



Full Circle

THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY

ISSUE #190 - February 2023



06
17

Thursday, November 23
104 mm 45.0psi



MX Linux DISTRO REVIEW

HowTo



Python p.17



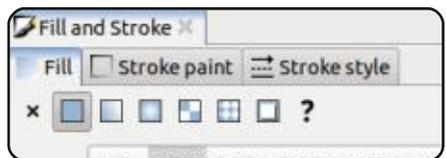
Rescuezilla p.21



Latex p.23



FreeCAD p.31



Inkscape p.27

Graphics

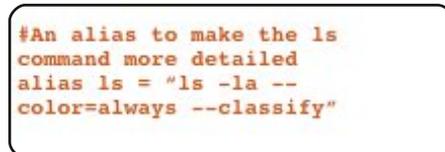


Full Circle

THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY



Linux News p.04



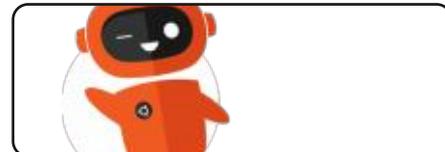
Command & Conquer p.15



... p.XX



Everyday Ubuntu p.XX



Ubuntu Devices p.XX



The Daily Waddle p.37



Book Review p.XX



My Opinion p.39



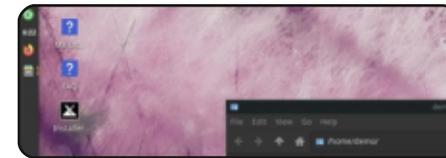
Letters p.51



Review p.42



Q&A p.51



Review p.46



Ubuntu Games p.XX



The articles contained in this magazine are released under the Creative Commons Attribution-Share Alike 3.0 Unported license. This means you can adapt, copy, distribute and transmit the articles but only under the following conditions: you must attribute the work to the original author in some way (at least a name, email or URL) and to this magazine by name ('Full Circle Magazine') and the URL www.fullcirclemagazine.org (but not attribute the article(s) in any way that suggests that they endorse you or your use of the work). If you alter, transform, or build upon this work, you must distribute the resulting work under the same, similar or a compatible license.

Full Circle magazine is entirely independent of Canonical, the sponsor of the Ubuntu projects, and the views and opinions in the magazine should in no way be assumed to have Canonical endorsement.



WELCOME TO THE LATEST ISSUE OF FULL CIRCLE

This month we have; Python, Latex, and Inkscape for you. No Blender again this month as Erik has, again, been a very busy chappie. Instead, we have an article on using Rescuezilla for making backups.

For those of you listening to the Weekly News, we have a new RSS URL: <https://fullcirclemagazine.org/podcasts/index.xml>. If you want to grab the magazine with RSS then you should use: <https://fullcirclemagazine.org/magazines/index.xml>. Hopelly, by the time you read this, Brian will have released an updated Full Circle app for Ubports Touch. **Many thanks to Brian for taking the time to make the app for us, and keeping it updated.**

Adam continues his reviews with Xubuntu 22.04 and MX Linux for his wildcard.

Don't forget: we have a Table of Contents which lists every article from every issue of FCM. Huge thanks to **Paul Romano** for maintaining: <https://goo.gl/tpOKqm> and, if you're looking for some help, advice, or just a chinwag: remember that we have a **Telegram** group: <https://t.me/joinchat/24ec1oMFO1ZjZDc0>. I hope to see you there. Come and say hello.

All the best for 2023!

Ronnie

ronnie@fullcirclemagazine.org



This magazine was created using :



Find Full Circle on:



facebook.com/fullcirclemagazine



twitter.com/#!/fullcirclemag



<https://mastodon.social/@fullcirclemagazine>

Weekly News:



<https://fullcirclemagazine.org/podcasts/index.xml>



<http://www.stitcher.com/s?fid=85347&refid=stpr>



<http://tunein.com/radio/Full-Circle-Weekly-News-p855064/>

FCM PATREON: <https://www.patreon.com/fullcirclemagazine>



RELEASE OF BUDGIE 10.7:

30/01/2023

The organization Buddies of Budgie, which oversees the development of the project after its separation from the Solus distribution, published Budgie 10.7.0. The project code is distributed under the GPLv2 license. You can use distributions such as Ubuntu Budgie, Fedora Budgie, Solus, GeckoLinux and EndeavourOS to familiarize yourself with Budgie. The user environment form the separate components supplied with the implementation of the Budgie Desktop, a set of Budgie Desktop icons, a Budgie Desktop View interface, an interface for configuring the Budgie Control Center (GNOME Control Center) and the screen keeper Budgie Screensaver (gnome-screensaver fork).

The Budgie 10.x continues to develop a code base based on GNOME technology and its own GNOME shell implementation. In the future, they expect to start the development of the Budgie 11

branch, in which they plan to separate the functionality of the desktop from the layer that provides visualization and output of information, which will allow you to abstract from specific graphic libraries, and implement full support for the Wayland protocol.

<https://blog.buddiesofbudgie.org/budgie-10-7-released/>

RELEASE OF COREBOOT 4.19:

30/01/2023

The release of the CoreBoot 4.19 project, that is developing a free alternative to the proprietary firmware and BIOS, is out. The project code is distributed under the GPLv2 license. More than 150 developers took part in the creation of the new version, which prepared more than 1,600 changes.

<https://blogs.coreboot.org/blog/2023/01/28/announcing-coreboot-release-4-19/>

RELEASE OF ONLYOFFICE Docs 7.3.0:

31/01/2023

The release of ONLYOFFICE DocumentServer 7.3.0 with the implementation of the server for ONLYOFFICE's online editors and collaboration, was announced. The editors can be used to work with text documents, tables and presentations. The project code is distributed under the AGPLv3 free license.

As a side note, the ONLYOFFICE DesktopEditors 7.3 was also built on a single code base with online editors. Desktop editors are designed in the form of desktop applications that are written in JavaScript using web-based technologies, but combine client and server components in one set, designed for self-sufficient use on the user's local system, without accessing external services. For on prem, you can also use the Nextcloud Hub platform, which provides full integration with

ONLYOFFICE. The finished builds are available for Linux, Windows and macOS.

<https://www.onlyoffice.com/blog/2023/01/onlyoffice-docs-7-3-released/>

RELEASE OF ELEMENTARY OS 7:

01/02/2023

The release of Elementary OS 7, positioned as a fast, open and alternative to Windows and macOS, is presented. The project focuses on high-quality design aimed at creating an easy-to-use system that consumes minimal resources and provides high-speed launch. Users are offered their own Pantheon desktop environment. To download, a bootable Iso-image (2.8 GB) is available for amd64 architecture.

Among the applications, most of the project's own development, such as the Pantheon Terminal emulator, Pantheon Files file

manager, Code text editor, and Music music player (Noise) can be found. The project also develops photo manager Pantheon Photos (a fork of Shotwell) and 'Mail' mail client (forked from Evolution).

<https://blog.elementary.io/os-7-available-now/>

XFCE DEVELOPING SUPPORT WAYLAND:

02/02/2023

Experimental editions of the xfce4-panel 4.19.0 and the xfdesktop 4.19.0, desktop, which offer initial support for the Wayland protocol, is available. Support is implemented with the new libxfce4windowing library, offering a layer for abstraction from a graphics subsystem capable of working on top of X11 and Wayland. The libxfce4windowing library implements window control components (screens, root windows, virtual desktops, etc.) not tied to a specific window system.

X11 support is based on libwnck (Window Navigator Construction Kit), and Wayland through the use of various protocol extensions. At

the current stage of development, the implementation on top of Wayland is still lagging behind the functionality of the implementation on top of the X11, since not all the capabilities of the X11 are relevant extensions of the Wayland protocol.

<https://mail.xfce.org/pipermail/xfce-announce/2023-January/001220.html>

PROGRESS OF COSMIC WRITTEN IN RUST:

02/02/2023

System76, the developer of the Linux distribution Pop!_OS, has published a report on the development of their new user environment COSMIC, written in the Rust language (not to be confused with the old COSMIC, which was based on GNOME Shell). The environment is evolving as a universal project not tied to a particular distribution that meets the freedesktop specifications. The project is also developing a composite cosmic-comp server based on Wayland.

To build the interface in

COSMIC, the Iced library is used, which uses safe types, modular architecture and reactive programming model, and also offers an architecture familiar to developers familiar with the language of declarative construction of Elm interfaces. There are several render engines that support Vulkan, Metal, DX12, OpenGL 2.1+ and OpenGL ES 2.0+, as well as a window shell and engine for Web integration. Applications based on Iced can be made for Windows, macOS, Linux and launch in a web browser. The developers offered a ready-made set of widgets, the ability to create asynchronous handlers and use an adaptive layout of the interface elements depending on the size of the window and the screen. The code is distributed under the MIT license.

<https://blog.system76.com/post/more-on-cosmic-de-to-kick-off-2023>

RELEASE OF GLIBC 2.37:

02/02/2023

After six months of development, the GNU C Library (glibc) 2.37, which fully

follows the requirements of ISO C11 and POSIX.1-2017, has been released. The new issue includes corrections from 63 developers.

Unlike previous releases in Glibc 2.37, this one is mainly bug fixes. From noticeable improvements, only the addition of the "--no-addrconfig" option to the getent utility is allocated for leaving IP addresses that do not correspond to the existing network configuration in the output (i.e. display IPv6/IPv4 addresses, even if there are no network interfaces with IPv6/IPv4 addresses, which corresponds to behavior when calling the getaddrinfo function without the flag of AI_ADDRCONFIG).

The new version also changed the behavior of the builder, which now does not load shared objects from subdirectories "tls" in the path of search for libraries and subdirectories with the name of the platform (AT_PLATFORM).

<https://sourceware.org/pipermail/libc-alpha/2023-February/145190.html>

HASHICORP UNVEILS OPEN DOCUMENT MANAGEMENT SYSTEM FOR HERMES:

02/02/2023

HashiCorp, known for the development of open-source tools Vagrant, Packer, Nomad and Terraform, has published an open Hermes document management system designed to coordinate processes related to writing, searching, exchanging, reviewing and approving documents used in both individual teams and across the organization. The project code is written in Go and distributed under the MPL 2.0 license. The Ember.js library and Helios interface elements are used to develop the web-interface. The data is stored in the PostgreSQL DBMS.

It is noted that Hermes is not an official product of the company and is still in the stage of active development. The project is being developed by the HashiCorp Labs team, founded to develop tools that improve the company's efficiency. Initially, Hermes is an internal project, but is now published in the open access. The introduction of Hermes in HashiCorp began in June 2022 and more than 20% of employees have started to use it.

<https://www.hashicorp.com/blog/introducing-hermes-an-open-source-document-management-system>

RELEASE OF LIBREOFFICE 7.5:

02/02/2023

The Document Foundation has released the LibreOffice 7.5 office package. Installation packages are prepared for various Linux, Windows and macOS distributions. 144 developers participated in the preparation of the release, of which 91 are volunteers. 63% of the changes were made by 47 employees of the three companies that oversee the project - Collabora, Red Hat and Allotropia, 12% by six employees of the organization The Document Foundation, and 25% of the changes were added by independent enthusiasts.

The release of LibreOffice 7.5 is equipped with the "Community" tag, will be supported by enthusiasts and is not aimed at enterprises. LibreOffice Community is available for free to everyone, including corporate users. For

enterprises in need of support, products of the LibreOffice Enterprise family are separately developed, for which partner companies will be provided with full support, the ability to receive long-term updates (LTS) and additional functions such as SLA (Service Level Agreements).

<https://blog.documentfoundation.org/blog/2023/02/02/tdf-announces-libreoffice-75-community/>

RELEASE OF POSTGRES PRO ENTERPRISE 15.1.1:

03/02/2023

Postgres Professional announced the availability of Proprietary DBMS Pro Enterprise 15.1.1, based on the PostgreSQL 15 code base and including new features that are transferred to integrate into the following PostgreSQL branches, as well as a number of specific additions for high-load systems. The DBMS supports multimaster replication, block-level data compression, incremental backup, built-in connection pool, optimized sectioning of tables, improved full



DistroWatch.com

Put the fun back into computing. Use Linux, BSD.

text search, automatic compilation and query planning.

<https://postgrespro.ru/blog/news/5969951>

RELEASE OF DEEP PACKET INSPECTION SYSTEM, NDPI 4.6:

03/02/2023

The ntop project, which develops tools for capturing and analyzing traffic, has published a toolkit for deep inspection of nDPI 4.6 packages, which continues to develop the OpenDPI library. The nDPI project was founded after a successful attempt to transfer changes to the OpenDPI repository. The nDPI code is written in C and distributed under the LGPLv3 license.

The system allows you to determine the application level protocols used in traffic, analyzing the nature of network activity without binding to network ports (can identify known protocols whose handlers accept connections on non-standard network ports, for example, if http is not given from port 80, or, conversely, when some

other network activity is trying to camouflage under http through launching on port 80).

<https://www.ntop.org/ndpi/welcome-to-ndpi-4-6-code-fuzzing-new-protocol-and-flow-risks/>

SPA STUDIOS OPENED GREASE PENCIL:

04/02/2023

Spanish animation studio SPA Studios, which became famous thanks to the cartoon "Klaus," opened the source code of their internal fork of Blender and related additions. The fork developed in the depths of the studio for more than a year in the process of working on a new cartoon "Ember" and was first announced at the BlenderCon conference in October 2022.

The developers of the fork were directly in contact with the studio's artists, adding the necessary functionality, taking into account their wishes and the difficulties that had to be faced in the process of using Blender in the creation of an animated film. As a result, new tools and modifications of the

interface of the system of two-dimensional drawing and animation, Grease Pencil, were added, which allows for comfortable operation of 2D-animators in the program.

<https://www.youtube.com/watch?v=0HNmJebYY8M>

FOUNDATION FOR SUSTAINABLE OPEN AND FREE SOFTWARE:

04/02/2023

The non-profit Open Technology Fund, which promotes technology to ensure freedom of communication and censorship on the Internet, has announced the creation of the Sustainability Fund. It is noted that despite the importance of the role that open software plays on the Internet, open projects experience underfunding and problems with support.

The purpose of the new fund is to ensure that open projects receive the resources and support necessary to maintain and maintain the security of critical tools. Companies such as GitHub, Okta,

Omidyar Network and Schmidt Futures announced their participation in the formation of the fund. The rules for selecting projects for financing have not yet been published. Those in need of resources, project developers and project leaders are invited to contact a representative of the fund directly.

https://en.wikipedia.org/wiki/Open_Technology_Fund

THE OPEN-ASSISTANT PROJECT AI BOT:

05/02/2023

The organization LAION (Large-scale Artificial Intelligence Open Network), a developmental tool, models and data collection for the creation of free machine learning systems (for example, the LAION collection is used to train the Stable Diffusion image synthesis system), founded the Open-Assistant project, in which the development of a chatbot with artificial intelligence began, reminiscent of the proprietary ChatGPT service and able to interact with the information in the natural language. The project code

is written in Python and distributed under the Apache 2.0 license.

<https://open-assistant.io/>

RELEASE OF OPENTTD 13.0:

06/02/2023

OpenTTD 13.0, a free strategy game that simulates a transport company in real time, is out. The project code is written in C++ and distributed under a GPLv2 license. Installation packages are prepared for Linux, Windows and macOS.

Initially, OpenTTD was developed as an analogue of the commercial game Transport Tycoon Deluxe, but later turned into a self-sufficient project, significantly overtaking the reference version of the game. In particular, an alternative set of game data has been created, new sound and graphic design, the capabilities of the game engine have been significantly expanded, the size of the cards have been increased, a network mode of the game has been implemented, many new game elements and models have

been added.

<https://www.openttd.org/news/2023/02/05/openttd-13-0>

RELEASE OF MYHTV 33: 06/02/2023

After a year of development, MythTV 33 was released, which allows you to turn a desktop PC into a TV, a video recorder, a music center, an album with photos, a station for recording and watching DVD. The project code is distributed under the GPL license. At the same time, the release of a separately developing MythWeb web-interface was formed to control the media center through a web browser.

MythTV architecture is based on the separation of the backend for storing or capturing video (IPTV, DVB card, etc.) and frontend to display and form the interface. Frontland can run simultaneously with several backends that can be run on both the local system and on external computers. The functionality is implemented through plugins. Currently two sets of plug-ins are available - official and unofficial. The range of

features covered by plugins is quite wide - from integration with various online services and implementation of the web-interface to manage the system over a network to working with the web camera and video communication to a PC.

<https://www.mythtv.org/news/173/v33.1%20Released>

FEDORA 38 TO OFFER UNLIMITED SUPPORT FOR FLATHUB:

07/02/2023

The FESCo (Fedora Engineering Steering Committee), responsible for the technical part of the development of the Fedora Linux distribution, approved a proposal allowing full access to the Flathub application catalog.

Starting with Fedora 35, a limited sample of applications (white list) for Flatpak was offered to users, implemented with the fedora-flathub-remove package. In Fedora 37, instead of a white list, a filter was implemented that cleaned unofficial packages, proprietary programs and applications with restrictive

licensing requirements.

The application filter will be turned off in Fedora 38, but the implementation of the filtering mechanism will be left in case it is required in the future. To determine which package to offer by default, if there are flatpak and rpm packages with the same programs, Fedora 38 will set the priority of installation. When used to install GNOME Software interface applications, first RPM packages then Flathub packages will be installed. Thus, Flatpak packages from Flathub will be selected only when there are no other options. If necessary, for individual applications in GNOME Software, you can manually select the desired source of the installation.

<https://pagure.io/fesco/issue/2939>

NEW VERSION OF TRANSMISSION 4.0.0:

08/02/2023

After almost three years of development, a release of Transmission 4.0.0 is out. A relatively lightweight and

undemanding BitTorrent client, which supports a variety of user interfaces: GTK, Qt, native, Web-based interface, daemon, CLI. The code is written in C++ and distributed under the GPLv2 and GPLv3 licenses.

A key change in the new branch was the translation of the codebase from the C (C90) to C++. Previously, only the interface based on Qt was written in C++. The main reason for the transition of the entire project to C++ is the desire to use the additional features provided in the standard C++ library, and the presence in C++ of more advanced means to check the types. The GTK interface is switched to gtkmm.

A significant refactoring of the code base was carried out, which reduced the code size by 18%, improve the coverage of tests and simplify the maintenance. The process of interaction with the community has been modernized, more active response to error messages and transfer of changes through pull-requests has been implemented. The transition to semantic versioning when assigning version numbers, implying the use of the X.Y.Z notation (instead of the previously used X.NN), in which X

changes when making changes that violate backward compatibility, Y changes when expanding functionality and Z when correcting errors.

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

THE LINUX 6.1 KERNEL IS LONG TERM SUPPORT:

08/02/2023

The Linux 6.1 kernel has been assigned a branch status with a long support period. Updates for the 6.1 branch will be available at least until December 2026, but most likely, as in the case of 5.10, 5.4 and 4.19 branches, the term will be extended to six years and the extra support will last until December 2028. Recall that for regular releases of the kernel, updates are released only before the release of the next stable branch (for example, updates for the 6.0 branch were released before release 6.1).

<https://kernel.org/category/releases.html>

RELEASE OF ENDLESS OS DISTRIBUTION 5.0:

08/02/2023

Endless OS 5.0, aimed at creating an easy-to-use system in which you can quickly select applications to your taste. Applications are distributed as self-sufficient packages in Flatpak format. The size of the proposed images range from 3.3 to 17 GB.

The distribution does not use traditional package managers, instead, a minimum atomically updated basic system is offered, working in read-only mode and formed using the OSTree tool (the system image is atomically updated from the Git-like storage). Identical to Endless OS ideas, Fedora Silverblue project will create an atomically updated version of the Fedora Workstation, as well as the creators of Vanilla OS, tau-OS and Pop!_OS. The Endless OS installer and update system, as planned, are now used in GNOME OS.

Endless OS is one of the distributions that promote innovation among user Linux systems. The DE in Endless OS is based on a significantly redesigned

GNOME fork. At the same time, Endless developers are actively involved in the development of upstream projects and transfer their achievements to them. For example, in the release of GTK+ 3.22, about 9.8% of all changes were prepared by Endless developers, and the project's overseeing company Endless Mobile is a member of the GNOME Foundation's supervisory board, along with the FSF, Debian, Google, Linux Foundation, Red Hat, and SUSE.

<https://community.endlessos.com/t/release-endless-os-5-0-0/19857>

RELEASE OF OCULAR GOST:

09/02/2023

A new release of Ocular GOST is available, which allows you to view, print, comment, and also sign documents in PDF format. Commenting tools include text and graphical notes, text highlighting, pop-up notes and stamps. The application provides full support for Cyrillic and electronic signatures according to Russian standards, supported by a simple (CADES BES) and improved (CADES-X Type 1)

formats of embedded signatures CADES. Ocular GOST is an offshoot from the Okular document viewer developed by the KDE project. The program code is distributed under the GPLv2 license. Ready-made builds are prepared for Alt, Astra Linux, Debian, Fedora, ROSA and Ubuntu.

<http://okulargost.ru/>

RELEASE OF FREETYPE 2.13:

09/02/2023

The release of FreeType 2.13.0, a modular font engine that provides a single API for unifying the processing and output of font data in various vector and raster formats, was announced.

<https://www.mail-archive.com/freetype-announce@nongnu.org/msg00136.html>

WORK ON THE GTK5 WILL BEGIN AT THE END OF THE YEAR:

10/02/20231

The developers of the GTK library plan to form an experimental 4.90 branch at the end of the year, in which the functionality for the future release of GTK5 will develop. Before they start work on GTK5, in addition to the spring release of GTK 4.10, they planned to publish a release of GTK 4.12 in the fall, which will include color control innovations. The GTK5 branch will include changes in API-level for compatibility, for example, related to the translation of some outdated widgets, such as the old file selection dialog. They also discussed the possibility of stopping support for X11 protocol in the GTK5 branch and working only with the Wayland protocol.

<https://blog.gtk.org/2023/02/09/updates-from-inside-gtk/>

RELEASE OF NETWORKMANAGER 1.42.0:

11/02/20231

A stable release of the interface to simplify the configuration of the network settings - NetworkManager 1.42.0, is available. Plugins for VPN support (Libreswan, OpenConnect,

Openswan, SSTP, etc.) These are developing as part of their own development cycles.

<https://networkmanager.dev/blog/networkmanager-1-42/>

GOOGLE INTENDS TO ADD TELEMETRY TO THE GO LANGUAGE:

12/02/20231

Google plans to add telemetry collection to the Go language and enable it as the default - sending your collected data to them. The telemetry will cover command line utilities developed by the Go team of developers, such as the "go," compiler, gopls and govulncheck. The collection of information will be limited only by information about the features of the utilities, i.e. telemetry will not be added to user applications collected using the tools.(for now...)

As a motive for the collection of telemetry is the desire to get missing information about the needs and features for developers, which can not be gleaned, using message about errors and surveys as a method of feedback.

<https://github.com/golang/go/discussions/58409>

DINO 0.4 RELEASED:

14/02/2023

After a year of development, the release of a communication client Dino 0.4, supporting chat, audio calls, video calls, video conferencing and text messaging using the Jabber/XMPP protocol, was published. The program is compatible with various clients and servers of XMPP, focused on ensuring the confidentiality of negotiations and supports end-to-end encryption. The project code is written in Vala language using GTK toolkit and distributed under the GPLv3+ license.

The XMPP protocol and the XMPP standard extensions (XEP-0353, XEP-0167) are used for connection, which allows you to make calls between Dino and any other XMPP clients that support the relevant specifications, for example, you can use encrypted video calls from Conversations and Movim applications, as well as unencrypted calls with the Gajim

application. End-to-end messaging and validation confirmation is carried out using the XMPP-expansion OMEMO based on the Signal protocol.

<https://dino.im/blog/2023/02/dino-0.4-release/>

RELEASE OF WOLVIC 1.3: 14/02/2023

Wolvic 1.3, designed for use in augmented and virtual reality systems, has been published. The project continues to develop the Firefox Reality browser, which was previously developed by Mozilla. After the stagnation of the Firefox Reality code base as part of the Wolvic project, it was continued by Igalia, known for its participation in the development of free projects such as GNOME, GTK, WebKitGTK, Epiphany, GStreamer, Wine, Mesa and freedesktop.org. The Wolvic code is written in Java and C++, and is distributed under the MPLv2 license. Ready-made builds are available for the Android platform. 3D headsets like Oculus, Huawei VR Glass, HTC Vive Focus, Pico Neo, Pico4, Pico4E, Meta Quest Pro and Lynx (also porting the browser for

Qualcomm and Lenovo devices), are supported.

https://wolvic.com/blog/release_1.3/

RELEASE OF KDE PLASMA 5.27: 14/02/2023

KDE Plasma 5.27, built using the KDE Framework 5 platform and the Qt 5 library using OpenGL/OpenGL ES to speed up the drawing, is out. You can try out the new version through the Live-Assembly from the openSUSE project and builds from the KDE Neon User Edition project. Packages for various distributions can be found on this page. Release 5.27 will be the last before the formation of the KDE Plasma 6.0 branch, built on Qt 6.

<https://kde.org/announcements/plasma/5/5.27.0/>

A PROTOTYPE OF THE NEW THUNDERBIRD INTERFACE HAS BEEN PUBLISHED: 15/02/2023

The results of the processing of the side panel in the new interface of the mail client Thunderbird, which is planned to offer in July in the release of 115, are presented. It is expected that the new interface will be understandable for beginners, but at the same time it will remain familiar and convenient for seasoned users.

<https://blog.thunderbird.net/2023/02/thunderbird-115-supernova-preview-the-new-folder-pane/>

RELEASE OF CROSSOVER 22.1 16/02/2023

CodeWeavers has released Crossover 22.1, based on the Wine code and designed to run programs and games written for the Windows platform. CodeWeavers is one of the key participants of the Wine project,

sponsors its development and returns to the project all the innovations implemented for its commercial products. The original code of the CrossOver 22.1 open components can be downloaded on this page >

<https://www.codeweavers.com/support/forums/announce/?t=24;msg=275240>

REAL-TIME KERNEL IN UBUNTU: 15/02/2023

Canonical announced the completion of testing packages with the Linux kernel for real-time systems. The package with the real-time kernel is recognized as ready for ubiquitous use and is no longer positioned as experimental.

The finished builds are available for x86_64 and Aarch64 architectures, and are distributed through the Ubuntu Pro service for Ubuntu 22.04 LTS and Ubuntu Core 22. The package is based on the Linux 5.15 kernel and patches from RT-Linux kernel ("Realtime-Preempt," PREEMPT_RT or "-rt") patches, which provide delays and

allow for predictable time for event processing.

<https://canonical.com/blog/real-time-ubuntu-is-now-generally-available>

STABLE RELEASE OF MARIADB 10.11:

17/02/2023

The first stable release of the new branch of the DBMS MariaDB 10.11 (10.11.2) has been published, where the branching of the MySQL branch, which retains backward compatibility and is distinguished by the integration of additional storage engines and advanced capabilities, was announced. The development of MariaDB is supervised by the independent MariaDB Foundation in accordance with an open and transparent development process, independent of individual manufacturers. MariaDB is shipped instead of MySQL in many Linux distributions (RHEL, SUSE, Fedora, openSUSE, Slackware, OpenMandriva, ROSA, Arch Linux, Debian) and has been implemented in large projects such as Wikipedia, Google Cloud SQL and Nimbuzz.

<https://mariadb.org/mariadb-10-11-2-ga-now-available/>

SIMPLY LINUX 10.1 FOR RISC-V:

17/02/2023

The release of the experimental build of the distribution Simply Linux 10.1 (virtage p10 Aronia) for riscv64 has been published. The distribution is a simple system with a classic Xfce-based desktop. The build is based on the Sisyphus riscv64 repository and tested in QEMU, the VisionFive v1 board and SiFive boards. The development distribution company "Basalt SPO" is part of the international community supporting RISC-V and is working to support the VisionFive v2 and other RISC-V64 boards.

<https://lists.altlinux.org/pipermail/community/2023-February/688884.html>

LAPDOCK OR LIBREM:

17/02/2023

Purism, who are developing the Librem 5 and a series of laptops, servers and mini-PCs supplied with Linux and CoreBoot, introduced the Lapdock, which allows you to use your smartphone (Librem 5) as a full-fledged laptop. Lapdock presents a laptop frame with a keyboard and a 13.3-inch screen rotated 360 degrees, which also allows you to use the device as a tablet. Using a smartphone as a laptop makes it possible to always keep your data and applications with you.

The basis for Lapdock was the already produced platform Nexdock 360, which is supplemented by a holder to attach the smartphone to the dock and cable. The docking station weighs 1.1 kg and contains a 13.3-inch IPS-screen (1920x1080), a full-size keyboard, a trackpad with multitouch support, a battery (5800 mAh), Mini HDMI, USB-C 3.1 with DisplayPort, USB-C 3.0, USB-C PD for charging, micro SDXC card reader, 3.5mm audio jack, loudspeakers. Device size 30.7 x 20.9 x 1.5 cm. In addition to the

Librem 5 with the docking station, you can also use Android smartphones. The cost of the Lapdock Kit is \$339 (cost Nexdock 360 - \$299).

<https://puri.sm/posts/announcing-the-lapdock-kit/>

WEBOS OPEN SOURCE EDITION 2.20:

18/02/2023

The release of webOS Open Source Edition 2.20, which can be used on various portable devices, boards and car infotainment systems, is out. The Raspberry Pi 4 boards are considered as the reference hardware platform. The platform is developing in a public repository under the Apache 2.0 license, and the development is supervised by the community, adhering to a joint development management model. webOS system environment is formed using OpenEmbedded tools and base packages, as well as a build system and a set of metadata from the Yocto project. The key components of webOS are the system and application manager

(SAM, System and Application Manager), responsible for the execution of applications and services, and Luna Surface Manager (LSM), which forms the user interface. The components are written using the Qt framework and the Chromium browser engine.

<https://www.webosose.org/blog/2023/02/17/webos-ose-2-20-0-release/>

INTEL HAS OPENED OPENCL 19/02/2023

Intel has opened the source code of the OpenCL CPU RT (OpenCL CPU RunTime), the implementation of the OpenCL standard, designed to run OpenCL cores on the central processor. The OpenCL standard defines the API and extensions of the C language for the organization of cross-platform parallel computing. The implementation includes 718996 lines of code distributed to 2750 files. The code is adapted for integration with LLVM and will be offered for inclusion in the main LLVM. The original code is open under the Apache 2.0 license.

Alternative projects that develop open implementations of OpenCL include PoCL (Portable Computing Language OpenCL), Rusticl and Mesa Clover. The implementation from Intel is rated as demonstrating higher performance and providing more functionality.

<https://github.com/intel/llvm/pull/8216>

RELEASE OF CLONEZILLA LIVE 3.0.3: 19/02/2023

The release of the Linux distribution Clonezilla Live 3.0.3, designed for fast cloning of disks (only using blocks). The tasks performed by the distribution are similar to the proprietary product Norton Ghost. The size of the iso-image of the distribution is 334 MB (i686, amd64).

The distribution is based on Debian GNU/Linux and uses the code of projects such as DRBL, Partition Image, ntfsclone, partclone, udpcast. It is possible to download from CD/DVD, USB Flash and via the network (PXE).

Supported are LVM2 and FS ext2, ext3, ext4, reiserfs, reiserfs, reiser4, xfs, jfs, btrfs, f2fs, nilfs2, FAT12, FAT16, FAT32, NTFS, HFS+, UFS, minix, VMFS3 and VMFS5 (VMWH ESX). There is a mode for mass cloning over a network, including the transfer of traffic in a multicast mode, which allows you to clone the original disk on a large number of client machines at the same time. You can clone from one disk to another, and creating backups by saving the disk image to the file. You can clone entire disks or individual partitions.

<https://sourceforge.net/p/clonezilla/news/2023/02/-stable-clonezilla-live-303-22-released/>

RELEASE OF THE PARROT 5.2: 19/02/2023

Parrot 5.2, based on Debian 11 and includes a selection of tools for system security, forensic analysis and reverse engineering is available. To download, several iso-images with an MATE environment designed for everyday use, security testing, installation on Raspberry Pi 4 boards and the creation of

specialized installations, for example, for use in cloud environments, are proposed.

The Parrot distribution is positioned as a portable laboratory with an environment for security experts and criminologists, which focuses on means to verify cloud systems and devices of the Internet. The composition also includes cryptographic tools and programs to ensure secure access to the internet, including TOR, I2P, anonsurf, gpg, tccf, zulucrypt, veracrypt, truecrypt and luks.

<https://parrotsec.org/blog/2023-02-15-parrot-5.2-release-notes/>

THE

VIRTUALBOX NETWORKING PRIMER

Connecting and Configuring
Virtual Machines



Robin Catling

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](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](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>



COMMAND & CONQUER

Written by Erik

I was observing – not participating in – a discussion on shells and realizing there is a large gap in what a shell is, where it fits in, and what the perception is thereof. This issue, I want to explain the difference between the kernel and a shell. Imagine a three-layer cake. The bottom layer is your kernel, the middle layer is your shell, and the top layer is your application layer. The kernel is all about handling hardware. When I say handling hardware, what I mean is that it allocates memory or it handles input & output, say to your disk. In other words, it manages stuff. Something needs CPU time, the kernel will schedule that. All the security and protection also happens here, within the kernel. So,

when a system call happens, it is what responds to that system call. This may not be of interest to you, but to understand what a system call is, think of it this way – when you ‘call’ the system to send a packet over the network, or ‘call’ the system to read a file from disk, or call the system to do some task for us, that is a system call. I don’t know how this makes sense to a native English speaker, but to me it made no sense at first, but instead of thinking of your mother calling you to come inside, think of it more of a telephone call where you order some sand to be delivered at your home, so you can mix cement to build a wall.

The shell is an interface

between the user and the system and the kernel is an interface between system calls and the actual hardware.

You may also hear people talking about ‘spaces’ – kernel space and user space. This simply groups things together into the ‘space’ where they ‘live’. VLC player and Inkscape are applications that live in user space. You, as the user, interact with them. You do not get to do things in the kernel space. For instance, the memory manager lives in the kernel space and it allocates memory for VLC or Inkscape, but you do not get to interact with it. Think of it as a lunch counter. You can order food here, the person behind the counter (the system call interface) takes your order and passes it on to the kitchen (the kernel), and out

pops your food. You do not get to interact with the stove or the ingredients, but when you order a hot dog and chips, you get a hot dog and chips.

We can see how long a command spends in each by using the ‘time’ command on the command-line. Type: time ls

Look at the output, does it make sense to you?

You will see:

- “real” meaning real time,
- “user” meaning time spent in user space and,
- “sys” meaning time spent in kernel space

Yes, I know, but go with the flow here, it is meant for n00bs.

```

ed@ed-vb: ~/Documents
ed@ed-vb: $ ls
Desktop  Documents  Downloads  Music  Pictures  Public  snap  Templates  Videos
ed@ed-vb: $ cd doc
bash: cd: doc: No such file or directory
ed@ed-vb: $ cd Documents/
ed@ed-vb: ~/Documents$ ls
week47  week48-22.txt
ed@ed-vb: ~/Documents$ time ls
week47  week48-22.txt

real    0m0.002s
user    0m0.000s
sys     0m0.001s
ed@ed-vb: ~/Documents$

```

```

ed@ed-vb: ~/Documents$ ls
week47  week48-22.txt
ed@ed-vb: ~/Documents$ time md5sum *
d0b0df742362553243c91dcec8070614  week47
e331d2223e916d5a9c4e6571223a0502  week48-22.txt

real    0m0.003s
user    0m0.000s
sys     0m0.002s
ed@ed-vb: ~/Documents$

```

COMMAND & CONQUER

(I found out why I had to rewrite week 47 & 48 last year...doh).

Let us do something a little more intensive to get values all around. If you have a directory with stuff in it, (no use on an empty one!), type: `time md5sum *`

This simply prints out the MD5 hash of the file, before printing out the file name. If you don't know what a MD5 hash is, ask.

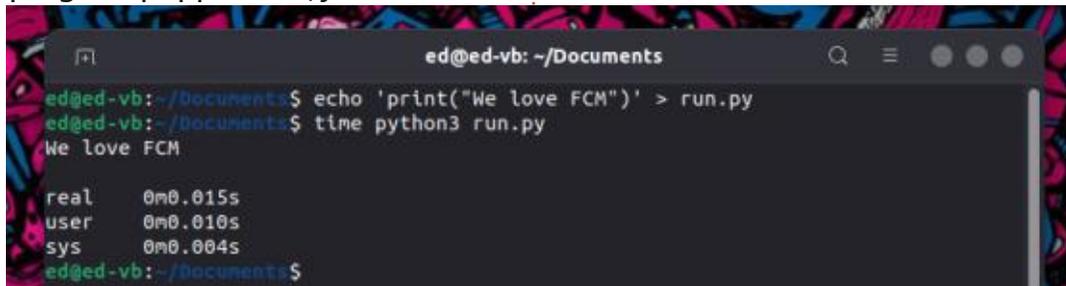
This can be a crude indication of where your command or program spends its time. Go ahead, try it with, say, Python (shown below) or whatever program you wish.

We used our terminal emulator (an application living in user space) to use the shell, in my case bash, to do something (make a system call).

The kernel allocated memory, handled the i/o for writing that file to disk, etc, and the ordered python program popped out, just like our

hot dog example. You did not get to interact with the i/o interface, the memory manager, or the process manager, but you got your Python program. The Python program was my wall, the command I used in my shell (bash) made a system call to write a file to disk (a telephone call to order sand) – is this coming together for you yet? No? Play a *quick game of Sins of a solar empire, and come back.

That's as short 'n sweet as I can make it (with my brain running in a million directions, whilst I try to herd those 100 cats). If you still have trouble understanding what a shell is, and where it fits in with regards to the kernel, read that again. Just kidding, drop us a line on: misc@fullcirclemagazine.org



```
ed@ed-vb: ~/Documents
ed@ed-vb: ~/Documents$ echo 'print("We love FCM")' > run.py
ed@ed-vb: ~/Documents$ time python3 run.py
We love FCM

real    0m0.015s
user    0m0.010s
sys     0m0.004s
ed@ed-vb: ~/Documents$
```



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 have an embarrassing confession to make. Between issues with the weather here in central Texas, deadlines on book chapters, support and testing issues, I didn't start thinking about this issue of FCM until February the first. I didn't even get around to starting researching or writing the demo programs until the second. However, once I get this all written down, I truly believe I can hold my head up high and be proud of this issue's article.

Speaking of which, let's get started. You might notice the title of this article. Yes, it DOES have to do with Python and missing beeps. For years, my computer has not had a built-in speaker, so the beep that I would normally rely on to get the user's attention didn't function the way I was used to. For a while, I tried in vain to get the blasted BEEP to respond, then something would come up and I'd have to abandon it for a while. Each time, the "a while" became longer and longer, and it eventually got lost in the shuffle. Until today.

I tried to go back – to find a way to get the beep working – and still no luck. So I decided to give up on attempting to force a beep tone out of my speakers, and started looking for an alternative method, one that would not force any of my users to have to install a ton of libraries before they could use a program of mine. I found a library named (of all things) Beepy. It is a pretty simple, lightweight library, and it has only one dependency. So I gave it a try. The instructions said to install it via pip; I'm lucky that my Python installs don't require using a "3" at the end of my Python and Pip commands, so I forget that many of you aren't quite that lucky. So if you can use just a "pip", convert it mentally when you see "pip3".

```
pip3 install beepy
```

I pulled up my ptython REPL... The instructions say...

```
import beepy
beep (sound=1)
```

That's easy enough even for me to follow. Unfortunately, when I did that, nothing happened – other

than an error message.

```
Traceback (most recent call
last):
  File "<stdin>", line 1, in
<module>
NameError: name 'beep' is not
defined

name 'beep' is not defined
>>>
```

I double checked the documentation (what little there is), and the instructions still read the same. So I thought maybe there was a change in the program and the documentation didn't get updated, so I scratched multiple body parts and decided I'd take a look at the output of the dir() function.

```
>>> dir(beepy)
['_builtins_',
'__cached__', '__doc__',
'__file__', '__loader__',
'__name__', '__package__',
'__path__', '__spec__',
'beep', 'make_sound']
```

There was the command beep, so I knew that there were simply two ways to make it work. I could try

```
from beepy import beep
beep (sound=1)
```

And there it was! The sound of life! That is simple enough for me to include and code – if I wanted to get the user's attention. But what about the other option?

```
import beepy
beepy.beep (sound=1)
```

So, there it was, a teachable moment for us all. I read down the rest of the instructions and found the rest of the commands.

```
sound argument takes either
integers (1-7) or string
(from the list below) as
argument.
```

```
Following are the mappings
for the numbers: 1 : 'coin',
2 : 'robot_error', 3 :
'error', 4 : 'ping', 5 :
'ready', 6 : 'success', 7 :
'wilhelm'
```

Hmmm. Only 7 options. I tried all 7 sounds and, while they worked, I wasn't really impressed. Given the fact that the last release was in 2019, I thought there might be a better solution.

Since beepy had only one dependency, I thought I'd try looking at that for something easier and with a bit more options. That dependency is a library called simpleaudio. I ran a search on the Internet and got their github address. <https://github.com/hamilton/py-simple-audio>. I was excited again. At least until I read the last release date. 2019. ARRGH! However, at least there was some documentation. There was still light at the end of the tunnel, and I prayed that it wasn't a freight train. I called up the documentation url (<https://simpleaudio.readthedocs.io/en/latest/>) and started digging in. The first thing they show is a quick function check. Ok. I can do that.

```
import
simpleaudio.functionchecks as
fc
```

```
fc.LeftRightCheck.run()
```

I thought I'd hear something like "Right speaker" coming out of the speakers, but I was happy to hear a piano note coming out of one of the speakers and, a moment later, the same note but an octave higher out of the other. I started to see some possibilities. I kept reading on.

I moved through the documentation, seeing that, yes, there is a way to make simple beeps, but not so simply... But, I found what I knew had to be there. A way to play audio files, .wav files specifically. While I'm not a huge fan of .wav files, it would do the trick and, if I absolutely had to, there are plenty of websites that have free .wav files just for the purpose of embedding into someone's program. So I tried it (I still had ptython running). Code is shown top right.

I had just found one of those "meant to be embedded" files and downloaded it to my desktop. I copied the code block into the REPL and changed the example path to my real path and, low and behold, it worked as advertised. The first time!

I dug in a bit deeper and found the other thing I wanted. The ability to create a simple tone or two on demand. However, the sample and this part of documentation was all about using numpy to generate the wave forms. This seemed to be a little bit more than I was willing to commit to, but I gave it a try

```
import simpleaudio as sa

wave_obj = sa.WaveObject.from_wave_file("path/to/file.wav")
play_obj = wave_obj.play()
play_obj.wait_done()
```

```
import numpy as np
import simpleaudio as sa

# calculate note frequencies
A_freq = 440
Csh_freq = A_freq * 2 ** (4 / 12)
E_freq = A_freq * 2 ** (7 / 12)
```

```
# get timesteps for each sample, T is note duration in
seconds
sample_rate = 44100
T = 0.25
t = np.linspace(0, T, T * sample_rate, False)
```

anyway, since the REPL was still up (middle right).

Well, that is very familiar to a guy who spent 6 years in the school band. If there were only two things I learned in High School, it was music and computers. So the three lines simply give the frequencies of a concert A4, a C# and an E. The next part sort-of made sense and I'm not a big numpy user. Basically, after setting the sample rate, and

the duration of any note, numpy generates an array of values (bottom right).

The next bit of code (below) creates numpy arrays containing the values for the sine waves of the three notes.

Then, this code (next page, top left) will "bundle up" all the notes and normalize them into a single numpy array.

```
# generate sine wave notes
A_note = np.sin(A_freq * t * 2 * np.pi)
Csh_note = np.sin(Csh_freq * t * 2 * np.pi)
E_note = np.sin(E_freq * t * 2 * np.pi)
```


keyboard.

The black keys are sharps or flats depending on if you are going up the scale or down. So the keys are

C, C#, D, D#, E, F, F#, G, G#, A, A#, B and back to C

...for a total of thirteen tones. In “modern” music, this is known as an equal-tempered scale. It hasn’t always been this way, but that gets into a whole can of worms, so I won’t go there.

Just know that the formulas above to generate the thirteen tones work well.

You can find the program to do this as tones4.py in the repository.

I was going to close the article here, with a note that I hadn’t tried to save the audio objects created to files, either as a numpy file that can be loaded later or as a .wav file that would negate the need to import numpy in every program you create and use this, just the simpleaudio package. Well after taking a quick break, I figured out how to do it, so I’ll let you in on the secret.

The solution to saving the audio object to a file is really rather simple. At the bottom of the file, there are just two lines. In the case of tones4.py, add at the bottom of the file the following lines.

```
# save the audio object to local file for future use
```

```
with open("scale1.npy", "wb") as f:
```

```
    np.save(f, audio)
```

That’s it. I’ve saved the program as tones4a.py . The file that was generated can be used again in a different program (top right).

This solution, however, still requires having numpy as a dependency in the program. For me, the better solution is not only to have the numpy file (for future use) but to save the audio object to a .wav file. This requires the additional import of the wave package. Add that to the top of the test4 program, and then add the following code at the bottom.

```
obj = wave.open("scale1.wav", "w")
obj.setnchannels(1)
obj.setsampwidth(2)
obj.setframerate(sample_rate)
obj.writeframesraw(audio)
obj.close()
```

```
import numpy as np
import simpleaudio as sa

# load the file from disk...
with open("scale1.npy", "rb") as f:
    audio_data = np.load(f)
# now play it back
play_obj = sa.play_buffer(audio_data, 1, 2, 44100)
play_obj.wait_done()
```

This will create a .wav file (without the need to save the numpy data if you don’t want to). Then to play it back, all you need is this short bit of code.

```
import simpleaudio as sa
wave_obj =
sa.WaveObject.from_wave_file(
"scale1.wav")
play_obj = wave_obj.play()
play_obj.wait_done()
```

So I modified tones4a.py to include not only the write to a numpy file, but the code to create the .wav file and play it back.

I’ve also included the playback routine as a simple python file named play_my_wav.py which will play back the “scale1.wav” file. Of course, the numpy files and some sample .wav files are also in the repository.

Well, it’s time to wrap this up for this month. Just know that looking

for a simple thing like getting your computer to beep on command can easily lead you to a path where you might be like Alice, and “go down the rabbit hole”.

I’ve put the .wav file for Beepy as well as the test file for simpleaudio in my github repository. I’ve also included a few other test files I created for simpleaudio testing. You can find the repository at <https://github.com/gregwa1953/FCM-190>.

Until next time, as always; stay safe, healthy, positive and creative!



Has anyone tried Clonezilla as a backup solution and found it wanting? My problem has always been on a dual-boot PC (with Linux and that other operating system), where I have frequently stopped the machine from booting after somehow corrupting either the Linux OS, the GRUB boot menu, or both. While Clonezilla will, with a little prodding, back up the entire disk drive, it refuses point blank to restore just the Linux partition. Or, at least, it did the way that I used Clonezilla.

The program can create a backup using either its savedisk or saveparts feature. Savedisk allows the entire disk to be restored but will not restore single partitions. In contrast, saveparts will restore one or more partitions, but will not restore the master boot record or the partition table, and so can't be used to restore the entire disk. Clearly, this is not very helpful when it comes to flexibility in restoring disks and/or partitions.

The other problem that I have with Clonezilla is that its old-style,

text-based interface is somewhat complex and difficult to navigate. But now, there is a new kid on the block – Rescuezilla (<https://rescuezilla.com>) – that offers a user-friendly, graphical user interface, clearly-defined icons and menus for specific tasks, and the flexibility to save and restore both disks and partitions, including rapid restoration of just the Linux partition!

Rescuezilla is actually a fork of Redo (now Redo Rescue). It can be downloaded as an ISO file (the current version is rescuezilla-2.4.1-64bit.jammy.iso) that can be used to create a bootable USB flash drive. As the “jammy” portion of the filename indicates, the USB boots into a version of Ubuntu Linux; however, the Ubuntu desktop is initially hidden from the end user as Rescuezilla loads in full-screen mode.

The main menu provides Backup and Restore options, in addition to icons for Clone, Verify Image, and Image Explorer. The latter option is a work-in-progress, and is intended to eventually allow mounting a disk partition directly from the backup image in order to extract individual files and folders. However, for our present purposes, we will just consider the main two options – those for Backup and Restore.

Selecting Backup launches a wizard that guides the user through the eight steps required to implement a disk backup:

- Select the source drive that is to be backed up from a menu of available disks
- Select the partitions that are to be included in the backup (by default all partitions are checked)
- Select the destination drive on which to store the disk image
- Browse to a folder on the destination drive where the backup image is to be stored (the system creates this as a mount point)
- Optionally, edit the default name



HOWTO - RESCUEZILLA FOR BACKUPS

for the backup image and add a textual description

- Choose the algorithm and level for file compression (defaults are gzip and 6)
- Review the summary information on the settings selected (the source drive and partitions to be backed up)
- Click on the Continue button to start the backup process

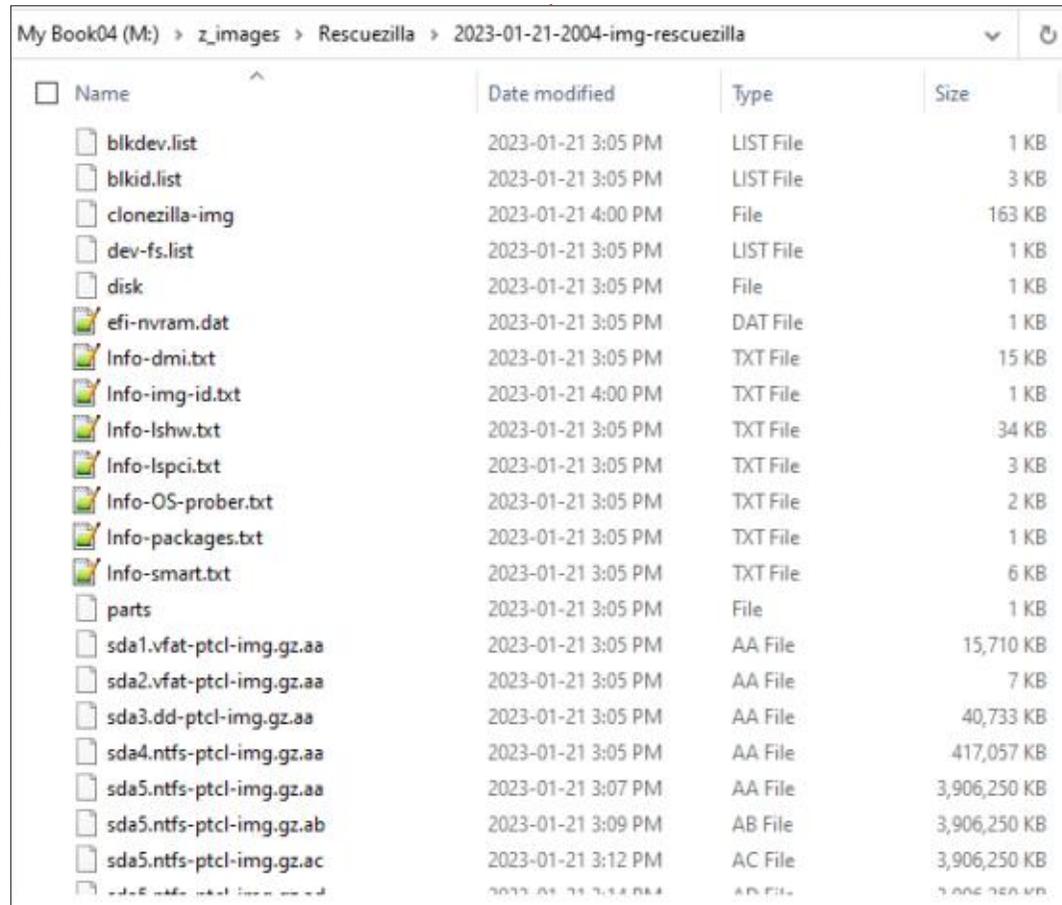
The resulting image takes the form of a folder with multiple files that are clearly a mix of administrative information and segments of compressed partitions (e.g. sda5.ntfs-ptcl-img.gz.aa, ... gz.ab, ...gz.ac). In my baseline test, the overall file compression was approximately 60%.

Restoring from a backup image is essentially the reverse of the backup process. The image file on the backup disk is identified; the partition(s) to be restored, and the disk on which the partition(s) is to be restored, are selected. Note that to restore a single partition, all that is required is to uncheck all the partitions in the list of those included in the disk image with the exception of the one that is to be restored. Simple!

I tried a number of restorations, including just my dedicated data drive (Partition 7) which I could verify against a file-by-file backup stored on a USB flash drive. I also restored the Linux operating system partition and swap area (Partitions 9 and 10) and, finally, the entire drive. In each of the latter cases, success was confirmed by the fact that the disk subsequently booted normally into both Linux and Windows via the

GRUB boot menu.

For me, these tests have confirmed that Rescuezilla is a viable backup-restore solution for my system. Furthermore, the fact that Rescuezilla functions as a live-USB provides a ready-made backup option, and can be used even if the PC refuses to boot normally from the hard drive.



Name	Date modified	Type	Size
blkdev.list	2023-01-21 3:05 PM	LIST File	1 KB
blkid.list	2023-01-21 3:05 PM	LIST File	3 KB
clonezilla-img	2023-01-21 4:00 PM	File	163 KB
dev-fs.list	2023-01-21 3:05 PM	LIST File	1 KB
disk	2023-01-21 3:05 PM	File	1 KB
efi-nvram.dat	2023-01-21 3:05 PM	DAT File	1 KB
Info-dmi.txt	2023-01-21 3:05 PM	TXT File	15 KB
Info-img-id.txt	2023-01-21 4:00 PM	TXT File	1 KB
Info-lshw.txt	2023-01-21 3:05 PM	TXT File	34 KB
Info-lspci.txt	2023-01-21 3:05 PM	TXT File	3 KB
Info-OS-prober.txt	2023-01-21 3:05 PM	TXT File	2 KB
Info-packages.txt	2023-01-21 3:05 PM	TXT File	1 KB
Info-smart.txt	2023-01-21 3:05 PM	TXT File	6 KB
parts	2023-01-21 3:05 PM	File	1 KB
sda1.vfat-ptcl-img.gz.aa	2023-01-21 3:05 PM	AA File	15,710 KB
sda2.vfat-ptcl-img.gz.aa	2023-01-21 3:05 PM	AA File	7 KB
sda3.dd-ptcl-img.gz.aa	2023-01-21 3:05 PM	AA File	40,733 KB
sda4.ntfs-ptcl-img.gz.aa	2023-01-21 3:05 PM	AA File	417,057 KB
sda5.ntfs-ptcl-img.gz.aa	2023-01-21 3:07 PM	AA File	3,906,250 KB
sda5.ntfs-ptcl-img.gz.ab	2023-01-21 3:09 PM	AB File	3,906,250 KB
sda5.ntfs-ptcl-img.gz.ac	2023-01-21 3:12 PM	AC File	3,906,250 KB



Alan is a computer enthusiast based in the Great White North where he maintains LinuxNorth blog at: <https://linuxnorth.wordpress.com>



HOW-TO

Written by Robert Boardman

Latex Pt.18

Let's take a look at what we have covered so far in this series about Latex (see table below).

There are seventeen pieces of information about using Latex. (This one makes eighteen.) Assume we want to put all of them together to make a small book, a quick introduction to some of the major features of Latex. At two or three pages each, we should generate a PDF of about fifty to sixty pages. This is a task that Latex is much better at than word processors. I have written a few books using word processors. I wish

I had known Latex at the time. If you wish to write several chapters, there are two obvious ways to do that in a word processor. The first is to put all of your work in one large file. That gets very unwieldy to navigate and will get painfully slow to edit, especially if your work includes anything other than text. Any graphics or tables will slow down editing work.

The second way is to put each chapter or each section in its own file. If you do that, keeping page numbering consistent and correct is a major chore. If you use Styles in a

word processor (which you should), keeping the styles consistent from chapter to chapter can be painful. I know the major word processors have something like a "master document" that will pull all the individual files together. My experience is the master document method combines the weaknesses of both of the above methods, without generating any significant benefits. If you write a text and require references, endnotes, etc., these are difficult to manage with word processors' master files.

Latex uses what is a master document approach. Unlike word processors it works. You will learn how it works if you follow along with what I do this time.

Obviously what I do in this article will not generate a fifty page PDF. However I hope you will learn the techniques needed to build multiple chapter (section) output using Latex.

To start with, we will need at least some of the eighteen articles from the previous issues. What is

needed is each article in plain text, in an ASCII file which is what tex files are. Since some of the articles include graphics, it would be best to have each article in its own folder. The "root" file will be called latexbk.tex, and will sit in a folder that also contains eighteen sub-folders: fcm167, fcm168, etc. In the folder for each issue will be a file called fcm###.tex plus any graphics that are part of that issue (next page, top right for the code).

... and so on, for all seventeen of the articles that Eric and I have written. Of course we expect to write more about Latex in the future. Whatever method used to put all of the code from the seventeen articles into one document needs to accept a monthly addition. As it turns out, Latex makes combining "chapters" into a "book" a very simple job.

Note I have copied only the Latex document code from these two articles. I did that to keep this article a reasonable size. Any tex file or any plain text file that can be converted to a tex file can easily be

Basics	Issue 167	Lists	Issue 181
Sections	Issue 168	More tables	Issue 182
Graphics	Issue 169	Packages	Issue 183
Graphics	Issue 170	More graphics	Issue 184
Tables	Issue 171	Columns	Issue 186
Bibliography	Issue 173	Headers	Issue 187
Resume template	Issue 174	Fonts	Issue 188
Math	Issue 175	More fonts	Issue 189
Math	Issue 180		

included in a larger document.

There are two tasks we need to do to generate a large document from several small ones, while still maintaining the small ones as independent files. The first step is to make a “master” file. The second is to remove all the elements from the individual files that make them independent files. Neither task is difficult. However the second step will be repetitious since it has to be done on every small file.

The master file contains the overall instructions for the book. It has everything from

`\documentclass[]{} down to \begin{document}{} and it also has the \end{document}{} code.`

```
\documentclass[a4paper]{article}
\title{Your First Book}
\author{Your Name}
\begin{document}
...
\end{document}
```

When we are finished, it will also contain all of the `\usepackage` instructions in all of your small files. Simply copy and paste any `\usepackage` instructions to the master file before commenting them. The top of your master document might look like this when

```
FCM167
\documentclass[a4paper]{article}
\begin{document}
  This will be our first lines on paper
\end{document}
FCM168
\documentclass[a4paper]{article}
\title{Your FCM bootcamp for \LaTeX}
\author{ErikTheUnready}
\begin{document}
\maketitle
\section{How I got hold of Bill Gates's balls... or, how to evade golf course security}
\section{Autographs in the rear}
\section{Disguises you need to wear}
  \subsection{Wigs}
  \subsection{hoodies}
  \subsection*{killer ideas!}\label{fig:1}
    \subsubsection{Thrift store madness...}
\paragraph{What not to wear} and maybe what not to do. \textdollar however you can escape those characters on your keyboard \$100 yes? as you can see in \ref{fig:1}, we will ...
\end{document}
```

you are finished.

```
\documentclass[letterpaper,11pt]{book}
\preamble (this is a comment)
\usepackage[utf8]{inputenc}
\author{Your Name} (optional)
\title{Your Title} (optional)
\date{January 2022}
(optional)
\usepackage{graphicx,
geometry, amsfonts, fancyhdr,
xcolor, setspace, hyperref,
cite, enumerate}
\begin{document}
\frontmatter (optional)
\maketitle (No title? Remove this code)
\tableofcontents (No table of contents - remove)
\mainmatter (optional)
```

Note: If you are going to copy and paste this code into your Latex

IDE, remove the items in parentheses (round brackets) or comment out all lines that have parentheses or there will be errors when compiling.

A series of “include” statements replace the text which would appear in any regular Tex document.

```
\include{fcm167}
```

No need to use the tex file extension. Latex will assume the file is a tex file type. If you have compiled the small documents individually, you may have already put the tex file and all of its

compiled parts (aux, log, out, pdf, etc.) into separate folders. Simply put the name of the subfolder into the include statement:

```
\include{fcm167/fcm167}
```

Add as many include statements as needed so your book is complete. If you need any “back matter” for your book then put those instructions after the last include statement. Then close the file.

```
\backmatter
% bibliography, glossary and
index would go here.
\include{appendix}
\bibliography{bibliography}
\end{document}
```

If you compile your book now you will get at least one major error. It will stop the compilation until you correct it. This is the second step, the step that is repetitive since it has to be done in every small file. You have to make sure any instructions that are in the master file do not compile or do not appear in the small files. You have two choices. You can remove the duplicates or you can comment them out. I strongly suggest the second – comment out the instructions that are no longer needed. That will allow you to compile the small files individually without having to remember what is needed to make them complete Latex files again.

Remember to copy and paste any `usepackage[]{}` statements from the small files into the master file before you make them comments. You can see a line of packages in the sample document.

```
\usepackage{graphicx,  
geometry, amsfonts, fancyhdr,  
xcolor, setspace, hyperref,  
cite, enumerate}
```

These packages are not needed in every small file but at least one of the small documents requires

one (or more) of these packages. If all of them are not included in a `usepackage` instruction the final book will not look as it should.

Now your small documents will start with any chapter or section title and possibly a label so you can use cross references from one or more of the other small files in the book.

```
\chapter{Chapter  
1}\label{chap01}
```

If you are writing fiction, you probably do not need the label instruction since it is unlikely you are going to have cross references. In non-fiction, cross references are often used to link one part of a document to another part.

The sample code for the master file with the Tex code from FCM-167 and FCM-168 generates a six-page PDF. The first page is the title, then a blank page so the Table of Contents can start on a right-hand page. (I used `documentclass = book`.) Then there is another blank page so the contents can start on a right-hand page. The one line of text from FCM-167 is on physical page 5 (page 1 in the book) and the text from FCM-168 is on physical

page 6.

If I change the `documentclass` to `article`, both the `frontmatter` and `mainmatter` instructions have to be removed or commented. Once that is done, the article compiles to three pages. The title and Table of Contents appear on page 1, the text from FCM-167 on page 2, and FCM-168 on page 3. (Find out what happens if you leave `frontmatter` and `mainmatter` commented and change to `documentclass = book`.)

Here is the Table of Contents for a more complete set of includes from other Latex articles.

That is it for this issue. Keep working with Latex and your

favourite IDE, or try another IDE.

Contents

0.1 Our first document	1
0.2 How I got hold of Bill Gates's balls... or, how to evade golf course security	2
0.3 Autographs in the rear	2
0.4 Disguises you need to wear	2
0.4.1 Wigs	2
0.4.2 hoodies	2
0.5 FCM 169	3
0.6 FCM 170	4
0.7 Foreword	4
0.8 Afterword	5

KILOBYTE MAGAZINE

Kilobyte Magazine is a fanzine for 8bit enthusiasts. It covers consoles, computers, handhelds and more, as well as new games for old systems. If you grew up with Commodore, Atari, Sinclair or Amstrad, this magazine is for you.

<https://retro.wtf/kilobytemagazine/>

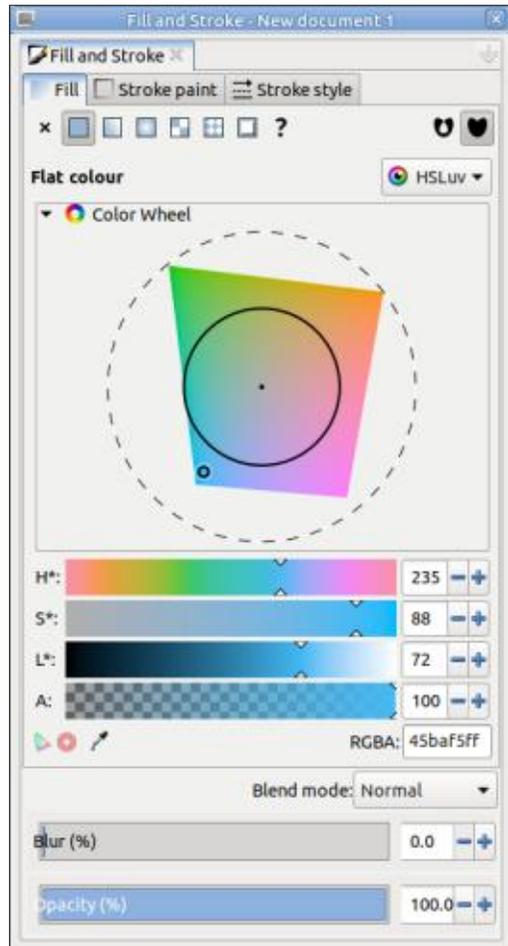


HOW-TO

Written by Mark Crutch

Inkscape - Part 130

Last time, we looked at the updated color pickers in the Fill & Stroke dialog, including the more widely available color wheel, and the new HSLuv color picker.

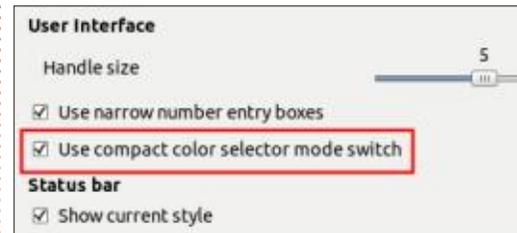


To be honest, I still struggle to understand how to pick a specific

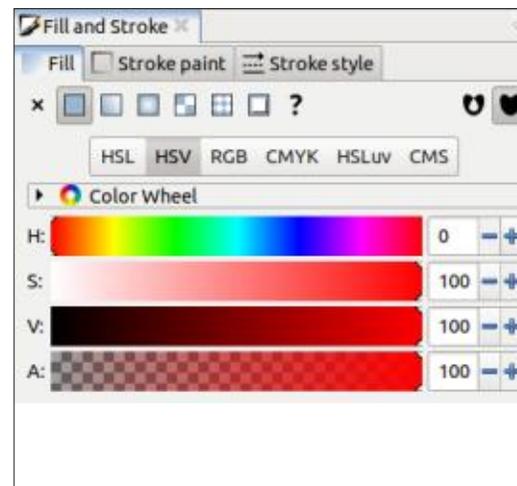
target color in the HSLuv picker, but it's apparently intended to make it easier to choose colors that have an optically similar saturation. You may find that one practical use for this mode is to perform your 'normal' color selection using the palette or the other pickers, but then switch to this mode if you need to create additional colors that share a similar 'strength'. For example, this might be helpful if you're trying to stick to pastel colors in your design, without having to work around all the more vibrant ones in the other color pickers.

As I mentioned last time, switching between the new color pickers is done using a pop-up menu. This keeps the UI looking neat and tidy, but does mean a bit more mouse work, either in clicks or drags, to switch back and forth between the choices. If you do need to change between different pickers quite frequently, then you might find it more convenient to return to a UI that presents all the options at once. In that case, open the Inkscape Preferences (Edit >

Preferences) and select the 'Interface' entry at the left (select it, don't just expand it). Part-way down, you'll find the 'Use compact color selector mode switch' option.



Un-check that option and the color picker pop-up will be replaced by a group of radio buttons instead. It's not the nested-tabs interface of old, but it's a bit closer to the previous design, and requires fewer mouse interactions.



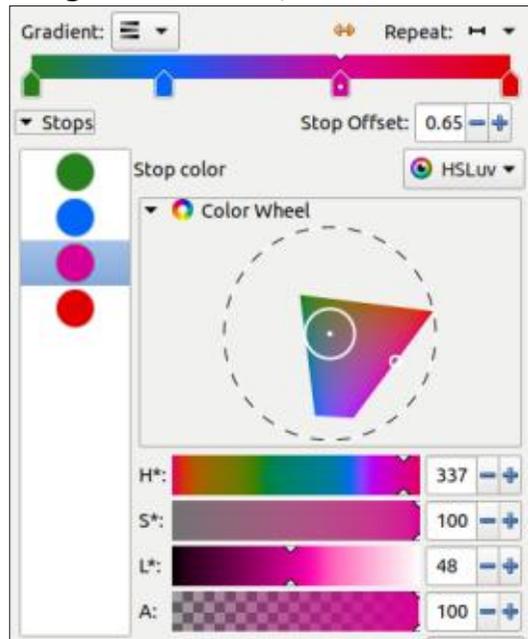
So far, I've shown these color pickers in the 'Flat Color' mode of the Fill tab, but this whole section is a common component that is used elsewhere in the application, whether it's the 'Swatch' section of the Fill tab, or the 'Replace Color' tool in the Extensions > Color menu. And, in all cases, the preference to use radio buttons is honoured, so you won't find yourself dealing with inconsistencies in that part of the UI across the application.

One place that makes use of the color pickers is in the Gradient Editor. Recent Inkscape converts might only be familiar with the on-canvas editing of gradients, but veteran users will remember the days of a simple gradient editor accessed via the Fill & Stroke dialog. For a long time, it was possible to re-enable that with a preference, but there's no longer a need for that as a brand-new gradient editor is now available by default.

The old editor was sparse and

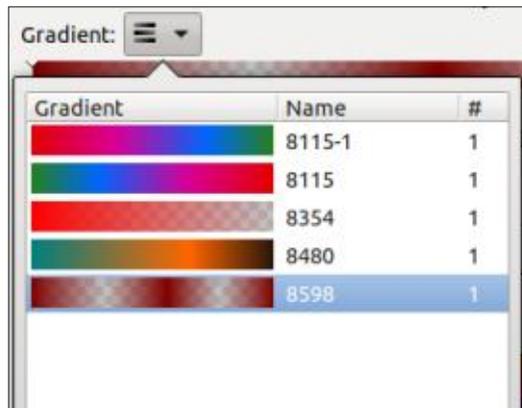
could best be described as 'functional'. But it was still extremely useful at times. When dealing with very small objects or complex scenes, it's often easier to edit a gradient via a separate UI, rather than on the canvas. The re-addition of a dedicated editor, as well as the on-canvas tools, now offers the best of both worlds. And the new editor is a lot more functional than the old one, too.

As has long been the case, linear and radial gradients are separate buttons at the top of the Fill or Stroke Paint tabs of the dialog. You can also find Mesh Gradients here, but they have nothing to do with the gradient editor, and still have to



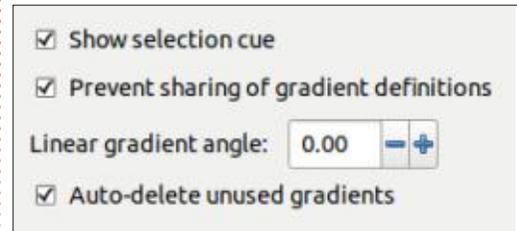
be modified entirely on-canvas. Having selected either Linear or Radial gradient mode, you're presented with a compact UI that squeezes a lot of options into a small space.

At the top-left is one of the most important parts of this interface, but it's one that is easy to gloss over. This pop-up houses the gradient list that used to occupy this entire tab in previous releases!



You may wonder why I think this is so important: this is the key to avoiding gradient proliferation. Particularly in very complex drawings, it's possible to end up with a large number of gradients, many of which are either identical, or similar enough, that they could be replaced with a single entry. In that case, you may wish to consolidate some of those

gradients into one, ensuring that all the objects update when you change the gradient, and potentially resulting in a smaller file size too. Conversely, you might want to ensure that each gradient is used only once, so that edits for one object don't affect any others.



This pop-up shows you all the gradients that currently exist in the document, together with a count of the number of objects they're applied to. With an object selected on the canvas, pick a gradient from this list to have it applied, replacing any existing gradient it might have had (you should also see the count – in the '#' column – increase when you do this). The pop-up is also a good way to see if you still have any gradients in the document that aren't being used (the count column shows 0), and which can therefore be removed by using File > Clean Up Document, before saving. Note that these will also be auto-removed if the 'Auto-delete unused gradients' setting is enabled in Edit > Preferences, within the Tools > Gradient pane, so check that if you

find that unused gradients are being purged when you don't want them to be.

At the bottom of this pop-up are plus and minus buttons. The former will duplicate the currently selected gradient and apply it to the currently selected object(s). This is useful if you need a gradient that is similar to an existing one, but want a separate copy that can be edited without affecting other objects. The minus button deletes the currently selected gradient if it is 'unused'. The use of this word in the tooltip is perhaps a little misleading: it will delete a gradient if it is actively used on the currently selected object, but no others – i.e. if there's a '1' in the count column (so, not really 'unused' then). The button becomes disabled if the column holds '2' or more, preventing really serious disasters that might affect many objects. What it doesn't do is clear out any non-selected gradients, whether they have a '1' or even a '0' in the count column. You either have to select-then-remove each of those separately, or use the File > Clean Up Document option to delete the '0' entries en masse.

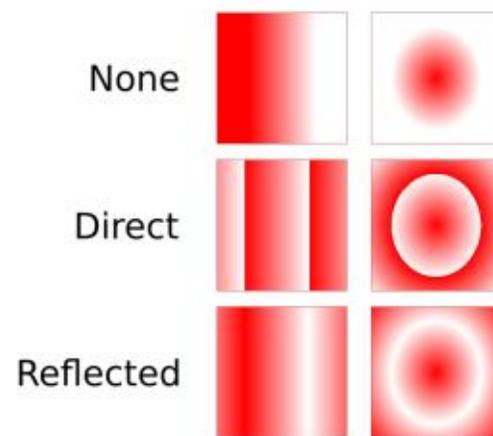
One feature which is still

missing from this part of the UI, and which I would love to see added, is an option to select all the objects that use a particular gradient. It's all well and good knowing that I've still got one object left on the page using a gradient, but it would be better still if the application could show me which object it is!

Moving on from this pop-up, on the same row of controls, you'll next find a small button. In my screenshot, it's shown as a double-headed arrow, but it may differ depending on what icon set you use. This button reverses the entire gradient, flipping the order of all the stops. Note that using this button will automatically create a copy of your gradient (assuming the 'Prevent sharing of gradient definitions' preference is enabled in the Tools > Gradient pane of the prefs), so any other objects sharing the original won't be adversely affected. I don't really know why this button doesn't deserve to have a label when all the other controls on this row do, but it means that it doesn't stand out quite as much as it should.

Finally, on this row is another pop-up – complete with label. This one says 'Repeat', and the pop-up

lets you choose whether the gradient should not repeat ('None'), should repeat as a direct copy of itself ('Direct'), or should alternate its repeats between direct and reversed copies ('Reflected'). This has a visible effect only on objects where the gradient end stops are placed inside the element, and determines what happens to the parts of the object beyond the stops. In the case of 'None', the end stop colors are simply continued, so you won't end up with a big gap beyond the handles of the gradient, whereas the other two options repeat the gradient stops. In no case does the gradient simply stop where the end points are placed, so you won't end up with an object that has unfilled corners (unless your gradient is designed that way).



In this example, I've used the same red-white gradient in both linear and radial modes. The end stops have been moved to be well within the outlines of the squares, and you can see how the three options deal with coloring the areas beyond those stops.

Below that first row of controls in the dialog, we get to a wide colored track that previews the gradient itself, with handles below it indicating the stop positions and colors. Note that you'll still see a linear representation of the gradient here, even if you're actually editing a radial gradient. That's not usually a problem in practice, but you may find it easier to still make some changes to the individual stops on the canvas where you can at least see the gradient used in context.

Each of the gradient stop handles can be moved – even the end ones – by dragging them along this track. They can't pass each other, though, so if you've got three stops set to red, green, blue, then no amount of sliding will change the order if you actually wanted green, blue, red. Instead, you'll have to set each stop color separately by

selecting the handles one-by-one, and using the color picker section below. When a stop is selected, a small circle is displayed in the handle.

New stops can be added by double-clicking in the track, or removed by selecting them and pressing the Backspace or Delete key on your keyboard. The editor doesn't allow for single-stop gradients, however, so you won't be able to delete the first or last stops if there are only two stops in the gradient. If dragging the handles to position the stops is too coarse for your requirements, it's also possible to adjust the selected stop's position numerically using the Stop Offset control below the gradient track. The number in this box runs from 0.00 at the left of the track, to 1.00 at the right. Even this approach prohibits you from swapping stops around, though, so don't think you can sneak that green stop into first place just by nudging the red one up a bit, then setting green to zero.

The individual stops are also displayed as a vertical list at the left of the display. It's possible to hide this list using the 'Stops' control just above, though I can't see any

particularly good reason why you would want to. The selection in this list is kept in sync with the selected handle on the preview track, and vice versa, so you can just select the stops using whichever is most convenient at the time.

This list also provides plus and minus buttons at the bottom. The latter is pretty self-explanatory: it deletes the currently selected stop, unless there are only two remaining. The plus button is slightly more complex: when a stop is selected, clicking this button will create a new stop placed exactly halfway between the selected stop and the next one. The only exception is if the last stop is selected, then the new stop is added halfway between the penultimate stop and the last one. When a stop is added (even if via a double-click on the track), Inkscape sets its color to the existing value of the gradient at that point. This ensures that the gradient remains undisturbed by default, until you start to shift the stop around, or change its color.

The last part of the gradient editor is the large color picker to the right of the stop list, used for setting the stop's color. As this

reflects the same style and operation as the new color picker for flat fills, I'm sure you can work out how to operate it without any further help from me. Just note that SVG gradients can include translucent or transparent stops. If you actually want opaque colors, then make sure to set the Alpha channel accordingly – I've been caught out more than once when I've found that the 'white' in my gradient was actually just the page color showing through, causing problems with my PNG exports.

As a frequent user of gradients, I'm extremely pleased to see the return of a dedicated editor – and very happy with the way it's turned out. I would like to see the addition of a context menu to the color stops, however – providing a convenient way to select common colors (e.g. black, white, most recently used), or to set one stop to the same color as another without having to resort to copy-pasting the hex code. For that matter, being able to drag and drop palette entries onto stops would be a nice addition, too. But those are just items for the wish list, and aren't meant to undermine the great work that the developers have already put into this feature.

As great as the color pickers and gradient editor are, there's yet more that has been added to the Fill & Stroke dialog! So far we've looked at the controls that are common to both the fill and the stroke, but the Stroke Style tab carries a few things that are specific to strokes alone. But, again, the word count catches up with me, so the additions and changes in that tab will be the subject of next month's instalment...



Mark uses Inkscape to create comics for the web (www.peppertop.com/) as well as for print. You can follow him on Twitter for more comic and Inkscape content: [@PeppertopComics](https://twitter.com/PeppertopComics)



HOW-TO

Written by Ronnie Tucker

Welcome back! Ok, I need you to create a new project, a new body, a new sketch, add a centered rectangle, and stop there in the Sketcher workbench.

Let's look at getting this piece locked in place and adding (or removing) some bits.

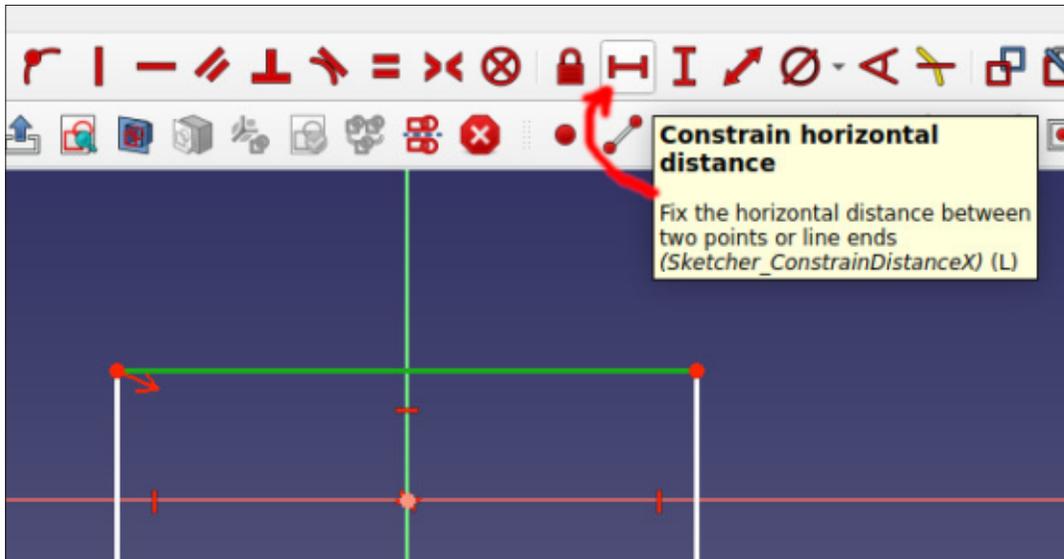
If you look in the left panel, you'll see a bit that says '2 DoF(s)'. This means two things aren't locked in place. Not the end of the world, but it means items could move and mess things up later.

You can click the '2 DoF(s)' link

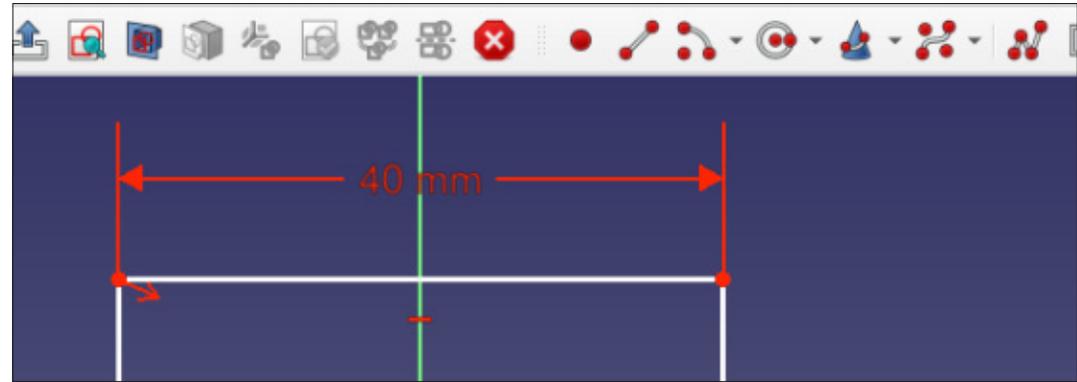
and it'll show you what's not locked, but I can tell you that it's all four corner points. In other words: we can move all four sides. The middle is locked in place as we did that by choosing to make the rectangle from the middle point outwards.

So, left-click on the top edge of the rectangle and it'll change to green. Now left-click the Constrain horizontal distance icon. This will give us a popup that'll let us lock that size in place.

I'm going for 40mm.



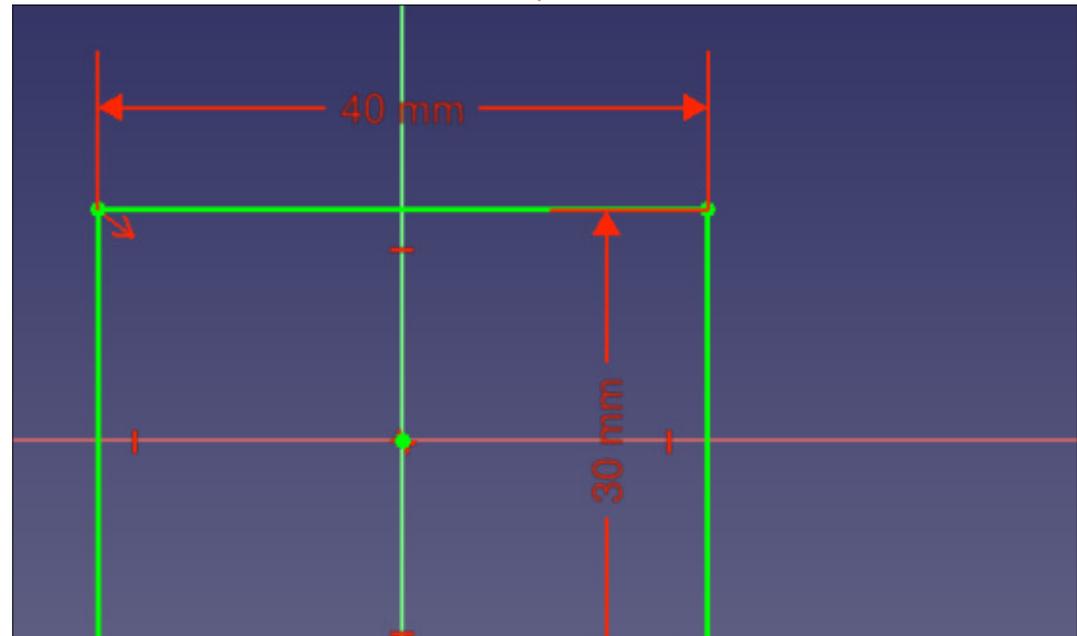
FreeCAD - Part 2

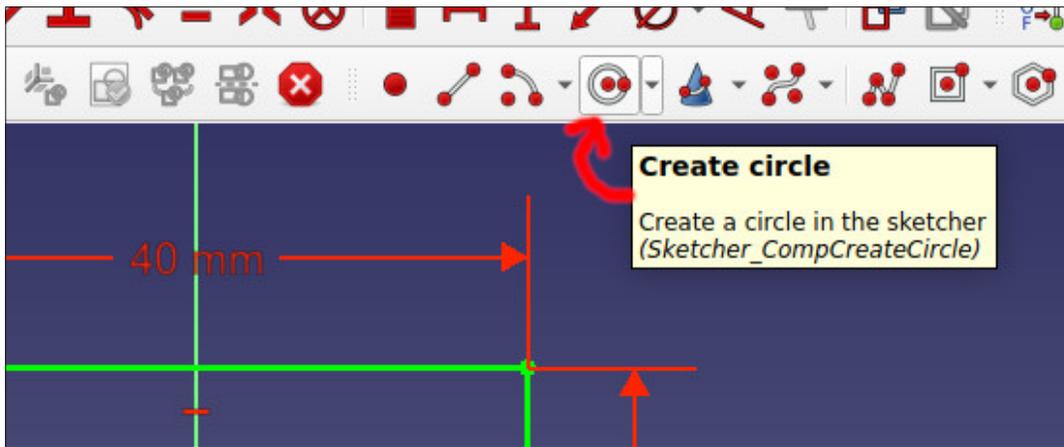


You'll see that we now have a size on our drawing.

Let's do the same for the left or right side, but choose the vertical icon beside the horizontal and make it 30mm.

Lovely. Now you'll notice the whole thing is green. This is because it is locked in place and can't be moved by accident. The left panel also says 'fully constrained'.





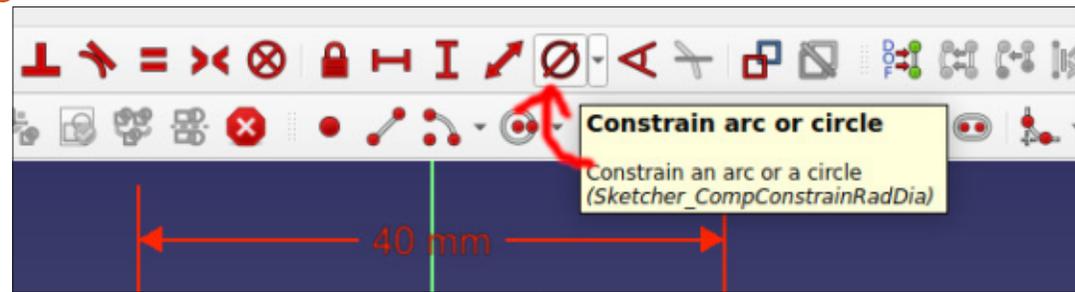
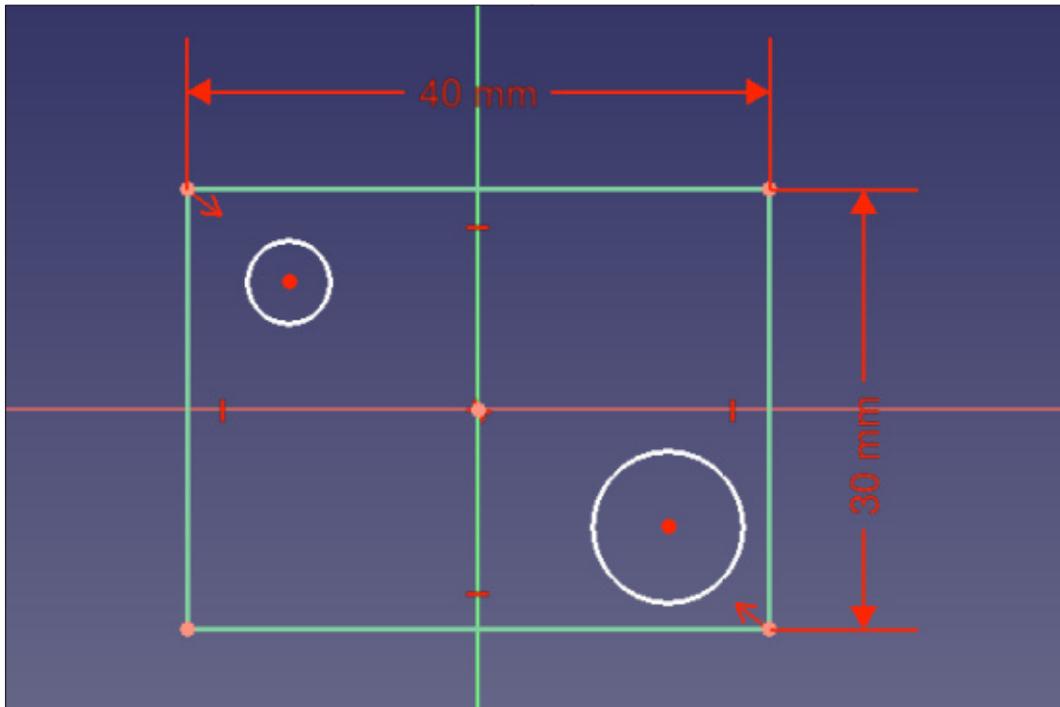
I'm not keen on the 30mm text being on the inside though. You can click and drag on it to move it outside the box. I prefer that.

Now, you could close that and go back to the Part design

workbench, and pad it, but let's add some circles inside it. We'll think of those as screw holes for now.

Click the Create circle icon.

Same as the rectangle, we'll

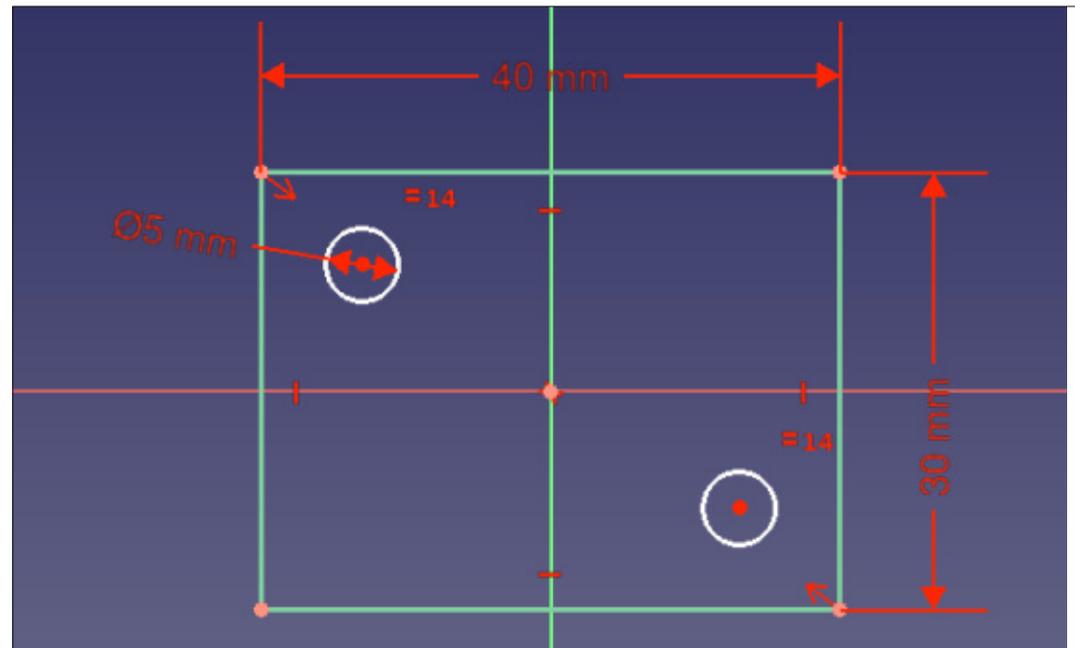


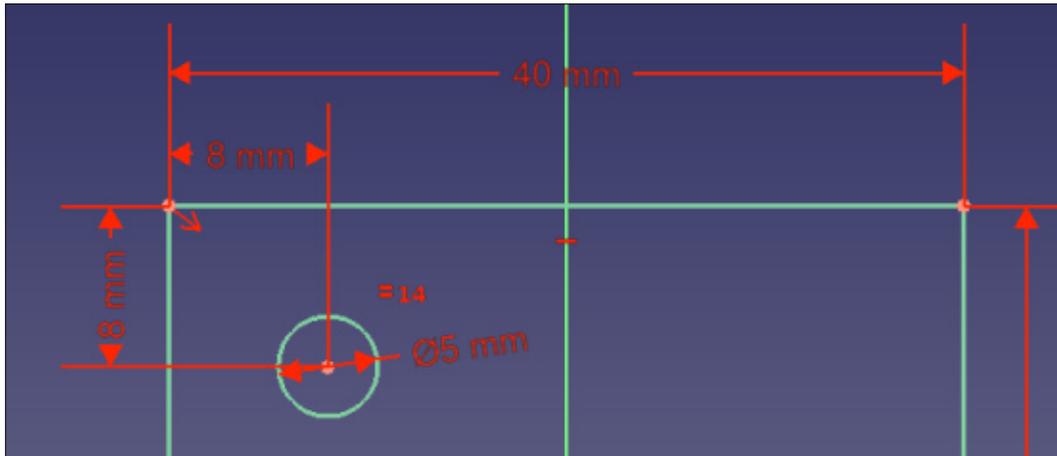
need two clicks to draw the circle.

One in the center and one on the outside edge. So, make two circles inside the rectangle. I'll put one to-left and one bottom-right. Don't forget to right-click (or Esc) to come out of creating circles mode.

If you need to move the circles, you click and drag on the center point. You can click and drag on the circle outline to resize it.

Let's lock a size in for these circles. Click the outline and choose the Constrain arc or circle. This is currently set for diameter, but you can click the down-arrow and choose to make it a radius if you like. I'll make it 6mm. I need the other one to be the same. So click the outline of the 6mm one we just did, hold down the CTRL key, and click the other circle. Now click the





Constrain equal icon. It looks like a big red equals sign (=). Voila! The two circles are the same.

If you double-click the 06mm label on the top-right one, you can change it, and it'll change them both. Try it. Set the top-left circle to 5mm.

We need to constrain these to make sure they're in the right place. Click on the center point for the circle top-left. Hold down CTRL. Click the top-left corner of the rectangle and choose the horizontal constraint (like we did with the rectangle sides). Let's go with 8mm. Select the same two points and choose vertical constraints and choose 8mm again.

I'll let you figure out how to do the other circle.

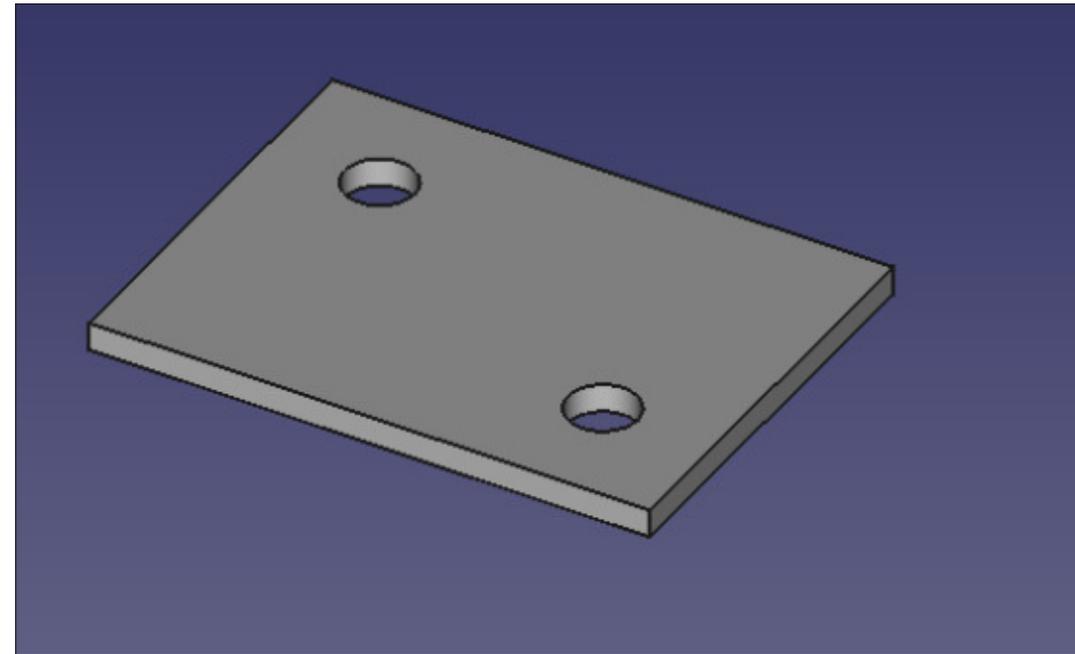
So now our drawing is green and all locked down.

Again, like last time, click Close in the left panel.

This time, though, look at the top icons in the Part design workbench. See the yellow and red ones?

Well, yellow means add, red means remove. That first one with the yellow box is the pad icon. It does the exact same as we did last time. Click the pad icon and make it 2mm this time.

If you want to marvel at your creation you can use the middle



mouse button (or scroll wheel held down) to move the model about. Hold both middle and right buttons to rotate.

On the left panel, click the right-arrow beside Pad. This will show a greyed out Sketch below it. Double-click the Sketch to go back into it.

Feel free to add another two holes to either corner of the rectangle to give four holes. We'll start with that four hole plate next time.



Ronnie is the founder of Full Circle and, somehow, still editing this thing. He also paints, draws and does woodcarving in his spare time.



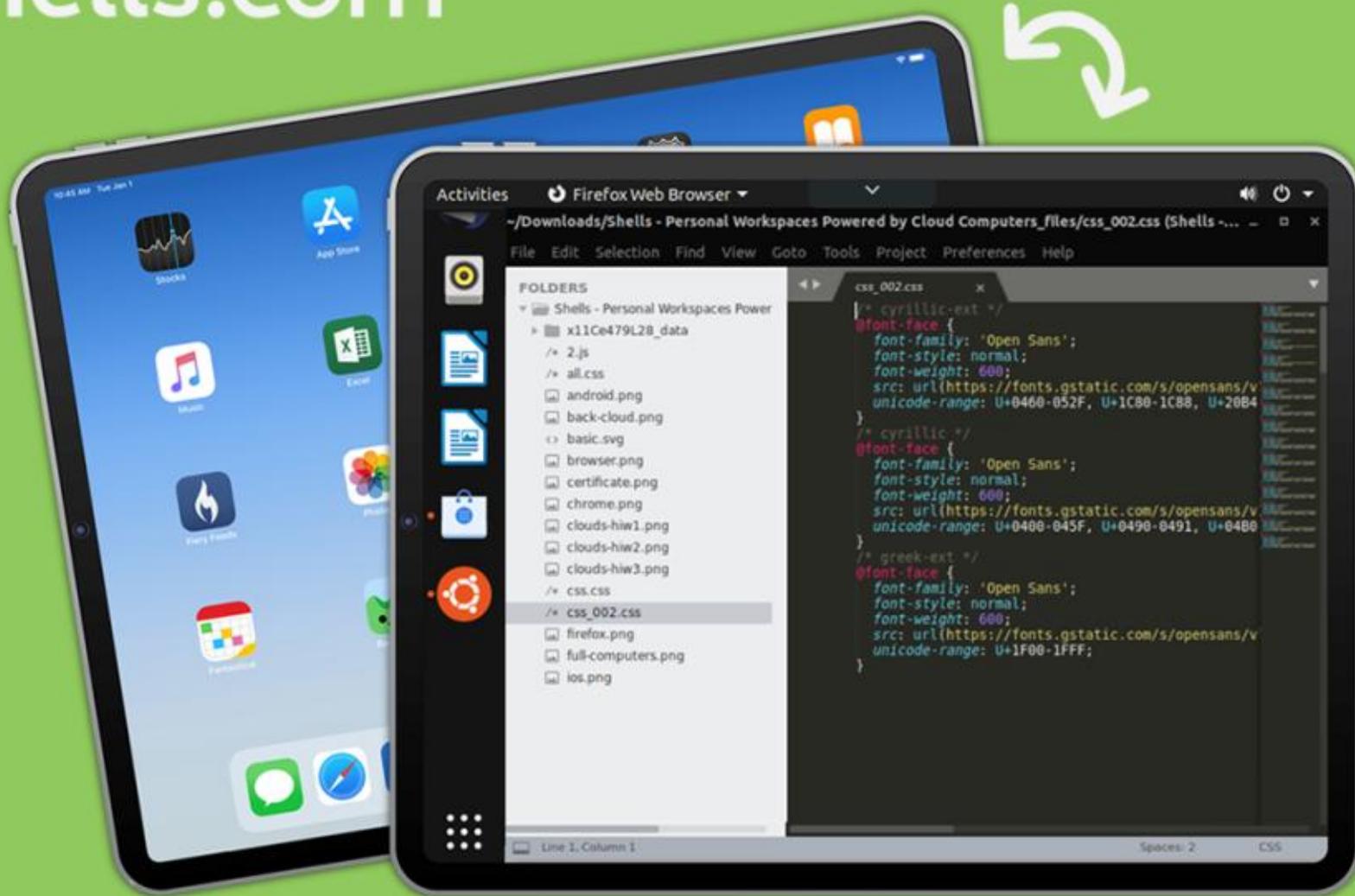
The Daily Waddle

SOMEONE SHOULD INTRODUCE
SNOW WHITE TO LIBUNTU TOUCH...





BACK NEXT MONTH



Linux on Your iPad

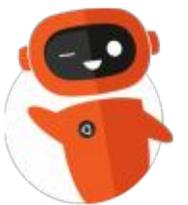
For as low as \$4.95, you can have your own personal Linux cloud computer in minutes on any device.





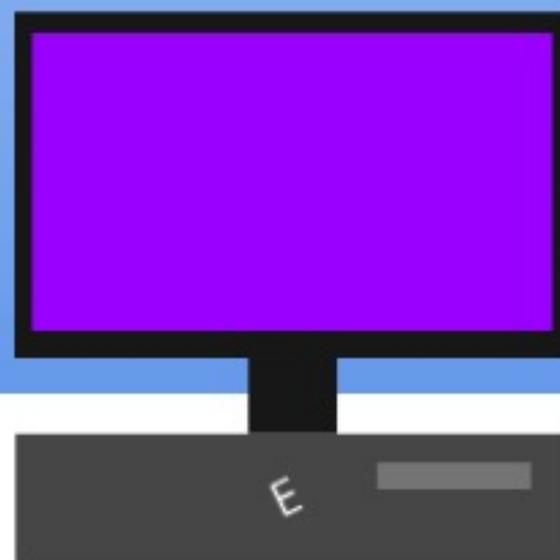
UBPORTS DEVICES

Written by UBports Team



The Daily Waddle

NOBODY EVEN KNEW WHERE THIS PLACE
WAS UNTIL I HACKED HILARY'S EMAILS





I have a condition and I'm afraid it's not easily treatable. It's an urge somewhat stronger than myself to go against the flow when it comes to doing the most illogical thing, to the most ill suited subject, at an inappropriate time. Before you start calling 911, let me elaborate: It has to do with my fetish to install copies of Linux on computers that were NOT made to run it at all. It's a moderate illness compared to the completely pathological condition of some of my fellow geeks who try to run a copy of Doom on their microwave timer, but it's a condition nonetheless.

I've been doing it for years. At first, the challenge consisted of reviving old discarded laptops that were 'doomed' (no pun intended, guys) to oblivion because they could no longer run Windows XP or Vista, and the tons of bloatware that came with it. I would spend hours in a Frankensteinian haze trying to bring those machines back to a productive life. I would hand them off to friends and family – only to have them frown at the

strange "it's-not-windows" operating system that I forcefully jabbed under their noses.

PREVENTING A MINI CHERNOBYL

Later, it got worse. Seeing expensive macs lying by the wayside because the money-makers in Cupertino decided not to support them with the latest version of OSX. What started with spending hours to fight invisible bios settings to boot a different operating system, ended with desperate research on trying to activate cooling fans at the right moment to prevent the system going Chernobyl on me.

Sometimes, my endeavours were not out of masochism but sprung from necessity. When I bought the first version of the Surface Go laptop a couple of years ago, it was horribly frustratingly slow. The only alternative to smashing it to a gazillion pieces in a fit of pure liquid rage, was to find out if Linux might help. Behold: It did. An installation of Ubuntu on

said system did boost performance, but I would have to live with poor battery life, and the absence of decent touchscreen support and the use of the internal webcam. Survivable in a pre-covid world.. unacceptable after the pandemic.

SO HOW ABOUT THE SURFACE LAPTOP GO 2

So I should have known better when I started ogling the new Surface Go laptop 2 (yeah, what a name right?), but I was just smitten with the form-factor. A small non-cinematic sized 12-inch screen, a decent but un-backlit keyboard, 64 gigabytes of storage, 4GB of RAM, and an older i5 processor? At the price point, this laptop sounds like a baaaad idea, even if you run only Windows 11 retarded cousin "Windows S" on it. Perfect for Linux.. right?

With glee, I got my hands on one of these lovely devices, looking forward to hours of tinkering to get everything working. Supported with gallons of coffee, my friends from the interwebs and some

hacker music, I could start the thrilling adventure to get the OS on there, try obscure drivers and scripts to unlock unworking hardware... only to arrive, elated, with a semblance of a somewhat working system. It was my version of a lego box: The joy of building it a goal in itself.

LIKE THE WHALE ASKING CAPTAIN AHAB FOR A BELLY RUB

But this time around, I was thoroughly disappointed because... everything... just... worked. A quick hop to the bios to change the boot order, and also allow UEFI booting from third parties, was all I needed to do. Afterwards, Ubuntu 22.10 booted flawlessly and installed without a hitch. It felt like I was doing this on a super-supported thinkpad. It wasn't supposed to be like this? Like the great whale scooting up to captain Ahab for a friendly belly rub, this system unlocked all its secrets and functionalities on the very, very first boot. Webcam, wireless,

speakers, sleep-to-suspend... What took me hours to fiddle around with in previous adventures now.. just worked. But.. it gets worse.

Whoever expected the Surface laptop Go 2 to be a bleak facsimile of 'the real thing running Windows' is wrong. Without having to compromise down to a "Lightweight version" of Linux, 22.04 (running Gnome) proved to be an excellent companion for the Surface. Its app window (with large icons) provides a better interface than the native operating system the device ships with. It's easier on the frugal 4GB of RAM and even after installing a boatload of apps, I only used up 55% of the 64 Gig drive.

"It's wrong, it's just wrong" I keep mumbling like the deranged genius I am. I am welding a solar array to a jellyfish – only to find out I've created a superior creature? This road should be riddled with frustrations, compromises.. not smooth sailing to end up with a result that is actually BETTER than the original. But there you have it. For those of you who hate Disney-like happy endings, I do have one little paper cut to offer up. The battery performance isn't as good

as it is on Windows. You might get a measly 6 hours out of it instead of the (promised but not proven) 9 hours Redmond swears by.

IN CONCLUSION

Here is what you geeks want to hear about installing Ubuntu on the Surface go laptop 2 (Base model with 4GB of RAM, 64GB of storage, without the fingerprint reader):

- Boot from Ubuntu with UEFI Support: Works (just enter the bios, change the boot order and enable 3rd party support for Uefi systems)
- Installation with full wifi support: Works out of the box
- Non proprietary driver support: Works out of the box. Enter secure boot password once
- Audio and webcam : Works out of the box
- Touch support: Works out of the box (bonus if you put the Gnome app button in a convenient place)
- Bluetooth: Works out of the box.
- Function buttons on the keyboard : Supported out of the box.
- Back-lit keyboard: Non supported (there is no spoon).
- Suspend on lid-close : Works fine.

So there! Installing Ubuntu 22.04

on the Surface laptop Go 2 is the most uneventful project that you might endeavour on in 2023, and can be performed by a total noob. The shocking result is that, this time around, it might even transform the machine into a superior version of its 'out of the box' self. Proceed at your own peril, but understand the risk that your best Linux laptop might just be one that was made by Microsoft.



Knightwise is the author of the [Knightwise.com](https://knightwise.com) blog and podcast. Since the dawn of the millennium, he has been blogging, podcasting, and producing content for "cross platform geeks" who love to use different operating systems and let technology work for them.



HOW-TO

Written by Ronnie Tucker

Write For Full Circle Magazine

GUIDELINES

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

RULES

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

• For advice, please refer to the **Official Full Circle Style Guide:** <http://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 not use tables or any type of **bold** or *italic* formatting.

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

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

TRANSLATIONS

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

REVIEWS

GAMES/APPLICATIONS

When reviewing games/applications please state clearly:

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

HARDWARE

When reviewing hardware please state clearly:

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

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



REVIEW

Written by Adam Hunt

Xubuntu 22.10

What is going on in the world of Xubuntu these days? The most recent release, Xubuntu 22.10, out on 20 October, 2022, gives us some insight into the developers' priorities for the new release cycle. Xubuntu 22.10 is the first interim release of the cycle, and will be followed by two more interim releases, and then the next long term support version in April, 2024.

Being an interim release, Xubuntu 22.10 has only nine months of support, until July, 2023.

So let's delve into this new version and see where the developers are doing this time around.

INSTALLATION

I picked up Xubuntu 22.10 via BitTorrent from the official source. This download is 2.8 GB in size, which is 500 MB or 18% bigger than the last release for reasons that are not totally clear. All of the Ubuntu family of Linux distributions have been growing in size in the last few

releases, so it seems to be an ecosystem-wide phenomena. In comparison, the mainstream Ubuntu 22.10 release is now up to 3.8 GB.

I dropped the Xubuntu ISO file onto a USB stick equipped with Ventoy 1.10.81, and booted it up. Ventoy does all the hard work, unpacking the file and bringing up the desktop for testing.

SYSTEM REQUIREMENTS

The recommended minimum system requirements for Xubuntu

22.10 have remained the same since 21.04:

- 1.5 GHz dual-core processor
- 2 GB RAM
- 20 GB of hard-drive space

To be honest, 2 GB of RAM is probably a bit skimpy unless you never open your web browser. Firefox alone can eat up 4 GB of RAM these days with just a few tabs open, and it uses less RAM than some other browsers like Chrome or Falkon. More RAM is better.

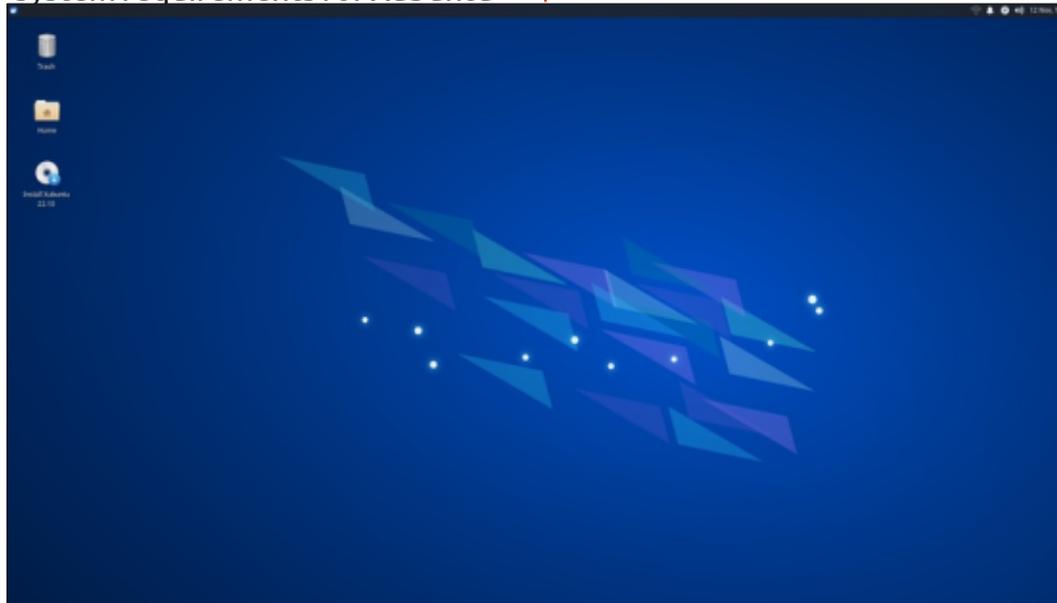
NEW

Xubuntu 22.10 uses the Xfce 4.16 desktop, with a few components from 4.17, like Xfce4 Panel 4.17.0. The 4.17 components are a preview for testing for the next big Xfce release, which will be 4.18. The GTK toolkit in use is now up to version 4.81.

As is normal for Xubuntu, this release has a nice, new abstract wallpaper in the usual trademark blue hues found in this distribution. If this new one is not your favorite, then there are 22 other wallpapers provided, many of which will be familiar as they are from recent Xubuntu releases. The Xubuntu developers seem to just keep adding wallpapers from recent favorites as this version has two more than the last release.

SETTINGS

This Xubuntu release continues the use of the default Greybird window theme although it has been further tweaked this time. Once



REVIEW

again, there are a total of six window themes provided, consisting of Adwaita, Adwaita-dark, Greybird, Greybird-dark, High Contrast and Numiux. The two dark themes still suffer from blurry window title fonts. There is also a choice of eight icon themes, an increase of two from the last release.

The Whisker Menu remains the same as it has been since it was adopted by Xubuntu with 14.04 LTS, 16 releases ago. Whisker remains popular because it is very flexible and even resizable, something unique in the world of Linux application menus.

APPLICATIONS

Some of the applications included with Xubuntu 22.10 are:

- Atril 1.26.0 PDF viewer*
- CUPS 2.4.2 printing system
- Catfish 4.16.4 desktop search
- Firefox 106.0 web browser**
- GIMP 2.10.32 graphics editor
- Gnome Disk Utility 43.0 disk space and health monitor
- Gnome Disk Usage Analyzer 43.0 disk display
- Gnome Software 43.0 package management system
- Gparted 1.3.1 partition editor*
- Hexchat 2.16.1 IRC client
- LibreOffice 7.4.2 office suite
- Mousepad 0.5.10 text editor
- Parole 4.16.0 media player*
- PulseAudio 16.1 audio controller

- Ristretto 0.12.3 image viewer
- Rhythmbox 3.4.6 music player
- Document Scanner 42.5 (simple-scan) scanning utility
- Software Updater 22.10.4 (update-manager) software update manager
- Synaptic 0.91.2 package management system*
- Thunar 4.19.9 file manager
- Thunderbird 102.3.3 email client
- Transmission 3.00 BitTorrent client*
- Wget 1.21.3 command line webpage downloader
- Xfburn 0.6.2 CD/DVD burner*
- Xfce4 Panel 4.17.0 desktop panel*
- Xfce4 Power Manager 4.16.0 system power manager*

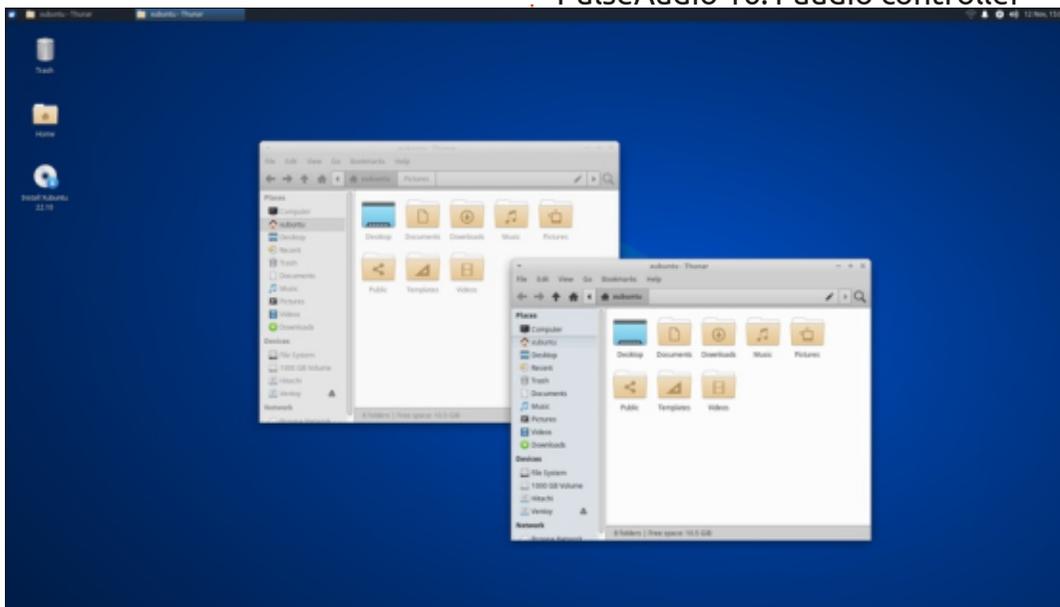
* indicates same application version as used in Xubuntu 22.04 LTS

** supplied as a snap, so version depends on the upstream package manager

There have been no changes to the mix of Xubuntu default applications provided.

As has been the case in recent Xubuntu releases, there is no default webcam or video editing application included although there are several choices for each in the repositories available for installation. Xubuntu remains unique in the Ubuntu family of operating systems in providing the GIMP image editor in the default installation.

Xubuntu 22.10 includes



REVIEW

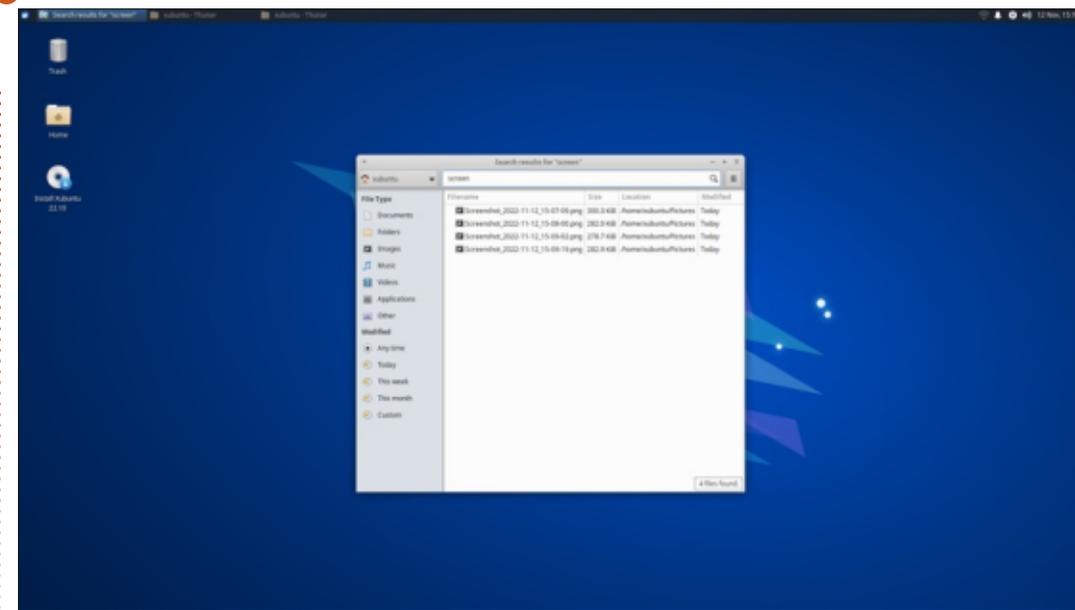
LibreOffice 7.4.2 which is complete except for only LibreOffice Base, the database application, which is probably the least used LibreOffice component. It can be installed if desired.

This release does bring some improvements to the applications that are provided. In this latest version, the Mousepad 0.5.10 text editor includes search history and automatic file reloading when files are externally changed. Mousepad has spellchecking, and syntax highlighting with a variety of color schemes too, making it a fully-featured text editor.

The Thunar 4.19.9 file manager has added native search functions

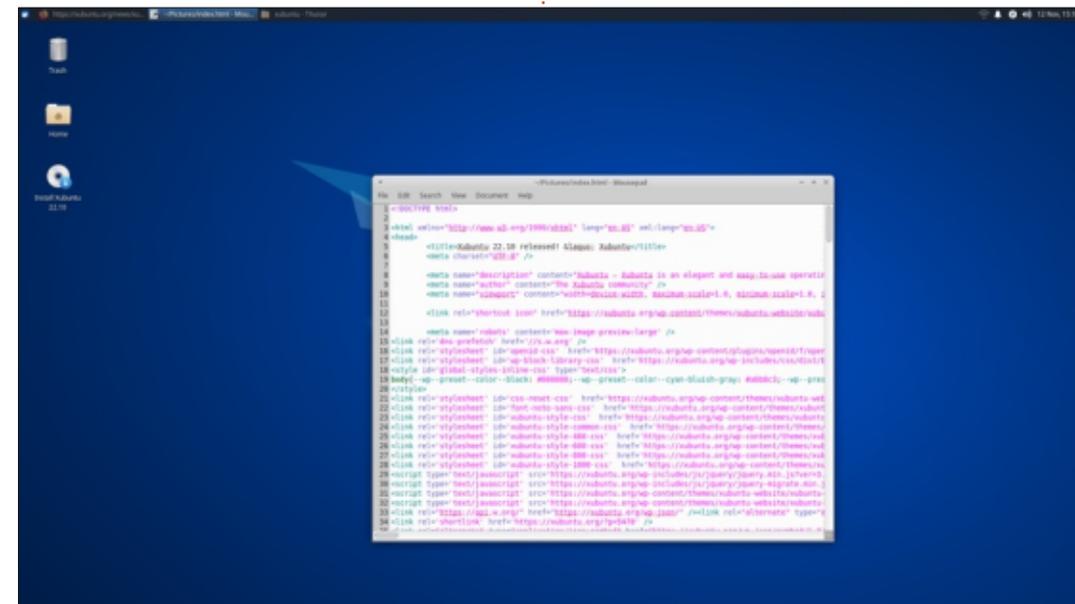
including recursive folder search. I am not sure what the user case is for still including the stand-alone Catfish 4.16.4 desktop search application now, but it has been redesigned and allows files, once found, to be opened in a selection of applications directly from Catfish.

Xubuntu 22.10 continues to use PulseAudio as its audio controller even though Ubuntu 22.10 and Kubuntu 22.10 have switched over to using PipeWire instead. Xubuntu 21.10 had previously introduced the use of PipeWire as a PulseAudio adjunct program, but it is no longer installed in Xubuntu 22.10. It will be interesting to see if Xubuntu and the other Ubuntu flavors follow



Ubuntu's lead and switch entirely to PipeWire. The newest version of the included Xfce PulseAudio Plugin features a new indicator that shows when an application records

audio and provides a notification whenever the microphone volume level is changed. Given the work put into this custom Xfce plugin, the Xubuntu developers may be



REVIEW

reluctant to change over to PipeWire.

There are other small changes to many of the Xfce components, with a full list available in the 22.10 release notes.

CONCLUSIONS

Xubuntu 22.10 is a really solid release, with nothing bad to report. If the large number of small tweaks is any indication of how the rest of the release cycle will proceed, it looks like Xubuntu fans will be happy with the LTS results in April, 2024. Most of the Xubuntu users I know really like the distribution the way it is, and generally don't see

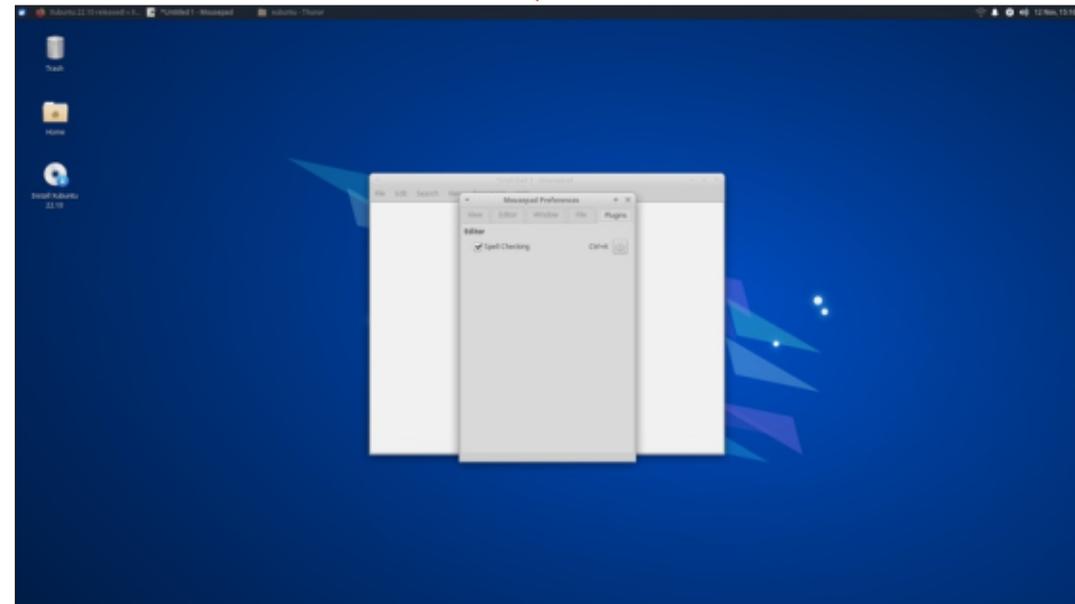
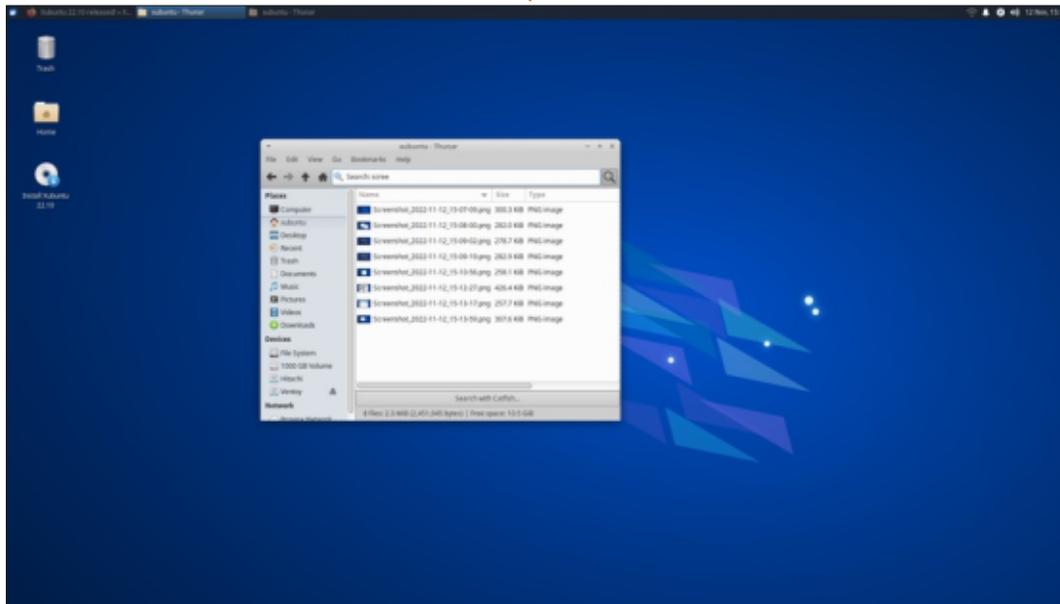
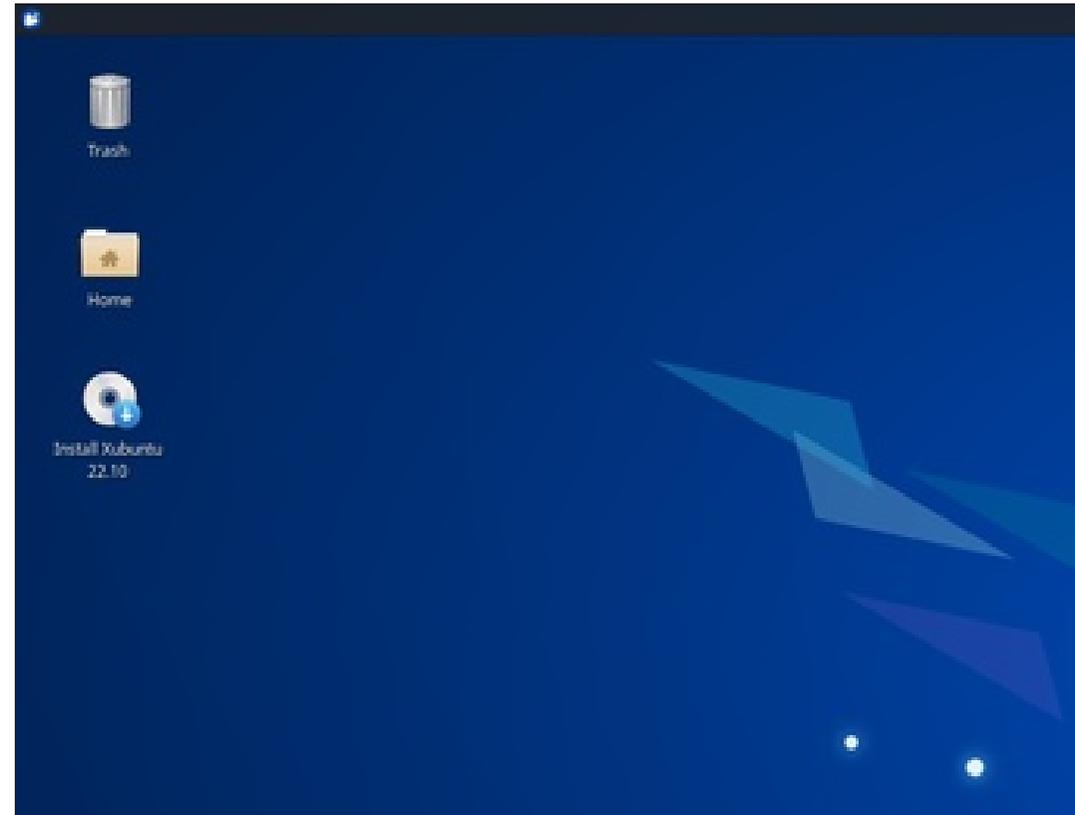
the need for major changes.

EXTERNAL LINKS

Official website:
<https://xubuntu.org/>



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.





MX Linux has been sitting at the top of the DistroWatch page hit ranking for quite a while now. In fact, it is in the number one position for the one, three, six and twelve month rankings, so I wondered, is this a concerted campaign to promote this distribution by its fans, or just the result of flagrant curiosity? The MX Linux users I know are all very enthusiastic about it, so I thought it was time to give it an evaluation and find out what the appeal is.

MX started as a collaboration between the developers of AntiX and MEPIS. That latter distribution had been quite popular but the project stalled and its last release was on 10 August, 2013. When MEPIS development ended the two communities decided to work on a successor and MX Linux was conceived. The "M" is from MEPIS and the "X" from AntiX. The first release of the new MX was on 24 March, 2014, and was numbered MX-14, for the year of introduction.

Since its 2014 introduction, MX has had major and minor point

releases every year. MX-21 was released on 18 September, 2021 and the follow-up point release, MX-21.2.1 on 18 September, 2022, was based on Debian 11.5 Bullseye.

The goal of the MX project is to produce a distribution "designed to combine elegant and efficient desktops with high stability and solid performance".

MX has a lot of support available including good documentation, videos and a forum that is advertised as being "friendly". There is also a complete set of user



manuals in eight languages. The English version is a 192 page PDF file that is found on the MX website, and also provided with the ISO file with a link right from the desktop. I would think that would reduce the forum's help traffic.

These days, there are six different MX downloads offered:

Three have the Xfce desktop in 64-bit, 32-bit, and 64-bit AHS (Advanced Hardware Support) versions. With the 21.2.1 version, the AHS version uses the 5.18 Linux kernel for newer hardware like AMD Ryzen, AMD Radeon RX

graphics, or to support 9th, 10th and 11th generation Intel processors. The standard download provides the older 5.10 Linux kernel.

There is also a 64-bit KDE desktop download, plus 64-bit and 32-bit versions with the Fluxbox window manager for older hardware.

The main "flagship" download is the Xfce version which the developers describe as "a midweight desktop environment that aims to be fast and low-resource, while still being attractive and user-friendly."

INSTALLATION

I downloaded the 64-bit version of MX-21.2.1 "Wildflower" from the MX website via HTTP, since there is no BitTorrent option. While linked from the MX website, the downloads are all hosted on SourceForge.

Both MD5 and SHA256 sums are provided so I ran an SHA256 sum

REVIEW

check from the command-line to make sure the download was good. The checksums are kind of hidden on the download mirrors page but there are links pointing to them.

The download size obviously will vary depending on the desktop chosen but the Xfce 64-bit version was a reasonable 1.7 GB.

MX is listed as specifically supported by Ventoy, so I dropped the ISO file onto my USB stick equipped with Ventoy 1.0.82 and it booted up very quickly.

SYSTEM REQUIREMENTS

The MX users manual has some

details for the minimum hardware required:

A CD/DVD drive (and BIOS capable of booting from that drive), or a live USB (and BIOS capable of booting from USB)

A modern i686 Intel or AMD processor

1 GB of RAM memory

6 GB free hard drive space

For use as a LiveUSB, 4 GB free

The “recommended” hardware, though, is a bit higher spec, as it calls for 2 GB of RAM, 20 GB of hard drive space, a sound card, and a video card. It also suggests 4 GB of RAM if you are doing more RAM-intensive operations such as video editing.

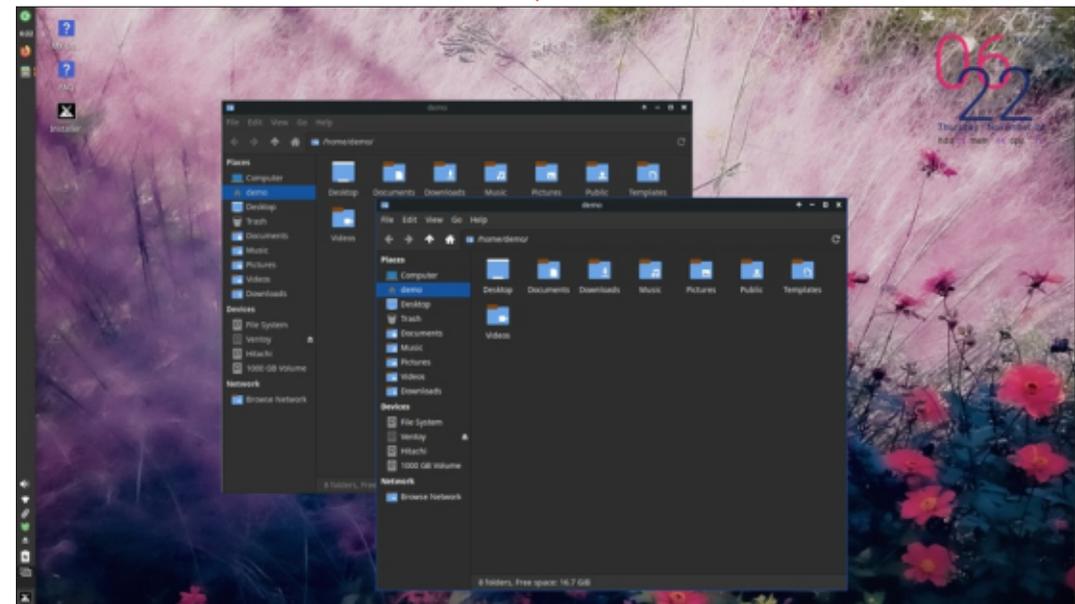
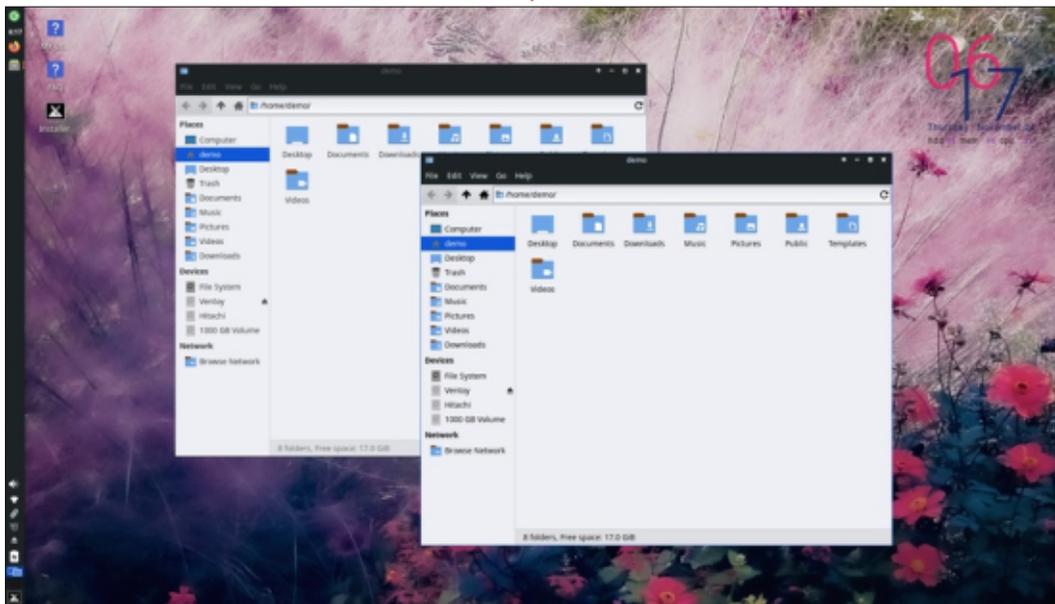
I found that, with just Firefox open with 13 tabs, Thunar, FeatherPad, and the terminal window, I was using 4 GB of RAM, so I think 8 GB would be better for good performance.

FEATURES

MX Linux is solidly aimed at desktop users, and it has a lot of features for that role, including a large assortment of custom, MX-specific utilities. This is not a stock Xfce desktop like you would find running on top of Debian; it has been modified at almost every level. There are 23 custom MX tools installed by default, including the MX Package Installer, MX Boot

Options, MX Boot Repair, and MX Repo manager. The large number of settings would be daunting if they were not all collected together in the Settings Manager.

MX has purposely avoided using systemd as its initialization system, and, instead, employs SysV. This is no mean feat considering MX’s basis in Debian which does use systemd as its foundation. But, before systemd-haters rejoice, you need to know that systemd is actually installed by default anyway, although not activated. It turns out that it is needed to make things work, like Nvidia drivers for instance, so systemd is there, just not used for booting, a compromise that will likely make no one happy.



The standard Xfce4 desktop panel is used, but it is, by default, vertical on the left side of the screen, instead of at the top as is more commonly done in Xfce. This puts the menu button in the bottom-left corner, though, which probably aids the transition for Windows users, as well as for Linux users coming from desktops like KDE, LXDE or LXQt. In the vertical position, the panel actually acts much like the Ubuntu dock. It is user repositionable, too.

MX uses the Whisker menu that Xubuntu adopted as well. This menu is the most flexible on the Linux desktop, it can even be resized. Whisker is well-organized

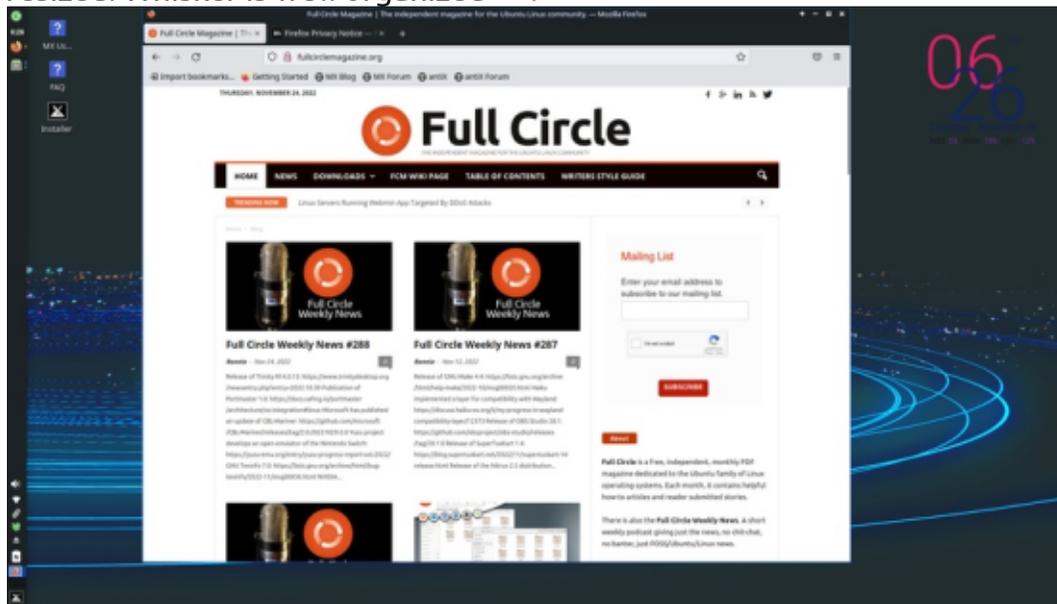
and makes finding applications fairly fast. Looking through the menus shows that for a 1.7 GB download, MX comes with a lot of applications already installed.

MX also comes with 36 wallpapers, which is good, as the default wallpaper may be busier than some users like. MX has 25 window themes, with the default being mx-comfort. All the window themes, even the light ones like Adwaita, seem to retain the same black top bar, though. There are 13 icon sets to choose from, with Papyrus-mxbluedarkpanes as the default. So, as far as user customization goes, there are lots of choices, many of them unique to MX Linux.

APPLICATIONS

Some of the applications included with MX Linux 21.2.1 are:
 ALSA Mixer 1.2.4 audio controller
 Archive Manager (file-roller) 3.38.1 archiver
 Asunder 2.9.7 CD ripper
 Catfish 4.16.3 file search
 Clementine 1.4 RC2 music player
 CUPS 2.3.3 printing system
 Disk-manager 22.01.02 disk manager
 Document Scanner (simple-scan) 3.38.1 optical scanner
 FeatherPad 1.3.1 text editor
 Firefox 104.0.2 web browser
 Foliote 2.6.3 ebook viewer
 Galculator 2.1.4 calculator

GDebi 0.9.5.7 package manager
 Geany 1.37.1 lightweight IDE
 Gparted 1.2.0 partition editor
 Gnome PPP 0.3.23 dial-up tool
 gThumb 3.11.3 image viewer
 Gufw 20.04.1 Firewall
 LazPaint 7.1.6 image editor
 LibreOffice 7.0.4.2 office suite
 MX Package Installer 22.8.02 software store
 qtpdfview 0.4.18 PDF viewer
 Synaptic 0.90.2 package manager
 Timeshift 22.06.5 system restore utility
 Thunar 4.16.8 file manager
 Thunderbird 78.13.0 email client
 Transmission (transmission-gtk) 3.0.0 bittorrent client
 Webcamoid 8.8.0 webcam
 Wget 1.21 command line webpage downloader



REVIEW

VLC 3.1.17.4 media player
XfBurn 0.6.2 CD/DVD burner
Xfce4-panel 4.16.3 desktop panel
Xfce4-screenshooter 1.9.9
screenshot tool
Xfce Terminal 0.8.10 terminal
emulator

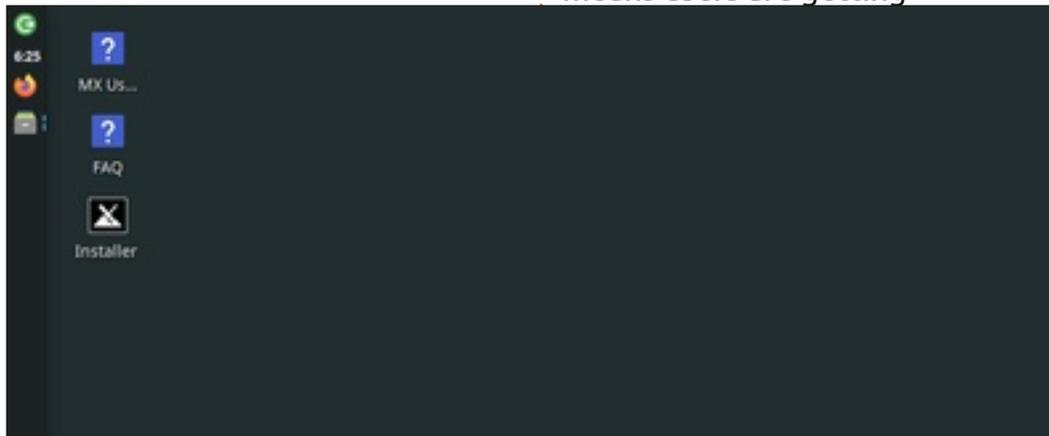
This is an impressively long list of default applications, especially for a 1.7 GB download. Just about everything is here for the desktop user, except perhaps a video editor. More applications can easily be added, of course, from the MX or Debian repositories, or several others which are all enabled.

The default list of applications is a curious mix of GTK and Qt programs. MX seems to focus on functionality for the user first and foremost, rather than adhering to any one toolkit, or even taking applications from any one desktop.

Firefox is the default browser but, of interest, this is not the Snap package, or even Firefox-ESR from the Debian repositories, but the binary version that Mozilla provides on their own website. MX is the first distribution I have encountered that packages Firefox from that source directly.

The custom-designed MX Package Installer is not a true, modern-style software store, but it works well, is easy to use, and offers a selection of alternate web browsers including Brave, Firefox-ESR, Palemoon, Falkon, Microsoft Edge, Vivaldi, Chromium, and Google Chrome. Yes, you read that right, you can not only install non-free software browsers like Vivaldi and Chrome, but even Microsoft products like Edge and it installed and worked, although why you would want Microsoft software on your Linux desktop is a whole 'nother debate.

Being based on Debian, the default package management is APT, but Appimage, Flatpak and Snaps can also be used. However, the user manual warns that Snaps are "unreliable on MX Linux unless the user has booted into systemd"



so there is that requirement for systemd, once again.

The MX Package Installer offers some alternative desktop environments too, including Budgie, Gnome, KDE, LXDE, and Mate, but not LXQt or the Unity interface.

The availability of non-free software will not make the free software purists happy, but clearly MX is more focused on giving users a wide range of choices rather than adhering to any doctrinal aims.

CONCLUSIONS

MX Linux is an impressive distribution. There is a lot that it gets right and not much at all to find fault with. The clear focus on usability, above all other goals, means users are getting

functionality over any other priorities. The result is a pretty flawless Linux distribution that looks good and works well.

While not aimed at total Linux beginners, MX is easy enough to download, install, set up, and use. It never feels intimidating. Being backed up with good documentation and helpful forums will also assist new MX converts in feeling at home quickly.

Regardless of its DistroWatch page rankings, whenever I talk with MX users, they are both dedicated and enthusiastic. Given the number of choices for distributions in the Linux world these days, I think that is the best endorsement.

EXTERNAL LINKS

Official website:
<https://mxlinux.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.



LETTERS

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

Join us on:



[facebook.com/
fullcirclemagazine](https://facebook.com/fullcirclemagazine)



twitter.com/#!/fullcirclemag



[linkedin.com/company/full-
circle-magazine](https://linkedin.com/company/full-circle-magazine)



[ubuntuforums.org/
forumdisplay.php?f=270](https://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

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

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, UUIDs, 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.

Yesterday, a user came in with a problem, the Apple Mac would not connect to bluetooth devices any more. I tested, and, sure enough, it did not connect to her bluetooth headphones. I tried with my phone and it did not connect either. Indicating the headphones were at fault. Just to be sure, I tried my phone, and that worked. However, she connected her phone to the bluetooth headphones and it worked. On top of that, the Mac did not connect to her phone either.

With all the up & down testing, I suddenly became aware of her turning off the bluetooth headphones when I tried to connect to them with my phone. A small movement out of the corner of my eye. She had one of the new Macs with Ventura on it, and I could not click the trackpad either. What a horrible machine! I had to stomp my finger on the trackpad ten times before it clicked once. Since she did all the password typing, I did not type at all. I decided to kill the bluetooth process in the terminal. This is when I felt the horrible crunch of sugar under the keys.

Suddenly everything clicked into place. I moved my phone another 10cm away and it did not detect. I took the headphones over the keyboard and it connected immediately. The user had spilled a sugary drink into the laptop. When queried about it, I was told she received it like that as it was a 'second hand' machine. However, checking the asset register, It was a brand new machine. It was "second hand" only because there was a

system user on there – the one we used to set up the Mac initially. Sometimes, I wonder what users think about IT people. If something worked for five months then stopped after you spilled your drink into your notebook, you cannot say you got it like that, we are going to find out. Her turning off the bluetooth headset when I tried connecting with my phone, to make it seem like there was some other problem, just proved to me she knew all about said spill.

Just come clean, say I made a boo-boo, and things can move forward. Everyone makes mistakes, but when you intentionally waste my time....

Q: I have a Dell XPS laptop. It has no normal USB slots or DVD Rom or anything, being an Ultrabook. I thought I was smart to write Ubuntu to a mini SD card and set the BIOS to boot from the SD card, as I have this slot. The boot process starts initially, then stops while looking for a USB boot device

or DVD Rom. I tried with Exitx and MX linux too, but I have the same result, I'm deducting that I'm doing something wrong. I wrote the mini SD card with a Balena etcher on my Ubuntu 20.04 machine. Windows 10 update broke my microphone and I said enough is enough, but installing Ubuntu is now vexing me too.

A: My solution would be to plug in a USB-C dock and stick the mini SD card in there and boot it. That should satisfy the requirement. I don't think many people do it your way, thus I think the problem is the installer rather than the port / card / writing method.

Q: Thank you – for I am new in Ubuntu with installing the Pale Moon many blessings are still needed for receiving functional regression. How to safely uninstall ubuntu? Wanted new. Bestow your grace.

A: Next time just send it to me in your native language. To

Q&A

uninstall software on Ubuntu, open the software centre and click on installed. If the software does not appear here and you used apt to install it, simply type: `sudo apt remove palemoon`.

Q: I'm new to Linux and Ubuntu, trying to get away from Microsoft, etc. What is the safest browser to use? I have heard that it is Brave. I'm new to this and would appreciate some direction. Firefox seems good. Why would I get Brave rather?

A: Browsers are set up very "loosely" by default – to be as compatible as possible. You need to do the tidying yourself. I have heard that there are some that do the work for you "out of the box" for example floorp (<https://github.com/Floorp-Projects/Floorp>). However, the onus remains squarely on your shoulders.

Q: Hello friends. I installed Ubuntu 22.04 Jammy Jellyfish on my Samsung Laptop. Dual-booting windows 10. After installation, Windows 10 microphone no longer works for the Skype. How can I fix this?

A: It never rains, it POURS!! This is coincidental and has nothing to do with Ubuntu. Windows updates broke your microphone. You can try this: <https://windows101tricks.com/microphone-not-working-windows-10/>

Q: I have this problem, but with an i9 on Ubuntu. <https://superuser.com/questions/1420298/processor-speed-limited-at-0-4-ghz>

A: Is speedstep on in the BIOS? Is the CPU set to "performance mode"?

Q: My computer is not old, it is an HP Pavilion Gaming i5 11300H, 8GB RAM, 512GB SSD, GTX 1650, Ubuntu 20.04. When I load a video on Opera, it will not play <removed> Twitter.

A: As far as I know, it has to do with google's widevine DRM, just parse this through a translator of your choice: <https://www.comss.ru/page.php?id=6351>

Q: How can I get Thunderbird 102.6/7 for Ubuntu 20.04? I'm having an issue with 102.4.2 – My PC is a Lenovo Thinkstation P mini.

A: You can build it yourself, or you can try betterbird (<https://www.betterbird.eu/downloads/index.php>).

Q: When I install softwarez, it makes the Desktop icon but will not allow it to be used for launching the program; says I don't own it.

A: It probably installed as root. It is an easy fix, use chown. (<https://www.thegeekstuff.com/2012/06/chown-examples/>)

Q: I wanted to upgrade my python version and I removed the old version with purge. I then intended to install the new version but, after rebooting, the OS seems not to boot. I have asked elsewhere, but always get the same answer. Ubuntu 16.04 is not supported any more. I know it is not, but I can't upgrade due to custom software.

A: The only way to fix it is to recover from backup, or

reinstall. I'd suggest booting into a live environment, copy everything to an external drive reinstall the OS. Once complete, copy the old data over the current data (make sure you use the same username). Once back in, install the Python upgrade first, before removing the old version. Just so you know, I think Python 3.4.0 was the last version for Ubuntu16.04.7. Maybe try a Python virtual environment?

Q: Something extremely weird is going on. I cannot ping <https://www.google.com.vn/>, but I can ping 8.8.8.8, meaning DNS is broken. I can, however, gladly go there with Firefox. Chrome just presents me with a dinosaur. This is extremely confusing to me. Logically, I should not be able to with any browser, but there it is. Luckily, I have a second laptop to use, the OS is MX Linux as it is only a 2.8GHz machine with a 12-inch screen.

A: You probably have Firefox doing its own DNS with DNS over https? Anyway, try:

```
sudo dpkg-reconfigure  
resolvconf
```

Q: How do people rate shells? For example -- <https://terminalroot.com/the-13-best-shell-for-your-linux-or-unix/>. Can I have it all on Ubuntu?

A: Usually, rating is in the eye of the beholder, so to speak. What works best for you goes on the top of the list. Yes, you can install the lot and use the chsh command to switch between them. I would recommend doing it in a VM, just to be safe. See: <https://www.cyberciti.biz/faq/change-my->

[default-shell-in-linux-using-chsh/](#)

Q: I set myself up 1 basic Ubuntu VPS. I see with fail2ban the amount of idiots trying to log in. Can I not just blanket ban?

A: It is probably bots and automated attacks. You could try this list: <http://www.blocklist.de/en/index.html>

I HAVE A VERY PARTICULAR SET OF SKILLS.

**I WILL FIND YOUR QUESTIONS,
AND I WILL ANSWER THEM.**



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.



TABLETOP UBUNTU

Written by Josh Hertel



BACK NEXT MONTH



Josh Hertel is a husband, father, mathematics educator, tabletop gamer, techie, and geek.

<https://twitter.com/hertelj1>



UBUNTU GAMES

Written by Erik

BACK NEXT MONTH



PATRONS

MONTHLY PATRONS

Alex Crabtree
 Alex Popescu
 Andy Garay
 Bill Berninghausen
 Bob C
 Brian Bogdan
 CBinMV
 Darren
 Dennis Mack
 Devin McPherson
 Doug Bruce
 Elizabeth K. Joseph
 Eric Meddleton
 Gary Campbell
 George Smith
 Henry D Mills
 Hugo Sutherland
 Jack
 Jack Hamm
 Jason D. Moss
 Joao Cantinho Lopes
 John Andrews
 John Malon
 John Prigge
 Jonathan Pienaar
 Joseph Gulizia
 JT
 Katrina
 Kevin O'Brien
 Lee Allen

Leo Paesen
 Linda P
 Mark Shuttleworth
 Moss Bliss
 Norman Phillips
 Oscar Rivera
 Paul Anderson
 Paul Readovin
 Rino Ragucci
 Rob Fitzgerald
 Robin Woodburn
 Roy Milner
 Scott Mack
 Sony Varghese
 Taylor Conroy
 Tom Bell
 Tony
 Vincent Jobard
 Volker Bradley
 William von Hagen

SINGLE DONATIONS

2023:
 Floyd Smith
 Richard Almeida
 Gavin Thompson
 Raymond Mccarthy
 Michael Grugel
 Linda Prinsen
 Thomas A Lawell
 Ronald Le Blanc

Ronald Eike
 Kenneth Martin
 Lance Jacob

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

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

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

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



<https://www.patreon.com/fullcirclemagazine>



<https://paypal.me/ronnietucker>



<https://donorbox.org/recurring-monthly-donation>



HOW TO CONTRIBUTE

FULL CIRCLE NEEDS YOU!

A magazine isn't a magazine without articles and Full Circle is no exception. We need your opinions, desktops, stories, how-to's, reviews, and anything else you want to tell your fellow *buntu users. Send your articles to: articles@fullcirclemagazine.org

We are always looking for new articles to include in Full Circle. For help and advice please see the **Official Full Circle Style Guide**: <http://bit.ly/fcmwriting>

Send your **comments** or Linux experiences to: letters@fullcirclemagazine.org
Hardware/software **reviews** should be sent to: reviews@fullcirclemagazine.org
Questions for Q&A should go to: questions@fullcirclemagazine.org
Desktop screens should be emailed to: misc@fullcirclemagazine.org
... or you can visit our **site** via: fullcirclemagazine.org



FCM#191

Deadline:
Sunday 12th Mar. 2023.
Release:
Friday 31st Mar. 2023.



Full Circle Team



Editor - Ronnie Tucker
ronnie@fullcirclemagazine.org

Webmaster -
admin@fullcirclemagazine.org

Editing & Proofreading

Mike Kennedy, Gord Campbell, Robert Orsino, Josh Hertel, Bert Jerred, Jim Dyer and Emily Gonyer

Our thanks go to Canonical, the many translation teams around the world and **Thorsten Wilms** for the FCM logo.

Getting Full Circle Magazine:

For the Full Circle Weekly News:



You can keep up to date with the Weekly News using the RSS feed: <http://fullcirclemagazine.org/feed/podcast>



Or, if you're out and about, you can get the Weekly News via Stitcher Radio (Android/iOS/web):
<http://www.stitcher.com/s?fid=85347&refid=stpr>



and via TuneIn at: <http://tunein.com/radio/Full-Circle-Weekly-News-p855064/>



EPUB Format - Most editions have a link to the epub file on that issue's download page. If you have any problems with the epub file, email: mobile@fullcirclemagazine.org



Issuu - From Feb. 2023 Issuu are removing all free items with 50+ pages. So most (if not all) issues of FCM will vanish.

FCM PATREON: <https://www.patreon.com/fullcirclemagazine>