Full Circle

THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY

ISSUE #216 - April 2025

UBUNTU 25.04

WHAT'S NEW?

Full Circle

THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY

HowTo

Graphics

EDITORIAL

Welcome to the latest issue of Full Circle

Eighteen years! **Eighteen!** Insane. Never in my wildest dreams did I think I'd still be doing this eighteen years later. But it's not just me. It's also the writers, proofreaders, and translators too. And Ian for compiling the EPUB edition. I want to thank all of them for sticking with me for however long they've been here. There's no way I could do this myself.

This month, we bring you the usual suspects of Latex, Trading Up, Learning About, and Inkscape. Of course, we can't celebrate eighteen years without inviting Greg to the party. So, yes, we have a special one-off Python this issue. And the celebrations continue with ***Full Circle Weekly News*** presenter, Moss Bliss, starting his fifth year as presenter of FCWN.

I'm sure you know what else makes this month special. A new Ubuntu release! Adam starts his reviews of 25.04 with (what else?) Ubuntu. And, of course, we have a game review.

Remember: the ***Full Circle Weekly News*** is available on ***Spotify*** and ***YouTube***. The more upvotes and reviews you give it on those platforms the more exposure we get. And, 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!
Ronnie
ronnie@fullcirclemagazine.org

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

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

https://open.spotify.com/show/6JhPBfSm6cLEhGSbYsGarP

https://www.youtube.com/playlist?list=PLnv0U8wOzXu487gi5I2Isf-rQjEyKPAiF

Linux kernel 6.14 released:

24/03/2025

After two months of development, Linus Torvalds released Linux kernel 6.14. Among the most notable changes: ntsync driver with Windows NT synchronization primitives, read operation balancing settings in Btrfs RAID1, reflink support in XFS in realtime mode, the ability to uncache buffered I/O, dmem cgroup for limiting GPU memory, enabling io_uring in FUSE, delegation of attributes in NFS, support for atomic writes in Device mapper, acceleration of symbolic links, control over the ability to execute scripts, support for Qualcomm Snapdragon 8 Elite chips, a driver for AMD NPU.

The new version includes 12115 fixes from 1984 developers, the patch size is 39 MB (the changes affected 10170 files, 531586 lines of code were added, 235999 lines were deleted). The previous release had 14172 fixes from 2086 developers, the patch size was 46 MB. About 41% of all changes presented in 6.14 are related to device drivers, about 13% of changes are related to updating code specific to hardware architectures, 14% are related to the network stack, 7% - to file systems and 4% to internal kernel subsystems.

https://lore.kernel.org/lkml/CAHk-%3Dwg7TO09Si5tTPyhdrLLvyYtVmCf%2BGGN4kVJ0%3DXk%3D5TE3g@mail.gmail.com/T/

Release of Hyprland 0.48:

24/03/2025

The Hyprland 0.48 composite server using the Wayland protocol is available. The project is focused on tiling window layout, but also supports classic arbitrary window placement, grouping of windows in the form of tabs, pseudo-mosaic mode and full-screen window opening. Features for creating visually attractive interfaces are provided: gradients in window frames, background blur, animation effects and shadows. Plugins can be connected to expand functionality, and socket-based IPC is provided for external control of work. The code is written in C++ and is distributed under the BSD license.

The settings are made via a configuration file, changes to which are picked up on the fly without restarting. To improve the performance of games, you can disable vertical synchronization (VSync) with a frame blanking pulse, used to protect against tearing during output. The following functions are also worth mentioning: dynamically created virtual desktops; modes for arranging elements on the screen; global processing of hot keys; touchpad/touch screen gesture control.

https://hyprland.org/news/update48/

Linux kernel, libre 6.14:

25/03/2025

The Latin American Free Software Foundation has published a completely free version of the Linux 6.14 kernel - Linux-libre

6.14-gnu, cleared of firmware and driver elements containing non-free components or code sections whose scope of application is limited by the manufacturer. Linux-libre also disables kernel functions for loading external non-free components that are not included in the kernel distribution, and references to the use of non-free components have been removed from the documentation.

To clean the kernel from non-free parts, the Linux-libre project has created a universal shell script that contains thousands of patterns for detecting binary inserts and eliminating false positives. Ready-made patches created using the above-mentioned script are also available for download. The Linux-libre kernel is recommended for use in distributions that meet the Free Software Foundation's criteria for building completely free GNU/Linux distributions. For example, Linux-libre is used in distributions such as GNU Guix System, Dragora Linux, Trisquel, Dyne:Bolic, gNewSense, Parabola, Musix and Kongoni.

Linux-libre 6.14-gnu release introduces code for cleaning blobs in new hx9023s, amdxdna and tas2781 spi drivers. Cleaning of blob names in dts files (devicetree) for Aarch64 architecture was performed. Code for removing blobs in Intel avs, amdgpu, r8169, mt7996 and iwlwifi drivers was updated. Cleaning of wl128x driver was stopped and it was removed from kernel.

https://www.fsfla.org/pipermail/linux-libre/2025-March/003572.html

GIMP 3.0.2:

25/03/2025

The release of the GIMP 3.0.2 graphics editor has been released, which fixes some of the issues that were discovered after the first release of the GIMP 3.0 branch was published last week. Things like, conflicts with some system themes that caused the interface to display incorrectly have been fixed. The developers have also rolled back a patch with improved support for graphics tablets, since problems with pressure sensitivity on some older devices surfaced when using it. Ready-made builds have been published for Linux (AppImage and Flatpak for x86 and ARM64 architectures), macOS, and Windows.

Currently, the developers are focused on fixing bugs in the GIMP 3.0 branch. However, the development process for the next major release, GIMP 3.2, has already begun, which is expected to support new features for non-destructive work with layers - Link layers and Vector layers . Also, the GIMP 3.2 branch will continue to work on expanding support for the CMYK color model and color management.

https://www.gimp.org/news/2025/03/23/gimp-3-0-2-released/

MPV 0.40 Released:

25/03/2025

After six months of development, the open source video player MPV 0.40 has been released, forked from the MPlayer2 project codebase in 2013. MPV focuses on developing new features, without worrying about maintaining compatibility with MPlayer. MPV code is licensed under LGPLv2.1+, some parts remain under GPLv2, but the transition to LGPL is almost complete and the "--enable-lgpl" option can be used to disable the remaining GPL code.

https://github.com/mpv-player/mpv/releases/tag/v0.40.0

AerynOS 2025.03 released:

26/03/2025

The release of AerynOS 2025.03 has been presented, which became the first update after the renaming of the Serpent OS project. The distribution uses its own package manager and an atomic system update model. The development is carried out by the old team of developers of the Solus distribution, which includes Ikey Doherty, the creator of Solus, and Joshua Strobl, the key developer of the Budgie desktop environment. The builds are formed for the x86_64-v2 architecture and are supplied with the GNOME desktop. Among the new versions of packages involved are the Linux kernel 6.13.8, GNOME 48.0, Mesa 25.0.2, Firefox 136.0.2, Vulkan SDK 1.4.309.0 and LLVM 19.1.7.

The distribution uses the moss package manager with its own Stone package format and system state management tools. To save disk space when storing multiple versions of packages, hard link-based deduplication is used. The update is performed in atomic mode with replacement of the contents of the /usr partition. In the event of a failure during the installation of the update, the system rolls back to the previous working state.

Most packages, including the Linux kernel, are built using the Clang compiler. With the exception of the kernel and some system components, changes are applied on the fly, without the need to reboot. The project also develops the Lichen installer, the boulder build system, the summit control panel, the blsforme download manager, and the moss-container container system .

https://aerynos.com/blog/2025/03/25/hello-aerynos/

Release of LibrePCB 1.3.0:

26/03/2025

The release of the free package for automated design of printed circuit boards LibrePCB 1.3.0, is available. LibrePCB is positioned as an intuitive package for rapid development of boards, which lags behind KiCad in functionality, but is much easier to work with and at the same time takes into account the needs of not only beginners, but also professional engineers. The program is supplied in builds for Linux (Flatpak, Snap, AppImage), FreeBSD, macOS and Windows. The project code is written in C++ (Qt interface) and is distributed under the GPLv3 license.

The following features are noted: integration of the schematic editor and project management tools in one package; simple cross-platform graphical interface based on Qt; application of the concept of a "smart" library of elements; use of formats of the library of elements and projects accessible for manual parsing; Multi-PCB mode for parallel development of different board variants based on one schematic; automatic synchronization of the list of electrical connections (netlist) between the schematic and the board layout. The program is equipped with a multilingual interface with support for Russian (translation coverage 96%) and Ukrainian (translation coverage 91%), providing the ability to name elements in different languages.

LibrePCB includes a project management interface; an electronic circuit editor; a multilayer printed circuit board editor; a service for generating data to start production; a command-line utility librepcb-cli for automating typical tasks (for example, checking and exporting data); a library of electronic components with navigation through a tree-like categorized list. There is an interface for connecting various existing element libraries, which can be added both in the form of archives and through integration with repositories. Import of DXF files and export in PDF, SVG and CSV BOM, pick&place X3/CSV, Gerber/Excellon and STEP formats are supported.

https://librepcb.org/blog/2025-03-24_release_1.3.0/

New login manager in development for KDE to replace SDDM:

26/03/2025

David Edmundson and Oliver Beard presented a project to create a new display manager, Plasma Login Manager, on the KDE developers mailing list. The desire to replace the login manager is explained by the presence of unsolvable architectural problems in the display manager SDDM (Simple Desktop Display Manager), which, starting with Plasma 5, replaced KDM.

GDM (GNOME Display Manager) is noted as the gold standard to which to focus when creating a new login manager. GDM is based on GNOME Shell and Mutter technologies, and is heavily tied to them, which allowed for a level of integration with GNOME that is unachievable using SDDM. Plasma Login Manager attempts to implement a GDM-like architecture, allowing for tighter integration of the login manager with the KDE Plasma desktop environment and

the Kwin composite server.

A working prototype of Plasma Login Manager is available for testing, but it has not yet reached a quality level suitable for use in the stable branch of KDE Plasma. The backend based on SDDM code and the new frontend, as well as the module for the configurator (KCM), are currently being developed in separate repositories, which are planned to be merged in the future. In terms of capabilities, Plasma Login Manager has almost reached parity with the old login manager.

https://blog.davidedmundson.co.uk/blog/a-roadmap-for-a-modern-plasma-login-manager/

New version of DeaDBeeF 1.10.0:

26/03/2025

Almost three years after the publication of the last major branch, the release of DeaDBeeF 1.10.0, music player is presented. The player is written in C and can work with a minimum set of dependencies. The code is distributed under the Zlib license. The interface is built using the GTK library, supports tabs and can be expanded through widgets and plugins.

Features include: automatic recoding of text encoding in tags, equalizer, support for cue files, ability to control via command line or from the system tray, loading and displaying covers, built-in tag editor, flexible options for displaying the required fields in track lists, support for streaming Internet radio, playback mode without pauses, and a plugin for recoding audio files.

https://deadbeef.sourceforge.io/posts/deadbeef_1.10.0_is_out.html

Zorin OS 17.3 Released:

26/03/2025

After 6 months of development, the release of the Linux distribution Zorin OS 17.3, based on Ubuntu 22.04, has been published. The target audience of the distribution is novice users accustomed to working in Windows. To manage the design, the distribution offers a special configurator that allows you to give the desktop a look typical of various versions of Windows and macOS, and the distro includes a selection of programs close to the programs that Windows users are accustomed to. The size of the bootable iso image is 3.4 GB.

Zorin OS uses GNOME as the base of the desktop with a set of its own add-ons and a panel based on Dash to Panel and Dash to Dock . To integrate the desktop with a smartphone, the Zorin Connect application is supplied (based on KDE Connect). In addition to deb packages and Ubuntu repositories, support for Flatpak, AppImage and Snap formats is included by default, with the ability to install programs from the Flathub and Snap Store catalogs.

https://blog.zorin.com/2025/03/26/zorin-os-17.3-is-here/

Linux kernel adds support for acting as a host for Hyper-V:

27/03/2025

The Linux kernel code, on which release 6.15 is based, has been modified to add the ability to use Linux as a root environment (Dom0. root partition) for the Hyper-V (Microsoft Hypervisor) hypervisor. The host environment is responsible for managing the hypervisor, for the launch of guest systems, allocating resources, and ensuring the interaction of virtual machines with the hardware. The hypervisor in Linux is managed via the /dev/mshv device. In addition, the same set of patches for virtual machines using Hyper-V adds the ability to disable individual processor cores on the fly (CPU offlining).

The ability to use Linux as a host environment for the Hyper-V virtualization system was initially introduced in 2020. Linux for managing Hyper-V is already used in the Azure Linux distribution and Microsoft infrastructure, but for third-party projects, this feature was only available in the form of separate patches. Now these patches are included in the main kernel. Hyper-V drivers for guest systems were added to the Linux kernel in 2009 and are shipped starting with release 2.6.32 .

The need to use Linux to manage the Hyper-V hypervisor is driven by the desire to simplify

maintenance and improve the performance of servers serving Microsoft cloud systems, given that since 2018 the number of Linux guest systems in the Azure cloud service exceeds the number of Windows environments.

Additionally, it is worth noting that the Linux 6.15 kernel branch has adopted a patch with support for block devices whose block size exceeds a memory page. For example, Linux will now be able to work with devices with a 64K sector size on systems with 4K memory pages.

https://web.git.kernel.org/pub/scm/linux/kernel/git/torvalds/linux.git/commit/?id%3Da5b3d8660b049779880c790549ff3fef02f6922c

Debian 12 Live images now support repeatable builds:

27/03/2025

The Debian project developers have announced the implementation of repeatable builds for all official Debian 12.10 Live images, as well as for builds of all significant desktop environments from the Debian 11, 12, and 13 (testing) repositories. A guide has been prepared, with wich users can create their own Live images based on the source code available in the repository, which are 100% identical at the binary level to the ready-made Live images provided by the project.

Across the entire Debian 12 repository, which contains 33,223 source packages, support for reproducible builds reached 96.9% for the x86_64 architecture and 96.5% for the ARM64 architecture. In the Debian Testing repositories, the reproducible build rate was estimated at 96.5% for the ARM64 architecture and 96.3% for x86_64, with 37,322 source packages rebuilt. The reproducible build test in the Debian Testing repository failed for 819 packages (2.2%), and 428 packages (1.1%) had general problems compiling from source. By comparison, in Arch Linux, reproducible builds were supported for 86.3% of packages in the core and extra repositories, which contain 12,800 packages. The openSUSE Factory repository, which contains 15,754 packages, has a repeatable build rate of 98.24%.

Repeatable builds allow the user to create their own builds that are bit-for-bit identical to the ready-made builds offered for download. The user can personally verify that the binary files distributed in packages and boot images are compiled from the provided source code and do not contain hidden changes. Checking the identity of the binary build allows you not to rely only on trust in the distribution's build infrastructure, where a compromise of the compiler or assembly tools can lead to the substitution of hidden bookmarks.

When creating repeatable builds, such nuances are taken into account as exact matching of dependencies; using the same composition and versions of the build tools; an identical set of options and default settings; preserving the build order of files (using the same sorting methods); disabling the addition of non-constant service information by the compiler, such as random values, references to file paths, and build date and time data. Build reproducibility is also affected by errors and race conditions in the tools.

https://lists.reproducible-builds.org/pipermail/rb-general/2025-March/003675.html

Release of Q4OS 5.8:

27/03/2025

The release of Q4OS 5.8 distribution has been published. It is based on Debian and comes with the KDE Plasma 5 and Trinity desktops (continues development of the KDE 3.5.x code base). Both user environments can simultaneously coexist on one system, and the user can switch between them. The distribution is positioned as undemanding to hardware resources and offering a classic desktop design. The boot image size is 1.5 GB (x86_64).

"The package includes several applications of our own development, including 'Desktop Profiler' for quick installation of thematic software sets, 'Setup utility' for installation of third-party applications, 'Software center' for installation of additional programs, 'Welcome Screen' for simplifying initial setup, Lookswitcher for quick switching of appearance, scripts for installation of alternative

environments LXQt, Xfce and LXDE. An application for installation of the distribution in a separate Windows directory is provided , which allows to use the distribution in parallel with Windows without allocating a separate disk partition for it."

The new release brings the package base up to Debian 12.10 with Linux kernel 6.1.0-32. The Desktop Profiler suite installer has been rewritten to work in multithreaded mode and now supports Flatpak packages.

https://www.q4os.org/blog.html%23news250327

Rescuezilla 2.6 Released:

28/03/2025

The release of the Rescuezilla 2.6 distribution is available. It is designed for backup, system recovery after failures and diagnostics of various hardware problems. The distribution is built on the Ubuntu package base and continues the development of the "Redo Backup & Rescue" project, the development of which was stopped in 2012. Live builds for 32- and 64-bit x86 systems (1.3 GB) and a deb package for installation in Ubuntu are offered for download.

Rescuezilla supports backup and recovery of accidentally deleted files in Linux, macOS and Windows partitions. It automatically searches for and connects network partitions that can be used to store backups. The graphical interface is based on the LXDE shell. The format of the created backups is fully compatible with the Clonezilla distribution. When restoring, it supports working with Clonezilla, Redo Rescue, Foxclone and FSArchiver images, as well as with virtual machine images in the VirtualBox VDI, VMWare VMDK, QEMU QCOW2, Hyper-V VHDx and .dd/.img formats.

https://github.com/rescuezilla/rescuezilla/releases/tag/2.6

Zypper package manager implements parallel download:

29/03/2025

The developers of the openSUSE distribution have implemented the ability to parallelize the download of packages and metadata in the Zypper package manager. Additionally, a new backend has been proposed that more optimally reuses already established connections and increases the efficiency of metadata processing. When updating 250 packages with a total size of 100 MB, the download time after enabling the new backend and parallel mode decreased from 68.7 seconds to 13.1 seconds, and when updating 407 packages with a size of 1 GB - from 281.1 seconds to 119.6 seconds.

Parallelization is available since libzypp 17.36.4 and zypper 1.14.87, currently only available in the Tumbleweed and Slowroll repositories. By default, these features are disabled and are presented as experimental. To enable parallel downloading and the new backend, you can use the environment variables "ZYPP_PCK_PRELOAD=1" and "ZYPP_CURL2=1", and the number of concurrent connections can be adjusted using the "download.max_concurrent_connections" parameter in the zypp.conf configuration file.

https://news.opensuse.org/2025/03/27/zypper-adds-experimental-parallel-downloads/

nvtop 3.2.0 and htop 3.4.0 are available:

30/03/2025

The nvtop 3.2.0 console utility has been released. It is designed for interactive monitoring of GPU and hardware accelerators. The utility allows you to visually monitor the load, memory consumption and GPU frequency changes on graphs, as well as view the processes that most actively load the GPU. GPUs and accelerators from AMD, Intel, NVIDIA, Apple (M1 & M2), Huawei (Ascend), Qualcomm and Broadcom (VideoCore) are supported.

The new version supports Intel XE and Broadcom V3D (Raspberry Pi) drivers. Support for Google TPU (Tensor Processing Unit) AI accelerator has been added . Options "-P" and "-s" have been added to hide the process list area and save the state in JSON format.

At the same time, the Atop utility was released, designed for interactive monitoring of system

operation parameters and display of process activity. The atop program differs from the top utility in greater detail (CPU, GPU, memory, disks, network, streams, containers) and the ability to periodically dump reports to a file for subsequent analysis. The code is written in C and is distributed under the GPLv2 license.

The new version adds GPU activity tracking in Linux; improves performance on Apple ARM computers; resolves build issues for DragonFlyBSD, Darwin, NetBSD, OpenBSD, and Solaris; provides accounting of disk and network activity in DragonFlyBSD; adds information about threads and process status in macOS; expands Unicode support; reworked code for working with temperature sensors; improved performance of code for parsing statistics; added support for hiding cache and buffer data.

https://github.com/Syllo/nvtop/releases/tag/3.2.0

CachyOS distribution 250330 released:

31/03/2025

CachyOS 250330 release has been published. It is based on Arch Linux and uses a continuous update delivery model. The distribution is notable for its optimizations to improve performance and the ability to install various desktop environments. In addition to the basic KDE-based environment , GNOME, Xfce, i3WM, Wayfire, LXQT, OpenBox, Cinnamon, Cosmic, UKUI, LXDE, Mate, Budgie, Qtile, Hyprland and Sway are available for installation. The size of the installation iso image is 2.7 GB. Separately supplied, are builds (2.8 GB) for wearable devices (Handheld Edition) with a GameMode-style interface and components for computer gamers.

The distribution includes the BORE task scheduler by default, optimized to reduce desktop latency and prioritize interactive processes. The kernel and packages are built with LTO (Link-Time Optimization) optimizations enabled and instructions available in processors based on the x86-64-v3, x86-64-v4, and Zen4 microarchitectures enabled. When building base packages, PGO (Profile-Guided Optimization) or BOLT (Binary Optimization and Layout Tool) optimizations are additionally enabled. The distribution includes the Cachy-Browser web browser, based on Firefox with security and performance patches, as well as changes from the Librewolf project . btrfs, zfs, ext4, xfs, and f2fs can be used as file systems.

https://cachyos.org/blog/2503-march-release/

OrioleDB developers want to improve the API for alternative PostgreSQL engines:

31/03/2025

OrioleDB developers analyzed the current state of the low-level API used for extensions to access tables and indexes in PostgreSQL (Table/Index Access Method (AM) API) and proposed ways to improve it. Since the introduction of the API in PostgreSQL 12, developers have been able to create alternative data storage engines. However, despite the presence of this API and the known limitations of the built-in storage engine, there are still no fully functional transactional storage engines implemented exclusively as extensions.

https://www.orioledb.com/blog/better-table-access-methods

Phosh 0.46.0 released:

31/03/2025

Phosh 0.46 has been released, a mobile desktop shell based on GNOME technologies and the GTK library. The environment was initially developed by Purism as an analogue of GNOME Shell for the Librem 5 smartphone, but then became one of the unofficial GNOME projects and is used in postmarketOS, Mobian, Droidian, some firmware for Pine64 devices and the Fedora edition for smartphones. Phosh uses the Phoc composite server running on top of Wayland, as well as its own on-screen keyboard, squeekboard. The project's code is distributed under the GPLv3+ license.

https://phosh.mobi/releases/rel-0.46.0/

Linux kernel 6.15 introduces major optimizations to the network subsystem and exFAT:

01/04/2025

The Linux kernel code base, on which release 6.15 is based, includes a set of changes with optimizations that significantly improve the performance of network operations in a number of situations:

The GRO (Generic Receive Offload) optimization, which combines several small packets into one large one, is now enabled when switching packet processing to another CPU (for load balancing) when using the XDP (eXpress Data Path) subsystem, which allows packets to be processed at the network driver level before they are transmitted to the network stack. The performance gain for TCP stream processing from using the optimization can be up to two times. Under heavy load, the performance of the connect() function has been increased by up to two times by replacing the spin lock with the RCU (Read-Copy-Update) synchronization mechanism when searching for records with information about the sides of the connection (source and target IP addresses and ports). Additionally, hashing has been optimized, providing a performance increase of another 229%. The implementation of MPTCP (Multipath TCP), an extension of the TCP protocol for organizing the delivery of packets simultaneously along several routes through different network interfaces bound to different IP addresses, has been accelerated. MPTCP in single-stream mode has been accelerated by 29%. In netfilter, when a socket is present, the execution of route lookup operations in the FIB (Forwarding Information Base) has been stopped. Thanks to this optimization, performance has increased by 20%. UDP performance under flood conditions has been increased by 10% by eliminating unnecessary operations with the sk_tsflags structure when receiving packets.

In addition, the Linux kernel 6.15 in development includes a change to the exFAT file system driver that speeds up file deletion operations. Previously, the exFAT driver sent "discard" requests to drives individually for each freed cluster of a file being deleted. The optimized version groups the requests, resulting in a reduction in the time to delete an 80 GB test file from 286 seconds to 1.6 seconds.

In Linux 6.15, code has been adopted that uses the io_uring interface to receive network packets directly into the program memory in user space, avoiding unnecessary packet copying operations ("zero copy"). As the authors of the patch note, the change allows for a full 200 Gbit link to be loaded, using one CPU core for all operations.

https://lore.kernel.org/lkml/20250326163652.2730264-1-kuba@kernel.org/

Second preview release of Pidgin 3.0:

01/04/2025

The second experimental release of the instant messaging client Pidgin 3.0 (2.91) is presented . It allows working simultaneously in several networks with different protocols and switching between chats using tabs. The release is marked as having the quality level of a preliminary alpha version, not intended for everyday use. The builds are prepared in the Flatpak format (only the archive with the code is available for now).

The Pidgin 3 branch has been in development since 2011, and before that it was discussed (at the level of concepts and ideas) for three years. Pidgin 3 has made the transition to the GObject type system, GTK4 and Adwaita libraries, the Meson build system, GPlugin for processing plugins, SQLite for storing chat history, and GSettings for working with settings. The API has been completely redesigned. GTK Builder XML is used to define interface elements, and a custom widget library, Talkatu, has been created to display chat history.

The interface combines the contact list and chat in one window. The Finch console client has been discontinued (it is possible that it may return in the future). As to the protocols, only IRCv3 is currently supported, and new implementations of the XMPP and Bonjour protocols are being

developed, which are still partially supported. The Pidgin 3 branch is incompatible with Pidgin 2 and previously created plugins, but can be installed in parallel, with existing Pidgin 2 builds.

https://discourse.imfreedom.org/t/pidgin-3-0-experimental-2-2-91-0-has-been-released/262

Betterbird 128.9.0 released:

02/04/2025

The release of the Betterbird mail client is presented. It is a fork of Mozilla Thunderbird, developed by the community and based on Mozilla Firefox technologies. Betterbird 128.9 is built on the code base of the long-term support branch Thunderbird 128.9.0 ESR, with updates released throughout the year. Installation packages for Windows and macOS are available for download, as well as binary builds for Linux.

The Betterbird project was founded by Jörg Knobloch, a former Thunderbird maintainer who had been involved with the project since 2016. In 2020, following accusations of toxic behavior and aggressive attacks on other project participants, the Thunderbird Council suspended him from participating in any Thunderbird-related projects for 3 months ("3 months mandatory ban from participation in Thunderbird communities"). After violating the terms of the suspension, he was removed from the list of maintainers and permanently banned from any participation in projects of MZLA Technologies Corporation , the company that oversees the development of Thunderbird. (cancel culture epidemic)

Betterbird is a set of patches that fix long-ignored or unresolved issues in Thunderbird, and add or return some functionality that was not adopted or was removed from Thunderbird by its developers.

https://www.betterbird.eu/releasenotes/index.html

Fedora 43's transition to RPM 6:

03/04/2025

The Fedora Engineering Steering Committee (FESCo), the technical body responsible for the development of the Fedora Linux distribution, has approved the transition to the RPM 6 package manager in the fall release of Fedora 43. The release of RPM 6.0 is scheduled for Q3 2025.

The RPM 6 branch is notable for its support of a new format (RPM 6), which allows packages larger than 4 GB (overcoming this limitation is important, since the SRC package with Chromium is close to the limit and is 3.7 GB). The RPM 6 format uses 64-bit size fields, modernizes cryptographic structures, and adds MIME information about files. RPM 5 was skipped to avoid overlap with the RPM5 project , which is not related to Red Hat's RPM and was developed by independent developers.

Support for the RPM 4 format using cpio will be retained in full. Moreover, the RPM 6 branch does not impose a transition to the new package format, and distributions will be able to remain on the RPM 4 format at their own discretion. For example, Fedora 43 will be supplied with the RPM 6.0 package manager, but the package format will remain RPM 4 for now. For those who wish to switch to the new format, support for reading and installing packages in the RPM 6 format has been added to the RPM 4.x branch.

Another significant change in RPM 6 is the inclusion of digital signature verification by default. To ensure that mandatory signature verification does not complicate the installation of self-built packages, RPM 6 adds support for automatic generation of local signatures during the build to the rpmbuild utility. There is also a "--nosignature" option that allows you to force a package to be installed without signature verification.

https://lists.fedoraproject.org/archives/list/devel@lists.fedoraproject.org/thread/PUJKSYSMP5QZ4L4LRYJZ3CJIYMUSJRYQ/

First public version of Nelm:

04/04/2025

The open source Nelm project, positioned as an "alternative to Helm 3", has been announced as ready for mass use. Nelm originated during the development of the CI/CD utility werf as a fork of Helm, a package manager for Kubernetes that uses "charts" to deploy applications to K8s. Nelm code is available on GitHub under an Apache 2.0 license.

https://github.com/werf/nelm/

XZ Utils 5.8.1 Update with Vulnerability Fix:

04/04/2025

XZ Utils 5.8.1 has been released, including the liblzma library and utilities for working with compressed data in the ".xz" format. XZ Utils 5.8.1 is the first significant release since the incident with the discovery of a backdoor that organizes login via sshd. Last week, the 5.8.0 tag was created in Git, but the release was not officially announced due to performance issues and compatibility with older versions of GNU make that were discovered after the tag was published.

The XZ Utils 5.8.1 update fixes a vulnerability (CVE-2025-31115) that causes a crash when trying to unpack specially crafted archives. The vulnerability is caused by accessing an already freed memory area (use after free). An attacker can achieve writing their value at an address calculated as "null pointer + offset". The problem is considered an unintentional error, since the change that caused it was made to the code long before the arrival of developer Jia Tan, whose activities led to the introduction of the backdoor.

https://www.mail-archive.com/xz-devel@tukaani.org/msg00698.html

Celluloid Video Player 0.28:

04/04/2025

Celluloid 0.28 (former GNOME MPV) is now available, providing a GTK-based graphical interface for the MPV console video player. The player can use MPV configuration files, supports the MPRIS2 playback control protocol, and is fully compatible with Wayland. Celluloid is used in Linux Mint, Ubuntu MATE, Ubuntu Cinnamon, EasyOS, AntiX, and Solus as the default video player. The code is written in C and is licensed under the GPLv3 license.

https://github.com/celluloid-player/celluloid/releases/tag/v0.28

openHalo, a MySQL to PostgreSQL migration toolkit:

04/04/2025

The openHalo toolkit code has been published. It provides a layer to simplify the migration of applications originally written for MySQL to use the PostgreSQL DBMS. The project is implemented as a proxy that transparently translates MySQL queries into PostgreSQL queries and performs the reverse transformation for responses. The project is written in C and is distributed under the GPLv3 license.

openHalo supports the SQL dialect and MySQL communication protocol, allowing applications written for MySQL to be migrated to PostgreSQL with little or no code changes. Standard MySQL utilities, commands, and drivers can be used with openHalo.

https://www.postgresql.org/about/news/openhalo-project-is-now-released-3048/

Third experimental release of the Orbitiny desktop environment:

04/04/2025

The third release of the Orbitiny Desktop environment is presented, written from scratch using the Qt framework. The project tries to combine some innovative ideas that have not been seen in user environments before with traditional elements such as the panel, menus and placement of icons on the desktop. The code is written in C++ and is distributed under the GPL license.

https://www.reddit.com/r/linux/comments/1jpnwfy/orbitiny_desktop_10_pilot_3_released_milestone/

Tails 6.14 distribution released:

04/04/2025

The release of the specialized distribution Tails 6.14.1 (The Amnesic Incognito Live System), developed as part of the Tor project, is out. The distribution is based on Debian 12, comes with the GNOME 43 desktop and is designed for anonymous network access using the Tor toolkit. All connections, except for traffic through the Tor network, are blocked by default by the packet filter. Encryption is used to store user data in between launches. An iso image capable of working in Live mode, 1 GB in size, has been prepared for downloading.

Release 6.14.1 was created instead of 6.14 because, during the initial testing of the new branch, at the stage before the publication of the builds, a serious problem was discovered. In Tails 6.14, Tor Browser was updated to version 14.0.9, and the Tor package to 0.4.8.16. The buttons for minimizing and expanding the window were returned to the Tor Browser header.

The AppArmor profile used to protect against exploitation of vulnerabilities in Tor Browser has been reworked. Previously, the browser was granted read access only to individual directories and the ability to write only to the directory for saving downloaded files. In the new version, such restrictions are removed from the AppArmor profile for Tor Browser. Instead, the xdg-desktop-portal package used in Flatpak for organizing controlled selective access to files outside the isolated environment is used. Thanks to the change, secure access to any subdirectories in the home directory and in persistent storage has been implemented.

https://tails.net/news/version_6.14.1/index.en.html

APT Package Manager 3.0.0 Released:

05/04/2025

The release of the APT 3.0.0 package management tool (Advanced Package Tool) has been announced, which has incorporated changes accumulated in the experimental 2.9 branch. The new release has been accepted into the Debian Unstable branch and will soon be integrated into the Debian Testing repository, which is developing the Debian 13 release and already uses the experimental APT 2.9 branch, and will also be added to the Ubuntu package base.

https://github.com/Debian/apt/releases/tag/3.0.0

Release of Coreboot 25.03:

05/04/2025

The release of the CoreBoot 25.03 project, developing a free alternative to proprietary firmware and BIOS, is presented. The project code is distributed under the GPLv2 license. The new version includes 1001 changes. 131 developers took part in the release preparation. The post basically just lists the 22 new boards supported.

http://www.coreboot.org

D language compiler release 2.111:

06/04/2025

DMD 2.111, the reference compiler for the D language, has been released. The compiler code is distributed under the free BSL (Boost Software License). Linux, Windows, macOS, and FreeBSD are supported.

The D language uses static typing, has a syntax similar to C/C++, and provides the performance of compiled languages. The D language also borrows some features of dynamic languages that are useful for improving development efficiency and ensuring security. For example, there is support for: associative arrays, indirect type definition, automatic memory management, parallel programming tools, templates, and metaprogramming components. A garbage collector is optionally available. D programs can use libraries in the C language, as well as some libraries in C++ and Objective-C.

The release includes changes from more than half a year that were not included in the 2.110

release, which was more of a bug fix release.

https://dlang.org/changelog/2.111.0.html

macOS includes openrsync:

07/04/2025

In the latest macOS 15.4 update released last week, Apple replaced the rsync utility with openrsync, developed by the OpenBSD project. The executable file /usr/bin/rsync in macOS now refers to openrsync. The reasons for the replacement are believed to be recently discovered security issues in rsync, work to reduce components under copyleft licenses, and the desire to get rid of an outdated version of rsync, which cannot be updated due to licensing policies.

The key features of openrsync are that it was initially developed with high security in mind, that it is licensed under the permissive ISC (BSD family) license instead of rsync's copyleft GPL license, and that it uses a different internal architecture (one process for sending and receiving data, using an event loop). At the protocol level, openrsync is compatible with rsync, but does not support all command line options, only the most commonly used ones for file synchronization and backup. The lack of support for secondary functions allows the openrsync codebase to be kept under 10,000 lines of code to reduce the attack surface . For comparison, the latest version of rsync has 62,000 lines of C code.

Given that macOS has been shipping the outdated rsync 2.6.9, released in November 2006, the replacement will not result in any significant reduction in functionality. rsync 2.6.9 was chosen as the last version distributed under the GPLv2+ license. The next release was rsync 3.0, which was switched to the GPLv3 license, which prohibits tying software to hardware.

https://derflounder.wordpress.com/2025/04/06/rsync-replaced-with-openrsync-on-macos-sequoia/

Wayland-Protocols 1.43:

08/04/2025

The wayland-protocols package 1.43 has been released, containing a set of protocols and extensions that complement the core Wayland protocol and provide the capabilities needed to build composite servers and user environments.

Wayland-Protocols 1.43 adds a new protocol " xdg-toplevel-tag ", which allows Wayland clients to attach tags to top-level surfaces that the compositing server can use to identify windows after an application restart (for example, an application might set "main window" and "settings" tags for the main window and the settings window). This type of identification is useful for restoring the position, size, and properties of windows after a restart, and for defining special rules for certain types of windows.

Other improvements include the addition of top-level surface edge operation constraint information to the xdg-shell protocol, which can be used by the compositing manager to inform Wayland clients of constraints such as whether windows can be resized or not.

https://lists.freedesktop.org/archives/wayland-devel/2025-April/044134.html

OpenSSL 3.5.0 Cryptographic Library Released:

08/04/2025

The OpenSSL 3.5.0 library has been released, implementing the SSL/TLS protocols and various encryption algorithms. OpenSSL 3.5 is classified as a long-term support (LTS) release, with updates being released for 5 years (until April 2030). Support for previous OpenSSL 3.3, 3.2, and 3.0 LTS branches will last until April 2026, November 2025, and September 2026, respectively. The project code is distributed under the Apache 2.0 license.

https://openssl-library.org/post/2025-04-08-openssl-35-final-release/

Release of the FreeDOS 1.4:

09/04/2025

After three years of development, a stable version of the FreeDOS 1.4 operating system has been published, developing a free alternative to DOS with an environment of GNU utilities. The FreeDOS code is distributed under the GPLv2 license. Builds for booting from floppy disks, CDs and USB Flash drives are available for download, ranging in size from 17 MB to 638 MB

The FreeDOS project was founded in 1994 and in current releases can be used in areas such as pre-installation of a minimal environment on new computers, launching old games, use on embedded equipment (for example, POS terminals), teaching students the basics of building operating systems, use in emulators, creating CD/Flash for installing firmware and configuring a motherboard.

https://sourceforge.net/p/freedos/news/2025/04/freedos-14-is-here/

Pale Moon 33.7.0:

09/04/2025

The release of the Pale Moon 33.7.0 web browser has been published. It has been forked from the Firefox code base to provide higher performance, preserve the classic interface, minimize memory consumption, and provide additional customization options. Pale Moon builds are generated for Windows and Linux (x86_64). The project code is distributed under the MPLv2 (Mozilla Public License).

Rarely used browsers continue to experience problems with passing the captcha check when logging into sites that use CloudFlare. When launched in Pale Moon, the CloudFlare check script freezes. The creator of Pale Moon claims that the problem is on the side of CloudFlare, which is delaying its elimination and requires developers to sign a non-disclosure agreement to begin the discussion. In addition to Pale Moon, the captcha freeze also occurs in Basilisk, Waterfox, Falkon, SeaMonkey, Thorium, Ungoogled Chromium, K-Meleon, LibreWolf, MyPal 68, Otter and some browsers on the ESR branch of Firefox. The noted browsers are built on different engines, including current ones, so the problem probably occurs due to the activation of bot protection when detecting behavior that is not typical for the most popular browsers.

https://forum.palemoon.org/viewtopic.php?f%3D1%26t%3D32240

Cozystack 0.30 Released:

10/04/2025

The release of the free PaaS platform Cozystack 0.30.0, built on Kubernetes, is available. The project aims to provide a ready-made platform for hosting providers and a framework for building private and public clouds. The platform is installed directly on servers and covers all aspects of preparing the infrastructure for providing managed services. Cozystack allows you to launch and provide Kubernetes clusters, databases, and virtual machines. The platform code is available on GitHub and is distributed under the Apache-2.0 license.

Talos Linux and Flux CD are used as the base technology stack. Images with the system, kernel and necessary modules are generated in advance and updated atomically, which allows to do without such components as dkms and a package manager, and guarantee stable operation. A simple installation method is provided in an empty data center using PXE and a debian-like installer talos-bootstrap.

The platform includes a free implementation of the network infrastructure (fabric) based on Kube-OVN, and uses Cilium for the service network, MetalLB to announce services to the outside. The storage is implemented on LINSTOR, which suggests using ZFS as a base layer for storage and DRBD for replication. There is a pre-configured monitoring stack based on VictoriaMetrics and Grafana. To launch virtual machines, KubeVirt technology is used, which allows you to launch classic virtual machines directly in Kubernetes containers and already has all the necessary integrations with the Cluster API to launch managed Kubernetes clusters inside a "hardware" Kubernetes cluster.

https://github.com/cozystack/cozystack/releases/tag/v0.30.0

OpenSSH 10.0 Released:

09/04/2025

OpenSSH 10.0 , an open source implementation of the client and server for working with the SSH 2.0 and SFTP protocols, has been released. They have removed support for the weak DSA signature algorithm, as well as the finite field (a.k.a modp) Diffie-Hellman key exchange in sshd by default.

While these changes may cause breakages, it is for the better of Linux as a whole. There are also new features in version 10.0, mostly geared towards encryption, like the hybrid post-quantum algorithm mlkem768x25519-sha256 is now used by default for key agreement or prefer AES-GCM to AES-CTR mode when selecting a cipher for the connection. You can read up on all the small improvements in the post linked below.

https://lists.mindrot.org/pipermail/openssh-unix-dev/2025-April/041879.html

Release of multiple GNU utils:

11/04/2025

The GNU Project has released gzip 1.14 , which includes the gzip, gunzip, zmore, and zcat utilities for compressing and decompressing data using the LZ77 algorithm. The new release significantly speeds up decompression operations. On x86_64 systems that support PCLMUL processor instructions, the performance gain reaches 40%, and on systems without PCLMUL support, up to 20%.

The speedup is achieved by optimizing checksum (CRC) operations, which used to take up about half of the CPU time. An optimized version of CRC has already been added to the gnulib library, which will speed up other GNU projects that use checksum functions.

Changes that break compatibility: stopped installing the zmore utility on platforms that do not use the "more" utility; stopped processing the GZIP environment variable (sets default options) in situations where it specifies options other than "-1" (--fast), "-2", ... "-9" (--best), "--rsyncable" and "--synchronous".

https://www.mail-archive.com/info-gnu@gnu.org/msg03400.html

Angie 1.9.0 released:

11/04/2025

The release of the high-performance HTTP server and multi-protocol proxy server Angie 1.9.0 is presented. It was forked from Nginx by a group of former project developers who left F5 Network. The source code of Angie is available under the BSD license.

The development is supported by the company " Web-server ", founded in the fall of 2022 and having received investments of 1 million dollars. Among the co-owners of the company Web-server: Valentin Bartenev (leader of the team that developed the Nginx Unit product), Ivan Poluyanov (former head of front-end developers of Rambler and Mail.Ru), Oleg Mamontov (head of the technical support team of NGINX Inc) and Ruslan Ermilov (ru@FreeBSD.org).

https://angie.software/news/releases/angie-1-9-0/

Initial support for Wayland-based session restoration:

12/04/2025

Nate Graham, a developer who works on quality assurance for the KDE project, has published another KDE development report. The most notable change is the addition of initial support for the xdg-session-management Wayland protocol to the KWin compositing manager code base. The change allows for restoring the state of windows from an interrupted session in Wayland-based environments, for example, in the event of a composite server or application crash. The change is planned to be included in the KDE Plasma 6.4 release. Of all the capabilities, only restoring the size and position of windows, as well as their binding to virtual desktops, is currently supported. The contents of windows are not restored yet, but this feature is intended to be

implemented in the next stage.

https://blogs.kde.org/2025/04/12/this-week-in-plasma-the-beginnings-of-wayland-session-restore/

Fedora 43 Repeatable Builds:

12/04/2025

The Fedora Engineering Steering Committee (FESCo), the technical body responsible for the development of the Fedora Linux distribution, has approved a project to provide repeatable package builds in the fall release of Fedora 43. The goal of the initiative is to be able to use repeatable builds for at least 99% of the packages in the repository.

Repeatable builds will allow you to create your own RPM packages that match the ready-made binary packages offered for download. The matches are provided at the level of the main metadata and files included in the package (only the metadata with the build time, build host and digital signature certification will differ). The user will be able to personally verify that the binary files distributed in the packages are compiled from the provided source texts and do not contain hidden changes. Checking the identity of the binary build allows you not to rely only on trust in the distribution's build infrastructure, where a compromise of the compiler or build tools can lead to the substitution of hidden bookmarks.

https://lists.fedoraproject.org/archives/list/devel@lists.fedoraproject.org/thread/2U2HWBQTPER3GXDLKEVRK2DYTKQIQXVI/

Wine-wayland 10.5 Released:

13/04/2025

The Wine-wayland 10.5 project is out. It develops a set of patches for using Wine in environments based on the Wayland protocol, without using XWayland and X11 components. Partially, many Wine-wayland developments, including the winewayland.drv driver, have already been transferred to the main Wine package. The new release is notable for its synchronization with the Wine 10 branch and for updating the versions of DXVK , VKD3D and Mangohud. Instead of FSYNC, the ntsync driver, recently adopted into the Linux kernel, is used, implementing a set of primitives for synchronization used in the Windows NT kernel. The size of the installation build has been reduced from 120 to 99 MB.

Distributions can use Wine-wayland to create Wayland environments with support for running Windows applications that do not require installing packages related to X11. Wine-wayland provides the ability to run games and applications that use the Vulkan and Direct3D 9/11/12 graphics API. Direct3D support is implemented using the DXVK layer, which translates calls to the Vulkan API. The ntsync driver is used to increase the performance of multithreaded games, and AMD FSR (FidelityFX Super Resolution) technology is used to improve image quality when scaling on high-resolution screens.

https://github.com/varmd/wine-wayland/releases/tag/v10.5.0

Pinta 3.0:

13/04/2025

After two years of development, the release of the open raster graphics editor Pinta 3.0 was presented. It was founded in 2010 as an attempt to create a simpler version of the Paint.NET program, written using GTK. The editor is aimed at beginners and provides a basic set of features for drawing and image processing. The interface is simplified as much as possible. The editor supports an unlimited buffer of changes rollback, allows you to work with several layers, and is equipped with a set of tools for applying various effects and adjusting images. The Pinta code is distributed under the MIT license. The project is written in C# using .NET and the Gtk# binding. Binary builds are prepared for Linux (Flatpak , Snap), macOS and Windows. The main thing you will notice is that the interface has been redesigned and optimized, switching to the GTK4 and libadwaita libraries. The changes affected both the appearance, which was redesigned in accordance with the GNOME Human Interface Guidelines, and the image editing process, which

became more obvious for users with experience working with common proprietary graphics packages. Plus a lot of other small changes like a dark theme.

https://rolandixor.pro/services/updates/post/pinta-3

COMMAND & CONQUER

Written by Erik

As promised in the last issue, we move over to tmux. We can fall into the house with the door. Type: sudo apt install tmux - if you do not have it, and open a terminal and type: tmux. Unlike screen, we immediately see something has changed. We have an info bar at the bottom, with the session number, what's in it, and machine name and the time.

Type:

```
man tmux
```

This is another one of those man pages that use C-b for CTRL+b. Speaking of, as not to be confused with screen, that uses C-a as the control key. Because it is CTRL+b, I suggest you start using the control key on the right. (We can change it, but for now I'm sticking with the defaults.) Check your version with tmux -V - if it is in the 3.xx range, we should be good. Older versions have their own quirks. Lets avoid 1.xx and 2.xx.

What I like about tmux is that help is at your fingertips. Please hit: CTRL+b then press ? - and you should be treated to boatloads of key combos. Quit out of that with q, and type ping 127.0.0.1 <enter>, and just like we did with screen, hit CTRL+b and then press the c key. Screen should be fresh in your mind, so try out "previous" and "next" like we did in the last issue. If you are relatively new to Ubuntu and Linux in general, and you were able to complete that instruction without grabbing the last issue, pat yourself on the back. You make me proud!

At the bottom in the information bar, you should see a star next to the "screen" you are in. You can see I'm in screen "2" (see image bottom right).

Remember, the screens (windows) together are a session.

Speaking of screens or windows, renaming them uses a different key, type: CTRL+b then press , (comma). Also, unlike screen, you need to remove the current name before typing a new one. Rename one now. Cool! Switch between them with CTRL+b and then press the window number. See? Easier every time! Tmux also has a: CTRL+b then press l - I'll leave you to figure that one out (and it's not what you think!).

Where screen had CTRL+a and " , tmux has CTRL+b and w to do the same thing, and the arrow keys work here too. Also unlike screen, you not only have an asterisk next to the current window, but you also have a "-" next to the last used window. CTRL+b and l again, if you did not figure it out before.

Like with Tilix, we can split windows into "panes" or just more "windows", if you like; I'm not going to get pedantic here. Type: CTRL+b and press " - to open a pane below your current one. If I want to go back to the pane above, where I was, I need to type: CTRL+b and then press o (oh, not zero), and repeat it to move down again. Did you notice anything? If not, look at the dividing line colors. This helps

you know where you are if you have a lot of panes. CTRL+b and q should number your panes for you. Should you wish to branch out horizontally instead, it should open to the right, try: CTRL+b and press %, and to close a session, use CTRL+b and & (ampersand) to close it. Yeah, burn it all down!!

If you wish to DJ, then you need CRTL+b and CTRL+o (It should "rotate" clockwise).

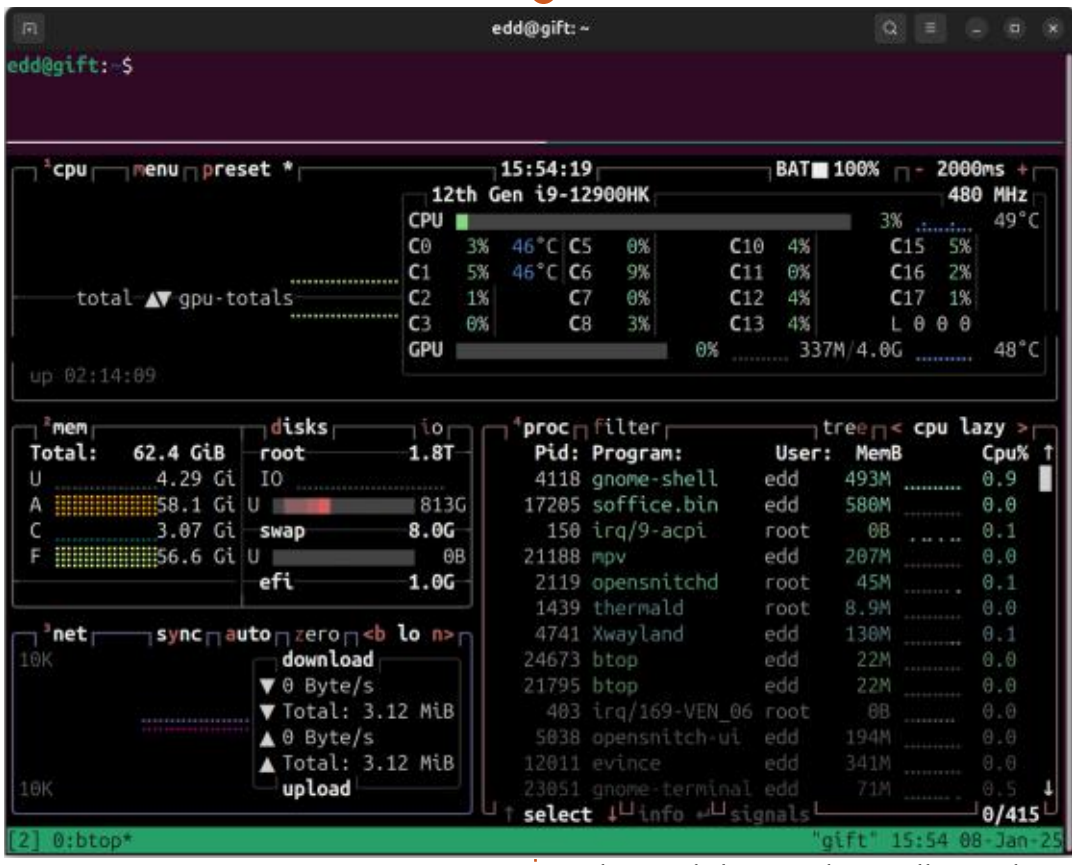
If you have not been following along, please follow along now. You see, there is this "top" derivative named btop. It can be installed with:

```
sudo apt install btop
```

Why do we need this? You see, btop cannot run in a window less than 80x24. I need you to open a new tmux session, split it vertically, and run btop in the bottom one. Now I want you to make the terminal smaller, to the point where btop cannot run.

To fix this, we need to use the resize pane. CTRL+b then ESC+up arrow.

Go ahead and see if you can fix the issue, now that you know how. (We will talk about this at the end, what I feel is broken with tmux).



Something like that shown above.

Sweet, now you know. This is a silly one to remember, so I had you do it yourselves.

To rip that window out and chuck it against the wall, requires violence! You guessed it, CTRL+b and ! - and the window will stand on its own and the pane it was in, would have disappeared. Go ahead and try that now.

Tmux also has a privacy screen. If there is something you do not want others to see, simply press CTRL+b and t in that pane, and it should be covered, but beware, any key will dispel it. To close panes, we use: CTRL+b and x - but you need to confirm, just be aware of that, don't just press enter.

Detaching from a session in tmux is: CTRL+b then d - or simply typing tmux detach.

To see what other sessions there are, you type: tmux ls - If you are inside a tmux session, you can get a list of sessions with CTRL+b and s

It is important to remember the difference here. If you type screen ls, you get an error and if you type tmux -ls you also get an error. Tmux does not use the "-" before the ls, but screen does, and the error messages you get are not helpful.

Attaching to a session requires only the session number, so the syntax is:

```
tmux attach -t <session name/number>
```

I usually only have one, so I just type tmux attach (I really appreciate the alternatives of tmux attach/detach as opposed to the shortcut keys).

Speaking of connecting to session numbers, just like on screen, we can rename the session:

CTRL+b and $ and you have to remove the "0" already there. Keep in mind that only the first 7 characters are displayed so typing in "Japan_jump_server_session" will display only as Japan_ (Honestly, the only time I have renamed sessions was during training, I prefer the short numbers as it is less typing).

You can also kill sessions by name:

```
tmux kill-session -t <session name/number>
```

As of version 3.3 of tmux, what still irks me is that when I physically resize a terminal, it does it lopsided. You may have figured that out with our btop example. Which brings me to tilix. Oops, just realised I have already gone over our 1000 word limit, we can continue in the next issue.

Any complaints,
misc@fullcirclemagazine.org

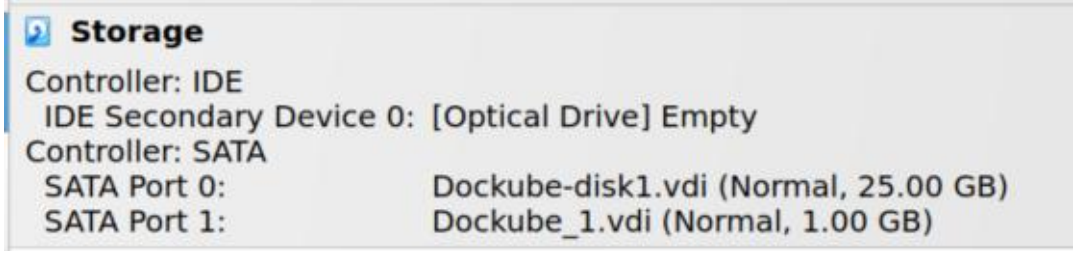
Erik has been in IT for 30+ years. He has seen technology come and go. From repairing washing machine sized hard drives with multimeters and oscilloscopes, laying cable, to scaling 3G towers, he's done it.

Learn About Pt3

I recently read a book called Linux Unveiled, that only unveiled that the author, 'Half-job Hussain', had no idea how to show newbies around. I did like some of the book somewhat (very little), so I'll be stealing some of that to do a proper job for our FCM newbies. (No, I will not be using anything from that horrible book). I'll try to take a more hands-on approach, so I would ask you to keep your terminal emulators open and follow along, just to get the muscle-memory going. Now obviously I cannot cover a whole book's worth of stuff here, but I'm thinking CPU, memory and disk… This can then tie into some of the LPI stuff we are covering elsewhere. That means there will be homework, but I'll keep it short.

By this issue, I'm assuming you added the second drive to your VM or added a physical drive to your metal. If you did not, do it quickly before continuing this article as it will revolve around you doing some practical work.

(As you can see, below, mine is added)



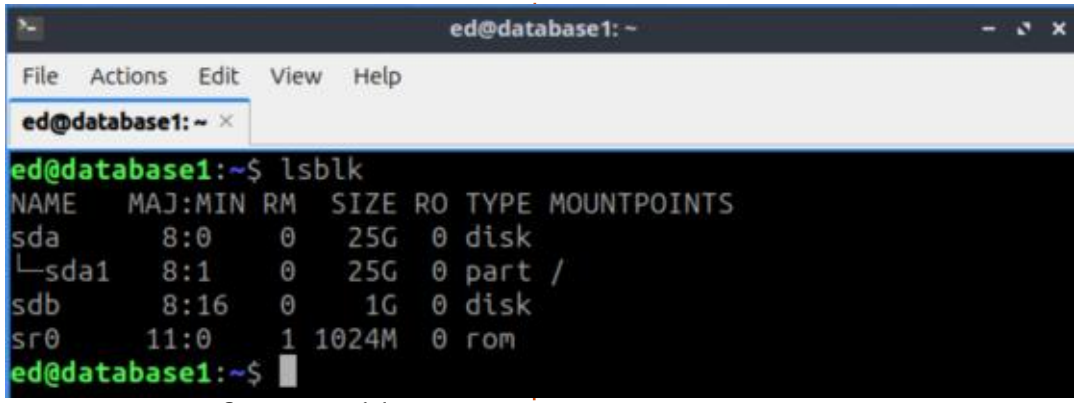
Now for a quick check, with:

```
df -h
```

Oh no! The disk is nowhere to be found. What to do?

First, let's list out the block devices. You remember how! (lsblk, shown top right)

You can infer from my image that I have a disk, named sda1, that is mounted to "/" - meaning that this is my Lubuntu drive. You can also see a sdb, that is the "right size" for the disk we added. Currently you can see it has no mount points. If you would try to click on it in your file manager, you would get an error.

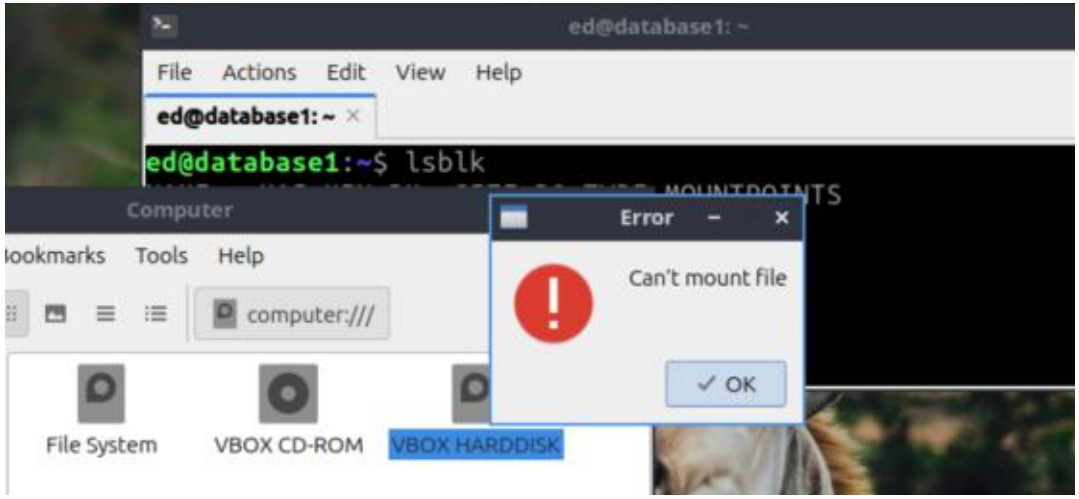


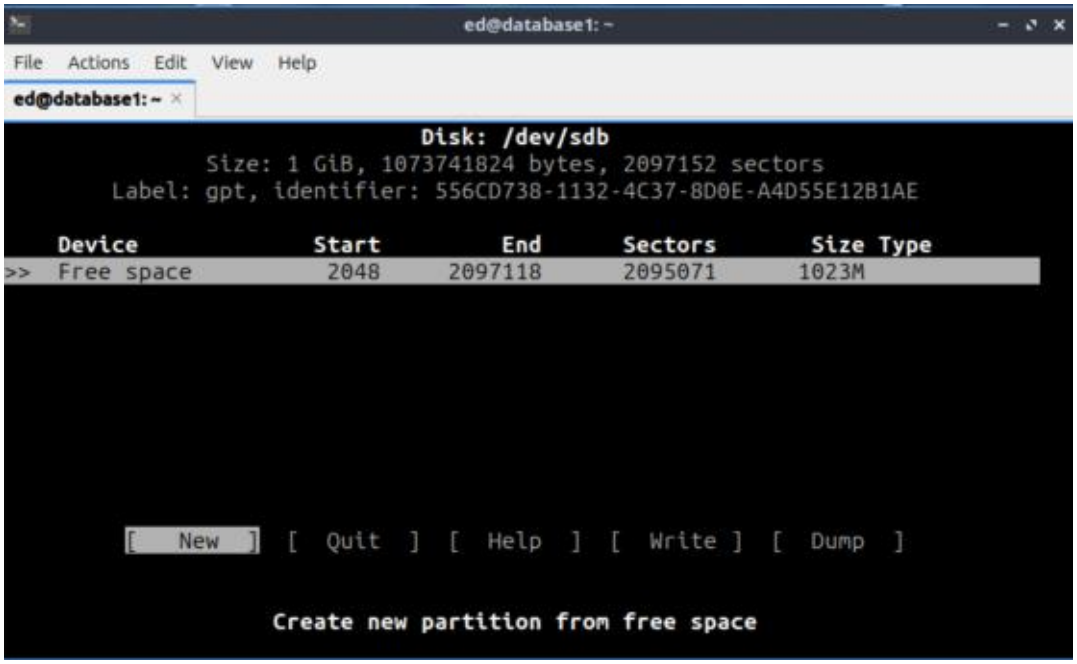
Any ideas? This is because we have no filesystem, that disk is considered RAW. So even though you can see it, you cannot use it.

Enter tool #1: cfdisk or fdisk

Right, open a terminal and type: sudo cfdisk /dev/sdb (as we saw in lsblk)

You will be prompted to choose a label type. We'll just choose gpt





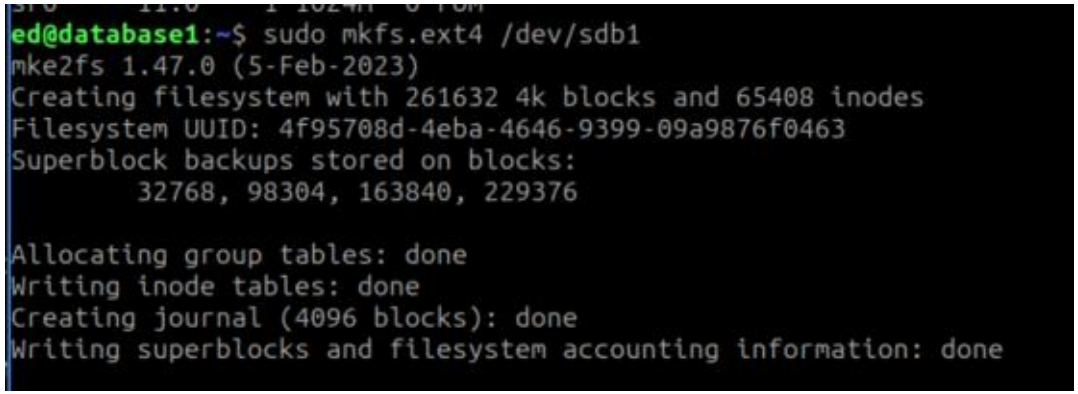
for now.

Then, you will work from the screen shown above.

Notice the row of commands along the bottom.

Since we have "free space" and we need a new partition, we choose "new" and since there is no mouse interaction here, with "new" highlighted, press enter. You are given a partition size and told how to specify sizes. If you wanted a 500MB partition, you could type 500M and press enter, but in our case, we will accept the full size. When you hit enter, the drive is given a UUID. That UUID lives and dies with the drive. If you had a physical drive, this means that you could take it out of the external enclosure and mount it in the machine, and Linux would be fine with it, or vice-versa.

OK, but currently, the changes are only proposed, we need to write our changes to the disk. Select "write" and follow the prompts, to get your new disk sorted. We can now quit, highlight "quit" and press enter. Run lsblk again and compare the differences. You should see that sdb now has a partition, named sdb1. We are almost there, but not quite yet. We need a filesystem for the new disk. Let's do it in the terminal also. Type:




```
sudo mkfs.ext4 /dev/sdb1
```

Wham-bam-thankyou-mam and we are done. Here in Lubuntu, you can see that when I click on the drive, it mounts it, but it also has an eject symbol next to it (under devices). That is because it is not "permanently" mounted. For that, we need to edit the fstab file. However, we are not going to, as this drive is temporary, and faffing with fstab is dangerous for newbies, especially if you did not follow in a virtual machine.

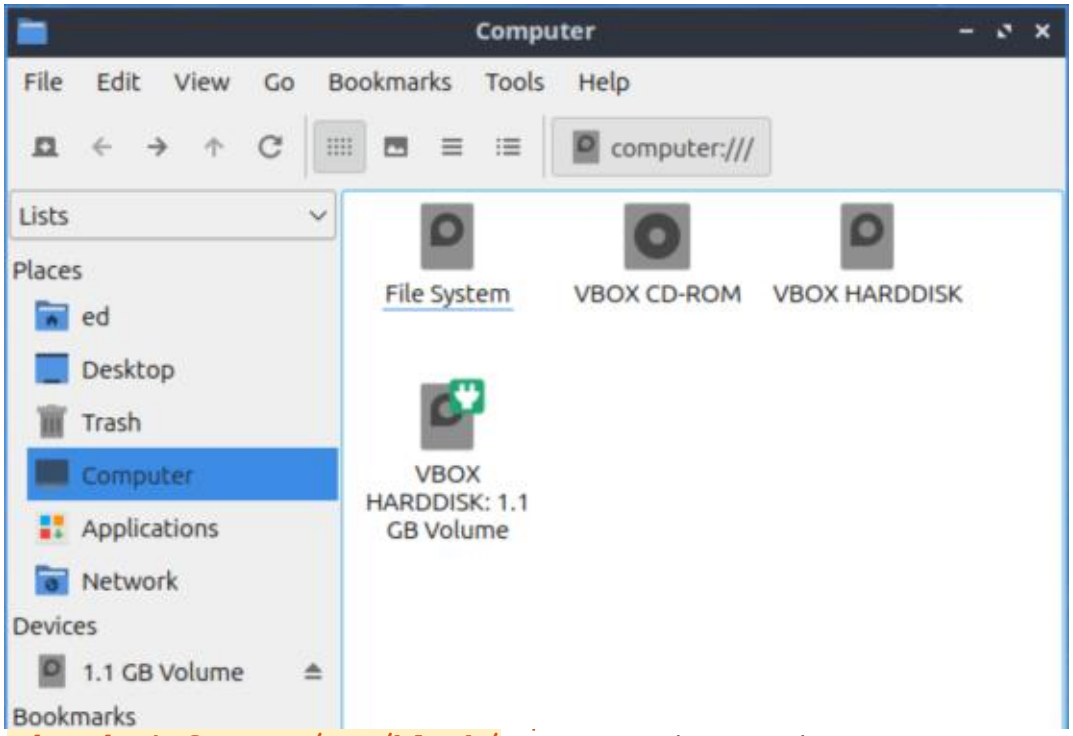
Since you know how, please check how much of the disk is free, via the terminal. You can use the -l modifier to see only local filesystems, should you have any network filesystems mounted (df-lh).

If you were ever curious about what you could find out with the df command, type: df - - output (that's two dashes, no spaces).

That segues into something else, let's check the status of our new disk. Oh no! We cannot check the S.M.A.R.T. status, as virtual machines do not support S.M.A.R.T. So any smarty pants who jumped the gun, good on you! I love to see it!

We can also get more information from lsblk, simply type lsblk -fs in your terminal and peruse the output.

Now I need to send you down the rabbit-hole. Clear your terminal with CTRL+L or the clear command, as we will need space. Type:




```
udevadm info -ap /sys/block/sdb
```

This displays the whole tree related to /dev/sdb, there should be pages of information. If you wanted a bit less, you could try: mount | grep sdb

You'd notice that you can see the UUID in both this mount command as well as in lsblk -fs. Remember that, before you just start poking about in fstab as a newbie.

With the mount command we can also find out more about our filesystem; type:

```
mount | grep ext4
```

and see what you get.

I'm going to end this one here, as I want us to do more exploring in the next issue, so see you there!

As per usual, if you see a mistake, let us know: misc@fullcirclemagazine.org

```
ed@database1:~$ udevadm info -ap /sys/block/sdb

Udevadm info starts with the device specified by the devpath and then
walks up the chain of parent devices. It prints for every device
found, all possible attributes in the udev rules key format.
A rule to match, can be composed by the attributes of the device
and the attributes from one single parent device.
```

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.

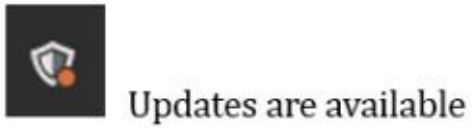
Trading Up To Linux Pt.4

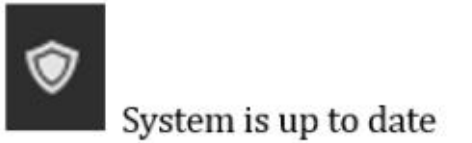
In the previous articles in this series we have ascertained that our computer hardware is compatible with Linux, have conducted an initial exploration of the applications that come bundled with Linux Mint 22, and have installed Mint in dual-boot mode alongside Windows on the computer's hard drive. Now, having booted the computer into Mint from the grub boot menu, our first tasks are to enable the built-in software firewall and to bring the system software and the installed applications up-to-date.

Linux Mint comes preinstalled with a firewall, the Uncomplicated Firewall (UFW), but for some reason the developers have chosen not to enable the firewall automatically. This is easily rectified using a one-time operation that activates the firewall and maintains its availability through successive reboots.

Open the main menu, and navigate to Preferences > Firewall Configuration. Enter your Linux password in the pop-up dialogue box. The Firewall control panel now opens. Slide the Status toggle to the right (or simply click on the toggle) to activate the firewall. The grey shield icon will change to display green, white and red stripes, and the drop-down menus for both 'Incoming: Deny' and 'Outgoing: Allow' items will be activated (below). The latter two rules will be sufficient for most users so, unless you wish to establish specific rules, simply close the firewall window.

An icon on the right end of the panel, in the form of a shield, indicates when software updates are available. The icon is small, probably grey, and somewhat inconspicuous. When software updates are available, the icon will stand out by virtue of an orange dot being displayed over the shield (below)



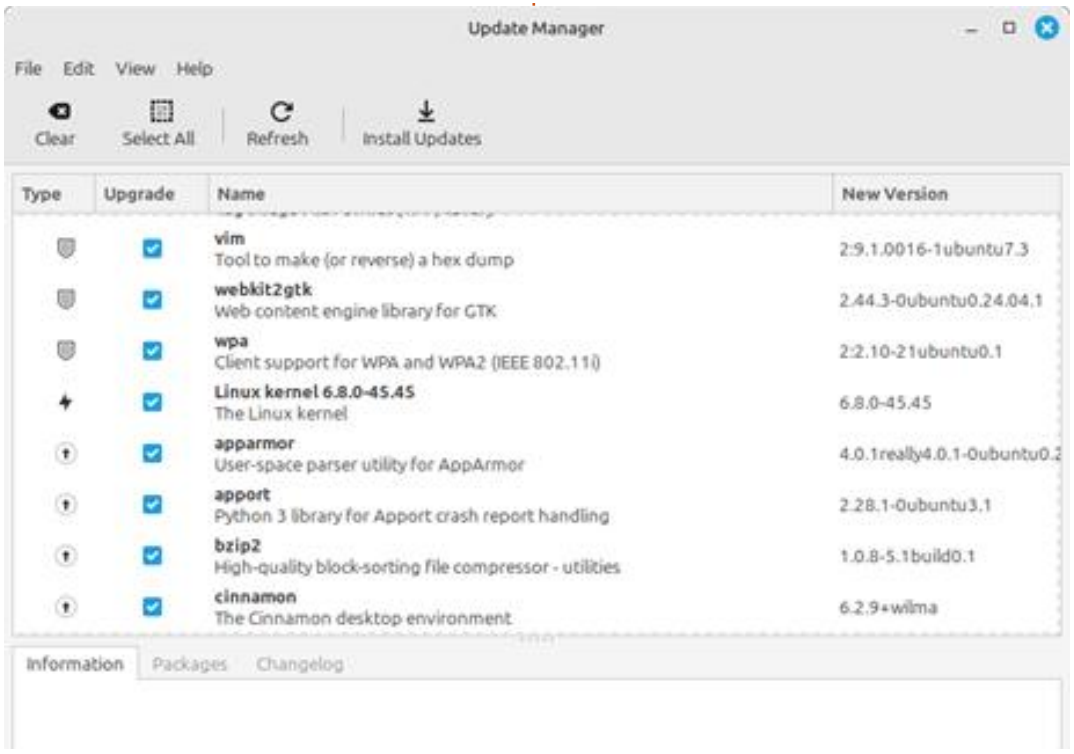


Clicking on this icon opens the Update Manager. The welcome screen recommends setting up system snapshots and applying all updates. System snapshots will back up certain system files and folders but will not back up personal data files. For my purposes, I don't use these snapshots and instead make regular, full-disk, backup images, along with frequent backups of my dedicated data drive. So, to keep things simple, at least initially, we will take note of the advice regarding system snapshots but not take any action in this regard. Pressing the OK button brings up a second screen where a coloured band asks "Do you want to switch to a local mirror?" The default download location is a Linux Mint server and is perfectly adequate for obtaining updates so that using a local mirror is not required. So, once again, we will maintain the status quo and press the No button. Note that both of these choices can be subsequently changed using Preferences and Snapshots in Update Manager's Edit menu.

The main window will be populated automatically with a list of updates available for both the Linux system itself and installed applications. By default, all of the available updates are checked for installation. Note that this marks a major difference in the ways in which updates are handled by Windows and Linux. In general, Windows Update will install all

updates as and when they become available. In Linux, we are notified that updates are available but have the option to install all the updates, any number of updates, or no updates according to our preference. The other thing to note is that, because actually activating the update process is a manual operation, the updates can be installed when most convenient for the user.

Updates are presented in three categories: security patches (shield icon), kernel updates (lightning bolt icon), and software updates (up-arrow icon). Security patches will fix known system vulnerabilities, while kernel and software updates generally provide new features and apply bug fixes. Note that the original recommendation for Update Manager was to apply all of the available updates. For those of us who do not possess detailed knowledge of the inner workings of Linux, this is sound advice and should be followed. So, my practice, and what I recommend to others, is to simply load the Update Manager and press the Install Updates button whenever updates are made available.



Applying available updates is normally straightforward. A pop-up dialogue box requires the user's password to be entered to authorize the changes. The updates are then downloaded with a progress bar, the download rate, and estimated time to completion, all being displayed in a window labelled Downloading Package Files. A 'Show individual files' link allows the details of the files being downloaded to be displayed. A similar window shows the progress on the installation of the updates. Finally, the message 'Your system is up-to-date' is displayed.

Occasionally, and especially if updates are being made to the kernel, a secondary window will indicate 'This upgrade will trigger additional changes with a list of packages that are to be installed'. This software is required to fulfill dependencies in the main updates and, once again, all changes should be accepted by pressing the OK button.

Updates to Linux are normally available on a frequent basis; however, the number of individual updates is usually small and installation is very rapid. For example, a recent update on my system consisted of 2 packages, with 3 MB of data to be downloaded and installed, and required 17 seconds for the update process to complete. Furthermore, rebooting is not usually required when updates have been installed. However, this will be necessary occasionally, especially when the kernel has been updated. The good news is that the system will only reboot once (as opposed to what can occur with that other operating system!).

Now that our system is fully up-to-date, we can focus on customizing the desktop and installing additional applications to make our Linux system function in the way that suits our specific purposes. So, these will be our next tasks.

Alan is a computer enthusiast based in the Great White North where he is an active member of the Ottawa PC Users' Group (https://opcug.ca) and maintains the LinuxNorth blog at https://linuxnorth.wordpress.com

Latex - G Topics

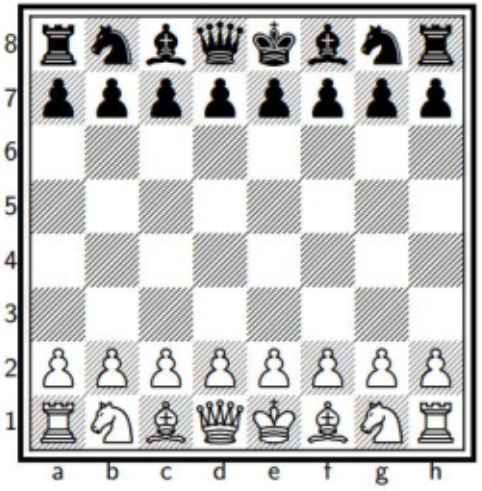
Written by Robert Boardman

Another issue of Full Circle and another exploration of the many tools and options available in Latex. This time I will explore a few of the possibilities listed in the G topics. The G topic includes the following languages: Georgian, German, Greek. I remind you I will not select any of the languages since I wrote a column about a few techniques for using other languages recently (FCM #213), and because I plan to write more extensively about using multiple languages in the future. The G topic contains mostly packages that have to do with graphics which I chose not to examine in this article.

The first group of packages in the G topic is a group entitled "Games". I think it might have better been called "Diversions" since many of these packages are not what I think of as games. There are packages to make chess puzzles, bridge games, Scrabble, Chinese chess, Othello (Reversi), RPG, Weiqi (Go); and also packages to make ASCII art, Mandelbrot sets, I-Ching, mazes, sudoku, tangrams, and the days which are Friday the 13th. This is only a short list of what is available.

If you are interested in standard chess, there are packages for annotation of games, for drawing the board, a package of fonts supporting chess diagrams, one for correspondence with chess game notation, and more. Chessboard is a package that is part of the default installation of TexLive. It is maintained by Ulrike Fischer, one of the two main authors of The Latex Companion (ISBN 978-0-13-465894-0) which I have recommended several times. The package was last updated in 2024 November. Fischer says "you will now have full control about size, content and look of the board."It requires the following packages: chessfss (fonts), pgfcore, pgfbaseshapes and pst-node which are also part of the default TexLive install. I also needed to load the skak package in order for chessboard to generate a board with the newgame command. (Perhaps my version of chessboard is not up to date.) One of the graphics with this article shows an initial chessboard. Fischer wrote clear and comprehensive documentation full of sample code and illustrations.

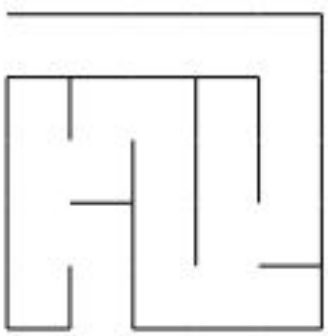
```
\documentclass[letterpaper,11pt]{article}

\usepackage{chessboard,skak}

\usepackage{chessfss,pgfcore,pgfbaseshapes,pst-node}

\setchessboard{showmover=false}

\begin{document}

\newgame

\chessboard[padding=4pt,pgfborder]
```



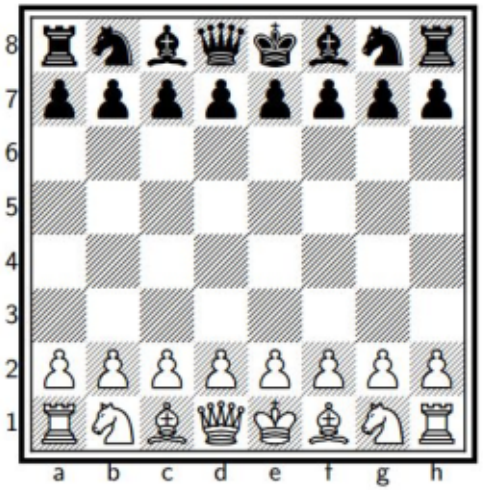
A pastime many people enjoy is solving mazes; which the next package calls labyrinths. This package was uploaded to CTAN in 2014 and works well on my system. The documentation is only eight pages long, but contains enough information to guide the user into experimenting with the code. As always, I strongly encourage you to read the documentation, perhaps even print it out while you work with this package. The sample graphic in this column was generated from one of the samples in the documentation.

```
\documentclass[letterpaper,11pt]{article}

\usepackage{labyrinth}

\begin{document}

    \begin{labyrinth}{6}{5}

        \h +++++

    \v -----+ \h ++++-

    \v ++-+++ \h -----

    \v +-++++ \h -+----

    \v +-++-+ \h ----+
```

```
\v +++--+ \h +-+++

\end{labyrinth}
```



From the geometry topic, I selected the geometry package. It is often used in Latex as it allows the user to define almost all the parameters of a document page. The latest update available at ctan.org is version 5.9 (2020 January). Page geometry can be changed in the middle of a document. If you have used Latex for at least one project, you know that each document requires the documentclass instruction. In the examples I have used for these articles, I have almost always set the document to letter-paper which defines a page as 8.5 X 11 inches, almost the same size as A4 paper. However, most books and periodicals are not published as 8.5 X 11 pages. They may be printed on "letter paper:" but are usually trimmed to something smaller. The geometry package allows the user to define the area for text, to centre the text on the page, set margins, set the sizes of the header and footer areas, and other choices. If the document type is "book", then pages are printed two sided, so inner and outer margins are needed. Inner margins are usually wider than outer margins to allow for the area used in binding.



Geometry options are normally set at the beginning of a document. However it may be necessary to change the page geometry part way through. The newgeometry command can be used for this purpose, for example to insert a landscape page into an otherwise portrait-oriented document. The restoregeometry page returns the document to the original settings. If a set of options is going to be used regularly then the geometry can be saved and then loadgeometry used to load those options into the current location.

The 42-page documentation is written clearly and contains more than enough code to assist the user in the use of this package. There are many possible options available. Different options can be true / false, or have one, two or three possible values. The code needed to generate this image is below.

```
\documentclass[letterpaper,11
pt]{article}

\usepackage[layoutwidth=6in,l
ayoutheight=8in,textwidth=4in
,textheight=6in]{geometry}

\usepackage{lipsum}

\begin{document}
```

The dimensions used in the geometry package will print the text to allow for space for binding. The book will be printed so it can be trimmed to the size required for publishing.

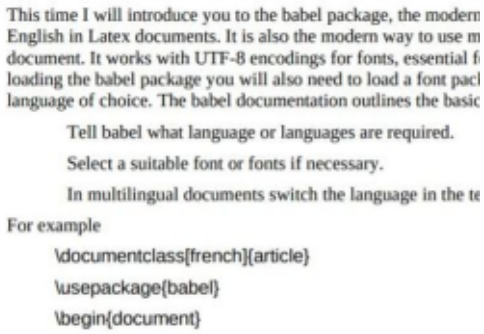
```
\lipsum[1-3]

\end{document}
```

The dimensions used in the geometry package will print the text to allow for space for binding. The book will be printed so it can be trimmed to the size required for publishing.

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis

As I am sure most of you know, Latex generates PDF files. Very recently (2025 March), a package has been uploaded to ctan.org which allows the user to include complete or partial PDF files in Latex (PDF) documents. No need to retype or even copy and paste. If what you need is already in a PDF file, one or more pages of that file can be included in the current document using the pdfpages package. I saved my FCM#213 column as a PDF and used it as an example with the following code.

```
\usepackage[final]{pdfpages}

\begin{document}

    \includepdf[page=1]{../
published/fcm213babel/fcm213}
```


This time I will introduce you to the babel package, the modern
English in Latex documents. It is also the modern way to use m
document. It works with UTF-8 encodings for fonts, essential f
loading the babel package you will also need to load a font pacl
language of choice. The babel documentation outlines the basic

Tell babel what language or languages are required.

Select a suitable font or fonts if necessary.

In multilingual documents switch the language in the te

For example

```
\documentclass[french]{article}
\usepackage{babel}
\begin{document}
```

I imported just one page but you can include page ranges as well. The option [final] in the usepackage command means the text will be imported. Other options include draft (there will be a box with the file name on the designated page but no text), demo (only the required number of blank pages are inserted) and two others. There are many options available for the includepdf command. These include various layout options and various ways to include one or more pages from one or more PDF files in the current file.

Note 1: This package seems to be pointed at pdfTex users. Even so it performed well in my Latex environment.

Note 2: If you want to incorporate other than one complete page, you will need to either retype or use copy and paste.

The caret symbol ^ is used in mathematics and sciences in various ways. When the formula is read it is called “hat”. Two developers, Matthew W. Scroggs and Adam K. Townsend, developed a little package that puts real hats on characters. (Latex is not always serious. Developers do have senses of humour.) They developed a list of eighteen designs for hats. When the package is used like so:

```
\hat{a} = \hat{b}
```

a random hat is chosen from the list. The user can also choose which of the eighteen hats to use as shown in this second code snippet.

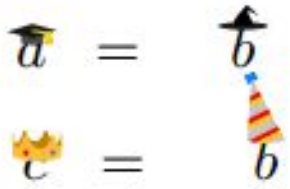
```
\hat[crown]{c} =
\hat[birthday]{b}
```

It is easy to make one style of hat the default in the initial loading of the package.

```
\usepackage[cowboy]{realhats}
```

The documentation is one page plus one paragraph so read it and have fun with your work.

When I use the \hat command, my editor (TeXstudio) automatically adds dollar signs around the”hat” instruction. This happens because “hat” is a math symbol in the same way as add, subtract, etc. So the instruction \hat is changed to $ \hat{a}$. Nevertheless, this instruction still generates the letter with a real hat, not a caret. Is it possible to have both math carets (^) and real hats in the same document? I leave that to my readers to figure out.



Python In The Real World - Pt.156

You know what it's like, you're having a party and that one crazy guy shows up, and you're wondering 'who the hell invited this guy?'

Just kidding. We couldn't have an 18th birthday bash and not invite everyone's favourite crazy Python guy.

Greetings yet again fellow Sentient Lifeforms. It's been a while, hasn't it. No, I have not returned to Terra. I'm still out at Decturian Station working to get these two groups of lifeforms to play nice with each other and the rest of the universe.

The Gozorn representative is (in my mind) something like a cross between The Thing from Fantastic Four and the rock-like being Yarnek (an Excalbian) from Star Trek TOS (The Original Series) season 3 episode 22 named 'The Savage Curtain'. Not quite as snarky as either, but only just.

The Trasforiua representative somewhat reminds me of Billy Mumy's character Lennier (a Minbari) from Babylon 5.

It's amazing to me how Terran Science Fiction got things so right on the appearance of many of the races of the interstellar community. That having been said, there is a whole lot that they didn't get right either.

Anyway, Ronnie contacted me about the 18th anniversary issue, so I moved some of my new daily tasks to write another article (something I've been meaning to do for a while).

So, ***HAPPY ANNIVERSARY, FCM!!!!!*** I have enjoyed all the years that I've been part of it and hope that I will be able to continue writing for it in the future!

For this anniversary issue, I'll be talking about Static Site Generators and one in particular, named MkDocs.

Static Site Generators

If you are not familiar with Static Site Generators (ssg), they are a way for a non-HTML programmer to create a website based on a template (or theme) and host them on sites like GitHub and others. Take for example my own website. https://thedesignatedgeek@xyz is a site that is hosted on my GitHub repository using their GitHub Pages. My site is based on a ssg using Jekyll. When I set up my site, the Jekyll ssg was the best I could find and started out as a quick answer to getting a website up quickly. I never expected it to last almost 8 years in its current iteration.

Enter MkDocs

Per the MkDocs GitHub repository (https://github.com/mkdocs/mkdocs),

"MkDocs is a fast, simple and downright gorgeous static site generator that's geared towards building project documentation. Documentation source files are written in Markdown, and configured with a single YAML configuration file. It is designed to be easy to use and can be extended with third-party themes, plugins, and Markdown extensions."

So this is a free project designed to help design a project ssg written (mostly) in Python.

Please notice the part stating that MkDocs is "geared towards building project documentation".

The process of creating your Static Site is very similar to using Sphinx. However, Sphinx uses rst language to generate the pages, MkDocs uses markdown.

Installation

Installation is very simple. You use pip to install it. HOWEVER, I suggest (at least for evaluation purposes) you create a virtual Python environment, just so nothing changes your working environment. If you don't remember how to do this, please see my article in FCM#208 from August 2024.

Now, use pip (pip3) to install it and all the other dependencies.

```
pip install mkdocs
```

STARTING

Once you have that done, go to your virtual environment terminal and type

```
mkdocs new my-project
```

Now, change to your new project folder.

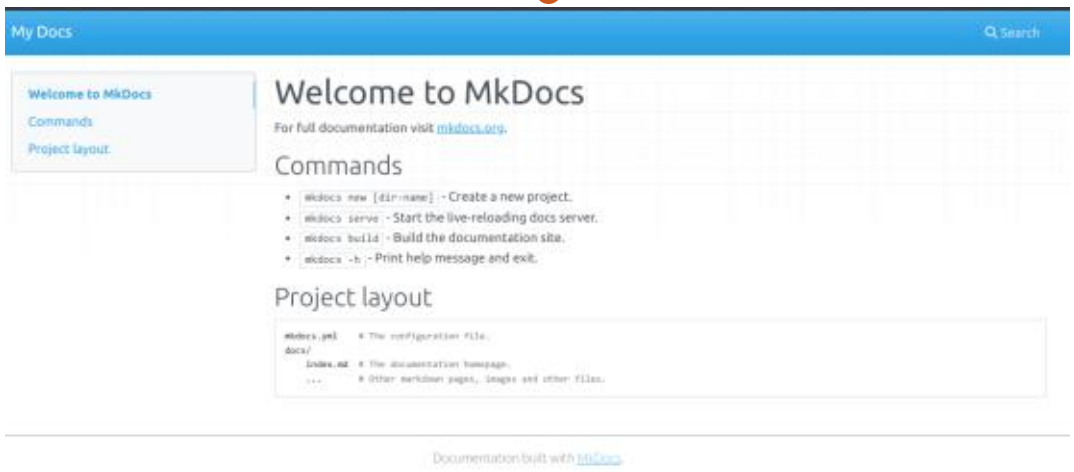
```
.
├── docs
│   └── index.md
└── mkdocs.yml
```

The mkdocs.yml is the configuration file. The docs folder holds all the "pages" that make up your site. The main page has already been started for you.

To see what your "site" will look like, in the terminal type:

```
mkdocs serve
```

There will be a number of things that happen at this point, all printed to your terminal. Once you see "Serving on http://127.0.0.1:8000/" in the terminal, you can open your browser to the address shown and you will see all your hard work (well, the MkDocs team's hard work at this point) you will see something like the image shown above.

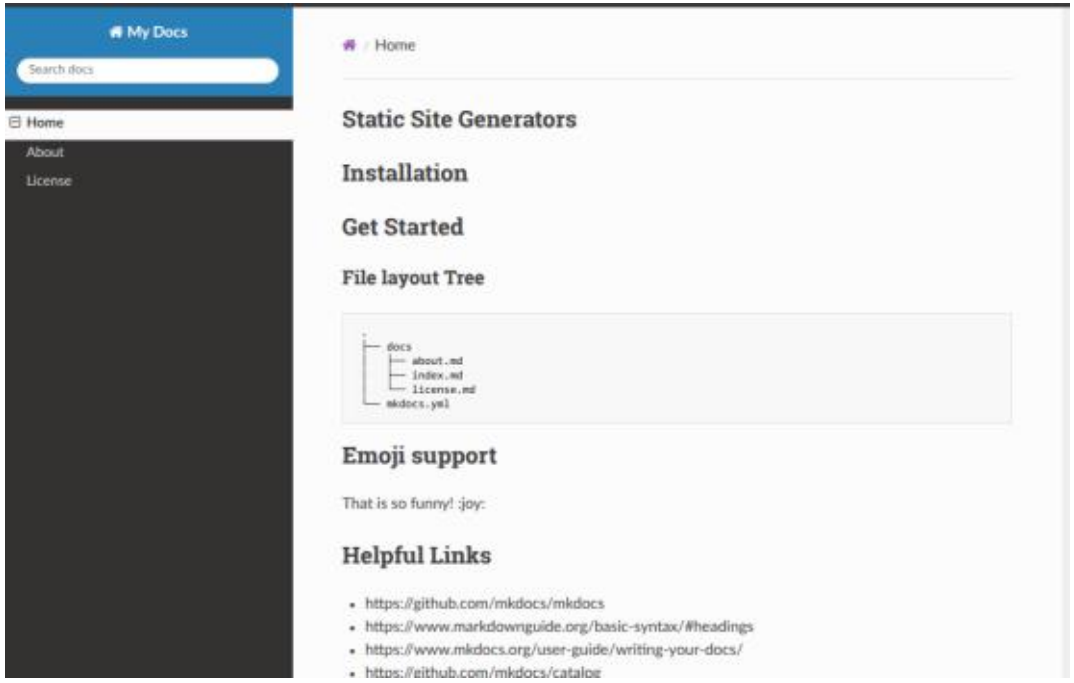


Let's step back for a moment and discuss the mkdocs.yml file. This is where you keep all the configuration information for your site. Here's an example of what the test "site" I designed looks like…

```
site_name: My Docs

nav:
  - Home: index.md
  - About: about.md
  - License: license.md

theme: readthedocs
```

You can quickly see that the site_name section relates to the name at the upper left of the screen shot. The nav: section contains a list of all of the pages you created and want to be seen on your site. In the example above, there are three pages, the home page, an about page and a license page. Finally you can see that my test site uses the readthedocs theme, which is built into MkDocs. There are a number of different themes that are available.

Speaking of themes, the original screenshot is created using the default theme for MkDocs. Here's a shot of my dummy site using the readthedocs theme…



You can find information on the two built-in themes at https://www.mkdocs.org/user-guide/choosing-your-theme/ and a list of third party themes at https://github.com/mkdocs/mkdocs/wiki/MkDocs-Themes .

Markdown support

This can be a very large issue for some, since there are so many different versions of markdown specifications. https://markdownguide.offshoot.io/basic-syntax/

Deploying

This is the big decision maker, in my mind. How and where you can put your project documentation can make or break the entire system. Thankfully, there is a very large section of MkDocs on just this subject. According to them, you can host your project documentation just about anywhere. The primary locations would include GitHub, GitLab and ReadTheDocs.org are just three places you can use to host your documentation. See https://www.mkdocs.org/user-guide/deploying-your-docs/ for more information.

Bottom line

While there are a few small "gotchas" that at first glance look like major roadblocks, the customization capabilities of MkDocs offers, MkDocs seems like a good tool to create your project documentation. It's not (in its current configuration) for everyone that might want a Static Site, since there is no current support for blogging, emailing and so on.

The biggest thing for me is that over 80% of it is written in Python. A very large part of the project uses Python-Markdown (https://python-markdown.github.io/) and there are many extensions and third party projects and extensions (https://github.com/mkdocs/catalog#-theming) that you can find to guide you along if there are some things you want/need to change/modify/customize. Not to mention the potential for learning many things, not limited to ssg and markdown.

This is, in my humble opinion, a great project that any Python programmer could get some valuable skills from.

End Thoughts

I'm not sure how often I'll be able to update you all (y'all in Texacian), since there is a major push to install a new QEComms (Quantum Entanglement Communications system) here at Decturian Station.

As always; stay safe, healthy, positive, creative and most importantly, believe in miracles!

Crazy Uncle Greggggie

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

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/

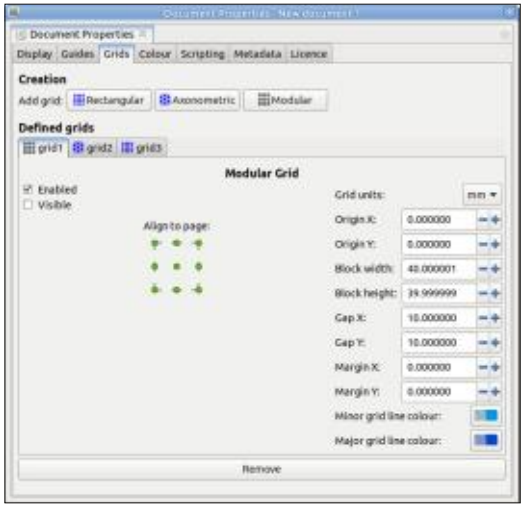
Inkscape - Part 156

Let's begin this month by talking about grids. These are a feature that I rarely use, but there's no denying that they can be invaluable when trying to keep objects neatly aligned – such as when using Inkscape as a makeshift DTP program in which you want text boxes to live on an underlying structure, defined with a rectangular grid. Some artistic or engineering work can also make heavy use of grids, particularly if you're using an axonometric grid to create lines using an isometric (30°) or oblique (45°) projection.

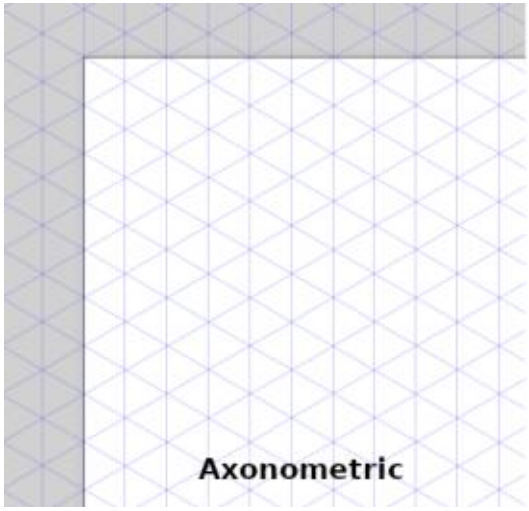
Rectangular and axonometric grids have been part of Inkscape for a long time, but version 1.4 adds a third: modular grids. These share some similarity with rectangular grids, in that they are based on horizontal and vertical lines. But whereas rectangular grids use lines that extend to infinity to mark out squares and rectangles in the page, modular grids instead use an infinite array of rectangular blocks, with optional spacing between them.

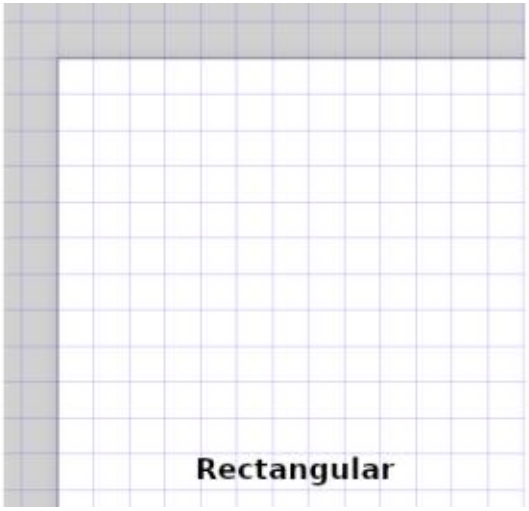
For any new Inkscape users, it's worth pointing out exactly how grids work. They're purely a construction aid, and do not appear in exported or printed output from the program. Most commonly they're used in conjunction with snapping, causing the cursor to snap to grid lines and intersections as you draw shapes on the canvas. Pressing the '#' key will toggle the visibility of all the grids at once, and when they're not visible then they can't be snapped to. This makes it easy to use grids for general layout, but to turn them off quickly if you need to draw something off the grid lines without turning off snapping in general.

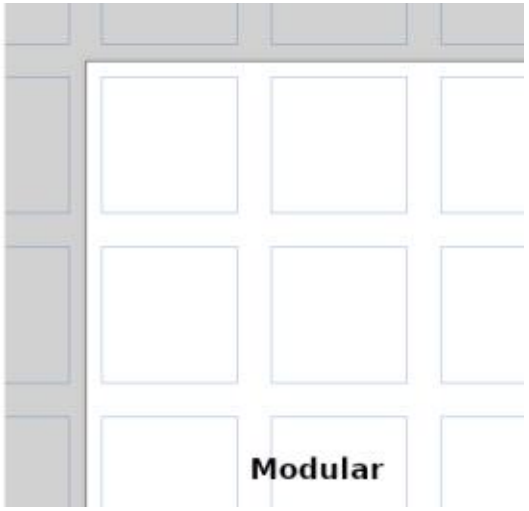
Creating grids has been made slightly easier in 1.4. They still live in the Grids tab inside the File > Document Properties dialog, but the previous approach of picking the grid type from a popup menu and then having to click the New button has been streamlined into direct creation buttons for each type of grid. You can still create multiple grids, mixing the types and parameters as you see fit, with each of them appearing as a separate tab in the lower part of the dialog.



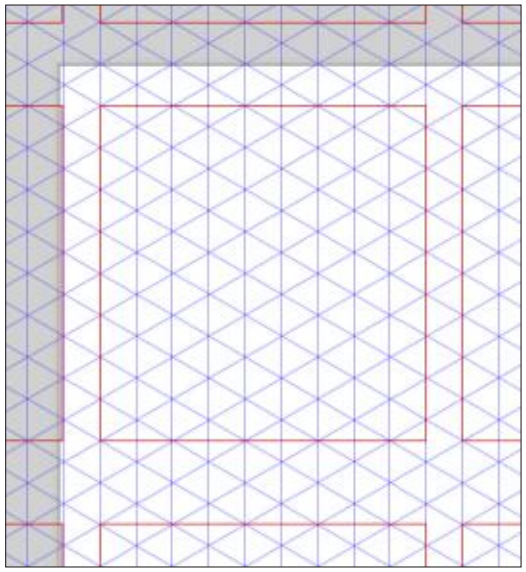
It can be useful to have multiple grids active at once if you carefully tweak the parameters to create some kind of relationship between them. For example, here's a modular grid (red) and axonometric grid (blue), adjusted so that the modular grid creates a series of 'frames' inside of which the axonometric grid could be used to draw isometric designs. Consider something like a sprite sheet for an







isometric game, or trying to design a coherent set of icons with a faux-3D effect, to see where such a capability could be useful.

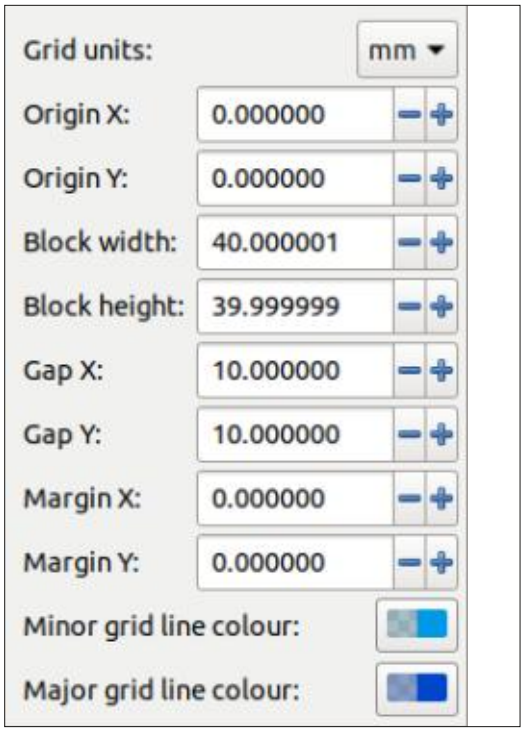


But it can also be useful to create multiple grids that may not be so obviously related to each other. Usually in this situation you'll use the fact that each grid has its own 'Visible' checkbox to turn them on and off without having to remove any of them completely. Unfortunately there's no keyboard shortcut to make toggling individual grids easier, so if you do want to use multiple grids like this, you'll be making frequent trips to the tabs in this dialog to turn each one on and off.

I covered rectangular and axonometric grids a decade ago, in FCM #97, and not a great deal has changed about their configuration since then. All the grid types now feature the 'Align to page' buttons – an array of 9 icon buttons that just act as shortcuts for setting the Origin X and Origin Y fields to some common values. But otherwise the controls for configuring rectangular grids remain largely identical.

Axonometric grids, on the other hand, have gained one other convenience feature with 1.4. Next to the Angle X and Angle Y fields is a button to open a small door-hanger dialog. This contains a single field in which you can put a width:height ratio from which the angles will be calculated. This just saves you performing a little trigonometry if you know the ratio you want. For example, putting a value of "2:1" into this field results in the angles being set to 26.565051°. I'm sure you'll agree that, for most people, entering the ratio would be preferable to calculating the angles for yourself. Few people are likely to use this feature, though, as for the most common angles of 30° or 45° it's still easier to type them into the fields directly as degrees. "1.73205 :1" and "1:1" would be the equivalent ratios if you really want to know.

Although little has changed regarding rectangular and axonometric grids, the star of the 1.4 grid party is, of course, the modular grid, so let's take a look at the parameters for those.



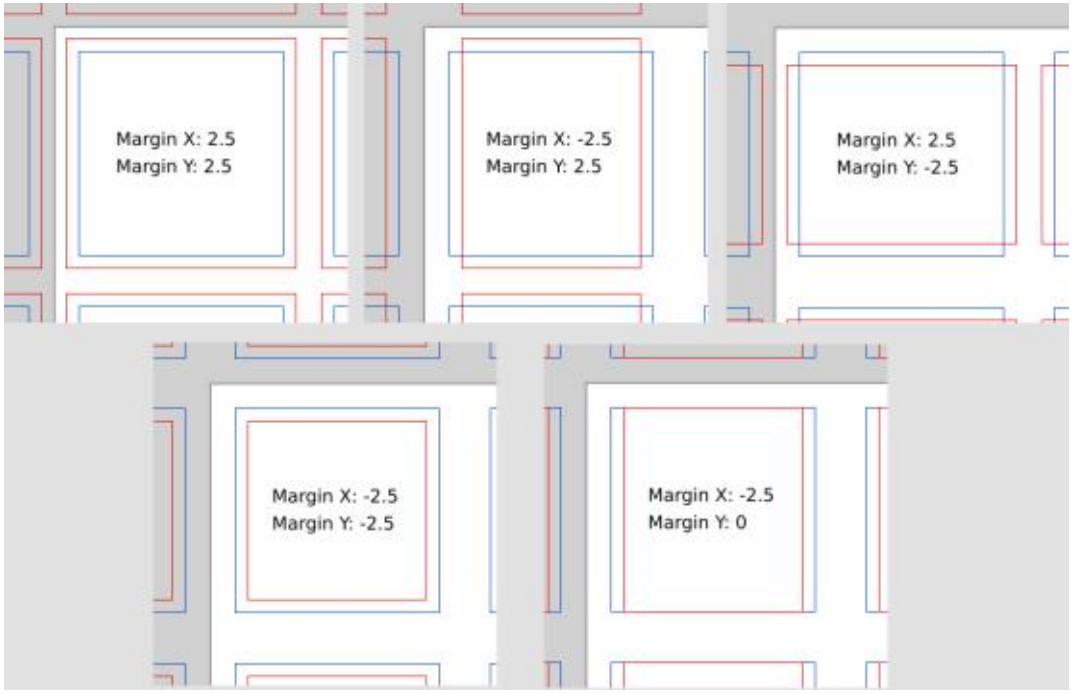
I'm sure you can work out what the Grid Units control does. The two Origin fields set the position of the top-left corner of the grid. You might expect values of 0 to result in a block being positioned so that its top-left corner is perfectly aligned with the top-left corner of the page, but that's not the case due to the Gap values. These fields set the distance between blocks, but they're dished out equally on opposite sides of the block: a Gap X of 10 mm will result in a space of 5 mm to both the left and the right of each block, and similar logic applies to Gap Y. So if you do want your first block to be right in the corner of the page, you'll need to set the Origin values to a negative value of half the corresponding Gap field. In other words, with a Gap X of 10 mm you need to set Origin X to -5 mm (and the same for the Y values). In most cases, however, a bit of a space between the page border and the grid is desirable, so leaving the origin values at zero might be fine. As usual, the exact parameters you need will be highly dependent on what you're drawing, and how your image relates to the underlying grid.

The Block Width and Block Height fields are pretty self-explanatory, other than the fact that it seems to be impossible to set them to nice, round, equal numbers. Having entered "40" into each field, you can see from the screenshot that one has been nudged slightly up, and the other

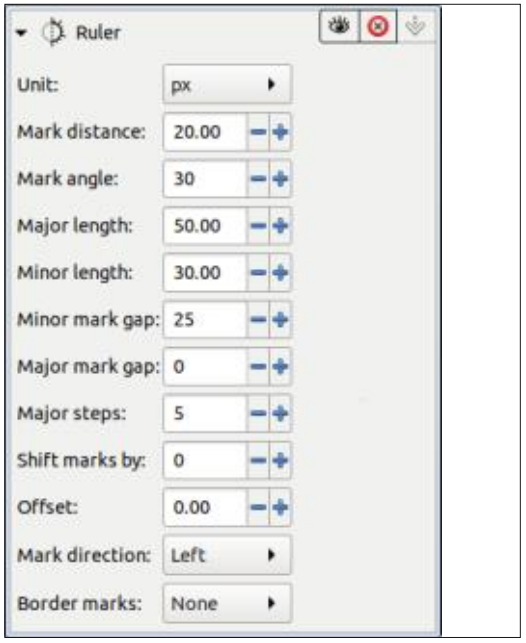
slightly down. Similar discrepancies seem to happen regardless of the Grid Units, so it's not just a problem with some internal conversion from millimetres to pixels. The differences are tiny, and unlikely to cause a genuine problem for anyone – but it is rather annoying.

The Margin X and Margin Y fields set an offset that is used to draw a second block, centered on the first. This can be used to draw a margin box around each block, or to draw an inset box by using negative values. The margin boxes are drawn in the color set by the Minor Grid Line Color field, while the main block uses the corresponding Major Grid Line Color. In this screenshot, I've set the Minor Color to solid red, and the Major Color to solid blue – you can see how different margin values result in different minor boxes. Both major and minor blocks can be snapped to, so careful use of these fields might provide you with some useful snap points without requiring an additional grid to be created (though that's still an option, of course).

I think the new modular grid type is a great addition to Inkscape, but it's a little limited by the lack of some convenience features similar to the new Aspect Ratio option for axonometric grids. I'd love to be able to define a modular grid by telling Inkscape that I want each block to be 40 mm × 30 mm, and have it work out the Gap values required to fit as many blocks as possible onto the page, neatly centered. Or, conversely, set the gap value and number of blocks on the page, and have Inkscape work out the block dimensions.



Moving on from grids, there have been some small updates to a couple of the Live Path Effects (LPEs). First of all, the Ruler LPE has gained three extra parameters: Mark Angle, Minor Mark Gap, and Major Mark Gap:



The Mark Angle parameter allows you to create rulers in which the tick marks extend from the base path at an arbitrary angle, rather than always being perpendicular to it. The value is in degrees, and can be either positive or negative, depending on which way you want the marks to slant.

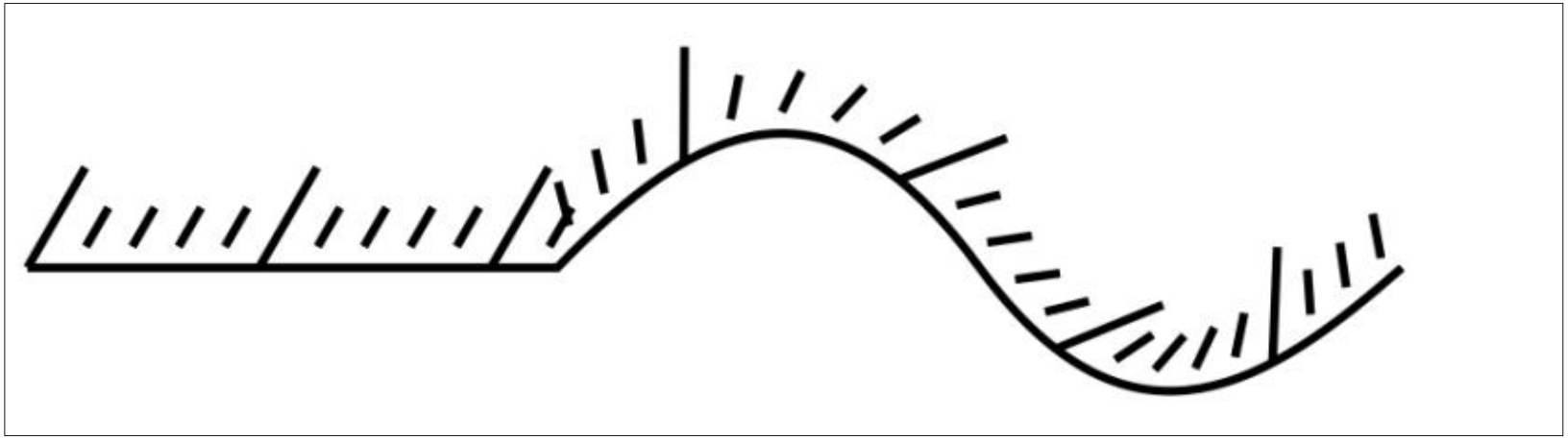
The Minor and Major Mark Gap fields let you offset the start of each tick some distance away from the base path. The value is a percentage of the overall mark length, but the mark is also shortened by this amount such that its end point remains the same. This means that if you want to shift the marks away from the base path while retaining their length, you'll need to adjust the Major Length and/or Minor Length parameter as well.

This image (next page, top right) shows the result of using the parameters from the screenshot above – a Mark Angle of 30°, and a Minor Mark Gap of 5.

Unfortunately, the Gap fields won't accept negative values, so they can't be used to shift the marks out of the opposite side of

the base path in order to produce an asymmetric design in which, say, the tick marks extend 1/3 of their length on one side, and 2/3 on the other.

The only other LPE to have received an update worthy of the Inkscape 1.4 release notes is Taper Stroke. This adds a new option of 'Clamp' for the Start Direction and End Direction parameters. These parameters determine whether the taper at each end veers towards one side or is centered, with the new option cutting the shape off squarely, with no taper at all. To that end I think the use of 'Clamp' as the option name is a bad one; 'None' or 'Square' would have been more descriptive, while 'Butt' would have better mirrored the naming used in the Fill & Stroke dialog.



The following image shows a line without the LPE applied, then two copies which do have it. The second line has the Start Direction set to 'Center' and the End Direction set to 'Left'. The last line uses 'Clamp' and 'Right'. You can see that the 'Clamp' option drastically reduces the length of the line, cutting it off where the taper would usually begin, so you may need to create an artificially long base path if you want to use this option.

Next month we'll continue exploring more of the changes that have been introduced in Inkscape 1.4.

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**


The Daily Waddle
MY PRINTER GOT DEPORTED!
HOW COME ?
NO PAPERS . . .

shells.com

Linux on Your iPad

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

GET IT ON macOS | Get it on Windows 10 | Download for Linux | Download on the App Store | GET IT ON Google Play

BODHI CORNER

NEW

Written by Moss Bliss

Work proceeds apace with development for Bodhi 8, and work with Trixie is still running ahead of work with Numbat. Stefan has completed the slideshow which will run during installation. We have a new animated wallpaper called MariaD (see photo).

I think I answered the questions about why I use Bodhi in the last article. Why should you use Bodhi?

People talk about light or heavy desktops. In my experience, Bodhi is almost as light as a distro using only a primitive window manager. At boot time, my installation of Bodhi 7 64-bit AppPack is using only 402 MiB of RAM (Bodhi 6 used 320 MiB for me at boot), and I know more experienced users who have dropped gadgets to where their desktop loads up at 100 MB. As I type this, I have Pluma, Terminology, chromium, and Discord open, and am using 1,249 MiB as reported by neofetch. This means that an old chromebook or laptop which used to struggle on Windows 10 will run Bodhi as if it were a new machine. That's definitely one way we have marketed Bodhi, to give life to old machines, but also think how much more headroom you'll have on a newer machine.

At this time, there is no work on implementing wayland in Bodhi. It shouldn't be that hard to do, since Moksha is based on enlightenment and that desktop has been using wayland for a while now, but some of the stability gains Moksha made over e17 do tend to get in the way of some upgrades.

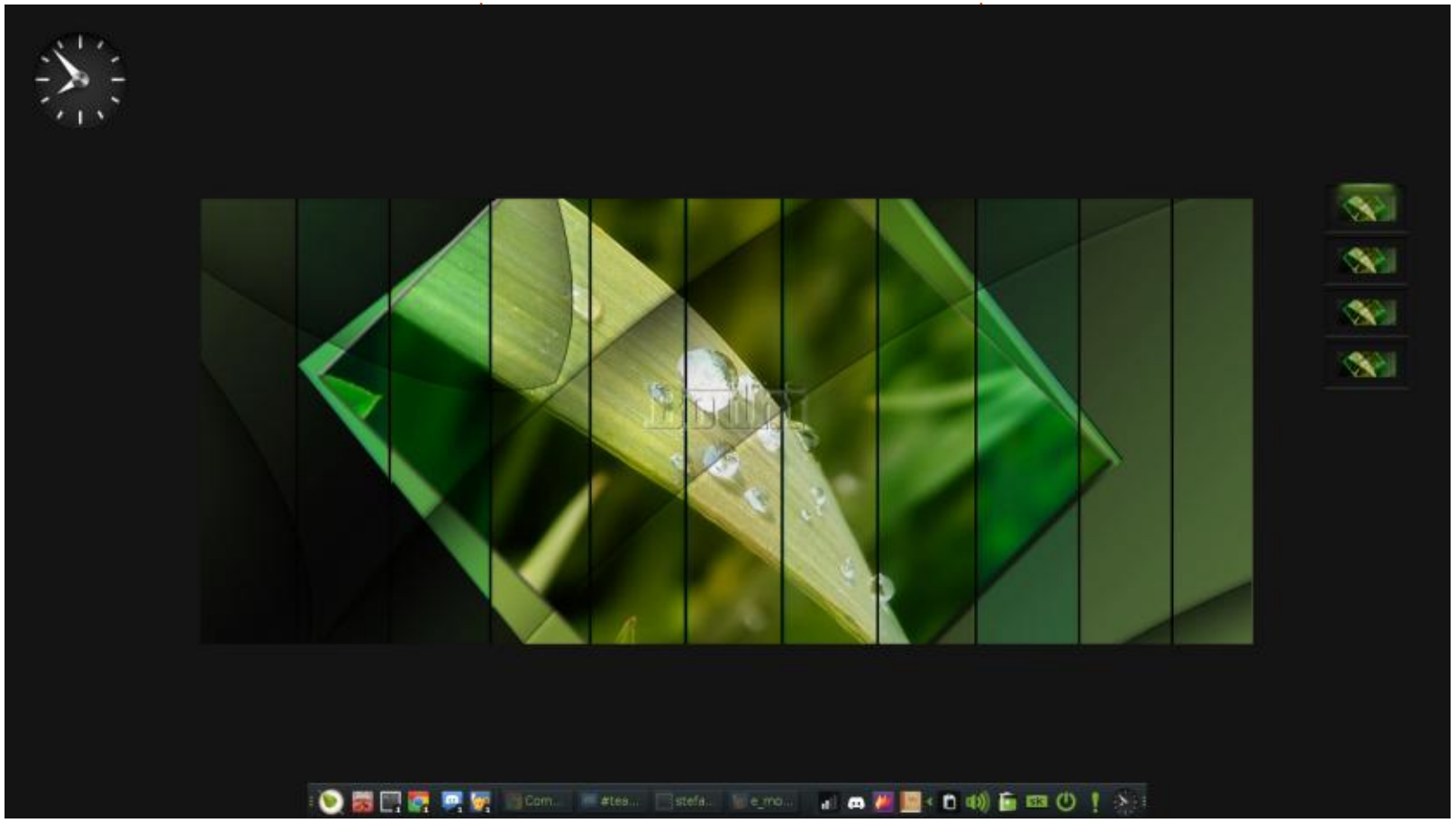
I suppose I should talk about Bodhi forums. For several years we had our own, and then moved the forum over to LinuxQuestions.org. A couple years ago we set up our own forum again, which is found at https://bodhilinux.boards.net. We are getting a few new forum members every day. The forum is a great place to keep up on new things and fixes, and our Discord channel is also great for that. As communities go, the Bodhi community is one of the friendliest

I've come across.

If you're interested in keeping up on the yet-to-be-released versions of Bodhi, you'll want to visit the BodhiDev page at Sourceforge. Currently featured is DeBodhi 7 64-bit, now in Beta3. https://sourceforge.net/projects/bodhidev

Of course, we are always looking for sponsors. We have a new Patreon page at https://patreon.com/bodhilinux, where Robert Wiley will reward your attention with frequent newsletters detailing what is new in Bodhi. We would also appreciate it if you would regularly visit the Bodhi Linux page on Distrowatch; as I type this, our current ranking is #58, and we're used to being at least in the top 50.

If you have any questions on this article, write to me at moss@bodhilinux.com. For questions on Bodhi itself, please join us at the forum or join the Discord chat, https://discord.com/invite/pvB7MSf



Moss has been using Linux since 2002, and has been co-host of mintCast since Oct 2018, Distrohoppers Digest from 2019 to 2024, and host of Full Circle Weekly News since April 2021. He is retired but works as a substitute teacher, and lives in Eastern Tennessee.

UBPORTS DEVICES

Written by UBports Team

VoLTE is Working

Marius announced in Ubuntu Touch Q&A 161 that VoLTE is now working satisfactorily for both Mediatek and Qualcomm. The modifications are already in the image for both Focal and Noble. With that said, in order to use them, the porter for each device must do the work on that and for Qualcomm the only device we have at the moment is the Fairphone 5. On the Mediatek side, Volla from 22 up are functional. Marius and Alfred have been running it as a daily driver for a while and have found no major problems.

This is not just voice, it is also SMS over VoLTE. AppLee reported some issues with MMS, but Marius was surprised that MMS would work at all because it is a different type of protocol. Alfred attempted to test that out live but, like most live attempts, it didn't work. Alfred also placed a call though and that did work.

Alfred and Marius both confirmed that the indicator was showing VoLTE on their phones.

In other big news, it is now possible to download apps for Noble from the OpenStore and it will detect which system you are on.

The only thing holding Marius back from running Noble as daily driver was that he was still testing out VoLTE for Focal. Noble is good enough to be used though. It is now pretty much on a par with Focal and the only outstanding issue was with push notifications and there is a fix for those in the works.

eSIM

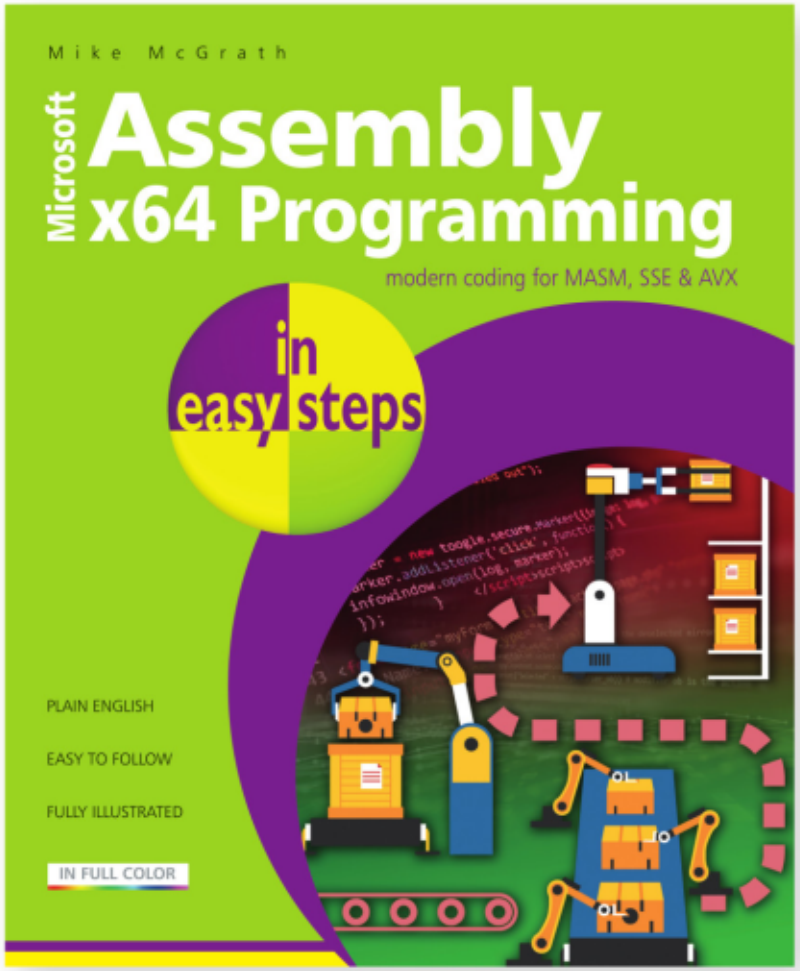
Marius has also succeeded in getting an eSIM to work. At the moment, it functions only in the command line, but he is working on a UI for it. The fix used the Lpac library. A big shout out to the developers of that because it contains resources which we have used for lots of different things.

The Daily Waddle

Clear and concise guides to help you learn with minimal time and effort!

Order direct from ineasysteps.com **and get 25% discount!**

Enter **FC25** in the Coupon Code box at the checkout.



Assembly x64 Programming in easy steps teaches how to write code to create your own computer programs in the modern x64 Assembly language on Windows. Written with beginners in mind, it shows how to:

- Store and manipulate data in 64-bit registers.
- Control program flow.
- Create reusable blocks of code in program functions.

This primer includes demonstrations of parallel processing with 128-bit Streaming SIMD Extensions (SSE) and 256-bit Advanced Vector Extensions (AVX).

Complete example programs demonstrate each aspect of coding, together with screenshots that illustrate the actual output when each program is executed. The code covered within the book is color-coded, making it even easier to grasp.

Includes free, downloadable source code to get you started straight away!

£11.99 / $15.99 paperback (ebook version also available)

ISBN: 9781840789522 / 192 pages / By: Mike McGrath

Google & Manifest 3 & Ad-blocking

If you are a Chrome user, you will obviously know that Google does not want you to use ad-blocking. Chrome now disables uBlock as unsupported, or rather "no longer supported". If you are a person who prefers not to have adverts vomit all over your screen, read on.

I'm on metered internet, as my only other option is the FTTH provider, that is the only one in the area and they know it, so the service sucks like an Electrolux. I waited 31 days for them to do an install; when I finally lost it and cancelled the service request. So I understand how precious bandwidth can be for some of you. (When I had unlimited internet, I did not care, but I did sympathize). I do not want to waste bandwidth on adverts. I also do not want to share my screen with adverts, so a logical avenue for me is a pi-hole. However, a pi-hole needs updating, etc, offsetting the bandwidth I would save from not loading adverts. I suppose if I were to update once every three months... Let's not go there.

Obviously, I say 'obviously, as Google only has selling your data in mind, so Google would switch to manifest 3, for "security" purposes. If you realise that Google's business model is your business, then the black-and-white starts to grey... Ad-blockers like the fantastic uBlock Origin (the one from Raymond Gorhill, not the fake one that harvests your data, on the Chrome web store), update their "blacklists" constantly, and this is what Chrome is attacking with Manifest 3. You see, if they take control of the way the extensions update - thus up to date blacklisting cannot happen – then they push adverts to your browser that you cannot stop. Now I am aware of uBO lite, a Manifest 3 complaint extension, but it is gimped. Link: https://github.com/uBlockOrigin/uBOL-home/wiki/Frequently-asked-questions-(FAQ)

"*uBO Lite (uBOL) is a pared-down version of uBO with a best effort at converting filter lists used by uBO into a Manifest v3-compliant approach, with a focus on reliability and efficiency as has been the case with uBO since first published in June 2014.*

However the focus on reliability and efficiency in a Manifest v3 environment meant having to sacrifice many features beyond those not possible within a Manifest v3 framework."

And it cannot be used in conjunction with other blockers as per the developer himself: https://x.com/gorhill/status/1033706103782170625

You can also read Privacy guide's take on uBO Lite: https://www.privacyguides.org/en/browser-extensions/#ublock-origin

So, if you are a Chrome user, what do you do?

uBlock Origin has become part of my life; I add things like Pinterest and Amazon and Google iframes, to it immediately, before my browser even hits the internet, thus it scares me, because this could happen to other browsers as well.

Well, you'd say, my next avenue of attack should be the browser, and you are right! One could opt for Brave browser and minimise the adverts. However, normies don't know or like Brave. This is always our problem – the normies. You will get retorts such as, "oh I don't care if they mine my data", "Just use Chrome", and "I don't know how to use X or Y". You know, the type that goes on three-month diets and then end up bigger than they were a month later. So it's not that easy. They do not want to leave their comfort zones and there are no pills for stupidity or ignorance. You might be a Chrome fanboy too, so how do we work around it? I'm not mentioning Opera here, as their ad-blocking is selective, opting to let adverts through that they approve of, again, telling you what you can and cannot consume, and I, for one, am tired of this $#1t where everyone wants to control and censor you. Hell, I hardly ever even use Google's search engine any more as they remove too many results.

Another way may be an ad-blocking VPN. These things do cost

money and now you are paying, just to *not be harassed. I don't think this is reasonable. Though they work, up to a certain point, I'd prefer a local solution to the gangster problem and prefer *not being extorted. (If they were dirt cheap, it would be great, but they are not.) It reminds me of a joke, when people walked, robbers would wait on the road, when people got horses and carriages, robbers became highwaymen, when people got cars, robbers opened service centres... and it feels like that is what is happening here.

I looked into ad-blocking DNS, which connects DNS over HTTPS to a secure provider. My previous ISP offered this service, it sort-of worked, but you still needed things like uBlock Origin tossed into the mix; however, my current one does not offer that service and from what I understand, this is not the norm. I tried some of the 'open' ones offered on the internet, but I found the reliability to be lacking. I don't know if this is a network thing, or some fault of DoH, or a bandwidth thing, where the secure DNS server just could not handle all the traffic it was getting, but my experience with these was very poor. I tried some on every continent, and the results were below average on connection alone. This means that you cannot have this for a business, as a sketchy connection is a deal breaker and there are always solutions within firewalls for businesses or a pi-hole in a pinch.

[My friend and I were looking into turning this (a family friendly, ad-blocking, DNS provider) into a business, as it is a real problem. Our only issue was that we would need capacity and bandwidth, meaning we would need about a thousand customers at a dollar/pound/euro each per month, just to survive, maybe more, and usually you would need about three month's worth of capital to float you. Then we would need hardware and salaries, which would mean you needed ten times that amount of customers and why would customers pay for something they get for free?]

My current solution is going back to my old haunts, where I add my own blacklists to my hosts file. While this is a good solution, my computer has to reference those thousands of lines in my hosts file, creating quite a bit of overhead. This results in a delay when browsing, and on older machines it becomes really noticeable. That in conjunction with uBlock Origin as well as Tampermonkey scripts to put my browser into reader mode, for certain websites, etc. You can see how it becomes a lot of work, and why I do not like reloading.

The solution, I think, as it stands now, is to use a combination of things, say, Steven Black's adlist, or any other, but one only, not all of them, in your hosts file, then, a reskin of Brave to make it mimic Chrome exactly, to fool normies and maybe a Pi-hole with updates and update checking turned off... (We can add multiple blacklists on there)

As Linux users we are used to choice, I do not use Chrome at all, I do have Brave and Vivaldi and Opera though. My main browser is currently Floorp after the Librewolf key fiasco and I'm happy to report uBlock Origin still works well there. I can load adblock lists from different sections of the world and in conjunction with my large hosts file, then experience a reasonable ad-free internet.

I like other browsers, like say, Basilisk or Pale moon or whatever; the reason I do not use them is because they do not have uBlock Origin and Sponsorblock and the like... and this would also be a deal breaker for me when it comes to Chrome. If the breaking adblock madness washes over to Vivaldi, that would need to go too, I'm afraid, as I'm not willing to compromise on adverts. (I have a zero tolerance policy when it comes to adverts.)

Opening a browser on someone else's computer these days is like visiting a dirty toilet for me, so I understand the frustrations of Chrome users and the uproar (or if you ever used someone else's old XP PC, where you could not even see the desktop through all the icons, or internet explorer with so many automatically added toolbars, you only had half a screen to work with, hehehehe).

If you don't like what Chrome is doing, uninstall it, simple as that. Then ask your IT guy to make FireFox or Brave look like Chrome – if you miss it so much. I have never understood the "loyalty" to Chrome, but I suspect it has to do with it being so many orders of magnitude better than internet explorer when it launched.

18 Years Of Full Circle Magazine

I first encountered FCM in podcast form, via a link on distrowatch.com. Since the podcast really provides only headlines, that got me into reading the magazine itself. It is so refreshing to read a publication that is not trying to sell me something. I rarely find any article that I cannot read with interest, even if it doesn't have any particular applicability to the way I use FLOSS.

Articles are always pitched just right - from my standpoint at least. I'm a reasonably experienced Linux user, but in no way an expert. They don't assume a huge level of background knowledge, but equally don't treat the reader as a complete novice. That's a clever balance to get right but FCM achieves it.

I never realised FCM had been around for so long. I hope it can keep going another 18 years or more. There is really nothing else like it around.

I also hope Moss Bliss remains the podcast host for a good while to come. He has just the right balance of confidence and authority to make you want to read the magazine.

With congratulations and best wishes.

Beeza

I honestly don't remember when I found Full Circle Magazine. I had just started with Ubuntu, probably 8.04 or 8.10. It was before Unity; I remember that. When Ubuntu first went to Unity I was mad. I didn't like it at all. As is always the way of things, I got used to it and could do what I needed. By then I had several Ubuntu-only machines, not even trying to dual boot Windows anymore. And then they went back to Gnome, and I hated that even more. It seemed like several steps back to me.

FCM usually had an article or two every month about Mint, so I tried that for a little while. FCM recommended Mint highly as an option when Ubuntu started doing flatpak apps. I understand using sandboxed apps when you are beta testing or using something that is not really designed to work in Linux. But most of my programs are made for Linux and Mint; they run faster natively than if sandboxed. So I went to Mint completely and never looked back.

I have 5 different machines that are Mint-only operating systems. The only Windows machine I have is used at work because one of the building management systems runs in only Internet Explorer, which is not even available anymore. I have to use Edge of all things, and tell it to open the site in an Internet Explorer page. One of my machines I use for everything else at work, since it is all web based. Another is used for GRAMPS and genealogy. A great open-source program if you are into genealogy. Another I use just for my bible study work and biblical Greek study. The other 2 are just general backups that I keep updated in case one dies.

FCM has always kept me current on Linux news in particular, and on operating systems in general. The news articles are usually interesting, even if I don't use that particular program. It is still nice to know in case I decide to use them at some point in time. The how-to articles are great, although some get a little too deep for my limited ability or need. I do like to read the review articles about operating systems or programs. They are very informative about what they can do and I usually wait to update until I can read an article and decide whether it is worth the trouble of updating. I am not into gaming, but those articles seem to be helpful if someone is a gamer.

I usually read FCM cover to cover, even the ads. The Daily Waddle is always funny and worth the magazine by itself! I hope that FCM sticks around for a long time for people like me. I know that some people would rather just YouTube a how-to article, or do a web search on something. FCM seems to me to be a good go-to source for reliable information and help. I usually read the magazine as

soon as I download it. I like the pdf option because I think it will always be available across all platforms. I have seen epub readers come and go, and what works in one doesn't work in another one. Just me, I know.

Thanks Ronnie [and the writers], for a great magazine!

Roy A. Milner

I don't remember how I came across FCM, but it was almost certainly a recommendation on Ubuntu Forums (which have recently moved to Ubuntu Discourse [1]).

When I saw your post on r/linux [2] back in 2013, I added a comment in support of FCM. I, and a number of others, were all downvoted as shills — because we had nice things to say! How utterly ridiculous.

I have occasionally contributed to FCM.I still read FCM every release, and continue to be grateful for the hard work that you put in.

Paddy Landau

[1] https://discourse.ubuntu.com/
[2] https://redd.it/1nb02n

How I first found Full Circle Magazine? I was working then and was experimenting with Ubuntu on my work machine. I wanted more information on Ubuntu and, in my searches, saw that Full Circle Magazine was about to make an appearance. Since then, I have downloaded every issue.

What do I like/dislike about FCM? It was changed from portrait to landscape. That was a good decision. I like the articles on LaTeX. I use LaTeX as much as possible. As a hardware guy, I like the technical articles that have appeared. I skim the other articles looking for gems. My only dislike is the games articles. I don't play them because I just can't be bothered.

Victor Moisey

My transition from Windows to Linux many years ago led me to FCM. It's the ideal means to stay abreast with the Linux world.

Glenn - Melbourne

I have been involved with computers within my personal and professional life as a commercial photographer since the late 1980's and most of my experience has been with Microsoft Windows, Apple MacIntosh/iPad, Commodore Amiga's and Android phones/tablets.

As a user of these systems, they allow me to be more creative and productive by eliminating manual procedures to do reporting or electronic manipulation to produce a digital product. Due to the digital environment growing it was not as much of a problem to keep up with the learning curve.

Always intrigued to use digital in some way within my photography career, as it transitioned from film to digital, I embraced all of the changes as they appeared. I wanted to dabble in Linux to see how it compared to all the other operating systems and I was not disappointed when I first used Ubuntu in 2007.

It was very easy to navigate the interface, it was attractive, had the power of a command line (which I was very much a novice in) and it just worked!

My introduction to FCM was in my desire to find a resource to help me understand the underpinnings of the OS, its changes as it developed, its many iterations, and it was nice to know their were so many people out there like me who appreciated a knowledgeable resource like FCM to help them in their journey.

I admit I am not a command line geek, my personal use for the system is to learn an alternate operating system for mostly pleasure and see how well it adapts its software and compare it to Windows versions, which I use mostly nowadays.

I have 4 computers running Windows 11, and 2 running Linux Mnt 22. I have published two articles over the 18 years to contribute, but mostly I have read the monthly magazine to educate myself on the changes.

Good luck to your magazine as it has been a valuable resource over the years.

Brian Hartnell
Marinette, Wisconsin

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 1200 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.

Right in the middle of a development cycle is always an interesting place to be, and that is where we find ourselves now with Ubuntu 25.04. This latest release, out on 17 April, 2025, marks the middle of the three interim releases which will lead to the next long term support (LTS) release. That one will be Ubuntu 26.04 LTS, still a year away, expected in April 2026.

The three interim releases in each cycle iteratively build up changes to be incorporated into the final LTS and Ubuntu 25.04 is no exception. While it has only a few new features that desktop users will notice, there is lots happening behind the scenes, so let's examine both the visible and invisible.

This is the 42nd release of Ubuntu and the 16th with the current modified GNOME 3 desktop. It is also the 21st release over the past ten years with systemd as the initialization system. Despite the odd naysayer, I think it is safe to say that incorporating systemd has been a great success for Ubuntu and also for Debian upstream.

Code named Plucky Puffin, this is the second Ubuntu release that has a "P" code name. The previous one was Ubuntu 12.04 LTS Precise Pangolin which was released on 26 April 2012, 13 years ago. With 26 letters in the English alphabet and two Ubuntu releases per year, the letters naturally repeat on a 13 year cycle.

Installation

I downloaded Ubuntu 25.04 from the official source using the Transmission BitTorrent client. As always, I carried out an SHA256 sum check to ensure that the ISO file was a good download. This is always a good practice, it only takes a minute to do and avoids potential trouble later.

This release has increased in size to 6.28 GB, which is 10% bigger than the previous one, Ubuntu 24.10, which was 5.7 GB.

I tested Ubuntu 25.04 from a USB stick, using Ventoy 1.0.99, which worked flawlessly.

System requirements

The recommended minimum system requirements for Ubuntu 25.04 have not changed over the past five years since 20.04 LTS and remain:

- 2 GHz dual-core processor
- 4096 MiB RAM (system memory) for physical installs
- 2048 MiB RAM for virtualised installs
- 25 GB (8.6 GB for minimal) of hard-drive space (or USB stick, memory card or external drive but see LiveCD for an alternative approach)
- 3D acceleration-capable GPU with at least 256 MB of VRAM
- 1024x768 or higher resolution display
- USB flash drive or DVD drive or for the installer media
- Internet access is helpful

Overall this means that Ubuntu 25.04 should run fine on hardware designed for Windows 7 or later, although I would suggest at least 8 GB of RAM as a working minimum, especially if you are doing web

browsing, which these days eats up a lot of RAM.

New

This release does not have a lot new that will be noticed by most desktop users, but there is much that is new behind the scenes.

Let's start with what desktop users will see.

Ubuntu 25.04 uses the GNOME 48 desktop and that means it includes the new user "wellness" settings selector where you can choose to set alarms if you think you are getting too much screen time. You can note, however, there is no setting for "not enough screen time".

There is also a new Preserve Battery Health setting that allows you to set laptop battery charging parameters to extend the life of your battery by not fully charging it and also slow-charging.

The GNOME 48 desktop adds Canonical-developed triple buffering patches to provide higher performance and smoothness on lower-powered devices.

The Ubuntu Flutter-based installer has been improved, especially when adding Ubuntu to a drive with a BitLocker encrypted Windows partition already installed.

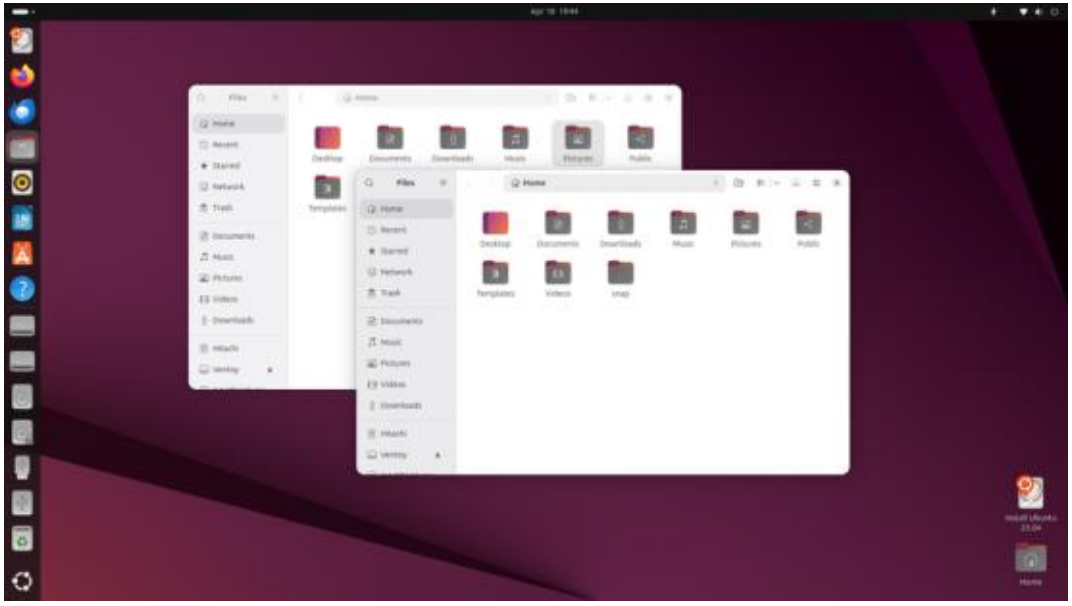
The JPEG XL image format is now supported without the need for any additional packages to make it work, plus there is support for grouped system notifications.

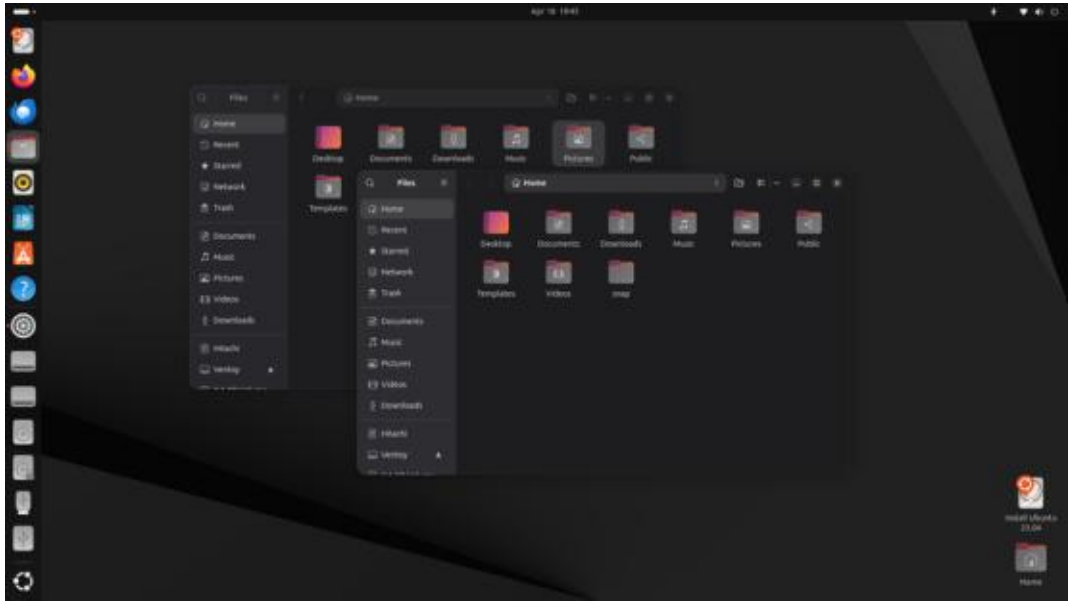
Some of the things desktop users probably won't notice include the new geolocation service, BeaconDB, for automatic calculation of things like time zones, weather and night light features. This replaces a discontinued Mozilla service.

This release uses Linux kernel 6.14 which is part of Ubuntu's new policy of using more recent Linux kernels for more up-to-date hardware support and to bring newer features sooner. It also employs the systemd v257.4 initialization system.

Ubuntu 25.04 introduces a new developer-aimed feature: prepackaged developer tools as Snap packages, called devpacks. The first one introduced is a new devpack-for-spring Snap with the latest Spring Framework and Spring Boot projects, including Spring Framework 6.1 and 6.2, plus Spring Boot 3.3 and 3.4. Spring devs will like this, at least.

This version also includes improved ARM architecture support, including for Snapdragon devices, with an official generic ARM64 desktop ISO. There is also





new support for Intel Core Ultra 200V series processors with built-in Intel Arc GPUs and Intel Arc B580 and B570 Battlemage discrete GPUs.

There are confidential computing improvements which prevent unauthorized access to virtual machines while running.

The AppArmor security package now includes many new profiles for applications. It uses a bwrap profile (bwrap-userns-restrict) to create user namespaces and sandbox creation, before transitioning it to a tighter profile that disallows capabilities for the processes running inside the bwrap sandbox.

Initial support for High Dynamic Range (HDR) monitors has been added, although it is not enabled by default. You will need an HDR monitor to try it out, though!

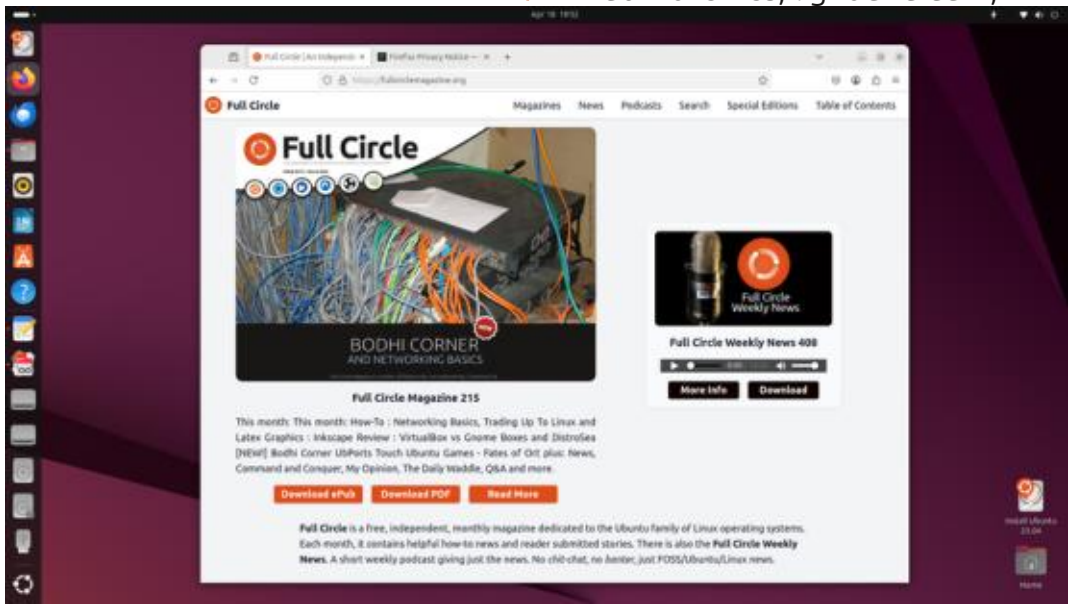
Ubuntu 25.04 enables NVIDIA Dynamic Boost by default on supported laptops that have NVIDIA GPUs. This feature dynamically shifts power between the CPU and GPU depending on the system's current workload. In gaming, this will give better performance by allowing more power to be provided to the GPU when needed.

In addition, there are many behind-the-scenes changes to packages and toolchains that most desktop users will probably not notice, including that APT 3.0 remains the default package manager for .deb packages. Other updates include: binutils 2.44, BlueZ 5.79 Bluetooth, Cairo 1.18.4, GCC 15, glibc 2.41, Golang 1.24, LLVM 20, Mesa 25.0 graphics drivers, MySQL 8.4 LTS, MySQL Shell 8.4.4, .NET 8 & 9 available, Netplan v1.1.2, NetworkManager 1.52, Nvidia 570, OpenJDK 21 with versions 24 GA and 25 early access snapshots available, OpenSSH 9.9, OpenSSL 3.4.1, PHP 8.4, PostgreSQL 17, Poppler 25.03 PDF rendering, Python 3.13.3, QEMU 9.2.0 machine emulator and virtualizer, Rust 1.84, Samba 4.21, Squid 6.13, SSSD 2.10.1, Valkey 8.0.2 and xdg-desktop-portal 1.20.

Settings

Since this release is code-named Plucky Puffin, it comes with a new puffin-themed light wallpaper, which changes to a dark wallpaper when the window color theme is changed from light to dark. There are a total of 11 wallpapers provided, six of which are puffin-themed. I have to note that all of the provided wallpapers are quite beautifully done and elegant. Not all Linux distributions can make that same claim, as there have been some scary-looking ones elsewhere recently.

As in recent releases, Ubuntu 25.04 continues to offer just two window themes, light and dark,



although these can be customized with a choice of ten system highlight colors.

Here is an Ubuntu settings tip: some people like Ubuntu overall but don't like the Ubuntu dock (launcher) taking up valuable screen space. The dock is actually very easy to disable which returns it to the bottom of the workspace “switcher" page, like a vanilla GNOME desktop. To do this, just install the GNOME Shell Extensions package via:

```
$ sudo apt install gnome-shell-extensions
```

Then open the extensions controller from the main menu, select "Ubuntu Dock - off" and it is gone. It can be re-enabled from the same interface at any time if you want it back. You can note that any plugged-in drives, plus the trash icon, which would normally appear on the dock do not appear on the switcher page dock but can be found on the GNOME Files (nautilus) file manager sidebar instead.

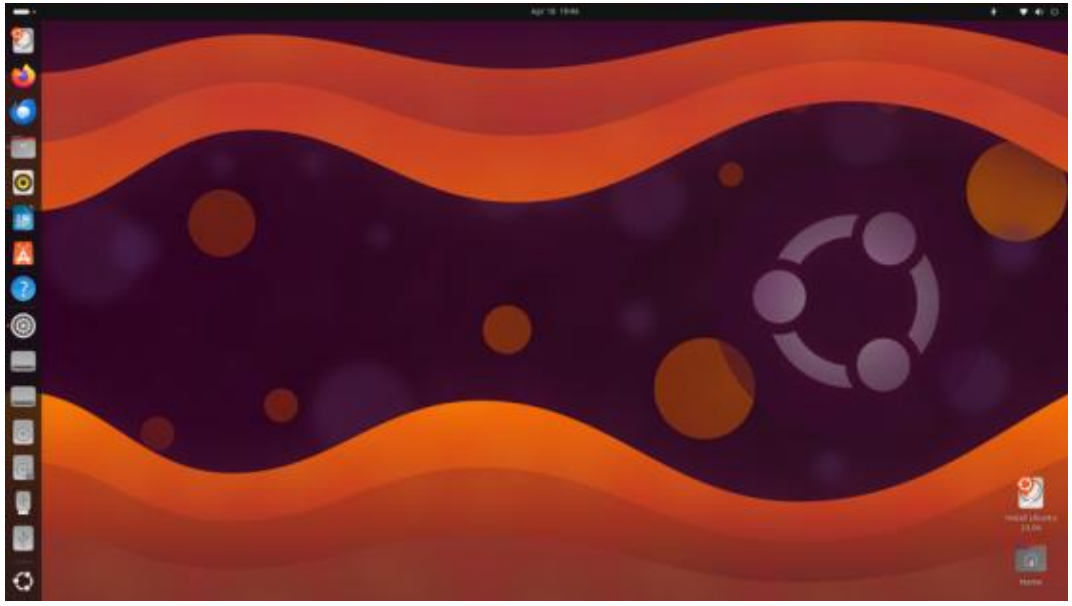
Applications

As in recent Ubuntu releases, if you install the Ubuntu default minimal installation you will get only Firefox, Nautilus, GNOME Text Editor and not much more, although any desired applications can easily be added from the repositories. The ISO file comes with the extended selection of applications on it, though, in case you would rather do the full installation. The live session boots up to the extended selection, so you can at least see what it looks like with everything installed. The choice between the two installation options is really a trade-off between spending your time adding the applications that you do want, versus removing ones you don't want.

My personal choice would be to go for the default minimal installation and then use a checklist to add what I want, using APT from the command line, as it can be done in a single command, if you are organized.

Some of the applications included with the full 25.04 extended selection installation are:

Archive Manager (file-roller) 44.5 file archiver
Deja Dup 45.2 file back-ups*
Firefox 137.0.2 web browser**
GNOME Calendar 48.1 desktop calendar
GNOME Clocks 48.0 clocks
GNOME Disks 46.1 disk manager*
GNOME Document Scanner (simple-scan) 46.0 optical scanner*
GNOME Document Viewer (papers) 48.0 PDF viewer
GNOME Files (nautilus) 48.0 file manager



GNOME Image Viewer (Eye of Gnome) 47.0 image viewer*
GNOME Snapshot 47 beta webcam application*
GNOME Terminal 3.56.0 terminal emulator
GNOME Text Editor 48.2 text editor
GNOME Videos (totem) 43.1 movie player
Gparted 1.6.0 partition editor***
LibreOffice 25.2.2.2 office suite, less LibreOffice Base
PipeWire 1.2.7 audio controller
Remmina 1.4.39 remote desktop client
Rhythmbox 3.4.8 music player
Security Center (desktop-security-center) 0+git.f7ad73a security controller**
Shotwell 0.32.10 photo manager
Startup Disk Creator (usb-creator-gtk) 0.4.1 USB ISO writer
Thunderbird 128.9.1 ESR email client**
Transmission 4.0.6 bittorrent client*
Ubuntu App Center 1.0.0 package management system**
Wget 1.25.5 command line webpage downloader

* indicates same application version as used in Ubuntu 24.10
** supplied as a Snap, so the version depends on the upstream package manager
*** indicates included on the ISO for boot-up, but not included in a full installation

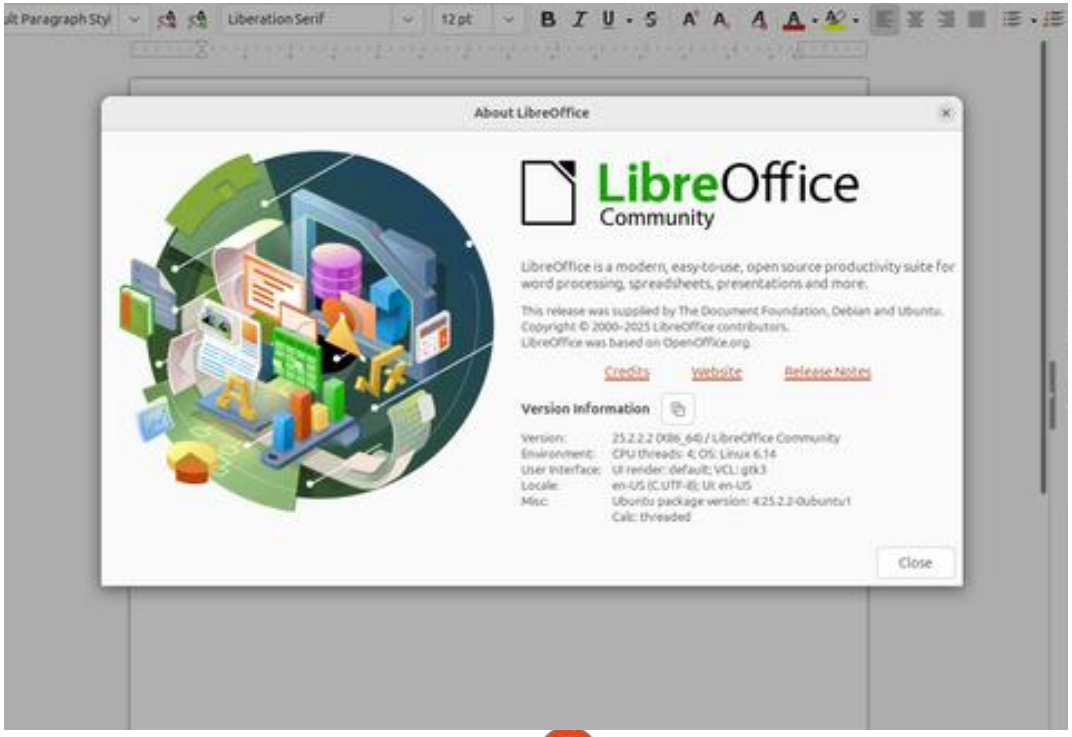
As can be seen from the list, the application collection provided is a mix of GNOME versions, this time mostly from GNOME 48, with a few holdovers from GNOME 43, 46 and 47.

The only change to the suite of applications this time around is the substitute of GNOME Papers replacing Evince as the default PDF viewer. Papers is actually a recent fork of Evince but it uses the GTK4 toolkit and is also partially written in the Rust programming language. In testing it, it works fine, as it displays PDFs! You can note that GNOME brands it as "Document Viewer" just like they did with Evince.

In the way of application improvements, GNOME Camera can now scan QR codes, GNOME Calendar has speed improvements and GNOME Text Editor has a streamlined header bar with a single options menu.

Conclusion

These days users expect all new Ubuntu releases to be solid and simple, with no obvious flaws.

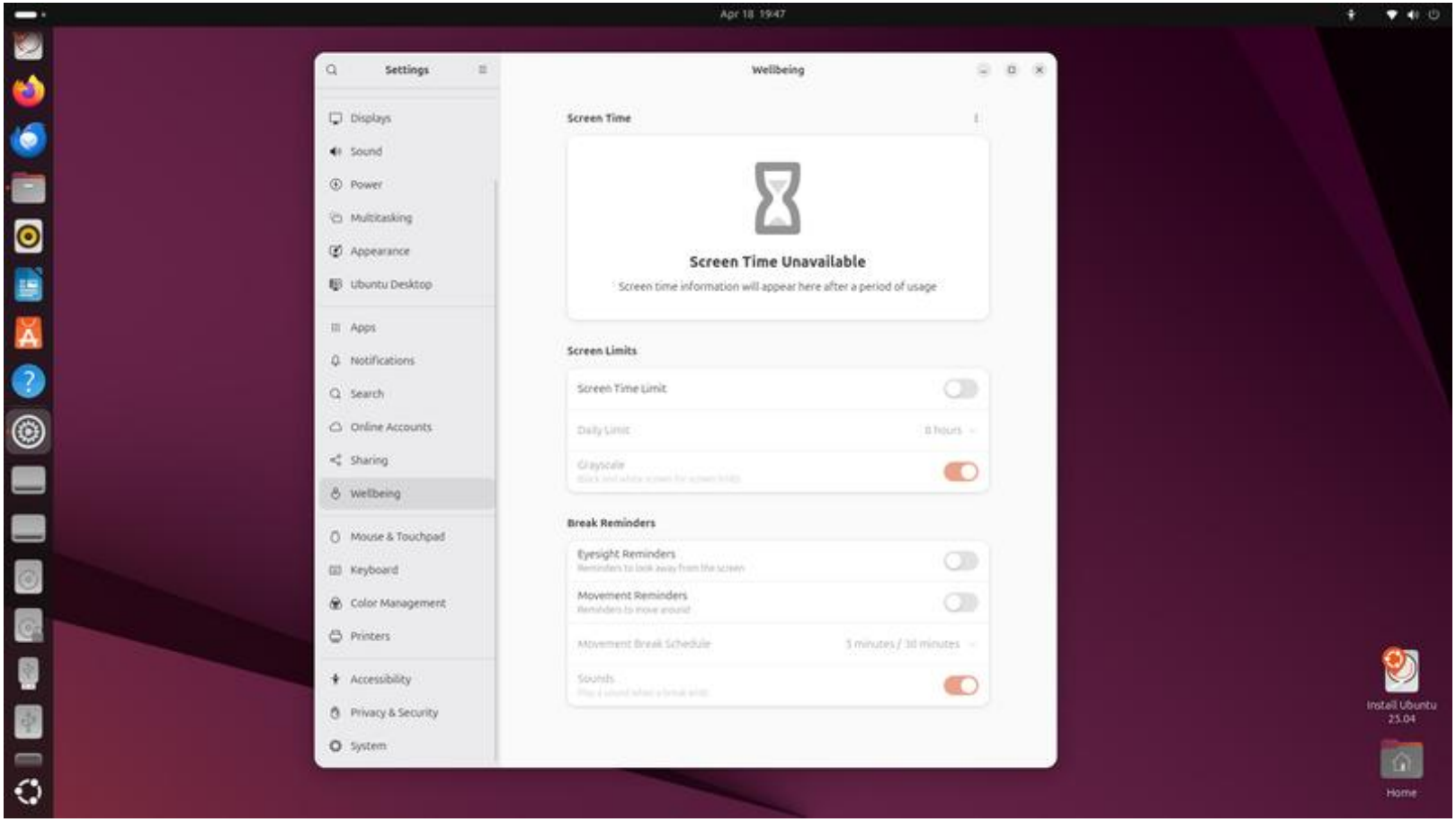


Ubuntu 25.04 delivers on all those points.

The next release will be the last of the three interim releases of this development cycle. Ubuntu 25.10 is due out 9 October, 2025 and should bring the last of any expected changes to be incorporated in the next LTS which will be Ubuntu 26.04 LTS, due out in April 2026.

External links

Official website:
https://ubuntu.com/



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.

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.

Network Correction

There is an error in the article "Networking Basics" (FCM#215). In the third column on page 28, in the sentence: "The system fills (masks) the network portion with 1s and leaves 0s for the host portion. So, in our example above, the first three numbers will be 11111111.11111111.111111.00000000 and the last one will be zero."

The third number is missing two 1 bits.

Jean-Pierre

Ronnie says: *Erik has owned up. You are indeed correct JP. Good catch!*

Join us on:

facebook.com/fullcirclemagazine

twitter.com/#!/fullcirclemag

linkedin.com/company/full-circle-magazine

ubuntuforums.org/forumdisplay.php?f=270

Full Circle Needs You!

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

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

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

Q&A

Compiled by EriktheUnready

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 are many waiting, and I do them first-come-first-served.

I have a verbal filler when my brain goes off on a squirrel session. I will say the word "like" you know, like when some people go "uhm..." I understand that, and the uhms don't bother me. I watched a tutorial and this chap had a phrase instead of a word. He kept saying, without further ado, then proceeded with more ado. Since he had a bit of an accent, I will assume he has no idea what "without further ado" means. He would end a video saying, without further ado, let's start with x, then the video ends and in the video that followed, his 'tick' would fire a minute in and every time I'd sit up straight, like an idiot, thinking we would be getting to the meat and potatoes now, just to be strung along even more. As a non-native English speaker, I can sympathise, but dammit, Jim, this is a class! When someone says, without further ado, the music better start playing! It hits that same spot for me as when people close a ticket with, well, it doesn't happen on the developer machines. I recently had an issue with a piece of open-source software, and decided to let the developers know. However, when I got to Github and found the project, there were already multiple people over the last two years with the same problem and every time it is closed with, well it does not happen on the dev machines, so we cannot replicate it and the ticket is closed... Without further ado, let's get to the questions.

Q: We seem to be headed backwards, I just installed Xubuntu, then Mint, then Lite, just to find that my boot time on an NVME drive is slower than on spinning rust from 10yrs ago. Precise Pangolin on an old Clevo Quad-core boots somewhere around 20-25s and on my Octa-core over a minute? What is happening to Ubuntu? How can I make Ubuntu great again? <removed>

A: Lol, you would have to take into account slow UEFI vs BIOS. Also check the slot your NVME is plugged into; it may be a SATA slot, meaning it has the same speed as SATA drives on throughput. The first commands you will need will be: systemd-analyze , systemd-analyze blame , systemd-analyze critical-chain , service - -status-all , cat /etc/fstab . If you do not use LVM, as seen from the last command, you can stop that - but do it first, in case you mess up your system.

```
sudo systemctl mask lvm2-monitor.service .
```

I suggest looking at stopping smbd , nmbd , nw wait, (sudo systemctl disable NetworkManager-wait-online.service) , zfs, postfix. This is a per-user-case (specific to you). Install preload and give your laptop a fixed IP, instead of DHCP on your network. If you do not use IPv6, disable it. You can also just not load Plymouth and shave off a few seconds there too.

Q: On Xubuntu I want to run Redshift for night work. I can install it, but when I click on info on it, it's all just 0.00. I tried setting it with -O and it works for a second, then not. My sight is bad, so I need to be near the screen and I am bombarded by light. When I close it, it says something about Geoclue2 and Wayland that I don't understand.

A: My suggestion is keybindings, set up three new ones, one for evening, one for night, and one for day. You can play around with the values (test it out in your terminal first), but I will suggest, redshift -m randr -P -O 5300 for evening,

redshift -m randr -P -O 3500 for night, and redshift -m randr -P -x for day or reset. This should work regardless of other factors, but obviously there will be no smooth transition.

Q: Is there any way I can make my Appimages work in Xubuntu 24.04? When I launch them on my old 20.04 box, they open immediately, but on 24.04 they just close. The weird part is that devilutionx-linux-x86_64 Appimage still launches, but none of the others do. So I'm not sure what the issue could be. I have ruled out bad backups as they launch from the external drive
on 20.04. What I find on Google says I need to disable the apparmor profile. I tried that and now my notebook won't properly lock and unlock when I close the lid, so I have to reinstall. The reinstall is not a huge issue, but it takes me 2 days to get where I want to be customizing and installing software.

A: You can try running your AppImages without the sandbox; first try from the terminal, with - - no-sandbox, like so:

```
myappimage.AppImage --no-sandbox
```

(two dashes, no space).

If that works, you can create a launcher for your AppImage that includes the full command. Rather leave AppArmor profiles alone, if you are not sure what you are doing. Maybe also look at AppImage manager to vet your AppImages for you.

Q: I am new to ricing Ubuntu and I broke my system. The tutorial and scripts are from here https://www.pling.com/p/2092096. I just wanted a more sane or normal XFCE look. The tutorial said to back up your XFCE4 folder in your ".config" folder and restore that to reverse changes, but it did not work. Can you help me get my system back please?

A: My suggestion is to fire up Xubuntu live in a VM, with shared folders enabled, then copy the folders you messed up to that shared folder. I usually make it my Templates folder, as it is never used by me. Then copy the pristine files out of the Templates folder into the correct places in the host system.

Q: I tried WSL and it is amazing! I then took the next step and resized my partition and set up dual-boot. It's rather cool too; just one thing, this week I noticed that the networking on the windows side is poor to say the least. It never had an issue while running WSL. I'm seriously considering going back to Windows 10, as I heard Ubuntu and Windows 10 gel well. How is Ubuntu influencing my windows 11 to be slow?

A: Honestly, I'm 99.9% sure it is **not** caused by Ubuntu. (There is always room for error). You can try the following in order, from an admin command prompt: arp -D , nbtstat -R , net stop dnscache , net start dnscache , ipconfig /flushdns , nbtstat -RR . That is six commands, you will need to run, one after the other, don't type the commas.

Q: I have a gnome extension set up, reminder alarm clock. It does a countdown and dings at the end with a custom message. Though it is great, it is not 100% what I want. I would like something like a grandfather clock, that dings every hour. It does not have to be Gnome specific as I have KDE too, but I'd prefer desktop neutral, if it makes any sense? Preferably one I can load a sound file into that it won't irritate me.

A: Honestly I have no idea, I was thinking orage, but I'm not really familiar with what you want. If any of our readers out there has any suggestions, please send it to misc@fullcirclemagazie.org as it has piqued my interest now too, and I'd like to hear your suggestions!!!

Q: I'm a massive fan of LXDE; I loved it when Lubuntu used it. Now, I don't use Lubuntu for just that reason, but my LXLE install is getting on and I was thinking of getting Mint as I think they have abandoned the project. My first question, now that I have downloaded Mint, is how do I work Etcher? This process is confusing and I can't seem to get it to run, never mind burn Mint to my USB stick. I feel irritated and frustrated at how difficult it has become to install an OS. Just give me a DVD and be done. Who even has time to do all this nonsense? Do people even use it?

A: I admit, I also liked LXLE, just it being so snappy. You sound like that Youtuber, SAMTIME, who is trolling Linux users, so I'm not sure if I'm being trolled right now, but if I'm not, I'll run through it quickly. If you download Balena Etcher as an AppImage (skip the other options), you can set the permissions to execute and then run it. Then you simply choose your drive and image and you "burn" your installer USB. You can still burn the image to DVD if you want, it does not have to be to USB. I can do a tutorial in the magazine with pictures, as it is really not that difficult.

Q: If a software is available only in the Flatpak, is there a way to convert it to make it the Snap or the AppImage?

A: Honestly, I don't know, but why not petition the creator of the software to package it differently for you or find out if it has a github page and build it yourself?

Q: After updates, I see all these locales being updated – that I don't need or use. How do I get rid of them? Oh yes: Ubuntu 24.04, i9, 64GB memory, 1TB SSD.

A: You could try:

```
gksu geany /etc/locale.gen
```

(feel free to substitute sudo for gksu if your flavour does not have it and geany with whatever editor you like).

You could also try: sudo dpkg-reconfigure localepurge (if that is not installed, install it and it will run once installed). That should run in the terminal.

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.

Slender Threads

Website: https://slenderthreadsgame.com/

Price: $19 GOG & Steam

Blurb: "*In this paranormal point-and-click adventure, a traveling (sic) salesman races to stop a string of horrific deaths in a quiet seaside town—before he's next.*"

Yes, I know, another point-and-click, but I could not help myself when I read the synopsis, described as "*Lovecraftian*". "*Discover scenic Villa Ventana, the hillside community of empty stores and emptier people.*" Not the ideal backdrop for a best-selling novel, but as every writer knows, inspiration can strike in the unlikeliest of places. Within hours of Harvey Green's arrival, that inspiration takes the form of foreboding dreams, impossible coincidences, and hidden motives that set Harvey on the path to uncovering a chilling, fateful truth."

Installation:

This is standard fare GOG install, so I do not need to tell you that it went swimmingly. It created my menu shortcut and my desktop shortcut for me, even if it is of a guy with a long face like a horse, heh.

Graphics:

Though the art style has that ugly French cartoon thing going for it on the characters, the world they inhabit is actually well done (World building?). Simplistic, yes, but the extra touches make it sparkle. For instance, when your player character enters an abandoned shop after he hears his name, the light coming through the window has been given the corpuscular ray treatment, yet keeping with the dark and foreboding atmosphere. The mouse cursor is extra large and yellow, so you cannot lose it.

I need to make a slight detour here, while I am talking about the rather large mouse cursor. The sensitivity on the mouse is turned all the way down, and there is nowhere to adjust it. My entire trackpad or mouse and mouse pad, end-to-end, only covers the length of the bed in the player characters room, so about a quarter of the screen. I really had thought the days of picking up your mouse and reseating it to move again was in the past, but no... (Also did it need to be that big? Can't I have a chat with the guy who keeps losing the damned thing?)

Anyway, the subtle animations don't distract from the game, they add to it. Bugs will buzz and tree limbs move, here and there, but for the most part (thankfully) the scenes are static with some charm to them. What I mean by this is that the background is so busy, it distracts from the game play, like the previous game I tried – with things wiggling everywhere. When you walk about the town, the background scrolls by in parallax mode making the 2D hand-crafted scenes feel "real" and it is pretty on top of that. The character design put me off, I'm sorry to say, yet others loved it. To me, everyone looked blind, with white, milky marbles for eyes, but in hindsight it added to the bizarre nature of the game as you explore the "weirding" and it is supposed to make you feel uneasy.

Sounds and Music:

The music was hidden away on my laptop, it wasn't until I plugged in my headphones and I went through the menu again, to see if I missed anything, that it hit me. As the music built to a crescendo, I was saddened that this had no OST with it. (https://www.instagram.com/alexwalkersmith/reel/CYDOUZkJJjD/ - was all I could find!) I immediately left the game on the menu, and closed my eyes to just listen. Big orchestra vibes in a small game! There is no music in the game, to speak of, though here and there there will be a snippet. Instead it is ruled by sound effects of crickets, and birds, etcetera. The voice acting is good throughout, and it is a pity that the dialogue is so monotonous for the times when you cannot do something. Like, say you have an idea to wake the drunk and think it is clever, if the peg does

not fit the hole, all Harvey says is: "Why would I want to do that?" plus another forgettable phrase. It needs a lot more variety. This is not to say any of the other dialogue is the same, in fact it is top notch!

Gameplay:

The game is as eccentric as the characters, and the bizarre nightmares become reality for Harvey Green, a poor book salesman. Drums please, cue intro: The game starts out quite serious and drab. I mean the player character has holes in his clothing and his collar is frayed, while the guest in the hotel's clothing is also fraying. The hotel's curtains and wallpaper leave a lot to be desired and the panelling and floors have seen better days. You walk to the left, and, if you Alice-in-wonderland-it after the white rabbit, you will get a Friday the thirteenth jump scare. So it was rather hilarious trying to cross the road in the one horse (or is that bicycle) town, and to be almost knocked over, every... single... time... In the beginning it does feel very linear (and you are also very constrained), and there are things to interact with that have no purpose. (If it has, let the player know.) This is usually a killer of point-and-click games as it creates player boredom. However, that is only the first part, the game kicks into high gear once you get to the radio locked in the roll-top desk, with visions or acid trips and nightmares. I tried to get a screenshot of the claw, but for some reason, the screenshot tool caused the menu to appear and after six failed attempts, I gave it a rest. "Trust me bro", it's there!

The first puzzle is of the nature of putting shapes onto a crossword, that spell out something to get the key to the roll-top desk, the rest is pretty standard fare. Things like getting a key to the laundry room by summoning the cleaning service and getting a bobby to leave his post, by causing a horrific accident. I'm not usually a fan of mini-games, unless they add to the game.

Requirements:

A potato with 4GB of memory. Though I'm testing this on my dropped laptop, it does not require much. It is 3D on 2D, so it's not 'nothing'. My CPU and memory sit at about 25% usage, for a first-gen i5 and 8GB memory. The resolution is 1080p and there is no flicker or obvious scaling. This is not a normal flip screen point-and-click, there is smooth scrolling as you walk around town. This really perplexed me, as I saw Unity player being installed. It is either well optimised or my laptop's CPU is better than I thought.

Overall:

You may come for the graphics or sound, but you will stay for the weird story. The story did not immerse me immediately, but once the radio flashback, acid trip, or whatever triggered, I was in. You get around town on foot and it is not too large or too small. I love a story with a plot twist (even movies, like, the usual suspects), any plot twist, it makes the story more memorable! The simplicity of the interface was a new one for me, you only have to look, take, and talk, when you right-click the mouse. I would have liked some of the scenes to be fleshed out more, but it is out of early access so it won't be. If you are into macabre, this is for you.

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.

PATRONS

Monthly Patrons

Alex Crabtree
Alex Popescu
Andy Garay
Bill Berninghausen
Bob C
Brian Bogdan
Carl Andersen
CBinMV
Darren
Dennis Mack
Devin McPherson
Doug Bruce
Elizabeth K. Joseph
Eric Meddleton
Francis Gernet
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
Lee Layland
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
Tony Hughes
Vincent Jobard
Volker Bradley
William von Hagen

Single Donations

2025:
Louis W Adams Jr
Borso Zsolt
Brian Kelly
Frits van Leeuwen
Randy Brinson
Frank Dinger
Robert JERÔME

The current site was created thanks to **Arun** (from our Telegram channel) who took on the task of completely rebuilding the site, from scratch, in his own time.

The Patreon page is to help pay the domain and hosting fees. The money also helps with the new mailing list.

Several people have asked for a PayPal (single donation) option, so I've added a button below.

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

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

Donate with PayPal
https://paypal.me/ronnietucker

donorbox
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#217

Deadline:
Sunday 11th May. 2025
Release:
Friday 30th May. 2025

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

back on Spotify:
https://open.spotify.com/show/6JhPBfSm6cLEhGSbYsGarP

and now on YouTube:
https://www.youtube.com/playlist?list=PLnv0U8wOzXu487gi5I2Isf-rQjEyKPAif

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

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