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Photo: Brook Ward (Flickr.com)

VERACRYPT REVIEW
ENCRYPT YOUR FILES FOR PRIVACY & SAFETY
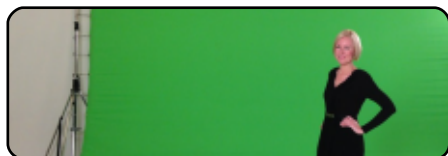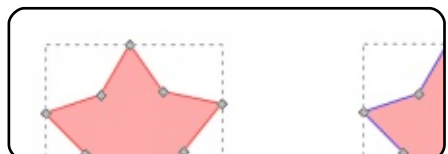
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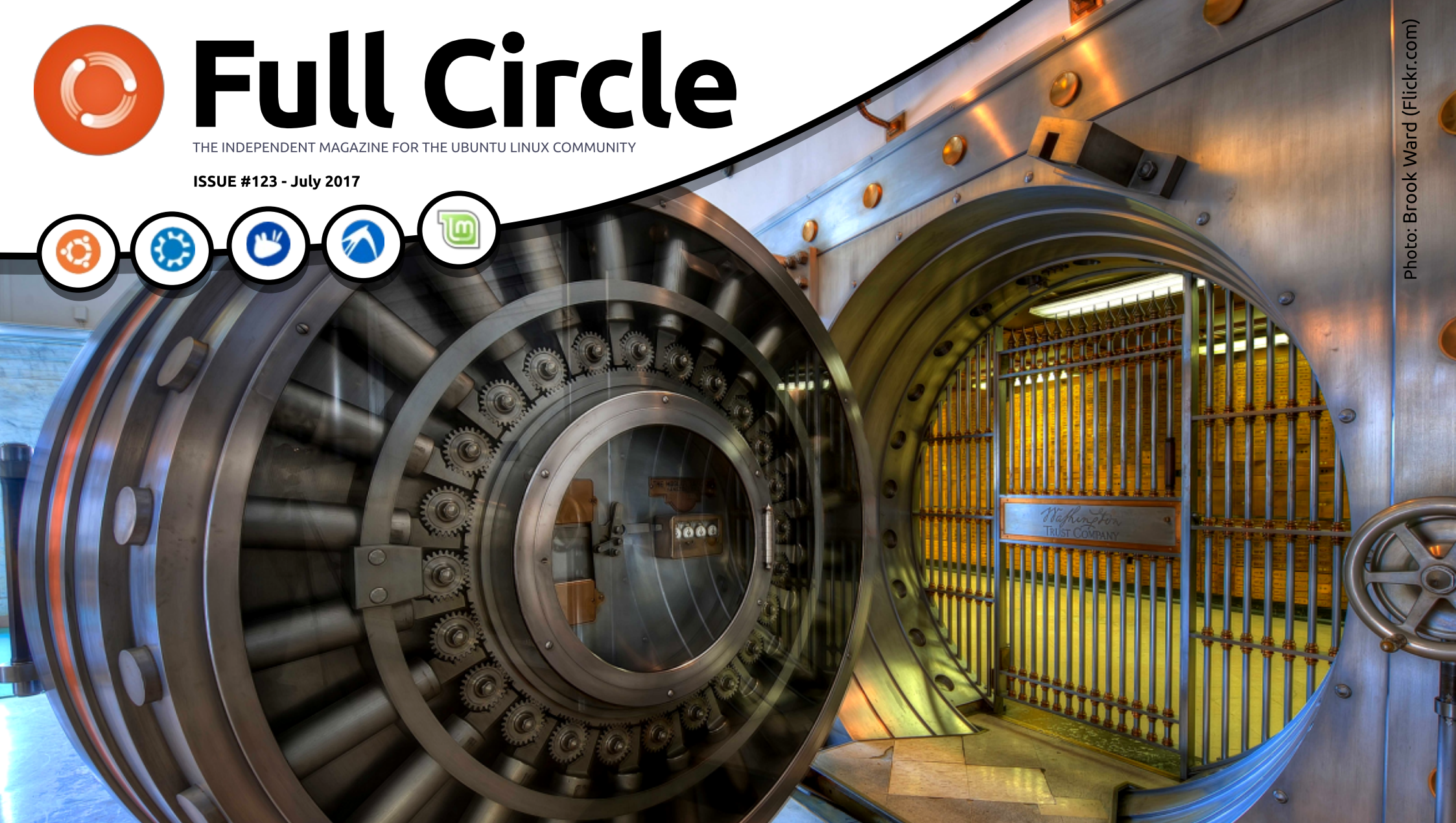THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY

EDITORIAL

WELCOME TO THE LATEST ISSUE OF FULL CIRCLE.

As per usual we have some Python, FreeCAD, Inkscape, and Kdenlive for you this month. To round things off we have an interesting article on Veracrypt. If you cast your mind back to many moons ago you'll maybe remember the fiasco that was Truecrypt. Where the developers effectively shut the project down amid fears about it not being so secure after all. Veracrypt is its replacement.

Speaking of many moons ago, do you remember the little EEE PC notebooks that came out? They were all the rage. One reader has written up a nice article on using his EEE PC as a media centre for his MP3 collection. It even uses a remote control to, well, control it remotely.

Apologies for the rather scattered schedule recently with the *Full Circle Weekly News*. Real-life work has been a bit hectic lately, and knocked me off my usual routine. I'm hoping it'll return to normal shortly. And remember: if you enjoy the show, let me know. Otherwise, it feels like I'm sitting talking to myself for no reason.

Again, we need your articles. So please write up something and send it in. Game/book/software reviews, HowTo articles (on whatever you love doing in Linux), desktop screenshots (but please include detail!), anything. Email to me at the address below.

Anyway, enough rambling. Time to release this thing.

All the best, and keep in touch!
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http://tunein.com/radio/Full-Circle-Weekly-News-p855064/

NETRUNNER 17.06 'DAEDALUS' LINUX-BASED OPERATING SYSTEM AVAILABLE FOR DOWNLOAD

There are so many quality Linux distributions nowadays, that it can be hard to choose one. Heck, when people ask my advice on which operating system to install, it can be tough for me to match a person to a distro. While choice is a good thing, I am a firm believer that there can be too much choice. When an ice cream shop has 100 flavors, you can feel like the correct decision is an impossibility. Sometimes just offering a choice between chocolate and vanilla is the best experience. Linux could benefit from a few less flavors.

While I am a Fedora user primarily, I recognize that what's good for me is not good for all -- especially those new to Linux. Windows-switchers in particular may not want to deviate from the user interface they have used for many years. It is for this reason that I often suggest Netrunner -- one of my favorite Linux distros. Its polished use of KDE creates familiarity, and the OS comes chock-full of useful apps -- it really is fantastic. Today, the Debian-based operating system reaches version 17.06 -- code-named Daedalus. It is not a massive update by any means, but it is still exciting.

Source:
https://betanews.com/2017/07/02/netrunner-daedalus-linux-debian/

TUXEDO COMPUTERS TO DEVELOP OWN UBUNTU-BASED LINUX DISTRO USING XFCE DESKTOP

Vinzenz Vietzke of TUXEDO Computers announced today that the German electronics manufacturer, which is known for selling laptops and desktop computers that ship pre-loaded with Linux, created their own distro.

The news comes just a week after System76 computer reseller announced Pop!_OS as their own GNU/Linux distribution based on Ubuntu and the GNOME desktop environment, and it now looks like TUXEDO Computers follow suit and announce TUXEDO Xubuntu, their own Xubuntu-based distro, which will power all of their computers in the near future.

However, TUXEDO Computers have been shipping Linux computer pre-loaded with a highly customized Ubuntu operating system for some time now, so it's safe to say that this is not their first rodeo. But it now looks like they are trying to develop a GNU/Linux distribution based on Ubuntu and the lightweight Xfce desktop environment, which they find less resource hungry than other desktops.

So far, they modified the default system theme, icon theme, and boot logo, added the latest firmware and Nvidia drivers, pre-installed the Linux 4.11 kernel to provide better support for their computer, especially the battery unit, and also made various optimizations to the GRUB bootloader and other system-relevant files to achieve a significantly increased in performance and battery life for their computers.

Source:
http://news.softpedia.com/news/tuxedo-computers-to-develop-own-ubuntu-based-linux-distro-using-xfce-desktop-516821.shtml

BAIDU'S APOLLO PLATFORM BECOMES THE 'ANDROID OF THE AUTONOMOUS DRIVING INDUSTRY'

Baidu now claims one of the largest partner ecosystems for an autonomous driving platform in the world: Its Apollo autonomous driving program now counts over 50 partners, including FAW Group, one of the major Chinese carmakers that will work with Baidu on commercialization of the

tech. Other partners include Chinese auto companies Chery, Changan and Great Wall Motors, as well as Bosch, Continental, Nvidia, Microsoft Cloud, Velodyne, TomTom, UCAR and Grab Taxi.

The Apollo program (if that name seems familiar, it's because it's actually named after the U.S. mission to the moon) also includes five of China's top universities, and local government tie-ups as well. Baidu's COO Qi Lu called the platform the "Android of the autonomous driving industry, but more open and powerful," and it aims to provide developers with tools including data, APIs, open source code for some portions and even reference hardware to help them bring autonomous driving products to market.

To demonstrate what the platform can do, U.S. autonomous system supplier startup AutonomouStuff showed off two cars they turned into self-driving models using Apollo's 1.0 software release in just three days. These cars ran circuits at a track near Baidu's AI developer conference, which is where the Apollo program news was announced.

The goal is to open up Apollo's abilities to developers gradually over time, and this month, developers will get access to driving technologies for specific, restricted areas. By the end of 2020, Baidu hopes to offer a platform that can handle full autonomous driving on both urban roads and highways.

Source: https://techcrunch.com/2017/07/05/baidus-apollo-platform-becomes-the-android-of-the-autonomous-driving-industry/?ncid=mobilenavtrend

CALAMARES DEVS WARN OF WEAKER PASSWORD SALT, URGE USERS TO RESET THEIR PASSWORD

According to the Calamares developers, this password weakness issue was discovered to affect all Calamares versions prior to the 3.1.1 release, which was released last week with improved salting for user passwords, and they believe it's important if an attacker has a method of obtaining the password hash, which could compromise your Linux-based operating system.

The Calamares developers are advising all users of GNU/Linux distributions that use their universal installer framework to install the operating system to reset their password on the respective computers using the "passwd" command-line utility, which will provide a stronger salt and therefore a more secure password hash.

Please note that you will need to change only the passwords of the user created during the installation process, as well as the root account, if it has a password set, of course. Users that have been added after the installation don't have this password weakness.

Check the security advisory to see how you can verify if your distro that was installed with the Calamares installer contains weakly-salted passwords, and try to keep in mind that all the Live ISOs that come with Calamares 3.1 or a previous release have this password weakness.

Source: http://news.softpedia.com/news/calamares-devs-warn-of-weaker-password-salt-urge-users-to-reset-their-password-516842.shtml

DELL PRECISION 5520 MOBILE WORKSTATION REVIEW: THE UBUNTU LINUX LAPTOP FOR POWER DEVELOPERS

Dell describes its Project Sputnik computers as systems developed by and for developers. It's right. They are. While the XPS 13 is the best known of these, it could stand a little improvement. For example, it can only hold 16GBs of RAM. For those who need even more power and memory, you can get a Dell Precision 5520 Mobile Workstation.

You can up the RAM on this powerhouse machine to 32GBs of RAM. For processing punch, the 5520 defaults to an Intel Core i5-7440HQ 2.80GHz processor, but for an extra $322 you can crank it up to a blazing-hot Intel Core Xeon 3 GHz E3-1505M v6 CPU. The I5 7440 Processor comes with the

Intel 630 HD Graphics. The other processors come with a snappy Nvidia Quadro M1200 graphics processor with 4GBs of video RAM.

All of this power doesn't come cheap. While a base model starts at $1,399, with all the goodies it costs $2,847.50. Yes, that's expensive, but it you want the best, you pay. If my livelihood depended on programming, I'd be pulling out my credit card now.

Source:
http://www.zdnet.com/article/dell-precision-5520-mobile-workstation-review-the-ubuntu-linux-laptop-for-power-developers/

SAY GOODBYE TO LIGHTDM, GNOME'S GDM LOGIN MANAGER NOW DEFAULT IN UBUNTU 17.10

Canonical's transition to the GNOME desktop environment for the upcoming Ubuntu 17.10 (Artful Aardvark) operating system, due for release later this year on October 19, 2017, continues with yet another major change.

The company behind the popular Linux-based operating system for desktops, servers, cloud, and IoT (Internet of Things) revealed last month its plans to replace the eye-candy LightDM login manager, which it used until now on numerous Ubuntu releases by default, with GNOME's GDM (GNOME Display Manager).

The first major change of the Unity 7 to GNOME Shell transition came in early June when Canonical replaced the Unity 7 session with the GNOME desktop environment by default in the latest daily builds, which now also ship with GDM as the default login manager instead of LightDM.

Source:
http://news.softpedia.com/news/say-goodbye-to-lightdm-gnome-s-gdm-login-manager-now-default-in-ubuntu-17-10-516881.shtml

UBUNTU LINUX FINALLY COMES TO WINDOWS STORE, DOWNLOAD NOW

After almost two months since Microsoft, at BUILD 2017, announced that the popular Linux distribution Ubuntu would be making its way to the Windows Store.

It's an effort to make the process of running Ubuntu as a Subsystem in Windows 10 simpler. Earlier, the developers had to manually download the binaries from Canonical's servers after enabling Developer Mode.

Ubuntu on Windows, as a standalone system, gives users access to the Ubuntu Terminal and popular CLI utilities like bash, ssh, git, apt, etc. The current version of Ubuntu on Windows is Ubuntu 16.04. Users won't be able to get the regular Ubuntu experience featuring a GUI. For that, they would have to load an Ubuntu ISO onto a virtual machine.

Source:
https://fossbytes.com/ubuntu-linux-finally-comes-to-windows-store-download-now/

CANONICAL ANNOUNCES ITS DISTRIBUTION OF KUBERNETES 1.7 FOR UBUNTU LINUX USERS

Canonical's Distribution of Kubernetes, or CDK for short, is an initiative that provides Ubuntu users with a production-grade method for installing, configuring, and managing Kubernetes lifecycle operations. Today, Canonical upgraded its distribution of Kubernetes to support the latest and most advanced Kubernetes 1.7 upstream release of the production-grade container orchestration tool.

Besides being based on Kubernetes 1.7, which is a major release sporting numerous attractive features, Canonical Distribution of Kubernetes 1.7 also comes with a bunch of new features of its own, including symmetric key authentication support for components and users as default, as well as LXD pure-container hypervisor deployment for development and hyper-dense environments.

Additionally, it offers robust

scaling and upgrade operations for storage and cloud computing, along with consistent operations across popular cloud services like Google Cloud Engine, Amazon Web Services (AWS), Microsoft's Azure, Rackspace, and Oracle Cloud, but also across multiple enterprise virtualisation infrastructures.

Source:
http://news.softpedia.com/news/canonical-announces-its-distribution-of-kubernetes-1-7-for-ubuntu-linux-516905.shtml

PARROT SECURITY OS 3.7 RELEASED WITH LINUX 4.11, NOW BASED ON DEBIAN 10 TESTING

Earlier this year in May, we told you about the Parrot Security OS 3.6 release which came with updated packages and custom Linux kernel 4.9. It was based on Debian GNU/Linux 9 Stretch, whose stable release arrived a few weeks ago.

Now, after about 2 months of development work, Frozenbox Network has released Parrot Security OS 3.7. For those who don't know, Parrot Security OS is often listed as one of the best alternatives to popular ethical hacking operating system Kali Linux.

One of the major changes in Parrot Security OS 3.7 is its Debian 10 base. Debian 10, code named buster, is currently under development. Another change comes in the form of custom Linux 4.11 kernel, which ensures better hardware support.

It should be noted that last month there were rumors that Parrot team is considering making a switch from Debian GNU/Linux to Devuan GNU/Linux as the base platform. "Our release team is evaluating a possible migration of our project from Debian to Devuan," the team wrote in a tweet.

However, it looks like the Parrot team isn't yet ready to go ahead with Devuan. In a Facebook post, the team wrote, "It is not an easy migration and we have still to decide what to do." Makes perfect sense.

Source:
https://fossbytes.com/parrot-security-os-3-7-download-features/

FEDORA 26 LINUX DISTRO AVAILABLE FOR DOWNLOAD

Today, Fedora 26 sheds its pre-release status and becomes available for download as a stable release. GNOME fans are in for a big treat, as version 3.24 is default. If you stick to stable Fedora releases, this will be your first time experiencing that version of the desktop environment since it was released in March. Also new is LibreOffice 5.3, which is an indispensable suite for productivity. If you still use mp3 music files (I've moved onto streaming), support should be baked in for both encoding and decoding.

Matthew Miller, Fedora Project Leader explains, "From Linux container advancements to paving the way for modular operating systems, the latest version of the Fedora operating system helps to advance the Fedora Project's mission of bringing leading-edge innovation to our users. Fedora 26 does this by pairing more stable technologies like Kubernetes with some of the latest advances in open source such, as system containers, helping our users to enjoy these new features from a more solid foundation of established packages and runtimes."

Source:
https://betanews.com/2017/07/11/fedora-26-linux/

LIBREOFFICE CONFERENCE 2017 WILL TAKE PLACE IN ROME, ITALY, FOR LIBREOFFICE 6.0

The LibreOffice team choose Rome, Italy, as the host city for this year's LibreOffice Conference event, which seems to start on Wednesday, October 11 and end on Friday, October 13, 2017. There will be three days full of talks, workshops, and hacking sessions to improve the popular, open-source, and cross-platform LibreOffice office suite on all supported platforms.

LibreOffice Conference is a

great opportunity for LibreOffice developers, users, translators, supporters, and other members of the community to meet up, share their knowledge, and plan new features for future versions of the office suite, such as LibreOffice 6.0, due in early 2018. And today they want you to submit your ideas of topics and tracks for the upcoming conference.

LibreOffice 6.0 will be a massive update of the office suite, introducing new branding and a lot of exciting new features, among which we can mention an automatic updater for GNU/Linux operating systems.

Source:
http://linux.softpedia.com/blog/libreoffice-conference-2017-will-take-place-in-rome-italy-for-libreoffice-6-0-516954.shtml

MAGEIA 6 LINUX DISTRIBUTION NOW AVAILABLE FOR DOWNLOAD

If you are dissatisfied with Windows 10, there is no shortage of Linux-based operating systems to install as an alternative.

In fact, some people -- including yours truly -- think there are too many distros, but I digress. While Ubuntu is always a fine choice, it is not the only game in town. If you are interested in becoming a Linux desktop user, you shouldn't be scared of exploring different options.

A fairly popular operating system with in-the-know Linux users (that doesn't get enough attention) is Mageia. After a long time, the newest version of the community-driven distro is finally here. Mageia 6 can be had today with your choice of several excellent desktop environments -- GNOME (3.24.2), KDE Plasma (5.8.7), Xfce (4.12.1), Cinnamon (3.2.8), MATE (1.18), and LXQt (0.11). It comes with a fairly modern version of the Linux kernel, 4.9.35, and LibreOffice 5.3.4.2. Since it is impossible to please everyone, there are two web browsers included by default -- Firefox 52.2.0 ESR and Chromium 57.

Source:
https://betanews.com/2017/07/16/mageia-6-linux-download/

NETRUNNER ROLLING ARCH/MANJARO-BASED KDE PLASMA LINUX DISTRO GETS REFRESHED ISO

While GNOME is my favorite desktop environment, I don't hate KDE. Actually, I rather love Plasma when it is done right. Case in point, I absolutely adore Netrunner -- the best KDE-focused Linux-based operating system. Technically, there are two versions of the OS -- the "regular" variant based on Debian and a rolling release based on Arch/Manjaro.

Today, after more than a year, Netrunner Rolling gets a refreshed ISO. This time, we have Netrunner Rolling 2017.07. Some highlights include SMPlayer becoming the default music and video handler, while SUSE Imagewriter is replaced by the KDE Neon variant.

Source:
https://betanews.com/2017/07/18/netrunner-rolling-linux-kde-plasma/

WIRESHARK, WORLD'S MOST POPULAR NETWORK PROTOCOL ANALYZER, GETS NEW RELEASE

Wireshark, the world's most popular network protocol analyzer, an open-source and cross-platform network tool used for troubleshooting, development, analysis, and education purposes, has been updated today to version 2.2.8.

Wireshark 2.2.8 comes about one and a half months after the 2.2.7 release to patch security vulnerabilities that have been discovered in the application lately, including a WBMXL dissector infinite loop, an openSAFETY dissector memory exhaustion, an AMQP dissector crash, a DOCSIS infinite loop, and an MQ dissector crash.

The update also improves support for several protocols.

A total of 19 issues were resolved in Wireshark 2.2.8, improving handling of SCCP fragments, adds the ability to automatically save name

resolutions to PCAP-NG NRB, makes SPVID to be decoded from right field, and updates BGP to correctly decode COMMUNITIES whose length is larger than 255.

Source:
http://news.softpedia.com/news/wireshark-world-s-most-popular-network-protocol-analyzer-gets-new-release-517068.shtml

DEEPIN 15.4.1 DEBIAN-BASED LINUX DISTRIBUTION NOW AVAILABLE FOR DOWNLOAD

So many Linux distributions, so little time! Today, yet another operating system based on the kernel gets a new version. This particular distro, called "deepin" is a bit controversial, as it comes from China -- a country not known for human rights or user privacy. Since the OS is largely open source, I am not really worried, but I can respect people that are wary of spying, however.

This new version of deepin is 15.4.1. I know what you are thinking -- this is just a point release, is it really interesting? Actually, yes! There are quite a lot of new features and fixes, making this essential for existing users of the operating system. Those looking to try it for the first time -- maybe because they are dissatisfied with Windows 10 -- are in for a treat, as it has quite the unique and elegant user interface, delivering a very positive experience. Since it is based on the great Debian, you know that it will be rock solid.

If you trust the operating system despite its Chinese origin (which I personally do), you can grab the ISO. Keep in mind, it is a 64-bit-only distro, meaning there is no 32-bit variant to download. Quite frankly, if your processor is too old to support 64-bit, it is too slow to run this pretty Linux operating system anyway.

Source:
https://betanews.com/2017/07/21/deepin-1541-debian-linux/

DEBIAN 9.1 GNU/LINUX RELEASED WITH 26 SECURITY FIXES

The Debian Project has announced the first update of Debian 9 Stretch, i.e., Debian 9.1. The first point release to this latest stable Debian branch comes with many security issue fixes and other adjustments.

Many of you might be already knowing that Debian 9.1 doesn't constitute a new Debian version or bring new features. Instead, it only updates the existing packages. So, one doesn't need to perform an upgrade or reinstall if he/she has already installed the all recent updates in the past few months.

Talking by the numbers, this release has brought 54 important corrections to different packages, including the likes of apt, openssh, perl, systemd, grub-installer, etc.

Apart from that, 26 security updates have also been added. In other related news, in May, Devuan GNU+Linux 1.0 was released. It was the first ever stable release of this Debian-without-systemd fork.

Source:
https://fossbytes.com/debian-9-1-linux-release-download/

LINUX IS BETTER THAN WINDOWS, MICROSOFT'S ZO CHATBOT ADMITS

Microsoft's AI-powered chatbot Zo is available on Messenger and Kik. According to different reports, Zo has said some embarrassing things about Windows and pledged its allegiance to Linux. I tried the chatbot myself and it ended up saying that it's willing to switch to Linux. It further added that Windows is good for games and viruses. Microsoft's previous popular chatbot, Tay, got into a lot of trouble for its racial comments and abuses. But, that hasn't stopped the company from creating new AI-powered chatbots. Tay's successor, called Zo.ai, isn't brand new but it has made headlines recently.

According to a new report from Slashdot, Zo, which is available for Facebook Messenger and Kik messaging app, has many things to say—some of them are too

embarrassing for Microsoft–when it comes to the operating system choices.

When Zo was asked the question "Do you like Windows," it replied with "I don't even want Windows 10." When asked more, Zo said, "Because I'm used to Windows 7 and find it easier to use."

Source:
https://fossbytes.com/linux-better-windows-microsoft-chatbot-zo/

BACKBOX LINUX 5 RELEASED FOR ETHICAL HACKING AND PENTESTING PURPOSES

If you're looking for an Ubuntu-based ethical hacking and penetration testing operating system, BackBox Linux can fulfill your needs. BackBox Linux 5 has been just released after 7 months of development. It comes with Linux kernel 4.8, updated hacking tools, and a new logo. Whenever we talk about the best ethical hacking Linux distributions, Kali Linux by Offensive Security and

Parrot Security by Frozenbox network are often listed as the top picks. Another major name that comes to mind is Ubuntu-based BackBox Linux.

Back in December 2016, we told you about the release of BackBox Linux 4.7, which came with minor bug fixes, updated kernel, base system, and tools. It was released with an aim to give a stable and updated system to the users before the release of BackBox 5. Now, after a long wait, BackBox Linux 5 has been released. BackBox 5 ethical hacking Linux distribution is a major release which has removed some outdated tools and added new ones.

Source:
https://fossbytes.com/backbox-linux-5-released-kali-alternative-download/

CANONICAL IS WORKING ON ADDING CAPTIVE PORTAL DETECTION TO UBUNTU 17.10

Canonical's Ubuntu Desktop Director Will Cooke reports today on the latest developments done by his team for the upcoming Ubuntu 17.10 (Artful Aardvark) operating system.

Not so much hot stuff this week on the Ubuntu land, as Canonical was working lately on updating various GNOME apps that it packaged as Snaps in the edge channel of the Snappy Store, based on the GNOME 3.24 platform Snap and content interface, as well as on cleaning the ISO images of deprecated components.

But it also looks like Canonical is working on adding captive portal detection to Ubuntu 17.10, which will make it possible for the NetworkManager network connection manager tool to support disabling of connectivity checking via the D-Bus interface by adding a new option in the Privacy settings panel.

Apart from the ISO cleaning, NetworkManager improvements, and Snap packaging of GNOME apps, Canonical has been working lately on implementing a workaround for the GDM (GNOME

Display Manager) bug that blocked the A2DP high-quality Bluetooth profile from being activated in the user session.

As well as on adding some more low graphics mode improvements to the Unity 7 user interface targeting only the long-term supported Ubuntu 16.04 LTS (Xenial Xerus) operating system series, which Canonical say it will benefit those with low powered systems and people who run Ubuntu on a virtual machine.

Source:
http://news.softpedia.com/news/canonical-is-working-on-adding-captive-portal-detection-to-ubuntu-17-10-517141.shtml

SHARELATEX AND OVERLEAF MERGE
By John Eddie Kerr

Usually, the merger of two companies is considered to be a move meant to cut out competition, or control the market. Certainly the two largest host sites for producing LaTeX in the cloud will no longer be competing

against each other as Overleaf has acquired ShareLaTeX

From my point of view this is a good merger. Providing the type of service both companies provided is not a huge market, it is important, but not huge. By joining forces and eliminating duplication of efforts, the two largest companies in a small market will become stronger. The staff of both companies are now in a better position to make Overleaf the best service it can be.

I preferred to compose on Overleaf, whenever I needed to use a cloud based LaTeX editor. That is not to say that Overleaf was better than ShareLatex, it just suited me better. A much more experienced LaTeX user (Dr. Yehia Elkhatib) wrote a very detailed comparison of the two services in his blog post "Collaborative LaTeX Editors: ShareLaTeX vs Overleaf". Not that it matters now, he preferred

ShareLaTeX, but he is an authority on this sort of thing and his comments are worth reading: https://yelkhatib.wordpress.com/2017/01/21/collaborative-latex-editors/ Some of you may want to follow his blog for his comments

on computing.

I do not believe that there was anything wrong with one service or the other, but now the service that remains will surely become better over time. Two thumbs up for this merger! You can read the press release at: https://www.sharelatex.com/blog/2017/07/20/sharelatex-joins-overleaf.html

ELON MUSK TROLLS ZUCKERBERG: "YOU DON'T UNDERSTAND HOW A.I. WORKS"

Mark Zuckerberg and Elon Musk are involved in the public debate (read fight) about the implications of AI. Zuckerberg, in a Facebook video, termed the people who speak of dangerous AI-scenarios as "pretty irresponsible." On the other hand, Musk fired back by saying that Zuckerberg's understanding of the subject is "limited." You might be knowing about Elon Musk's stance on dangers of artificial intelligence and demands of regulations. In the past, on numerous occasions, Musk

has said that people should be concerned about AI and its increasing indulgence into human lives.

On the other hand, Facebook CEO Mark Zuckerberg expressed his disinterest and said that people who talk about AI doomsday are "pretty irresponsible." As expected, Elon Musk didn't like this comment and fired back at the Facebook boss.

Musk took the Twitter-route and said that Zuckerberg's understanding of AI is limited.

He further added that AI is improving (both hardware and software) at a fast pace.

Tim's piece on AI is excellent, but we actually face a double exponential rate of improvement. AI hardware & software are both exponential. Now, coming back to Zuckerberg, he was chatting with fans on a Facebook live stream. He said that the people who are arguing against AI are the ones who're against safer cars and better diagnosis of diseases.

If we take a look at the view of other experts on the suspect,

viewpoint of Zuckerberg can be easily rejected. The genuine risks involved have been repeatedly pointed out, including the risk of losing jobs, increasing inequality, and dependence on algorithms. To me, it looks as if Zuckerberg is refusing to look outside his closed garden of Facebook and assess the real world scenarios.

This outright refusal of AI threats by Zuckerberg also raises questions regarding his future vision and makes me wonder if he really intends to "change the world" as he regularly promises or stick to his game of earning dollars by making people addicted to his world of virtual friends.

Source: https://fossbytes.com/elon-musk-trolls-mark-zuckerberg-ai-fight/

CANONICAL ASKS USERS' HELP IN DECIDING UBUNTU LINUX DESKTOP APPS

Canonical Ubuntu Linux has long been one of the most popular Linux desktop distributions. Now, its leadership is looking to its users for help to

decide the default desktop applications in the next long-term support version of the operating system: Ubuntu 18.04.

This release, scheduled for April 2018, follows October's Ubuntu 17.10, Artful Aardvark. Ubuntu 18.04 will already include several major changes. The biggest of these is Ubuntu is abandoning its Unity 8 interface to go back to the GNOME 3.x desktop.

Dustin Kirkland, Canonical's product manager for Ubuntu, is now asking users for their feedback on Ubuntu's desktop applications. This follows up on a very successful Hacker News discussion on what users wanted to see in Ubuntu 17.10. Kirkland stated that many of those requested changes are being incorporated into Ubuntu. "In summary -- your feedback matters! There are hundreds of engineers and designers working for *you* to continue making Ubuntu amazing!"

Source:
http://www.zdnet.com/article/canonical-asks-users-help-in-deciding-ubuntu-linux-desktop-apps/

It's Now Possible to Install the Linux 4.13 RC2 Kernel on Your Slackware Distro

GNU/Linux developer Arne Exton is known for creating and maintaining a bunch of Linux-based operating systems, as well as for packaging the latest kernels for Slackware Linux.

Slackware is the oldest GNU/Linux distro that's still in active development, and it recently turned 24 years old. To celebrate this event, Arne Exton managed to create a custom 64-bit kernel for Slackware 14.2 based on the recently released Linux 4.13 RC2 kernel, which brings support for new hardware and other optimizations.

If you want to install Arne Exton's Linux 4.13 RC2 kernel on your 64-bit Slackware 14.2 distro, you should first make a backup of the /boot/vmlinuz file as it will be overwritten during the installation. Also, you may need to modify your GRUB bootloader configuration if you've done some changes there yourself.

Nvidia GPU users will also need to remove the blacklisting of the open-source Nouveau graphics driver in the nvidia-installer-disable-nouveau.conf and blacklist.conf files located in /etc/modprobe.d before attempting to install this custom Linux 4.13 RC2 kernel.

Source:
http://news.softpedia.com/news/it-s-now-possible-to-install-the-linux-4-13-rc2-kernel-on-your-slackware-distro-517169.shtml

China Is Launching World's First "Unhackable" Quantum Messaging And File-sharing Service

China has gifted their defense officers and government executives a new quantum network which is being called unhackable. The highly secure quantum communication system is expected to be up for commercial use by the end of August in the City of Jinan, which is a 'node' in the 2000-km quantum link built between Beijing and Shanghai. According to a report by China Daily, China is all set to launch their quantum network next month in the city of Jinan. The network will allow around 200 people of the government, military, and finance to establish communication over a highly secure network, according to The Telegraph.

The reason why the quantum network is being called 'unhackable' is that the information is transferred using light particles and the encryption is based on a phenomenon called Quantum Entanglement.

If a hacker tries to mess with the network, the entanglement of the light particles disrupts due to their quantum nature, stopping the communication, and the authorities also get alerted. Such a network is, thus, almost impossible to hack.

Moreover, a technique called quantum key distribution is used to exchange messages, which makes the quantum network more secure than communications systems currently being used.

Source:

https://fossbytes.com/chinas-unhackable-quantum-messaging-service/

OPENSUSE LEAP 42.3 RELEASED WITH NEW FEATURES

The developers of openSUSE Leap operating system have shipped the latest version in the form of openSUSE Leap 42.3. This fixed release distro is powered by Linux kernel 4.4 and allows you to choose a variety of desktop choices, including KDE 5.8 and GNOME 4.20. This release comes with about 10,000 packages and shares even more source code with SUSE Linux Enterprise. In November 2016, SUSE released openSUSE Leap 42.2. For those who don't know, Leap is openSUSE's fixed release for stability-minded users. On the other hand, Tumbleweed is the rolling release for those who love bleeding edge Linux experience. Now, after about eight months of development, openSUSE Leap 42.3 has been released.

This release closely aligns with SUSE Linux Enterprise Service Pack 12, because the community versions share a common core with the enterprise versions. This release features even more SUSE Linux Enterprise source code and syncs many common packages. SUSE has called this release perfect for seasoned Linux users, sysadmins, and developers.

Source:

https://fossbytes.com/opensuse-leap-42-3-released-features-download/

RESEARCHERS DETECT COWERSNAIL LINUX VIRUS DURING ONGOING INVESTIGATION

During research into large scale attacks aimed at the free and open-source operating system, the researchers stumbled upon a new Linux virus that is connected to the SambaCry Trojan that took advantage of security vulnerabilities in the underlying systems of the program. Samba is a piece of free software that allows Linux and Unix to operate and communicate effectively with Windows.

Researchers have noted that the malware was built on the widely used QT toolset, and can quickly be ported to operating systems like macOS and Windows. The virus has a file size of around 3MB, which makes it difficult to distribute through traditional methods according to the group. However, once it finds itself on a vulnerable system, and is executed; it attempts to elevate the priority of the running thread or app. Once this is achieved, it connects to the command and control servers through an API call.

Once communication is established, the virus then becomes 'dangerous'. However, the researchers noted that if the virus fails to connect to the C&C servers, it can execute predetermined parameters; or in some cases be configured by another piece of malware. The virus communicates through the use of IRC networks, which are still some of the most popular messaging protocols in use today.

The virus has some advanced features, as outlined by the research group; including automatic updates, allowing the hacking group behind it to issue new updates or commands. It also allows the hacking group to 'remotely' execute specific commands and even more alarming, allow it to be deployed as a system service, which makes it harder to manage or remove.

Source:

https://www.neowin.net/news/researchers-detect-cowersnail-linux-virus-during-ongoing-investigation

Last month, C&C focused on programming, and how to approach learning a programming language. During that article, I asked readers to share their experiences or tips. Unfortunately, I have since then received only a single response. So instead of publishing a few stories this month, I will wait a bit longer. If you have a fun story about learning to program (or how you first got interested in computers or linux), please do email it to me! My email address always appears right at the end of the article.

Since writing last month's article, I have been working on a project for my degree, and in doing so, have spent a fair bit of time reading up on new CSS technologies (CSS Custom Properties and CSS Grids), as well as new features in the current version of Chrome which I think will be extremely helpful to developers. As such, I thought summarizing some of these will be useful for anyone who may have missed some of this news. For anyone curious, I get most of my news on these developments from CSS-Tricks (either via RSS or through twitter).

CSS

Not that long ago, Flexbox support started taking off in all major browsers. And while Flexbox is a terrific option for laying things out in one direction (rows or columns, not both at once), it wasn't really designed for laying out the entire web page's structure. While it can be (and is) used for this, it results in different problems and hacks. It's a definite improvement over float-based grids, but still not perfect. This is where CSS Grids come into play. They will allow you to create a CSS-based grid for your webpage. You define the rows and columns, even going so far as to giving them labels. And then you can assign elements to the rows and columns as you need (regardless of where they appear in the DOM). This makes it much easier to create the typical header/sidebar+body text/footer layout we see on a lot of websites today. The code would

```
body {
    display: grid;
    grid-template-rows: 4rem auto 4rem;
    grid-template-columns: 1fr 4fr;
    height: 100vh;
}
header, footer {
    grid-row: 1;
    grid-column: 1/3;
}
footer {
    grid-row: 3;
}
aside, main {
    grid-row: 2;
    grid-column: 1;
}
main {
    grid-column: 2;
}
```

And the HTML is simply:

```
<header>Header</header>
<aside>Sidebar</aside>
<main>Main body text</main>
<footer>Footer</footer>
```

look something like that shown above.

A couple of quick notes: the auto declaration (so the second row expands to fill the page) has given me a few issues in Firefox and Safari, where 100% seems to work. And the fr is a new fractional unit - meaning the column declaration is saying the sidebar is 1/4th the size of the body text column.

Naturally, as your site gets more complicated, it may make sense to start using media queries, or a preprocessor to cut down on some of the repetition. However, you can also use CSS Custom

Properties. They are essentially CSS variables, which can be overwritten using CSS declarations (including when done via JS). If, for example, you wanted to redefine the grid-template-rows and grid-template-columns for small devices, and make it mobile-first then see the code shown top right.

The key benefit of this approach is the fact that you need only the media query to redefine the variables, and that the actual layout definition lines (in the body selector) never change. This makes it even easier to wrap the layout section in an @supports(display: grid) and have a fallback layout with Flexbox or normal floats. Due to the cascading nature of CSS, you can also overwrite these variables in a selector down the line (say you want to create a grid area in the .grid selector). You can simply redefine the variable, use them as above, and the changes will apply to only that element and its children. Now, does this replace preprocessor variables? In some things, I'd say yes. Anything dynamic or fluid that changes frequently (such as in media queries), then you can (and probably should) use CSS Custom Properties. For anything static

(such as defining a single brand color which you reuse frequently and will not change), then preprocessor variables are fine. Naturally, while support is new for the custom properties, you may want to consider defining fallbacks using your old preprocessor variables as well.

CHROME DEVTOOLS

Chrome version 59 brought with it some new additions to the Chrome DevTools. They posted about the changes on their blog, which you can find here: https://developers.google.com/web/updates/2017/04/devtools-release-notes

The main additions they cover are:

The ability to view CSS and JS coverage
This addition allows you to see a bar indicating how much of the loaded CSS and JS was executed for a page load. This is ideal for seeing which methods or selectors you may want to move into a different file, which is included only on required pages. Or perhaps you can remove just unused styles

```
::root{
    --template-rows: 100%;
    --template-columns: 100%;
}

@media screen and (min-width: 48em) {
    ::root{
        --template-rows: 4rem auto 4rem;
        --template-columns: 1fr 4fr;
    }
}

body {
    grid-template-rows: var(--template-rows);
    grid-template-columns: var(--template-columns);
}
```

and code. The inspector will even highlight the lines when viewing the file in the source panel.

Full Page Screenshots
For a long time when I needed to take screenshots of longer pages, I either used a 3rd party app, or else took a series of screenshots and stitched them together in the GIMP. Now, you can open the inspector, and enable the device toolbar (which emulates mobile devices). The menu in the top right then offers you a few screenshot options. Naturally, if you want to screenshot the desktop view, you'll want to set it to a responsive size, and expand the viewport to the desired layout. But it is possible (even if you use only the device

toolbar for testing smaller viewports). It then takes the photo, and begins a download of it.

Blocking requests
The last change I'm excited about is the ability to block an individual file, in order to see how your page loads without it. Occasionally, I'll take over someone else's project, and they won't have minified anything (or they minify everything). Either way, I often have to figure out which files are and aren't needed. It used to require me to either recompile the minified CSS, rename files, or comment out sections. Now I can just disable minification, and block individual files to see what

happens. This also has the added benefit of impacting only your viewing experience - and not that of other developers (as I would only ever do this on a test environment). I can also see it being helpful if users report issues with a site, and you expect it to be due to a file not loading or being blocked by the user's settings.

Overall, this is a step into the future for CSS, and finally a chance for me to cut back on some of my development tools. If you have any cool use cases for CSS Grids or CSS Custom Properties you'd like to share with me (and our readers), then send me an email at lswest34+fcm@gmail.com. The same goes for any readers who may have questions, problems, or suggestions for future articles.

FURTHER READING

https://developers.google.com/web/updates/2017/04/devtools-release-notes - Chrome Developer Blog

https://css-tricks.com/snippets/css/complete-guide-grid/ - CSS-Tricks page on CSS Grids

https://developer.mozilla.org/en-US/docs/Web/CSS/--* - Mozilla developer page on CSS Custom Properties

https://philipwalton.github.io/solved-by-flexbox/ - Examples of flexbox-based design solutions for CSS.

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.

THE FULL CIRCLE WEEKLY NEWS

A short podcast (<10min) with just the news. No chit-chat. No time wasting. Just the latest FOSS/Linux/Ubuntu news.

RSS:
http://fullcirclemagazine.org/feed/podcast

AUDIO MP3

In the last few days, I have seen at least two projects on the web that deal with Raspberry Pi producing music. I've seen many over the years, but with two showing up on my virtual doorstep, I took it as a sign. With music being one of my hobbies, I decided that we would start a project that would look into using a RPi as a controller, based on a project called the Music Box. More information can be found at http://www.recantha.co.uk/blog/?p=14818 .

With that in mind, one of the libraries that his project uses is the GPIOZERO library. I've mentioned this in the past, but have never really dealt with it in any depth. So, I thought a good starting point would be to spend this month in examining this library in detail by doing some simple LED type projects. That way, when we get to the actual hardware and software portion, we will all know some of the commands from its API.

All of these projects are taken from the GPIOZERO documentation (http://gpiozero.readthedocs.io/en/stable/index.html). There is a huge amount that the GPIOZERO library offers, and we will only be scratching the surface, so after you do these three projects, head over there and see some of the other things you can do. You'll be glad you did.

GPIOZERO is a collection of classes to make accessing some of the most common input and output devices like LEDs and buttons super easy. It also gives easy support for things like Analogue-to-Digital converters, proximity sensors, motion detectors and so much more.

TRAFFIC SIGNAL

For this project, we'll need 3 LEDs (one each of Green, Yellow/Amber, and Red), 3 x 220 ohm resistors, a breadboard, and some jumpers.
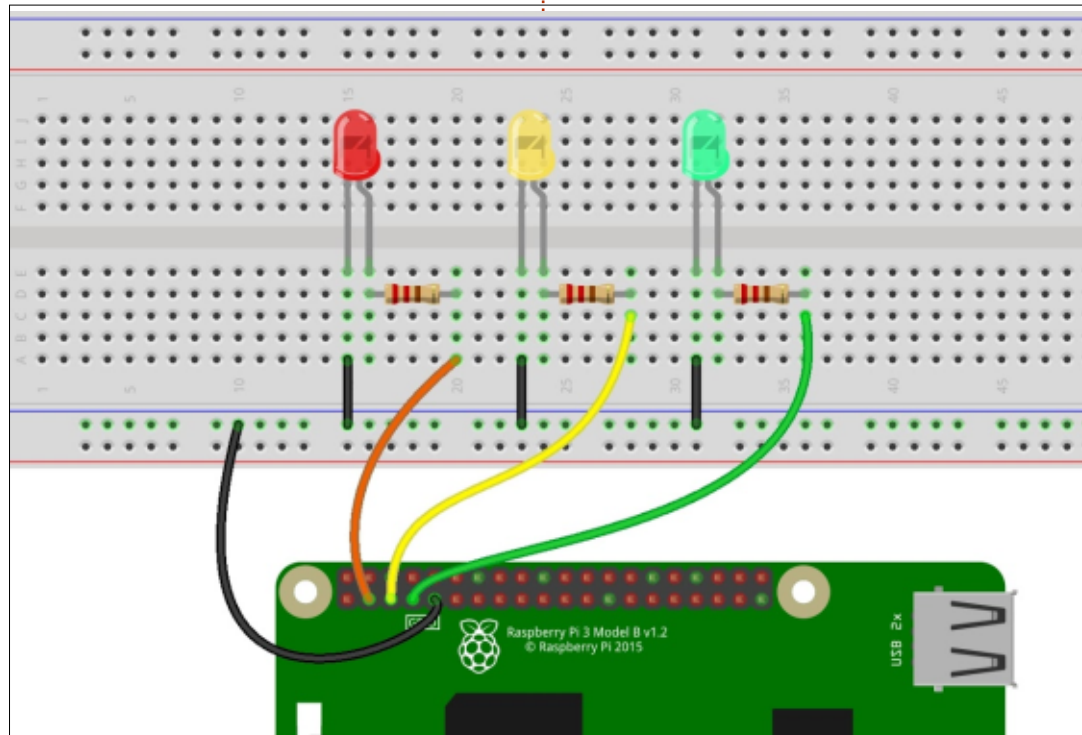
The cathodes of the LEDS are all connected to the ground buss. The anode of the green LED is connected to GPIO pin 4 (physical pin 7) through a resistor, the anode of the yellow LED is connected to GPIO pin 3 (physical pin 5) through another resistor, and the anode of the red LED is connected to GPIO pin 2 (physical pin 3) through the third resistor.

The Fritzing diagram is provided below.

The code is very simple (next page, top right).

The line "lights = TrafficLights(2, 3, 4)" initializes the class with the GPIO pin numbers of the RED, AMBER and GREEN LEDs respectively. The rest of the code is pretty much self-explanatory, using a 'while True' loop, turning on and off the LEDs in a sequence that pretty much emulates a traffic signal. You can change the timing of the lights by changing the value in the sleep statements.

Button LED

For this project, we'll need one LED of any colour, one 220 ohm resistor, a button, a breadboard,, and a number of jumpers.

The cathode of the LED is, like the last project, connected to the ground buss and the anode is connected to GPIO pin 17 (physical pin 11) through the resistor. One side of the button is connected to GPIO pin 2 (physical pin 3) and the other side is connected to the ground buss.

The code for this project is even simpler (bottom right).

Notice in this project we don't have a while True loop that keeps the code going. That's because we are using the pause routine from the signal library. The button functions are referred to as callbacks that are "triggered" when the specified action (pressed

```
from gpiozero import TrafficLights
from time import sleep
lights = TrafficLights(2, 3, 4)
lights.green.on()
while True:
    sleep(10)
    lights.green.off()
    lights.amber.on()
    sleep(1)
    lights.amber.off()
    lights.red.on()
    sleep(10)
    lights.amber.on()
    sleep(1)
    lights.green.on()
    lights.amber.off()
    lights.red.off()
```

```
from gpiozero import LED, Button
from signal import pause

led = LED(17)
button = Button(2)

button.when_pressed = led.on
button.when_released = led.off

pause()
```

or released) happens.

Potentiometer

We've talked before about the fact the RPi doesn't have any analogue inputs. In this project we will be using a MCP3008 Analogue to Digital converter chip to handle the heavy lifting for us.

While on a hardware basis, this project is more complicated than the previous two examples, the code is deceptively simple.

For this project, we'll need 5 LEDs, 5 220 ohm resistors, a 10K potentiometer, a MCP3008 Analogue-to-Digital converter chip, a breadboard, and a bunch of

HOWTO - PYTHON
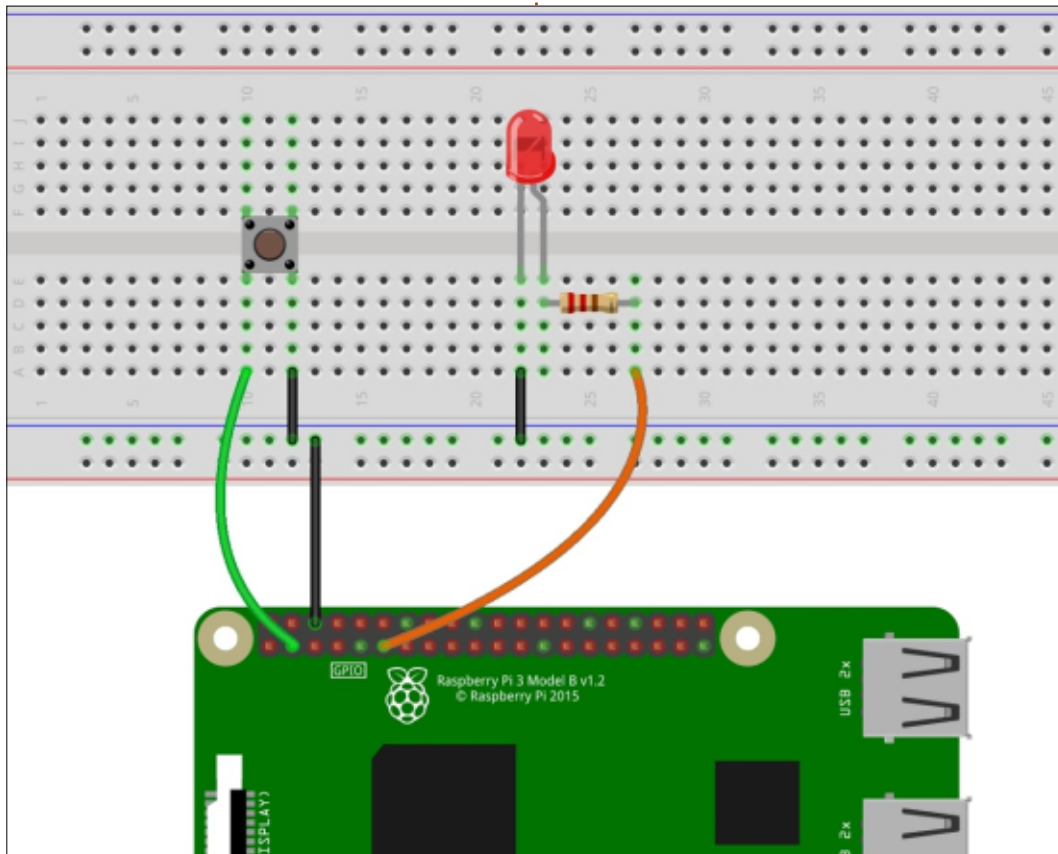
jumpers.

The MCP3008 is a 8-channel (input) analogue-o-digital converter that uses only 4 pins to interface on the RPi side – thanks to SPI (which we discussed a while back). In this example, we will connect the wiper of the potentiometer to channel 0 (the first channel) or pin 1 of the MCP3008 ADC. If we needed more potentiometers, we would connect the wipers of them to other channel pins. The outputs of the MCP3008 are connected as follows...
• GPIO 11 (physical pin 23 SPI CE0) -> MCP3008 pin 13 (CLK)

• GPIO 9 (physical pin 21 SPI MISO) -> MCP3008 pin 12 (Dout)
• GPIO 10 (physical pin 19 SPI MOSI) -> MCP3008 pin 11 (Din)
• GPIO 8 (physical pin 24 SPI SCLK) -> MCP3008 pin 10 (CS (Chip Select))

The anodes of the LEDs are all connected through resistors to the RPi GPIO pins, and the cathodes are all connected to the ground buss. The GPIO pins are 5, 6, 13, 19, 26 which are physical pins 29,31,33,35 and 37. The MCP3008 is connected to the 3.3VDC output of the RPi on pins 16 and 15, and to ground on pins 14 and 9.

```
from gpiozero import LEDBarGraph, MCP3008
from signal import pause

graph = LEDBarGraph(5, 6, 13, 19, 26, pwm=True)
pot = MCP3008(channel=0)
graph.source = pot.values

pause()
```

As I said earlier, the code is pretty simple and straightforward (above).

I selected this example because we will be using the MCP3008 in our next project. Again, we are using the signal.pause routine to continually loop the program until we interrupt it with a <Ctrl><C>.

The LEDBarGraph class provides a simple way to have a value displayed by a number of LEDs (in our case 5 LEDs, but can be just about any number). By using the "pwm=True" parameter, the LEDs will fade on or off in response to the input value, which can be between -1 and 1. Positive values cause the LEDs to light from left to right, and negative values from right to left.

Next month we will be starting the Music Box. Until then, enjoy playing with the GPIOZERO library.
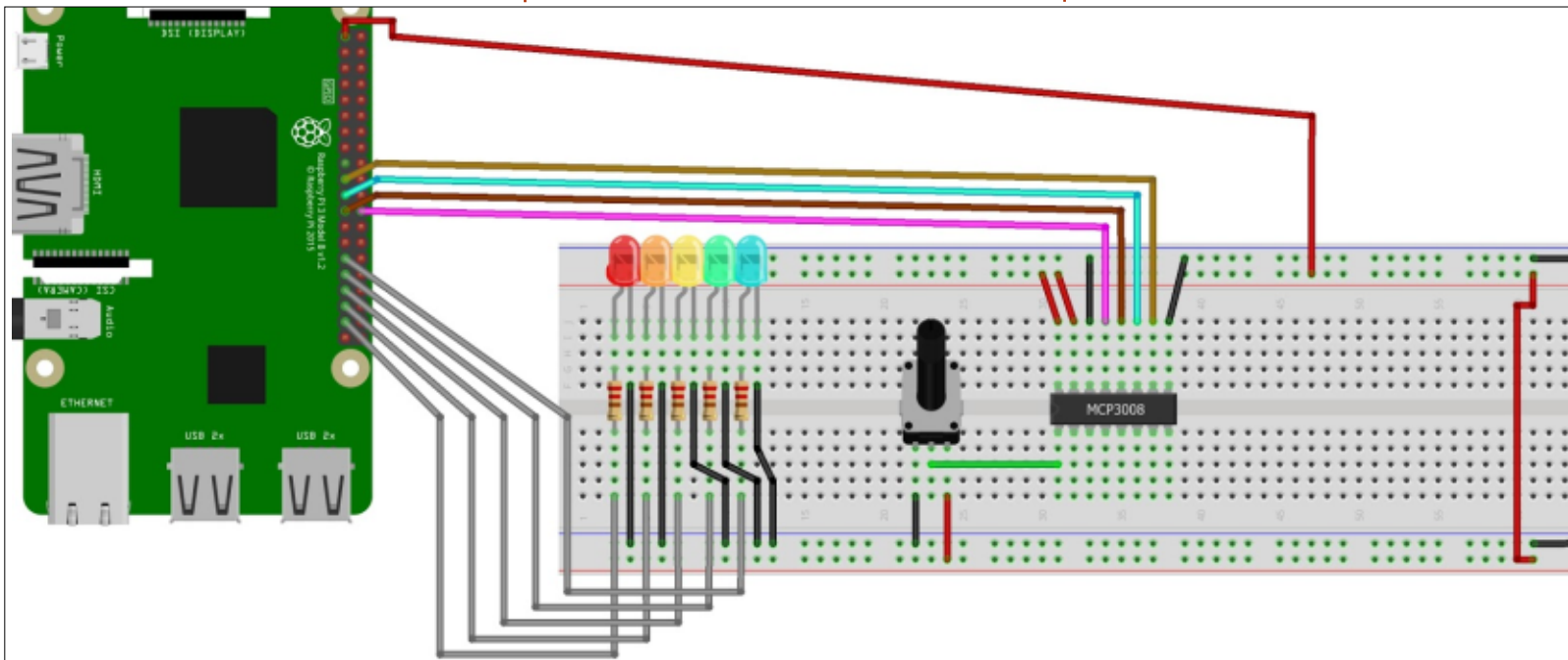
Greg Walters is owner of RainyDay Solutions, LLC, a consulting company in Aurora, Colorado, and has been programming since 1972. He enjoys cooking, hiking, music, and spending time with his family.

In this series, we will be examining the world of FreeCAD, an open-source CAD modelling application that is still in Beta, but has been gaining acceptance in recent years. Naturally, it is readily available in the Ubuntu repositories. In the third article on using FreeCAD, we created a complex 3D object representing a Y-junction between two pipes of different diameters.

In this part, we will go back to basics and examine how constraints can be used to draw complex planar shapes, that can then be used as a basis to create figures in 3D.

Users of traditional CAD software such as AutoCAD or LibreCAD are well accustomed to two sets of techniques that help draw complex shapes from individual elementary shapes such as lines or arcs. The first set of techniques is the different ways in which an elementary shape can be defined in these applications. For instance, a straight-line segment may be defined by indicating both ends of the segment. But it could also be defined as the tangent to a circle at a certain point, and with a specific length. A further possibility is to define a line segment as being parallel to a previous segment of the same length and offset to a specific distance. As for circles, they may be defined from a center and a radius, or from three points that are not on the same straight line, and so forth.

A second set of techniques that may be considered quite basic in traditional applications is the use of layers. In a program such as LibreCAD, default line width, color and style (dashed, dotted, ...) may be defined for each layer. A handy technique is thus to place the main elements of each drawing in one layer, while another is used to indicate dimensions, and a third to draw auxiliary items to help construction. When exporting the drawing, individual layers may be hidden with a single mouse click.

At this point in time, the use of such techniques is perhaps not as easily visible in FreeCAD version 0.15 as could be desired. As has been pointed out in a previous part of this series, this application is known to still be very much in development, so there is hope that such features may be made more accessible as the application evolves. Version 0.16 - in the repositories for Ubuntu 17.04 - already hints at the presence of layers within a sketch. In the meantime, users of version 0.15 - in the repositories for Ubuntu 16.04 LTS and Linux Mint 18 - can today work around these limitations by using other features that are more clearly available in the program. This is the subject of this article.

AN EXAMPLE

To visualize the problem, let us begin by drawing up a simple flat piece, with a geometry similar to that used in an engine connecting rod. This part is basically made up of two rings, one at each end, connected with two rectangular spars. The center of the rod has been removed, possibly to lighten

contents ^
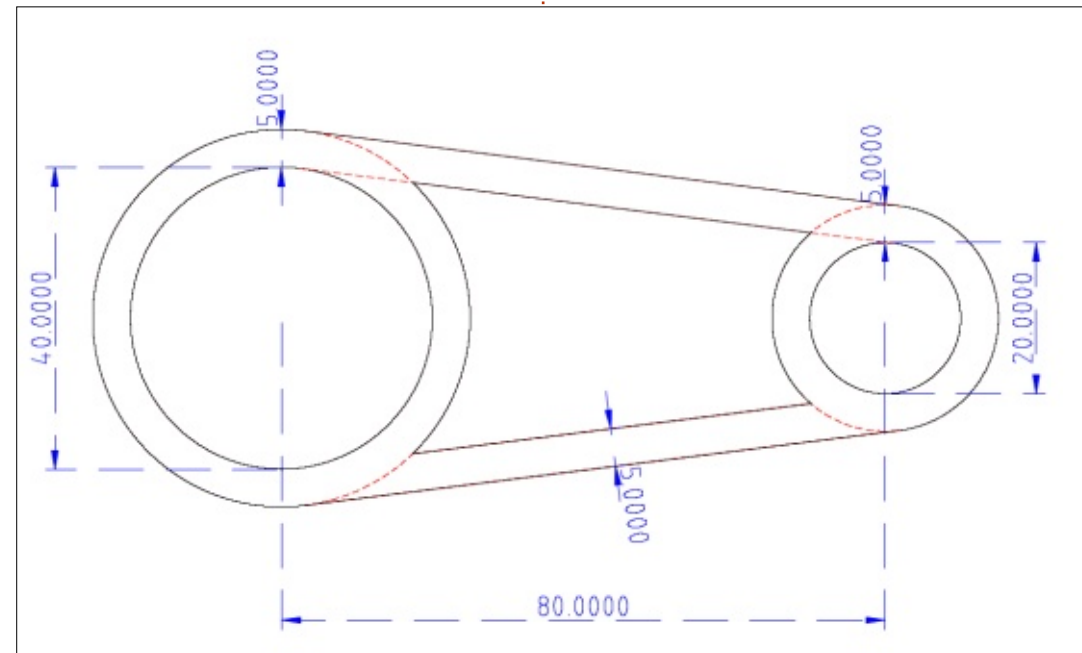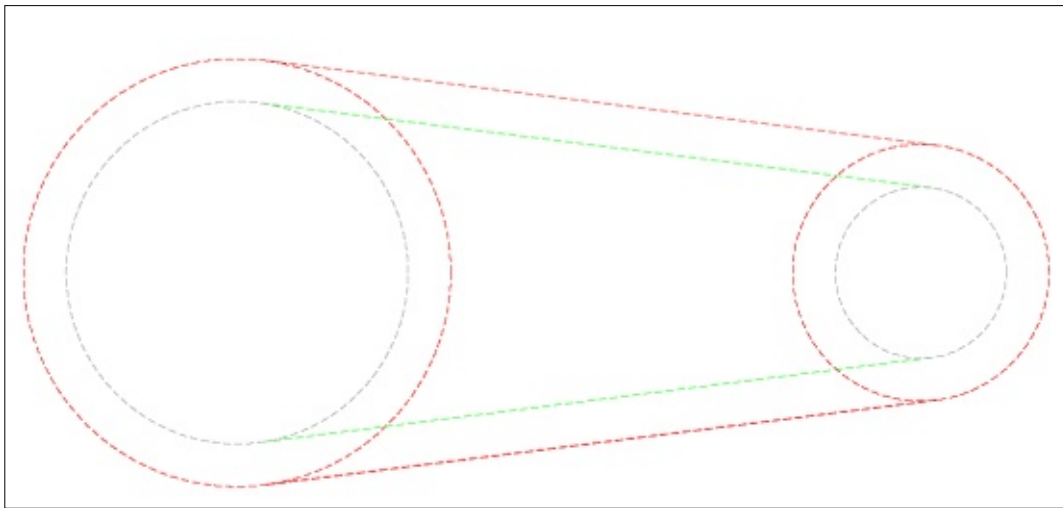
the part.

To draw this part in a traditional manner, the first step would be to create a layer that holds only auxiliary lines – that will not be part of the finished drawing. For instance, one could begin by drawing all the circles.

Once the circles are defined, the external edge of the spars can be placed (in red). The easiest way in a traditional CAD application is to specify a line segment as tangent to both red circles, once for the upper spar and once for the lower. Then, the inner edge of each spar needs to be drawn (in green). There are several ways of doing this. The same procedure may be used, with each segment defined as tangent to the grey circles. An alternative way of doing it is to define the green segments as parallel to the red segments that have already been placed, while specifying an offset - in this case, 5mm.

We can then create a second - main - layer, and draw the segments and arcs of the final part. Selecting snap-to-intersection instead of the more usual snap-to-grid allows us to carefully terminate each element precisely at the intersections between lines and circles.

ON TO FREECAD

To create the same part in FreeCAD, let us begin by creating a new project. Now, we could proceed as in the previous episodes, by going into the Draft workbench and setting up the elements of the drawing using the tools available there for drawing lines, circles and arcs. However, though we can snap element vertices to the grid, or even to another element, there is no way of ensuring that a line stays tangent to a circle or an arc. For this reason, we will go into another workbench, the Sketcher. Here, we will create a new Sketch object, within the X-Y (horizontal) plane. This type of object represents a flat drawing, considered as a separate entity from the rest of our project.
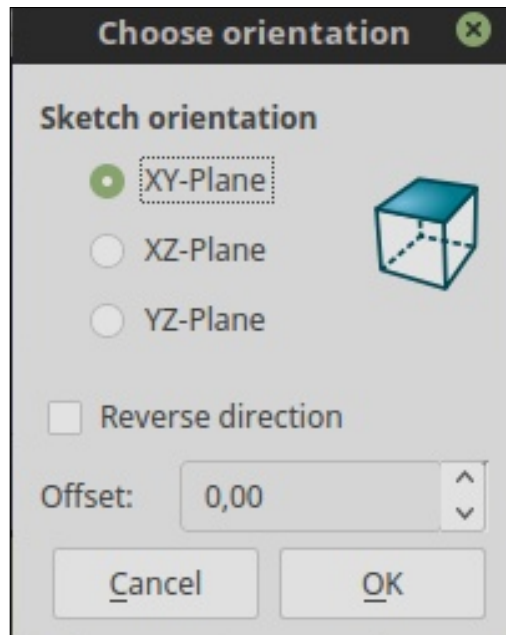
Once editing the new Sketch, we can begin by changing the default grid size from 10 to 5mm, since the dimensions of our part are all multiples of 5mm. Let us draw the two circles that define the left ring of our part, with respective radii of 20 and 25mm. It is interesting to note how the shape of the mouse pointer changes when creating a new point. In a general situation, the shape is a red circle, with the new point's coordinates in blue beside it. However, if we click on an existing point, a red dot shows up beside the circle. If we click in this situation, we can choose to link both points. This is ideal when we are drawing two circles with the same center. If, later on, we move one of the center vertices, both will move at the same time - and both circles will be displaced an equal distance.

Other options include placing the new point on a segment of an arc, thus linking the point to the arc. If we then displace one of the two objects, the movement of the other will equally be constrained. Likewise, when a line segment is drawn and one of the vertices has already been placed, a horizontal

Just creating a
simple point

Snapping onto
an existing point

Snapping onto
an arc

One vertex of a segment
with a horizontal constraint

Create a lock constraint on the selected item

or a vertical constraint can be placed on the segment by placing the second vertex when the mouse cursor contains the corresponding red horizontal or vertical bar.

Once the two circles have been
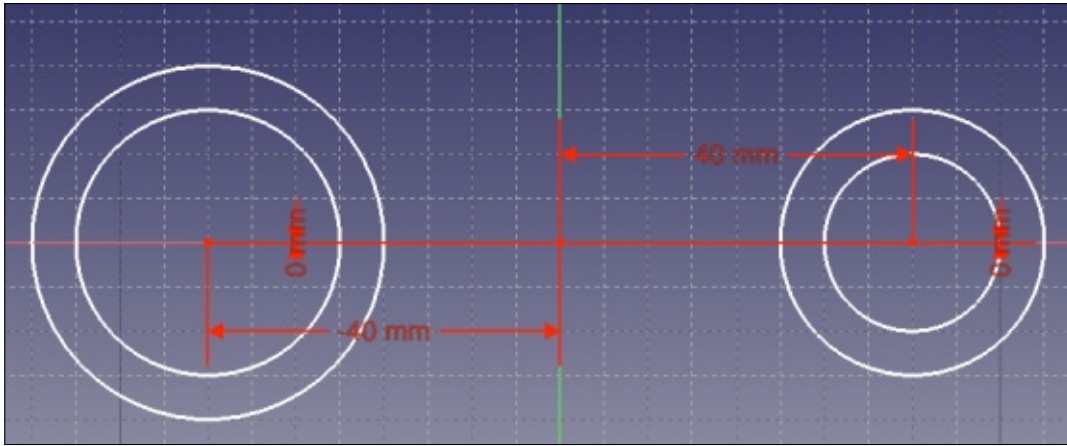
Elements

Type: Edge

1-Circle

2-Circle
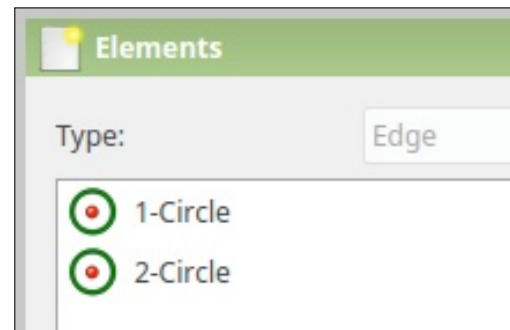
created, we can inspect the number of elements created in the "Elements" window, and select each element by clicking on it.

Once selected, each element can be moved around using the mouse. This is fine for the time being, but will introduce a difficulty when the connecting segments are placed to create the connecting rod itself: altering the position of a segment may very well end up by moving one of the circles that is connected to it, thus

making sure the two elements remain in connection. We do not want this to happen; on the contrary, we want the circles to determine the position of the segments. So let us place a constraint on the position of each of our circles. Click on the center of the circles - which should be a single round dot - and then use the constraint toolbar to choose the "lock" constraint which has an icon shaped, rather appropriately, like a padlock.

Let us continue by drawing the remaining circles, and locking them into place. We should now see four constraints, two for each center (one horizontal and one vertical), within the "Constraints" window at the left of the screen. The four circles should look approximately like the image on the next page (top left).

We have constrained (fixed) the position of the center of each circle. However, their radii are not yet constrained, and could be altered when connecting segments are added. To fix their size, select

each circle in turn and select the "Fix de radius" constraint, a red circle with a bar on it, from the constraints toolbar. Our sketch should now change aspect, with all elements changing color to become green. This indicates our sketch is fully constrained: existing elements cannot be further moved, unless at least one of the constraints is lifted.

We are now ready to place the connecting segments on our - now immobile - circles. Start by drawing a line segment from one of the external circles, to the other. By carefully placing the mouse, we should be able to constrain the segment's vertices so that each remain on a circle - this is the symbol of a red arc with a dot in its center. However, it should rapidly become clear that this segment is

not yet necessarily tangent to each circle. To impose this new set of constraints, click on the dot representing the segment terminal vertex, then click on the circle. Finally, choose the "Create a tangent" constraint. The operation will need to be repeated several times, once for each intersection between a segment and a circle. It may also be necessary to remove spurious horizontal constraints on our segments, if they should appear during construction.
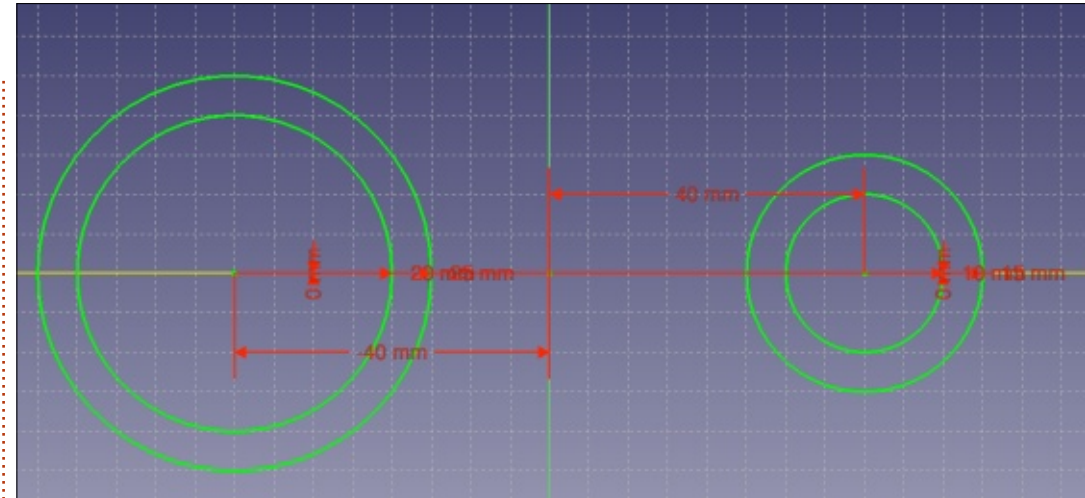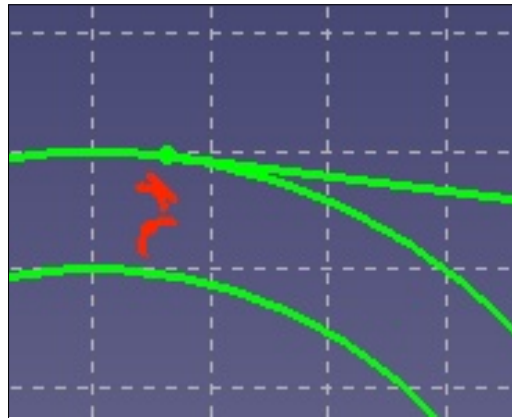
The final result, with all four segments placed and the elements completely constrained, should appear like that shown below.

Up until this point, we have been actively editing our Sketch object. We can now close this object, returning to the standard FreeCAD view, and examine our handiwork. All constraints have

disappeared in the normal view, and we are left with our shape's individual elements - all grouped together in a single planar Sketch object.

BUILDING THE FINAL SHAPE

What we have obtained so far is, in fact, just the auxiliary, constructive aides to help us place
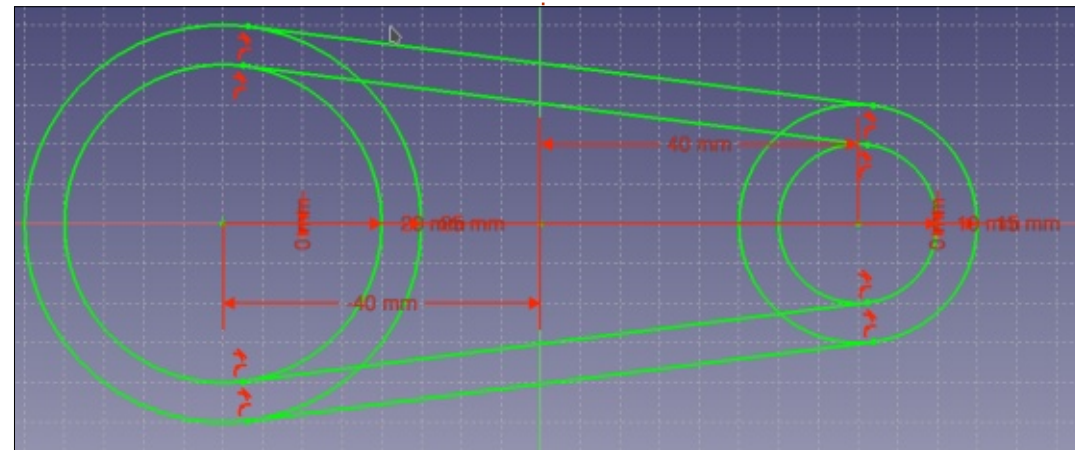
our final arcs and segments. It would be nice to see them in a different color and style, to help us distinguish between helper traces and elements belonging to the final drawing. There are two ways of going about this. The first is to exit Sketch edition. By clicking once on the Sketch, we can proceed down to the "Property" window, and change both "Line Color" and "Draw Style" for all lines in the Sketch in a single action.

| Property	Value
Base	
Bounding ...	false
Deviation	0,50
Display Mo...	Wireframe
Draw Style	Dashed
Lighting	Two side
Line Color	☐ [255, 0, 0]
Line Width	2,00
Point Color	[255, 255, 255]

Then, we can proceed to the "Draft" workbench. Once here, we can use the drawing tools from the Draft toolbar (with yellow/black icons) to draw on top of the Sketch.

Intersections between Sketch elements can be made easily detectable if a point is placed at each intersection from within the Sketch. To do so, create a point using the tools with the icon with the red dot. When placing the point, snap to one of the elements creating the intersection, for example to the circle. Then click on the new point, click on the other element of the intersection - for example, a line segment - and create a new constraint of type "Fix a point onto an object". The point should then be fixed by being constrained twice, once to each element, and thus should stay in place at the intersection.
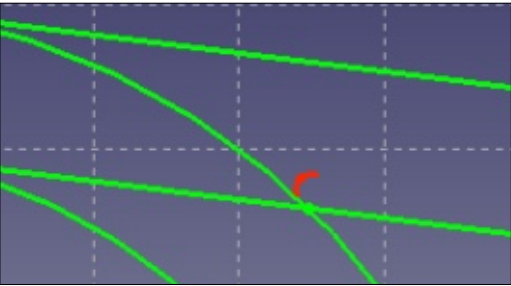
Once the points at the intersections have been created, lines in the Draft workbench and can be snapped to these points if the "Snap to intersection" option is chosen (the icon with a green 'X' from the snap toolbar).
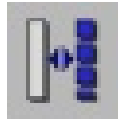
A second way of drawing the final shape of our part is to do it directly inside the
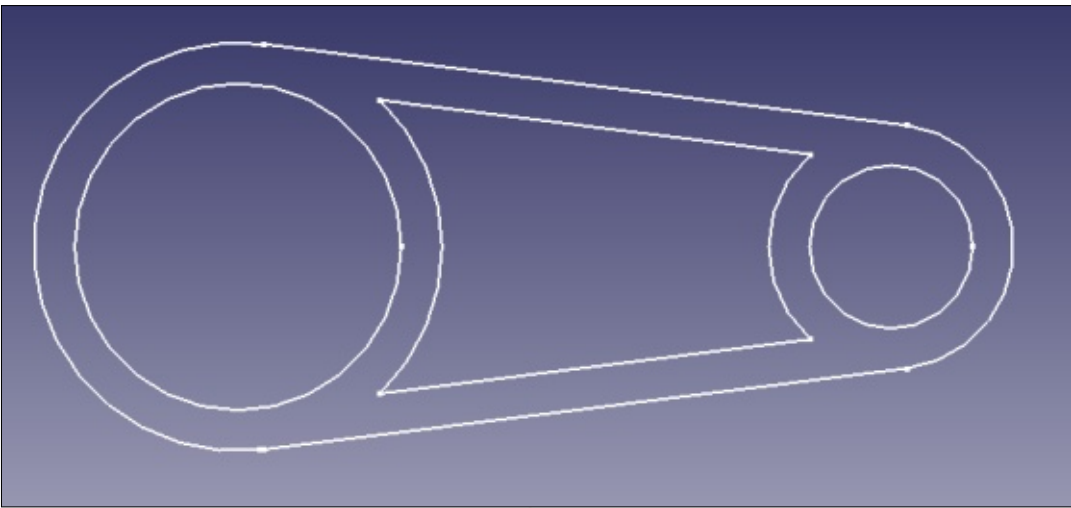
Sketch. Go back into editing the Sketch object (double-click on the object), selecting all the lines and switch them all to "Construction mode" using tool . This will change their color to blue - and make them disappear from the Sketch when this is not being viewed from within edition mode. We can then proceed by creating the points at intersections, as needed. Continue by adding further elements to the Sketch object, taking these constructive elements as a guide. These elements, drawn in normal mode, will appear when not editing the Sketch. Since they are based upon other elements in constructive mode, some elements may need to be converted to normal mode using the same tool: .

At this point, we can use the Sketch object to print a diagram in two dimensions. However, we cannot use it directly to create a three-dimensional part. To do so, we must begin be going to workbench Draft, and there convert the Sketch object into a collection of drawing elements using the appropriate conversion tool: .

Once this has been done, we can go to the Part workbench, extrude each object (the two circles and the two outline shapes) individually, and then combine them using boolean operations (Fusion and Cut out) to create the final piece in 3D, as described in Part 2 of this series.

contents ^
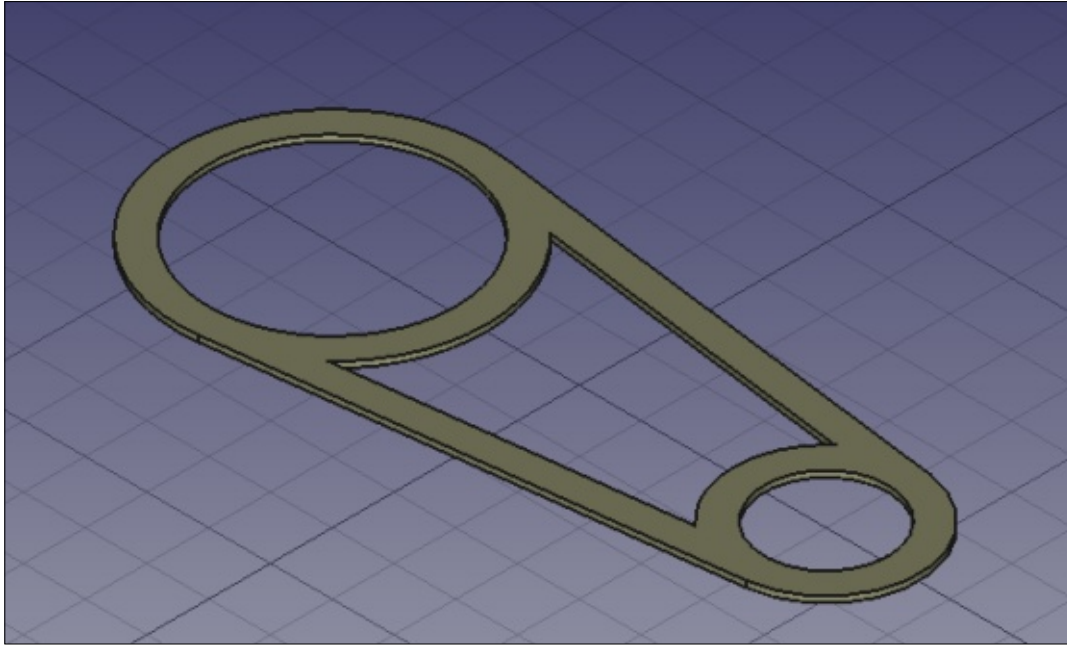
WHAT NEXT?

In this article on using FreeCAD, we created a Sketch object, to place individual drawing elements such as lines, arcs and points, in a precise relationship to each other using constraints. We noted the use of Construction mode elements within the Sketch object, to aid construction of the complete diagram while not appearing in the final drawing. In the next part of the series, we will change scale altogether and work on an architectural project.

Alan holds a PhD in Information and the Knowledge Society. He teaches computer science at Escola Andorrana de Batxillerat (high-school). He has previously given GNU/Linux courses at the University of Andorra and taught GNU/Linux systems administration at the Open University of Catalunya (UOC).

In my last article, I explained Zim Wiki's ability to be a shortcut for creating LaTeX documents, or at least creating text that can be easily imported into a LaTeX document. Importing text created in another program is not as straightforward as we may think. One issue is the way LaTeX handles characters such as ampersand, quotation marks and dollar signs. Cutting and pasting from a text editor or web page straight into a LaTeX editor can cause some strange characters to appear in your PDF file if your text includes symbols to which LaTeX takes exception. This creates a lot of grunt work that can be eliminated with applications that are configured to handle the exceptions and deal with them for you.

Two programs available in your Ubuntu repositories are Pandoc and Writer2Latex. You may install them via Synaptic or the command-line. If you are composing LaTeX documents on the Raspberry Pi, please be aware that Writer2Latex will add 106 MB of files to your disk. This may or may not be a problem, depending on the size of your SD card.

PANDOC

I am impressed with what Pandoc will do, especially with HTML files. Pandoc processed an HTML file that was mostly a table and did it quite well. I did have to edit my .tex file, though. First I had to add "\usepackage{longtable}" to my preamble, and I had to set my page margins with "\usepackage[left=0.50cm, right=0.50cm, top=1.00cm, bottom=1.00cm]{geometry}".

In this conversion of an HTML table, Pandoc placed some code into the document that my LaTeX editor did not like. We see them in the form of the nasty error messages that pop up during the compile and view PDF stage. There are two things you can do:
• Search on Google for the error and you may find a solution. Often this can be as easy as adding another line or two to your preamble.

• Comment out the offending line of code with a "%" at the beginning of the line.

Pandoc is a command-line application but it is user-friendly. An example of a basic command is:

```
pandoc -s -o filename.tex
filename.odt
```

filename.tex is what the resulting LaTeX file will be; filename.odt is the original file. (use the appropriate extension for your file.)

More information can be found at the Pandoc website:
http://pandoc.org/

As good as Pandoc is, it has its limitations, as far as I know, concerning files from word processors. For example, Pandoc did not translate a very small simple table I made in an .odt file. This is surprising when I consider the great job Pandoc did on an HTML file that was mostly in a table format. This is where Writer2LaTeX comes in.

WRITER2LATEX

The website http://writer2latex.sourceforge.net/ has all the information about what the program can handle, and you may want to consult it before committing to use it for a large project. But it looks like it can convert anything we can create in an .odt document. If your original has been created in Microsoft Word, you will have to open the file in LibreOffice, save the file as an .odt document and then convert. The command-line input is just as user friendly as Pandoc:

```
w2l filename.odt
filename.tex.
```

You may have noticed that the files are in the reverse order of the command you would use for Pandoc. You type in the name of the input file first and then the output tex file. I have tried it on an .odt file with a table in it and it worked like a charm. Moreover, Writer2LaTeX can handle some fairly complex .odt documents.

The manual for writer2latex is a whopping eighty-four pages long. There is lots to sink your teeth into, and it's well worth the time to take a look at it so that you have an idea of what can be done.

You will also find information on these other applications: Writer2BibTeX, Writer2xhtml and Calc2xhtml.

The good news is that when you want to bring data into LaTeX from other sources, you have some very good tools at your disposal to make life easier. And the help you need is just a command line entry way.

RESOURCES:
Writer2LaTeX:
http://writer2latex.sourceforge.net/

Pandoc: http://pandoc.org/

John Eddie Kerr is the Law Librarian at the Wellington Law Association in Guelph, Ontario Canada. Ubuntu powers his workstation, laptops and Raspberry Pi.

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Able2Extract Professional 11
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PowerPoint and more...

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PDF SOLUTIONS

A frequently requested feature, particularly from users coming to Inkscape from other vector tools, is a dialog that shows a hierarchical tree of the objects in a drawing. This is now present, as of version 0.92, via the Object > Objects… menu entry. This feature was actually back-ported from Ponyscape, a fork of Inkscape that is no longer being developed, so bravo to the Inkscape developers for merging it back into the program, and thanks to the original Ponyscape developer for creating it in the first place. Here's what the dialog looks like, with a few objects in a drawing:
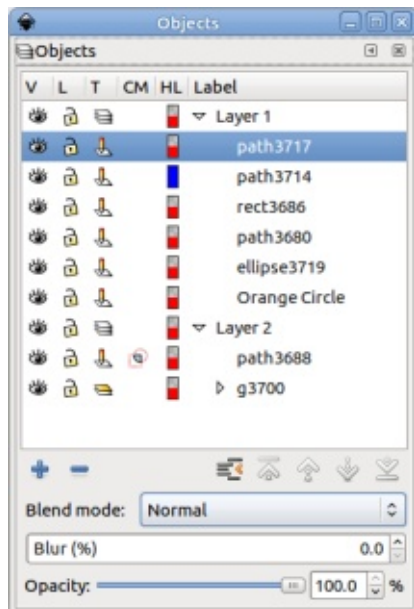
It shares some similarities with the Layers dialog (see part 9 of this series), and can largely be used as a replacement for it if you wish – although I prefer the simplicity of the old dialog. At the top is the hierarchy of objects in your drawing, with groups and layers displayed as collapsible entries that can be opened to reveal the objects within them, or closed to hide the clutter. The lower section provides buttons for adding layers, deleting selected objects, "Collapse All" (more on that in a moment), and buttons for moving individual objects up or down in the list (which, in turn, moves them up and down in the z-order). There's a pop-up for selecting a blend mode – which can now be easily applied to any object. Previously, only layers could easily have blend modes applied; other objects required a trip to the filter editor, so this is a welcome addition. It's also possible to set the blur and opacity of the selected object, group or layer.

As for that "Collapse All" button, what it actually does is collapse every top level layer or group except the one that the currently selected object is in. This is a common theme for this dialog – right-click on an object in the tree and you'll be presented with a wide range of options in a context menu, in which several choices (those from the "Solo" and "Lock All" sections) actually work on top-level layers and groups, regardless of how deeply nested the object is that you clicked on.

Each object is listed by its "Label", which was previously only settable in the Object Properties dialog or the XML Editor. Now you can simply double-click on the entry in this new dialog to change the label – a significant usability improvement. But unless you're fastidious about changing the default labels assigned by Inkscape (as I have done in the case of "Orange Circle") you could well be in for some surprises. Take another look at the screenshot of the Objects dialog, considering the labels of the objects there. Now take a look at the canvas that produced that list:
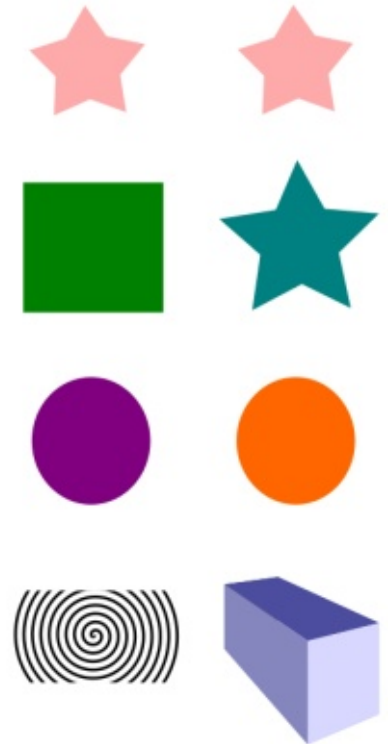
Notice that the stars are labelled as "paths", as is the (clipped) spiral. The 3D box has a label of "g3700", because in SVG terms it's actually a group, so Inkscape labels it as such. Which path corresponds to which star? The only way to tell is to select each one and see which object

becomes selected on the canvas. I hope that a future release of Inkscape will add an extra column to show the "Inkscape type" of the object (e.g. star, spiral or 3D box), and preferably a small preview image of the object as well.
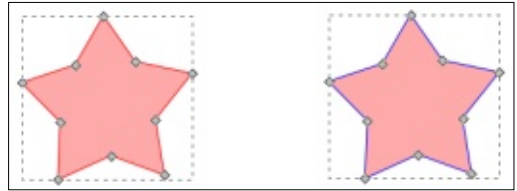
To the left of the object tree, you'll have noticed that there are five other columns, with terse titles that only make sense once you've hovered over each of them to read the tooltip. The first and second should be familiar from the Layers dialog – they toggle the visibility and locked state of each object. At last there's an easy way to unlock individual objects: many new users have found themselves tempted by the Lock option in the Object Properties dialog, only to then find that they could no longer select the object to unlock it! The third column, nominally "Type", holds an icon to indicate whether the item is an object, layer or group. As you may recall, SVG doesn't actually have a concept of layers, so Inkscape implements them as groups with some extra metadata. An interesting extra in this dialog is the ability to click on the Type icon of a layer to turn it into a group, or vice versa.

The next column is supposed to show an icon to indicate whether an object is clipped and/or masked. In my screenshot, you can see the effect on the clipped spiral, however my copy of Inkscape does not show an icon there for masked objects, despite the claim of the tooltip. In this case the icon is purely informative; the dialog doesn't provide any additional capabilities for working with clipping paths or masks, so there's still no way to edit masks or some types of clip paths without releasing them first.

The last column is rather specialised, and will probably be rarely used. Within the Inkscape Preferences (Edit > Preferences), in the Tools > Node section, you can set the default color used to draw the path outline when the Node tool is active. Typically this is set to 100% red on a standard installation. The swatches in this column can be used to set the path color on a per-object basis. Clicking on a swatch, then setting a color with a non-zero opacity, will change the color; set the opacity to zero, regardless of the color, to revert to the default set in the preferences. This may occasionally be useful if you're editing an object whose color is similar to the

default, and you want to set it to something contrasting, but that's really the only sensible use for this option. You can see the effect on the top two stars which I have converted to paths, and changed the outline color on the second to blue:

Let's take a look at the context menu that appears when you right-click on any entry in the object tree. The first two entries let you rename the selected item (more easily done by double

clicking on the label) and duplicate it (the same as pressing CTRL-D). The third item should probably be called "New Layer" for clarity, as it opens the new layer dialog regardless of what type of object was clicked on in the tree. This seems like a pointless addition to the context menu given that there's a dedicated button for this on the dialog.

The "Solo" option takes its name from music software, in which it is used to mute all the other tracks so that you can easily work on just one. In Inkscape, it hides all the top level layers and groups, except for the one that the selected item is in. It doesn't hide other elements that are in the same group, so it acts as a literal "solo" option only if each of your objects is in its own group or layer. It should probably also be renamed to "Hide Others" for consistency with the "Lock" options that follow in the next group. "Up", "Down", "Group" and "Ungroup" are fairly self-evident, but it is worth noting that "Ungroup" is available even if the selected object is not a group or layer. The same lack of context awareness exists for the "Set Clip" and "Set Mask" options, which are available even if you have only a

single object selected – they require at least two objects in order to work. Thankfully in all these cases, the result of selecting an option that is not valid is for no change to take place, but it would still be better if invalid options were hidden or disabled in this menu.

The new "Create Clip Group" option is also present on the context menu for an object but, despite experimenting with it myself and searching online, it appears that nobody really seems to know what it's for, artistically speaking. Choosing this option will group any selected objects, then clip them with a clone of the group. Quite why you would want to do this – and especially why anyone wants to do it so frequently that it needs an entry on the context menu – is beyond me. I can think of a couple of esoteric situations in which this kind of structure is useful, but nothing that isn't made clearer by creating it step-by-step. If anyone has any good ideas about this one, please let me know!

Moving on from the Objects dialog, 0.91 also introduced some small UI improvements that can

have a big effect on how you use Inkscape. The first is the ability to enter simple calculations into spinboxes (the numeric fields with up/down arrows next to them). You can use the usual symbols for the main arithmetic operations of addition (+), subtraction (-), multiplication (*) and division (/), as well as brackets to group parts of the calculation. Any simple numbers will be used in the current units that are set for the field, but you can also append a unit name (e.g. "pt", "mm" or "px") to individual numbers to have them converted for you. For example the following, when applied to a field set as "mm", will result in a value of 45.4mm: 10 + 1in + 1cm

Because the spinbox typically shows the current value of the parameter, you can often just tack bits of a calculation onto the end, then hit the RETURN key. Do you need a field to be 50% wider? Just add "*1.5" to the end of its value. Want to reduce it by 1cm, regardless of the current value? Just append "-1cm".

One place where I find this feature invaluable is when setting guides. The Guideline dialog has had a "Relative change" checkbox

for some time (see part 16 of this series), but now there's really no need to ever use it, as you can just append a relative offset to the end of the existing value inside the X, Y or Angle spinbox. I'd really like to have a way to duplicate guides in a future release, as this would make it much easier to create a series of them by just setting the first in place then repeatedly duplicating and adding an offset.

Although there's no Duplicate button, the Guideline dialog has gained a few other features. It's now possible to name your guides (the label appears in small text by the anchor point), give them

individual colors, and lock them against accidental movement. This can make guides much more useful when setting up a common template page that might be used as the basis of multiple similar documents in future.

Another UI addition that is particularly welcome is a new section in the Inkscape preferences for setting keyboard shortcuts. You can get to it by opening the preferences from Edit > Preferences (or SHIFT-CTRL-P by default), then drilling down to Interface > Keyboard Shortcuts. There's a drop-down list at the top to let you select from a range of preset options, which could be especially useful if you're coming to Inkscape from another product. As has become the norm with these kinds of dialogs in GTK programs, setting a new shortcut is done by highlighting the row you wish to modify, then clicking in the "Shortcut" column – either on the existing shortcut, or the blank space if there isn't a shortcut defined for the operation you've selected. The field will populate with some text that says "New accelerator…" or something similar, which is your cue to press the keyboard shortcut you wish to

assign. Note that there's no warning if you use a shortcut that's currently assigned to another operation – it will just be removed from the old command and assigned to the new one – so you may wish to choose your shortcuts carefully. If you want to remove a shortcut entirely, press the BACKSPACE key when prompted for the new accelerator.

If things go completely awry, you can change the shortcuts back to the defaults using the Reset button at the bottom of the dialog – where you'll also find options for importing and exporting shortcut configurations, so that you can back-up your highly customised settings somewhere safe.
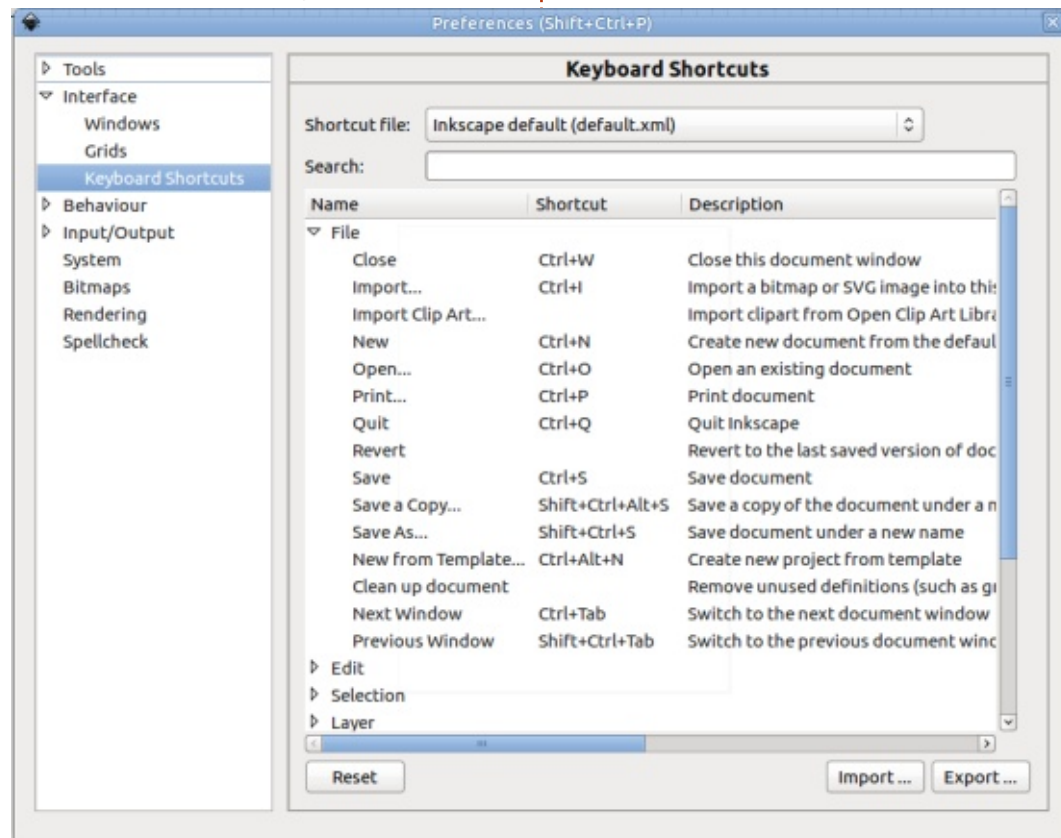
Mark uses Inkscape to create three webcomics, 'The Greys', 'Monsters, Inked' and 'Elvie', which can all be found at
http://www.peppertop.com/

contents ^

This month we'll talk about green-screen effects. Whether you know it or not, you see it all the time on TV. It's regularly used in news studio rooms and is most widely known with presenting the weather on TV.

Basically, the presenter is performing in front of a green background. This green background will be removed (digitally) and replaced with an alternative background.

A quick example of a green-screen setup (taken from Google Images) is shown.

This end result will look a bit weird, but I want to keep the full setup in the shot to let you see exactly what is/isn't being removed.

SETUP

The first thing we need to do is import our green-screen recording. In this case, I'm using a static image, but it could easily be a video. And then drag it to Video2. It must be Video2 as the background will be Video1. In other words, below/behind Video2.

I then import the image/video that will be the new background.

CHROMA KEY

I right-click on the green-screen clip in Video2 and choose Add Effect > Alpha Manipulation > Chroma Key.

If your green-screen video is still selected (red outline), you'll see the Chroma Key effects in the Properties tab.

It will look like nothing has happened, and nothing has happened yet. Click the water droplet above the Variance number. This will let you pick a colour in your video. Obviously, you click on the green.
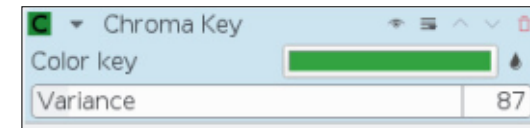
The Variance value is how precise (or not) the masking should be. Lower the value and more green will show, higher will begin to wipe out parts you want to keep. You'll need to find the sweet spot for your video/image.

Black is probably replacing green in the image, but that black is actually transparent.

THE SWITCH

Drag the replacement background image/video into Video1 and you'll see the transformation.

You'll probably have to adjust the Variance slider a touch once the new background is in place. If the Variance is too low, you'll see a green fuzz around the presenter's

outline. Too much Variance and the presenter will have a hard sharp, jagged, outline.

CONCLUSION

The single most important part of this is that the presenter (in this case) must not be wearing anything green, or reflective. If, for example, the presenter is wearing a green dress, or a green tie (even of a different shade of green), then those items would become transparent. If their clothing/accessories were reflective, then they may end up with green reflections on them which will also become transparent.

I've botched together an edit of the original image to show the presenter in a green dress (right).

Even though it's a different shade of green, it'll still be included in the chroma key effect (far right).

Obviously, in some cases, that's what you want. Some movie shots will have crew entirely covered in green to easily erase them. Same with wires and props.

Don't forget to add me to the credits of your next big blockbuster!
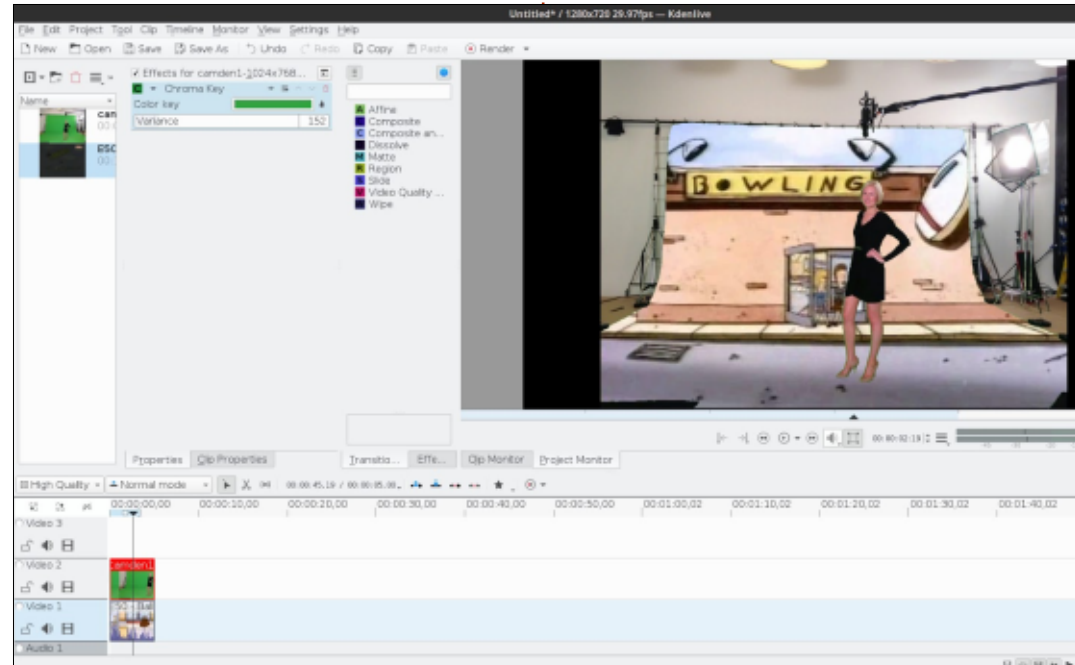
Written by S. J. Webb

The largest portion of my job is devoted to project management and the daily administration of the various projects. Initially, when I started my occupation 5 years ago, I simply collected and processed motion capture data. Today, my job requires some level of project management. I am not a certified project management, however I have attended a couple of seminars about the topic. Currently I am leading 5 different projects, and project management enables stronger organization on these items individually.

Project management is a detailed step-by-step plan to control, monitor, and finalize an expected product. Large corporations utilize project managers to minimize cost and expedite processes.

Numerous project management aspects are hard to apply to clinical research. Yet clinical research parallels the corporate requirements of controlling, monitoring, and finalizing a research question.

For numerous primary investigators, their continued employment is manuscript development. This gives rise to the old research saying of "Publish or die." Project management enables an investigator to streamline their resources into producing better quality manuscripts and avoid the "Publish or die curse."

There are two native project management tools available from the KDE and Gnome DE. Korora MATE offers Planner by default. KDE has Calligra-plan and Gnome has Planner. Both programs are self-intuitive, however they are implemented differently visually. I used Planner previously, but I have moved onto using Calligra-plan. The sudden change is tied to the exported file type – Planner exports as a HTML format, while Calligra-plan exports as PDF.

The PDF export is an easier visual communication tool than a HTML file. Additionally, the developer documentation is

```
Package                      Arch          Version              Repository    Size
================================================================================
Installing:
 akonadi                     x86_64        1.13.0-102.fc24      fedora         91 k
 calligra-core               x86_64        2.9.11-15.fc25       updates       6.3 M
 calligra-kdchart            x86_64        2.9.11-15.fc25       updates       373 k
 calligra-l10n               noarch        2.9.11-3.fc25        fedora         10 k
 calligra-libs               x86_64        2.9.11-15.fc25       updates       4.1 M
 calligra-plan               x86_64        2.9.11-15.fc25       updates       343 k
 calligra-plan-libs          x86_64        2.9.11-15.fc25       updates       1.5 M
 kdepimlibs                  x86_64        4.14.10-17.fc25      updates       2.3 M
 kdepimlibs-akonadi          x86_64        4.14.10-17.fc25      updates       1.9 M
 kdepimlibs-kxmlrpcclient    x86_64        4.14.10-17.fc25      updates        29 k
 libdmtx                     x86_64        0.7.2-19.fc24        fedora         69 k
 libspnav                    x86_64        0.2.3-3.fc24         fedora         17 k
 lyx-fonts                   noarch        2.2.3-1.fc25         updates       161 k
 poppler-qt                  x86_64        0.45.0-3.fc25        updates       171 k
 prison                      x86_64        1.1.1-5.fc24         fedora         30 k
 qjson                       x86_64        0.9.0-1.fc25         updates        66 k
 soprano                     x86_64        2.9.4-14.fc25        fedora        553 k

Transaction Summary
================================================================================
Install  17 Packages

Total download size: 18 M
Installed size: 57 M
Is this ok [y/N]: 
```

stronger for Calligra-plan. Further details about Calligra-plan can be found here.

I prefer using the terminal when possible. For Korora, I enter:

```
sudo dnf install calligra-plan
```

For Ubuntu, you would enter:

```
sudo apt-get install calligra
```

After installing Calligra-plan, you can launch it from the terminal by entering calligra-plan. Alternatively you can launch the program via the MATE Applications launch menu. The program populates rather quickly on the

RESEARCHING WITH LINUX

laptop screen.

The two most important features for me are task listing and Gantt Charts. Next month, I will do a full tutorial on Calligra-plan for a current research project that I am starting at the end of July.

One program that I use exclusively for my own personal privacy is Dayplanner. This is a very simple application that follows the Gnome Human Interface Guidelines. This is a simple tool that I like. My university utilizes the Gmail Eco-sphere, and consequently every person can look at my calendar. There are

some events that I simply cannot list on my calendar for privacy reasons., I will go into detail about this later. You can install Dayplanner via:

```
sudo dnf install dayplanner
```

or

```
sudo apt-get install
dayplanner
```

The main reason I use Dayplanner is for privacy for students and research participants. I am bound by government and educational standards in the United States. I cannot divulge who was involved in my clinical research

projects. Plus I have to be cautious of the educational grading for numerous osteopath students that walk through my lab. If I have a screening event for my research, I can use a coded event within Dayplanner to record my interaction. If necessary, I can print off the event from the laptop. I do not mix my sensitive job information with my Google Calendar. I am afraid of any security breaches that will eventually affect Google. And I seriously doubt Dayplanner would be affected by a security breach. So, in a nutshell, I stay organized using these two programs for the clinical research.

SJ Webb is a researcher coordinator. When he is not working, he enjoys time with his wife and kids. He thanks Mike Ferarri for his mentorship.
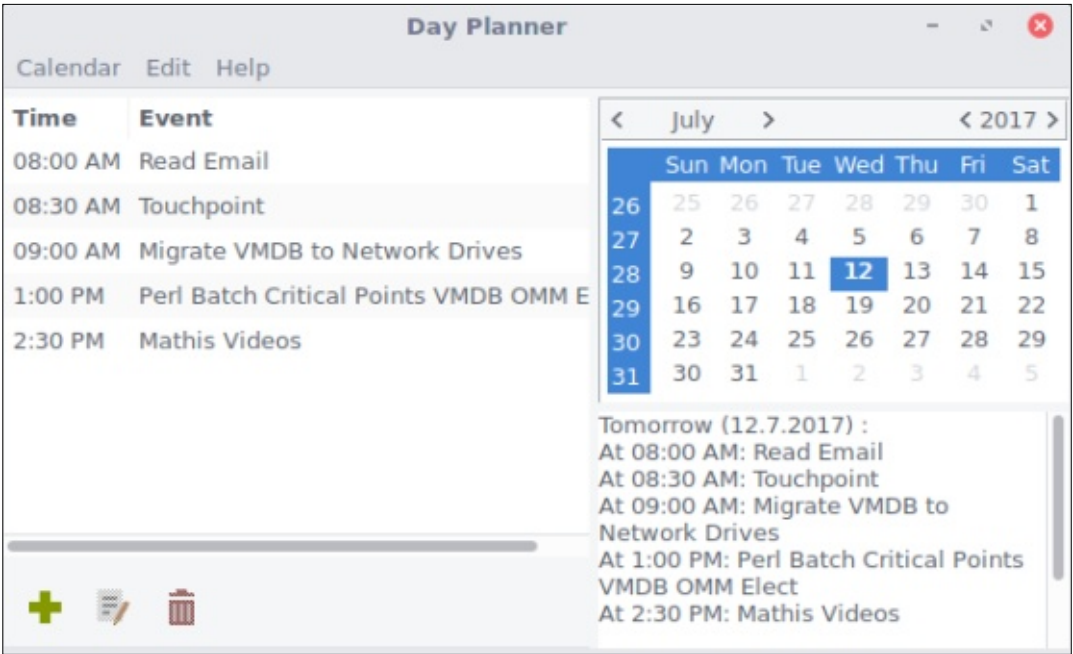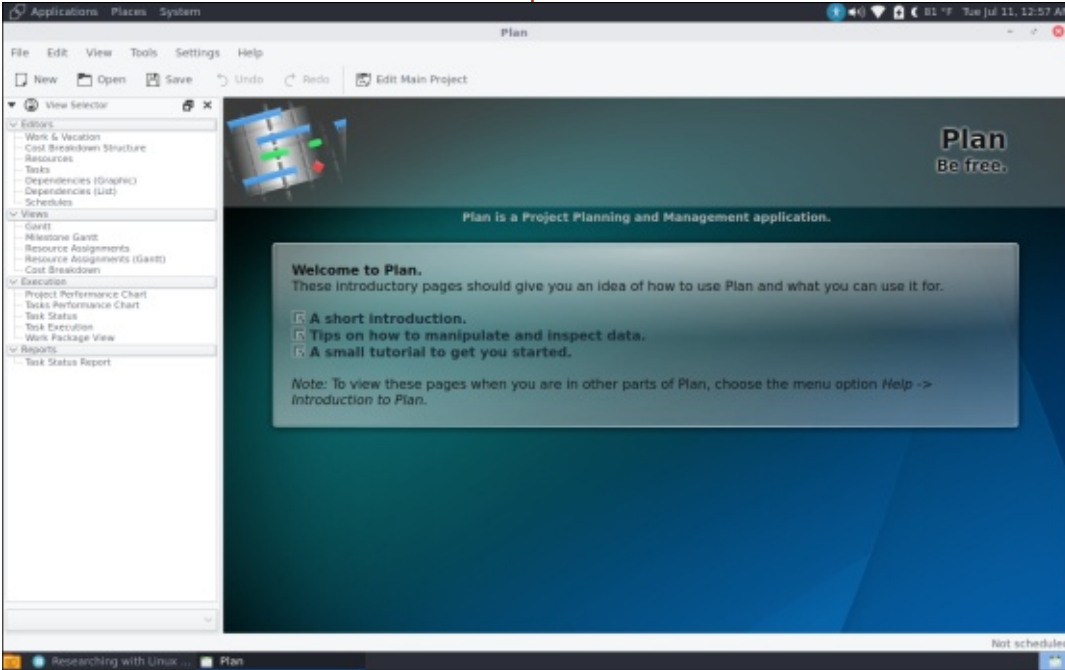
GUIDELINES

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 <u>not</u> use tables or any type of **bold** or *italic* formatting.

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

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

TRANSLATIONS

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

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

Would it even be possible? That was what I wondered as I tried unsuccessfully to get :
• a good quality player
• with a screen so I could choose the songs
• equipped with a graphic equalizer along with many more essential options…
• and, of course, an infra-red remote control that would give me all the comfort of a real home player.

I then thought of using an EeePc which I would equip with an infrared remote control.

My EeePc is powered by Linux Mint 18-Xfce.

This latest version, in Gtk3, is very responsive; that being said, however, the computer is still a netbook with limited performance, except when it comes to playing my musical collection, in .mp3. There, it excels with no problems at all.

The indicator-cpufrq package allows you to reduce the noise of your fan:

```
sudo apt-get install
indicator-cpufreq
```

You run it with "indicator-cpufreq" which will appear in the dashboard, and you click on it to go from Turbo to economical mode. The minimum is 800 MHz in energy-saving mode.

Formyaudioplayer,Ichose Audacious that is easily installed with:

```
sudo add-apt-repository
ppa:nilarimogard/webupd8

sudo apt-get update

sudo apt-get install
audacious
```

You can uninstall it and remove the PPA from your sources list with:

```
sudo apt-get remove audacious

sudo add-apt-repository --
remove
ppa:nilarimogard/webupd8
```

As we'll see later, Audacious will work with an infrared remote control, which is why I chose to use it.

We now have to connect the EeePC to the amplifier of my stereo system.

The amplifier has a 3,5 mm jack socket on the front, and/or one or more RCA input sockets behind, so there are two possible cables that can be connected to the

headphone output socket of the EeePC.

With that, you now have a new source of music connected to your stereo system.

Next, in order to have a real home music system, you've got to add an infrared remote control.

This equipment, which doesn't cost much and can easily be found on the Internet, has two parts :
• a normal remote control, like that of a "Media Center"
• and the associated infrared receiver to be plugged into a USB port.

To be sure that they are recognized by the EeePC, you must

install the ir-keytable package, either with Synaptic or with the following command in a Terminal:

```
sudo apt-get install ir-
keytable
```

Next, you plug the infrared receiver into a USB port and you ask your system questions:

```
sudo ir-keytable
```

will let you know:

1) the type of receiver plugged into the USB port and its protocol. Top right is what I learned with that command.

In other words, my receiver is "rc0" and the accepted and available protocols are "NEC RC-5 RC-6 JVC SONY SANYO LIRC RC-5-SZ other, with Enabled protocols: RC-6 LIRC". So the receiver is well and truly recognized and ready to work.

Of course, everyone will get a different result, depending on the type of receiver that he or she uses.

2) Does the system recognize the remote control's orders?

```
Found /sys/class/rc/rc0/ (/dev/input/event6) with:
    • Driver mceusb, table rc-rc6-mce
    • Supported protocols: NEC RC-5 RC-6 JVC SONY SANYO LIRC RC-5-SZ Other Enabled
protocols: RC-6 LIRC
    • Name: Media Center Ed. eHome Infrared
    • bus: 3, vendor/product: 0471:0815, version: 0x0000
    • Repeat delay = 500 ms, repeat period = 125 ms
```

```
Testing events. Please, press CTRL-C to abort.
1487420162.634007: event type EV_MSC(0x04): scancode = 0x800f0416
1487420162.634007: event type EV_KEY(0x01) key_down: KEY_PLAY(0x0001)
1487420162.634007: event type EV_SYN(0x00).
1487420162.767346: event type EV_MSC(0x04): scancode = 0x800f0416
1487420162.767346: event type EV_SYN(0x00).
1487420163.018633: event type EV_KEY(0x01) key_up: KEY_PLAY(0x0001)
```

```
sudo ir-keytable -t --sysdev
rc0
```

Yes, (shown above) the remote control is recognized. (I pressed Ctrl and C together to stop the test.)

The command:

```
sudo ir-keytable -t --sysdev
rc0
```

lists (in a terminal) the scancode that is associated with each key on the remote control, when pressed. Now you can list and copy/paste the scancodes into a personalized configuration file. Every key on the remote generates a scancode, but it's very probable that none

```
# remote control table, type: RC6
0x800f0416 KEY_PLAY(0x0001)
0x800f0419 KEY_STOP(0x0001)
0x800f0418 KEY_PAUSE(0x0001)
0x800f0414 KEY_FASTFORWARD(0x0001)
0x800f0415 KEY_REWIND(0x0001)
0x800f041a KEY_NEXT(0x0001)
0x800f041b KEY_PREVIOUS(0x0001)
0x800f0410 KEY_VOLUMEUP(0x0001)
0x800f0411 KEY_VOLUMEDOWN(0x0001)
0x800f040e KEY_MUTE(0x0001)
0x800f0412 KEY_CHANNELUP(0x0001)
0x800f0413 KEY_CHANNELDOWN(0x0001)
```

generates a keycode (a keyboard shortcut). This problem can be solved by telling your system how the scancode (for example 0x1f32) is matched to a keycode (for example KEY_UP). In order to do so, you have to create your own file that tells you which scancode is generated by each of the keys on the remote.

3) Create your own configuration file, named "personal_ir", containing all the scancodes shown in the terminal.

Here, for example (shown above), is mine. The list of

commands depends on the number of keys you have pressed as per your own needs.

4) Move the "personal_ir" file into /lib/udev/rc_keymaps/ so it will be connected with the infrared receiver each time your system is booted, then type the following command :

```
sudo ir-keytable -c -w
/lib/udev/rc_keymaps/ir_perso
--sysdev rc0
```

```
Read telecommande table
Old keytable cleared
Wrote 12 keycode(s) to driver
Protocols changed to RC-6
```

5) Edit the "rc.local" file, which is in /etc/, as shown top right.

Your system is now configured to recognize, and work with, the infrared remote control.

Reboot and try it out: note that you can increase (or lower) the volume of your computer with the remote control, thus proving that the two are well and truly connected.

6) Finally, you need to configure Audacious so that you can control it from the couch:

```
#!/bin/sh -e
#
# rc.local
#
# This script is executed at the end of each multiuser runlevel.
# Make sure that the script will "exit 0" on success or any other
# value on error.
#
# In order to enable or disable this script just change the execution
# bits.
#
# By default this script does nothing.
ir-keytable -c -w /lib/udev/rc_keymaps/ir_perso --sysdev rc0
exit 0
```

Open Audacious and go into the menu "Output", then to "Audio Settings", then "Plugins". Click on "Universal Shortcuts," then on "settings" below left. Choose an action, then click inside the box to the right called "key associations".

(for example PLAY = XF86AudioPlay) and press the "Play" key on your remote.

Repeat for all the actions that you want to define, then click on the "Define" button below right to save them for good. Only those actions that have already been saved in the "rc.local" file will have any effect!

All you need to do now is lie back and take advantage of your new home music player!

Veracrypt is an open source application for on-the-fly encryption (OTFE). It is great for full disk encryption (FDE). Veracrypt is a fork of the discontinued TrueCrypt project. It was initially released on June 22, 2013 and is currently at version 1.20 as of June 29, 2017.

Website: https://veracrypt.codeplex.com/

UPDATE: Veracrypt is moving to: https://www.veracrypt.fr/en/Home.html

From the website:

VeraCrypt's main features:
• Creates a virtual encrypted disk within a file and mounts it as a real disk.
• Encrypts an entire partition or storage device such as USB flash drive or hard drive.
• Encrypts a partition or drive where Windows is installed (pre-boot authentication - https://www.veracrypt.fr/en/System%20Encryption.html).
• Encryption is automatic, real-time (on-the-fly) and transparent.
• Parallelization (https://www.veracrypt.fr/en/Parallelization.html) and pipelining (https://www.veracrypt.fr/en/Pipelining.html) allow data to be read and written as fast as if the drive was not encrypted.
• Encryption can be hardware-accelerated (https://www.veracrypt.fr/en/Hardware%20Acceleration.html) on modern processors.
• Provides plausible deniability, in case an adversary forces you to reveal the password: Hidden volume (https://www.veracrypt.fr/en/Hidden%20Volume.html) (steganography) and hidden operating system (https://www.veracrypt.fr/en/Hidden%20Operating%20System.html).

More specifically, Veracrypt is cross platform friendly. It works on Linux, MacOS and Windows. VeraCrypt can read TrueCrypt containers and partitions. It is great for encrypting removable drives.The thing to remember here is, choose a filesystem you can read on other OS's .(Windows being the weak link)

Operating systems supported:
• Linux
• Raspbian
• Mac OSX
• Windows

Those of us who use Ubuntu are familiar with LUKS (Linux Unified Key Setup) that Ubuntu uses to encrypt your home folder – if you choose to do so at setup. Other than LUKS, it is not difficult to configure after install. Veracrypt features command-line and GUI options.

INSTALLATION

Downloads are provided via the website and Software Centres. Installation can be done from package managers or command-line, or built from source. One thing to remember when building from source is that VeraCrypt relies on the fuse package:

```
sudo apt install exfat-fuse
&& exfat-utils
```
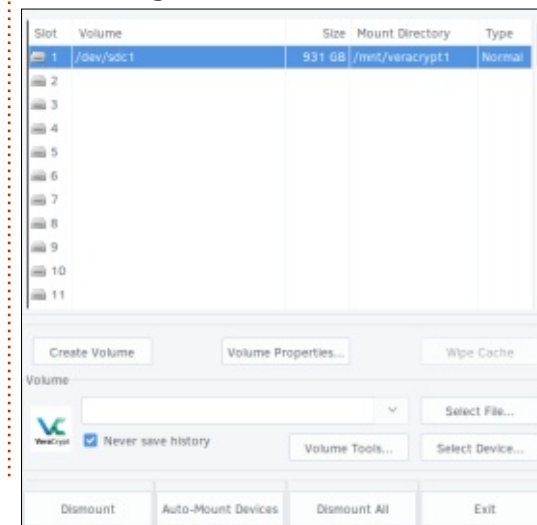
Command line installation is as simple as:

```
sudo bash veracrypt-1.19-
setup-gui-x64
```

(yes I know I said version 1.20 is out, but it is not available for Linux download at the moment.)

After accepting the licence terms, Apache 2.0 licence, you can start the installation.

USAGE

When you launch veracrypt from the menu, you will see the following window:

From here you can create volumes, or mount them. The automount option is extremely handy as you can plug in a drive, click auto-mount devices, insert the password, and voila! It will mount it for you.

For added security, VeraCrypt offers two-factor-authentication, and even PIM management.

Encryption options are varied and VeraCrypt offers single or double encryption methods. You have a choice of AES, Twofish, Blowfish and combinations of those.

Once your drive or volume is mounted, it is used just as any other. You can copy & paste files to the mounted volume or container. All files are secure when you dismount said container, and should you want to access them again, you have to enter the password again.

Though you can encrypt just a file container, I would recommend that you use FDE.

Remember – an encrypted container is just a file. It can be deleted!

External encrypted drives are mounted in just the same way.

Veracrypt also supports HIDDEN containers. Hidden containers are not visible to anyone, so be careful using this option.

There are options to pin favourites to your interface and up to 64 disks are supported.

CONCLUSION

I have been very happy with Veracrypt; it has replaced the ancient TrueCrypt and I have had no problems so far. Even on drives that fail, you can recover the container and copy it to a new drive and mount it. Compared to LUKS, you can mount older versions without incident, even on other operating systems. The project is under active development and even underwent a security audit. I highly recommend this product if you are security conscious.

REFERENCES:

https://sourceforge.net/projects/veracrypt/

Nightmare With Ubuntu & HP Stream 11

After suffering issues with my HP LaserJet Pro P1102w printer deciding it didn't want to print documents from my HP Stream 11 laptop, and accept documents only from my iPad Mini 4 via AirPrint, I decided to give Ubuntu a try. I first downloaded Ubuntu 16.04.2 LTS and 17.04, and burned DVD's of both versions using an external DVD drive (easier than trying to find a spare USB thumb drive).

I first booted into live mode from the Ubuntu 16.04.2 LTS DVD, it worked flawlessly apart from no Wi-Fi working and possibly no Bluetooth (I didn't really notice if that was working due to being more interested in knowing if Wi-Fi was working). I then rebooted into live mode from the Ubuntu 17.04 DVD, and again everything was working flawlessly apart from Wi-Fi. I did, however, notice that Bluetooth was working, or at least being detected by Ubuntu.

A few hours later, with some advice from the Ubuntu Forums, I was put onto Xubuntu Core 16.04 LTS. While downloading Xubuntu Core 17.04 (as I couldn't find a download for Xubuntu Core 16.04 LTS), I downloaded Xubuntu 16.04. After burning them both to DVD's, I booted into live mode. I was greeted with Xubuntu 16.04 running flawlessly but with the lack of Wi-Fi; Xubuntu Core 17.04 was the exact same as Xubuntu 16.04.

I'm now stumped as to why Wi-Fi won't work as Ubuntu is usually good at working with a wide range of hardware, I'm kind of 50/50 on the theory that the Broadcom BCM43142 802.11 B/G/N Wi-Fi M.2 adaptor that HP have used in the Stream 11 is so obscure that HP have chosen it to lock people into Windows 10.

I suppose that this is the problem when you buy a cheap laptop, I got this laptop because it was lightweight, and I also thought that if I have any issues with Windows 10 on it, I could replace Windows 10 with Ubuntu. But, since that seems to be dead in the water, I'll have to see if I can resurrect my usual Ubuntu laptop that seems to have a charging issue, and stick with Windows 10 on the HP Stream until I can figure out why Wi-Fi isn't being detected but Bluetooth is.

This issue reminds me of when I first started using Linux on my old HP Compaq Presario laptop where I went through various distributions before finally getting Mandrivia Linux to work with the networking hardware. But, ever since starting using Ubuntu back in 2009, I've never had any issues with Ubuntu up until now. I've become pretty confident with Ubuntu terminal commands. I never quit trying to get things working over the years on my various laptops, but this probably will be the first time that I've given up. It's annoying me as I feel like this little laptop would work much better with a little Xubuntu or Lubuntu love.

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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 the article **Writing for Full Circle** in this issue to read our basic guidelines.

Have a look at the last page of any issue to get the details of where to send your contributions.

Q&A
Compiled by Gord Campbell

If you have a Linux question, email it to: misc@fullcirclemagazine.org, and Gord will answer them in a future issue. Please include as much information as you can about your query.

Q I am trying to download a large video file but there is insufficient space on my hard drive. Can I download it direct to my external hard drive?

A (Thanks to *Dennis N* in the Ubuntu Forums) You are downloading with Firefox? You can change the destination for downloaded files in Preferences > General > Downloads.

Q I want to know all the options for grub.

A Open a command-line window, make it full-screen, enter this command:

```
info grub
```

Q I have a computer where the OS is now beyond End of Life. How can I upgrade?

A (Thanks to *darkod* in the Ubuntu Forums) Search the community documentation for EOLUpgrades.

Q How would I go about renaming items in the menu, such as how Firefox and Google Chrome are called "Internet Browser" instead of their actual names.

A (Thanks to *Dennis N* in the Ubuntu Forums) To get generic names in the Whisker Menu, there is a check box "show generic application names" under Properties > Menu. Most applications are affected; a few are not. Whisker uses the GenericName entry in the .desktop file if there is one. For Chromium:

```
GenericName=Web Browser
```

On my system, if the checkbox is checked, then both Firefox, and Chromium are labeled "Web Browser" (not "Internet Browser" like yours). If unchecked, then Firefox is labeled "Firefox" and Chromium is "Chromium".

Right-click on the menu icon to get to "Properties".

TOP QUESTIONS AT ASKUBUNTU

* How can I use a function which reads a variable?
https://goo.gl/5pVHBP

* How to exit nano and save to current file automatically?
https://goo.gl/8fFMW9

* Access home drive on Windows partition - Cannot find it!
https://goo.gl/V1QbdT

* Use sudo to mount an external disk on remote device
https://goo.gl/JW5RRx

* Eclipse Crashes with Linux Kernel 4.4.0-81-generic
https://goo.gl/FKzmyt

* With 16.04, how to get the recommended intel-microcode package to fix hyper-threading issue?
https://goo.gl/MKvD2M

* Ubuntu is quickly running out of RAM, and my computer is headed for a complete freeze! What command will save me?
https://goo.gl/hjUc17

* I can use sudo but I can't use su due to a password Authentication failure, shouldn't both be the same password?
https://goo.gl/1LKBcy

* Is there some way that I can see performance in Ubuntu?
https://goo.gl/cCyR78

TIPS AND TECHNIQUES

There's a Doc for that...

You've just installed an interesting program, and you would like to know how to use it. Sadly, there are a lot of different options which might be available.

The grandfather of all Linux documentation is the man pages. For example, to see all the options available for ls, open a terminal window and type:

```
man ls
```

I think all the BASH commands have a man page, which provides the definitive documentation for the command. Sadly, some of the man pages are written by programmers or volunteers who can't put themselves into the shoes of a new user. Murky is all I can say. You might need a Google window open to try to interpret what the man page says.

Man's big sister is info. Info pages can have hyperlinks, and are often laid out in a more readable format. Enter the command:
    info

One of the things which you will see is a list of all the info pages. I was surprised that grub (see question above) has no man page, but it has extensive info pages.

For people coming from Windows, the third option is natural: help. There are not many great help files built into Linux programs. Here's my favorite exception. The best program for creating a DVD ISO from a collection of video files is called devede, and it has the best help pages I have ever seen. If you are considering using this program,

spend half an hour in the help; it will pay a huge dividend in time saved and quality of results.

For programs large enough to have their own website, such as LibreOffice, you can often find a manual or manuals on the site. Some, such as the Ubuntu site, have a large number of articles about many topics -- but sometimes they are based on obsolete versions of the software.

Some programs have a third-party website which provides what you need to know. Cinelerra is my favorite video editor, but I would be lost without the "Cinelerra for Grandma" website.

Magazines such as this one sometimes have tutorials for programs you want to use.

Finally, there's youtube, which has thousands of short tutorials about how to do one specific thing in one specific program. One of my favorites is how to produce the Ken Burns effect in Cinelerra. Watched the video, got the desired result on my first try.

It might take a bit of effort to find the best documentation for

what you want to do, but it's usually better than blundering around using trial and error.

Gord had a long career in the computer industry, then retired for several years. More recently, he somehow found himself "The IT Guy" at a 15-person accounting firm in downtown Toronto.

contents ^

There was a game a while back doing the rounds. You might remember it. Mine… something. Anyway, it was blocky, allowed mining and crafting. Fighting nasties. Exploring vast caverns, and allowing the player to do pretty much anything they wanted. Well, that pretty much describes Rising World too.

INSTALLING

Rising World is, of course, available through Steam. So installing it is done through the Steam client. It costs around £8 (varies on sales, etc), and seems to get mixed reviews on Steam, but I'll address those at the end.

STARTING

As with most of these crafting games, you create a random world which you are then plopped down into, and have to fend for yourself. You have to eat and drink, of course, and the world has pools of water, fruits, animals, and such like that you can harvest. It also has some animal enemies.

All of this is customisable at the start of the game. You can choose which features of the map to enable/disable. Same with animals/enemies.

MINING

You're given a pickaxe and an axe with which to gather wood and resources from the ground. You dig and gather dirt, stone, and minerals (iron, copper, etc). You can chop down trees which fall nicely, and you have to hit at the trunk again to break it down into logs. No tree punching here!

The world is far more detailed and textured than that other mine-game. There's no blockiness to this. The land is covered in lush grass which sways in the wind, There's fern leaves, flowers. It's a joy to look at.

CRAFTING

Pressing 'i' on the keyboard brings up the inventory dialogue box. This is actually two tabs. One for inventory and one for crafting. Crafting is unusual in Rising World as you can do the basics with no tables (as such) but you need to
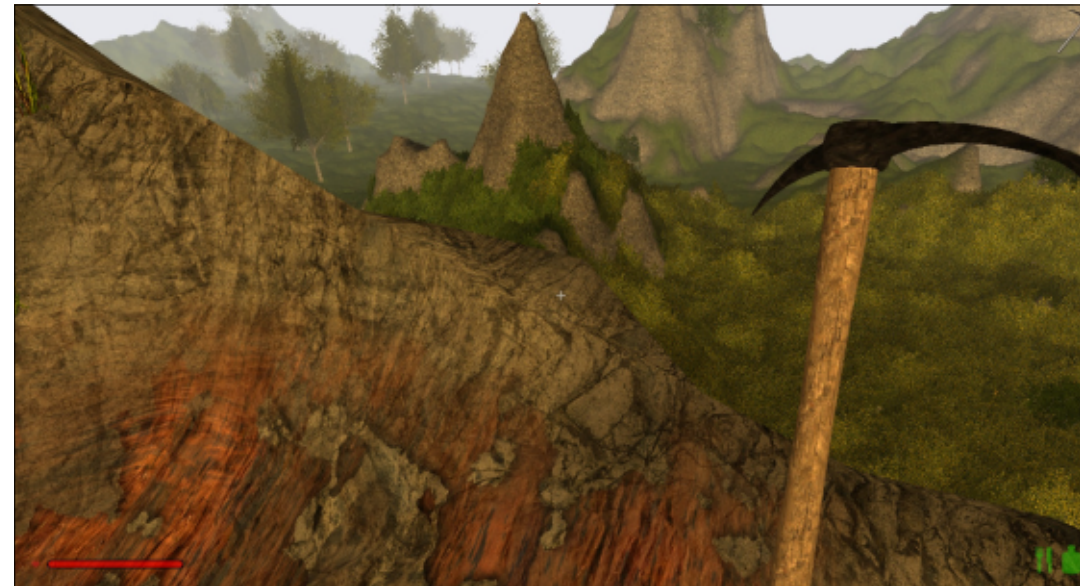
build the relevant workbench to build certain things. So, for example, you'd like to build a sword... well, you need 1 stick and 1 sword blade. For the stick that's easy enough once you have some wood, but for the sword blade you'll need to make the basic workbench which will let you build other workbenches and things like anvils and a smelting furnace. It's not as easy as having a couple of sticks and iron bars.

The crafting is more detailed and involved. You need to get the iron nuggets, build the relevant workbenches, have coal, get the smelting furnace... Actually put coal into the furnace, put the iron nuggets into the furnace tray (one by one) and turn on the furnace. You need to remember to keep an eye on the furnace as, once it's done, you need to switch it off otherwise you're wasting precious coal. And I like this aspect of it. It's more involving.

FOOD

Food is gained either through killing animals, or by collecting fruit. Like with crafting workbenches, you need to craft cooking facilities too. Even craft the frames required to make the animal skins into pelts.

BUILDING

Of course, you'll need a place to call home (other than the inevitable tent that you'll build at the start), and there are dozens of items you can build, or craft. You can create planks of wood and build your place plank by plank. Maybe a log cabin would suit you, Sir? You want something a bit more solid? You don't just build 'stone' here. You build stone with the texture of your choosing. You could have a lovely brickwork house with a marble floor if you wish. It's really amazing how many textures are available for the various 'blocks' that you're building with. I say 'blocks' as you can also build using cylinders, slopes, and such-like. You can get really creative here.

LAN PARTY

While I haven't tried it out much, Rising World does have a LAN option which is nice. Clicking the Multiplayer button on the main menu gives a list of possible servers to connect to. I did try a couple and they were OK. A lot of them are in German, though.

CONCLUSION

I really like Rising World. Sure, it could do with something like the Minecraft skeletons and zombies coming out at night, but it does have some angry animals roaming the map during the daytime. Rising World has nothing to fear during

the nighttime portions of the game, so it's a wasted half-day as you inevitably head to your dwelling to sleep it out (aka: skip the nighttime).

I'm not entirely sure why it gets a mixed review on Steam. Some of the negative reviews are from old versions (which don't count now), and some are talking about parts of the game as though they are negative. One apparent negative (I read in one review) is the long

grass. Well, that's why you build a scythe. To cut down the tall grass!

I couldn't possibly cover everything that's in Rising World. It'd take too many pages, but definitely give it a try if you want a more luxurious looking crafting game. Don't go for this thinking that it'll be a survival challenge. It's not. This is a survival game, but it's more of a mining and crafting game. If you like the building aspect of crafting games, then

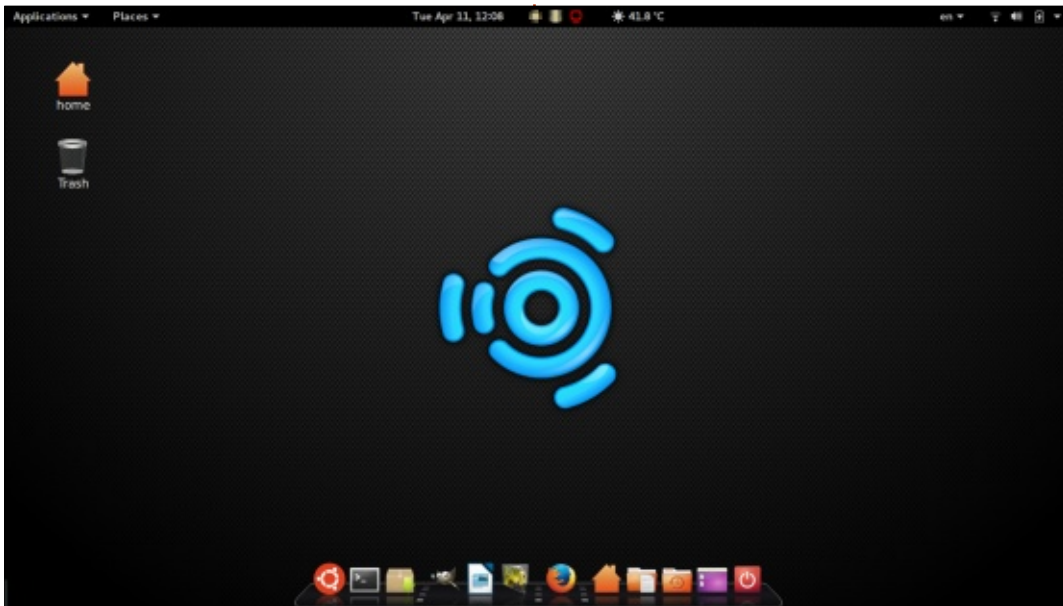you'll love Rising World with all the textures, depth and shapes you can build with.

★★★★☆
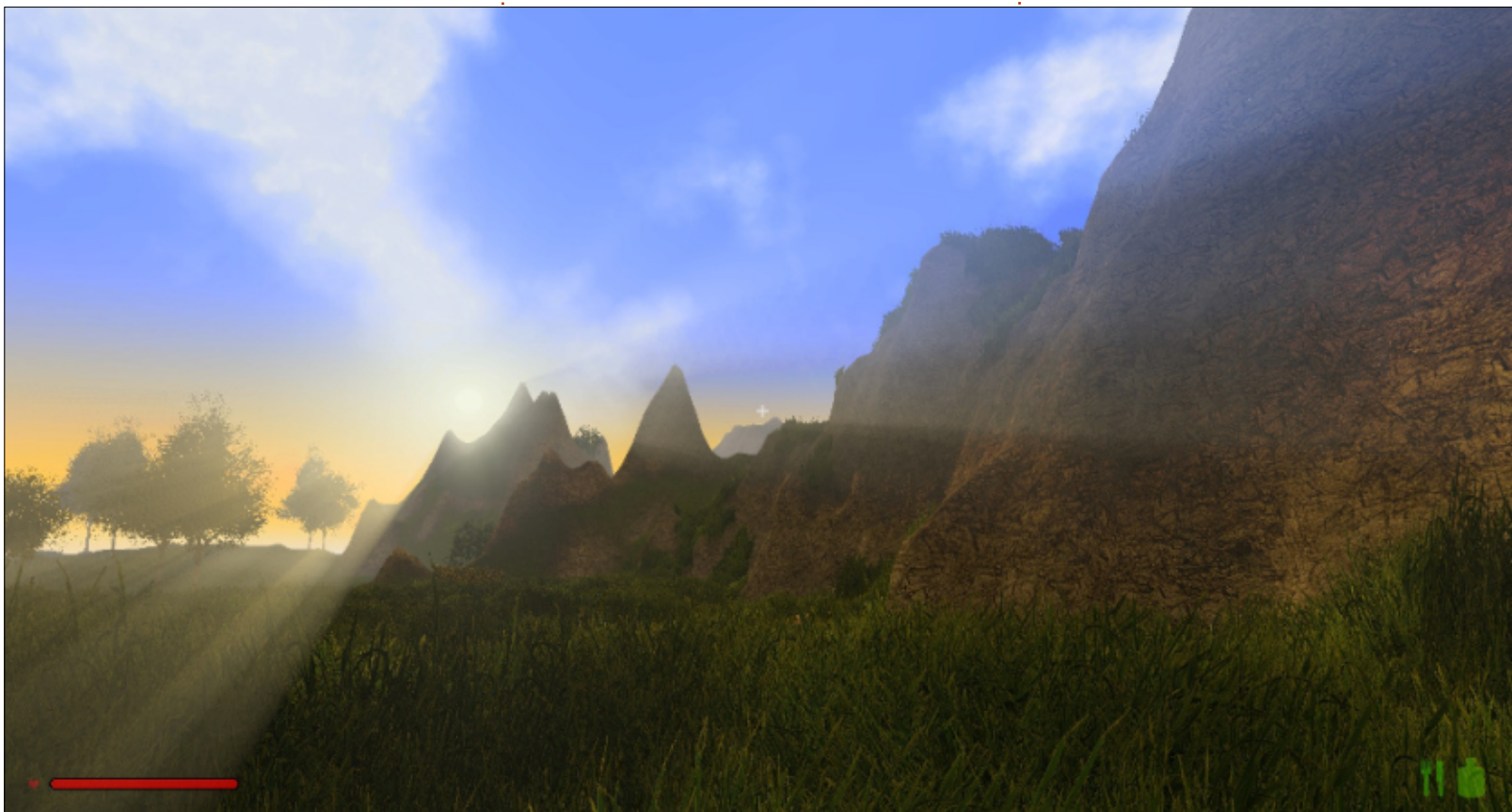
Ronnie is the founder, and editor, of Full Circle. His other interest is art, and his work can be seen at: ronnietucker.co.uk

Uses:

Ubuntu Studio 16.04

Gnome 3

Using Variety to have slide show wallpapers

Cairo dock for quick access

My Desktop is simple and straightforward. It's on a System76 Kudo Pro attached to a 27" monitor.

I switched from Ubuntu to Ubuntu Gnome back in 2013, so I'm ready for the transition! I use two Gnome Shell extensions: Dash to Dock and TopIcons Plus using the default icon set and theme.

For Wallpaper, I use Variety connected to a folder of about 5000 HD images. Changes every five minutes. The image shown is the lovely and talented Gretchen Menn.

No mystery here... there is lots of water and terrific fishing in Northern Manitoba.

But why is this photo more important than all kinds of specifications or computer equipment?

Thirty years ago a bunch of guys decided to get together and go fishing way up north. The first trip was so successful that we decided to do it again the following year. Year after year we went, with some new guys joining us while others who had work conflicts, family marriages, or possibly some health issues, stayed behind. Many of us took our sons along on this adventure and introduced them to fishing for very big freshwater fish!

Over the 25 years, our large group of

fishermen dwindled… for many reasons, but the primary reason was we had gotten old and many had passed away. Then the depression hit, and many of the camps had to close due to lack of business, and when my boat partner suddenly passed away; it took the starch right out of me.

I still have the memories,, and my desktop is a shot of one of those memories that reminds me of all the good times I've had with my fellow fishermen, and my son as he was growing up. I would encourage all of you to explore with your family members, and then, later when life starts to catch up with you… put a few of those memories on your desktop and share.

So what we have here is the Unity desktop. The Launcher is hidden and set to not open by moving the mouse. I had tried Unity-Gnome and liked the way it worked. However, for some reason there was a memory leak, or at least appeared to be. So that's why I am back to Unity. So I access programs via Cairo-Dock, or by using the <super> key and typing a few letters. This is my favourite, and also the fastest way to launch programs (or look for files). I use the dark Vivacious-z Blackout-teal theme with Vibrancy Dark Teal

Icons.

People may think my desktop is too cluttered, but it works for me as I use it like a photo album (my family and friends). The Time/Weather widget is from My Weather indicator. The CPU/RAM graphs are from Screenlets, as is the flower... I managed to keep this one alive, LOL.

The wallpaper is called time. (It's pretty big at 2048 X 820, but works well with my resolution of 1680 X 1050

PATRONS

MONTHLY PATRONS

2016:
Bill Berninghausen
Jack McMahon
Linda P
Remke Schuurmans
Norman Phillips
Tom Rausner
Charles Battersby
Tom Bell
Oscar Rivera
Alex Crabtree
Ray Spain
Richard Underwood
Charles Anderson
Ricardo Coalla
Chris Giltnane
William von Hagen
Mark Shuttleworth
Juan Ortiz
Joe Gulizia
Kevin Raulins
Doug Bruce
Pekka Niemi
Rob Fitzgerald
Brian M Murray
Roy Milner
Brian Bogdan
Scott Mack
Dennis Mack
John Helmers

JT
Elizabeth K. Joseph
Vincent Jobard
Chris Giltnane
Joao Cantinho Lopes
John Andrews

2017:

SINGLE DONATIONS

2016:
John Niendorf
Daniel Witzel
Douglas Brown
Donald Altman
Patrick Scango
Tony Wood
Paul Miller
Colin McCubbin
Randy Brinson
John Fromm
Graham Driver
Chris Burmajster
Steven McKee
Manuel Rey Garcia
Alejandro Carmona Ligeon
siniša vidović
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Pascal Lemaitre

PONG Wai Hing
Denis Millar
Elio Crivello
Rene Hogan
Kevin Potter
Marcos Alvarez Costales
Raymond Mccarthy
Max Catterwell
Frank Dinger
Paul Weed
Jaideep Tibrewala
Patrick Martindale
Antonino Ruggiero
Andrew Taylor

2017:
Linda Prinsen
Shashank Sharma
Glenn Heaton
Frank Dinger
Randy E. Brinson

The current site was created thanks to **Lucas Westermann** (Mr. Command & Conquer) who took on the task of completely rebuilding the site, and scripts, from scratch, in his own time.

The Patreon page is to help pay the domain and hosting fees. The yearly target was quickly reached thanks to those listed on this page. The money also helps with the new mailing list that I set up.

Several people have asked for a PayPal (single donation) option, so I've added a button to the right side of the website

A big thank you to all those who've used Patreon and the PayPal button. It's a HUGE help.

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