshots of where you're going. The book is certainly no short read as it's about two inches thick with almost 700 pages! Of course, if you buy the book from No Starch Press (the publishers) they also give you access to a digital (PDF) copy of the book, which is nice.

If I had to pick one down-side, it would be that some examples look quite amateurish and simplistic (such as combining photographs to create something completely unrealistic), but I suppose this book is for beginners and not those who want to create the next skin perfect magazine cover.



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REVIEW

Written by Art Schreckengost

Ever hear of **SolydX** or **SolydK** or the conjoined **SolydXK**?

You can stop scratching your head, these aren't cereals or high-fiber colon cleansers. The first two are Debian based distributions with Xfce and KDE as desktop choices. At 950 MB and 1.4 GB respectively, these are just slightly larger than the Debian parent that bore them.

Still doesn't ring a bell? Well, they are new (early 2013 or so), and, other than a sparse website at <http://solydxc.com>, there really isn't much to indicate they really exist. Perform an online search and you'll see results highlighting a window tinting company, the actual website, and a couple notes that no such words exist (in that order, I might add).

And what of SolydXK? It's a teaser that exists in name only at this point. It's X or K but not XK quite yet, although I see no reason you couldn't install Xfce and then add KDE or vice versa.

Lack of history aside, I was able to get an .iso image of each for a try in my Virtualbox setup.

While the installer is more aesthetically pleasing than Ubuntu's, some may find it confusing when it comes time to pick the root partition and related format. If that sounds a little out of your league, there is a helpful tutorial at

<http://solydxc.com/community/tutorials/#software>.

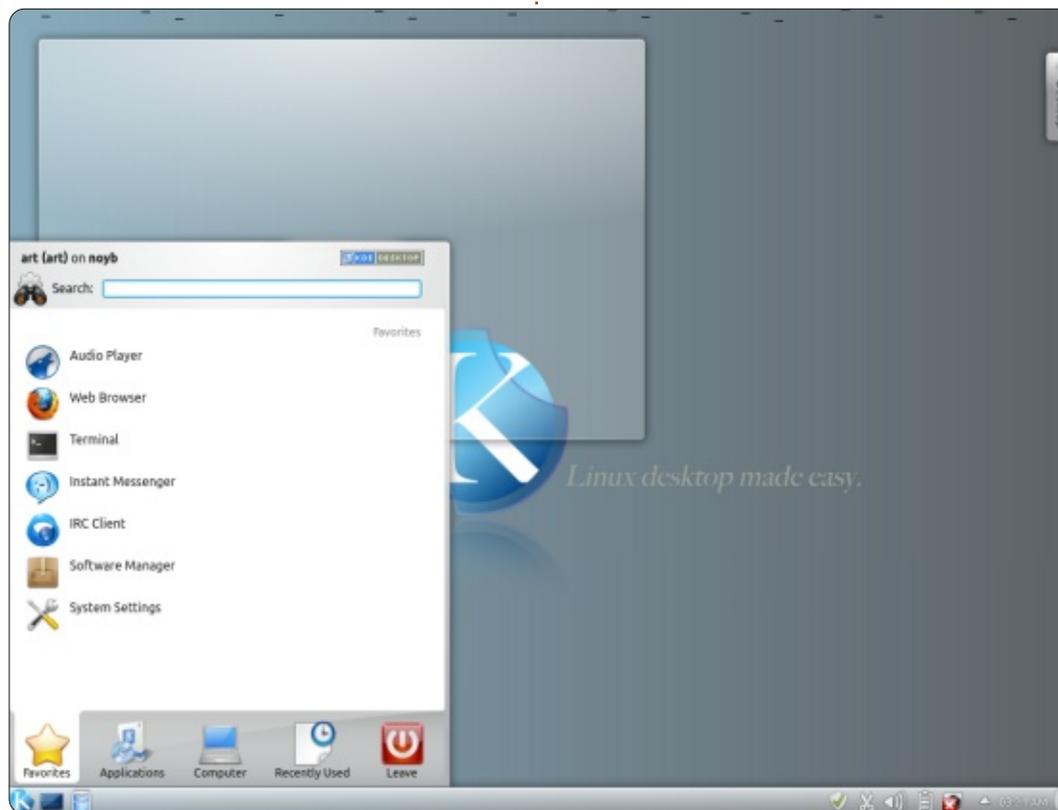
Even with the usual Virtualbox bottleneck and slowdowns, installation was not bad at roughly 20 to 30 minutes for either. No updates awaited me, and this I attribute to the Debian underpinnings and the youthfulness of the OS itself (about 3 months old when I got it).

Footprints were relatively low at less than 10 GB for either, once installed.

In what has to be a rarity, all my hardware was recognized and I experienced no problems with video, audio, or anything else—since nearly every codec or driver you'd need is already there. If it won't play or open, chances are your files are woefully outdated.

As for desktop designs, you get either the very basic Xfce or the somewhat more grandiose KDE. If you didn't catch the hints, I'm referring to Xfce's rather bland "here it is, take it or leave it" 2D qualities, or KDE's "add enough widgets and you'll never see that desktop again" design issues.

In base form, both look somewhat alike with similar backgrounds and bottom taskbars. Probably to aid users in identification, there is a big X or K in the titles of each, good thing since they are nearly indistinguishable otherwise. Take a look at the screenshots and you'll



see what I'm referring to.

That's it folks. Other than the ubiquitous KDE musical ditty upon opening (Xfce has no such announcement), you'd be hard pressed to tell the difference, although KDE aficionados would spot the standard transparent window and widget menu immediately. Taskbars for both are the same layout, too, with the menu to the left and system information parked to the right. As the adage goes, if it ain't broke don't fix it.

About the only other indicator of one over the other is KDE's better clarity and brightness. Xfce looked downright dull in comparison, but it is a lightweight desktop design with a minimum of flash.

Normally, I'd steer users with limited resources to the Xfce platform since it usually performs much faster than the fatter KDE offering; however, that's not the case here. In fact, it wasn't really close. KDE was a good 5 seconds faster to boot—even after adding desktop widgets that would normally cause it to crawl. However, I don't consider Xfce's

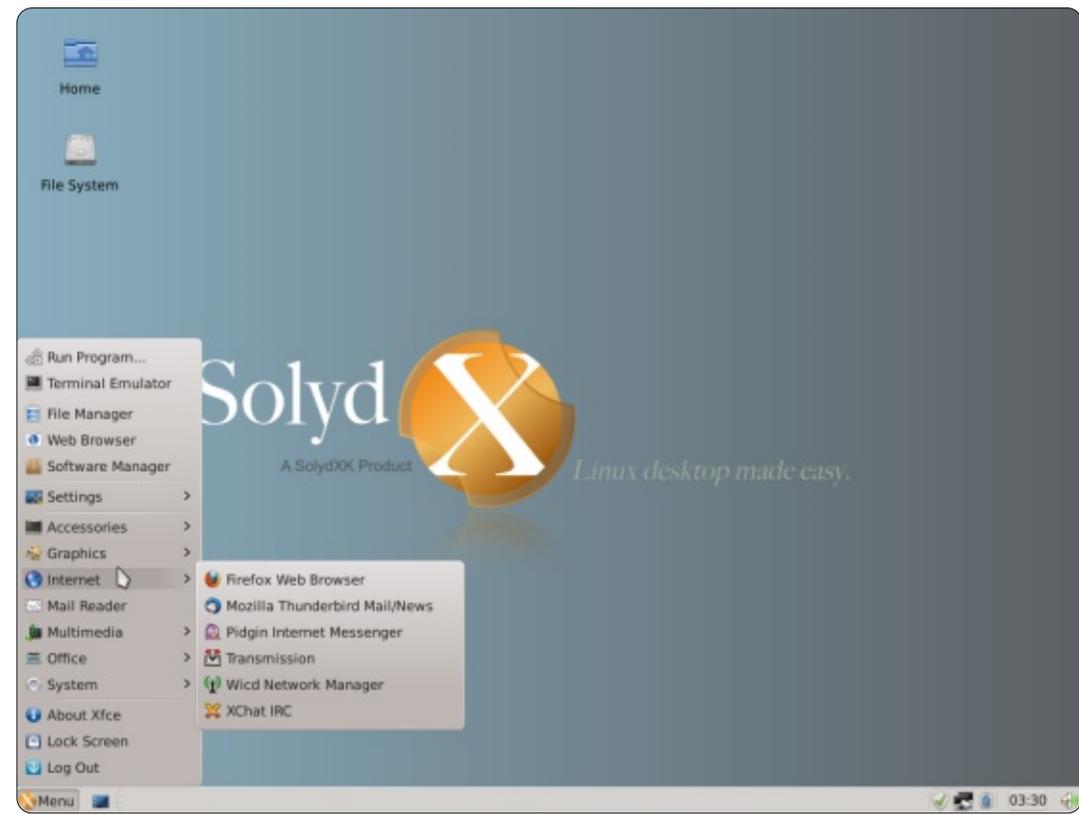
average boot time of 30 seconds anything to laugh about, especially given that's in Virtualbox.

Being lightweight usually comes with a price, and that's often a spartan menu with equally spartan tools, but that isn't the situation here.

A partial listing is shown in the table bottom right.

While boot times were definitely different between the two, there was no discernible difference in performance beyond that. Both were equally quick in opening programs and files, saving documents, etc. If nothing else, either version of Solyd was quite fast once booted, even when using Live mode in Virtualbox.

About the only bottleneck I encountered was the ever troublesome Software Manager, which resembles the Ubuntu Software Center—minus the branding and Canonical commercial offerings. It frequently did spooky things like flutter in and out during program installation, or just lock up for no good reason. On the other hand, the old standby, Synaptic Package Manager,



Program	SolydX (Xfce)	SolydK (KDE)
Browser	Firefox	Firefox and Konqueror
Email & IM	Thunderbird and Kopete	Thunderbird and Pidgin
Office	Abiword and Gnumeric	LibreOffice
Music	VLC and Exaile	VLC and Amarok
Image Manipulation/Processing	GIMP	GIMP and Panorama Stitcher
CD/DVD Burner	Xfburn	K3b
Games	None	Several
Package Manager	Software Manager and Synaptic	Software Manager and Synaptic

performed like a champ.

So, would I recommend either one? All depends upon what you're after. Those looking for a stable Debian based distribution will be well served here, but being plain can lead to problems.

First, it doesn't stand out from the crowd. Remove the name and artistic logs and it could be confused with a couple dozen offerings I've reviewed over the years. The base programs are just that—base. It has no specialty, such as Peppermint OS and their Cloud-based programming, nor does it appeal to a segment, such as ArtistX or openArtist—two distros with a bevy of programs geared to A/V artists.

Second, is it going to survive or become relegated to the dustbin of history? Take a look at Distrowatch, and, once you get past the top 50, you'll see a few hundred more releases that just never made the popularity polls

even though they are quite capable.

But there is no faulting the OS itself. It has never failed to work, and I have yet to induce a crash (and believe me, I do try hard). It just needs to be polished a bit more with some excitement added. Mind you, don't go all Cadillac Cimaron on it, just add some pizzazz (Google that Cadillac, if the name doesn't ring a bell, and you'll see what I mean).

With all these factors considered I give SolydX and SolydK 3 out of 5 stars.



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

SolydXK home of SolydX SolydK



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ubuntuforums.org/forumdisplay.php?f=270

CINNAMON MINT

I'm sure you've seen enough complaints from people who don't like the constant fiddling with the user interface for Ubuntu. I won't rehash those arguments. Instead, I will point out that Mint is one of the top Debian distributions, and ask if the reason might be a consistent user interface?

Ubuntu could reclaim its place at the top, and satisfy those who want a consistent user interface, by creating a desktop.conf file which would store the user's choice for backdrop, desktop theme, and all the other elements of the look-and-feel which I could adapt to, but I don't want to have to adapt to.

Come May, 10.04 LTS will be expiring, and I'm planning to go to Cinnamon Mint. I'd rather stay with Ubuntu, but only if they quit forcing a new user interface on me.

Thomas M. "Toad" Brooks

FULL CIRCLE READER SURVEY 2013

It's that time of the year again folks. That time where we offer you, the readers, a say in the future of Full Circle.

All we ask is that you fill in as much detail as you can on the survey we've written up at <http://goo.gl/hR7zc>

That's it!

We'll gather together the data and present our findings in a future issue of Full Circle for all to see.



FULL CIRCLE NEEDS YOU!



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

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

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

Tuxidermy





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 When I delete a file in Dropbox, is it really gone forever, everywhere?

A No! Jens (FCM Mobile Edition) pointed out that if you log on to the Dropbox web interface, and open the folder where the file used to reside, you can click on an icon labelled "Show deleted files." If you right-click on a deleted file, you get the option to restore it. I have yet to figure out how long it remains there.

Q When I open Home Folder from the Unity Launcher, the left side panel (Devices, Computer, Network) is missing. How do I get this to display again?

A (Thanks to **DuckHook** in the Ubuntu Forums) Press <F9> to toggle the sidebar.

Q What does "long term support" mean to the average user?

A (Thanks to **cortman** in the Ubuntu Forums) As far as Ubuntu/Canonical is concerned, it means they'll provide security updates and bug fixes for that version for an extended period. Beginning with 12.04, that period is five years for Ubuntu Desktop. Also note that beginning with 13.04, "standard" releases will be supported for nine months.

Q What is Mir?

A <http://www.omgubuntu.co.uk/2013/03/canonical-announce-custom-display-server-mir-not-wayland-not-x>
<https://wiki.ubuntu.com/MirSpec>

Q I just tried hardinfo, and while it provides lots of information, it doesn't have the level of detail that I want.

A If you want a detailed description of your hardware, open Terminal and paste this

command:

```
sudo lshw -html > Desktop/myconfig.htm
```

If you double-click on myconfig.htm, it should open in your browser, and give you a nicely formatted report about your hardware.

Q Is there a way to enable automatic login when I didn't select it at installation?

A If you click on the dash and type login, do you see "login window" as something you can run? If so, select the Security tab, and "Enable Automatic Login" is a checkbox item.

Or, it might be under "User Accounts", where you click on "Unlock", provide your password, then flip the "automatic logon" switch.

Q Is there an equivalent program to Sysprep for

Windows? I want to set up systems which are ready to use, then when each end-user powers up the computer for the first time, he would be asked to provide a username, password, etc.

A (Thanks to **Cheesemill** in the Ubuntu Forums) When you boot the installation media, hit SHIFT to get to the installation menu, then hit F4 and select 'OEM Install'. When Ubuntu has finished booting, install the system as usual, you will be prompted for a temporary username and password.

When installation has finished, boot the system and log on with the temporary username and password you created earlier; you can now make any other alterations to the system that you want, for example getting updates and installing extra software. (Corporate wallpaper!) When you're all done, just double-click on the 'Prepare for shipping to end user' icon on the desktop and then shut down the machine. You can take an image of the drive, and

install that on as many computers as you want.

Q I recently installed Xubuntu, but I like Nautilus better than Thunar, so I installed Nautilus. Now what?

A (Thanks to *LewisTM* in the Ubuntu Forums) Go to Settings -> Preferred Applications -> Utilities, and set the File Manager to Nautilus.

Q I received an email which caused Evolution version 3.2.3 to go into a CPU loop. I can't even delete it!

A You can fix the email. Set your file manager to show hidden folders, and navigate to `.local/share/evolution/mail/local/c`

ur

Each email message is a file. The time and date on the file will not match the email's time and date exactly, but it should get you close. Open the file in Gedit, and find the first thing which is not simple text. Delete from there to the end, restart Evolution, and you should be able to delete the

message.

Q I have Ubuntu 12.04 installed on a Panasonic Toughbook CF-29 with a built-in GPS device. The GPS device does not show up in `lshw`.

A (Thanks to *xraynetcontrol* in the Ubuntu Forums) (Gord says: The GPS appears to be a serial device attached to what MS-DOS calls a COM port.) I needed to add myself to the "dialout" group. I did that by entering this into the terminal, and then rebooting the box:

```
sudo adduser (name) dialout
sudo dpkg-reconfigure gpsd
```

Since my laptop has an actual serial port on the back, I guessed that the GPS receiver was in serial slot 2, so I entered `ttyS2`, and kept everything else as a default.

So, enter:

```
stty -F /dev/ttyS2 ispeed
4800 && cat </dev/ttys2
xgps
cgps
```

It took about 5 minutes to get a

2D lock on me, as I was inside. I closed out the terminals and launched a variety of GPS programs like GPSTDrive, FoxTrot and Viking. All worked as expected.

TIPS AND TECHNIQUES

You want to run a web server?



I frequently see questions from people who want to set up a website running on a home computer, typically stated as, "I set up a website on my computer, but it doesn't work. Please help."

Instead of saying, "it doesn't work," tell us exactly what you have done and what happens as a result. For example:

I have confirmed that my ISP allows customers to run a web server. (Many don't, so that's the end of it!)

I have purchased the static IP address 1.2.3.4 from my ISP. (It's possible to run a web site without a static IP address, but you're getting into "how to build a pocket watch in 394 easy steps" territory. Hint: `dyndns`.)

I have purchased the domain `iamtank.com` from the registrar Somereg, and have pointed it to 1.2.3.4 (probably the easiest step).

My server is set up with a static IP address on my LAN, and it is 192.168.1.32 (See last month's Q&A for setting up a static IP address on your LAN.)

I have set up my router to forward port 80 to 192.168.1.32 (The router's manual will tell you how.)

I am running Apache on my server, and other computers on the LAN get the web page when I enter 192.168.1.32 into a browser address bar.

Actually, if you have done all those things, it should work.

Be specific! Don't say `mydomain.com`, tell us your actual domain name, tell us your IP address.

There is a lot of information on the Internet. For example, 30 seconds on Google revealed this page: <http://net.tutsplus.com/tutorials/php/how-to-setup-a-dedicated-web-server-for-free/>



Steam (Valve's very successful game client) has been around for a while, but it's been only a few months since Ubuntu users have had the pleasure of getting an official client. Now Linux gamers can get in on the democratic service known as Greenlight. Steam's Greenlight allows developers to submit their games—so that players may up-vote the games they want to see in the Steam store. So which games stand out the most? Here are my top-ten picks of Linux games waiting for the Greenlight on Steam.

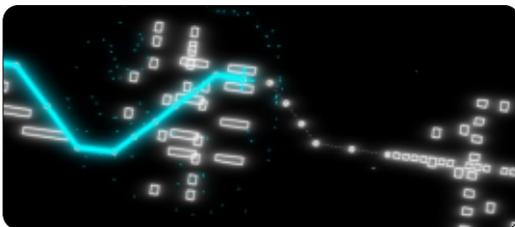
C-WARS



C-Wars is a fast-paced real-time strategy game that draws from a few different styles. Years after a

devastating nuclear war, survivors take refuge on the Moon—only to discover an unknown substance is turning humans into zombies. You and your companions must fight another battle to save the new civilization from extinction.

TRACE VECTOR



With fast-paced gameplay and lots of neon colors, Trace Vector reinvents the retro arcade game by combining old school vector graphics with simple gameplay that progressively becomes more challenging. Players must navigate their ship through winding geometric levels, while collecting fuel to stay the course. With action and puzzle elements, Trace Vector looks to be an addicting blast from the past with a modern twist.

DELVER

Delver is a first person



roguelike with some innovative ideas. It draws inspiration from games like Ultima Underworld, and combines traditional elements of a roguelike, but the gameplay and graphics give it a new twist. Although still in development, there are already lots of great features with more to come, such as character classes and a dungeon level editor.

FORCED



Battle through gladiator-style trials in this tactical co-op RPG. Forced highlights the cooperative aspect with features like the Spirit Mentor which challenges players to work together to control an

extra party member with special abilities and an ethereal form. The trick is that they must be controlled simultaneously, so teamwork is a must. Of course there are also epic boss battles and plenty of skills to unlock as you fight your way through over 30 trials in the game. To give it a try and join the online beta, visit forcedthegame.com

AEON COMMAND



Aeon Command is a strategy warfare game set in a space battle between three factions of Aeon Nebula. Choose between the Alliance, Exiles, and Cyborgs in the struggle for control of the Aeon Nebula. Each faction has its own distinct abilities, ships, and campaign with eight missions. There are also skirmish modes, and multiplayer, along with numerous upgrades to help improve your fleet.

LEGEND OF DUNGEON



Robot Loves Kitty's latest project, Legend of Dungeon, is a roguelike dungeon crawler that dares players to embark on a dangerous mission to retrieve a mysterious treasure from the 26th floor of a dungeon. You, and up to three companions, are on a quest to do what no one else has done before—find the fabled treasure and successfully return from your journey. Legend of Dungeon features randomized dungeons and various puzzle elements for an added challenge. The game is currently in its alpha stage and available to demo at robotloveskitty.com/LoD/

SENTINEL



Sentinel is a gorgeous tower defense game with interactive music elements. The game is set on a sequencer grid as you activate different new parts of the soundtrack in time with the music, all while adding defenses and destroying enemies. Inspired by other music games like Rez and Lumines, the creators of Sentinel have found a beautiful new way to play a tower defense game.

HAMMERWATCH



Fans of the Gauntlet series will love Hammerwatch, a fast-paced hack and slash action adventure from Jochum Skoglund and Niklas Myrberg. There are four character classes to choose from as you battle through hordes of enemies and solve puzzles within Castle Hammerwatch. In addition to a single player campaign, players can play with up three friends in local co-op or online multiplayer. There are a total of twelve levels divided among four acts, but if you're

looking for even more battles and loot, there is also mod support to edit and create your own levels. A demo of the beta is available for free at hammerwatch.com

CHASM



It can be difficult to draw from a lot of different things and do it well, but Chasm is a game that successfully blends many different elements to create an innovative gameplay experience. Part 2D side scrolling platformer and part action RPG, you play as a weary soldier heading home from a long war. While passing through a mining town, you discover that its citizens have accidentally awakened an ancient evil. Supernatural forces have trapped you in the town, and now you must battle to escape and return home safely. With gorgeous graphics and an engaging story, Chasm looks to be a game to keep an eye on.

LEGENDS OF AETHEREUS



Gamers looking for highly dynamic gameplay and epic world will be thrilled to try Legends of Aethereus. Set in a world after the Third Great Skyfall, you must battle to help restore peace and banish the evil that vies for power. With three unique classes (officer, astrographer, and inventor), you can play the single player campaign or engage in PVE or PVP arena battles. In addition to exploring a lush, beautiful world, depth and customization is a central theme with the game. The addition of a crafting system adds vast combinations of customizable items, and the statue and banner creators allow you to personalize your city-state. Legends of Aethereus is currently in beta.



Jennifer is a writer, gamer and geek, hailing from the Chicagoland area. You can follow her on Twitter [@missjendie](https://twitter.com/missjendie) or visit her website at indiegeekery.com.



LINUX CERTIFIED

Written by Richard Philip Witt

Call me picky, but when I use ls, I prefer my files listed vertically not horizontally. Most of the time anyway. ls -l lists vertically, one file or folder per line. (I'm salivating as I write.); but I don't want to write ls -l each time. So what can I do? Use the alias function. It's very simple, and also on the LPIC 1 Exam 101 syllabus.* alias forms new commands or modifies existing commands, the latter relevant here. But first: which aliases (aliali?) already exist?

```
rpwitt@rpwitt-
laptop:~/Documents/programmin
g$ alias
...
alias l='ls -CF'
alias la='ls -A'
alias ll='ls -alF'
alias ls='ls --color=auto'
```

In my case (Ubuntu 12.04 LTS), ls comes preset with the alias 'ls --color=auto', which, as far as I know, assigns different text colours to directories, files, symlinks and the like. Hence, it was all the more pertinent for me to check the existing aliases before making any changes. Assigning a new alias would overwrite this existing one,

losing my colour coded files and folders, and most probably throwing me into some deep funk for the weekend.

To have one file or folder per line yet keep the colour coding:

(N.B. Although not always necessary, it's good practice to set your alias commands inside apostrophes)

```
alias ls='ls -l --color=auto'
```

Execute the command.

```
rpwitt@rpwitt-
laptop:~/Documents/programmin
g$ ls
c_programming.pdf
lfs.pdf
LinuxAdm.pdf
linux_nutshell.pdf
lpic.pdf
nand2tetris
prog_interface.pdf
shell_scripting.pdf
```

And there she blows.

But wait! It's not enough. I want to have my nand2tetris folder (very cool little learning project) at the top of that list. In fact, I always

want my folders listed first. A quick consultation under ls --help informs me that ls --group-directories-first will get the job done. I can have all I would have hoped (and still do ever hope) for. If only I wouldn't have to type that pesky addendum to each ls command: --group-directories-first.

alias saves the day again.

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

```
rpwitt@rpwitt-
laptop:~/Documents/programmin
g$ ls
nand2tetris
c_programming.pdf
lfs.pdf
...
```

It's a beautiful sight.

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



Linux Professional Institute



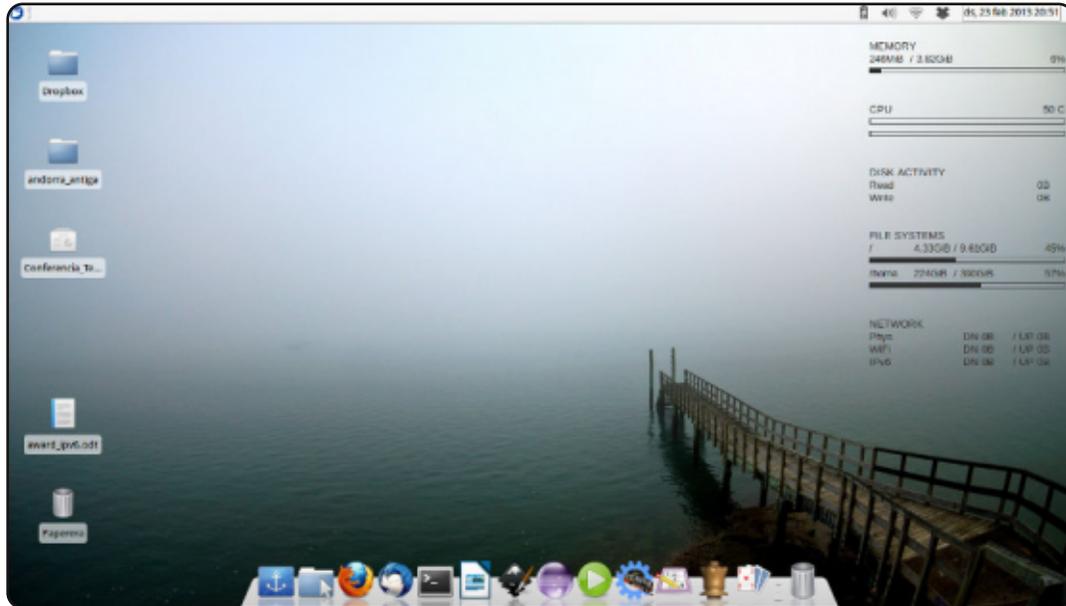
Richard Philip Witt, 30, living in Switzerland. I've been using Ubuntu desktop and server for roughly 2 years. But only for the basics. Now I want to discover its capabilities. Any mentors out there? Email me: chilledwinston2@hotmail.com.





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.



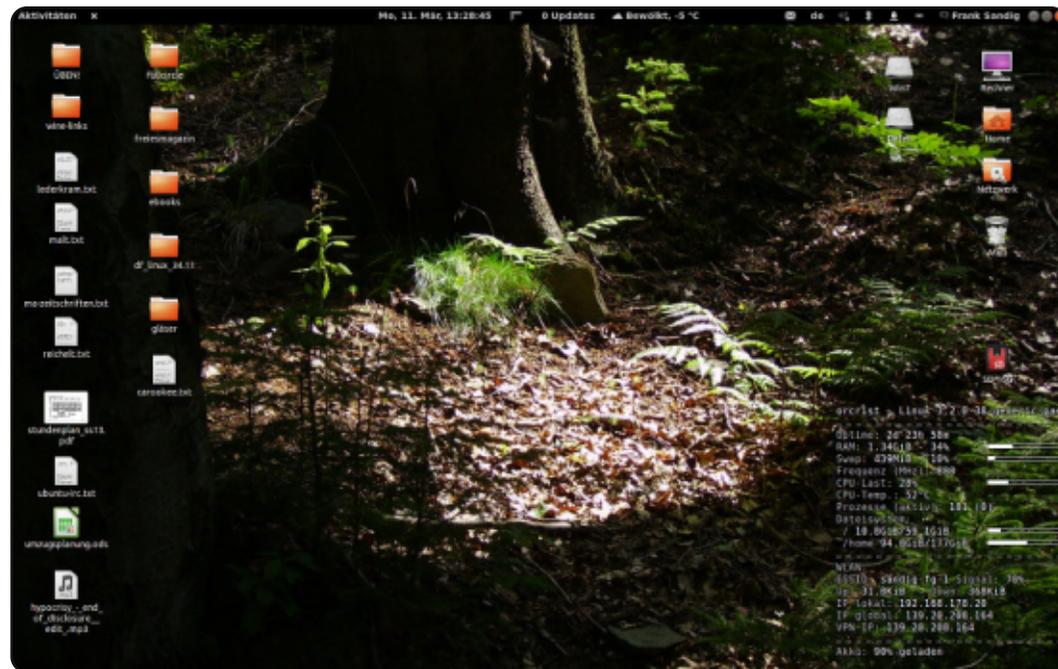
My current setup could be described as low-key, with cold colors and little visual clutter to hamper me at my work. It is actually the Xubuntu 12.10 XFCE4 desktop with a few modifications: docky at the bottom, conky discretely at work to the right, and a beautiful mist-themed wallpaper below. It uses only 230 MB of RAM at startup.

Alan Ward



I'd like to submit this screenshot from our main desktop computer running Voyager Linux 12.04 (based on Xubuntu), Xfce, Docky, and a customized Conky.

David Burke



My main computer is an ASUS X57VM50VN notebook with an Intel Core 2 Duo T9400 processor, 4GB of RAM, and a nVIDIA GeForce 9650m graphics card. I bought that machine in 2009. I run Ubuntu 12.04.2 LTS and gnome3 with some shell extensions such as weather, updates, another user menu, and so on. As you can see on the picture, I run conky, displaying some information on my system and network. The background image is a picture I have taken in the valley of the river Pockau near the village Ansprung in Saxony.

E. Frank Sandig



This is my recent KDE desktop in Ubuntu 12.04.2 LTS. You can see conky, rainlendar 2.10, and covergloobus as a music widget.

Operating System: Ubuntu 12.04.2 LTS
Desktop Environment: KDE 4.8.5
Icons: KFaeza
CPU: Intel Core 2 Duo 3.02 GHz
RAM: 2 GB
HDD: 500 GB

Maikel



HOW TO CONTRIBUTE

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