UBUNTU WEB

UBUNTU WEB 20.04.1
A REPLACEMENT FOR CHROME OS?

Full Circle

THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY

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

EDITORIAL

WELCOME TO THE LATEST ISSUE OF FULL CIRCLE

Within this new issue we have yet more Python, the final part of the Podcast production series, more Inkscape, and an article on making a simple budgeting spreadsheet.

Elsewhere, Richard is going back to some retro gaming with Everyday Ubuntu. What's your opinion on light and dark themes? We have an opinion piece on that. And a review of Ubuntu Web. Ubuntu who? Yes, there's a web based Ubuntu that's trying to move into the turf belonging to ChromeOS. And if you need to put said distro onto a USB stick, then we have an article about using Unetbootin. Which I can heartily recommend as I've used it many a time in the past to make a bootable USB stick.

If you're looking for some help, advice, or just a chit chat: remember, we have a **Telegram** group. I mention this as I've been giving out the wrong link in a couple of emails. The link is: https://t.me/joinchat/PujkVNIY2PO9xxCf. I hope to see you there. Come and say hello.

Last thing for this month is that this issue is coming at you from my new PC. Gone is my old tower. God only knows how many years ago I bought that PC. It's been given retirement and in comes the new **Entroware** Ares all in one (with Ubuntu 20.04). I'll write a review of it soon.

Anyway, stay safe, and all the best for 2021!
Ronnie
ronnie@fullcirclemagazine.org

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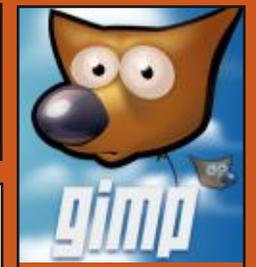
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All aspects of the distribution are managed through a web interface, about 40 different modules are combined to manage the network, network services, office server and enterprise infrastructure components.

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https://zentyal.com/news/zentyal-7-0-announcement/

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https://vivaldi.com/blog/desktop/releases/

Wayland as the default on Ubuntu 21.04?

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https://discourse.ubuntu.com/t/trying-wayland-by-default-again/20575

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https://github.com/rpm-software-management/dnf/releases/tag/4.6.0

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https://blog.documentfoundation.org/blog/2021/01/29/announcing-libreoffice-new-generation/

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Canonical has released Ubuntu Core 20 , a compact Ubuntu distribution adapted for use on Internet of Things (IoT) devices, containers, consumer and industrial equipment. Ubuntu Core comes in the form of an indivisible, monolithic base system image that does not split into separate deb packages. Ubuntu Core 20 images, which are synchronized with the Ubuntu 20.04 package base, are prepared for x86_64, ARMv7 and ARMv8 systems. The release maintenance time is 10 years.

https://discourse.ubuntu.com/t/ubuntu-core-20/20487

Nitrux 1.3.7 distribution with NX Desktop:

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The release of the distribution kit Nitrux 1.3.7 , built on the Ubuntu package base, KDE technologies and the OpenRC init system has been published . The distribution develops its own NX Desktop , which is an add-on over the user's KDE Plasma environment. The AppImages self-contained package system and its own NX Software Center are being promoted to install additional applications. The boot image is 4.3 GB in size. The developments of the project are distributed under free licenses.

NX Desktop offers a different style, its own implementation of the system tray, notification center and various plasmoids, such as a network configurator and a multimedia applet for volume control and playback control of multimedia content. Among the applications developed by the project, an interface for configuring the NX Firewall is also distinguished, which allows you to control network access at the level of individual applications. Basic applications include Index file manager (Dolphin can also be used), Kate text editor, Ark archiver, Konsole terminal emulator, Chromium browser, VVave music player, VLC video player, LibreOffice office suite and Pix image viewer.

https://nxos.org/changelog/changelog-nitrux-1-3-7/

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https://opnsense.org/opnsense-21-1-marvelous-meerkat-released/

QUTEBROWSER 2.0 WEB BROWSER RELEASED:
02/01/2021

The release of the web browser qutebrowser 2.0 is presented, providing a minimal graphical interface that does not distract from viewing the content, and a navigation system in the style of the text editor Vim, built entirely on keyboard shortcuts. The code is written in Python using PyQt5 and QtWebEngine. The source code is distributed under the GPLv3 license. The use of Python does not affect performance, since rendering and parsing of content is carried out by the Blink engine and the Qt library.

The browser supports a tab system, download manager, private browsing mode, built-in PDF viewer (pdf.js), ad blocking system, interface for viewing browsing history. To watch videos on YouTube, you can set up to call up an external video player. Moving around the page is carried out using the "hjkl" keys, to open a new page, you can press "o", switching between tabs is done using the "J" and "K" keys or "Alt-tab number". Pressing ":" displays a command line prompt where you can search the page and execute typical commands, like in vim, for example, ": q" to exit and ": w" to write the page. A system of "hints" is offered to quickly navigate to page elements.

https://lists.schokokeks.org/pipermail/qutebrowser-announce/2021-January/000090.html

ALMALINUX BETA TESTING, (FORK OF CENTOS) HAS BEGUN:
02.02.2021

Published the first beta release of the AlmaLinux distribution , created in response to the premature withdrawal of support for CentOS 8 by Red Hat (it was decided to discontinue the release of updates for CentOS 8 at the end of 2021, and not in 2029, as users expected). Development of AlmaLinux is carried out under the auspices of CloudLinux, which provided resources and developers (a million dollars a year were allocated for the development of the project). Test builds are prepared for x86_64 architecture in the form of a boot image (680 MB), a minimum image (1.8 GB), and a full image (8.7 GB).

The build was based on the Red Hat Enterprise Linux 8.3 release and is completely identical to it in functionality, except for changes related to rebranding and removal of RHEL-specific packages such as redhat- *, insights-client and subscription-manager-migration *. All developments will be published under free licenses, but at the moment the public repository has not yet been launched (they promise to launch it after the revised source code is ready). At the same time, the infrastructure for tracking error information has already been put into operation.

https://blog.almalinux.org/introducing-almalinux-beta-a-community-driven-replacement-for-centos/

A NEW INSTALLER IS BEING DEVELOPED FOR UBUNTU DESKTOP:
02.02.2021

Martin Wimpress, director of desktop development at Canonical, announced the development of a new installer for Ubuntu, which they plan to offer users for testing in the autumn release of Ubuntu Desktop 21.10 and may be used by default in Ubuntu 22.04 LTS. The old Ubiquity installer will be kept in the repository and will remain available for use in Ubuntu editions and derivative distributions.

The Ubiquity installer was developed in 2006 and has not been developed for the past few years. In the server edition of Ubuntu, starting with the 18.04 release, a new installer, Subiquity , is delivered , which is an add-on

over the low-level installer curtin , which is responsible for the final partitioning of the disk, downloading packages and installing the system based on the given configuration.

https://discourse.ubuntu.com/t/refreshing-the-ubuntu-desktop-installer/20659

LIGHTTPD HTTP SERVER 1.4.59 RELEASED:
02.02.2021

There was a release of a lightweight of http-server the lighttpd 04.01.59 . The new version contains 84 changes , mainly related to the elimination of errors. A key innovation in the release was the default inclusion of support for the HTTP / 2 protocol , which was previously offered as an option.

Other improvements include the addition of support for the zstd compression algorithm to mod_deflate and the inclusion of a new module mod_ajp13 with the implementation of a connector to Apache Tomcat that supports the AJPv13 protocol.

https://blog.lighttpd.net/articles/2021/02/02/lighttpd-1.4.59-released/

PALE MOON 29.0 BROWSER RELEASED:
02.02.2021

A release of the Pale Moon 29.0 web browser is now available , a fork of the Firefox codebase to provide better performance, preserve the classic interface, minimize memory consumption and provide additional customization options. Pale Moon assemblies are built for Windows and Linux (x86 and x86_64). The project code is distributed under the MPLv2 (Mozilla Public License) license.

The project adheres to the classic organization of the interface, without switching to the Australis interface integrated in Firefox 29, and providing ample customization options. Remote components include DRM, Social API, WebRTC, PDF viewer, Crash Reporter, code for collecting statistics, parental controls, and people with disabilities. Compared to Firefox, the browser retains support for XUL technology and

retains the ability to use both full-fledged and lightweight themes. Pale Moon is built on the UXP (Unified XUL Platform) platform, within which the Firefox components are forked from the Mozilla Central repository, free of bindings to the Rust code and not including the work of the Quantum project.

https://forum.palemoon.org/viewtopic.php?f=1&t=26110

LIBREOFFICE 7.1 OFFICE SUITE DIVIDED INTO COMMUNITY AND ENTERPRISE FAMILIES:
02/03/2021

The Document Foundation has released the LibreOffice 7.1 office suite . Ready-made installation packages are prepared for various Linux, Windows and macOS distributions. In preparation for the release, 73% of the changes were made by people in charge of the project, such as Collabora, Red Hat, and CIB, and 27% of the changes were contributed by independent enthusiasts.

In the new release, the developers returned to the idea of dividing them into a community edition ("LibreOffice Community") and a family of products for enterprises ("LibreOffice Enterprise"). This release of LibreOffice 7.1 is tagged "Community", will be supported by enthusiasts, and is not intended for enterprise use. For enterprises, it is proposed to use the products of the LibreOffice Enterprise family , for which partner companies will provide full support and the ability to receive long-term updates (LTS). LibreOffice Enterprise will also include additional features such as SLA (Service Level Agreements).

https://blog.documentfoundation.org/blog/2021/02/03/libreoffice-7-1-community/

AUDACIOUS 4.1 MUSIC PLAYER RELEASED:
02/04/2021

Presented the release of the lightweight music player Audacious 4.1 , a fork of the Beep Media Player (BMP), a fork of the classic XMMS player. The release

comes with two user interfaces: one based on GTK and one based on Qt. The assemblies are prepared for various Linux distributions and for Windows.

https://audacious-media-player.org/news/51-audacious-4-1-released

ClamAV 0.103.1 free antivirus update:
02/04/2021

The release of the free antivirus package ClamAV 0.103.1 has been formed , in which, in addition to fixing errors, several changes are proposed.

https://blog.clamav.net/2021/02/clamav-01031-patch-release.html

Solus 4.2 released:
02/04/2021

The Linux distribution Solus 4.2 is released , which is not based on packages from other distributions and develops its own Budgie desktop , installer, package manager and configurator. The project's development code is distributed under the GPLv2 license, C and Vala languages are used for development. In addition, assemblies with the GNOME, KDE Plasma and MATE desktops are provided. The size of iso images is 1.8-2.1 GB (x86_64).

The distribution adheres to a hybrid development model, in accordance with which significant releases are periodically released, which offer new technologies and significant improvements, and in between significant releases, the distribution develops using a rolling model of package updates.

To manage packages, the eopkg package manager (a fork of PiSi from Pardus Linux) is used, which provides the usual tools for installing / removing packages, searching the repository and managing repositories.

https://getsol.us/2021/02/03/solus-4-2-released/

Google launched OSV (Open Source Vulnerabilities) service:
02/06/2021

Google has launched a new service OSV (Open Source Vulnerabilities), offering access to a database of information about vulnerabilities in open source software. The service provides an API that allows you to automate the formation of requests to obtain information about vulnerabilities, with reference to the state of the repository with the code. Vulnerabilities are assigned separate OSV identifiers that supplement the CVE with extended information . In particular, the OSV database reflects the status of the problem fix, indicates the commits with the appearance and fixing of the vulnerability, the range of vulnerable versions, links to the project repository with the code and notification of the problem.

The main goal of creating OSV is to simplify the process of informing package maintainers about vulnerabilities by accurately identifying the versions and commits that are affected by the problem.

https://opensource.googleblog.com/2021/02/launching-osv-better-vulnerability.html

DEBIAN 10.8 UPDATE:

06.02.2021

The eighth corrective update for the Debian 10 distribution has been published , which includes the accumulated package updates and fixes the bugs in the installer. The release includes 56 updates to fix stability issues and 45 updates to fix vulnerabilities. Of the changes in Debian 10.8, an upgrade to the latest stable versions of the dpdk, intel-microcode, nvidia-graphics-drivers, postgresql-11 and steam packages is highlighted. The compactheader package has been removed from the repositories, as it is incompatible with the supplied version of the Thunderbird mail client.

https://www.debian.org/News/2021/20210206

FREE HEROES OF MIGHT AND MAGIC II 0.9 ENGINE RELEASE:

02/07/2021

A release of project fheroes2 0.9 is available , trying to recreate the game Heroes of Might and Magic II. The project code is written in C ++ and is distributed under the GPLv2 license. To start the game, you need files with game resources, which can be obtained, for example, from the demo version of Heroes of Might and Magic II.

Over the past year of development, the game has become much closer to the original, and in some places it even offers wider possibilities

https://github.com/ihhub/fheroes2/releases/tag/0.9

RELEASE OF PCLINUXOS 2021.02:

08.02.2021

The release of the custom PCLinuxOS 2021.02 distribution is presented . The distribution was founded in 2003 based on Mandrake Linux, but later branched off into a standalone project. The peak in popularity of PCLinuxOS came in 2010, in which, according to a poll of readers of the Linux Journal magazine, PCLinuxOS was second only to Ubuntu in popularity (in the 2013 ranking, PCLinuxOS already took 10th place). The distribution is aimed at live use, but it also supports installation on a hard drive. Prepared for downloading are boot images with KDE (full 3.5 GB and reduced 1.5 GB), MATE (2.4 GB) and Xfce (2.2 GB) desktops. Separately, the community developed builds based on the Trinity, Openbox and LXQt desktops.

https://www.pclinuxos.com/?p=4611

SAILFISH 4 MOBILE OS RELEASED:

09.02.2021

Jolla has released the Sailfish 4.0.1 operating system, which was the first release in the new 4.x branch. The assemblies are prepared for devices Jolla C, Jolla Tablet, Sony Xperia X, Xperia XA2 and Sony Xperia 10, but are supplied for the time being only for registered members of the early access program for firmware (for all others, access will be open in the coming days). Formation of assemblies for the Jolla 1 smartphone was discontinued after 7 years of support.

Sailfish uses a graphical stack based on Wayland and the Qt5 library, the system environment is built on the basis of Mer, which has been developing since April 2019 as a part of Sailfish, and the packages of the Mer distribution Nemo. The user shell, basic mobile applications, QML components for building the Silica GUI, a layer for launching Android applications, a smart text input engine and a data synchronization system are proprietary, but their code was planned to be opened back in 2017.

https://forum.sailfishos.org/t/release-notes-koli-4-0-1/4542

FLOWBLADE 2.8 VIDEO EDITOR RELEASED:

09.02.2021

The release of the multitrack nonlinear video editing system Flowblade 2.8 , which allows you to compose films and videos from a set of separate videos, sound files and images. The editor provides tools for trimming clips with precision to individual frames, processing them using filters and multi-level image composition for embedding in video. You can freely

define the order in which the tools are used and adjust the behavior of the timeline.

The project code is written in Python and is distributed under the GPLv3 license. Assemblies are prepared in deb format. To organize video editing, the MLT framework is used . The FFmpeg library is used to process various video, sound and image formats. The interface is built using PyGTK.

https://github.com/jliljebl/flowblade/releases/tag/v2.8

RELEASE OF FINNIX 122, A LIVE DISTRIBUTION FOR SYSTEM ADMINISTRATORS:
02/10/2021

The Finnix 122 Live distribution , based on the Debian package base, has been released. The distribution kit only supports work in the console, but contains a good selection of utilities for the administrator's needs. The structure includes 585 packages with all kinds of utilities. The size of the iso image is 411 MB.

https://blog.finnix.org/2021/02/09/finnix-122-released/

SYSTEM76 PUBLISHES OPEN LAUNCH KEYBOARD:
11.02.2021

System76, a company specializing in notebooks, PCs and servers that ships with Linux, has published a new open source project, Launch Configurable Keyboard , which develops a fully customizable keyboard. Opened mechanical and electrical circuits, as well as firmware and software used for control. FreeCAD design documentation and CAD models are licensed under CC BY-SA-4.0 . Schematics and PCB pinouts are available in pcb format for KiCad and are supplied under the GPLv3 license.

https://github.com/system76/launch

HELLOSYSTEM:
02/11/2021

Simon Peter (Simon by Peter), the creator of the format of self-contained packages AppImage ,

developing new distribution helloSystem, based on FreeBSD and equipped with an interface reminiscent of MacOS. The development of the system has not been completed yet, but boot images of 1.7 GB are already being formed for testing .

The distribution is being developed in accordance with the principle of "less but better" and is positioned as a system for ordinary users, which can be switched to amateurs of macOS, dissatisfied with Apple policies, imposing solutions and being tied to one manufacturer. The system is devoid of the complications inherent in modern Linux distributions, is under complete user control and allows former macOS users to feel comfortable.

https://github.com/helloSystem/ISO/releases/

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02.02.2021

AlmaLinux, was created in response to the premature withdrawal of support for CentOS 8 by Red Hat (it was decided to discontinue the release of updates for CentOS 8 at the end of 2021, and not in 2029, as users expected). Development of AlmaLinux is carried out under the auspices of CloudLinux, which provided resources and developers (a million dollars a year were allocated for the development of the project). Test builds are prepared for x86_64 architecture in the form of a boot image (680 MB), a minimum image (1.8 GB), and a full image (8.7 GB).

The build was based on the Red Hat Enterprise Linux 8.3 release and is completely identical to it in functionality, except for changes related to rebranding and removal of RHEL-specific packages such as redhat- *, insights-client and subscription-manager-migration *. All development will be published under free licenses, but at the moment the public repository has not yet been launched (they promise to launch it after the revised source code is ready). At the same time, the infrastructure for bug tracking information has already been put into operation.

https://blog.almalinux.org/introducing-almalinux-beta-a-community-driven-replacement-for-centos/

A NEW INSTALLER IS BEING DEVELOPED FOR UBUNTU DESKTOP:

02.02.2021

Martin Wimpress, director of desktop development at Canonical, announced the development of a new installer for Ubuntu, which they plan to offer users for testing in the autumn release of Ubuntu Desktop 21.10 and may be used by default in Ubuntu 22.04 LTS. The old Ubiquity installer will be kept in the repository and will remain available for use in Ubuntu editions and derivative distributions.

The Ubiquity installer was developed in 2006 and has not been developed for the last few years. In the server edition of Ubuntu, starting with the 18.04 release, a new installer, ubiquity, is delivered, which is an add-on over the low-level installer curtin, which is responsible for the final partitioning of the disk, downloading packages and installing the system based on the given configuration.

https://discourse.ubuntu.com/t/refreshing-the-ubuntu-desktop-installer/20659

LIGHTTPD HTTP SERVER 1.4.59 RELEASED:

02.02.2021

The http-server lighttpd 04.01.59, is out. The new version contains 84 changes, mainly related to the elimination of errors. A key innovation in the release was the default inclusion of support for the HTTP / 2 protocol, which was previously only offered as an option.

Other improvements include the addition of support for the zstd compression algorithm to mod_deflate and the inclusion of a new module mod_ajp13 with the implementation of a connector to Apache Tomcat that supports the AJPv13 protocol.

https://blog.lighttpd.net/articles/2021/02/02/lighttpd-1.4.59-released/

PALE MOON 29.0 BROWSER RELEASED:

02.02.2021

Pale Moon 29.0 web browser is now available, a fork of the Firefox code base to provide better performance, preserve the classic interface, minimize memory consumption and provide additional customization options. Pale Moon binaries are built for Windows and Linux (x86 and x86_64). The project code is distributed under the MPLv2 (Mozilla Public License) license.

The project adheres to the classic organization of the interface, without switching to the Australis interface integrated in Firefox 29, and providing ample customization options. Remote components include DRM, Social API, WebRTC, PDF viewer, Crash Reporter, code for collecting statistics, parental controls, and

people with disabilities. Compared to Firefox, the browser retains support for XUL technology and retains the ability to use both full-fledged and lightweight themes. Pale Moon is built on the UXP (Unified XUL Platform) platform, within which the Firefox components are forked from the Mozilla Central repository, free of bindings to the Rust code and not including the work of the Quantum project.

https://forum.palemoon.org/viewtopic.php?f=1&t=26110

LibreOffice 7.1 office suite divided into Community and Enterprise families:
02/03/2021

The Document Foundation has released theLibreOffice 7.1 office suite. Ready-made installation packages are available for various Linux, Windows and macOS distributions. In preparation for the release, 73% of the changes were made by people in charge of the project, such as Collabora, Red Hat, and CIB, and 27% of the

changes were contributed by independent enthusiasts.

In the new release, the developers returned to the idea of dividing them into a community edition ("LibreOffice Community") and a family of products for enterprises ("LibreOffice Enterprise"). This release of LibreOffice 7.1 is tagged "Community", will be supported by enthusiasts, and is not intended for enterprise use. For enterprises, it is proposed to use the LibreOffice Enterprise family, for which partner companies will provide full support and the ability to receive long-term updates (LTS). LibreOffice Enterprise will also include additional features such as SLA (Service Level Agreements).

https://blog.documentfoundation.org/blog/2021/02/03/libreoffice-7-1-community/

Audacious 4.1 music player released:
02/04/2021

The lightweight music player Audacious 4.1, a fork of the Beep Media Player (BMP), a fork of

the classic XMMS player is available for download. The release comes with two user interfaces: one based on GTK and one based on Qt. The binaries are prepared for various Linux distributions and for Windows.

https://audacious-media-player.org/news/51-audacious-4-1-released

ClamAV 0.103.1 free antivirus update:
02/04/2021

ClamAV 0.103.1 has been released , in which, in addition to bugfixes, several changes are proposed. You can see the list of changes at the website below.

https://blog.clamav.net/2021/02/clamav-01031-patch-release.html

Solus 4.2 released:
02/04/2021

Solus 4.2 is released, which develops its own Budgie desktop, installer, package manager and configuration. The project's development code is distributed under the GPLv2 license. C and Vala

languages are used for development. Downloadable images with GNOME, KDE Plasma and MATE desktops are provided.

The distribution adheres to a hybrid development model, in accordance with which major releases are periodically available, which offer new technologies and significant improvements, and in between major releases, the distribution uses a rolling update model.

The eopkg package manager (a fork of PiSi from Pardus Linux) is used as package manager, which provides the usual tools for installing / removing packages, searching the repository and managing repositories.

https://getsol.us/2021/02/03/solus-4-2-released/

Google launched OSV (Open Source Vulnerabilities) service:
02/06/2021

Google has launched a new service OSV (Open Source Vulnerabilities), offering access to a

database of information about vulnerabilities in open source software. The service provides an API that allows you to automate requests to obtain information about vulnerabilities, with reference to the state of the repository with the code. Vulnerabilities are assigned separate OSV identifiers that supplement the CVE with extended information. In particular, the OSV database reflects the status of the problem fix, indicates the commits with the appearance and fixing of the vulnerability, the range of vulnerable versions, links to the project repository with the code and notification of the problem.

The main goal of creating OSV is to simplify the process of informing package maintainers about vulnerabilities by accurately identifying the versions and commits that are affected by the problem.

https://opensource.googleblog.com/2021/02/launching-osv-better-vulnerability.html

Debian 10.8 Update:
06.02.2021

The eighth corrective update for the Debian 10 distribution has been published, which includes the accumulated package updates and fixes the bugs in the installer. The release includes 56 updates to fix stability issues and 45 updates to fix vulnerabilities. Debian 10.8, an upgrade to the latest stable versions of the dpdk, intel-microcode, nvidia-graphics-drivers, postgresql-11 and steam packages are highlighted. The compact header package has been removed from the repositories, as it is incompatible with the supplied version of the Thunderbird mail client.

https://www.debian.org/News/2021/20210206

Free Heroes of Might and Magic II 0.9 engine release:
02/07/2021

A release of project - fheroes2 0.9 is available, trying to recreate the game 'Heroes of Might and Magic II'. The project code is written in C++ and is distributed under the GPLv2 license. To start the game, you need files with game resources, which can be obtained, for example, from the demo version of Heroes of Might and Magic II.

Over the past year of development, the game has become much closer to the original, and in some places it even offers more options.

https://github.com/ihhub/fheroes2/releases/tag/0.9

Release of PCLinuxOS 2021.02:
08.02.2021

PCLinuxOS 2021.02 distribution is out. The distribution was founded in 2003 based on Mandrake Linux, but later branched off into a standalone project. The peak in popularity of PCLinuxOS came in 2010, in which, according to a poll of readers of the Linux Journal magazine, PCLinuxOS was second only to Ubuntu in popularity (in the 2013 ranking, PCLinuxOS dropped to 10th place). The distribution is aimed at live use, but it also supports installation on a hard drive. Downloadable boot images with KDE (full 3.5 GB and reduced 1.5 GB), MATE (2.4 GB) and Xfce (2.2 GB) desktops are available. Therea are also community developed builds based on the Trinity, Openbox and LXQt desktops.

https://www.pclinuxos.com/?p=4611

Sailfish 4 mobile OS released:
09.02.2021

Jolla has released the Sailfish 4.0.1 operating system, which was the first release in the new 4.x branch. Updates are available for the following devices: Jolla C, Jolla Tablet, Sony Xperia X, Xperia XA2 and Sony Xperia 10, but are supplied for the time being only for registered members of the early access program for firmware (for all others, access will be open in the coming days). Updates for the Jolla 1 smartphone was discontinued after 7 years of support.

Sailfish uses a graphical stack

based on Wayland and the Qt5 library, the system environment is built on Mer, which has beenin development since April 2019, as a part of Sailfish, and the packages of the Mer distribution Nemo. The user shell, basic mobile applications, QML components for building the Silica GUI, a layer for launching Android applications, a smart text input engine and a data synchronization system are still proprietary, but their code was planned to be opened back in 2017.

https://forum.sailfishos.org/t/release-notes-koli-4-0-1/4542

FLOWBLADE 2.8 VIDEO EDITOR RELEASED:
09.02.2021

The release of the multitrack nonlinear video editing system Flowblade 2.8, which allows you to compose films and videos from a set of separate videos, sound files and images, is available for download. The editor provides tools for trimming clips with precision to individual frames, processing them using filters and multi-level image composition for embedding in video. You can freely define the order in which the tools are used and adjust the behaviour of the timeline.

The project code is written in Python and is distributed under the GPLv3 license. Debian .deb packages are available. The MLT framework is used to organize video editing. The FFmpeg library is used to process various video, sound and image formats. The interface is built using PyGTK.

https://github.com/jliljebl/flowblade/releases/tag/v2.8

FINNIX 122, A LIVE DISTRO FOR SYSTEM ADMINS:
02/10/2021

The Finnix 122 Live distribution, based on Debian, has been released. The distribution only supports work in the console, but contains a good selection of utilities for the administrator's needs. The distribution includes 585 packages with all kinds of utilities. The size of the iso image is 411 MB.

https://blog.finnix.org/2021/02/09/finnix-122-released/

SYSTEM76 PUBLISHES OPEN LAUNCH KEYBOARD:
02/11/2021

System76, a company specializing in notebooks, PCs and servers that ships with Linux, has published a new open source project, Launch Configurable Keyboard. (a fully customizable keyboard.) Open mechanical and electrical circuits, as well as firmware and software is used for control. FreeCAD design documentation and CAD models are licensed under CC BY-SA-4.0. Schematics and PCB pin-outs are available in .pcb format for KiCad and are supplied under the GPLv3 license.

https://github.com/system76/launch

HELLOSYSTEM:
02/11/2021

Simon Peter, the creator of AppImage, is developing new distribution helloSystem, based on FreeBSD and equipped with an interface reminiscent of MacOS. The development of the system has not been completed yet, but boot images of 1.7 GB are already available for testing.

The distribution is being developed in accordance with the principle of "less is more" and is positioned as a system for ordinary users, which can be switched to amateurs of macOS, dissatisfied with Apple policies, imposing solutions and being tied to one manufacturer. The system is devoid of the complications inherent in modern Linux distributions, is under complete user control and allows former macOS users to feel at home.

https://github.com/helloSystem/ISO/releases/

RUST 1.50 RELEASED:
02/12/2021

The latest releaseof the programming language Rust, 1.50 has been published. Founded by the Mozilla project, but now being developed under the auspices of the independent non-profit organization Rust

Foundation. The language focuses on safe memory management, provides automatic memory management, and provides the means to achieve high parallelism of job execution, while avoiding the use of a garbage collector and runtime (runtime is reduced to basic initialization and maintenance of the standard library).

https://blog.rust-lang.org/2021/02/11/Rust-1.50.0.html

RELEASE OF OPENMANDRIVA LX 4.2:
02/13/2021

After a year of development, the release of OpenMandriva Lx 4.2 is out. The project is being developed by the community after Mandriva SA handed over the management of the project to the non-profit organization "OpenMandriva Association". For download, they offer a 2.4 GB Live iso (x86_64), an "znver1" optimized for AMD Ryzen, ThreadRipper and EPYC processors, as well as images for use on ARM devices Pinebook Pro, Rock Pi 4 (A / B / C) , Raspberry Pi 400, Raspberry Pi 4B and Raspberry Pi 3B +.

https://www.openmandriva.org/en/news/article/openmandriva-lx-4-2-is-out-now

HAXE 4.2 PROGRAMMING LANGUAGE RELEASED:
02/14/2021

A release of the Haxe 4.2 toolkit is available. It includes a multi-paradigm high-level strongly typed programming language of the same name, a cross-compiler and a standard library of functions. The project supports translation to C ++, HashLink / C, JavaScript, C #, Java, PHP, Python and Lua, as well as compilation to JVM, HashLink / JIT, Flash and Neko bytecode, with access to the native capabilities of each target platform. The compiler code is distributed under the GPLv2 license, and the standard library and HashLink and Neko virtual machines developed for Haxe are licensed under the MIT license.

https://community.haxe.org/t/haxe-4-2-0-is-released

LINUX KERNEL 5.11 RELEASED:
02/15/2021

After two months of development, Linus Torvalds has released the Linux 5.11 kernel. Among the most notable changes: support for Intel SGX enclaves, a new mechanism for intercepting system calls, a virtual auxiliary bus, prohibiting the assembly of modules without MODULE_LICENSE (), fast filtering of system calls in seccomp, discontinuing maintenance of the ia64 architecture, moving WiMAX technology to the "staging" branch, the ability to encapsulate SCTP in UDP.

https://lkml.org/lkml/2021/2/14/244

SANE 1.0.32 RELEASED WITH SUPPORT FOR NEW SCANNER MODELS:
02/15/2021

The release of the sane-backend 1.0.32 package is available, which includes a set of drivers, a command line utility scanimage, a daemon for organizing scanning over the network saned, and a library with SANE-API implementation. The package supports 1652 scanner models, of which 737 have the status of full support for all functions, for 766 the level of support is assessed as good, for 126 - acceptable, and for 23 - minimal. Additionally, there is an incompletely tested driver implementation for 464 devices.

https://alioth-lists.debian.net/pipermail/sane-devel/2021-February/038754.html

SIDUCTION 2021.1:
02/15/2021

Three years since the last update, the release of the Siduction 2021.1 project is available. They develop a desktop-oriented Linux distribution, built on the Debian Sid (unstable). Remember that Alf Gaida went awol and nobody has heard anything since. Nevertheless, the team managed to gather strength and continue development with the remaining forces.

https://news.siduction.org/2021/02/release-notes-for-siduction-2021-1-0-c-blues/

Monado 21.0.0 Open Virtual Reality Platform released:

02/15/2021

Collabora has released Monado 21.0.0, an open source implementation of the OpenXR standard. The OpenXR standard was prepared by the Khronos consortium and defines a universal API for creating virtual and augmented reality applications, as well as a set of interlayers for interacting with equipment that abstracts the features of specific devices. Monado provides a fully OpenXR-compliant runtime that can be used to run virtual and augmented reality on smartphones, tablets, PCs and any other device. The project code is written in C and is distributed under the free Boost Software License 1.0, compatible with the GPL.

https://www.collabora.com/news-and-blog/news-and-events/monado-2100-officially-conformant-openxr-implementation.html

KDE Plasma 5.21 Desktop:

16.02.2021

The custom KDE Plasma 5.21 shell is available, built using the KDE Frameworks 5 platform and the Qt 5 library using OpenGL / OpenGL ES to accelerate rendering. You can evaluate the new version through the Live build from the openSUSE project and the build from the KDE Neon User Edition project. Packages for various distributions can be found on this page: https://community.kde.org/Plasma/Packages

https://kde.org/ru/announcements/plasma/5/5.21.0/

Solaris 11.4 SRU30 available:

02/17/2021

Oracle has published the Solaris 11.4 SRU 30 (Support Repository Update) operating system update, which offers a series of new fixes and improvements for the Solaris 11.4 branch. To install the fixes proposed in the update, simply run the 'pkg update' command.

https://blogs.oracle.com/solaris/announcing-oracle-solaris-114-sru30

Release of Q4OS 3.14:

02/17/2021

The Q4OS 3.14 distribution, based on Debian and supplied with the KDE Plasma 5 and Trinity desktops, has been released. The distribution is positioned aslightweight and offering a classic desktop design. It includes several proprietary applications, including a 'Desktop profiler' for quick installation of thematic software sets, a 'Setup utility' for installing third-party applications, a 'Welcome Screen' for simplifying initial setup, scripts for installing alternative LXQT, Xfce and LXDE environments. The size of the boot image is 731 MB (x86_64).

https://www.q4os.org/blog.html

Devuan 3.1 - a Debian fork without systemd:

02/15/2021

Devuan 3.1 "Beowulf", a fork of Debian GNU / Linux that does not ship with systemd, is out. Devuan 3.1 is an interim release continuing the development of the Devuan 3.x branch built on the Debian 10 "Buster". Live images and installation iso images for AMD64 and i386 architectures are availabled for download.

The project has forked about 400 Debian packages that have been modified to remove systemd bindings, rebrand or adapt to the Devuan infrastructure.

https://lists.dyne.org/lurker/message/20210215.013356.76e080b5.en.html

Tiny Core Linux 12 minimalistic distribution released:

02/17/2021

Tiny Core Linux 12.0 has been released, which can run on

systems with 48 MB of RAM. The graphical environment of the distribution is built on the Tiny X X server, the FLTK toolkit and the FLWM window manager. The distribution is loaded entirely into RAM and runs from memory. The new release updates system components including Linux kernel 5.10.3, busybox 1.33.0, Glibc 2.32, GCC 10.2.0, binutils 2.35.1, e2fsprogs 1.45.6 and util-linux 2.36.1.

The bootable iso is only 16 MB in size.

http://forum.tinycorelinux.net/index.php/topic,24798.0.html

THE DISTRIBUTION FOR CREATING FIREWALLS - pfSENSE 2.5.0:
02/17/2021

A compact distribution for creating firewalls and network gateways pfSense 2.5.0 has been released. The distribution is based on the FreeBSD codebase with the use of the m0n0wall project and the active use of pf and ALTQ. A 360 MB iso image for amd64 architecture is available for download.

The distribution is managed via a web interface. Captive Portal, NAT, VPN (IPsec, OpenVPN) and PPPoE can be used to organize user exit in wired and wireless networks. A wide range of capabilities are supported for limiting bandwidth, limiting the number of concurrent connections, filtering traffic and creating fault-tolerant configurations based on CARP. Work statistics are displayed in the form of graphs or in tabular form. User authorization is supported by a local user base, as well as through RADIUS and LDAP.

https://www.netgate.com/blog/pfsense-plus-21-02-release-and-pfsense-ce-2-5-0-release-now-available.html

CINE ENCODER 3.1, A VIDEO CONVERTER FOR WORKING WITH HDR VIDEO IN LINUX OS:
02/18/2021

A new version of Cine Encoder 3.1 video converter for working with HDR video in Linux has been released. The program is written in C++, uses the FFmpeg, MkvToolNix and MediaInfo utilities and is distributed under the GPLv3 license. There are packages for the main distributions: Debian, Ubuntu, Fedora, Arch Linux.

The new version has improved the design of the program and added Drag & Drop function. The program can be used to change HDR metadata such as Master Display, maxLum, minLum, and other parameters. The following encoding formats are available: H265, VP9, AV1, H264, DNxHR HQX, ProRes HQ, ProRes 4444.

https://github.com/CineEncoder/cine-encoder/releases/tag/3.1

ORACLE HAS RELEASED UNBREAKABLE ENTERPRISE KERNEL R5U5:
02/18/2021

O racle has released the fifth functional update for the Unbreakable Enterprise Kernel R5, positioned for use in the Oracle Linux distribution as an alternative to the standard package with the Red Hat Enterprise Linux kernel.

The kernel is available for x86_64 and ARM64 (aarch64) architectures. The kernel sources, including the breakdown into individual patches, are published in the Oracle public Git repository.

Unbreakable Enterprise Kernel 5 is based on Linux 4.14 (UEK R4 was based on 4.1, and UEK R6 on 5.4), which has been updated with new features, optimizations and fixes, as well as tested for compatibility with most applications running in RHEL, and specially optimized to work with industrial software and hardware Oracle. Installation and src packages with the UEK R5U5 kernel are prepared for Oracle Linux 7 (there are no obstacles to using this kernel in similar versions of RHEL, CentOS and Scientific Linux).

https://blogs.oracle.com/linux/announcing-the-unbreakable-enterprise-kernel-release-5-update-5-for-oracle-linux

WAYLAND DRIVER UPDATE FOR WINE:

02/19/2021

Collabora has released an updated version of the Wayland driver that allows you to run applications using GDI and OpenGL / DirectX through Wine directly in a Wayland-based environment, without using the XWayland layer and getting rid of Wine's binding to the X11 protocol. They are discussing with the Wine developers the inclusion of Wayland support in the Wine Staging branch with the subsequent transfer to the main Wine composition.

https://www.collabora.com/news-and-blog/news-and-events/wayland-on-wine-an-exciting-first-update.html

KODI 19.0 OPEN MEDIA CENTER RELEASED:

20.02.2021

Two years since the publication of the last major thread, the Kodi 19.0 open media center has been released. (Previously developed under the name XBMC.) Pre-packaged installation files are available for Linux, FreeBSD, Raspberry Pi, Android, Windows, macOS, tvOS, and iOS. A PPA repository has been created for Ubuntu. The project code is distributed under the GPLv2 + license.

https://kodi.tv/article/kodi-190-matrix-release

PACKAGE MANAGER APT 2.2:

21.02.2021

The toolkit for managing packages APT 2.2 (Advanced Package Tool) is out, which incorporates the changes accumulated in the experimental branch 2.1. In addition to Debian and its derivatives, the APT-RPM fork is also used in some distributions based on the rpm package manager, such as PCLinuxOS and ALT Linux. The new release will soon be integrated into the Debian Unstable branch and the Ubuntu package base (Ubuntu 20.10 used the experimental 2.1 branch).

https://blog.jak-linux.org/2021/02/18/apt-2.2/

NETWORKMANAGER 1.30.0 RELEASED:

02/21/2021

A stable release of the interface is available, to simplify the configuration of network parameters - NetworkManager 1.30.0. Please note that plugins to support VPN, OpenConnect, PPTP, OpenVPN, and OpenSWAN are evolving in their own development cycles.

https://mail.gnome.org/archives/networkmanager-list/2021-February/msg00016.html

NEW VOID LINUX INSTALL BUILDS AVAILABLE:

02/22/2021

Void Linux, which is a separate project that does not use the work of other distro's, and developed with the use of a continuous cycle of software upgrades (rolling-update distribution without separate releases) have released new builds. Past builds were posted in 2019. In addition to the appearance of up-to-date boot images based on a more recent cut of the system, updating images does not carry functional changes and their use only makes sense for new installations (in already installed systems, package updates are delivered as soon as they are ready).

https://voidlinux.org/news/2021/02/new-images.html

RELEASE OF SYSVINIT INIT SYSTEM 2.99:

02/22/2021

The classic sysvinit 2.99 init system, which was widely used in Linux distributions before systemd and upstart, and now continues to be used in distributions such as Devuan, Debian GNU / Hurd and antiX, has a new release. A release of the insserv 1.23.0 utility, used in conjunction with sysvinit, is also out (the version of the startpar utility has not changed). The insserv utility is designed to organize the boot process, taking into account the

dependencies between init-scripts, and startpar is used to ensure the parallel launch of several scripts during the system boot process.

https://lists.nongnu.org/archive/html/sysvinit-devel/2021-02/msg00000.html

New version of Wine Launcher 1.4.46:

02/23/2021

A new release of the Wine Launcher project is available. They develop a Sandbox environment for running Windows games. Among the main features: isolation from the system, separate Wine and Prefix for each game, compression into SquashFS images to save space, modern style launcher, automatic committing of changes in the Prefix directory and generation of patches from this. The project code is distributed under the GPLv3 license.

https://github.com/hitman249/wine-launcher/releases/tag/v1.4.46

The Official Full Circle App for Ubuntu Touch - UPDATED!
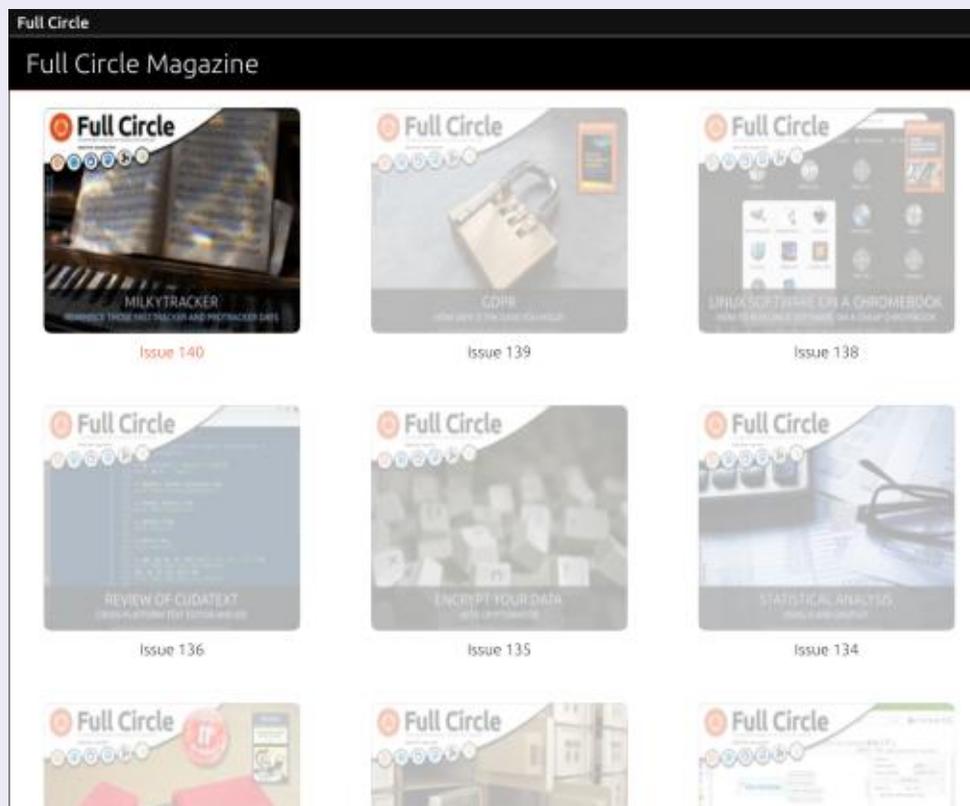
Brian Douglass has updated his FCM app for Ubports Touch devices that will allow you to view current issues, and back issues, and to download and view them on your Ubuntu Touch phone/tablet.

Install

Either search for 'full circle' in the Open Store and click install, or view the URL below on your device and click install to be taken to the store page:
https://uappexplorer.com/app/fullcircle.bhdouglass

HUGE thanks to Brian for this.
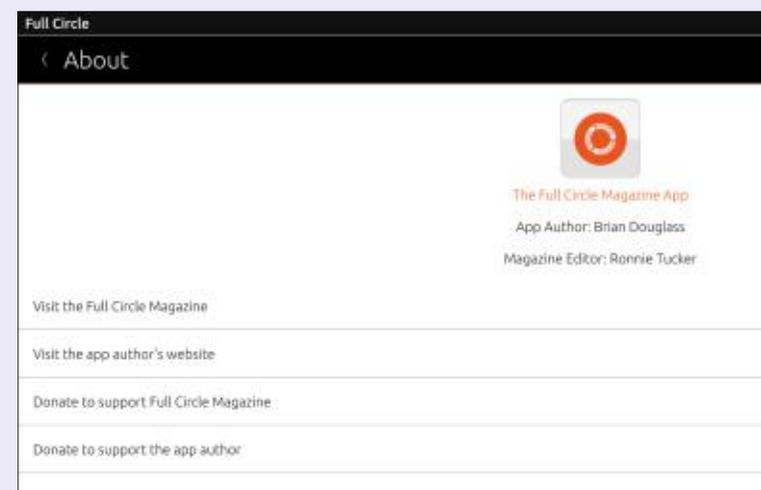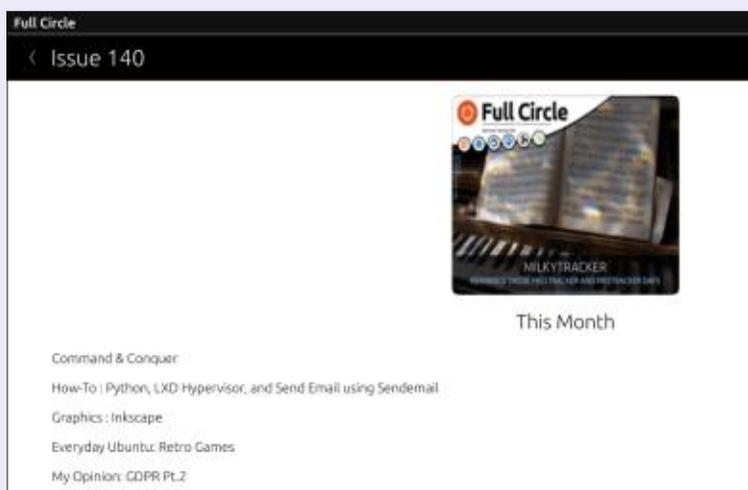
The VirtualBox Networking Primer
Connecting and Configuring Virtual Machines

The VirtualBox Networking Primer is a no-nonsense guide for the VirtualBox user taking their next steps into virtual networks.

While Oracle VM VirtualBox is a great free tool, the real power of virtualisation comes when you start connecting virtual machines to each other and to the wider world. Software development, sales, education and training are just some of the areas in which network access to virtual machines offers endless opportunities. But the world of computer networks is filled with complex technical jargon.

Complete with principles, practice, examples and glossary, The VirtualBox Networking Primer takes the frustration and confusion out of connecting real-world projects.

Author: **Robin Catling**
Publisher: Proactivity Press
ISBN13 : 9781916119482

Amazon US link:
https://www.amazon.com/dp/1916119484?ref_=pe_3052080_397514860

Amazon UK link:
https://www.amazon.co.uk/VirtualBox-Networking-Primer-Connecting-Configuring/dp/1916119484/ref=sr_1_1?dchild=1&keywords=virtualbox+networking+primer&qid=1600253699&s=books&sr=1-1

Kobo:
https://www.kobo.com/us/en/ebook/the-virtualbox-networking-primer

So - last time we ended up just under three minutes to get a basic tune. A tune is not a club track though. This is the piano roll of our "tune" when we ended the tutorial last time. However, we can cheat by repeating our tune, shifting the tune, etc, but we cannot cheat an intro, or "build up" to our track. On the bright side, we have seven minutes left of our ten minute time trial. The reason for this is that I want you to imagine the possibilities of what you can do in an hour, if we can do all this in ten minutes! Most of all, I want you to have fun – LMMS is a lot of fun.

All the other Grandpas – I want you to put in those hearing aids and fire up LMMS. If you still have it, open the project from the last issue. Let us make a building 'intro' by using automation. On your beat+bassline editor, click add and the text should change from beat+bassline0 to beat+bassline1. Now we open our samples and drag over (or double-click) the first hihatclosed01. Color in every second or third block to get a basic tap going. We will automate this.

Though there is an automation button here, we want to add the automation track to our main song

window. When you created the second beat+bassline, it automatically added it to your song window. It should be empty. Shift your beat+bassline0 two blocks over to the right, which should give you two counts of silence. We are going to fill that silence with the hihat, on its own track. Do you see how the tune is layered? You may realise that the constant tapping from the start may be a bit annoying. Enter our automation

track. Please click on that now. (the one in the "song" window.) You should see this:

You can paint in the first block of the beat+bassline1 now, and stretch it over the first two blocks.

The automation track is just a white elephant at the moment, we need to connect something to it to automate. The way you do this is by holding down the CTRL key and
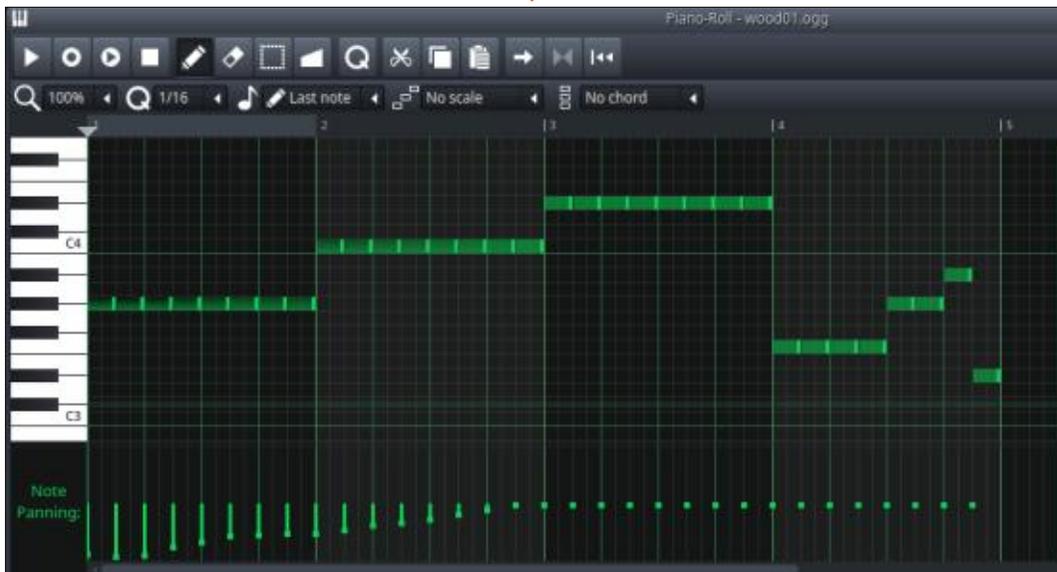
clicking on the control you want to automate. In our case, it is the master volume. Hold down the CTRL key, click and hold the master volume slider in your FX-Mixer, and drag it over the automation block. You will see it has a red circle with a line through until it moves over the automation block, where it will turn into a green plus. The volume is now connected to the automation track, now what?

Well, we double-click on the first open block and a "piano roll" without keys will open up.

There are three types of automation, the first blocky one, then the linear one, then the curved one. You can use whichever one pleases you, but for this demonstration, we will stick with the steps. Paint some steps ascending or descending, it does not matter. I want you to understand the concept and see it in action. The steps or blocks are the most dramatic and that is why I chose them. If you were making a "real" tune, you would probably consider the other two. I want you to play your tune and keep your eye on that master volume slider. Notice it stays where you left it last. Now a word about the "length". Just like the sounds, your automation track works in bars. So if you have three bars worth of automation, but the automation track only goes over two bars, it will do only the first two bars worth of automation. So be sure to match these up.

Now please play with your food, erm, I mean LMMS. Here is another picture if you had any trouble following along:

So for your 'outtro', you are going to do this again. Now your song has a build-up, a tune and a wind down. All under ten minutes! Yes with three minutes to spare...

The difficult part is how creative you get in the middle. Will there be a 'drop'? How often will you repeat your melody? How many instruments will you choose?

I have given you the basic building blocks to build a song. Will you make one?

So? Is your tune club worthy? Send us your tunes if you made any. The genre is up to you, it does not have to be club music. Send us your disco tune, grandpa, we don't judge.

Need inspiration? Look here: https://lmms.io/lsp/ - you can download these tunes and dissect them at your leisure.

I hope you learned something. Should we continue with this? Let us know on misc@fullcirclemagazine.org

Erik has been in IT for 30+ years. He has seen technology come and go. From repairing washing machine sized hard drives with multimeters and oscilloscopes, laying cable, to scaling 3G towers, he's done it.
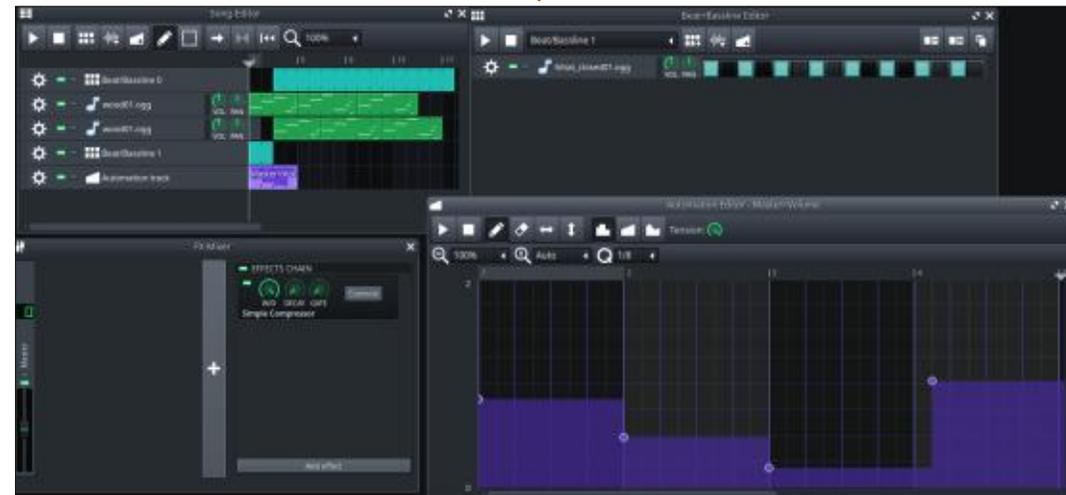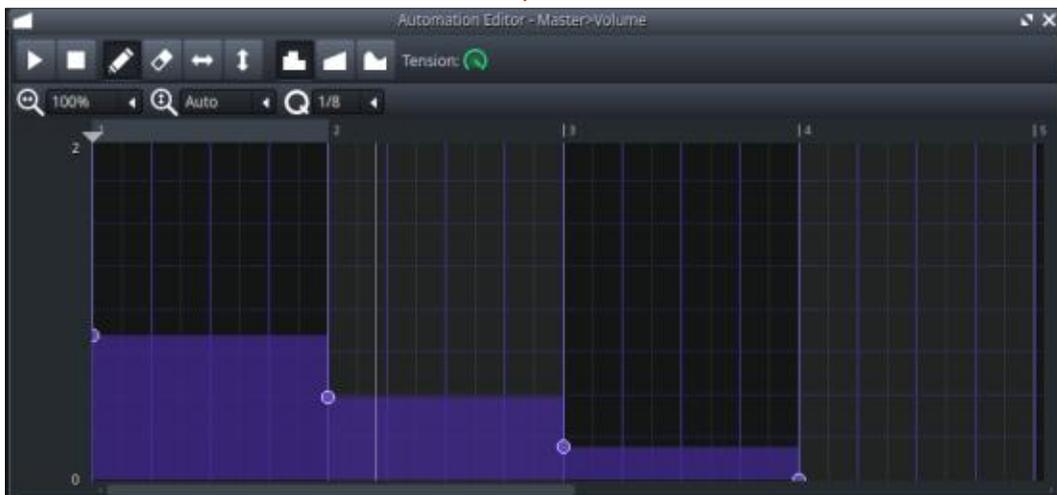
I don't know if you have heard, but on January 21, 2021, the folks at Raspberry Pi announced another new board. It's called the Raspberry Pi Pico. It's their first Microcontroller-classed product, and it's priced at just $4.00 USD (£3.60 GBP). They even created their own chip called the RP2040 for it. I won't give you all the specs, but I will point out a few:
• A Dual-core ARM Cortex M0+ processor running up to 133 MHz
• 264KB of SRAM and 2MB on-board Flash memory
• Drag-and-drop programming using mass storage over USB
• 26 multi-function GPIO pins
• 2 x I2c, 2 x SPI, 2 x UARTs and 3 x 12-bit ADC ports
• 16 controllable PWM pins
• 3-pin ARM Serial Wire Debug (SWD) port
• Temperature sensor on board
• 8 programmable I/O (PIO) state machines
• Micro-USB B port for power, data, and reprogramming the Flash memory
• Development for the board supports both a C/C++ SDK, and an official MicroPython port

• Low power. All GPIOs use 3.3VDC (NOT 5V)
• And more

Now, some of these specs might not get your blood pumping faster, but consider the 2 I2c ports, 2 SPI ports and 2 UARTS, that's a lot of interface possibilities, and then add the 3 12-bit Analogue-to-Digital converters, and you've got a pretty powerful little board. Add to that, it is designed to work with Micro-Python, and I think it's a winner!

The board itself is only 51x21mm (that's just about 2x0.8 inches in American thinking)!

Of course, I went on the Internet to try to buy one the very first day. I was extremely lucky to find an online retailer that still had some left. It hasn't arrived yet, so I can't give you any information on how the board performs quite yet. In addition, I had to find a Micro-USB type B cable before I could use it. Luckily, I have some header pins from an old project that are left over, so I should be good to go as soon as it comes in.

You can find more on the Raspberry Pi Pico at https://www.raspberrypi.org/documentation/pico/getting-started/ .

In addition to all of that, the very next day (January 22, 2021), the Arduino group announced they also will be releasing a new board based on the 2040 chipset along with some extras like WIFI and Bluetooth as well as 9-axis IMU sensor and microphone. They have stated that they will be updating their IDE to support the new board. It's expected to be called the Arduino Nano RP2040. Very little is known at this point beyond these details. You can see the announcement at https://www.tomshardware.com/uk/news/arduino-rp2040. I am looking forward to evaluating the new Nano RP2040 as soon as it becomes available.

If you are interested in the Raspberry Pi Pico or the new Arduino Nano RP2040, or if you are still on the fence about it all, check out this link. https://www.raspberrypi.org/blog/raspberry-pi-silicon-pico-now-on-sale/. Scroll down until you see the section marked Partners. You'll see information about new products coming from Adafruit, Arduino, Pimoroni, and Sparkfun – all based on the RP2040 chip. In fact, Adafruit has their own version of MicroPython called CircuitPython, and they've ported it to run on the RPi Pico. There are also a number of projects that they are working on that will use the RP2040 chip. If you do an Internet search for "RP2040", you'll see a huge number of hits that include the partners listed above along with images, videos and other announcements.

Now that the announcements are over, we'll get back to Python things. Most of you readers have been with me for a while, and you might remember back to late 2015 and early 2016 where I started talking about the Raspberry Pi and Python programming. I've been having to do some small-board computer programming development lately and one project

specifically had me creating a prototype test program on the RPi for GPIO use. I am somewhat proud of the fact that I have at least one of every RPi board model – from the original version 1 to the latest version 4, and a RPi zero. There are three boards that are in constant use, one as a media center, one as a network server, and one that is for "current" RPi type projects.

One of the downsides of working with the Raspberry Pi is that they are slow. Even the RPi 4 with 8 Gig of Ram is somewhat slow compared to my "big boy" Linux box. But, as they say, needs must. When you need to deal with GPIO programming and sensors, there are very few options out there that don't include the RPi. IOT (Internet Of Things) and sensors pretty much require either the RPi or an Arduino (which is another story all together).

However, some of that frustration might be gone. I recently found a small device that allows us to do GPIO programming directly on a Linux box, Windows machine, or Mac, without the use of the remote GPIO and a RPi in the mix. (We'll talk about remote GPIO another time). In theory, you should

be able to create and test Python GPIO programs on your main development machine, and then simply copy the code over to your target RPi, make the connections to your sensor, and, with (possibly) one change to the code, be running on the RPi immediately. Are you thinking "If it sounds too good to be true, it has to be?" We'll find out. I ordered one just about the same time that I ordered the RPi PICO and it came in just last night.

Check out https://uk.pi-supply.com/products/ryanteck-rtk-gpio-pc-gpio-interface, and you'll see the product. It's a tiny little board (5.5cm by 5 cm) that is less than $17 USD (shipping extra). We'll go back to FCM 104 and recreate a very simple project for our first test. But there are some things that have to be done (not including purchasing and receiving the board) before we can get started.

Following the instructions at https://learn.pi-supply.com/make/getting-started-with-the-rtk-gpio-board/#getting-started-with-the-rtk-gpio-board, we need to make sure that our user account on our Linux box is part of the dialout group. So in a terminal, we need to use the following command to do

this:

```
sudo usermod –a –G dialout
$USER
```

The reason for this, just in case you are interested, is that the connection to the RTK.GPIO board not only powers the board, but communicates via one of the serial ports on the Linux box.

Next, we need to make sure that some software exists on our main machine. You probably already have these packages on your machine, but just in case, we'll enter the following command into the terminal:

```
sudo apt-get install python3-
pip python3-setuptools
python3-wheel
```

They suggest that you reboot your machine at this point. Finally we need to install the Python library.

```
sudo –H pip3 install RTk
```

Now that that is all done, we can start adding the components to our protoboard. Of course, you'll need a protoboard, a few jumpers, an LED, a resistor (220 ohm), and a momentary switch.

Remember that LEDs have a positive and negative leg. The Anode is the longer leg and should be connected to the positive voltage, the Cathode is the negative (shorter) leg.

In our circuit (next page, top left), we'll be setting the GPIO pin to a low level in order to turn the

Anode (+)
Cathode (-)
Flat Edge
Physical representation

+ Anode (+) − Cathode (-)
Schematic Representation
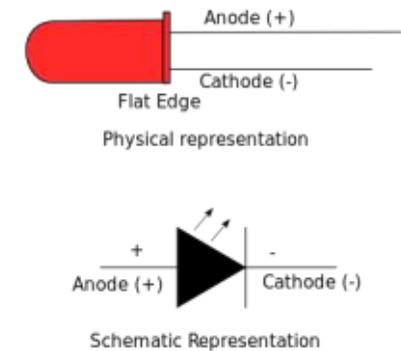
LED on, so we'll connect the 220 ohm resistor directly between the 3.3 volt pin and the Anode of the LED, then connect the Cathode to our GPIO pin to complete the circuit. For the switch, we'll connect one side of the switch directly to ground and the other directly to a different GPIO pin

Now for the code. I'm using the same code that we did in the original FCM# 104 article, with a few modifications where needed.

```
# It looks like the RTK library only supports
# the BCM GPIO pin numbers
# If you are using the BCM GPIO pin numbers...
LedPin = 18
BtnPin = 17
# Otherwise the physical board numbers...
# LedPin = 12
# BtnPin = 11
```

```
def setup():
    GPIO.setmode(GPIO.BCM)
    # GPIO.setmode(GPIO.BOARD)
    GPIO.setup(LedPin, GPIO.OUT)
    GPIO.setup(BtnPin, GPIO.IN, pull_up_down=GPIO.PUD_UP)
```
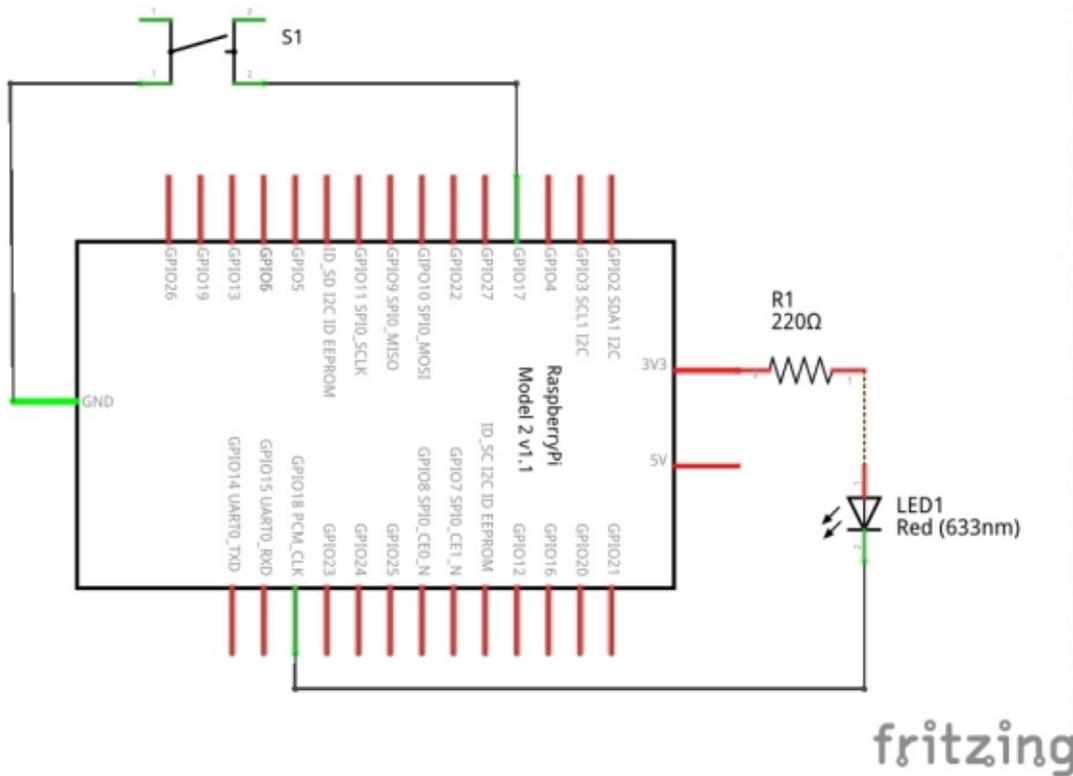
```
# import RPi.GPIO as GPIO

import RTk.GPIO as GPIO
```

First, of course, we need to import the GPIO library. On the RPi, we used the RPi.GPIO library, but for our RTK board, we need to use the RTk library.

In the original code, we had the option to use either the BCM GPIO pin numbers or the physical board numbers. At this point, it looks like the RTK board supports only the BCM pin numbering scheme. I have yet to verify this, but for the sake of time, we'll stick with the BCM numbering scheme. Luckily, the RTK board has the pin numbers silk screened directly on the board right next to the GPIO pins. In the original code, I opted to use the board numbers, so I've just commented out those commands and uncommented the code that deals with the BCM numbering (top right).

So we have our LED connected to GPIO pin 18 and the button connected to GPIO pin 17. Now we can create a function to do all the setup commands (above).

Next, we'll create a loop function (bottom left) to constantly look for the button to be pressed.

When we see that, we'll drive the LED pin to a low state, turning on the LED.

Next, we will create a destroy function that will reset the LED pin and properly release the GPIO library code.

```
def destroy():

    GPIO.output(LedPin,
GPIO.HIGH)

    GPIO.cleanup()
```

Finally, we'll create the entry point code to get things started (next page, top right).

When you run the program, you'll see the LED turn on as long as the button is pressed.

```
def loop():
    while True:
        if GPIO.input(BtnPin) == GPIO.LOW:
            print("...LED On")
            GPIO.output(LedPin, GPIO.LOW)
        else:
            print("...LED Off")
            GPIO.output(LedPin, GPIO.HIGH)
```

So, at this point, I can say that, for simple GPIO work, the RTK.GPIO board works well for development of RPi programs that access the GPIO pins. Will it work with other sensors and modules designed for the RPi? Well, that's yet to be seen, since my RTK.GPIO board just came last night. I'll be spending some of my self-imposed quarantine time working with this new board. I do know from the board website, that there is some question about working with SOME i2c devices, and I haven't heard anything about the support of SPI devices. So my testing will include both of those along with some other simple modules like relays and trying some other "normal" components. I will keep you advised.

I have placed the code on my github repository, as I often do. You can find it at:

https://github.com/gregwa1953/FCM166

With any luck, next month I will be looking deeply into the RPi Pico, MicroPython and possibly CircuitPython as well. My Pico should be here either on January 28th or 29th as well as the micro B USB cable that powers and communicates with the device. My plan is to talk about hookup, installing MicroPython and Circuit Python on the board, and a few test programs.

As always, until next time; stay safe, healthy, positive and creative!

```python
if __name__ == "__main__":
    setup()
    try:
        loop()
    except KeyboardInterrupt:
        destroy()
```

Greg Walters is a retired programmer living in Central Texas, USA. He has been a programmer since 1972 and in his spare time, he is an author, amateur photographer, luthier, fair musician and a pretty darn good cook. He still is the owner of RainyDaySolutions a consulting company and he spends most of his time writing articles for FCM and tutorials. His website is www.thedesignatedgeek.xyz .

So, to recap, last month we looked at the starting of the edit. Compression of the audio, noise reduction, and lining up the individual audacity tracks from each of the hosts. In this month's article, I will go through the editing of the show audio to cut out the bits not needed and remove/shift audio where we may have talked over each other. Merging to one track, adding the show bumpers, and truncating silence – so all our talking flows as naturally as possible.

So before we start removing chunks of the audio, we need to ensure that the tracks will remain synced, so we navigate to the tracks menu and go to the bottom of the menu and ensure that the sync-lock box is checked.
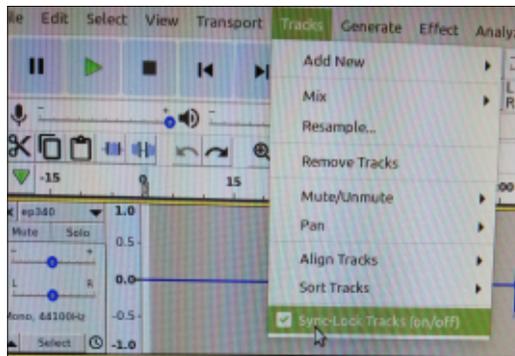
Now we can remove any audio that will not be needed in the final edit without affecting the audio sync; in picture 001 you will see I have highlighted the audio before Leo starts his intro to the show, this was the part where we recorded our silence for noise reduction and where we used 3,2,1, Zero to line up the tracks so it is no longer needed. To highlight this area, I placed the cursor just before the start of Leo's intro, and left-clicked the mouse holding it down while dragging back to the start of the track and down to include all 5 tracks.

With the audio selected you can navigate to the toolbar and select the Scissor icon, click on this and the selected audio is removed.
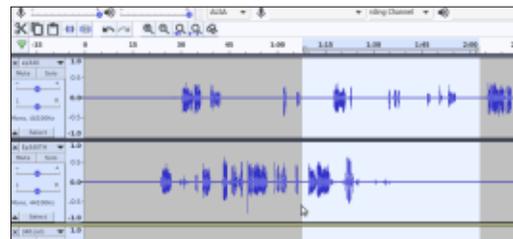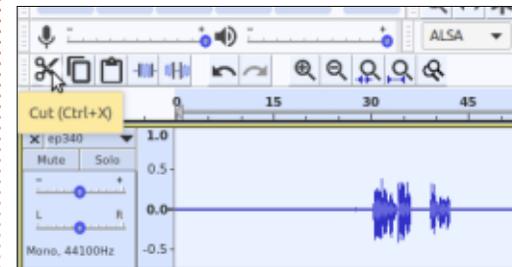
Now there are times when we talk over one another, and sometimes we need to remove this, and sometimes what has been said just needs re-positioning so the listener can hear it clearly. In the first case, it is fairly simple to silence that unwanted audio by selecting the area of audio to remove and as we do not wish to alter the other tracks, we can use the silence tool to remove that audio without affecting any of the other tracks.
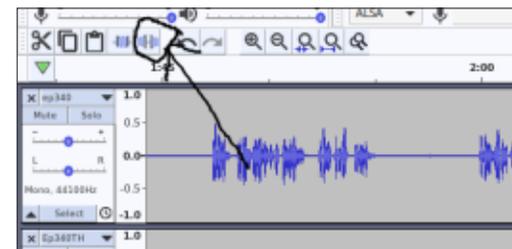
But if we need to keep that audio and maintain the sync integrity, it is a little more complex. If I want to move that same audio to a point after Leo stops talking, I need to first copy the audio using the copy tool.
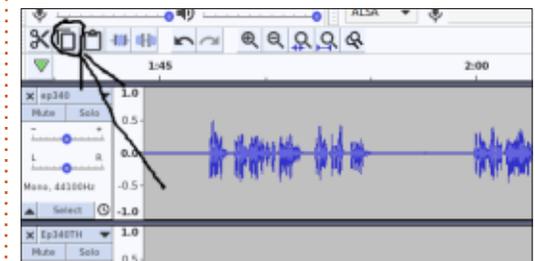
Then I place the cursor in the track where I want it to move to, and using the paste tool, copy the audio segment after Leo has stopped talking, and, as the tracks are sync-locked, it will add a little space to all the other tracks keeping them in sync.

Then you can just go back and
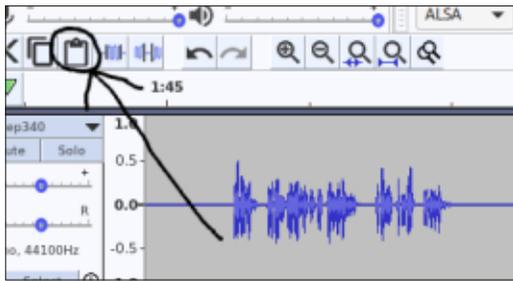
silence the unneeded audio that you just moved into its new place in the track.

These processes are repeated
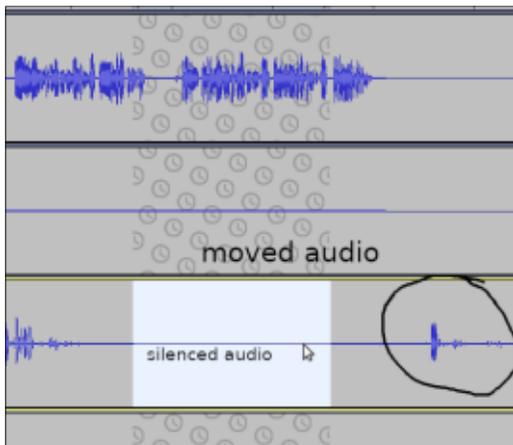
within the audio in any place it is needed, and once this is done the track is mixed down before adding in the front and end bumpers, and any transition music between sections. So, first let's mix down the audio to one track. Using Ctrl+A to select all the tracks, navigate to the tracks menu, select Mix, and choose 'mix and render new track'. The reason for rendering to a new track is that you can then copy this and start a new edit without losing the

separate tracks if you find you need to go back later.

You do not have to, but, at this point, I will copy this track and
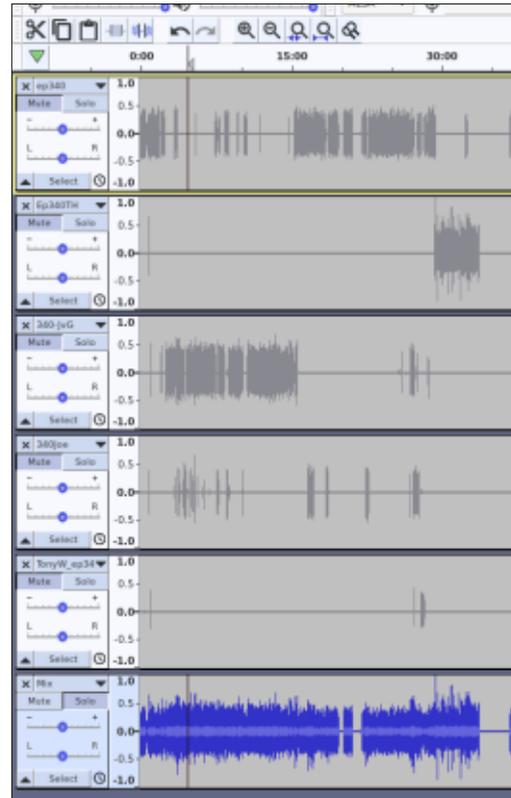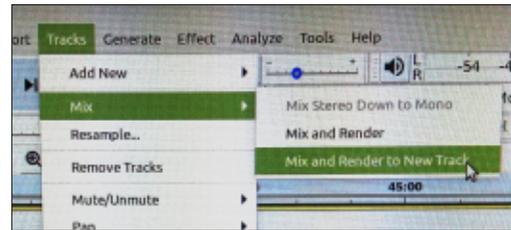
paste it into a new Audacity file as it makes the next stage less cluttered. This is simply a matter of selecting the new track, copying it, and opening a new audacity by
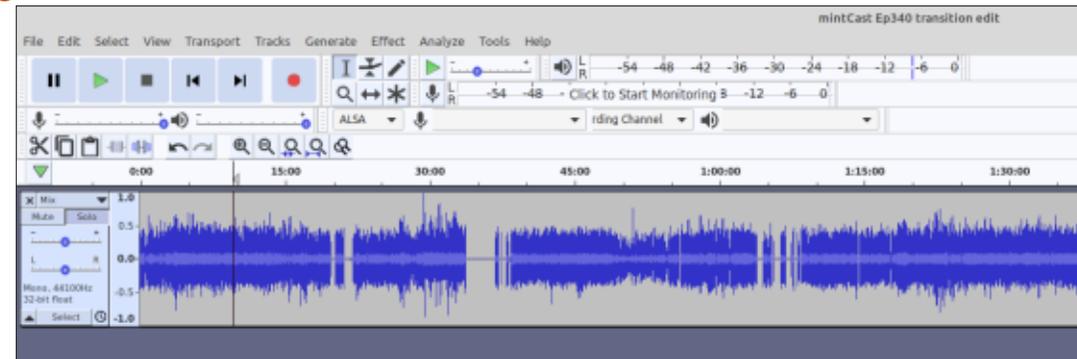
selecting, file-new in the menu top-left. Navigate to the new audacity which will be in your taskbar, and paste the audio here. At this point, I save the old project and close it down, I can reopen it again if needed. I also save the new project as 'mintCast Ep340 transition edit.aup'
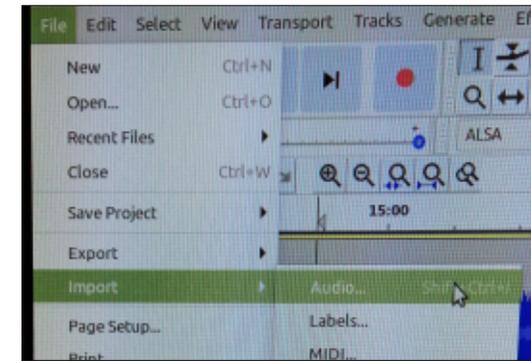
I'm now ready to add the intro music and transitions. The processes for this are similar but with the transitions you need to make space for the audio to fit. First, adding the music before the intro starts is a case of importing the music needed into audacity. Navigate to the menu, File-import-audio; this brings up a file navigation box, navigate to where the audio is stored and select it and open, and it will be imported into the audacity you have open.

Now, as you need to move the tracks about, you need to go to the
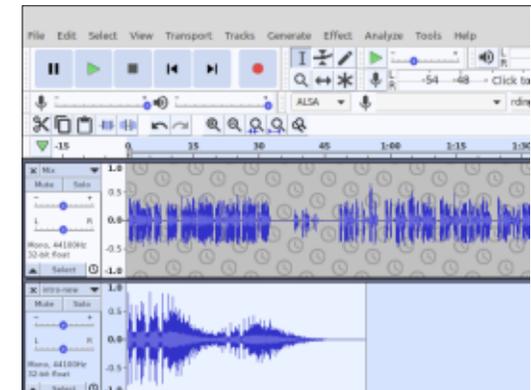
tracks menu and this time untick the sync-lock tracks so you can move them around independently. Then, using the move tool circled in the next image, drag the main track so it is just about at the end of the intro music as it is fading, there will still be a little background music as

HOWTO - PODCAST PRODUCTION

Leo starts to introduce the episode.

Then I navigate to the end of Leo's intro and put in the first of the transition music sections. Place
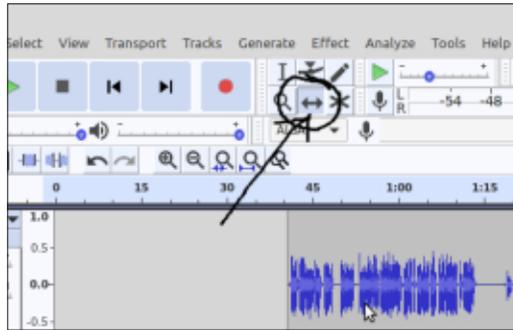

the cursor here, and in the menu, go to Edit - Clip boundaries - Split, this creates a gap in the audio and you are able to move the large section of the track on the right to allow the transition music to be placed between the sections. Import this audio as before, but now copy it and paste into the area of the lower track where you need
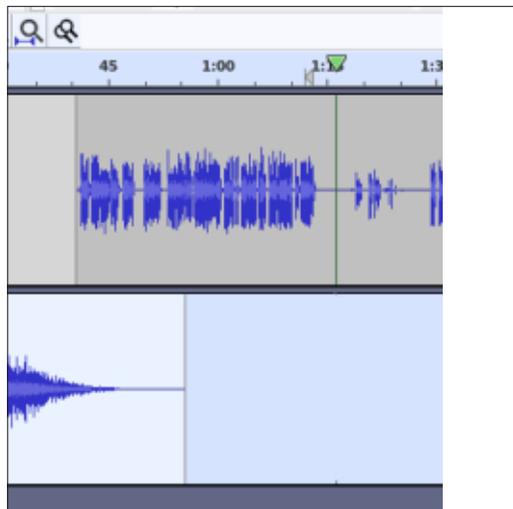

it to go.

This process is repeated in all the areas where transition music needs to be inserted. Then at the
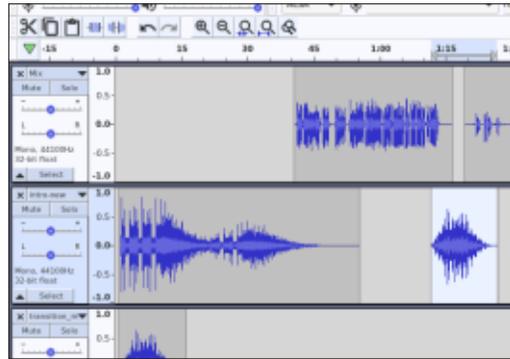

end of the audio we import the outgoing credits section. Then this audio is merged down to a single track incorporating these additional sections of music.

The final task is to remove any gaps in the audio where we were not talking or we have silenced some of the audio, to make the talk flow at a natural pace we do this with the Tunicate silence tool in the effects menu; when this is done
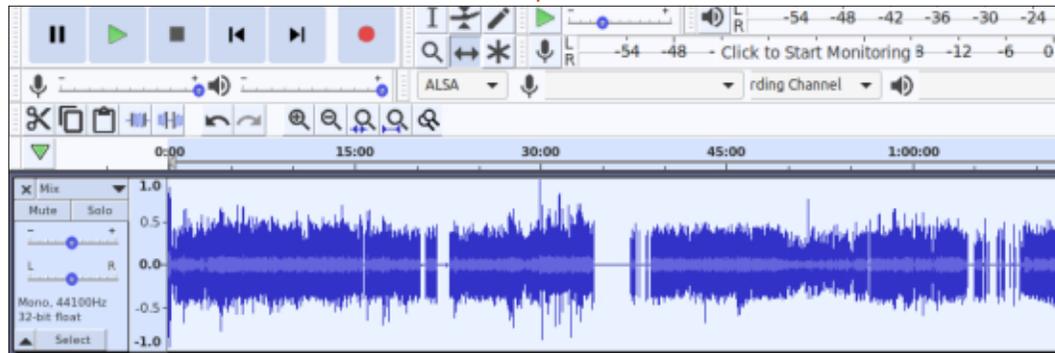
you can see the results in the final picture here.

And we are done, all that is left is to export the audio as a file you can upload to Archive.org for your
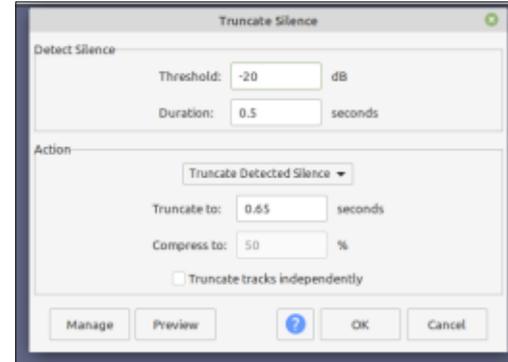
feed to pick up. Menu – file – export – ogg, mp3, or if you select export audio you can save as .Flac (your choice), choose where to save, then press save; you are presented with a meta data box to fill in, your

choice to use or not, then save. You have now completed your audio edit.

So this brings us to the end of this short series of articles about podcasting and editing your show
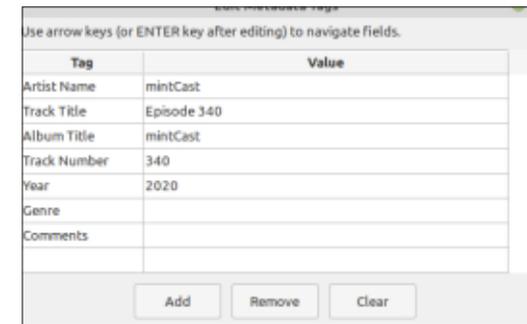
in Audacity. I hope you have enjoyed it.

If you wish to contact me for more information you can get me at: distrohoppersdigest@gmail.com or th@mintcast.org

For household expenses, a spreadsheet can work wonders. Creating a template is a good idea. You really don't need a large dedicated program to get an overview of your finances. Grisby, HomeBank, Gnu Cash, etc, are all great programs, but there is something to be said for making something your own. This tutorial is twofold, it teaches you a bit about using OnlyOffice and gives those of you who are not accountants, an end product that you can use. If you are an old hand at Office programs, this may be below you, but you are not the target demographic. This quick introduction follows a discussion we had regarding bookkeeping software on Telegram; when the dust settled, it seems all Mr_Reboot needed was an expense report for his household. I thought we should share it with the rest of the FCM readers. @Mr_Reboot - here is the "nice" version.

There are many LibreOffice tutorials out there, so that is why we use OnlyOffice this time. Having an expense sheet is all well and good, but sometimes one needs more, so, before you start, think about what you would like to get out of this. Now, a spreadsheet is not a database, but if you plan it out properly, you can get a lot of information and insights from it. Think about your columns, would you like to filter by 'Utility' or 'Food'? Do you just care about the bottom line? If you draw a blank, steal with your eyes, look at the LibreOffice weekly or monthly budget forms; after all, it will be *your* custom form when you are done. Grabbing a form from the LibreOffice website is all fine and dandy, but you may not have a car, so the whole section dealing with motor vehicle expenses may be dead weight to you. Deleting the sections you do not need, may mess up the built-in formulas. So what to do?

We make our own! Do you have five minutes to spare? Fire up an OnlyOffice spreadsheet. Take a row to add the month or week at the top.

Select 6 columns (A-F) and say, 50 rows (3-53). This will be our "Table". Once highlighted, select "All borders". Now would be a good time to save your file as an open spreadsheet template.
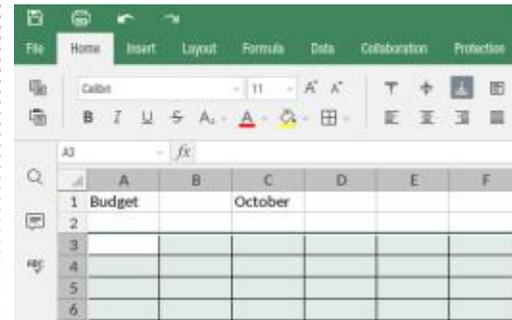
Whilst you have it selected, why not make it nice looking? Select "Format table as template" and pick your poison.
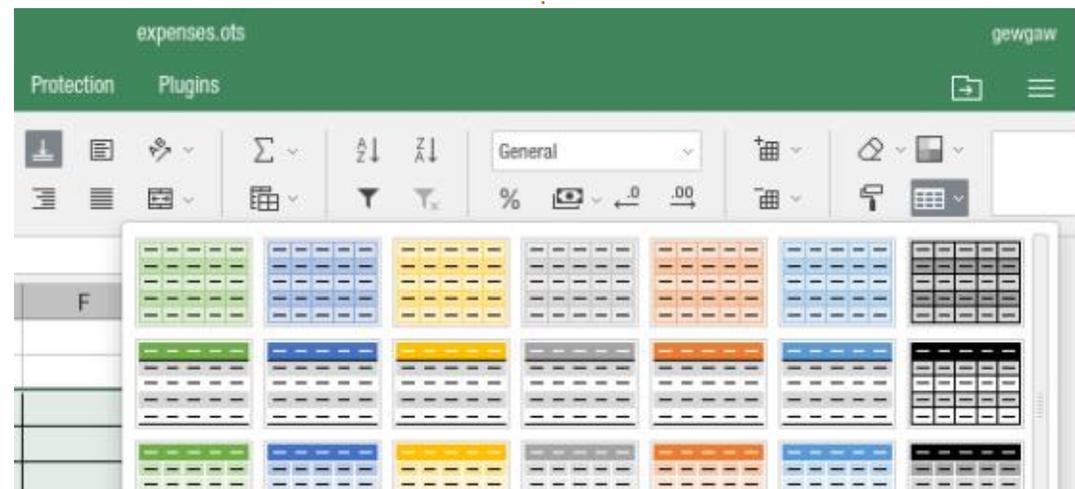
Rename your columns to: date, category, item, recipient, amount, notes. You can put as much as you like here, but remember that the more there is, the more you have to fill in, but on the flip side, it can give you better insights. To make things look well, select row 3 and click on 'align center'.
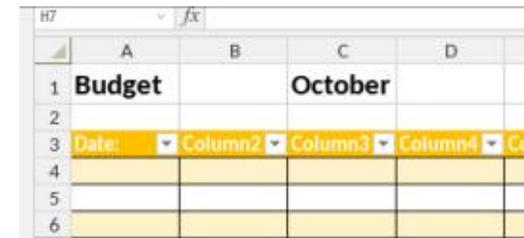
Now click on the A in the first

column. This will highlight the whole column. We know that this column will contain dates, so, right-click said A, and navigate down to number format. It will expand, so step one over, and choose 'date'. We are going to repeat these steps for column E, but the format choice will be 'currency'.

Our very last row in our amount column, will be our total, so it is only fitting to add the word Total to the notes column next to it, in our case, F54. If you click on line 54 and it highlights, click on the bold icon, or press ctrl+b. This will make your total stand out. You can also add the word TOTAL to the dates column, this will prevent you from adding anything on that line.

We know that the amount column needs to be totalled. If you have ever used a spreadsheet before, you will know that the ugly E, some say 'Epsilon', is used for calculating. One simply highlights the part you need totalled (E4-E54), and press the 'sum' button. However, in OnlyOffice, this appears at the top instead of the bottom. I have no idea why anyone would want to sum up.... (okay, I'll see myself out). Anyway, you can reverse select the column, from E54-E4 and press the ugly E. That said, the OnlyOffice ribbon has a "formula" tab, where you can find more options. Here again, is where OnlyOffice differs. Adding E4-E54 in the sum brackets, will net you an error. A quick fix is to add a 1 to the first row (E4) and a 1 to the last row (E53), then highlight to E54 and press the Ugly E. You can now remove those two 1's you entered.

This whole exercise took us less than 5 minutes. Let's populate the fields to see if it works?

So I populated my sheet with some bogus data, but now I have a lot of open lines and my total is not on my page.

We can hide and 'unhide' rows we do not use. In our case, I will select lucky number 13 to 53, right-click, and click hide. The total jumps up to my viewing window. Neat! The arrows next to our headings are also not just for show. Want to know how many times you visited McDonalds? Click the arrow. It will bring up a filter list. Select only McDonalds and it will filter it so. This goes for any of the headings, Want to know how much you blew on entertainment or take-aways (or if you are in Ireland, bring-backs, yes, I know where the door is...) this month? These filters can be an eye opener! This is where the planning comes in – that we spoke about in the beginning. I stole mine from another sheet. Don't be shy to get your categories from another source. This allows me to get those insights, like, I am spending too much money on fast food, or gasoline, or whatever.

Feel free to experiment with columns that you can filter to get insights into your spending habits. You can even add an income column and get a total of that too, the possibilities are endless – but I suggest keeping it limited by what you need. The nice thing about a template is that you can use it over and over, so January to December should all look the same.

Another suggestion is to use the "protection" tab in your OnlyOffice ribbon and encrypt your finances; you do not want others to have access to that information.

Did we make a mistake? Are we wrong? Did we help you? Let us know at:
misc@fullcirclemagazine.org

	A	B	C	D	E	F
	Budget		October			
	Date:	Category:	Item:	Recipient:	Amount:	Notes:
	1/10/2020	Housing	Rent	Landlord	$1,000.00	Underpaid
	2/10/2020	Insurance	Life	Wegotu	$500.00	
	2/10/2020	Utilities	Gas	Gas Guys	$100.00	last refill June
	3/10/2020	Services	Haircut	Salon Che	$20.00	
	3/10/2020	Utilities	Internet	Google	$110.00	active for 61 days
	4/10/2020	Food	Take aways	Mc Donalds	$25.00	
	5/10/2020	Entertainment	Movies	Cineplex	$80.00	

Weekly Budget

EXPENSE	WEEK 1		WEEK 2	
	planned	spent	planned	spent
HOUSING				
Mortgage/Rent				
Maintenance				
UTILITIES				

Yet again, last month's News section of Full Circle Magazine managed to sneak in some Inkscape announcements that arrived after the deadline for this column, so apologies for parroting information you probably already know.

First, Inkscape 1.1 alpha is available for testing. This is the initial alpha release, but there may be others – not to mention betas and release candidates – before version 1.1 sees an official build. If you want to help make that release as stable as possible, then please consider downloading the alpha version, testing it with your typical workflow, and reporting any issues. Rather than provide a link directly to this alpha, which may be outdated by the time this magazine hits the wires, I suggest visiting the News section of the Inkscape website (https://inkscape.org/news/). and following the links in the latest relevant article.

Alongside 1.1 alpha we also saw the release of version 1.0.2. This is another bugfix release, addressing several issues that appeared in 1.0

and 1.0.1. At the time of writing, there doesn't appear to be a 1.0.2 snap package available, but there is a PPA, as well as AppImage and Flatpak versions available from the Download section of the Inkscape website. If you wish to use Inkscape on a non-Linux system, there are, of course, builds for Windows and MacOS. Since FCM is primarily a Ubuntu-oriented publication, I will mention that I had problems using the AppImage version on Ubuntu Mate 18.04. Although it initially appeared to work, any operation that opens the file picker – such as loading and saving files – caused the application to immediately crash. As usual, I had the best results with the PPA.

There are only a couple of new features in 1.0.2, but they're ones that a lot of users have been clamouring for. Both are actually new preferences, so to find them you'll of course have to install 1.0.2, then open the Edit > Preferences dialog. The first new option can be found in the Behaviour > Steps panel, and allows you to turn off the default behaviour of zooming in

when the user clicks the middle mouse button on the canvas (and zooming out when doing the same with Shift):

I can't say I've ever triggered this behaviour by accident, despite
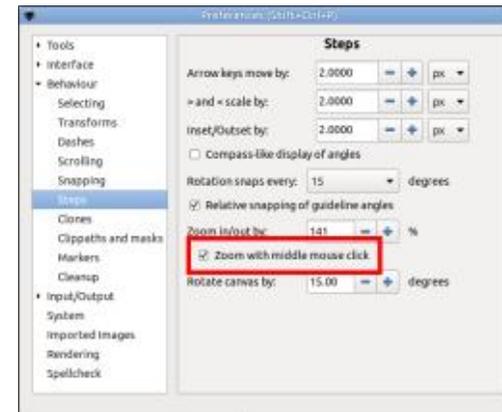
being a frequent user of middle-click-drag to pan the canvas, but if you are plagued by this problem,\ you can now disable the feature entirely. It may well be that this problem occurs more for frequent users of graphics tablets; certainly that's the case with the issue that has given rise to the second new option.

You may recall that one of the headline features for 1.0 was the ability to rotate the canvas. For mouse users the best way to

trigger this is to hold Ctrl-Shift and move the mouse wheel, however that will rotate in steps (15° per 'click' of the wheel, by default). For an unconstrained rotation you also have the option of holding Ctrl whilst click-dragging with the wheel or middle mouse button. The middle mouse button is often exposed on the stylus of a graphics tablet, where it's useful for panning the canvas, but many users of such devices found they were accidentally triggering the canvas rotation by mistake, due to sloppy timing when releasing the Ctrl key from a previous operation. As a result the Inkscape forum has seen a flurry of requests for the ability to turn off the canvas rotation feature.

If you wish to disable this feature, there's a new option for it in the Interface panel of the Preferences dialog. This doesn't, however, remove the "R:" field from the bottom right of the Inkscape window, so you can still force rotation by changing the value in there, by typing, rolling the mouse wheel over the field, or
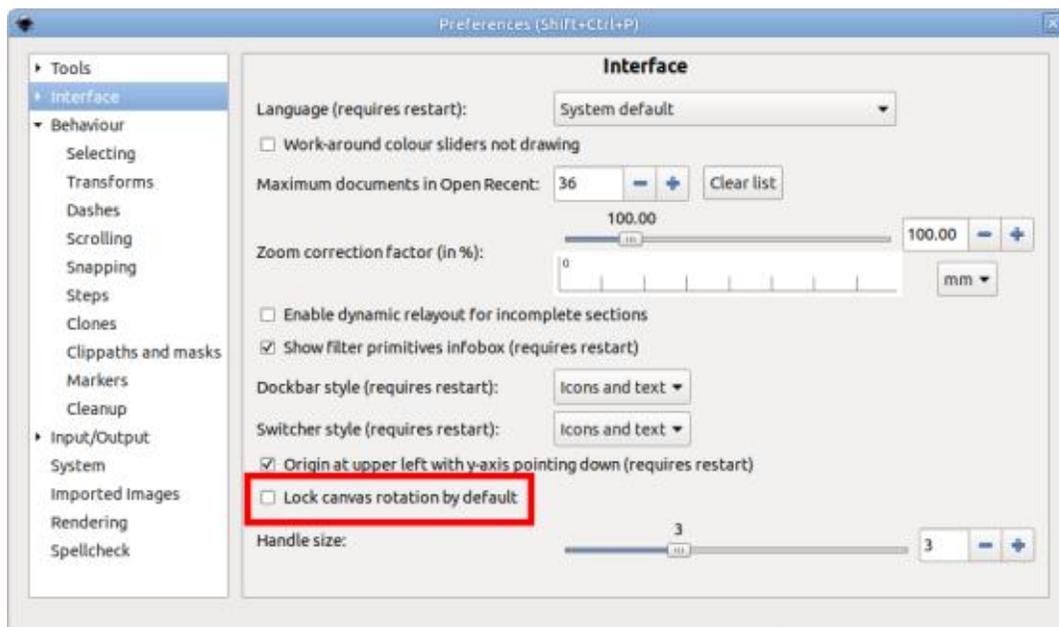
right-clicking to bring up the context menu.

That's it for the new features in 1.0.2, with everything else being bug fixes, mainly for issues that the majority of users won't ever encounter. But there is one class of fixes that definitely warrants a mention: this release fixes the text-to-path regressions that were introduced with version 1.0. For the full rundown on these problems, see part 100 of this series, or the subsequent YouTube video I created (http://www.youtube.com/watch?v=lx5nRCu7AKk), but here's a brief reminder.

Originally the behaviour of Path

> Object to Path, when applied to a text object, was to create a single complex path. This was subsequently changed to create a group of paths, one for each letter – yet internally the ability to convert text to a single path remained. It was even exposed via the UI, whether by accident or design: using Path > Union on a text object would convert it to a single path.

A rewrite of the path operations code for 1.0 broke this internal ability. Path > Union now behaved the same way as Object to Path. Furthermore, other features which required an implicit conversion to a single path stopped working in a

variety of ways. You could no longer trivially apply an inset, outset, dynamic offset, or linked offset to a text object.

With 1.0.2, normality is restored. Path > Union once again creates a single path, and the various offset functions work once more. In my opinion, this fix alone makes it worth upgrading to 1.0.2 if you've already made the leap to the 1.x series, and removes one of the biggest reasons for sticking with 0.92.x for any readers who have been reticent to move on.

All this talk of text objects leads nicely into the next topic for this series. We're returning to the new and updated features that arrived with version 1.0, of which Inkscape's text support received more than its fair share of changes. We'll start with the most obvious of the user-facing changes: the revamped Text tool control bar.

There's no doubt that the Text tool control bar in version 0.92 was a little unwieldy, featuring many, many buttons. The new version simplifies this clutter by collapsing several sets of radio buttons into drop-down menus. For example, the four buttons used for text

alignment now take up less than the width of two buttons. The old discrete buttons and their new combined drop-down replacements are shown in the table below.

The tool bar has also lost a

couple of icons completely. The confusing "Show style of outermost text" button has been relegated to the waste bin. The existence of this toggle was the result of an attempt to better represent the underlying complexities of SVG text. In practice very few people understood the implications of using this button, and most users would either ignore it entirely, or randomly turn it on and off while trying to reset the other controls on the bar. Also gone is the "?" button which was only relevant in the relatively rare case of the user mixing different line spacings within a single block of text (more on this later). Good riddance to them; anyone who really needs the

control they offered probably has the technical skills to make their changes via the XML editor, or by editing the raw text of the SVG file.

With two buttons removed, and several others reduced to drop-downs you might expect the toolbar in 1.0 to be more compact than its predecessor. Unfortunately the opposite is true. Despite having fewer controls, the new toolbar occupies even more horizontal space than the old one, barely fitting onto the width of an HD monitor. Anyone trying to run Inkscape on a narrower screen, or just with a reduced window size, will find that the controls inevitably overflow into a horrible pop-up menu, with unnecessary abbreviations and inconsistent colons.

The reason that the toolbar takes up so much additional space
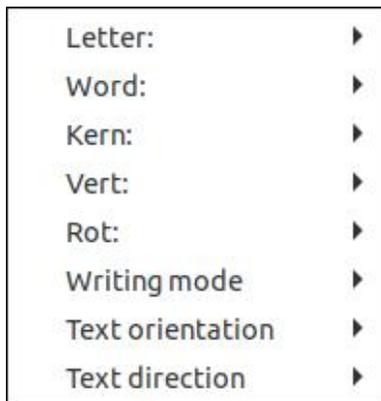
is due to the general trend towards big, chunky UI widgets that are "touch friendly" for use on tablets and phones. In the case of the Text toolbar, this change is particularly exacerbated due to the number of spinbox widgets it holds. Here's a comparison of how spinboxes look on Inkscape 0.92 compared with 1.0:

This is a definite case of "you can't please all the people all the time". As a mouse user, I never
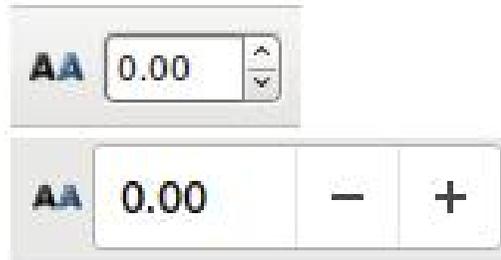
experienced any problems with the smaller buttons of the old widgets, and much preferred being able to get to the justification options with a single click. A tablet user might disagree, considering the extra step of opening a drop-down to be a small price to pay for spinboxes with large, easy to hit buttons. I'd love to see a future release of Inkscape address this by offering a preference to switch between the two styles.

Ironically, this change of style

for the Text toolbar is presented in the version 1.0 release notes under the heading of "More Compact Tool Controls Bar". Clearly the Inkscape developers use a different definition of "compact" than the one I'm familiar with!

As mentioned earlier, the removal of the "?" button was one of the changes implemented to make the toolbar more "compact". In earlier releases, this button would be enabled if you created a multi-line text object, but then changed the line spacing for a subset of the lines in the block (e.g. by dragging to select a single line before changing the value in the spinbox). Toggling the button back to its off state would remove the line-specific override, returning the whole block to the same default line spacing.

Without this button, it's still possible to reset all the lines back to a single value. It's as simple as clicking in the text to place the caret (without selecting anything), and then changing the value in the spinbox. If you just want to reset it to the existing value, press the plus button immediately followed by the minus button to nudge the line height up and then down by the

same amount.

If, rather than just clicking within the text, you select part of a line so that at least one character is highlighted, changing the line height value will affect that whole line. This also works with a selection that spans multiple lines. This ability to mix your line heights within a block is exactly the same as in 0.92, all that's been removed is a one-click method to revert all the lines back to a single value, which is no great loss.

FLOWED TEXT

Flowed text has long been a source of consternation for veteran Inkscape users. Support was added many years ago, based on a proposed implementation for SVG 1.2 which looked like it would become part of the official spec. That proposal was not accepted as part of the SVG specification, however, leaving Inkscape with a flowed text implementation that was not supported by the vast majority of other programs, including web browsers.

With the advent of SVG 2.0, however, flowed text has seen

something of a renewal. In part this is due to the SVG Working Group's decision to defer to the CSS standard for many parts of the language, rather than trying to re-implement their own variations. Inkscape 1.0 revamps the existing flowed text support completely, in order to produce something that is compatible with SVG 2.0.

The downside is that it's no longer compatible with the

implementation in earlier versions of Inkscape. For most users, this isn't something to worry about, but if you do need to create files that will be edited in 0.92, you can switch back to the older approach by turning off an option in the Inkscape preferences. The quick way to find it is to double-click on the Text tool, which will open the Preferences dialog with the correct panel already selected. Un-check the "Use SVG2 auto-flowed text"

option and the flowed text you create will once again be compatible with Inkscape 0.92… and almost no other programs.

There's yet more to describe about Inkscape's new flowed text implementation, as well as other text features that are new to version 1.0, so next month's article will continue to explore this subject.
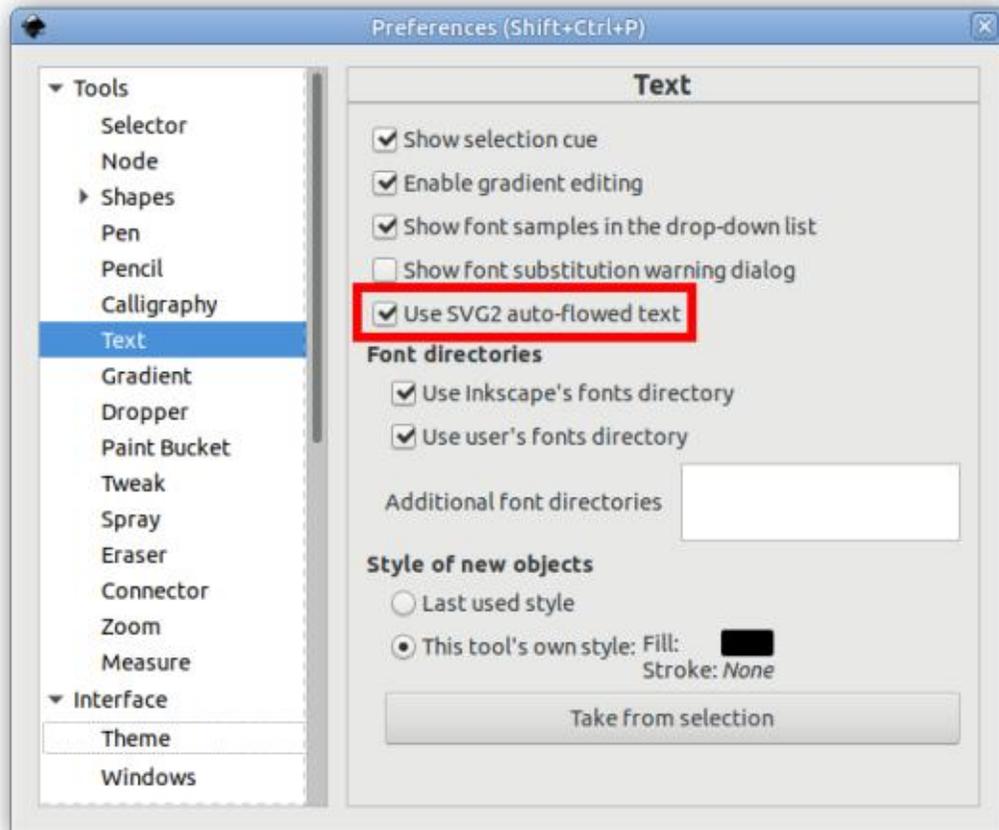
Mark uses Inkscape to create three webcomics, 'The Greys', 'Monsters, Inked' and 'Elvie', which can all be found at http://www.peppertop.com/

LINUX LOOPBACK

Written by S. J. Webb

BACK NEXT MONTH

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

The Way back at the dawn of time, around late 1982, a young man walked into a Radio Shack store at Town East Mall in Mesquite, Texas and was talked into getting his very first credit card, a Radio Shack branded one, in order to purchase a personal computer. With a whopping 16K of memory, Extended Color Basic for added power (especially increased graphics capability), and even a CCR-81 dedicated and specialized computer tape deck,along with a pair of joysticks, this machine was truly … a typical 8-bit computer of the time. And you've no doubt guessed, that young man was me. The package's $500 price tag at the time was steep for someone like me who made just about $5 per hour, but I felt it would be a good investment. And I really wanted to replace the Timex Sinclair TS-1000, my first personal computer, that I had recently returned to K-Mart after it belly-upped on me after just a couple of weeks of usage (and it was my second faulty Timex machine, at that – takes a licking and keeps on ticking, not so much).

I enjoyed studying the manuals to learn BASIC, typing in and modifying programs from Creative Computing Magazine and its ilk, and just generally noodling around on it, even adapting a character generation program for Dungeons and Dragons that I had originally written for the aforementioned Timex Sinclair TS-1000. Really, though, I had a small handful of game cartridges from Radio Shack (some of which were reasonably fun), the tape adventure games Pyramid and Bedlam, and the few BASIC resource management games and simple simulation games I had typed in, and not much else. Nothing I had on the system was all that useful or interesting, except maybe the word processing cartridge Color Scripsit, which I used to do college papers for printout on my gigantic Centronics tractor-feed dot matrix printer. The machine was fun, sure, but nothing impressive or all that compelling. Until May of 1983. That was when The Rainbow entered my life, and I truly had no idea what a seminal moment it was going to be for me. It would truly accelerate my love of computing that served as the basis for most of my career, and still keeps me captivated to this day.

The Rainbow was a Color Computer magazine that had already been going for 3 or 4 years before I discovered it. It had started out as a single page newsletter, written by Lonnie Falk and photocopied for its distribution of just a few copies to Lonnie's friends and acquaintances. Within that extremely short time span of 3-4 years, The Rainbow grew to a 300+ page magazine on glossy paper, with a great deal of advertising and a lot of really fantastic editorial content, including programs, tutorials, reviews, and more. That 300 or so pages showed me some of the little machine's truly impressive capabilities, driven by the genuinely excellent Motorola MC-6809E microprocessor at its heart.

The CoCo, as it was affectionately nicknamed, actually had FOUR monthly print magazines around that time, Hot CoCo, The Rainbow, Color Computer News, and Color Computer Magazine, and that's not even to mention that it also had magazines on tape every month, like Chromasette, and significant coverage in other non-dedicated magazines like Byte and 6809 Micro Journal. Ingenious programmers and hardware designers like Steve Bjork, Frank Hogg, Dennis Lewandowski, Todd and Brett Keeton, Dennis Bathory Kitsz, Bill Barden, John Fraysse, and many others were doing astounding work to show what this little home computer could do.

CoCo Games

I dove into that first Rainbow with relish and astonishment, particularly once I saw that there was an amazing virtual cornucopia of knock-offs of well-known arcade games advertised within its pages. There were never more than a small handful of licensed arcade games on the CoCo, but there was an absolutely staggering number of unofficial clones of games like Space Invaders, Galaxian, Centipede, Robotron, Defender, Asteroids, Pac-Man, Donkey Kong,

EVERYDAY UBUNTU

Joust, Ms. Pac-Man, Mr. Do, Qix, Super Cobra, Moon Patrol, Missile Command, Q-Bert, Galaga, Tutankham, Monaco GP, Donkey Kong Jr., Popeye, Berzerk, and even pretty obscure arcade titles like Tapper, Avalanche, Bagman, Bosconian, Bump 'n' Jump, Crystal Castles, Lady Bug, Xevious, Omega Race, and Quantum. Many of these had multiple copycats, and the competitiveness of that marketplace clearly elevated the level of effort by the publishers, so that many of these clone games were genuinely exceptional duplicates of their arcade forebears.

CoCo Emulation

Given my history with the CoCo, I still occasionally load up the great Windows Emulator VCC (Virtual Color Computer), and pull up some of my old games to play, an activity I enjoy enough to make me wonder why I don't do it more often. Well, one reason is obvious: I don't have a CoCo emulator on my Ubuntu machines, and I barely ever boot up any of my Windows machines any more. Having recently located a cache of Color Computer games in virtualized format, I am now feeling

inspired to find a way to run them on Linux. As is often the case, this is turning out to be a real Ubuntu computing adventure.

A Google search revealed that my best bet on Linux was probably going to be XROAR, an emulator for the (almost identical) CoCo 1 and 2 (there was a CoCo 3, but XROAR doesn't emulate it), and the Tano Dragon 32/64 line of CoCo clones popular in Europe back in the CoCo's heyday. I have installed the Mac OS X version of XROAR on some of my older Mac iBooks, so I have at least heard of it. However, it's not in the default software repositories for Ubuntu, so we can't install it using the normal install process (see Everyday Ubuntu on pages 29-30 of Full Circle Magazine #164 month before last for more general information on installing software). We're going to need to explore some extended software management procedures for installing XROAR, but it still shouldn't be overly difficult (he said, with no idea what he was in for).

Ubuntu Repositories

As an integral part of the

software installation process in Linux, Ubuntu uses something called a repository. Repositories are on the 'back-end' of the software installation process, meaning when you tell Ubuntu that you want to install a piece of software, the information to do so, including the necessary files to download, is stored in a (typically online) virtual location where your system can go and retrieve those files and information.

Ubuntu has a pretty significant selection of software in its standard default repositories, but they certainly can't cover absolutely everything. Since XROAR is not in the default Ubuntu repositories (meaning it can't just be installed using the normal install procedure in Ubuntu Software Center, or even Synaptic Package Manager, a really good secondary software installation manager), we have to find a repository for XROAR and add that repository to the ones used by our Ubuntu software management system.

Adding a New Repository

A Google search revealed this support webpage for XROAR:

https://launchpad.net/~sixxie/+archive/ubuntu/ppa. You can see on this page the proper repository for XROAR: ppa:sixxie/ppa. We can add it via the command line by invoking a terminal (for more on how to get to a command line/terminal window, see Everyday Ubuntu in Full Circle Magazine issue # 160, page 40). Once we're in the terminal, we can type in the following:

```
sudo add-apt-repository
ppa:sixxie/ppa
```

then hit <Enter>, provide your superuser credentials (for more on this, see Everyday Ubuntu # 160, page 40 again), hit <Enter> again, followed by:

```
sudo apt-get update
```

again hitting <Enter>. Once this is done, we issue the command:

```
sudo apt-get install xroar
```

hit <Enter> one last time, and the system will install XROAR for us. We can now run XROAR by going to the applications drawer at the bottom left of our screen.

then scroll down using the dots on the right side, clicking on the

bottom-most to take us to our last page of installed software, where we will undoubtedly find XROAR. You can also hit the magnifying glass icon at the top to invoke the search function and search for XROAR, but it's almost certain to be on the last page, considering the alphabetical order of the software listings. Click on XROAR and it will indeed launch. HUZZAH! But, there's clearly a problem. Look at this screen:
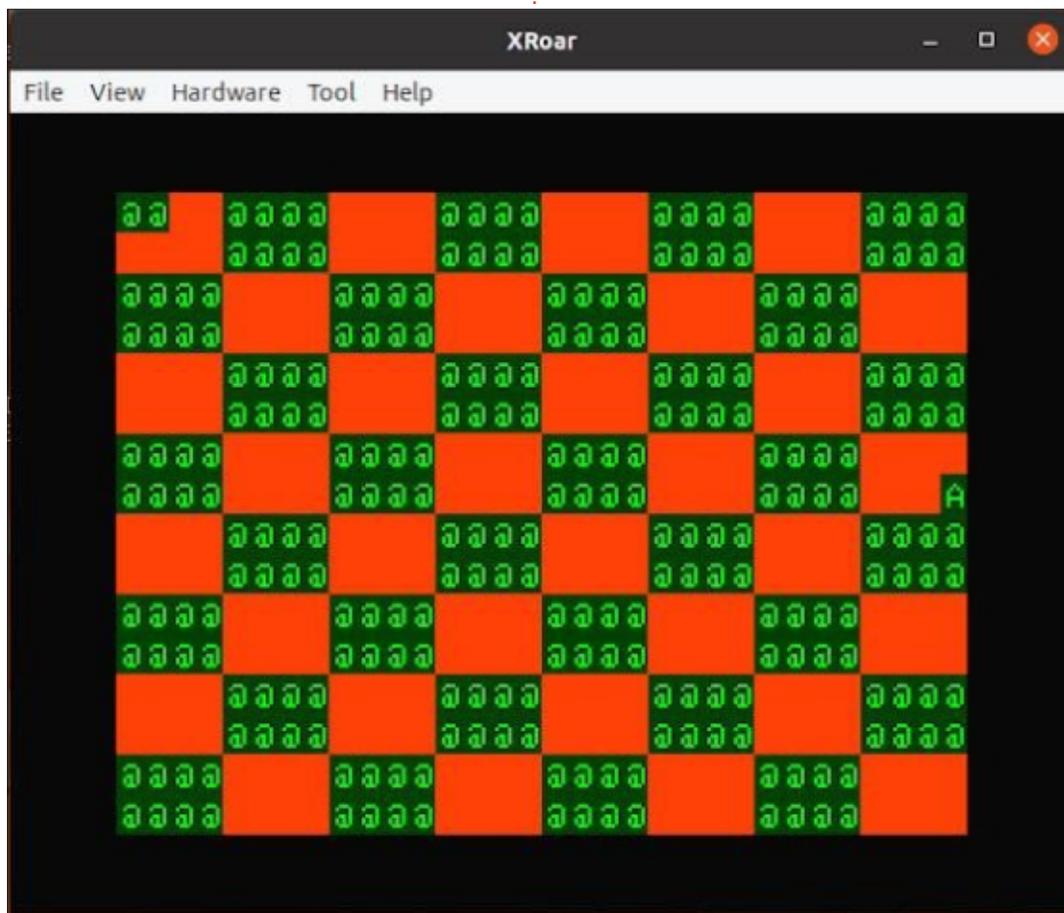
Now, does that appear like even the most rudimentary functional computer? No, it clearly doesn't, and indeed it isn't. We're missing something important here: the firmware. But first:

BASICS OF HOW TO LOAD SOFTWARE ON A CoCo

The CoCo had its operating software, a version of Microsoft Basic, on a pair of chips inside the computer, a ROM (Read Only Memory) chip for Color Basic, and another ROM chip for Extended Color Basic, which mostly added graphics and sound commands. The machine did not have a DOS, or Disk Operating System, by default, as disk systems at that time were a VERY expensive add-on that many computer owners did not have. Instead, software often came in solid state cartridges or on cassette tapes.

The cartridges were plastic boxes containing a printed circuit board and a ROM chip, or chips, that plugged into a slot in the computer (in the CoCo's case, on the right side), and basically turned the machine temporarily into a dedicated game console for a specific game (or rarely, a small handful of games on one cartridge), or an Editor/Assembler/Monitor (for those who wanted to program in the difficult but VERY speedy Assembly Programming Language), or a word processor (e.g., Color Scripsit), a database manager, a telecommunications terminal, a graphics workstation, a music composer, a spreadsheet, or other dedicated computing function.

Interestingly, one of the more sophisticated offerings direct from The Shack was an Audio Spectrum Analyzer for use with your stereo, something I never saw on other machines of the same era, and a good reason many serious audiophiles selected the CoCo as their machine of choice.

Other software was frequently loaded from cassette tapes, via a cable running from a cassette deck to the computer. Cassettes were slow and cumbersome, but were much cheaper than diskettes. I myself purchased dozens upon dozens of cassette programs before I ever even considered getting a floppy drive, and I also had a fair number of CoCo cartridges into the bargain.

The CoCo did have a floppy diskette system that had a controller, in the form of a large cartridge, and the disk drive itself. These days, floppy disks are rarely-sighted dinosaurs even in the more utile and sophisticated form they eventually took on in the case of MS-DOS compatible and Windows computers. Many of them undoubtedly eventually wound up in landfills. When I bought my first ever computer floppy drive, for my

CoCo 1, it cost $500. For reference, again, I made less than $5 an hour at my full-time job at the time, so it was a BIG investment. The floppy drive controller also had a ROM chipset, that stored a very basic DOS (Disk Operating System) for the CoCo, to manage and catalog the contents of your floppy diskettes.

FINDING THE FIRMWARE (OR ROMS)

In order to get XROAR to work correctly, we're going to have to find and install all three of the system ROMs, particularly since the DOS ROM required Extended Color Basic as a prerequisite. Without the ROMs, XROAR, or even a hardware CoCo, does not know how to do anything at all.

There is a caveat here, the legality of using virtualized copies of the system ROMs in an emulator may be questionable, so we can't

advocate or recommend it. In my personal case, I still own a Color Computer 2, so it's conceivable that I thereby have a legitimate license to use the ROMs for it, even in digitized format in an emulator.

Consequently, I did a Google search and readily found the three needed system ROMs, even finding them in versions specifically labeled for use in XROAR. I downloaded them and saved them to my Downloads directory under Home. They were in ZIP format, so I unzipped them after downloading was complete.

There was a time when unzipping files was something of a chore in Linux, but these days, on modern distributions, you can just double-click to get the Extract utility to open up:

Click the Extract button in the upper left, then navigate to the desired location to unzip the files
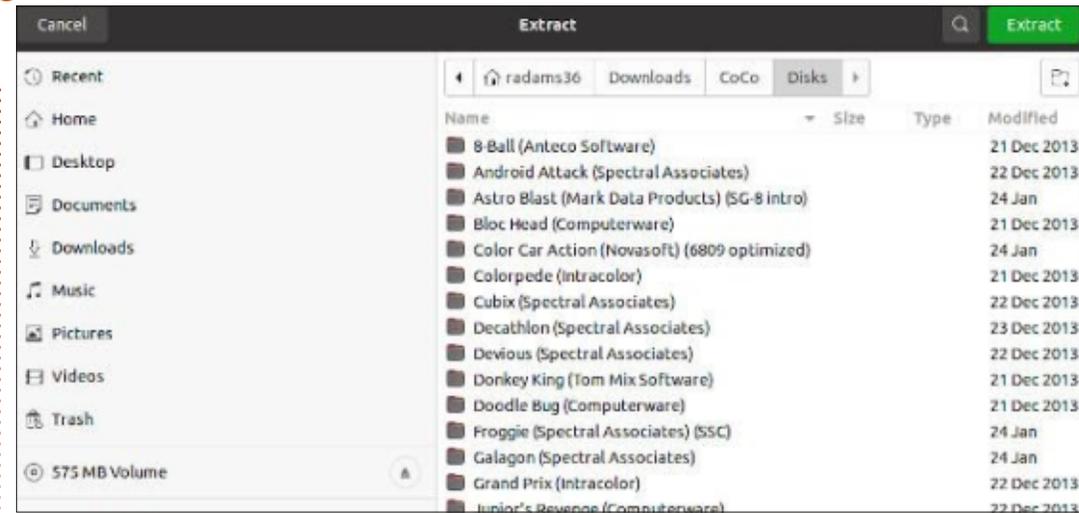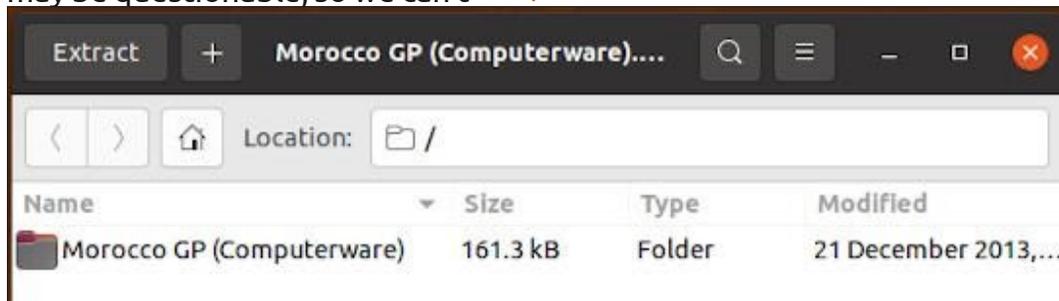
into the desired firmware ROM format of *.rom.

(The screenshots show me unzipping a particular piece of CoCo software, not a ROM file, but the procedure is the same.)

However, when unzipping the system ROM files, I now faced a new challenge: after spending a not insubstantial amount of time searching for and reading documentation on XROAR, I could find absolutely NOTHING indicating where to put the system ROMs so that XROAR could find and load them. I found documentation online that was supposed to be specifically for the Linux version of XROAR, but it invariably only had firmware file location information for Windows or MacOS versions. I

had the same experience when perusing the readme files that were installed by the Linux-specific version to my local drive. Now what?

WHERE TO PUT THE FIRMWARE FILES

Well, I hate to end on a cliffhanger, but it looks like I'm almost out of space this time...

Richard 'Flash' Adams spent about 20 years in corporate IT. He lives in rural northwest Georgia, USA, with his adopted 'son', a cockatiel named Baby who now has a little brother, a dusky-headed conure named Skittles.

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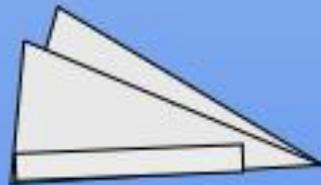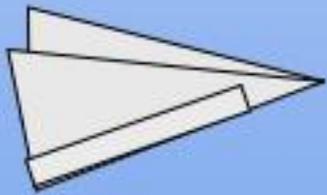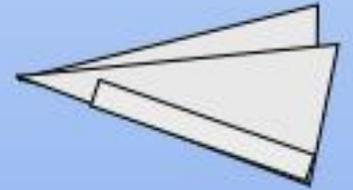
Thinking back, it seems quite strange to remember a time when all computer screens I used had light letters on a dark background. These include an Apple][, a Sinclair Spectrum+, and several versions of Microsoft OSes. Most used shades of a green or amber in the foreground, with some very fancy equipment using shades of grey. On the UNIX front, various versions of BSD, AIX and System V all came with similarly looking consoles, though with the very first X-Windows terminals came the lighter-colored backgrounds, which continued over the next thirty years with Windows, Mac OS-X, and just about all Linux desktop managers at some point or another. So, as a user, I have become very used to running graphical applications with lighter-colored backgrounds and widgets.

This is not about to change.

This is not to say I have not played around with the many choices of dark theme for my usual desktop managers, i.e. Plasma and Cinnamon. I have even tried the dark themes on Apple's hardware and software, both on the iPad and a laptop. In all cases, I have run into an issue with coherence. When using a dark theme, all menu options and window decorations usually are dark, as are window backgrounds such as in a file navigator. However, many web pages come out with a white or light background, as do many word processors. The end result is large areas of glaring white, which defeats the main stated purpose of using a dark theme, which is that long hours of screen time can be easier on the eyes.

Fine, so this problem can be solved by preferring dark themes -- for web pages that offer the choice -- and by setting up your word processor to suit. Most can do so nowadays, and the likes of LibreOffice offer to use a "System theme" that changes with the main screen appearance. Loading alternative application icons (try package libreoffice-style-breeze, for instance) helps integrate the menu bar better with the darker background color. However, document page and text colors do need to be altered manually. The end result is that with some work on the user's part, the whole "screen experience" converts fairly easily under most desktop managers available under Ubuntu and its variants. This is an example with Linux Mint's Cinnamon. Note that the only jarring note is our very own FullCircle Magazine's website, which does not offer a dark mode. However, is it at all reasonable to demand it of each and every website?

So, coming back to why I have not been convinced by the recent trend towards dark themes, there are two main reasons, both admittedly subjective in part. The first is that I find that light letters on a dark background work less well for my eyes. This has to do with the fact that very fine lines in many fonts of the Serif family are less visible in such conditions than when using dark text on a light background. The phenomenon is well known by designers: when
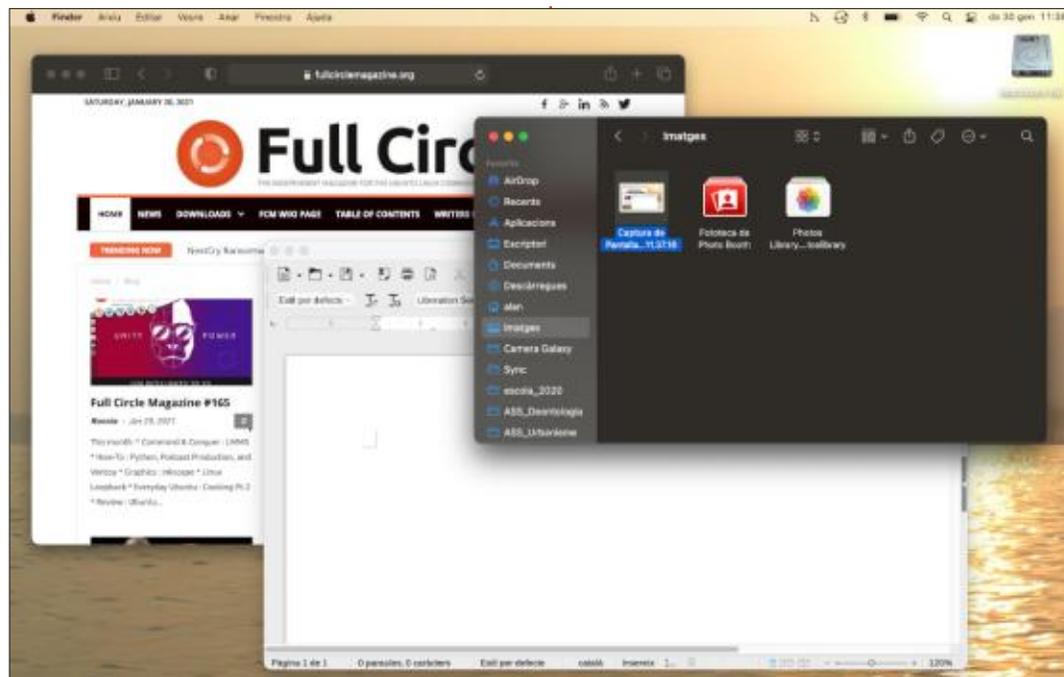
drawing on a dark background, you need to increase line width just so very slightly. In other words, if we were to exclusively use large Sans-serif or monospaced lettering, a dark theme with lighter letters could work quite well. This may explain why developers that use mainly text editors or integrated development environments can get on very well with a dark theme, or indeed prefer it. However, my own workflow tends to combine quite a lot of reading documents in PDF format -- where I have no option as to which font face is used -- with much text editing, where my own preference for long texts goes to Serif fonts. In other words, I am probably not within the target demographic for a dark theme.

The second reason for my preference for light themes is that I try to choose quality screens when buying hardware. Along with a nice keyboard, it is one of the two main criteria that I find important and am willing to spend money on. Again, this has surely a lot to do with personal preference, and, as such, is debatable. However, an objective fact here is that modern computer screens have better contrast and have lighting levels that are easier to adjust than previous models.

Where I do have a tendency to prefer dark themes is when using older machines, specifically those with very bright, glaring screens with lighting that is hard to adjust. On modern hardware, adjusting screen lighting levels is usually easy enough to make a light theme very workable for my (oldish) eyes.

Along a further line of thought, it must be said that many desktop managers under Linux have plenty of configuration options. A distribution that has given me much joy in this sense is Kubuntu and its Plasma desktop, where not only can the user choose a general theme among a selection of pre-existing options (some created by the community at large), but can also

change individual colors and to which types of screen element each color is applied. This means that even if one of the existing themes rather suits a user's liking, but does not quite achieve a perfect fit, individual alterations can be made to fine-tune the theme.

To my point: I happen to particularly like the default Kubuntu theme, with a lighter background for windows and lightish-colored elements, but darker window borders and title bars. However, if I do wish to change any of its elements, this is just a couple of clicks away.

In a general sense, screen appearance is mostly a question of

personal choice. I happen to find myself firmly in the camp of white screen, not black. But I am happy to see that alternatives are available in most Ubuntu and derived distributions, and that people actually make use of them as each individual sees fit. Choosing a light theme is fine, choosing a dark one is fine as well, and choosing something completely different may be even more interesting. It is only when some specific desktop managers or distributions take away some of the freedom of each user to configure his/her desktop -- here, I am specifically thinking of elementary OS and Ubuntu Kyrin -- that I become rather sad. But, even so, I am happy that these distributions are out there, and that users who so prefer can choose them over other, perhaps more flexible, offerings. In that, also, lies user choice.
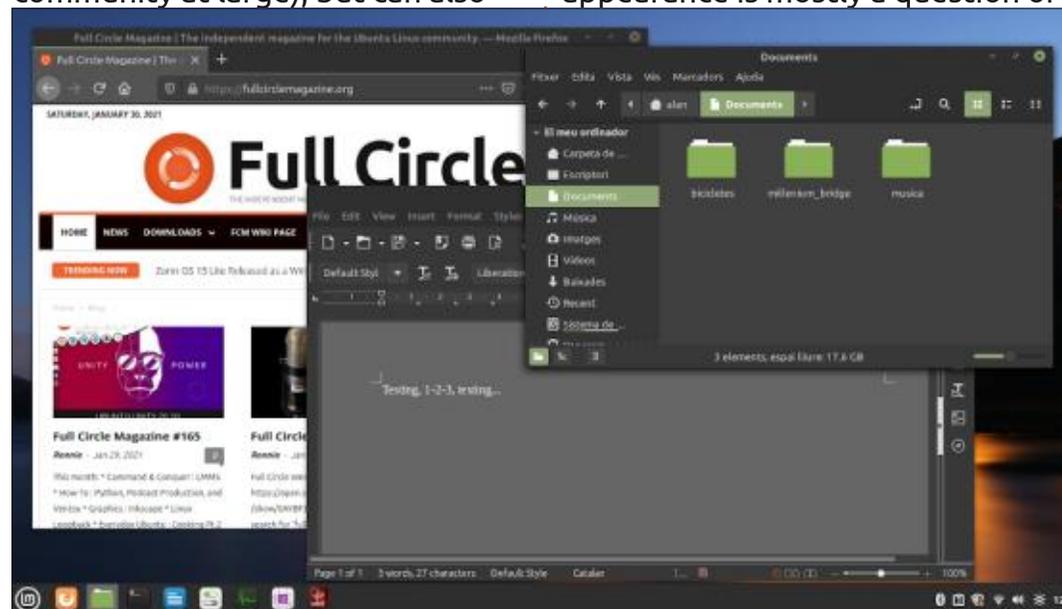
Alan holds a PhD in Info and the Knowledge Soc., teaches engineering at Escola Andorrana de Batxillerat, given GNU/Linux courses at the Uni of Andorra and taught systems admin at the OU of Catalonia.

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://bit.ly/fcmwriting

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

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

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

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

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

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

TRANSLATIONS

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

REVIEWS

GAMES/APPLICATIONS
When reviewing games/applications please state clearly:

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

HARDWARE
When reviewing hardware please state clearly:

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

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

Rudra Saraswat appears to be keeping busy during the COVID-19 pandemic. He has not only put out new releases of Ubuntu Unity and UbuntuEd, but on 16 November, 2020, he released the first version of a new distribution, Ubuntu Web. The India-based Ubuntu developer is also known for the server-focused Krob Linux distribution. Not a bad résumé for a developer who is turning 12 years old in 2021.

Ubuntu Web is aimed directly at the same market niche as Chrome OS, the operating system that ships on Chromebooks. Like Chrome OS, Ubuntu Web is a web-focused Linux distribution that uses its browser in conjunction with cloud services to get work done.

Chromebooks have been selling well during the pandemic, with over 30 million shipped in 2020, driven mostly by the need to get laptops into the hands of school kids studying at home during the pandemic.

BACKGROUND

Right now, there is not a lot of competition in the same market niche occupied by Chrome OS, but is there actually a need for a competitor? Saraswat noted that what sets Ubuntu Web apart from Chrome OS is that it uses open source software, and that it is privacy focused. Chrome OS is Linux-based, but uses Google's Chrome browser as its main tool. Chrome is based on the open source Chromium browser project, but it is proprietary software, released under Google's Terms of Service.

Chromebook users store their files on the cloud, using Google Drive, and get their word processing, spreadsheet and slide show presentation software online from Google Docs. It all means that Chromebook users are fairly dependent on Google for services.

Saraswat announced his intention to start a web-focused distro based on Ubuntu 20.04 LTS on 22 July, 2020, and four months later the first release, 20.04.1, came out. So far, the distro does not have its own website, just two hosted locations for downloads.

GETTING UBUNTU WEB

I downloaded Ubuntu Web using bit torrent. The file is 2.6 GB, which is the same size as the regular Ubuntu 20.04.1 download. The folder comes with the .iso file and an MD5 checksum, which I ran to make sure I had a good download.

I used UNetbootin to write the .iso to a 4 GB USB drive, and tested it out in a series of live sessions done over several days, running on my ten year old System76 Pangolin Performance laptop. It has 4 GB of RAM and an Intel Core i5-2410M dual core/four thread 2.30GHz CPU.

TESTING

Ubuntu Web booted up from the USB just fine and ran well on my old hardware. As all Ubuntu flavors now do, it performed an automatic integrity check, which found one error. I rewrote the .iso file and the second time there were

no errors, illustrating why it does pay to let the check run, at least the first time.

With a good USB write this time, it booted to the Ubuntu Web desktop, presenting a rather Mac-like interface, with a bottom dock and an attractive starry night sky over a dark sand dune wallpaper. As with Saraswat's other operating systems, there are lots of wallpaper choices, and if you don't like this one, Ubuntu Web has 36 others. By default, Ubuntu Web uses the Adapta GTK theme and the Papirus icon theme.

Since the aim is to provide free software, the default browser supplied is Firefox. It can be opened from the icon on the dock or the main menu, and works just like you would expect it would. The only discrepancies noted were in video playback. YouTube and Dtube worked fine, but most other on-line video was broken due to missing codecs, including in the Totem video player.

The dock provides a number of default "web apps". In cellphone fashion, these are Firefox instances that open one specific web page without browser chrome or a URL

bar. There is a web app installed for the peer-to-peer DTube video service. There are also web apps for webmail, a calculator, notes and file storage, all provided by /e/ cloud services. To access the latter, users will need an /e/ account. Saraswat is planning better integration of Ubuntu Web with /e/ services in the future.

Another dock icon takes you to the Open Web Store, a place to find extra web apps. The offerings are few right now, but are expected to grow. So far, it offers YouTube, Google Drive and Opendesktop, among other options. Saraswat explains, "to install a wapp from the Open Web Store, download it to

your system. Then search for 'Run a file' in the application launcher, select the downloaded file, and click 'OK'. After authentication, the app will be successfully installed." Of course, instead of installing web apps, any of these websites can be accessed from the main Firefox window and just bookmarked.

Another icon takes you to Anbox, a compatibility layer system that allows for the running of Android apps. This is also a work in progress and may not work right in live sessions but should be operational when installed.

The main menu is accessed from the logo button at the bottom left

of the dock. This brings up an Ubuntu-like menu with two pages of applications: "all" and "frequent". The menu shows that there are some local applications installed, including Gnome Files (Nautilus), Gparted, Gnome Calculator, Document Scanner (Simple Scan), Gnome archive manager (File Roller), Run A File, and the Gnome Screenshot tool. With Gnome Files, you can save and manage files locally, which is useful. Using any of these local applications adds it to the "frequent" menu, so it can be found quickly.

There is no obvious way to do word processing, spreadsheets or slide shows, other than Google Docs, which kind of defeats the purpose of not using Chrome OS. Perhaps these will come in the future, as on-line alternatives to Google Docs can be found. There is also no obvious way of editing videos, audio files or photos, either on-line or off.

Some applications are installed that are not shown on the menu. These include Gnome Text Editor (gedit), Gnome Videos (Totem), and the Gnome Image Viewer (Eye Of Gnome). These can be opened only
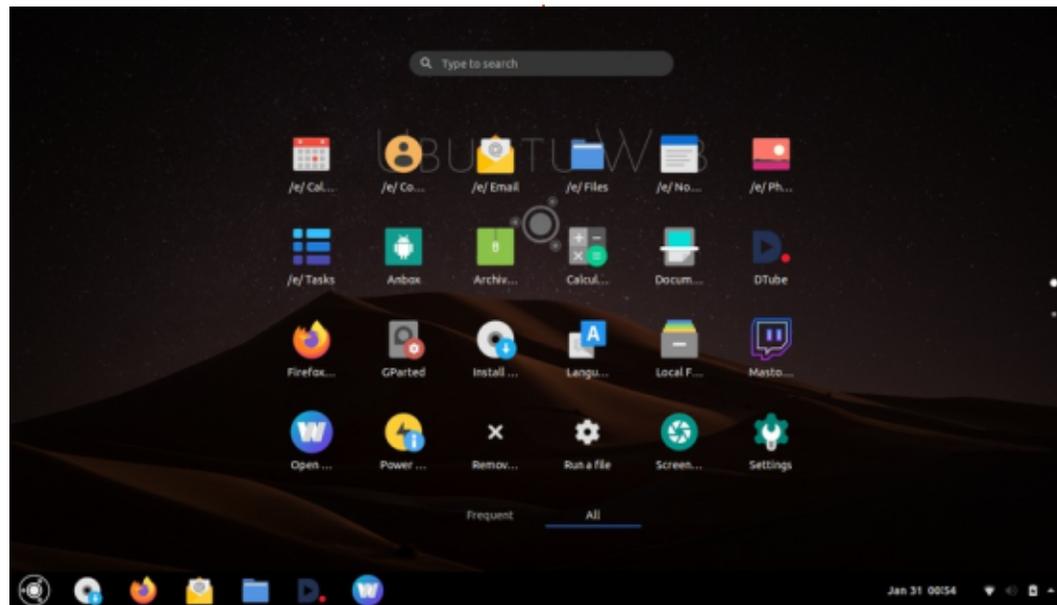
from Nautilus by clicking on an associated file, like a .txt file for gedit, or from the command-line. Yes, it is also good to know that there is a terminal window available at ctrl+alt+t.

There is no software store like Gnome Software or Synaptic to install applications, but this can be done from the command-line, using apt, of course. The Ubuntu repositories are accessible, which would make it easy to install LibreOffice, GIMP, or other productivity software. In fact, you could add applications and make it work just like Ubuntu, but that kind of defeats the whole purpose of a web-based operating system. If you want a fully-featured operating system then just install Ubuntu, or one of the other Ubuntu flavors.

I did try installing some applications and they install and run fine, although they don't show up in the menus which seem to be restricted to the installed applications. They can be quickly called up from the command-line, though.

Between the broken video codecs, the lack of apps, and lack of available services like word

processing, Ubuntu Web 20.04.1 is really "beta" level software, ready for user testing, but not really for everyday use quite yet. Hopefully future versions will address these deficiencies and make it work better.

WHICH USERS?

While running my tests on Ubuntu Web, my constant thought was, "which users would want this?"

Obviously most Linux desktop users are used to fully functioning distros where you can edit a video, or create a spreadsheet or a slide show. Ubuntu Web is not going to appeal to that average Linux user,

who will probably view it as a crippled operating system.

Since Ubuntu Web is intended to compete with Chrome OS, I think you have to look at who is using Chromebooks. Right now that seems to be primarily three groups of people...

The recent Chromebook growth is obviously in students who are supplied with Chromebooks by their schools, supported by the school IT department. Chromebooks are attractive for this role because they are inexpensive, especially when purchased in bulk, they are easy to provide support for, have automatic updates and require minimal user training. Also,

if they get stolen, destroyed or lost, the user's data is all in the cloud, so the school just gives the student a new Chromebook, they sign into Google and they get right back to work.

The second group of Chromebook users are employees. Chromebooks, provided by their company, are especially useful for traveling employees. The same reasons for their popularity in schools apply here, too. It is possible that some small schools or businesses might have some old laptops that could be repurposed for these roles, by erasing their drives and installing Ubuntu Web instead.

The third user case for Chromebooks is for people with low technical skills. Chromebooks have proven almost the ideal computer to give your grandmother so she can surf the quilting websites, use email and Facebook. Their high degree of security and malware resistance make them ideal for this level of user: they are hard to mess up. I think an excellent use for Ubuntu Web might be for users like this. If a tech-savvy relative had an old laptop then it could have its drive blanked,
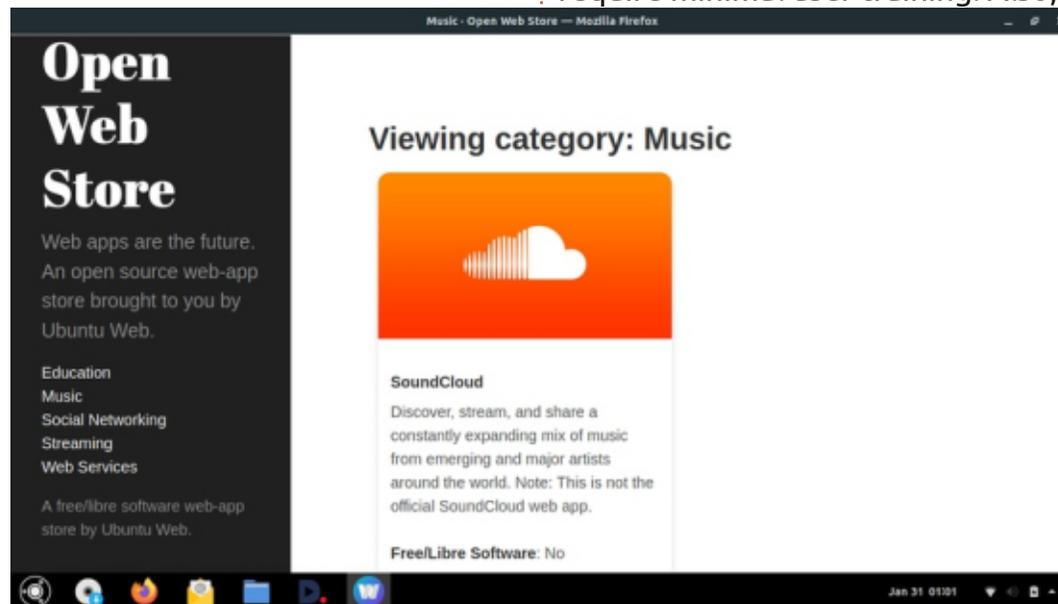
Ubuntu Web installed and given to grandma, safe in the knowledge that the potential risks are minimal.

CONCLUSIONS

Ubuntu Web is an interesting project, but definitely not a mainstream Linux distro. Version 20.04.1 is not quite ready for prime time, but hopefully it will gain enough feedback to make the next version even better.

I don't foresee many existing Linux users switching from their current favorite, fully-functioning distro to Ubuntu Web, but it may have some niche user cases that make sense for school or work use, or for that relative with low computer skills who just needs a simple, safe computer for basic on-line use.

EXTERNAL LINKS

Release notes:
https://discourse.ubuntu.com/t/ubuntu-web-remix/19394

Download http:
http://linux.darkpenguin.net/distros/ubuntu-unity/ubuntu-web/20.04.1

Download bit torrent:
https://fosstorrents.com/distributions/ubuntu-web/
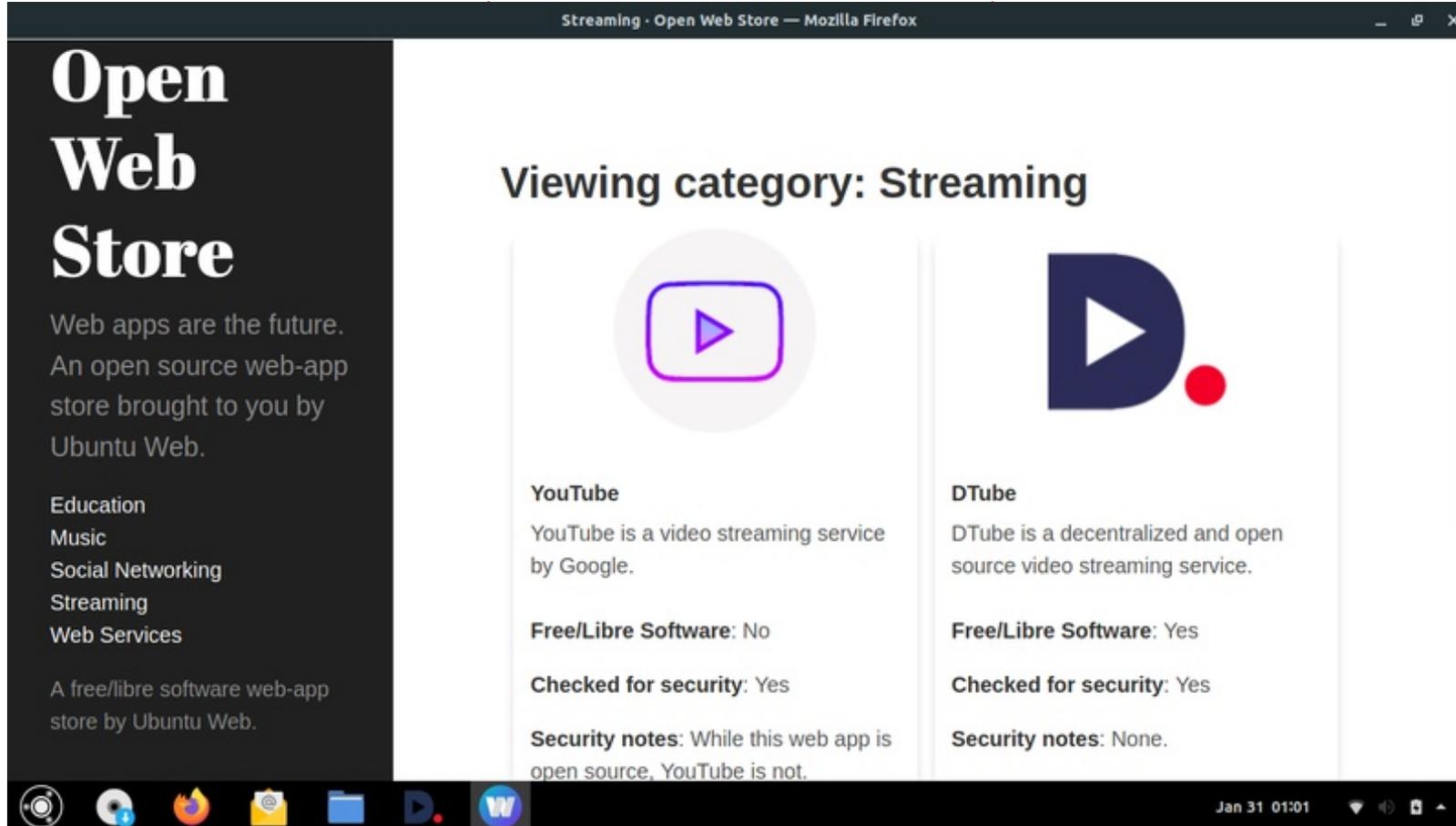
Adam Hunt started using Ubuntu in 2007 and has used Lubuntu since 2010. He lives in Ottawa, Ontario, Canada, in a house with no Windows.

When I set out to do a review of a new release of an Ubuntu flavor, I download the ISO file, do a SHA256 check on it, and then write it to a USB stick so it can be booted up and tested.

Normally, I use Ubuntu's Startup Disk Creator to write the ISO to the USB. Startup Disk Creator comes already installed on all the Ubuntu flavors, it is easy to use and generally works fine on ISOs for Ubuntu, Kubuntu, Lubuntu and Xubuntu.

When I did my previous review of Ubuntu Unity 20.04 LTS, Startup Disk Creator was able to write that distribution, but I ran into an impasse with Ubuntu Unity 20.10. Startup Disk Creator would not accept the ISO file for writing.

My first attempt at a work-around was to use "dd" from the command-line. It sort of worked, as it wrote Ubuntu Unity 20.10 to the stick, but it would not boot. I needed something better.

These days, lots of free software applications designed to write ISOs to USBs are available, including BalenaEtcher, Ventoy, and MultibootUSB, but I decided to try an old favorite, UNetbootin.

BACKGROUND

UNetbootin, short for "Universal Netboot Installer", has been around for a while; its first release was in April 2007. It is developed by Geza Kovacs and released under a GPL version 2 (or later) free software license.

I first used UNetbootin in December 2010 to install Lubuntu 10.10 on a netbook, one of those mini-sized laptops that were popular back then. In a way, netbooks were ahead of their time, not only small and light, they came without a CD/DVD optical drive which was how most Linux distributions were installed at that time. Back then, the Ubuntu Startup Disk Creator couldn't write Lubuntu (it can today), so UNetbootin was the answer and it did the job perfectly.

UNetbootin can be used to install a large number of Linux and BSD distributions, including rescue disks too. Only a single installation can be written on each USB stick, though, as it does not support multiple installations.

Other than being able to write many more Linux distributions than the Startup Disk Creator, UNetbootin also leaves the USB stick in its native FAT32 format (File Allocation Table, 32-bit). Startup Disk Creator formats it in ISO format, meaning that to use it again for general file use, the user must reformat the stick with Gparted or similar.

GETTING UNETBOOTIN

UNetbootin used to be available
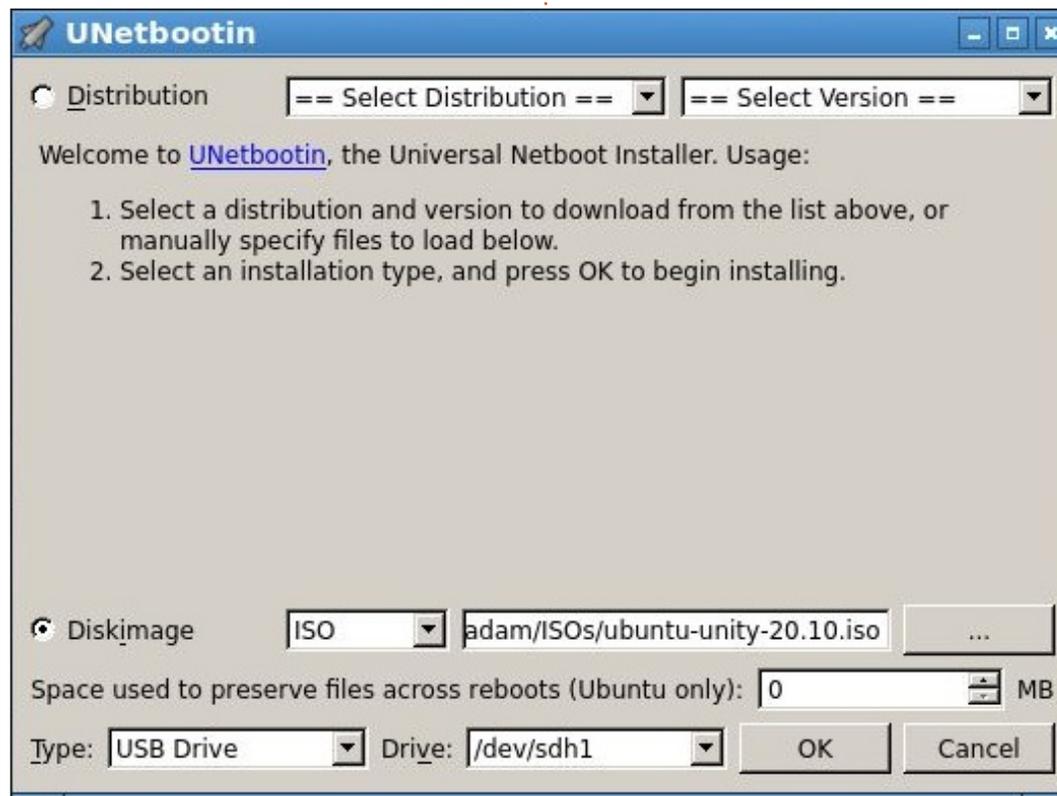
in the Ubuntu repositories, making it very easy to install. Sadly, the package maintainer, Laszlo Boszormenyi, has not updated the package, and the last version available is for Ubuntu 16.04 LTS Xenial Xerus.

The good news is that Kovacs has his own Personal Package Archive (PPA) on LaunchPad and that makes it fairly easy to add the PPA and then install the application on any Ubuntu flavor from a terminal with:

```
sudo add-apt-repository
ppa:gezakovacs/ppa
```

```
sudo apt-get update
```

```
sudo apt-get install
unetbootin
```

There are also installation packages in the repositories for several other Linux distributions including Arch, Debian, Fedora, Gentoo and SUSE Linux, plus Windows .exe and Mac .dmg files. There are also 32-bit and 64-bit binaries.bin files available, as well as source code for compiling.

For the Ubuntu installation, UNetbootin is a small package, just 224 kB to download, although it has the following dependencies: libc6,

libgcc-s1, libqt4-network, libqtcore4, libqtgui4, libstdc++6, mtools, p7zip-full, syslinux, syslinux-common and udev. It will retrieve these on installation, if not already there.

Using UNetbootin

Opening UNetbootin from the system tools menu shows a really simple interface. It does look a bit dated, though, like something from Windows 98.

For writing, the target USB needs to be formatted to FAT32, which is the way almost all USB drives come out-of-the-box.
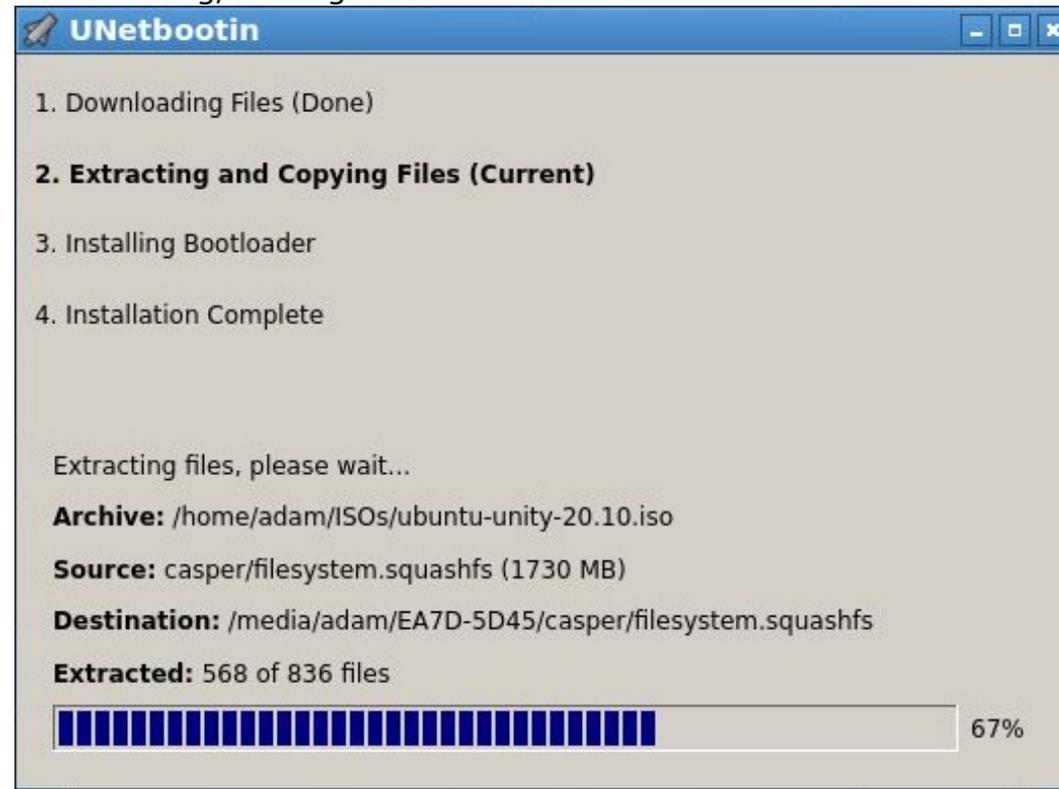
The Linux or BSD distribution can be chosen from a list at the top of the interface in the "Distribution" section, and UNetbootin will actually go and retrieve it. Alternatively, an ISO file already downloaded to the user's local computer and designated under "Diskimage" can be used. All that remains is to select the USB stick, click "OK" and UNetbootin does the rest automatically.

UNetbootin gives progress indications while writing, and then a completion screen when done. From there, the stick will work the same as if it had been written with Startup Disk Creator, booting up normally to run a live session or used to install the operating system.

To return to using the USB stick for storing files, etc, just delete the files from the USB stick, as it will still be in FAT32 format.

Conclusions

Despite the rather dated-looking interface, UNetbootin works perfectly, allowing the writing of almost any Linux or BSD distribution to a USB stick for testing or installation. It is a great example of the Unix philosophy: an application that does one thing and does it well.

External links

Official website:
https://unetbootin.github.io/

LETTERS

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linkedin.com/company/full-circle-magazine

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 EriktheUnready

Welcome back to another edition of Questions and Answers! In this section, we will endeavour to answer your Ubuntu questions. Be sure to add details of the version of your operating system and your hardware. I will try to remove any personally identifiable strings from questions, but it is best not to include things like serial numbers, UUID's or IP addresses. If your question does not appear immediately, it is just because there is such a lot, and I do them, first-come-first-served.

A while ago I applied for a position at a firm that specializes in IT security. At the interview, I was told that they prefer a candidate with a university degree. So I asked, "so you are saying that you discriminate against poor people?" Which in hindsight probably was not the thing to say, but since I have no filter, it probably needed to be said. After they tell me about their state of the art systems and brag about their PhDs working for them, they ask if I think I can get into their system. I say yes,

very confidently. They ask for a demonstration, and tell me the Wifi name (probably expecting me to run up against some IDS). I ask if I can use the telephone. They say yes. The telephone is marked '213' so I dial 201, and the receptionist answers. I ask for the extension for finance. I dial finance and say quick as a flash: "Hi, this is Mike from IT, whatever you do, DON'T log off!". Trying to sound panicky. "Why?" is the reply. "I think we just stuffed up, please tell the others not to log off, turn off their computers, or close their laptop lids". I hear him complying - why not, call ID shows 'internal call'. "OK I say, let's see if we can restore access". "Please spell your username precisely as it is, so I can create you again." He does. "OK. I say, the last password you used, please, you can change it once we are done." I get the password. OK, please put me through to the next person so I can restore them too. Process repeats for all four members of Finance, including the Finance manager. (I am wondering if I should repeat this stunt with marketing, but I think it should be enough). I turn to

the interviewer. I have four username / password combinations. I smile. They do not. I did not get a reply from these people, not even a "you were not successful", oh well... This is the same when Windows users come to Linux. Why can't I be admin? Why can't I install this program that hasn't been updated since 2004? Linux has a different mindset when it comes to security. BUT! Do not rely on this. Be aware of what you install. Go look at the Github page now-and-then, see when last someone updated the software. It takes only one 'low tech' attack sometimes to defeat 'high tech'.

——————————————

Q: Perciv@l, [23.12.20 23:28]. Hi, So I deleted a bunch of photos. I think I may have deleted one I wanted to keep. How can I see a history of deleted files in Ubuntu? Perciv@l, [23.12.20 23:31]. How can I get it back?

A: When an item is moved to trash, like other operating systems, you can recover it from there. Delete is delete. That said, if

you install "testdisk" when you set up your Ubuntu machine, it allows you to recover files. See: https://vitux.com/how-to-recover-deleted-files-in-ubuntu-through-testdisk/

Q: What is the best way to monitor my cron jobs I set up? Sometimes they just don't start and I realize this too late. My VPS is on Digital Ocean.

A: Cron itself does not have anything I know of, but I can point you to: https://cronitor.io/cron-job-monitoring

Q: Hei. I am new to Ubuntu. Windows user for 11 years. I just had enough with windows 10 disconnecting my network card randomly when I am busiest, so I switched, but... I can't drag icons to my desktop? Is this normal? I am the only user. Googling this gives conflicting information. Can you explain why?

A: The reason you are getting conflicting information, is

Q&A

because Ubuntu comes in different "flavours" - desktop environments – some allow you to do so, and some do not. I have not checked in with the Gnome3 version in a while, but I suspect that is what you have. The Gnome team has their own idea of how you should work, but you should know it is not the only desktop environment out there. You could try Kubuntu, which should feel more familiar (Windows-like), or just read up on the Ubuntu flavours and decide on one you may like.

Q: I got a USB wifi adapter, cheap as chips, so I bought it from Cash Crusaders. My machine is Ubuntu 20.04 with an Intel mobo also second-hand, of which the ethernet port was blown before I got it. Beggars can't be choosers, so I used it and it served me well. The wifi adapter just worked and it is great, but I wanted to use it as a hotspot. This is where my problems started. I have followed every tutorial I could lay my hands on, but I can't make it happen. Maybe I am not geeky enough, but I suspect it may be because the original port was blown.

A: I cannot tell you that it is or is not, I can only tell you to look if that card supports Access Point (AP) mode. Some of the really cheap Chinese knock offs do not. If it does, it may be a driver issue on the WiFi or Ethernet side. Simply open a terminal and type:

```
iw list |grep -i "Supported
interface modes:" -A8
```

Then look for "AP" in the output. If you have only one network interface though, you need third party software, see: https://github.com/oblique/create_ap#internet-sharing-from-the-same-wifi-interface

Q: What would you suggest I use to make a bootable Ubuntu USB stick in windows, that I know will work?

A: Balena Etcher. https://www.balena.io/etcher/

Q: Sibusiso, [25.01.21 09:04] The only thing holding me back at the moment from having Ubuntu as my daily driver is that I can't use Itunes, so I dual boot. Swapping the whole time is getting tedious. Can't I just put it in a VM?

A: Yes you can, but that may get tedious too, How about you use W.I.N.E to run it? See: https://www.how2shout.com/linux/how-to-install-itunes-on-linux-such-as-ubuntu-20-04-lts/

Q: I have installed Ubuntu 20.04 on my wife's old lenovo laptop with 4GB of memory and all went well, but the internet speed seems horrible. What am I to do about it?

A: You have given me very little to go on, but I would say, proprietary drivers. (You can also swap out the network card for a more Linux friendly one).

Q: OK, don't shoot the dummy, but when I plug my laptop into my HD TV I lose sound. I would like to play my series on my TV while I work. I am still using Xubuntu 16.04 as I am afraid of upgrading. I tried it with headphones and speakers, but the result is the same. Could you point me in the right direction please?

A: No you are not a dummy, see it as an opportunity to learn something new. The thing with HDMI is that it is assumed that when you use it, you will be using the sound on the TV or monitor. Simply open your sound settings and choose your speakers or headphones as output device.

Q: I am a beginner to Ubuntu. I have tried Fedora Core 2 some years ago, but did not like it, so I would like to learn more about Ubuntu. Any Ideas where I can go to feed my need?

A: You can find that information in 2 seconds with a Google search, so I am going to assume you want something more? Let me know. If I am wrong, just see here: https://itsfoss.com/best-ubuntu-books/

Q: This is going to sound weird, but I keep getting an error "Timeout poll on interrupt endpoint" with SUSE and UBUNTU on my Raspberry PI 3B. I have searched and there is something like that on the BSD side of things. My error is precisely that -> https://lists.freebsd.org/pipermail/freebsd-arm/2018-September/

Q&A

018913.html, but there is no fix?

A: Remove all USB devices and boot, and put them back in once booted.

Q: Before I go all crazy, I was wondering if it is at all possible to install KDE develop in vanilla Ubuntu? Thanks.

A: Yes, it is POSSIBLE (I am assuming you mean Gnome as vanilla), but I would not recommend, as it will pull in a boat load of KDE dependencies. Though these days the slowdowns are minimal, it is still there. Have you checked to see if you can find a flatpak / Snap / Appimage?

Q: I apologize if my question is basic, but my knowledge of Linux is limited. I installed Ubuntu studio to mess around with making music. I opened Firefox and tried to go to Gmail, but it said that "You've enabled HTTPS-Only Mode for enhanced security, and a HTTPS version of gamil.com is not available." Now I am too scared to use the internet, have I been pwned?

A: 'tis but a scratch, as the black knight (John Cleese) said in Monty Python. Look at your spelling / typing, you just made a typo. Gamil instead of Gmail.

Q: I am trying to write a book in my spare time and I do some research on the internet when I am at McDonalds or other free wifi. I find it painful to copy the webpage and paste it into LibreOffice on my Ubuntu 1804 laptop (I usually need to read it later). Is there a better way? I don't have an internet connection at home unless I use my phone and that data is very expensive.

A: I am not sure, but what I do when I need to save research, is to use Opera's save webpage feature, which saves the whole page, as is, as a .mht file, that you can open at home with Opera and it will look like the online one. You can save them all in one folder as they do not have loose files like when you save it with other browsers.

Q: I bought a Microsoft Surface laptop second-hand and tried to install Ubuntu on it. It has always been a fantasy of mine to own a surface device, after seeing the ad. I am having endless issues with the touchscreen part of it. Now I am pulling my hair out in frustration. Should I just sell this off again rather?

A: The surface series is another kettle of fish entirely. If I recall correctly, you need a special kernel. See the compatibility matrix here: https://github.com/linux-surface/linux-surface/wiki/Supported-Devices-and-Features#feature-matrix

Q: Please. I have this error and google solutions are not helping. I have Ubuntu 18. E: Unable to correct problems, you have held broken packages (I can't fix it even in Synaptic).

A: Before you go ahead and try to fix the broken packages, I suggest turning off all other repositories, except the main ones. Do an update and do a repair. It could be something like a PPA or typo in a repository too.

Q: I tried Microsoft Teams in Ubuntu, but it keeps freezing. Any idea?

A: Not really, but a solution that sometimes works is to remove the Microsoft Teams folder under "./config/Microsoft/" and try again.

Erik has been in IT for 30+ years. He has seen technology come and go. From repairing washing machine sized hard drives with multimeters and oscilloscopes, laying cable, to scaling 3G towers, he's done it.

Website:
https://yachtclubgames.com/cyber-shadow/

Price: 19.99 USD (GOG / Steam), 10 USD (Developer website)

Blurb: "*In Cyber-Shadow, the world has been taken over by synthetic lifeforms. A desperate plea for help sets Shadow on a journey to uncover what started the path to perpetual ruin. Slash through the techno hordes, leap past traps, and nimbly navigate the ruins of Mekacity. Only you can unlock the secrets to your clan's ancient powers in Cyber Shadow, the quintessential Ninja Action game.*"

Ok, the first thing that comes to mind here is Shinobi, the arcade game, but on a Nintendo or Sega console back in 1990. How, with all our technology available to us today, could we make it better than the original like 20 years ago? Suppose, now we have our answer. What looks to me to be a blown-up version of a Gameboy advance game, may be just what you were looking for.

Don't get me wrong, the pixel art is great, I just feel that it is capable of more. The characters and the background and cut-ins don't gel. You have a mixture of 8-bit and 16-bit, and four-color main sprite and 16-color others. It's the fake retro-visual styling that gets on my nerves, as everyone is doing it and doing it badly. (By this, I mean, pick 8-bit, or 16-bit, and stick to it.) Not even the pseudo-scanlines option makes me feel like it belongs. Shovel Knight was, as far as I was concerned, mediocre. I played it and deleted it. This is more of the same with more over-the-top "enemies" and "action". *Le Sigh.... Some people say this is "one of the best 'old-school platformers out there", and I have to disagree. Whilst the game is a definite throw-back to the old 8-bit Nintendo consoles, it feels too much like someone decided to remake Metroid with Shinobi as the main character. I mean the main character does not even have a name, he is simply Shadow, for what it's worth, my parakeet is named Shadow. The plot line consists of you (Shadow) waking up to a robot apocalypse. You don't get to care about the characters or story line. There is nothing to pull you in. If you are just out for the mayhem or button mashing, sure, this is the game for you.

I have been told the game is like Ninja Gaiden, but I played that in the arcade and it does not feel like that to me. See for yourself: https://www.youtube.com/watch?v=n0OdA3HzW94

Ok, back to this game. 'Shadow'

has a katana that will slice through most robots and can run and jump like any other arcade platformer. However, he also has his Ninja abilities that you will need to complete each level. These are not available from the outset though, which is good, as it gives you that feeling of progression. On the surface, the game-play looks simple, but once you have more abilities, it becomes more tricky. You run from one side of the screen to the other, killing anything that moves in your path. Where the game shines, is level design. Some of the levels are so tricky and well thought out, with varying obstacle types, that it does not get boring after the tenth minute or try. The levels themselves change it up too, sometimes you have to outrun something from the bottom or top, like levels filling with water or lava.

There are temporary weapons for you to use - they also keep the game interesting.

In the top left, you will see your character HP and SP. You know what HP is , but SP is what you use for specials, so you can't just willy-nilly, say, deploy your shield forever. So once you get your Shinobi stars power-up, you will only have as many stars as you have SP, until you pick up another monster drop.

The old-school throw-back means that you will probably fail your first go at every level. It's time to memorize level layouts and enemy patterns. Unlike old school games, where you start from the beginning of the level, you have checkpoints in this game. The checkpoints also serve as mini-marts, where you can buy some of

your special weapons or power-ups. There are also side areas - that you don't have to play - but have a high risk / reward to tempt you with. That said, don't expect a lot of exploring, there isn't much. The game is pretty linear (which is not a BAD thing). The parallax scrolling feels five levels deep and makes for some pretty stunning backgrounds.

The soundtrack is good, (listen here: https://www.youtube.com/watch?v=9ilgDhgFErA) feeling all orchestral and chiptune at the same time. Ambient, and moody, and right on dystopia. The level music is another kettle of fish, being upbeat and Yamaha chip-sounding (listen here: https://www.youtube.com/watch?v=nDuAj6kobCg) - just right

for an action platformer like this.

The game is short, they say 8 hours, but you can extend your game-play with "feats", a carry-over from shovel knight.

After all that, I must say that this game is definitely a step up from shovel knight. The developers are without a doubt getting better as time goes by, and I will be keeping my peepers peeled for their next release.

Is it worth full price? No, but I would definitely urge you to get it on sale.

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