Full Circle

THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY

ISSUE #118 - February 2017

BOOK REVIEW

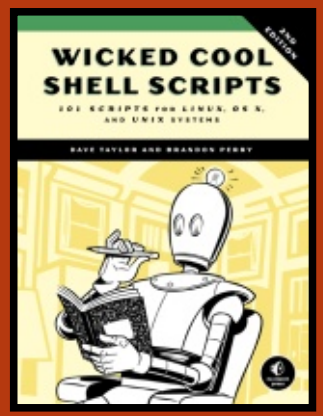

Photo: Kazuky Akayashi (Flickr)

PROGRAM FOR UBUNTU TOUCH

LEARN HOW TO CREATE WEBAPPS, SCOPES & APPS

NEW

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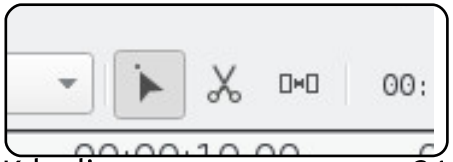

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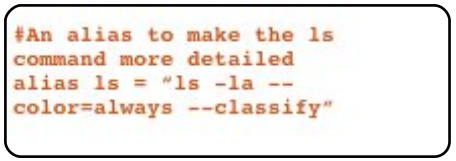

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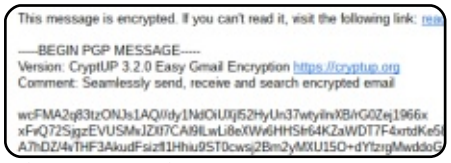

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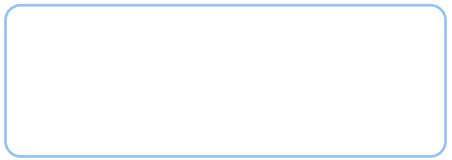
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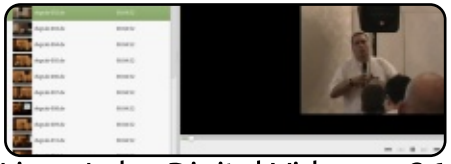
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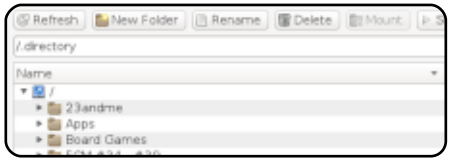

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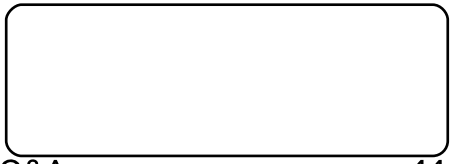
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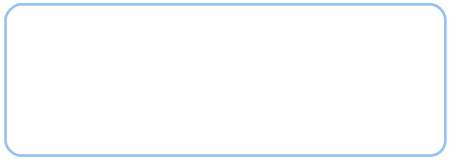
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EDITORIAL

Welcome to the latest issue of Full Circle.

As ever, we have Python, Inkscape, Kdenlive part 2, and a couple of reviews. This month also marks the start of a new series. This one is on programming for Ubuntu Touch. The series will cover a wide range of topics and I'm assured, by the author, that the series will take into account future Ubuntu Touch releases which may include Snaps and the like. Another interesting HowTo this month is one on keeping your Linux install slim and trim. As it says in the article: just be wary before running any software, or command, that is deleting things.

Last month I came across rclone and a nice GUI for it. So, I thought I'd write an article about it. Basically, rclone (and the GUI) helps you move files from cloud host to cloud host. So, for example, you could have rclone copy files from your Google Drive to your Dropbox. You can also use it to upload, and download, files to various cloud hosts. It's a bit fiddly to set up since adding hosts has to be done in the terminal, but thankfully it's quite easy.

Only two more issues and Full Circle will be ten years old. Speaking of which: the a poll I made is still up. Which I hope you'll fill in. It's located at: https://goo.gl/Q8Jm4S. I'm interested in what you like/dislike about FCM. I'll publish the results in FCM#120. The big tenth anniversary issue.

All the best, and keep in touch!
Ronnie
ronnie@fullcirclemagazine.org

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FCM POLL

I've set up a poll which I hope you'll fill in. It's located at: https://goo.gl/Q8Jm4S.

We're interested in what you like/dislike about FCM. What I can change/add, and anything else you want to add.

We'll publish the results in a future issue.

LINK: https://goo.gl/Q8Jm4S

Alpine Linux 3.5.1 Released with Linux Kernel 4.4.45 LTS, New Security Updates

Announced a little over a month ago, Alpine Linux 3.5 is a major release sporting support for the ZFS file system as root, support for the AArch64 (ARM64) hardware architecture, improved Python 3 support, replacement of OpenSSL libs with LibreSSL, as well as support for the OCaml, R, and JRuby programming languages.

The Alpine Linux 3.5 series is based on the musl 3.5 libc library branch, and today's first bugfix release upgrades the long-term supported Linux 4.4 packages to the recently released Linux 4.4.45 LTS kernel. Of course, it also includes all the latest security updates and various other under-the-hood improvements.

Among the updated packages shipped with Alpine Linux 3.5.1, we can mention both the PHP 7.0.15 and 5.6.30 branches, H2O 2.0.5, cURL 7.52.1, FFmpeg 2.8.10, ssh-getkey-ldap 0.1.2, Ruby 2.1 with a fix for a libressl error, LDoc 1.4.6, aconf 0.6.3, python2-tkinter 2.7.13, mkinitfs 3.0.9 with support for decrypting apkovl, Docker 1.12.6, and Samba 4.5.4.
The libxpm 3.5.12, BIND 9.10.4-P5, Irssi 0.8.21, libgit2 0.24.6, phpMyAdmin 4.6.5.2, MariaDB 10.1.21, Firejail 0.9.44.4, Opus-tools 0.1.10, eudev 3.2.1, PCSC-Lite 1.8.20, and Quagga 1.1.1 packages are also pre-installed in this first maintenance update to the major Alpine Linux 3.5 series.

Source:
http://news.softpedia.com/news/alpine-linux-3-5-1-released-with-linux-kernel-4-4-45-lts-new-security-updates-512317.shtml

Linux Mint 18.1 "Serena" Xfce and KDE Editions Are Officially Out, Download Now

While the Xfce flavor entered Beta testing earlier this month, the Linux Mint developers had to wait a little longer to publish the Beta version of Linux Mint 18.1 "Serena" KDE because they wanted to offer users access to the latest KDE Plasma 5.8 LTS desktop environment from the Kubuntu Backports PPA.

So basically, Xfce users had to wait for the KDE edition to be finished before they were able to download and install the new version on their PCs. Both editions benefit from the same long-term support services as the main Cinnamon and MATE editions released last year.

Based on the Ubuntu 16.04 LTS (Xenial Xerus) operating system, both the Xfce and KDE editions are powered by the long-term supported Linux 4.4 kernel, along with linux-firmware 1.157.5, and include pretty much the same internals as their bigger brothers. Of course, the Xfce flavor uses the latest Xfce 4.12 desktop environment with the Whisker Menu 1.6.2.

Linux Mint 18.1 Xfce Edition also

includes all in-house built applications that the Linux Mint developers are creating as part of their XApps project, such as Xed text editor, which sports a new search bar and various UI improvements, Xplayer video player with monitor blanking functionality, as well as Xviewer image viewer and Xreader document reader.

Source:
http://news.softpedia.com/news/linux-mint-18-1-serena-xfce-and-kde-editions-are-officially-out-download-now-512315.shtml

Bodhi Linux 4.1.0 Ubuntu-based distro now available with updated kernel and new theme

There are so many Linux distributions nowadays, that it can be hard to be excited by them. Linux Mint, for example, releases too many versions of its operating system; news of an update can become rather ho-hum. Major Linux distributions, such as Ubuntu and Fedora, remain exciting, however.

Some smaller Linux-based operating systems are still worthy of attention, however, and one such distro is Bodhi. Based on Ubuntu, the lightweight OS is very unique thanks to the Moksha desktop environment. Because of its familiarity, that DE makes Bodhi a smart choice for Windows users looking to switch to Linux. Today, Bodhi reaches version 4.1.0.

While this update isn't chock full of major changes, the bug fixes alone are worth the upgrade. The new theme might only be superficial, but I think it looks quite sharp.

Source:
https://betanews.com/2017/01/27/bodhi-linux-4-1-0-ubuntu/

Canonical Announces LXD 2.8 Pure-Container Hypervisor for Ubuntu 16.04 and 14.04

Canonical announced the availability of the LXD 2.8 pure-container hypervisor designed from the ground up to let users run unmodified Linux-based operating systems and apps with virtual machine-style operations faster than anything else on the market.

LXD 2.8 comes approximately one month after the previous maintenance update, and while it's mostly a bugfix release that patches a total of 45 issues reported by users lately, it includes a bunch of interesting improvements and new additions, such as the ability to use Weblate for its translations.

It also implements proper reporting of virtual LAN (VLAN) device types to the API (Application Programming Interface) and client, allows unprivileged users to run the dnsmasq instance that LXD uses to manage bridges, and adds support for the client to display the date when an LXC image was last used.

LXD 2.8 also makes exec sessions that are killed by a signal to report the respective signal number as part of their exit code and delivers an initial rewrite of the Go client API, which contains a brand-new API module with all REST API definitions. Check out the changelog attached below for details about all the bugs fixed in this release.

Source:
http://news.softpedia.com/news/canonical-announces-lxd-2-8-pure-container-hypervisor-for-ubuntu-16-04-and-14-04-512279.shtml

Mozilla Firefox 51.0.1 and Thunderbird 45.7 Land in All Supported Ubuntu OSes

Canonical released both Mozilla Firefox 51.0.1 and Thunderbird 45.7.0 to the stable channels of Ubuntu 12.04 LTS (Precise Pangolin), Ubuntu 14.04 LTS (Trusty Tahr), Ubuntu 16.04 LTS (Xenial Xerus), and Ubuntu 16.10 (Yakkety Yak), allowing users to enjoy the latest new features and security improvements that landed in these updates.

Mozilla Firefox 51.0 already received its first minor security update, versioned 51.0.1, which made the multiprocess incompatibility to correctly register with various add-ons, as well as to fix geolocation support on Windows systems.

On the other hand, the Mozilla Thunderbird 45.7.0 email and news

client is a bugfix and security release that attempts to improve the message preview pane with support for renaming or moving of IMAP folders, and fixes the "Move To" button on the "Search Messages" panel.

In Thunderbird 45.7, Mozilla's developers also made it possible for the built-in Calendar to accept or decline email invitations from email messages that are being stored in the same folder, as well as to finally display recipients for emails sent to "undisclosed recipients," which was broken since Thunderbird 38.

Source:
http://news.softpedia.com/news/mozilla-firefox-51-0-1-and-thunderbird-45-7-land-in-all-supported-ubuntu-oses-512335.shtml

Mesa 12.0.6 Hits the Ubuntu 16.04 LTS and Ubuntu 16.10 Proposed Repositories

It would appear that Mesa 12.0.6 3D Graphics Library, which was announced last week by Collabora's Emil Velikov, has already hit the xenial-proposed and yakkety-proposed channels of the Ubuntu 16.04.1 LTS (Xenial Xerus) and Ubuntu 16.10 (Yakkety Yak) operating systems.

So if you have the proposed repository (pre-release updates) enabled on your Ubuntu PC, you could update to Mesa 12.0.6 right now by enabling proposed updates in Software & Updates. However, Mesa 12.0.6 being the last in the series, it's recommended that you move to the Mesa 13 branch from a stable third-party PPA, such as Padoka Stable Mesa.

With that in mind, and considering the fact that Canonical will release the second Ubuntu 16.04 LTS point release in only three days, it would appear that Xenial users will stick with Mesa 12.0.6 after all and not a recent Mesa 13 version as initially believed. But, it looks like users will get newer Mesa builds soon after the launch of Ubuntu 16.04.2 LTS.

Source:
http://news.softpedia.com/news/mesa-12-0-6-hits-the-ubuntu-16-04-lts-and-ubuntu-16-10-proposed-repositories-512358.shtml

Linux Devices with Standard Settings Infected by Linux.Proxy.10 Malware

The Linux operating system was once known to be the most secure OS in the world, but things have changed since security researchers have found malware like Mirai and Bashlite infecting Linux-devices turning them into DDoS botnets. Now, another malware has been discovered targeting Linux.

Dubbed Linux.Proxy.10 by researchers at Dr. Web; the malware has been developed to run Socket Secure (SOCKS), an Internet protocol that routes network packets between a client and server through a proxy server by freeware source code of the Satanic Socks Server.

According to Dr. Web's blog post, "To distribute Linux.Proxy.10, cybercriminals log into the vulnerable devices via the SSH protocol, and at the same time the list of devices, as well as the logins and passwords («IP address: login: password») that go with them, are stored on their server."

Based on its pattern, researchers noted that Linux.Proxy.10 takes over those devices which are already infected with another malware or have standard settings. The Linux.Proxy10 also comes with BackDoor.TeamViewer, a Spy-Agent administrator panel and a build of Windows malware from a known family of Trojan spyware.

Source:
https://www.hackread.com/new-linux-malware-linux-proxy-10/

Ubuntu 17.04 "Zesty Zapus" Alpha 2 Released, ISO and Torrent Files Available

You might be knowing that Ubuntu 17.04 Alpha 1 was scheduled to arrive on December 29. But, as the developers were busy due to the Christmas and New Year holidays, they canceled the first Alpha and planned to release the next Alpha.

Now, Canonical has released the second and final Alpha of Ubuntu 17.04 Zesty Zapus. You might find

the naming a little absurd as it's just the first Alpha. Well, this is how things are.

For the Ubuntu 17.04 Alpha 2 release, the participating flavors are Lubuntu, Ubuntu MATE, Ubuntu GNOME, Kubuntu, Ubuntu Kylin, and Ubuntu Budgie. Notably, this release marks the first Budgie testing snapshot after it became an official Ubuntu flavor.

Ubuntu 17.04 comes loaded with many software updates that are ready for testing. Also, these builds are powered by Linux kernel 4.9.

Specifically, Ubuntu GNOME 17.04 Alpha 2 ships with GNOME 3.22 and Ubuntu Budgie 17.04 ships with Budgie 10.2.9.

Source: https://fossbytes.com/ubuntu-17-04-alpha-2/

Meet the $114,725 Ubuntu server with eight Nvidia Tesla P100 GPUs

The Ibex Pro is one supercharged machine that will probably hurt your electric bill.

System76's fastest Ibex Pro with Ubuntu Server 16.10 packs some crazy horsepower with Intel's latest 22-core Xeon E5 v4 chips and eight Nvidia Tesla P100 graphics processors.

It's got the same number of GPUs as Nvidia's superfast DGX-1, which is being used for deep learning. System76 is targeting the Ibex Pro -- which is a rack server -- at the same market as the DGX-1. The server has fewer, but newer, CPUs, compared to the DGX-1.

An entry-level Ibex Pro priced at US $9,575 will run Ubuntu Server 16.10, with a six-core Intel Xeon E5-2603v4 chip, 16GB of memory, a Tesla K40 GPU, and 250GB of storage.

A fully loaded system is priced at $114,725, and will come with two 22-core Xeon E5-2699v4 CPUs, 1.5TB of DDR4 DRAM, eight Tesla P100 GPUs, 2TB of NVMe-based SSD storage, and an additional 32TB of SSD storage.

System76 has made its name as an Ubuntu PC maker, but the Ibex Pro is one of its handful of Ubuntu servers. The server is targeted at companies looking to implement machine learning for tasks like speech and image recognition.

Source: http://www.pcworld.com/article/3163019/computers/meet-the-114725-ubuntu-server-with-eight-nvidia-tesla-p100-gpus.html

A Look at What's Next for Ubuntu Linux in 2017

Mark Shuttleworth's company Canonical has been developing Ubuntu Linux for more than a decade, with two new major milestone releases debuting every year. In 2017, the first release will be Ubuntu 17.04, codenamed the 'Zesty Zapus' set to debut in April. The big question that Ubuntu Linux fans have though is what the Ubuntu 17.10 release will be called, when it is released in October.

In a video interview, Shuttleworth provides some insight into how he will handle naming for Ubuntu, after the 17.04 release and the end of the alphabet with the letter Z. Ubuntu has been following a logical alphabetical progression for code names and with the 17.04 Zesty Zapus release, a new approach will be needed.

Beyond just the somewhat trivial nature of what the Ubuntu 17.10 release will be named, Shuttleworth also provided some direction on how the Ubuntu Linux distribution will evolve and progress over the course of 2017. One area where he expects Ubuntu to continue to grow is with the emerging internet of things (IoT) world.

Ubuntu Core is a version of Ubuntu that has been optimized for small form factor and embedded device deployments, while Snappy is an open-source packaging approach that helps to enable rapid updates. The security elements of IoT are a primary concern to Shuttleworth and it's an area where he sees Snappy playing a role in keeping devices and users safe.

The other area that Ubuntu continues to work on is its LXD hypervisor for enabling increased container density and security. The LXD effort was first announced in November 2014 and has been steadily improving ever since.

Source:
http://www.eweek.com/enterprise-apps/a-look-at-whats-next-for-ubuntu-linux-in-2017.html

You're taking the p... Linux encryption app Cryptkeeper has universal password: 'p'

Linux encryption app Cryptkeeper has a bug that causes it to use a single-letter universal decryption password: "p".

The flawed version is in Debian 9 (Stretch), currently in testing, but not in Debian 8 (Jessie). The bug appears to be a result of a bad interaction with the encfs encrypted filesystem's command line interface: Cryptkeeper invokes encfs and attempts to enter paranoia mode with a simulated 'p' keypress – instead, it sets passwords for folders to just that letter.

Cryptkeeper's developer appears to have abandoned the project. Luckily, it's not used by that many people – although it makes the bug no less tragically hilarious.

However, encfs is executed with the -S switch which means it's supposed to read the password from stdin without a prompt. Previously, encfs was bugged and didn't quite do this. A bugfix corrected its operation to match its documentation – which made it incompatible with Cryptkeeper's assumptions.

So that's why Cryptkeeper sets all its directory passwords to "p": encfs was updated and that broke Cryptkeeper's interface.
Debian developer Simon McVittie has recommended the app be pulled from the Linux distro entirely.

Source:
https://www.theregister.co.uk/2017/01/31/cryptkeeper_cooked/

CentOS 7.3 (1611) Linux Distro Now Available for 32-Bit (i386) Architectures

CentOS developer and maintainer Johnny Hughes announced the immediate availability of the latest CentOS 7.3 (1611) GNU/Linux operating system for the 32-bit (i386) hardware architecture.

If some of the most popular GNU/Linux distributions have started dropping support for 32-bit (i686/x86) installations or plan to do so in the near future, many are still installable on older computers from 10 years ago.

CentOS 7.3 (1611) is the latest addition to the list of 32-bit supported Linux-based operating systems, thanks to a group of hard working people from the CentOS AltArch SIG initiative trying to create alternative architecture support for CentOS Linux.

The good news, however, is that today's release of CentOS 7.3 (1611) Linux distro for 32-bit hardware architectures also comes with a couple of Live ISO images bundled with the GNOME and KDE desktop environments.-

Source:
http://news.softpedia.com/news/centos-7-3-1611-linux-distro-now-available-for-32-bit-i386-architectures-512400.shtml

Latest Ubuntu Update Includes OpenSSL Fixes

Ubuntu users are being urged to update their operating systems to address a handful of recently patched OpenSSL vulnerabilities which affect Ubuntu and its derivatives.

Developers with Canonical, the company that oversees the Linux distribution, announced the updates on Tuesday, encouraging users to install the latest OpenSSL package versions depending on which distribution they're running.

The updates resolve several of the vulnerabilities fixed by the cryptographic library OpenSSL last Thursday.

The update also fixes an issue in which OpenSSL used "undefined behavior when performing pointer arithmetic," and another in which it incorrect handled certain warning alerts. A remote attacker could exploit both vulnerabilities and cause a denial of service, according to Ubuntu's advisory.

Source:
https://threatpost.com/latest-ubuntu-update-includes-openssl-fixes/123513/

Canonical Releases Snapcraft 2.26 Snap Creator Tool for Ubuntu 16.04 LTS, 16.10

Snappy is Canonical's application sandboxing and distribution framework and Snap is a universal binary format designed to allow devs to distribute their apps across multiple Linux-based operating systems without having to create a special package for each distro. Snapcraft is the tool to build the Snap packages.

The latest version, Snapcraft 2.26, comes approximately two weeks after the release of version 2.25 and promises to introduce a bunch of new features, such as support for GUI (Graphical User Interface) in Snaps, a new plugin directory location, support for snapcraft.yaml in a Snap directory, as well as support for go-packages.

Snapcraft 2.26 also removes the snapd "submodule," makes sure snap.yaml is desktop free, implements proper error colors for login failures to the Snappy Store, fixes sso_host for developer single sign-on (SSO), adds support for gradle and gradlew to the Gradle plugin, and introduces the use of an XDG directory for sources.

Among other noteworthy features implemented in the Snapcraft 2.26 release, we can mention support for adding Ubuntu users to sudoers on every ADT platform for tests, multi-arch support for stage packages, the ability to preserve symlinks to directories for sources, and support for the Python plugin to download all required packages with a single command.

Source:
http://news.softpedia.com/news/canonical-releases-snapcraft-2-26-snap-creator-tool-with-gui-support-in-snaps-512453.shtml

The new Dell XPS 13 Developer Edition is the little Linux laptop that can

Installing Linux on a laptop is one of the biggest stumbling blocks to adoption of the OS. After all, taking a perfectly good PC, nuking Windows, and replacing it with an unfamiliar OS can seem a lot like performing open-heart surgery to an inexperienced user. When you take into account that there are precious few laptops with Linux preinstalled, it's no wonder that desktop Linux adoption numbers are so grim. (There are other reasons too, but I won't go into those here.)

One of the few laptops to come correct with a Linux OS is Dell's XPS 13 Developer Edition. I got a chance to benchmark the 2015 model a few months ago, and really enjoyed playing with the little ultrabook. Physically, it's virtually identical to the consumer version of the XPS 13, only it came loaded with Ubuntu 14.04. Flash forward, and Dell has updated its Developer Edition with Intel's Kaby Lake CPU and Ubuntu 16.04. I have to say, there's not much to dislike about the revamp.

Source:
http://www.pcworld.com/article/3161861/linux/the-new-dell-xps-13-developer-edition-is-the-little-linux-laptop-that-can.html

Arch Linux 2017.02.01 Available For Download — Last ISO Release With 32-bit Support

The Arch Linux devs have rolled out their freshly baked Arch Linux 2017.02.01 ISO images. This release is an important one as it's the last ISO shipping with the support for 32-bit architecture. After this, future releases will only run on 64-bit machines. Powered by Linux kernel 4.9.6, the users can grab the images from Arch's download page. The existing users have the option to perform an upgrade by running a single command.

Arch Linux is famous for being a highly customizable Linux distribution. The die-hard Linux fans love it. Also, it's a well-established fact that installing Arch Linux needs more time and commitment, as compared to other beginner-friendly Linux distros. However, this feature, surprisingly, makes it a recommended Linux distro for a beginner user. Well, that's the beauty of Linux where learning is an integral part of the experience.

Source:
https://fossbytes.com/arch-linux-2017-02-01-released-feature-download/

ODBC Driver 13.1 for Linux and Mac released

Microsoft announced the release of ODBC Driver 13.1 for Linux (Ubuntu, RedHat and SUSE) which enables access to SQL Server, Azure SQL Database and Azure SQL DW from any C/C++ application on Linux.

New features are the BCP API Support where you can use functions through the ODBC driver on Linux. There is support for user defined KeyStoreProvider for Always Encrypted,

so you can now user defined/created AE Column Master Key keystore providers. New Ubuntu 16.10 support with a package developed for Ubuntu 16.10 to ensure an apt-get install experience. It has also dependency on the platform unixODBC Driver Manager instead of the custom unixODBC-utf16 Driver Manager, this avoids conflicts with applications/software that depends on the platform unixODBC Driver Manager.

Source:
https://mspoweruser.com/odbc-driver-13-1-linux-mac-released/

DIY Linux laptop: Build your own for $240 with fully open source Olimex Teres I

Bulgarian open-source hardware outfit Olimex has released the final designs and components for DIY fans to build their own modular Linux laptop.

Buyers have two choices for their machine. Devoted DIY builders can download Olimex's CAD files for building the Teres I on its GitHub page, which offer schematics for hardware components such as printed circuit boards (PCB), keyboard and so forth, as well as all the Linux software components necessary to operate the hardware.

The other option is to buy the semi-finished Teres 1 laptop for €224 ($240), which is shipped as a kit that buyers assemble themselves.

If buyers follow the instructions correctly, they should end up with a 980gm (2.16lb) laptop featuring a quad-core Allwinner A64 64-bit Ciortex-A53 processor, an 11.6-inch LCD screen, 4GB flash storage, Wi-Fi and Bluetooth connectivity, a camera, and 7,000mAh battery.

Source:
http://www.zdnet.com/article/diy-linux-laptop-build-your-own-for-240-with-fully-open-source-olimex-teres-i/

Important Kernel Updates Patch 7 Vulnerabilities in All Supported Ubuntu OSes

In the new Ubuntu Security Notices, the company notes the fact that the Ubuntu 12.04 LTS (Precise Pangolin), Ubuntu 14.04 LTS (Trusty Tahr), Ubuntu 16.04 LTS (Xenial Xerus), and Ubuntu 16.10 (Yakkety Yak) distributions, as well as all of their officially supported derivatives, such as Kubuntu, Xubuntu, Lubuntu, Ubuntu MATE, Ubuntu GNOME, Ubuntu Kylin, Ubuntu Studio, Edubuntu, or Mythbuntu, are affected by the following issue.

Affecting only the Ubuntu 12.04 LTS and Ubuntu 14.04 LTS releases, there's a security flaw documented as CVE-2016-9555 and discovered by Andrey Konovalov in Linux kernel's SCTP implementation, which made it to improperly handle validation of incoming data, allowing a remote attacker to crash the affected system via a denial of service.

Additionally, Ubuntu 12.04 LTS is affected by multiple memory leaks (CVE-2016-9685) in the XFS file system support, which could allow a local attacker to cause a denial of service. Users are urged to update their systems as soon as possible to linux-image-3.2.0-121.164 for Ubuntu 12.04 LTS or linux-image-3.13.0-108.155~precise1 for Ubuntu 12.04.5 LTS, as well as linux-image-3.13.0-108.155 for Ubuntu 14.04 LTS or linux-image-4.4.0-62.83~14.04.1 for Ubuntu 14.04.5 LTS.

Source:
http://news.softpedia.com/news/important-kernel-updates-patch-7-vulnerabilities-in-all-supported-ubuntu-oses-512591.shtml

Gentoo-Based Calculate Linux 17 OS Now Has a Cinnamon Spin, and It Looks Great

The Calculate Linux Desktop Cinnamon (CLDC) flavor has been released today at the request of many users for the latest Calculate Linux 17 stable series of the GNU/Linux distribution, which was announced last year on December 30 with the Xfce, KDE, and MATE desktop environments, as well as three Server editions and a Linux Scratch one.

Considering the fact that Calculate Linux 17 doesn't ship with a GNOME flavor, we can't blame fans of the Gentoo-based OS for requesting a Cinnamon spin, which pretty much resembles the modern GNOME 3 desktop because it's a fork of it. Of course, Calculate Linux Desktop 17 Cinnamon features a great collection of GNOME 3 apps and tools.

Taking a closer look under the hood of the Calculate Linux Desktop 17 Cinnamon edition, we can notice it includes the Cinnamon 3.2.7 desktop environment with the Nemo 3.2.0 file manager, Mozilla Firefox 50.1 as default web browser, the LibreOffice 5.2.3.3 office suite, GIMP 2.8.14 image editor, and Rhythmbox 3.4.1 music player.

The Pidgin 2.11 multi-protocol instant messenger, Totem (Videos) 3.20.1 video player, Evolution 3.20.5 email, groupware and calendar client, along with various other common tools from the GNOME 3.20 Stack, are also pre-installed in the new Cinnamon flavor of Calculate Linux 17.

The developer informs those who want to use the Calculate Linux Desktop 17 Cinnamon spin in combination with Calculate Directory Server (CDS) that the former will inherit all the server settings automatically without the need for any kind of system administration-related tasks.

Source:
http://news.softpedia.com/news/gentoo-based-calculate-linux-17-os-now-has-a-cinnamon-spin-and-it-looks-great-512539.shtml

GIMP 2.8.20 Open-Source Image Editor Released for Linux, macOS, and Windows

GIMP 2.8.20 is now the latest and most advanced version of the popular and powerful image editor that comes pre-installed on numerous Linux-based operating systems. It comes approximately six and a half months after the previous point release of the stable GIMP 2.8 series, namely GIMP 2.8.18.

There are many bug fixes, translation updates, and various other under-the-hood improvements implemented in the new GIMP 2.8 version, but those that caught our attention are better saving to existing .xcf.gz and .xcf.bz files without them being too large, and better visibility of slider handles when using dark themes.

Stylus tablet support was also enhanced in GIMP 2.8.20 so it works correctly when crossing the edge of a dock if using the Multi-Window mode, which is enabled by default for the GIMP 2.8 series. Users will also be happy to know that toggling of the Color Picker mode of the Paint tools was made more robust.

Source:
http://news.softpedia.com/news/gimp-2-8-20-open-source-image-editor-released-for-linux-macos-and-windows-512545.shtml

Ubuntu Linux daddy Mark Shuttleworth: Carrots for Unity 8?

New year, new Linux – or, in the case of Ubuntu, two. As in years past, Canonical's distro gets two updates in 2017 – the spring and autumn releases numbered 17.04, and 17.10.

As ever there will be UI and experience fiddling – Zesty Zapus sees changes in windows management, the organisation of applications and a new Mir abstraction is planned called Miral.

What about some really big changes, like the Unity 8 shell and Mir itself?

Ubuntu 16.10, October 2016, marked the seventh stab at a pre-release version of Unity 8 but no actual final product.

And what an incomplete release it was: not working with proprietary Nvidia and AMD Radeon GPUs or virtualisation software and suffering poor 3D.

Speaking after 16.10, Canonical product manager Richard Collins was reported to have claimed the next "big target" was "to evolve the Unity 8 experience so that it runs as both a touch and a desktop experience".

All eyes on you then, Zesty Zapus, in a few months' time.

But what is Unity 8 and why's it a big deal?

Unity as a name and project began life in 2010 as a new UI for desktops and laptops and it arrived swiftly – in the following year. However, the idea morphed to offer the same screen and user experience on all devices regardless of mouse or touch. Put Ubuntu running Unity 8 on a phone and it'll render as a phone, put it on a PC and it'll render as a PC, put it on a tablet and it'll render as a tablet. That's the idea anyway, and it was analogous to ideas floating around Redmond for a single version of Windows running on PCs, phones and tablets – the same UI and same "experience". One brand, development and runtime.

Source: https://www.theregister.co.uk/2017/02/06/shuttleworth_unity_8_carrots/

Kali Linux on the Raspberry Pi: 3, 2, 1, and Zero

This promises to be great fun! I'm going to be combining two of my favorite things: Kali GNU/Linux software and various models of Raspberry Pi hardware. I have been looking forward to doing this since I first heard that there was a Kali Linux installation image for the Raspberry Pi.

The general information about Kali Linux for the Raspberry Pi is included in the Kali Linux Official Documentation. It describes two general concepts of putting Kali on a Pi, either using a pre-built installation image, or by creating a custom build. I will stick to the pre-built version for the time being, but I am sorely tempted to make a custom build of Kali with the i3 desktop for the Raspberry Pi.

If all goes well with the pre-built installation, I am very likely to do that.

The installation images are available on the Offensive Security ARM Images Downloads area, where you will find custom images not only for the Raspberry Pi, but for a variety of other ARM SBC systems (Beaglebone, BananaPi, etc.) and even ARM-powered Chromebooks from HP, Samsung and Acer. The really exciting news for me, though, is that there are images not only for the Pi 2/3, but also for the original Pi.

Source: http://www.zdnet.com/article/kali-linux-on-the-raspberry-pi-3-2-1-and-zero/

Linux Kernel 4.4.47 LTS Improves Mellanox, Renesas and Broadcom Ethernet Drivers

Just like Linux kernel 4.9.8, the Linux 4.4.47 LTS kernel is here only two days after its previous point release, in this case Linux kernel 4.4.46 LTS, and according to the appended shortlog, it's yet another small patch that changes a total of 22 files, with 141 insertions and 55 deletions. The patch includes only networking improvements, both for core networking and the drivers stack.

As mentioned before, Linux kernel 4.4.47 LTS is all about networking changes with various improvements to the Mellanox, Broadcom, and Renesas Ethernet drivers (memory leak fixes), the Broadcom BCM63xx PHY driver, the Realtek RTL8152/RTL8153 USB Ethernet driver, and a couple of other USB drivers. On the other hand, the networking stack was updated with AX.25, IPv4, IPv6, Open vSwitch, Bridge, and DSA (Distributed Switch Architecture) changes.

Source:
http://news.softpedia.com/news/linux-kernel-4-4-47-lts-improves-mellanox-renesas-and-broadcom-ethernet-drivers-512620.shtml

Updated Fedora 25 ISOs Ship with Linux Kernel 4.9.6, Latest Security Patches

In the good tradition of these updated Fedora Live ISOs, which are now built using the new Livemedia Creator utility that's included by default in all the official images of the GNU/Linux operating system sponsored by Red Hat, the recently released F25-20170202 Live ISOs ship with a new kernel and all the latest security patches.

Linux kernel 4.9.6 powers all these updated Fedora 25 Live ISO images, which are offered with all the officially supported desktop environments, including GNOME (Fedora 25 Workstation), KDE, Xfce, Cinnamon, MATE Compiz, LXDE, as well as SoaS (Sugar on a Stick), for 64-bit (x86_64) architectures.

You're reading that right, these updated Fedora 25 Linux ISO images will save you approximately 675MB of downloaded packages when installing the operating system on a new computer, as they already include all the latest updates that have been released in the official software repositories until February 2, 2017, when these ISOs were built.

Therefore, if you want to deploy Fedora 25 on a new PC, we recommend downloading the F25-20170202 (link above) ISO image with your favorite desktop environment. They are exactly like the official ISOs, so all you have to do is to write them on a USB flash drive that you'll have to insert on your computer to boot from and install the OS.

Source:
http://news.softpedia.com/news/updated-fedora-25-isos-ship-with-linux-kernel-4-9-6-latest-security-patches-512656.shtml

Lubuntu 17.04 (Zesty Zapus) PowerPC Daily Build ISOs to No Longer Be Produced

As you probably know already, the Ubuntu Linux developers discussed last year the removal of support for 32-bit PowerPC systems, which means that starting with Ubuntu 17.04 (Zesty Zapus) there won't be any ISO images available to let you install Ubuntu or any of the official flavors on the PowerPC (PPC) 32-bit architecture.

At the moment, Ubuntu MATE and Lubuntu appear to be the only official flavors to offer PowerPC install mediums, but it looks like the Lubuntu team will stop developing them after the Feature Freeze development stage of Lubuntu 17.04, which starts next week on February 16, 2017.

According to Simon Quigley, it looks like the Lubuntu PowerPC daily build ISO image will be removed from the main server on February 13, 2017, and new ones will no longer be made available to download. Therefore, if you still want to install Lubuntu on older PowerPC 32-bit systems, which is NOT recommended because it won't be supported, you can still download the ISOs.

Source:
http://news.softpedia.com/news/lubuntu-17-04-zesty-zapus-powerpc-daily-build-isos-to-no-longer-be-developed-512659.shtml

openSUSE Tumbleweed Users Get Linux 4.9.7, GCC 6.3.1, Wine 2.1, and New Vulkan

If you're using the openSUSE Tumbleweed operating system on your personal computer, we'd like to inform you today about the latest software updates that arrived in the distro's repositories during last week and the first days of this one.

According to openSUSE's Douglas DeMaio latest report, it would appear that a total of six snapshots have been published since last time we told you what goodies arrived for Tumbleweed, and they brought even more of the latest GNU/Linux and Open Source technologies.

For example, the operating system is now powered by Linux kernel 4.9.7, and users have also received the latest NetworkManager 1.6.0,

NetworkManager-applet 1.4.4, GNU Compiler Collection (GCC) 6.3.1, Mercurial 4.1, Wine 2.1, Epiphany 3.22.6, Krita 3.1.2.1, Snapper 0.4.3, GStreamer 1.10.3, as well as Vulkan 1.0.39.1.

It also looks like there's the new VirtualBox 5.1.14 update that adds support for the latest Release Candidate of the Linux 4.10 kernel, and cups-filters 1.13.3, fprintd 0.7.0, xauth 1.0.10, xconsole 1.0.7, xkeyboard-config 2.20, hxtools 20170114, isl 0.18, libpinyin 1.7.0, sgml-skel 0.7.1, and many YaST2 packages have landed as well.

Source:
http://news.softpedia.com/news/opensuse-tumbleweed-users-get-linux-4-9-7-gcc-6-3-1-wine-2-1-and-new-vulkan-512779.shtml

Linux Kernel 3.18 Reaches End of Life, Users Urged to Move to Linux 4.9 or 4.4

Linux kernel 3.18.48 LTS is here and is the last in the series, which was marked for a January 2017 extinction since mid-April last year. According to the appended shortlog, the new patch changes a total of 50 files, with 159 insertions and 351 deletions.

It brings an updated networking stack with Bluetooth, Bridge, IPv4, IPv6, CAIF, and Netfilter improvements, a couple of x86 fixes, and a bunch of updated USB, SCSI, ATA, media, GPU, ATM, HID, MTD, SPI, and networking (Ethernet and Wireless) drivers.

Of course, this being the last maintenance update in the series, you are urged to move to a newer LTS branch, such as Linux kernel 4.9 or 4.4, which are far more secure and performant than Linux 3.18 was.

But Linux 3.18 appears to be used by Google and other vendors on a bunch of Android-powered devices, and even some Chromebooks use Linux kernel 3.18 on Chrome OS, If you still want to use the Linux 3.18 kernel, at least please upgrade to version 3.18.48 as soon as possible.

Source:
http://news.softpedia.com/news/linux-kernel-3-18-reaches-end-of-life-users-urged-to-move-to-linux-4-9-or-4-4-512755.shtml

Escuelas Linux 5.1 Officially Released with LibreOffice 5.3 and Vivaldi Browser

As the Escuelas Linux developers have explained, Escuelas Linux 5.1 ships with so many changes that it's hard to list them all in a single story. However, we think that the best new feature of this major update is the ability for users to customize the Escuelas Linux desktop as they see fit. The default desktop environment remains the lightweight Enlightenment ported from the Bodhi Linux distribution.

Escuelas Linux 5.1 comes with many of the latest open source applications, including but not limited to the LibreOffice 5.3, FreeOffice 2016 and OnlyOffice office suites, Rosa Media Player, LibreCAD CAD application, Openshot video editor, Minetest Minecraft game, LiveCode cross-platform rapid app development runtime environment, as well as GeoGebra free dynamic mathematics software.

Source:
http://news.softpedia.com/news/escuelas-linux-5-1-officially-released-with-libreoffice-5-3-and-vivaldi-browser-512801.shtml

FFmpeg 3.2.4 "Hypatia" Open-Source Multimedia Framework Available for Download

FFmpeg 3.2.4 is the fourth update to the FFmpeg 3.2 "Hypatia" stable series, and it's here to address a total of five reported bugs, including the clearing of ref_counts on redundant slices for h264_slice, a heap allocation wrap in both mov_read_uuid and mov_read_hdlr, a logic error pictordec, and setup of codecpar in add_codec().

The new version also includes the libavutil 55.34.100, libavcodec 57.64.101, libavformat 57.56.100, libavdevice 57.1.100, libavfilter 6.65.100, libavresample 3.1.0, libswscale 4.2.100, libswresample 2.3.100, and libpostproc 54.1.100 library versions. As usual, you should check out the full Git changelog for all the technical

details about the changes.

Source:
http://linux.softpedia.com/blog/ffmpeg-3-2-4-hypatia-open-source-multimedia-framework-available-for-download-512839.shtml

Capsule8 Launches Linux-Based Container Security Platform

Cybersecurity startup Capsule8 this week announced that it has raised US$2.5 million to launch the industry's first container-aware, real-time threat protection platform designed to protect legacy and next-generation Linux infrastructures from existing and potential attacks.

CEO John Viega, CTO Dino Dai Zovi and Chief Scientist Brandon Edwards, all veteran hackers, cofounded the firm. They raised seed funding from Bessemer Venture Partners, as well as individual investors Shandul Shah of Index Ventures and ClearSky's Jay Leek.

Capsule8 is solving the difficult problem of providing zero-day threat protection for Linux, whether it be legacy, container or some combination of the two, he added.

Windows protection tends to focus on "find the bad executable," which makes sense in that environment because bad executables are ubiquitous in an attack, noted Capsule8's Viega.

However, that approach doesn't work well in a Linux environment, so Capsule8 focuses on detecting and protecting against system compromise, he told LinuxInsider.

Source:
http://www.technewsworld.com/story/84297.html

Canonical Now Offers Mesa 13.0.4 for Ubuntu 16.04 LTS and Ubuntu 16.10 in a PPA

As we reported earlier this week, the soon-to-be-released Ubuntu 16.04.2 LTS (Xenial Xerus) operating system won't ship with the latest Mesa 13.0.x 3D Graphics Library, but with Mesa 12.0.6.

If you've read our previous report, you know that we provided users with detailed instructions on how to upgrade their Mesa graphics stack from version 12.0.6 to 13.0.4, but it now looks like Canonical's Timo Aaltonen has prepared a PPA (Personal Package Archive) for Ubuntu 16.04 LTS and Ubuntu 16.10 with Mesa 13.0.4.

"Mesa 13.0.x is not going to be in 16.04 LTS. And it has only been days since it received the 'dated' 12.0.6 release as an SRU together with 16.10," said Timo Aaltonen, Hardware Enablement, Field Expert Squad Team Lead at Canonical. "That said, 13.0.4 is now available on PPA for both 16.04 and 16.10."

Timo Aaltonen informs those who are interested in bumping their Mesa 3D Graphics Library version to the 13.0 series that the packages are compiled against LLVM 3.9.1, which adds various improvements for AMD Radeon users.

Source:
http://news.softpedia.com/news/canonical-now-offers-mesa-13-0-4-for-ubuntu-16-04-lts-and-ubuntu-16-10-in-a-ppa-512853.shtml

ubuntu uk podcast

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

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

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

podcast.ubuntu-uk.org

As anyone who has used a computer for any period of time will know - sometimes, things disappear. This can be from a power outage, careless deleting, or hardware failure. As such, backups are always necessary. There are a number of ways to go about this, so today I will outline my personal approach, and the thoughts behind it.

Distinctions

I segment my backups into three tiers - automatic, manual, and defaults. Automatic backups are pretty simple - I run Borg once a day at 5pm to create a snapshot of my system. You can compare it to Time Machine on OS X. The Borg backups are saved on my NAS (2 disks, in a RAID). The script for that can be found here: http://pastebin.com/nMbuRubx

Manual backups are ones I do by hand - typically for large files (such as Linux ISOs), and that I save on an external hard drive. I'm not typically too worried about redundancy for these files, as I can easily download them again. For some files that I want a bit of safety for, I copy it to multiple drives. They're irregular, and, as such, not worth automating.

Lastly, the backups I call defaults. These are mostly dotfiles (configuration files) that I will re-use if I ever set up a new computer, or have to reset my computer for some reason. I save these in a git repository, saved to a private gitlab repository. The actual copying and committing happens through a shell script, which can be found here: http://pastebin.com/1HUAVGHh

Explanations

Borg

The script for Borg is pretty simple - I set up a few variables which will need to be updated. The script also has one optional switch "-p", which shows the progress of the backup when run manually. The borg command itself is pretty self-explanatory (though less legible thanks to the variables). It essentially skips a few folders that I don't want backed up, and backs up my home folder to the NAS, while compressing it. After the backup is complete, old backups are pruned down - daily backups for a week, 4 weekly backups, and 6 monthly backups. This helps to keep the space requirements down.

I focus mainly on the home folder, as those are the files I want safe. I hardly make any changes to the root filesystem, and the important configuration files I want to keep are covered in my defaults backup.

I've never had to restore anything from Borg, but using borg extract should allow you to extract all (or some) files from the backup. The Borg documentation is fairly thorough.

Manuals

I just use Thunar or a Terminal to copy files around. The thought process on why I do this by hand is outlined above. This also includes a text file in Dropbox listing some fixes I've implemented for some bugs my particular setup has dealt with.

Defaults

These are files like my configuration for i3, my git settings, and some system-wide files that I've changed. The script listed above contains an array of files and directories. The if statements then check if the file is in /etc/ or in my home folder. It then creates a version of the file path without the leading slash or the home path. This is then saved in my repository folder. If the file ends in a slash - i.e. is a directory - then creates the directory if it doesn't exist in the repository, and copies the contents over. Otherwise it just copies the file. In the else statement, the -r switch is not really necessary for rsync, but I left it there just in case something slips through the if statement.

I also used rsync instead of cp, in order to be able to avoid .git

folders (as they cause permission errors), and because rsync will copy a file only if there are changes.

The script also creates a list of packages installed. Since I run Arch Linux, the script uses pacman. For Ubuntu, replacing line 15 with pkglist="apt list --installed > pkglist.txt" should work. You can then reinstall the packages with

```
cat ~/pkglist.txt > sudo dpkg --set-selections && sudo apt-get dselect upgrade
```

The very last command simply commits and pushes the changes to the git repository.

The reason for doing it this way is so I can easily recreate my setup - whether it's on a new computer, or if I need to recover after extensive hardware failure. Since the files are pretty small, I pop them into a git repository to keep many versions of it, and then save it to gitlab, so I have access to it, even on other computers. I tend to run the command by hand after editing any of the files it contains. However, you can easily use cron to run it.

Conclusion

I've been using these solutions for a few years, and while I haven't had any cases of having to restore from Borg, I have had a few external drives fail. And I've also set up a few new devices in that time. While there can be some hiccups, it's been a pretty smooth process overall.

I hope this article is helpful to anyone who may be uncertain as to backup approaches. If you already have a setup, feel free to share it with me at lswest34+fcm@gmail.com. I also welcome any questions, or article suggestions.

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.

Python In The Real World - Pt 75

Before we get too far along, there is a new version of the Arduino IDE (1.8.0) available at https://www.arduino.cc/en/Main/Software#/?, so it would be a good idea if you download and install it before continuing. If you aren't using your RPi for your Arduino programming, go ahead and dust it off and install the new Arduino IDE on it so you'll be ready for next month.

This month, we'll be controlling the Servo motor we used a few months ago on the RPi.

The Hardware

Our hardware requirements this time are very simple and you should already have everything needed:

- 5 VDC Servo Motor
- Arduino Uno (or clone)
- Breadboard
- Jumpers
- 10K Potentiometer

Wiring

Once again, for our first two projects, we'll use the same wiring/breadboard setup – even though the potentiometer is not used in the sweep program.

And for those who are interested, here's the schematic…

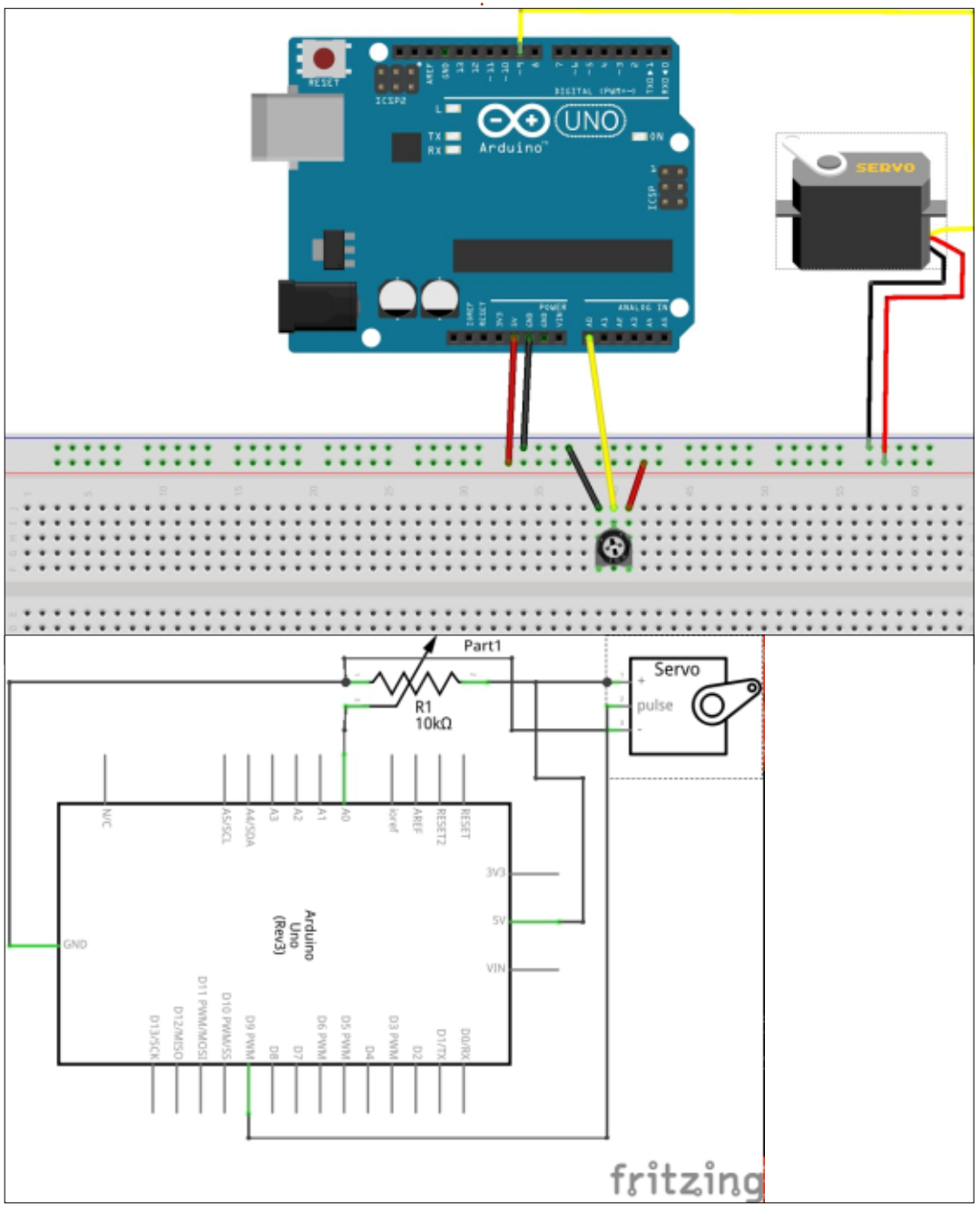
Sweep

This sample code (next page, top right), and the next sample, are from the Arduino IDE Examples, so you really won't need to copy the code. Just open the IDE, Select File | Examples | Servo. and the Sweep code. The code is already well documented, so we won't need to discuss much about it.

Plug in your Arduino, upload the code to it, and you'll see that the servo starts sweeping back and forth.

Knob

Just as in the sweep program, the example code is found in the Arduino IDE under File | Examples |



Servo | Knob. And again, the code is very well documented already, so no major discussion will be needed.

Again, pull up the code in the IDE, upload it to your Arduino, and when you turn the potentiometer, you should see the servo swing in response to the position of the potentiometer.

As I said earlier, next month we will be working with the Raspberry Pi to control the Arduino, so break it back out, and get ready.

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.

```
/* Sweep
 by BARRAGAN <http://barraganstudio.com>
 This example code is in the public domain.
 modified 8 Nov 2013
 by Scott Fitzgerald
 http://www.arduino.cc/en/Tutorial/Sweep
*/
#include <Servo.h>
Servo myservo;  // create servo object to control a servo
                // twelve servo objects can be created on most boards
int pos = 0;    // variable to store the servo position
void setup() {
  myservo.attach(9);  // attaches the servo on pin 9 to the servo object
}
void loop() {
  for (pos = 0; pos <= 180; pos += 1) { // goes from 0 degrees to 180 degrees
                                        // in steps of 1 degree
    myservo.write(pos);              // tell servo to go to position in variable 'pos'
    delay(15);                       // waits 15ms for the servo to reach the position
  }
  for (pos = 180; pos >= 0; pos -= 1) { // goes from 180 degrees to 0 degrees
    myservo.write(pos);              // tell servo to go to position in variable 'pos'
    delay(15);                       // waits 15ms for the servo to reach the position
  }
}
```

```
/*
 Controlling a servo position using a potentiometer (variable resistor)
 by Michal Rinott <http://people.interaction-ivrea.it/m.rinott>
 modified on 8 Nov 2013
 by Scott Fitzgerald
 http://www.arduino.cc/en/Tutorial/Knob
*/
#include <Servo.h>
Servo myservo;   // create servo object to control a servo
int potpin = 0;  // analog pin used to connect the potentiometer
int val;         // variable to read the value from the analog pin
void setup() {
  myservo.attach(9);  // attaches the servo on pin 9 to the servo object
}
void loop() {
  val = analogRead(potpin);
  // reads the value of the potentiometer (value between 0 and 1023)
  val = map(val, 0, 1023, 0, 180);
  // scale it to use it with the servo (value between 0 and 180)
  myservo.write(val);
  // sets the servo position according to the scaled value
  delay(15);
  // waits for the servo to get there
}
```

Keep Linux Trim

Written by S. Parthasarathy

You just created a shiny new Linux system with all the bells and whistles? Happy to see your new babe giggle and dance, as you play with her? You want it to be the same way all the time? It is important to do some house-keeping once in a while.

Over time, a computer system tends to get cluttered for many reasons. For example, software packages that are no longer needed can be uninstalled. When the system is upgraded from release to release, it may miss out on configuration tweaks that freshly installed systems get. Updating your system through the default updating tool will gradually cause the accumulation of packages and the filling of the cache. This can have a larger impact when you're uninstalling software packages, and their dependencies are left behind for no reason.

Over the time, you could have a dozen copies of the same file lying in different corners of your system. The best place is to hunt them down and eliminate them before they take control of the hard disk.

Occasional mishaps, like unexpected disk crashes, or unintentional power failures, may leave your disk with a lot of inaccessible fragments.

A badly configured application may quietly chew up your disk, till there is no more free space left. Or, a runaway process or shell script may keep filling up your disk over and over again. The result could be a dramatic lockout for you.

Linux offers an amazing collection of options for you to remove the cobwebs from your system.

A HEALTH CHECK FOR YOUR DISKS

The following will reveal a lot about potential health problems:

```
sudo parted /dev/sda 'print'

df -h
```

You can take the following preventive measures to avoid disasters.

CALL THE PROFESSIONALS

• Computer Janitor is an application to fix these kinds of problems. It attempts to find software packages that can be removed, and tweaks the system configuration in useful ways.
• Do not use this program if you want to clean your system. All it does is remove packages it "thinks" are not necessary. For example, the interface of the Janitor doesn't explain to a user what it intends to do.
• Ubuntu Tweak is capable of a lot more than just system cleaning, but it is one aspect of the application that remains unsurpassed in terms of ease-of-use and features. Best of all, it doesn't trash your system!
• BleachBit quickly frees disk space, removes hidden junk, and easily guards your privacy. Erase cache, delete cookies, clear Internet history, remove unused localizations, shred logs, and delete temporary files.

TRUSTY OL' TERMINAL COMMANDS

Read all the corresponding man pages before you use these tools.

ncdu - ncdu is a disk usage analyzer with an ncurses interface. It is designed to find space hogs on a remote server where you don't have an entire graphical setup available, but it is a useful tool even on regular desktop systems. Ncdu aims to be fast, simple, and easy to use, and should be able to run in any minimal POSIX-like environment with ncurses installed. The application can be run from any directory, including the root directory. The output will tell you the disk usage of each file and directory, with the ability to drill down into any listed directory.

If you're not familiar with it, ncdu is an ncurses interface for du, the tool used for estimating file space usage on Linux distributions.

du is installed out-of-the-box, but ncdu is not, so if you wish to use it, first install it using the following commands:

```
sudo apt-get update

sudo apt-get install ncdu
```

You can uninstall ncdu and its dependent packages. To remove the ncdu package and any other dependant package which are no longer needed:

```
sudo apt-get remove --auto-remove ncdu
```

If you are not that fussed about cleaning cruft with an application, you can still free up some space by running the following commands once in a while:

```
sudo aptitude autoremove

sudo apt-get clean
```

Ubuntu doesn't get polluted much over time with one notable exception, namely old kernels. It even doesn't need defragmentation.

Get rid of cobwebs

Remove junk files.

A common source is the automatic backup or autosave files often created by various editors. These files usually have a name ending with the tilde ~ character e.g.somefile.txt~ A simple script can help you locate files which are of no use to you:

```
# Define DRDT appropriately
DRDT=xyz/tildefiles
find $1 -iname "*~*" -exec mv
{} $DRDT \;
# Now you can deal with files
in DRDT any way you want
```

Clear the browser caches

Use the tools provided by your browser.

Clear the thumbnails

For each shown picture, Ubuntu automatically creates a thumbnail, for viewing in the file manager. It stores those thumbnails in a hidden directory in your user account (names of hidden directories and hidden files start with a dot, like .cache or .bash_history. The dot makes them hidden).

Over time, the number of thumbnails can increase dramatically. Moreover, the thumbnail cache will eventually contain many superfluous thumbnails of pictures that don't exist anymore.

Clear the thumbnails every six months or so. The quickest way is to use the terminal commands as follows:

```
rm xyz/.cache/google-
chrome/Default/Cache/*

rm
xyz/.cache/chromium/Default/C
ache/*

rm xyz/.compiz/session/*
```

Get rid of polluted settings in your web browser

Firefox and Chromium/Chrome add-ons and extensions: don't trust them blindly. And keep their number down anyway: don't turn Firefox and Chromium/Chrome into a Christmas tree. The more extensions you install, the bulkier your browser becomes. Polluted settings in Firefox, Chrome or Chromium are sometimes caused by rotten, shady or rogue add-ons and extensions. Furthermore, some add-ons may cause malfunctions in other add-ons, or even in the browser itself.

Broken symlinks

Symbolic links are often used to "store" multiple copies of the same file in different places but still reference to one file. What happens if I delete the original file but not the link? The link will remain but will point to a file that does not exist. This is called an orphaned or dangling link. Symbolic links are like shortcuts or references to the actual file or directory. One easy way to locate (and then remove) such broken links is :

```
find /path/to/search -type l
-exec test ! -e {} \; -print
```

FSCK

fsck "fsck" stands for "File System Consistency checK". fsck is used to check and optionally repair one or more Linux filesystems. Filesys can be a device name (e.g. /dev/hdc1, /dev/sdb2), a mount point (e.g. /, /usr, /home), or an ext2 label or UUID specifier (e.g. UUID=8868abf6-88c5-4a83-98b8-

bfc24057f7bd or LABEL=root).

You shouldn't need fsck for modern filesystems anyway since they have journaling functions and should be able to recover from crashes.

You will need root/superuser permission to run the "fsck" command.

```
# fsck /dev/sda6
#Output of fsck follows
fsck from util-linux 2.20.1

e2fsck 1.42 (29-Nov-2011)

/dev/sda6:clean,95/2240224fil
es,3793506/4476416 blocks
```

During the filesystem check, if errors are detected, you can get "fsck" to auto repair the filesystem with the -y flag. For example:

```
fsck -y /dev/sda2
```

If you have installed and uninstalled a lot of applications, chances are your system is infected with a lot of dependencies files that you have absolutely no use for. Here are some useful commands to get rid of any partial package and remove any unused dependencies:

```
sudo apt-get clean
```

This will flush the local cache from the retrieved package files.

```
sudo apt-get autoclean
```

This will clear out only the absolutely not necessary packages that cannot be found in the repositories anymore, or a newer version of them is located.

```
sudo apt-get autoremove
```

This command will remove packages that were installed as dependencies for another package that has been removed, and so are no longer needed.

FSLINT

fslint is a utility to find and clean various forms of lint on a filesystem, especially duplicate files and broken symlinks.

To install fslint:

```
sudo apt-get install fslint
```

In Conclusion

Just like regular exercise helps you reduce your belly fat and keeps you fit, frequent housekeeping will ensure that your Linux system works effortlessly and flawlessly. This article has given an overview of the options which Linux offers you for housekeeping.

Written by Miguel Menéndez Carrión

NEW

Programming For Ubuntu Touch Pt.1

This course is a new project to learn how to program applications that work on Ubuntu Touch. In the process, I will generate documentation with all the phases of development of an application: requirements acquisition, implementation, and distribution in the Ubuntu store. One of the problems found in Ubuntu Touch is the lack of applications, both in number and in functionality. I do not expect to change this situation in the short term, but one way to change it is by programming applications and helping other users do the same. Only in this way will it be possible to change this situation.

This course is not a masterclass in which I explain something and others repeat them automatically. The idea is to publish chapters and complete the course documentation with the feedback of the other users. If a particular block gets more interest, it can be extended later. There is no problem in asking questions in the resources associated with the course.

The documentation will be structured as a book. Its access is free and any user can read it in a browser or as a PDF, ePub or Mobi file. It is possible to add comments to the book, although it is necessary to have an account created in Gitbook. The source code for the examples and applications will be hosted on Launchpad using Bazaar as version control. On the same page there is a mailing list in which you can ask questions. Additional to the resources mentioned earlier, there is also a Trello board with the course status.

Finally I want to thank the users who have encouraged me to start this madness, among them are kain_X_X and LarreaMikel. A course of this type can not be done by a single user. Evolving and achieving larger goals is possible only when many people contribute.

Previous Knowledge

Due to the subject of the course itself, some programming skills are required. In this course we will mainly use QML for the user interface and JavaScript or C/C++ for the logic. It helps to know either of the two languages, although it will not be critical. Each chapter will explain the basic elements and a bibliography will be included for the user to consult if in doubt.

The Ubuntu Touch Software Development Kit (SDK) is being released for the Ubuntu distribution. It will therefore be necessary to use Ubuntu or any of the distributions that take it as a base. Not meeting this requirement is not a serious problem either, because you can do the same in a virtual machine or using a Live USB.

To make it easier to follow the course, I will include only the most important parts of the source code. The rest of the files will be in a source repository in Launchpad. It would be helpful knowing the basic commands of Bazaar.

Objectives of the Course

The main objective of the course is to learn how to program applications for Ubuntu Touch while having fun. Programming is a time-consuming task, and you have to like what you are doing. Applications can be simple or complex, the important thing is that they solve a need that we have. For example, an application that has a list of plants in the garden and lets us know when we have to water them.

A good design in the logic of the application can greatly reduce development time. In the same way, a bad design can cause us to throw the code to the recycle bin and start over, because it is easier to start with a different approach.

Types of Applications

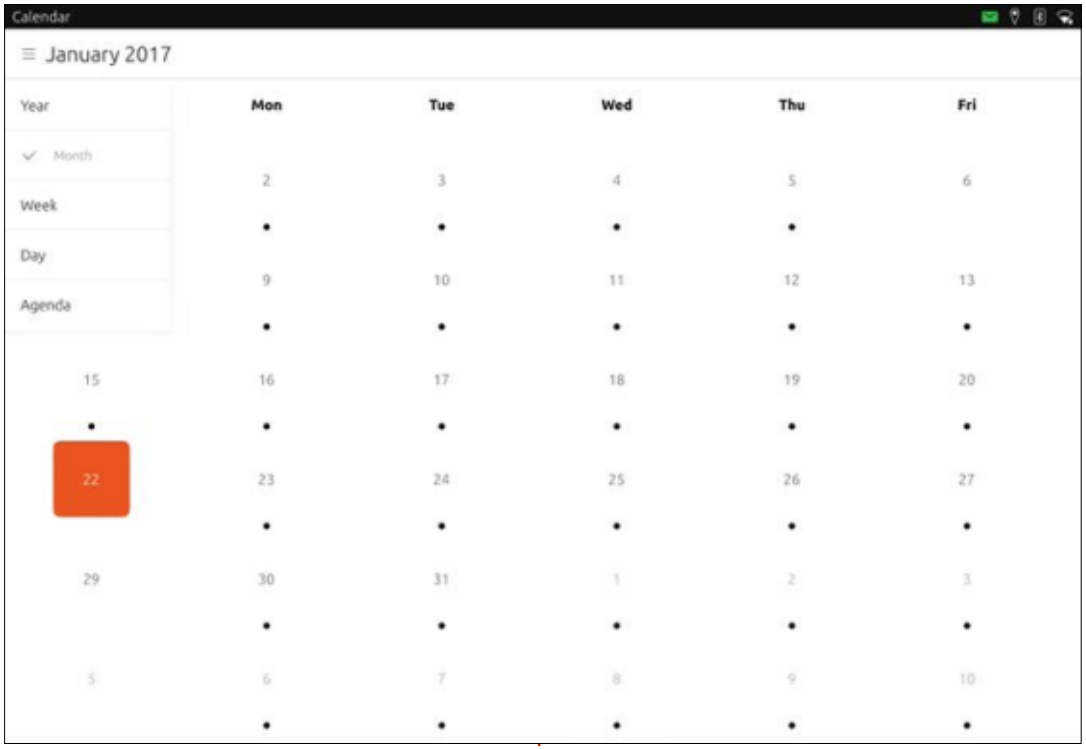
Ubuntu Touch has three types of applications. We can find Web Applications (WebApps), Scopes, and Native Applications.

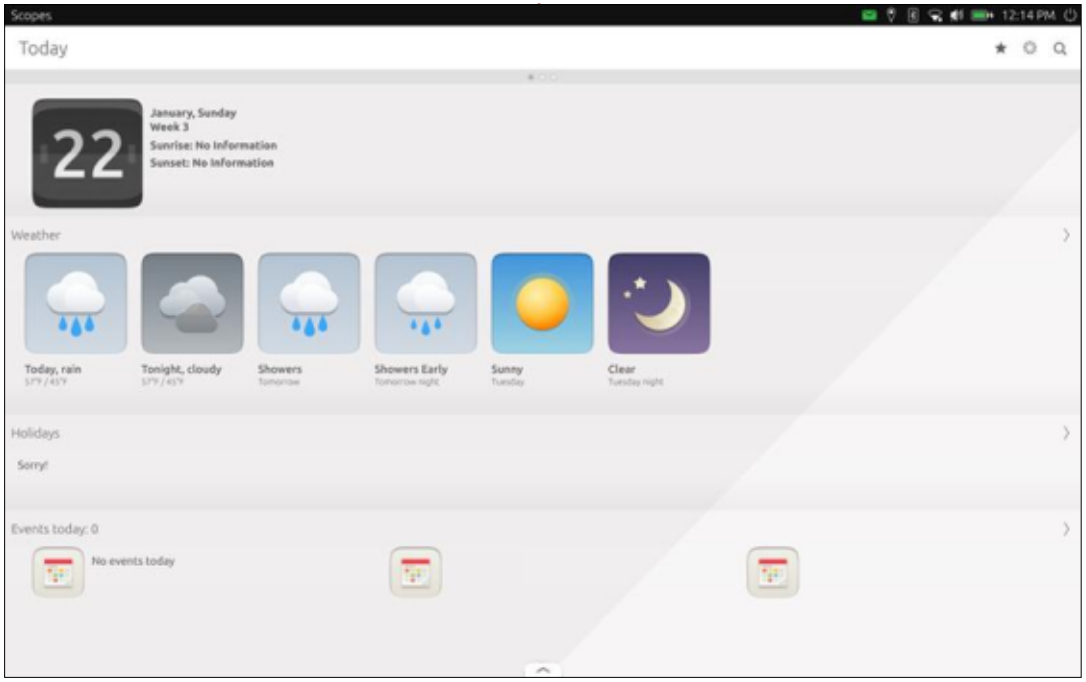
A web application (next page, bottom left) is basically a web

browser tab that runs independently. It has its own icon in Unity (the application launcher) and can contain remote information of any type. For security reasons, a Web application does not have access to the local content of the terminal.

The scope (bottom right) is the second type of application found in Ubuntu Touch. To some extent it behaves like a screen that shows information to the user. The information can be external, for example the weather forecast, or internal in the form of information aggregator. An example of this case would be the "Today" scope. This scope shows information from different applications.

Finally we have native applications (top right). In this case the applications can access all the resources of the phone, and are, eventually, more complex than the Web applications and the scopes. Applications are confined in Ubuntu Touch and can only access their own information. If we want to access information from other applications, we need to pass it through the content-hub. As an example of a native application, we have the calendar.





Evolution of the Course

One detail that I want to point out (and that you will get tired of reading throughout the course) is that this course is not a masterclass. It is important that you participate with either questions, suggestions or errors. The order of the chapters can vary and chapters that were already closed can be opened to add new content. This course is alive and can be improved only if we all get involved. It doesn't matter if questions are very basic or what the other users would say. The main reason for following this course is learning. Remember: The only stupid question is the one that you don't ask.

Access to the mailing list is open, and only a Launchpad account is needed. There is no censorship except several cases of common sense:
• The questions must be related to the course.
• Spam of any kind is not allowed.
• Attacking other users is not allowed.

If any of these rules is broken, I will warn the person first. If the user continues with his attitude, he will be asked to leave the mailing list. I hope I never have to get to that end.

This course is not set as a whole and therefore I will write it week after week. For this reason, it is possible that some error appears. If this is the case, do not hesitate to warn me in order to correct it. This course is an opportunity to create content and give a boost to Ubuntu Touch.

Resources

Mailing List:
https://launchpad.net/~ubuntu-touch-programming-course

People who have collaborated

• Larrea Mikel: revision of the chapter in Spanish.

• Cesar Herrera: revision of the English translation.

• Joan CiberSheep: revision of the English translation.

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Inkscape - Part 58

Written by Mark Crutch

I'm going to take a slight departure from the usual format for the first part of this month's article – and talk about politics. Not Trump, Brexit or the rise of populism, but rather the politics of open formats and browsers.

First, a very brief (and simplified) history lesson: SVG, the file format used by Inkscape, was created under the auspices of the World Wide Web Consortium (W3C) – the organisation that was also charged with creating the specifications for HTML and CSS. HTML was already an established language, but loosely defined, and with a host of differences between the various browser implementations. The W3C tidied things up, but ultimately decided that the best way to get everyone writing good, cross-browser HTML was to effectively abandon the undisciplined language it had become, and move to a rigorously defined and structured alternative, XHTML. This was also part of a larger plan to promote XML, which can be thought of as a language for defining languages. XHTML was HTML re-cast as an XML language, bringing with it more scope for interoperability with other XML languages, including SVG.

As academically pure as the aims of XHTML were, they fell down in the real world. HTML had thrived partly because it was so lax. Browsers would do their best to interpret even the most malformed syntax, which greatly lowered the barrier to entry for non-programmers to create their own web pages. Lowering it further still were applications such as Dreamweaver and HoTMetaL, which would allow users to create web pages as easily as they would a Word document. HTML continued to proliferate online, and it would have been commercial suicide for any browser to render only XHTML. For all its purity and technical superiority, XHTML inevitably lost out to the looser standard, and the W3C's work became largely irrelevant. It was clear that the approach of having a standards body to write the specs, and only then for the browsers to implement them, was not one that would work in practice.

What followed was a period of stagnation for the web. No browser wanted to introduce any radically new syntax into HTML or CSS for fear of re-kindling the bad old days of proprietary extensions. But eventually, the browser companies began to talk amongst themselves about ways to push the web forward again. The result was the formation of another standards body, WHATWG, whose remit was to improve the old HTML specs largely by documenting what the browsers already did, making it easier for all the vendors to bring their programs up to the same level of compliance. They also added a few new features to HTML, branding it as “HTML5”, although we're now several years on and many of their more useful ideas still haven't been universally implemented (how are those date and time pickers coming along, Mozilla?).

Eventually the W3C gave up on their philosophical march towards XHTML purity, and embraced the work of WHATWG, such that the HTML standard is now nominally back in their hands. But structurally, things have changed: no longer can the W3C write specs and expect browsers to implement them; now the browser vendors agree what to implement amongst themselves, and then the specification is written to match the implementations. Okay, in practice it's more nuanced than that, but the key point is that, these days, specs are largely driven by what browsers are prepared to implement.

This has an impact on Inkscape because, as an SVG editor, its feature set follows the capabilities written into the SVG specification. But the SVG spec, in practice, can't gain any new capabilities without support from the browser vendors. Yet those vendors are loath to implement many of the new features, given that there are barely any files online that use them. Users, meanwhile, are equally loath to create content using these new features because

no browser supports them. The authoring tools (such as Inkscape) would like to implement them, but, without browser support, the spec is unlikely to be finalised and supported – so any work they do could be rendered obsolete if the specification changes.

And so we go round in circles: no files using the new features online means no browser support; no browser support means the specs don't stabilise; unstable specs make authoring tools less likely to support the features; no support in authoring tools makes users less likely to create and post files that use the new features; no files using the new features online means no browser support... and so on.

To be fair, some limited support for new SVG features has made it into browsers – but mostly in areas where the SVG Working Group has relinquished ownership in order to move the feature to CSS. This is both good and bad news: CSS is one of the cornerstones of the web, so adding features there, rather than in SVG, makes them more likely to be adopted by browsers; conversely it further weakens the position of SVG as a stand-alone format, and requires non-browser applications to comply with standards that often don't sit easily outside the web environment, diminishing SVG's position as an independent file format.

With more features moving to CSS, and the vendors showing little interest in implementing those that remain part of SVG, there's even been talk of not renewing the SVG Working Group's charter beyond a short period to stabilise the work that has been done on the SVG 2 specification over the past couple of years. That would mean no SVG 3, and no new features in the future. Given how many great ideas were dropped from SVG 2 with the promise that they could be revisited for later specs, this would be a tragedy. Sure, Inkscape would likely continue, probably adding proprietary extensions to SVG to support new features as time goes on. But the promise of an open vector format that could be used cross-application, and rendered natively on the web, would have died.

Is there anything that we, as users and advocates of open formats, can do to help ensure that SVG has a future? Since it's largely in the hands of the browser vendors, the best we can to is to show them that there is a demand for the format, and for the new additions that are being made to it. We need to create more SVG documents, especially those with features from the SVG 2 specification, and post them online. And we need to encourage others to do the same. But this approach isn't without its problems.

The SVG 2 spec isn't yet finalised. Creating documents using the current version could render them obsolete if there are further changes to the specification before it's finally ratified. So any files you create now might require some (hopefully minor) fixes if they are still to work in a year's time. A bigger problem for most people is how to create them in the first place. Hand-coding SVG is certainly possible, but it's probably not a practical option for most people, which means that the only way to get new features into your files is to wait for them to become available in authoring tools. Thankfully, Inkscape is, to some extent, leading the way for this approach. The recent 0.92 release adds support for rendering several SVG 2 features, although, unfortunately, UI support for creating them in the first place is somewhat more limited. Nevertheless, there are a couple of SVG 2 features that you can start using in your Inkscape drawings today, the first of which I'll cover in this article, and the second next time.

The first step towards using these new features is, of course, to install version 0.92.x of Inkscape. Windows users can just download an installer from https://inkscape.org/en/download/windows/ whereas MacOS users are left behind somewhat, with no official .dmg files available at the time of writing (see https://inkscape.org/en/download/mac-os/ for more details and alternative options).

Linux installation instructions vary between distributions, but there's now a distribution-independent Snap package available. Systems that aren't based on Ubuntu may have to install the “snapd” daemon separately (see

https://snapcraft.io/docs/core/install for details), but if you're already on Ubuntu 16.04 or later, you should simply be able to run the following command:

```
sudo snap install inkscape
```

Unfortunately the snap doesn't necessarily have all the prerequisites to get Inkscape up and running correctly. One change in 0.92, for example, is that Inkscape no longer bundles a built-in copy of the Potrace library (for tracing bitmaps or using the bucket fill tool); I had to use:

```
sudo apt-get install libpotrace0
```

to get it working on my system. There have also been theming issues with early snaps (which I also fixed by apt-get installing some additional libraries), although by the time you read this, there should have been a point release which fixes those issues. I strongly recommend launching Inkscape from the command-line at first (just enter "/snap/bin/inkscape") as error messages in the console may make it clear if there are any unmet dependencies, whereas launching from an icon might leave you with no Inkscape window, and no indication as to what went wrong.

If you already have Inkscape installed via the normal Apt tools, you will find that the old version is still installed, even after you've added the snap – and that it probably gets run in preference to the new release when you just execute "inkscape" from the command-line, or click the launcher in your menu. You'll need to modify your path to give the /snap/bin directory priority over /user/bin or update your launchers and links to point to the snap version instead.

There are still traditionally packaged versions available for several distributions as well, which is especially useful if you have an older system that doesn't support snaps. See https://inkscape.org/en/download/linux/ for details. For example, on Ubuntu 14.04, you might prefer to use the stable PPA that is available, by issuing these commands:

```
sudo add-apt-repository ppa:inkscape.dev/stable

sudo apt-get update
sudo apt-get install inkscape
```

Whichever approach you take, it's worth visiting Help > About Inkscape to ensure that you are running version 0.92.

The first SVG 2 feature exposed in the UI is "paint-order". This is actually a rather uncontroversial feature for the browser vendors, as it has already been implemented in at least Firefox, Chrome, Opera and Safari. It solves a very common problem in SVG, especially when dealing with text: any stroke applied to an object is painted on top of the fill, and extends half in and half out of the object. Consider this simple bit of text, rendered in a cursive font:

Suppose we want to add an outline to it, to make it stand out a little bit more against its background. That's simple enough, right? Just give it a thin stroke. Unfortunately that's where the problems start.

It certainly stands out more (the fact that the fill appears darker is an optical illusion that helps enhance the effect further), but, due to the construction of the font, we've now got bits of the outline appearing "inside" letters, where the tail of one flows into the body of the next. We can adjust the kerning to separate the problem characters, but that pretty much defeats the point of using a cursive font in the first place. Converting the letters to paths, then creating a boolean union, fixes the visual problem, but now our text isn't actually text any more, which in many cases makes this approach a non-starter. Let's suppose we resign ourselves to having to separate the letters. A little manual kerning gives us this:

What if we want it to stand out a bit more? Let's double the thickness of the stroke and see what effect it has.

Urk! That's not good. All the thin parts of the script have become completely filled by the stroke, ruining the light elegance that we wanted from the font in the first place. The problem, of course, is that increasing the thickness of the stroke not only adds more pixels to the outside of it, but also to the inside, obscuring more of the fill. One common solution to this – and to the previous problem – is to copy the text, putting an unstroked version directly on top of a stroked copy.

This works, but now you've got two text objects to keep in sync. With a little effort you can do the trick with clones instead, using an unset fill and stroke, but, if you want anything other than a black fill, you'll be trying to keep three objects (a text object and two clones) under control.

The problem would completely go away if only you could tell Inkscape to render the fill on top of the stroke, instead of the other way round. And that's precisely what the SVG 2 "paint-order" property does! Except it goes a step further, and also includes any markers that are on the path. Considering all the possible orderings for the three things to be rendered, this gives six possible combinations:

- Fill, Stroke, Markers
- Fill, Markers, Stroke
- Stroke, Fill, Markers
- Stroke, Markers, Fill
- Markers, Fill, Stroke
- Markers, Stroke, Fill

The first of these is the default, and is the way that SVG 1.x operated. But now there's an extra section in the Stroke Style tab of Inkscape's Fill and Stroke dialog that presents six buttons to let you choose your preference for any selected paths.

In each icon, the circle represents a marker, the dark blue rectangle is the fill, and the light blue path represents the stroke, with a dashed white line to indicate its centre. You can produce a similar collection of shapes by drawing a square with a thick border, converting it to a path, then setting a start marker. Clicking each of the buttons whilst your bigger version is selected will immediately reflect the change, and make it much clearer to see what the result of each option is. I recommend creating a shape like this and switching between the different modes to help you to fully understand the effect.

As for our text, because there are no markers involved, any of the three modes that draw the stroke before the fill will give our desired result, with only a single text object and no need for clones, copies, or other workarounds. It even works well with a really thick outline.

Even though paint-order is already well supported in browsers, I urge you to create new designs and works of art that use it, and put them online. The more files we share that use SVG 2 features, the more likely it is that the browser vendors might realise there's a demand for them, so going after "low hanging fruit" such as this is an easy way to express your interest without having to worry about posting files that don't render in the browser.

Next time I'll move onto Mesh Gradients – perhaps one of the most useful, and most desperately needed, new features in SVG 2, but one which is in very real danger due to browser vendor antipathy.

Mark uses Inkscape to create three webcomics, 'The Greys', 'Monsters, Inked' and 'Elvie', which can all be found at http://www.peppertop.com/

NEW

Kdenlive - Part 1

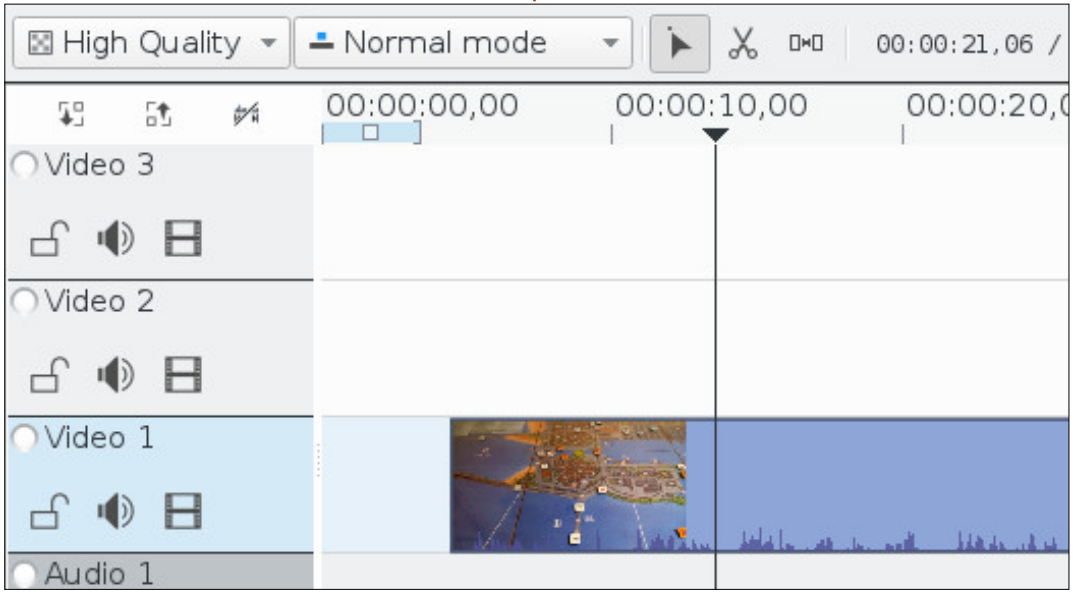
So, now that you know the basic layout of Kdenlive, it's time to start putting it to good use. In this part we'll cover some basic cutting, moving and overlapping video, then, for good measure, take a quick look at transitions.

First, though, drag (or load) a video file into Kdenlive and drag it down to video line 1.

Looking

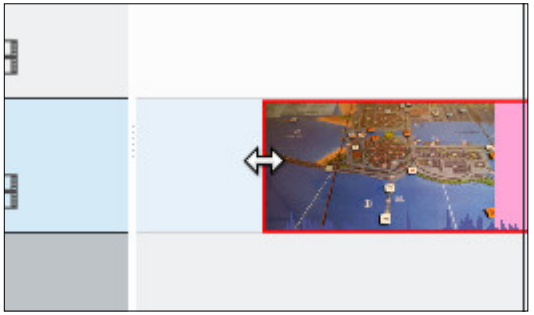
The first thing you'll want to do is look through your video to see what you want to keep and what you want to cut. You can, of course, use the video playback window at the top right. To be more precise though, you can click anywhere above, or below, the file you have in the timeline. You'll see a vertical line appear. The vertical line shows where you are in the video, and shows you that frame in the playback window. You can click and drag anywhere above/below the video to scrub through it.

Let's say I want my video to start where my current line is and disregard anything to the left of it.



Non-Destructive Cutting

More often than not a piece of video will contain extra footage at the start, or end, of the piece. This is easy to fix. You simply hover your pointer over the start or end. Your pointer will change to show arrows pointing left and right. Simply click and drag to where you want the video to start or end.

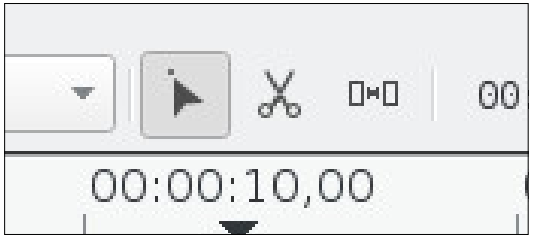


So, in this case, I'd click on the very left edge, hold down the left mouse button, and drag (to the right) to where the vertical line is.

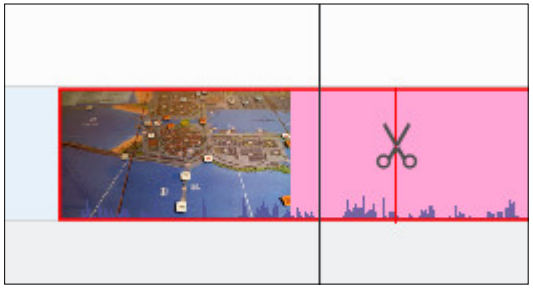
One thing to note with this technique is that you haven't chopped off that start piece, you're simply hiding it. You can easily left-click, hold, and drag to the left to reveal it again.

Destructive Cutting

This time I'll use the Razor tool. This is the icon above the timeline, showing a pair of scissors.



Clicking the icon will change your mouse pointer to a pair of scissors with a red vertical line.



Where you place this red line, and click with the left mouse button, is where the video will cut. To stop cutting, click the Selection tool beside the scissors.

You'll notice that you now have two video files. You can subdivide as many times as you like.

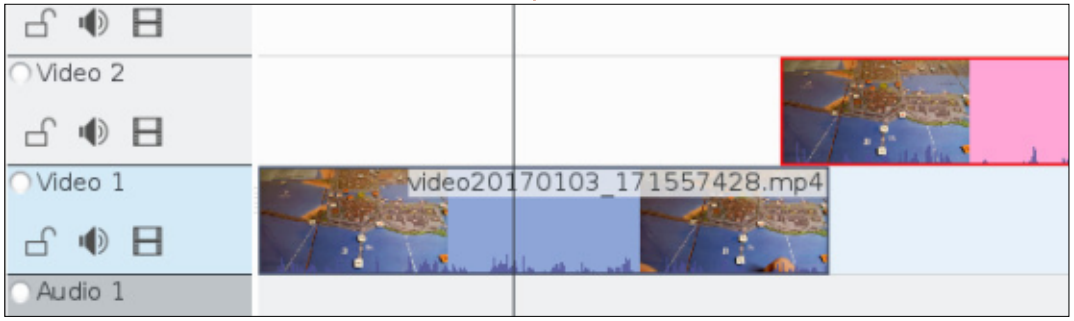
Let's say you have a bit in the middle of your video that you don't want. You'd cut at the start of that point and cut at the end of that point. Left-click on the video in the middle (that bit you don't want) and press delete. It's gone. You'll have a hole in your video, but that's OK – you can move the videos around. Which is what we'll look at next.

Moving Audio/Video

Moving is simple enough. You use the Selection tool which, as I mentioned before, is beside the Razor (scissors icon) tool.

With the Selection tool selected, your mouse pointer will become a hand icon when over video or audio. Simply left-click, hold, and drag the audio/video.

Drag the second video up to video line 2 and have a bit of an overlap.



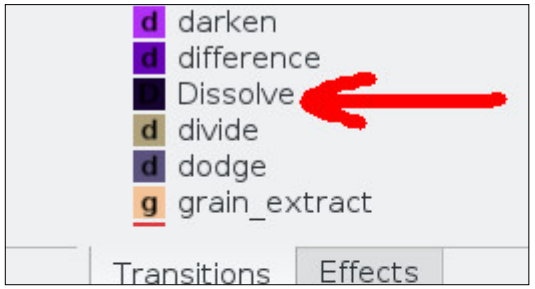
If you play the video it will abruptly cut to the video on line 2 and mash up the audio of line 1 and line 2. Not exactly what you'd want.

Obviously you don't have to overlap videos. They can quite happily touch one another on the same timeline.

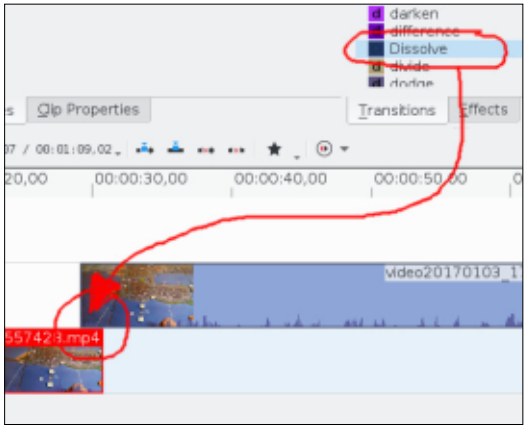
Transitions

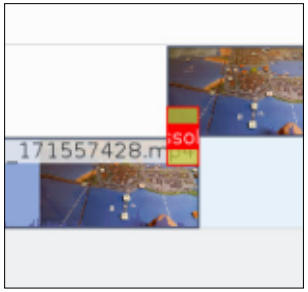
A transition will let you go nicely from one video to another as long as they have an overlap of some amount.

Select the 'Transitions' tab beside the playback window. Thankfully, Kdenlive has a good amount of choice. For this example, we'll use 'Dissolve'. This will smoothly fade from one video to the next.



Left-click and hold on Dissolve. Drag it down to the timeline to where the two videos overlap.





Now let go of the mouse button.

It'll be a bit squished because it's not a very long dissolve time, but you'll see a red box covering the overlap. That's it. You're now dissolving line 1 into line 2.

Click above/below the videos on the timeline to see it happening in the preview. Or play the preview to see it in real time. If your PC can handle it.

If you want to delete the dissolve you can click on it (to highlight it) and press the Delete button on your keyboard or right-click on it and choose delete.

Rendering (Briefly)

I won't go into rendering video here, but if you're happy with what you have, and want to get a final video, then click the 'Render' button (at the top of the screen), choose a video format, and click 'Render to File'.

I'll go more into rendering at a later time.

That's it for this month. Next month I'll discuss adding text to videos.

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

I have previously covered various encryption apps for your Chromebook. I have not reviewed encrypted email. The recent Yahoo hack just shows that email encryption is vital on personal documents and certain conversations. End-to-end encryption for email is not easy for new users. Perhaps an app can resolve this issue. I want to say thanks to Mike Ferrari again for directing me towards another tool to add to my arsenal. The app that resolves this issue is CryptUP. This app will work in Chrome or Chromium Browsers. It is found in the Chrome Web Store.

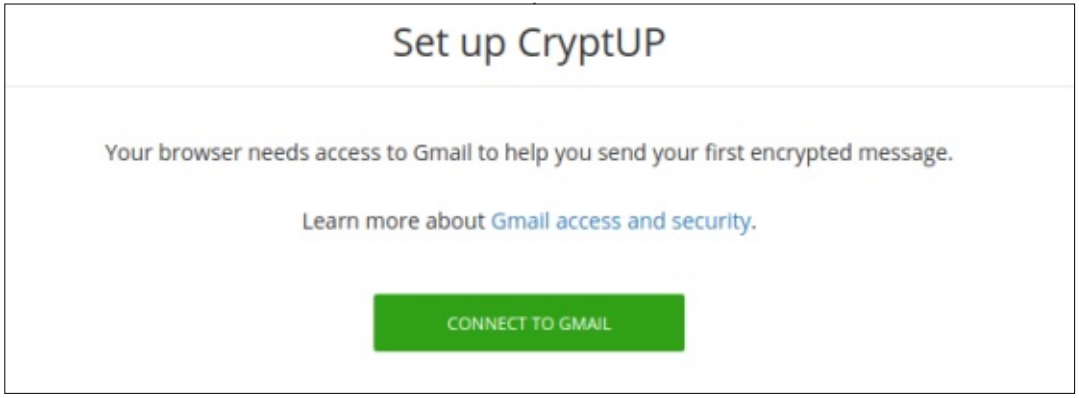
When you install the app, you have several GUI prompts that help set up the app. After clicking the UP button in the corner of the GUI, the process (below left) begins.

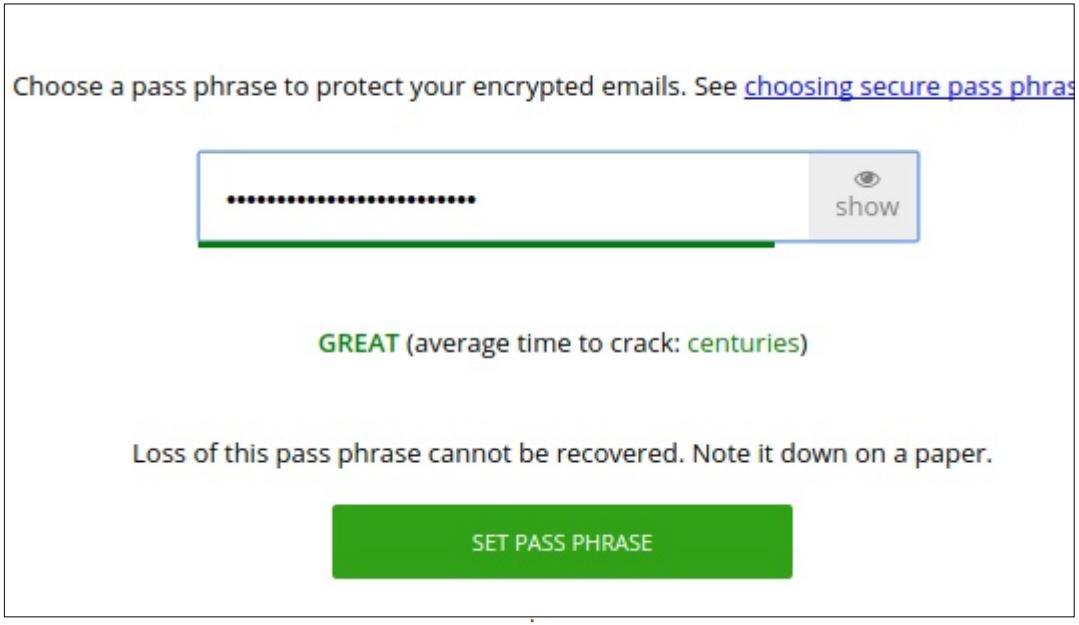
Click on the Connect to Gmail.

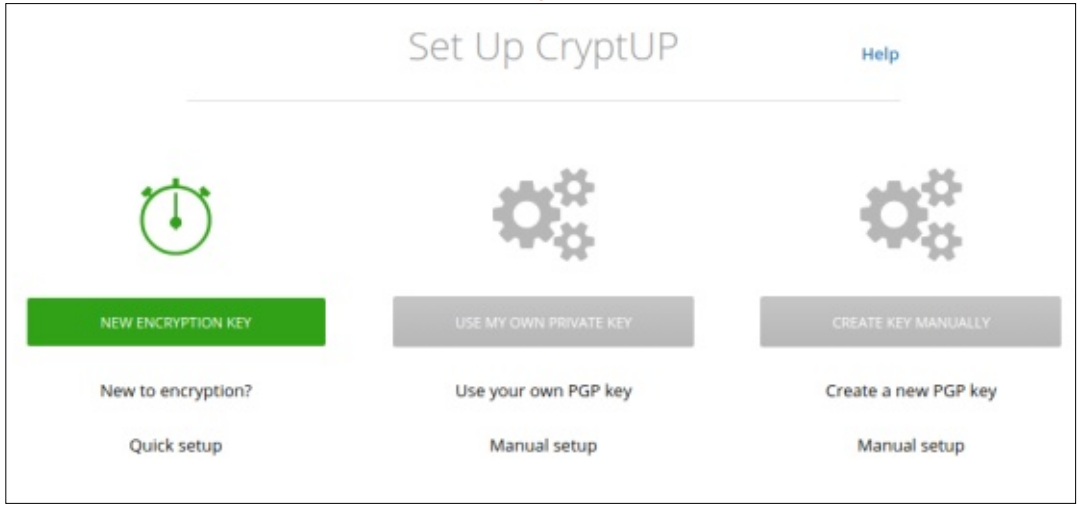
Click the new encryption key (bottom right) and create a passphrase. The passphrase must be extremely strong (top right).

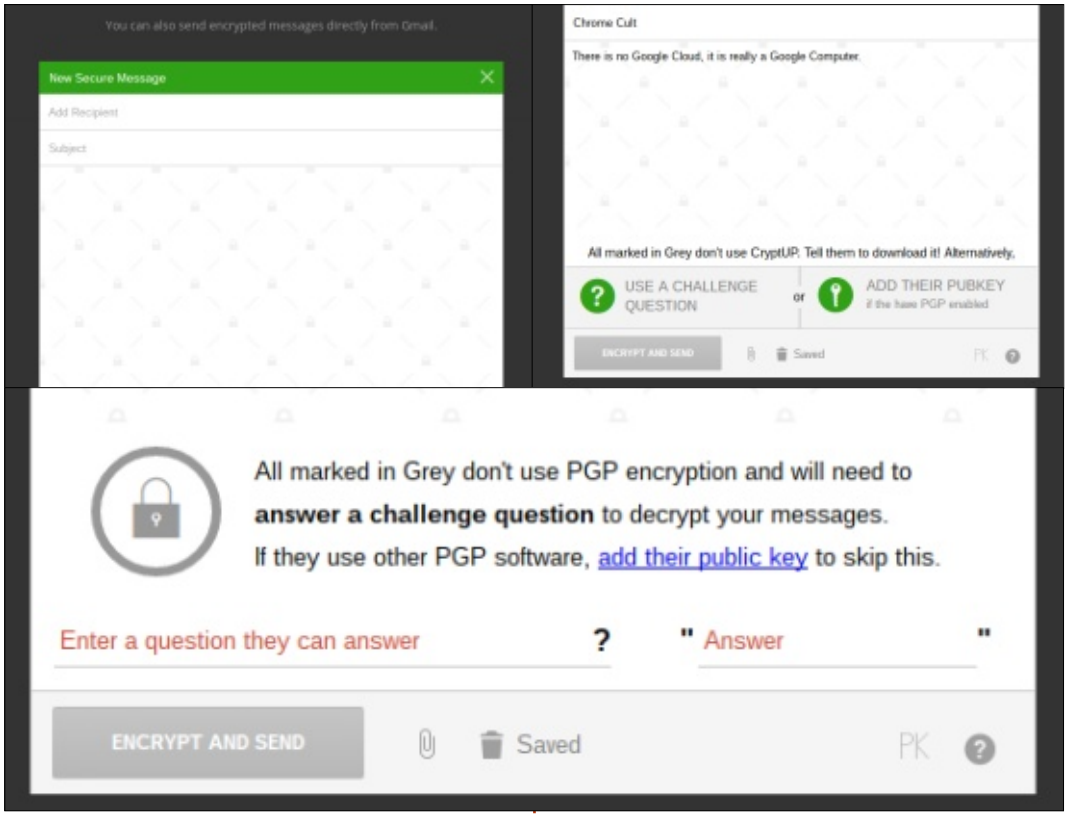
The setup is done and the default layout of CryptUP is apparent.

Now it is time to compose an encrypted email (next page, top left). Click on New Email and a new popup GUI appears. I will send a text message to my old Yahoo account. I enter in some basic text and can choose an encryption method: challenge question or pubkey. I chose the question route, where I entered the question and answer. I then sent the message off to the Yahoo account.





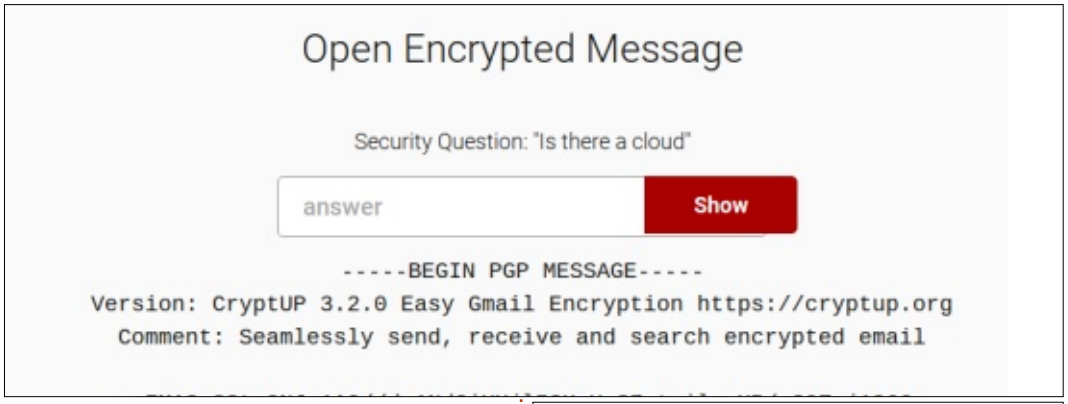




The message arrives in the Yahoo account. It has a serious amount of random gibberish in the text, but I have an opportunity to answer the challenge question by clicking the blue link.

I answer the question, and the encrypted message populates. The encrypted message populates below.

CryptUP is extremely easy to set up and use. While working with the app, I chose to remove the app from my Chromebook. This sent a message to the developer asking me to review CryptUP that resulted in a quick email chat with the creator: Tom James Holub. Per Tom, there are several future updates to this app. See a quick quote below.



This message is encrypted. If you can't read it, visit the following link: read message

-----BEGIN PGP MESSAGE-----
Version: CryptUP 3.2.0 Easy Gmail Encryption https://cryptup.org
Comment: Seamlessly send, receive and search encrypted email

wcFMA2q83tzONJs1AQ//dy1NdOiUXjl52HyUn37wtyilrvXB/rG0Zej1966x
xFvQ72SjgzEVUSMvJZXf7CAl9lLwLi8eXWv6HHSfr64KZaWDT7F4xrtdKe58
A7hDZ/4vTHF3AkudFsizfl1Hhiu9ST0cwsj2Bm2yMXU15O+dYfzrgMwddoGs
+xGUEqyYjYZEk5bume05qiG/evl/nyS/BPbW14OabRxDx+TRXAo4qjMyycYM

This sentence is an example of a sentence.

There will be some good stuff coming out in the upcoming weeks – like sending encrypted attachments to people who don't have encryption set up. People without encryption will also be able to send an encrypted response back in their browser. It will also start using Ethereum blockchain as a public key server.

This app deserves a four out of four stars. This is an app that would be useful for many individuals on a personal or professional level. Your email account could be hacked, but the encryption would prevent full exposure. It is always wise not to store personal or sensitive information in your email account. However at times this rule has to be broken.

SJ Webb is a Linux Hobbyist and Research Coordinator. He enjoys fishing, hot rodding, and spending time with his kids and wife. He thanks Mike Ferarri for his mentorship.

Write For Full Circle Magazine

Guidelines

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

Rules

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

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

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

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

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

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

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

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

Translations

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

REVIEWS

Games/Applications

When reviewing games/applications please state clearly:

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

Hardware

When reviewing hardware please state clearly:

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

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

Importing IEEE1394/Firewire/iLink Video

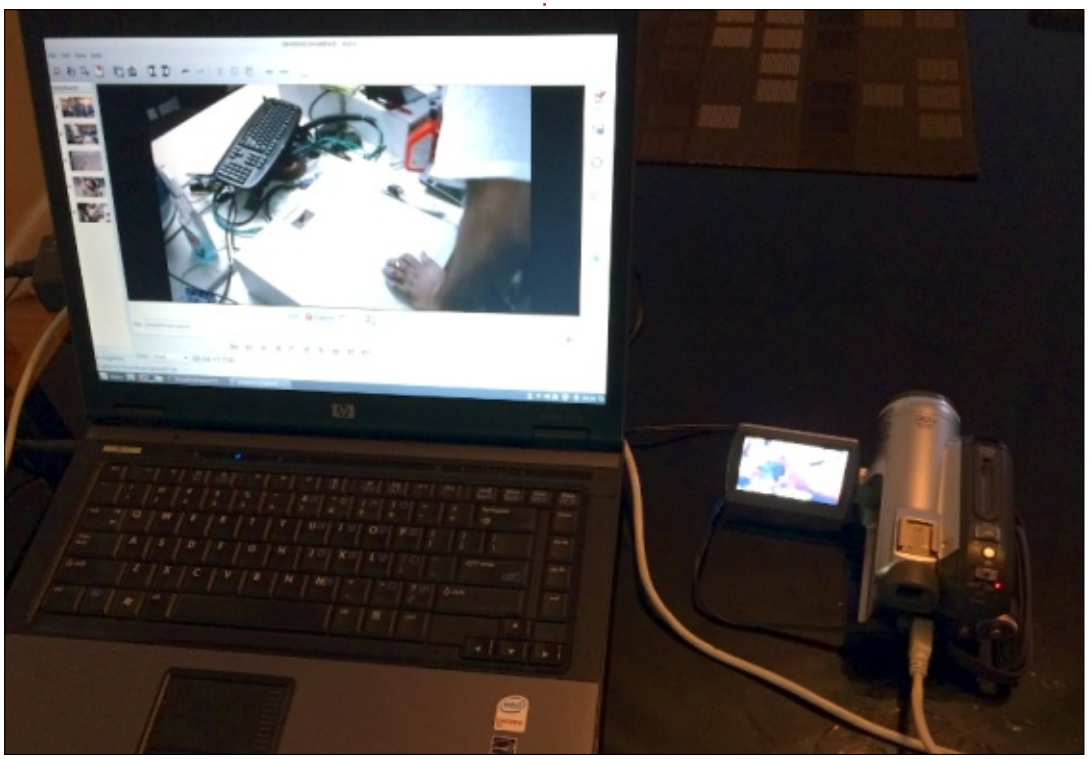
Written by Charles McColm

Last month, one of my brother's sent me a DVD in the mail that contained video of us from the mid-80's. Apparently the video had been stored on a camera and just never removed. This retrospective got me thinking about how popular Youtube channels like The 8-Bit Guy and Techmoan have become recently. It also got me thinking about all the video I have stored on MiniDV tapes that I never processed.

Nine years ago, I recorded a lot of video using a Panasonic PV GS-80 camcorder. This inexpensive camcorder featured image-stabilization, 16:9 video, and relatively good quality for the price point at the time. I posted a number of videos from "Ontario Linux Fest" on archive.org, but I recorded so much that I simply didn't get around to importing everything.

The last time I was transferring the MiniDV DV tapes to digital format, I remember running into issues with KINO and pulseaudio. Both audio and video played back at super high speed. KINO was a great digital video editor capable of importing video from IEEE1394 sources like our Panasonic camcorder. IEEE1394 is the standard most often called Firewire. Firewire is actually Apple's implementation of the IEEE1394 standard. Sony calls their IEEE1394 implementation i.LINK, and Texas Instruments called theirs Lynx. What I loved about KINO was that it gave complete control over the camera from the user interface. Unfortunately, as new video editors started coming out, KINO was abandoned. This is about when I stopped importing DV from the MiniDV tapes.

Inspired by my brother's DVD, and all the retro video of late, I decided to hook the camera up to an HP 6710 core 2 duo laptop running Linux Mint Cinnamon 18. Back when I used to import DV, I always had to issue modprobe commands to get IEEE1394 working. I checked out some of the Ubuntu pages concerning Firewire and got mixed ideas. Some of the documentation seemed to indicate that I might need to blacklist items, and run modprobe, while other documentation seemed to indicate that things would just work. I installed KINO and the command-line IEEE1394 importing program dvgrab. Lo and behold, when I turned the camera on and went into the Kino Preferences > IEEE 1394 tab, the camera was detected! I got even more excited when I clicked the Capture button and KINO started importing the video as flawlessly as it originally did.



Sadly, my excitement wasn't long lived. After it started importing the fourth clip, KINO froze. Linux Mint was still responsive so I opened a terminal and checked the file size a couple of times. Even though KINO was frozen, the back end dvgrab program was still importing video, I could tell by running ls and

watching the file size change over time. When the import finished, KINO stayed frozen, but I had several more .dv files.

Since I knew dvgrab could import video without issue, I used it to import DV from several other tapes. KINO defaults to the name capture###.dv (this can be changed in KINO), whereas dvgrab uses the name dvgrab-###.dv if you don't specify a filename to capture to. As with any command-line program, dvgrab can take a number of different switches to change the behaviour of the capture. The -t switch, for example, puts the timecode at the end of the capture name so you end up with something like dvgrab-2009.09.04_22-14-52.dv. The timecode is the date and time the video was recorded. So, in the previous example, the video was recorded on September 4th, 2009 at 22:14:52 or 10:14 (and 52 seconds) in the evening.

Changing the name dvgrab records to is as simple as specifying the name at the end of dvgrab. For example:

```
dvgrab mymovie-
```

Results in files: mymove-001, mymovie-002, mymovie-003, etc.

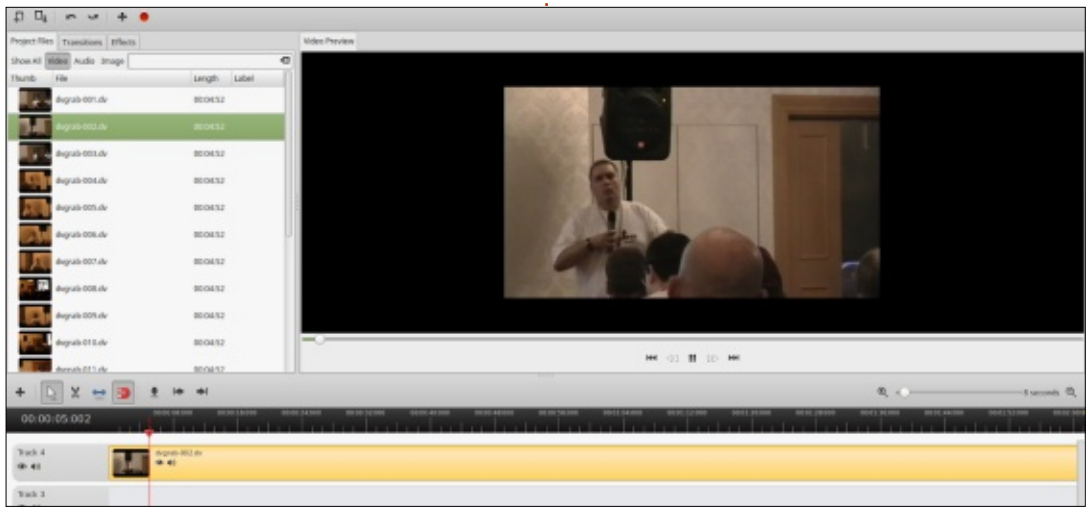
There are plenty of video editors available for Linux: Openshot, Kdenlive, Pitivi, Avidemux, and Shotcut. Openshot, Pitivi, Avidemux and Shotcut don't appear to support IEEE1394 capture. Kdenlive is suppose to support IEEE1394 capture, but when I tried it, I couldn't get Kdenlive to recognize our camera (KINO and dvgrab do). I looked at LightWorks, but it requires an account, and wouldn't work on the Core 2 Duo-based notebook.

Since my desktop (an A8-5600K APU-based system with 16GB of RAM) is a lot more powerful than the Core 2 Duo notebook, it makes sense that I do all the editing on the desktop. My workflow is a bit painful, import the video on the Core 2 Duo laptop using the command-line dvgrab, and transfer the video via SSH to the desktop for editing. We have a gigabit network running throughout our flat so it's much more efficient than trying to back up to a USB 2.0 external drive (the desktop is USB 3.0, but the laptop is still 2.0).

Openshot has been my video editor of choice in the past, it works well with .dv files, is easy to use, supports effects like green/blue screen, and is stable. (That's Jeremy Allison in the screenshot/video giving a talk at Ontario Linux Fest 2008 entitled Livin' La Vida Linux)

I admit this isn't a very efficient process, but it works, and it puts an old machine (the Core 2 Duo laptop) to good use. I'll probably revise the process in the future by putting an PCIe IEEE1394 400 card in the desktop so I can do all the importing and editing in one machine. With approximately 30 more MiniDV tapes to import, it's a big project.

Next month, I'll have an update on how the video turned out. For an example of the video I imported back in 2007 to 2009, just search for "Charles McColm" on archive.org. I've posted several videos taken with the Panasonic PV-GS80. Now that the editors have improved and sites like archive.org and Youtube are allowing higher quality content I believe the video should be a bit better.



Charles is the author of Instant XBMC, and the project manager of a not-for-profit computer reuse project. When not building PCs, removing malware, and encouraging people to use GNU/Linux, Charles works on reinventing his blog at http://www.charlesmccolm.com/.

Rclone Browser & Cloud Hosts

Rclone is a piece of software that will let you upload/download files to/from various cloud hosting services (such as Google Drive, Dropbox, et al). It's not the most friendly piece of software though, but now it has a browser: rclone-browser.

Installing

First, create a folder to download, and keep, everything in.

We need two pieces of software. First grab the browser file. Go to: http://ppa.launchpad.net/nilarimogard/webupd8/ubuntu/pool/main/r/rclone-browser/ and click on the appropriate DEB file for your system, and download it to the folder created above.

Next, we need rclone itself. Go to: https://github.com/ncw/rclone/releases and, again, grab the appropriate ZIP file for your system and save it in the above folder.

Head into the folder and unzip the rclone file (either using your window manager or via the terminal).

Open a terminal and cd to the download directory (eg: cd /Downloads/rclone)

To install the DEB file do:

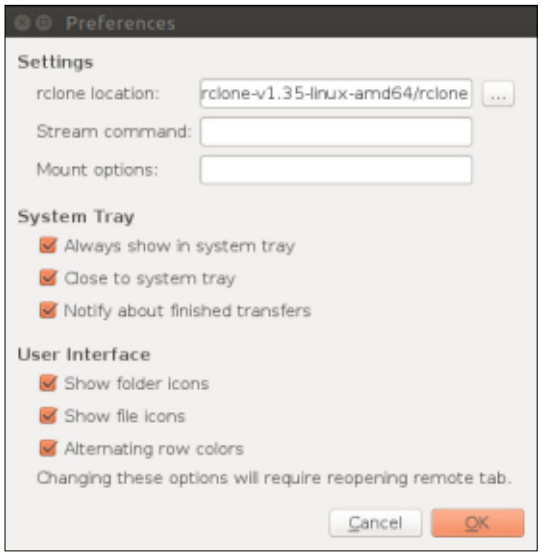
```
sudo dpkg -i rclone-browser_1.0.0-1-webupd8-yakkety0_amd64.deb
```

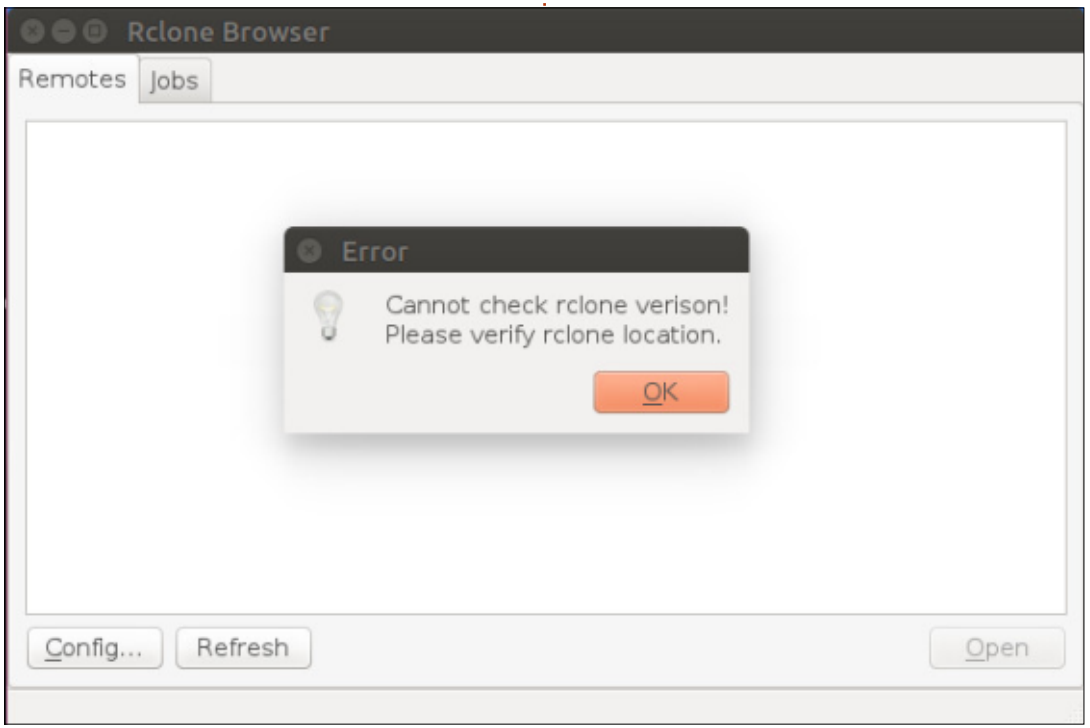
Obviously change the DEB filename to the one you downloaded.

Now that it's installed, run the rclone-browser, either via Unity or your desktop menu.

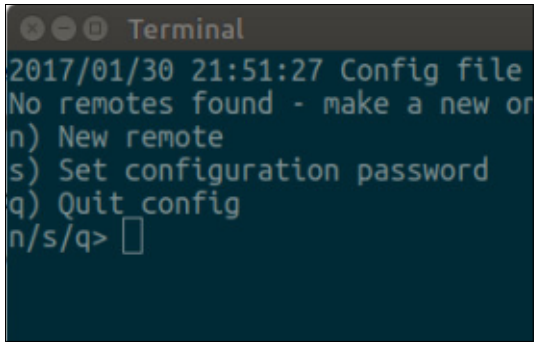
The first time you run rclone-browser (shown below), it needs you to show it where rclone is. We unzipped it a little while ago.

Set System Tray and User Interface settings as desired.





Now we have the blank rclone-browser window. We need to add cloud hosts. Click the 'Config…' button. A terminal will pop up with some options. Unfortunately adding hosts needs to be done via the terminal, but it's very simple. Honest!



Type 'n' for 'new remote' (aka: new cloud host), and press Enter.

```
Terminal
 7 / Google Drive
   \ "drive"
 8 / Hubic
   \ "hubic"
 9 / Local Disk
   \ "local"
10 / Microsoft OneDrive
   \ "onedrive"
11 / Openstack Swift (Rackspace Cloud Files
   \ "swift"
12 / Yandex Disk
   \ "yandex"
Storage> 7
Google Application Client Id - leave blank
client_id>
Google Application Client Secret - leave bl
client_secret>
Remote config
Use auto config?
 * Say Y if not sure
 * Say N if you are working on a remote or
y) Yes
n) No
y/n> y
If your browser doesn't open automatically
2/auth
Log in and authorize rclone for access
Waiting for code...
```

Now you'll be asked some questions, but, for most hosts, it goes like this:

- 'Name' this is what you want to title this storage.
- Now choose the provider from the list.
- Leave client id blank (just press Enter).
- Client secret should also be left blank (again, press Enter).
- For Auto-config choose yes.

The next part depends on the hosting provider. Some will open a browser window and have you log in to the cloud host. Some may even give you a URL to paste in to your browser window (eg: http://127.0.0.1:53682/auth).

```
Waiting for code...
Got code
--------------------
[gdrive]
client_id =
client_secret =
token = {"access_token":"ya29.GlvjAz
p3fhOHMuj0MHLe67-_wzzyQFXEkF9K9iHlmrZ0
efresh_token":"1/wVXNsJiUb_MC9h91qC-75
9.750869845Z"}
--------------------
y) Yes this is OK
e) Edit this remote
d) Delete this remote
y/e/d>
```

In this example (shown above), it needs to get a code from Google to use Google Drive. It will wait for the code. It gets the code, display the code, and ask if this is OK (answer yes).

For Dropbox, you need to follow a URL, and then paste in a code. Others may be different. In most cases it's pretty straightforward and easy enough.

Now we have one host added! Follow the text menu items to add more hosts, or exit.

So, you've added your hosts and exited the menu. You're back in rclone-browser. Click the 'Refresh' button to update rclone-browser.

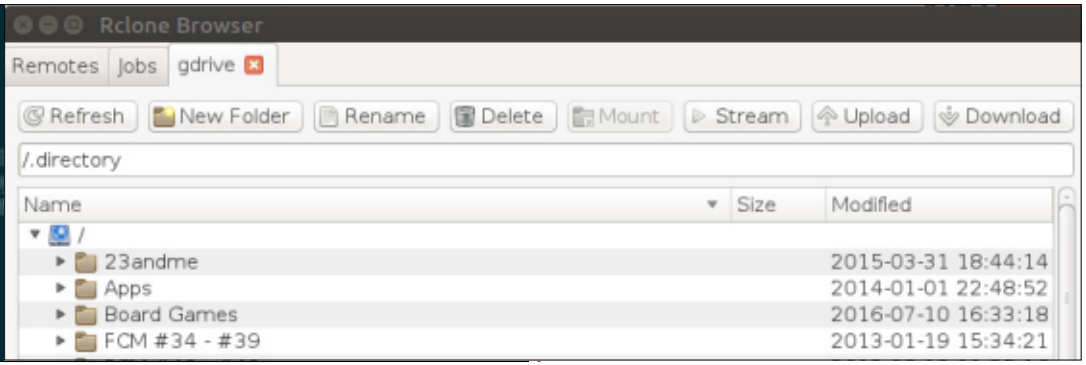
Double click the hosting entry in rclone-browser to see a file list.

Select a file, then click a button at the top of the window to do that action. Or you can right-click on a file to select an action.

If copying to another host, you need to enter the destination drive (eg: gdrive:/)

Click the 'jobs' tab to see the resulting output.

Rclone-browser is definitely a handy piece of kit. I've only touched upon what it's capable of. You can choose directories and have them sync to hosts etc.



POSSIBLE QUIRK OF DRIVE (aka: Google Drive): I find that I can transfer a folder of files from drive:/ to Dropbox:/, but can't transfer a single file. So, if you get an error transferring a single file from drive:/ to Dropbox:/ (or another host), put the file in a folder first and transfer the folder. It might be just me. I'm not sure.

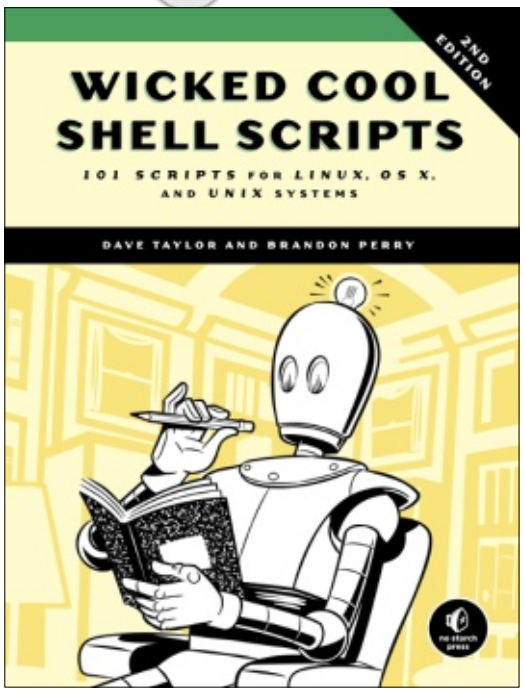
For advice, see the rclone forum: https://forum.rclone.org/latest

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

BOOK REVIEW

Written by Lucas Westermann

Wicked Cool Shell Scripts



Wicked Cool Shell Scripts (2nd Edition) 101 Scripts for Linux, Mac OS X, and UNIX Systems

by Dave Taylor

October 2016, 392 pp.
ISBN: 978-1-59327-602-7

The book Wicked Cool Shell Scripts by Dave Taylor and Brandon Perry (2nd Edition) has a relatively simple premise. They introduce a variety of shell scripts to you, explain what they do, and give you some simple enhancements you can make on your own. For anyone looking for an actual guided tour through creating your first few shell scripts, this is not the book for you. If, however, you learn by example, or simply want a repertoire of helpful shell scripts, this is a great resource.

The Good

The book clearly lays out the scripts (with comments), and explains some of the more unusual aspects. They then give you the sample output of each possible result, as well as a bit of 'homework' - that is, some changes or enhancements you can try on your own. There are 101 of these scripts, which range from what I would refer to as niche (i.e. relatively uncommon scenarios) to versions of scripts I use almost every day.

Some chapters, such as Chapter 2: 'Improving on User Commands' are very useful for any kind of CLI user, while other chapters are geared towards system administration, and may therefore not be for everyone.

The book also offers all source files (and some example files) as a zip archive from the book's product page (http://nostarch.com/wcss2). However, I was also happy to discover via Google that there is a Git repository available too. Unfortunately, this doesn't seem to be indicated anywhere. The repository is here: https://github.com/brandonprry/wicked_cool_shell_scripts_2e

There is also an entire chapter dedicated to OS X (macOS). This is very useful, as there are a variety of differences between Bash (and other commands) in Linux and Apple's OS. An Appendix is also included, for installing Bash in Windows 10. It's nice to see that the book is willing to cover each option - even if it specifically states that some scripts are untested in other OSes. The addition of the Windows 10 information also shows how recent the book is - I originally feared that it may have just missed that development.

Differences Between 2nd Edition and 1st Edition?

According to the jacket (and the Intro), the 2nd Edition contains 23 new scripts, including a ZIP Code lookup, a Bitcoin address information retriever, a suite of tools for working with cloud services like Dropbox and iCloud, tools for renaming and applying commands to files in bulk, and image processing and editing tools.

As I don't own the 1st Edition, I can't say much about the actual differences, and must instead rely on the author and the book's comments.

The Less Good

I haven't found anything inherently bad about this book. The scripts all fulfil their purpose, and I haven't run into any issues on

an up-to-date ArchLinux installation. There are, however, a few inconsistencies. In Chapter 1, the author introduces a script for normalizing date formats - where any format is assumed to be either 8/29/2016, or August 29, 2016. In other words, the typical "US" format. It would have been nice to see the script accept dates in the format DD/MM/YYYY. Especially due to the fact that another script in the same chapter supports different thousands and decimal separators (such as the US format of 1,000.00 and the German format of 1.000,00). While reading through the book, I didn't notice too many occurrences of this, but that makes those inconsistencies stick out even more. Even just acknowledging this by making it an enhancement task would be sufficient.

Conclusion

There are a variety of scripts in this book that I have alternative versions of (either because I wrote them, or because they belong to a different tool I use). However, there are still a great many scripts that I will begin to use, or adjustments I will carry over to my own versions. As such, the book fulfils its premise completely - it does indeed offer a well-stocked toolbox of shell scripts for the average (and professional) Linux user. By including information on OS X and Windows 10 as well, it can give even experienced users something new to try or test.

I would be tempted to give it a 5 out of 5, but unfortunately feel that some of the inconsistencies could have easily been avoided, and are generally a question of formats that are relevant in many other countries, including the country I live in, therefore requiring some effort on my part in order to implement them.

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.

MY STORY

Written by Kavinda Bandara

Resurrection of a netbook with Ubuntu

I am a doctor by profession and currently enrolled in a postgraduate program. I started looking for a portable laptop instead of my own Dell Inspiron 15 because it was bulky and heavy to transport on a daily basis on public transport. My main expectations were accessing the internet for my online files, and regular work on an office suite. I had to prepare a lot of documents, presentations and patients' records. Sometimes I had to work with spreadsheets for databases and analysis.

My wife had an Asus eee PC (1001PXD) netbook. It had an Intel Atom processor with 1GB RAM and came preinstalled with Windows 7 starter. It was an ideal travel companion but was not used for nearly 2 years due to a non-functioning keyboard and sluggish performance – which worsened over time.

I did my research in eBay and found a suitable keyboard for the system. Replacement along with a service brought it back to life, but Windows was no more an option due to speed. (Also I must mention that I hate their privacy policy).

Since I did not want to load the system with unnecessary software from the beginning (which would hamper a simple work environment), I chose to install Ubuntu minimal. Clear guidance in the reviews helped me to make the choice.

I downloaded minimal ISO 16.04, burnt it to a CD, and installed it into the netbook. The installation process was straightforward as it was similar to the installation of a regular Ubuntu distribution. I created manual partitions and wiped out Windows. During installation, network connectivity was needed and I had the options of wired or wireless, and I chose wireless despite the advice to do the other. It worked flawlessly. The server chosen was 'local server' (lk.archive.ubuntu.com). I decided to complete the installation first, reboot, and then choose the software I needed – so, at the end, I had a bare bones minimal installation in my netbook.

But, after the reboot, I found out the local server was not working properly and I could not download the packages I wanted. Then I tried to change the server with the "add-apt repository" command, but it failed as the terminal did not have that installed, which prompted me to install it. And it was impossible because the server was not working.

This made me install Ubuntu minimal for the second time. I kept everything else the same except the server – for which I now chose 'main server'. At the end I chose to install Xubuntu's desktop environment.

With the reboot, the netbook came to life with a bare bones Xubuntu, just as I preferred. I installed Libreoffice, Firefox, VLC media player, Software centre and Dropbox.

Currently, I'm happily using my newly refurbished netbook for all my work. The only problem with it is the lack of a client for Google drive, but I'm currently thinking of trying overGrive.

LETTERS

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

FCM POLL

I've set up a poll which I hope you'll fill in. It's located at: https://goo.gl/Q8Jm4S.

We're interested in what you like/dislike about FCM. What I can change/add, and anything else you want to add.

We'll publish the results in a future issue.

LINK: https://goo.gl/Q8Jm4S

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ubuntuforums.org/forumdisplay.php?f=270

Full Circle Needs You!

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

See 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 recently installed ubuntu 16.04 (64-bit). For some reason when I attempt to load GIMP 2.8 I get this:

```
Looking for data files
      Templates
```

A (Thanks to ***hoefield*** in the Ubuntu Forums) Try deleting (or renaming) the templates folder in ~/.gimp-2.8

Q Why doesn't the product name show after doing the command `lshw -c display`?

A (Thanks to ***Temüjin*** in the Ubuntu Forums) Run this:

```
sudo update-pciids; sudo
update-usbids
```

Then try lshw again.

Gord adds:

I use lshw slightly differently:

```
cd Desktop

sudo lshw -html > config.htm
```

Then I double-click on the file on my desktop, and the display product name does appear in the browser.

Q I've set up an older Dell Vostro 1500 laptop with 4G RAM for my mother that has a 1.6GHz dual-core Intel Core 2 processor. I installed the CPU Frequency Scaling plugin. However, the scaling tool on her laptop will always stay locked at 800MHz no matter what I select, so the computer is excessively slow.

A (Thanks to ***RallyDarkstrike*** in the Ubuntu Forums) It was the battery! During one of my Google searches, I came across a short post that said sometimes certain brands have their BIOS lock the processor at a lower speed when the power cable isn't charging correctly or the battery is below a certain charge. I shut it down, removed the battery, plugged it in on A/C only, booted it back up, and voila! Low and behold, CPU scaling is working perfectly on demand!

Q I set my download directory to home/andy/Downloads, yet downloads end up in tmp/mozilla_andy0

A Try /home/andy/Downloads

Q I have created a script to update something automatically. The script must run as root. It runs fine with sudo every time in an interactive shell, using ssh into the target box to do it. However it fails every time when run by root's crontab.

The error message basically states that it fails to bring tomcat down. (need to update a DB).

The command to do this is (this is how it appears in the script):

```
service S95tomcat stop
```

Can anyone tell me why this works ALWAYS when run in an interactive shell but fails ALWAYS if run out of crontab??

A (Thanks to ***SeijiSensei*** in the Ubuntu Forums) If you're running 16.04 or later, you should be using the systemd commands like systemctl. To start a service on a systemd machine, use:

```
/bin/systemctl start
service_name
```

Q I have loaded Ubuntu ubuntu-16.04.01-desktop-amd64.iso on a memory stick. How do I save a screenshot?

A (Thanks to ***ajgreeny*** and yancek in the Ubuntu Forums) You could remake the live USB with persistence, which allows you to save files and keep them after a shutdown or reboot.

You could also create a mount point for a partition on a hard drive (if you have one) or another flash drive, mount it, and copy the screenshots there.

Top questions at Askubuntu

If you are nervous about clicking on a short goo.gl URL, you can get information about it quite easily. Copy the URL, paste it into your browser's address bar, and add a plus-sign. Now goo.gl will tell you where it goes, as well as statistics about its use. (Thanks to askleo.com for the tip.)

* How can I convert the complete file to a specific format?
https://goo.gl/dPgrGz

* How can I view and edit PowerPoint presentations that don't render correctly?
https://goo.gl/zylPuH

* Where does the `rename` command come from?
https://goo.gl/3wuXVG

* Rename files with one line command
https://goo.gl/1VzoZw

* Does Ubuntu carry over Windows filenames (png, exe, ect.) or does it have its own?
https://goo.gl/MV0KSa

* How can I see which encoding is used in a file
https://goo.gl/bLB89j

* Why does Ubuntu not ship with a way to fill in PDF forms?
https://goo.gl/4hRVP6

* Who is filling my disk?
https://goo.gl/bK030d

* Can a vanilla Ubuntu 16.04 LTS Server run without snapd?
https://goo.gl/ZKdb2b

Tips and Techniques

Podcasts

For several years I have subscribed to podcasts.

With a podcast client, you can tell it what podcasts you want to hear or see, and it will download any new media, and help you play it. With my most recent Linux install, I have switched to gpodder, probably the most popular Linux podcast client software.

One can get carried away with podcasts, and subscribe to more audio or video media than one has time to listen or watch. In this latest iteration, I have limited myself to just seven podcasts. Here's my list:

- The Full Circle Weekly News,
- the Ubuntu Podcast,
- mintCast,
- Going Linux,
- TEDTalks,
- This American Life,
- Vinyl Cafe

I really like the guys who produce mintCast, and salute them for taking an unconventional path; this season, they are installing Linux From Scratch, and talking about what is involved, and the challenges. I'm a "it just works" kind of guy, so I will never install Linux From Scratch, but it is still interesting to hear about their struggles.

At the same time, I can't imagine subscribing to podcasts without TEDTalks. This is where you will find the biggest challenges to your world view.

I use VLC media player to play podcasts, and typically set the playback speed to 1.3 times real time. Why waste time if I don't need to?

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.

Mad Max

The partnership of Warner Brothers and Feral Interactive has brought us another great video game title, Mad Max. Mad Max is a one-player, open-world, action-adventure game, loosely based on 2014's Mad Max: Fury Road movie. For anyone who has seen the movie and is familiar with the atrocious characters, the arid wasteland setting, and its post-doomsday storyline, the video game will feel like an extension of the movie.

Mad Max was developed by Avalanche Studios and released by Warner Bros. on September 2015, on the PlayStation 4, Xbox One and Microsoft Windows platforms. Then, late in 2016, Feral Interactive gave us a Linux port, and as usual, they've done an excellent job. So far, I've played about 30+ solid hours over the course of about 4 weeks, and that's without giving it the full exploration that it so rightfully deserves. Not only is this game a delight to play, but it also keeps introducing new elements the longer you play and the more you level up. Just when you think you've gotten to know the game, something new is thrown into the equation and you feel like you're back at square one, trying to figure out how to improve upon and conquer your newest quest.

Currently, Mad Max is selling for around $19.99 at the Humble Bundle Store as well as through Steam. It can be played with mouse/keyboard or with a gamepad controller.

As I began playing the game, the first lasting impression it left on me was the stunning & breathtaking visuals. The graphics are impressive, from the post-apocalyptic wastelands, to the high-speed car chases, to the detail in the characters – whether it's during cinematic cut-scenes or during actual in-game playing, the graphics are among the best available in today's games on Linux (or any other platform for that matter). The sound is equally impressive, from the sound effects during fistfight brawls, shotgun shots, explosive blasts, or the revving of Max's car, to the Hollywood-quality voice acting. As

for the game-play, it does not at all take any time getting used to, and yet it manages to remain fresh as you explore the vast wide-open world. The tutorial is easily accessible through the menu, but, as of today, I believe I've accessed it only once. Instead, what I've had the need to access multiple times, especially at the beginning of the game, was the key bindings/controller mapping. The one and only thing that took me a while getting used to at first was the lack of a jump button. Max will jump up only when needed, and not at will, though there is a way to jump out of the way if a car is trying to run you over, for example. After I got used to this seemingly simple detail, I was able to more fully enjoy the game and now I understand why they made it this way.

The beauty of Mad Max is that, in a way, it's sort of like two games in one. First you've got a car game very much like Grand Theft Auto or Saint's Row, but with a definite twist. The twist is that, while driving, you're expected to demolish other drivers as well as menacing structures such as Molotov-tossing-towers that will straight-up burn you unless you take them down with your car's harpoon. As such, beefing up your car is one of your main priorities.

Right from the start, after you're beat up and your car gets taken away (just like in the movie), you befriend Chumbucket, a very loyal and talented humpback mechanic. Chumbucket sees Max as the "Angel" for whom the Magnus Opus (Chumbucket's dream car) will be built. From early on, Chumbucket will ride along with you on every quest, as long as you're driving the car he's refining. If you're on foot, or driving another vehicle that you might have taken from one of your enemies, then you're on your own. The advantage of having Chumbucket is that he will repair your car whenever it gets damaged, but he'll also make improvements as you gather scrap (like cash) or as you level up. Some of the harder driving I've had to endure was taking down enemy convoys which took me a while to master, but, once the Magnus Opus had been beefed up a bit, it was a breeze.

The other side of the game is what happens while you're on foot. This aspect of the game is very much like the Batman Arkham games or like Shadow of Mordor, both games also released by Warner Bros. The fighting

sequences are easy enough to grasp but sometimes not so easy to win. The key here is to know how and when to parry since you're constantly being attacked by more than a few war-boys, buzzards, or any other frightening enemy. You get to use melee weapons as well, but these always break and you cannot carry these with you while driving – which makes it that much harder to use one if you just got out of your car or if there isn't one around. The limited weapons you get to carry with you are a shotgun with a very low amount of ammo, and a couple of homemade shivs that will also break with very limited use. When compared to driving, the ground-combat isn't that complicated, especially given that you only need to hit the same key/button for almost everything, except for parrying and an occasional finishing move. Although you do get to use a shotgun, it's rarely the option you want to take since you basically have only a couple of shells in reserve – maybe 5-6 once you've leveled up – and, even then, you want to be conservative when you use them. If you happen to die while in battle, you get to continue from the previous checkpoint and, given the fact that you can have multiple automatic saves stored, you can even start from an earlier save if you were cautious enough to keep more than just one stored save. A great time saver is the fast travel feature which lets you travel to any one of the various fast-travel destinations which need to be unlocked in order to be used; and some of these are challenging in that they borrow from puzzle-solving genres and can be quite difficult to figure out.

Max's ultimate goal is to find and kill Scrotus, but, in order to do so, he must first defeat other territorial enemies while at the same time building and forging relationships with independent leaders who've managed to fight off Scrotus and his war-boys – but, with Max's help, can regain much of what's been taken from them. Chumbucket also convinces Max to look for his dog, which is a blessing – especially in mine-infested fields. Along the way, Max encounters other characters who become crucial to the ultimate goal that leads to Scrotus. One of these characters is Hope, whom Max first meets as she's held captive by Gut Gash, one of Max's early allies. The storyline is different from the movie's, but there is a lot of crossover, especially when it comes to locations such as Gas Town, the Bullet Farm, but also with some of the characters, such as Scrotus, Immortan Joe, the War-Boys and others.

I strongly recommend Mad Max, especially if you like the movies upon which it's based, and also if you enjoy great action-adventure, open-world, vehicular combat games. If I could write another review for Mad Max, I would, since that would mean I'd get to play it some more. It plays very smoothly on Linux, and looks amazing at the same time. At first I was a little concerned that I'd have problems with it since my gaming rig's CPU is slightly below the recommended minimum requirement, but, so far, I've encountered zero problems by letting the game automatically detect the best settings for me. Definitely worth the $20, or less if you find it on sale.

Minimum Requirements

OS: Ubuntu 16.04, Steam OS 2.0 or equivalent (64-bit required)
CPU: Intel i5 3.4 GHz, AMD FX-8350
Memory: 8 GB RAM
Graphics: 2 GB Nvidia 660ti or better (driver version 367.35)
Storage: 35 GB available space
Additional Notes: AMD & Intel Graphics Cards not supported yet

Oscar graduated with a music degree from CSUN, is a Music Director/Teacher, software/hardware beta tester, Wikipedia editor, and active member of the Ubuntu community. You can email him at: 7bluehand@gmail.com

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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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