Full Circle

THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY

ISSUE #222 - October 2025

UBUNTU 25.10

AND POP!_OS BETA REVIEWED

Full Circle

THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY

HowTo

EDITORIAL

Welcome to the latest issue of Full Circle

Once again, we bring you more GTK, Latex, Inkscape and the final part of the Trading Up series. We've started a new release cycle with 25.10. So we have a review of Ubuntu 25.10. It's been a while since we looked at Pop_OS from System76, so we're looking at the latest beta version in this issue.

Erik is back with another opinion piece. This time on Snaps, and we have news of an OTA update for Ubports' Touch.

In Weekly News news (that sounded weird): it should be, once again, updating just fine on YouTube. YouTube were, of course, blaming the site RSS feed. Which hadn't been altered in any way. As if by magic, without us touching the site (I might add) YouTube is now saying the RSS feed is fine and updating again. Funny that. Nothing changed at our end...

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!
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NEW

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

NEW

Fedora Forge:

22/09/2025

Fedora Project announced the launch of a joint development service Fedora Forge, constructed using the project Forgejo. The service is developing for replacement for its own platform Pagure, used in Fedora for collaboration with code and package metadata. The replacement is evolving because the Pagure platform requires a lot of maintenance resources, is stagnating and is not widely used outside of Fedora. Fedora Forge is expected to make it easier to develop and transfer changes to Fedora's core teams.

Fedora Forge has been piloted and is being tested on several SIG (Special Interest Groups) sub-projects and groups. For example, the projects of the RelEng (Release Engineering), Council and FESCO (Fedora Engineering Steering Committee) teams have already been transferred to Fedora Forge. In the future, the number of projects being developed at Fedora Forge will be expanded and this service will be used as the main place for collaboration on Fedora.

To automate the transfer of projects from Pagure and Fedora Forge, the Pagure Migrator toolkit has been developed, which is included in the Forgejo platform. Pagure Migrator allows you to save pull requests, tickets, discussions, tags and users after migrating. At the same time, unlike the service pagure.io, Fedora Forge does not allow the placement of personal projects and is focused only on projects related to the development of Fedora Linux.

https://www.mail-archive.com/devel-announce@lists.fedoraproject.org/msg03614.html

DuckDB 1.4.0:

22/09/2025

DuckDB 1.4.0, focused on performing analytical queries and conceptually reminiscent of SQLite, is out. DuckDB combines SQLite properties such as compactness, embedded library-style connectivity, single-file database storage, and a CLI interface with capabilities and optimizations for execution analytical queries, covering a significant part of the stored data, for example, aggregating the entire contents of tables or merging several large tables. The project code is written in C++ under MIT license.

DuckDB provides an extended dialect of SQL that includes additional capabilities for processing very complex and long-running requests. It is possible to use complex types (arrays, structures, unions), as well as perform arbitrary and nested correlating sub-queries. Simultaneous execution of several requests, execution of requests directly from files in CSV formats and is supported Parquet. Support for importing from the PostgreSQL DBMS is available.

https://duckdb.org/2025/09/16/announcing-duckdb-140.html

OBS Studio 32.0:

23/09/2025

OBS Studio v32.0, package for streaming, compositing and video recording is out. The code is written in C/C++, licensed under GPLv2.

The purpose of developing OBS Studio was to create a portable version of the application Open Broadcaster Software (OBS Classic), not tied to the Windows platform, supports OpenGL and is expandable through plugins. Another difference is the use of a modular architecture, which involves separating the interface and the program kernel. Supports transcoding of source streams, video capture during games and streaming in PeerTube, Twitch, Facebook Gaming, YouTube, DailyMotion and other services. Hardware acceleration mechanisms (such as NVENC, Intel QSV, Apple Video Toolbox and VAAPI) can be used to ensure high performance.

https://github.com/obsproject/obs-studio/releases/tag/32.0.0

OpenWrt 24.10.3:

23/09/2025

OpenWrt 24.10.3, developed for network devices such as routers, switches and access points is out. OpenWrt supports 2771 devices and offers an build system that simplifies cross-compilation and creating your own builds. These builds allow you to create ready-made firmware with the desired set of pre-installed packages, optimized for specific tasks. Pre builds are published for 39 target platforms.

https://openwrt.org/releases/24.10/start

Pale Moon 339.0:

24/09/2025

The web browser Pale Moon v33.9.0 was published, which is forked from the Firefox codebase to ensure higher efficiency, preserve the classic interface, minimize memory consumption and provide additional settings. Pale Moon builds are formed for Windows and Linux (x86_64). The project code is distributed under the MPLv2 (Mozilla Public License) license.

The project adheres to the classical interface layout, without moving to the integrated Australis and Photon interfaces and with the provision of broad customization capabilities. Components like DRM, Social API, WebRTC, PDF viewer, Crash Reporter, statistics collection code, parental controls, and accessibility options have been axed. Compared to Firefox, support for extensions using XUL has been returned to the browser and the ability to use both full and lightweight design themes is preserved.

Main changes:

CSS implements the keywords revert and clip.

They added support for the abbreviated form of decorating overflows, which solved the problems with scrolling on some sites.

The color-mix CSS function has been implemented.

In CSS added support for the syntax "@supports(selector(<complex selector))".

Added support for CSS cascade layers (@layer).

Substantial support for CSS clip-path:<geometry-box> has been added.

Added CSS properties "overflow-inline" and "overflow-block".

Added CSS-pseudo-sovdo classes ":autofill" and ":focus-visible".

CSS implements the media request "prefers-reduced-motion".

The minimum version of the VisualViewport API is offered.

Improved support for the HTTP header "X-Content-Type-Options: nosniff".

The processing of the TypedArray constructor now complies with the ECMAScript specification.

Added support for FFMPeg 7.0 and libavcodec 61.

In addition, the Pale Moon project put into operation its own publicly available DNS severs 5.189.164.139 and 80.255.7.132, as well as the NTP-server time.palemoon.org to synchronize the exact time. It is stated that these services do not store logs and requests are not censored.

https://forum.palemoon.org/viewtopic.php?t=32748&p=265836

Elementary OS 8.0.2:

24/09/2025

Elementary OS 8.0.2, positioned as a quick, open and privacy-sensitive alternative to Windows and macOS, is out. The focus of the project is given to a high-quality design aimed at creating an easy-to-use system that consumes minimal resources and provides high start-up speed. Users are offered their own pantheon desktop environment. Downloads are 3.3 GB in size, available for the amd64 architecture.

In the development of the original elementary OS components, GTK3, the Vala language and its own Granite framework are used. The graphics environment is based on the Pantheon's own shell, which combines components such as the Gala window manager (based on LibMutter) and the Pantheon Greeter session manager (based on LightDM).

The project's has it's own applications, such as the Pantheon Terminal emulator, Pantheon Files' file manager, the code text editor and music player (Noise). The project is also developing a photo manager Pantheon Photos (fork of Shotwell) and Mail email client based on Evolution.

https://blog.elementary.io/os-8-0-2-available-now/

PostgreSQL 18:

25/09/2025

After a year of development, a new stable branch of the PostgreSQL 18 DBMS has been published. Updates for the new branch will be released for five years until November 2030. Support for PostgreSQL 13.x, the oldest supported branch, will be discontinued on November 13.

https://www.postgresql.org/about/news/postgresql-18-released-3142/

XLibre, support for Vulkan:

26/09/2025

Leading XLibre developer Enrico Weigelt introduced a proposal to implement a Vulkan expansion for X11, which would combine network transparency at the X11 level with the drawing of the interface on the GPU with low latency. They plan to create an intermediate layer libvulkan, which on the client will draw data from the X-protocol through the GPU. The mechanism is offered as an alternative to GLX and DRI.

The proposal is still in the beginning; Enrico hopes to clarify the need for this decision. Now the project continues to pass through a large-scale refactoring in order to get rid of the intermediate layers of abstractions, the heritage of old C standards and related solutions.

https://github.com/X11Libre/xserver/issues/1098

Ubuntu Touch OTA-10 Focal:

26/09/2025

OTA-10 Focal, developed by the UBports project, which took over the development of the Ubuntu Touch mobile platform, is out. This is the ninth version of Ubuntu Touch, based on the Ubuntu 20.04 batch base. The project is also developing the experimental port of the desktop Unity 8, which was renamed Lomiri.

Updating Ubuntu Touch OTA-10 Focal will be ready for the following devices in the coming days Asus Zenfone Max M1, F(x)tec Pro1 X, Fairphone 3/3+/4, Google Pixel 3a/3a XL, JingPad A1, Oneplus 5/5T/6T, OnePlus Nord N10 5G/N100, Sony Xperia X, Vollaphone X/22/X23, Xiaomi Poco X3 NFC / X3, Xiaomi Poco M2, Xiaomi Red. Compared to last release, builds for the Rabbit R1 device have been added.

https://ubports.com/blog/ubports-news-1/ubuntu-touch-20-04-ota-10-release-3972

CDSIC on Pop OS:

26/09/2025

System76 announced the readiness of the beta version of the CDSIC desktop environment, written in the Rust language. At the same time, the first beta release of Pop OS 24.04 is presented, supplied with COSMIC. Initially, the first stable release of COSMIC was planned to be released in the first quarter of 2025, but the development was delayed and more than a year after the

publication of the first alpha version, the project grew to the beta version only. To test the beta version: iso-images of Pop!_OS 24.04-Beta for systems with GPU NVIDIA (3.1 GB) and Intel/AMD (2.7 GB) are available.

COSMIC is developing as a universal project that is not tied to a specific distribution and the corresponding specifications of Freedesktop. To build an interface in COSMIC, the Iced library is used, which uses secure types, modular architecture and a reactive programming model, and also offers an architecture familiar to developers familiar with the Elm interface declarative architecture. There are several rendering engines that support Vulkan, Metal, DX12, OpenGL 2.1+ and OpenGL ES 2.0+. Developers are offered a ready-made set of widgets, the ability to create asynchronous handlers and use an adaptive layout of the interface elements depending on the size of the window and screen.

https://system76.com/pop/pop-beta/

KDE report for the week:

27/09/2025

Nate Graham, a developer who monitors the KDE project, published another report on the development of KDE. The most notable changes in the KDE Plasma 6.5 branch, which is scheduled to release on October 21 are as follows:

In color correction, they added filters in shades of gray and the possibility of reducing the saturation of all colors.

In the configurator, when setting up desktop wallpaper in slideshow mode, the images show now can be chosen by clicking on the image itself, without the need to click a small button in the corner.

The maximum size of the Show Activity Manager widget is limited, which now does not look too large when the panel wide is maximized.

The configurator modernizes the dialogue for adding a new network connection.

https://blogs.kde.org/2025/09/27/this-week-in-plasma-lots-and-lots-of-bug-fixing-for-plasma-6.5/

KaOS 2025.09:

28/09/2025

KaOS 2025.09, a distribution with a continuous update model, aimed at providing a desktop based on the latest KDE packages and applications using Qt. One can note the placement of a vertical panel in the right side of the screen for the default layout. The distribution develops with an eye on Arch Linux, but supports its own independent repository, with more than 1500 packages and also offers its own graphics utility. XFS is used as a default file system. Builds are published for x86_64 (4 GB) systems.

https://kaosx.us/news/2025/kaos09/

Linux kernel 6.17:

29/09/2025

After two months of development, Linus Torvalds released the Linux kernel 6.17 . Most notable changes include: improved Btrfs performance, file_getattr() and file_setattr() system calls, unification of single-processor and multi-processor configurations in the task scheduler, the DAMON_STAT module with memory access statistics, support for live patches on ARM64 systems, sending core dumps via the AF_UNIX socket, limiting SCHED_EXT via cgroup, simplified configuration of protection against CPU vulnerabilities, building in Clang with initialization of variables on the stack, protection against /proc spoofing, an extension of the RV (Runtime Verification) subsystem, limiting AF_UNIX sockets via AppArmor, and the TCP DualPI2 congestion control algorithm.

The new version incorporates 14,334 fixes from 2,118 developers, with a patch size of 46 MB (changes affected 12,841 files, adding 646,654 lines of code, and removing 398,782 lines). The previous release included 15,924 fixes from 2,145 developers, with a patch size of 50 MB. About 43% of all changes in 6.17 are related to device drivers, approximately 12% of changes are related to updates to code specific to hardware architectures, 14% are related to the network stack, 4% are related to file systems, and 3% are related

to internal kernel subsystems.

https://lore.kernel.org/lkml/CAHk-%253DwiX38oG6%253DxFBNLO0pnjqHfxzjd6-1kZ5Nv9HfqNC2PoFA%2540mail.gmail.com/

BSD Router Project 2.0:

29/09/2025

Olivier Cochard-Labbé , creator of the FreeNAS distribution, has released the specialized BSD Router Project 2.0 (BSDRP) distribution, notable for updating the codebase to the FreeBSD 16 development branch. The distribution is designed for creating compact software routers supporting RIP, OSPF, BGP, and PIM routing protocols. Management is performed via a command-line CLI interface reminiscent of Cisco IOS. The distribution is available in builds for the x86_64 and ARM64 architectures (compressed installation images are ~340 MB in size).

https://sourceforge.net/p/bsdrp/mailman/message/59239643/

NixOS moderation team resigns:

30/09/2025

The moderator team responsible for maintaining order in the NixOS project forums and repositories has announced its resignation in protest against the Steering Committee (SC), which is interfering with the moderators' work and attempting to influence their decisions. The moderators view the committee's actions as abuse of authority, and since the project rules do not address such situations, the moderator team has decided that it cannot perform its duties conscientiously under the current circumstances.

The disagreements arose because the steering committee and the existing moderators hold different views on community governance. The committee is sensitive to criticism and discourages discussion of the community's fundamental conflicts. The moderators, however, believe that such discussions are essential for the project's growth and that controversial topics should not be avoided or suppressed, but rather maintained in a healthy and constructive manner, without resorting to personal attacks.

Examples of unacceptable actions by the steering committee include attempts to overturn certain moderator decisions, pressuring moderators to take action against individual participants and discussion topics, requiring moderators to report and justify their actions, and attempts to appoint and remove moderators without a vote (the committee explained its actions as an attempt to achieve diversity of opinion and eliminate bias within the moderation team).

https://discourse.nixos.org/t/a-statement-from-members-of-the-moderation-team/69828

Ubuntu Touch 24.04-1.0:

30/10/25

Ubuntu Touch 24.04-1.0, developed by the UBports project, which took over development of the Ubuntu Touch mobile platform after Canonical stepped away from it, has been released. This is the first Ubuntu Touch release based on Ubuntu 24.04. The project is also developing an experimental port of the Unity 8 desktop, renamed Lomiri.

Ubuntu Touch 24.04-1.0 update will be released in the coming days for Asus Zenfone Max Pro M1, F(x)tec Pro1 X, Fairphone 3/3+/4, Google Pixel 3a/3a XL, JingPad A1, Oneplus 5/5T/6/6T, OnePlus Nord N10 5G/N100, Sony Xperia X, Vollaphone X/22/X23, Xiaomi Poco X3 NFC / X3, Xiaomi Poco M2 Pro, Xiaomi Redmi Note 9 Pro/Pro Max/9S, Volla Phone Quintus, Volla Tablet, Lenovo Tab M10 HD 2nd Gen, Rabbit R1, and Xiaomi Redmi 9/9 Prime. Compared to the previous release, builds for the Fairphone 5 have been added.

https://ubports.com/blog/ubports-news-1/ubuntu-touch-24-04-1-0-release-3973

Pidgin 3.0 alpha4:

01/10/2025

The fourth experimental release of the Pidgin 3.0 instant messaging client (2.93) has been released. This release is rated as being of pre-alpha quality, not

intended for everyday use. Builds are available in Flatpak format (only the source code archive is currently available).

Pidgin 3 has been in development since 2011, after three years of conceptual and conceptual discussions. Pidgin 3 features the GObject type system, GTK4 and Adwaita libraries, the Meson build system, GPlugin for plugin processing, SQLite for storing chat history, and GSettings for managing 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.

https://discourse.imfreedom.org/t/pidgin-3-0-experimental-4-2-93-0-has-been-released/309

openSUSE Leap 16.0:

01/10/2025

The openSUSE Leap 16.0 distribution has been released. It's built on the next major branch of the commercial SLES 16 distribution, moving to the new SLFO (SUSE Linux Framework One) platform, previously known as ALP (Adaptable Linux Platform). openSUSE Leap 16 retains the features of a classic distribution using traditional packages, but those requiring an atomically updated system with a basic, read-only installation should use the openSUSE Leap Micro edition. A universal 4.2 GB DVD build (x86_64, aarch64, ppc64le, 390x) and a stripped-down image for installation with network downloads (600 MB) are available for download.

The update cycle for openSUSE Leap 16.x releases has been extended from one and a half years to two years (two full release cycles). Interim releases in the openSUSE Leap 16 branch, maintained in parallel with the commercial SUSE Linux Enterprise 16 distribution, will be released until fall 2031. The final release will be openSUSE Leap 16.6, for which updates will be released until fall 2033. As before, new major releases of the distribution will be published once a year.

https://www.opensuse.org/

OpenSSL 3.6.0:

02/10/2025

OpenSSL 3.6.0, an implementation of the SSL/TLS protocols and various encryption algorithms, has been released. OpenSSL 3.6 is a regular support release, with updates available for 13 months. Support for previous OpenSSL releases—3.5 LTS, 3.4, 3.3, 3.2, and 3.0 LTS— will continue until April 2030, October 2026, April 2026, November 2025, and September 2026, respectively. The project's code is licensed under the Apache 2.0 License.

https://openssl-library.org/post/2025-10-01-3.6-release-announcement/

Radicle 1.5:

02/10/2025

Radicle, a P2P platform, has released version 1.5. It aims to create a decentralized service for collaborative code development and storage, similar to GitHub and GitLab, but not tied to specific servers, uncensored, and powered by P2P network participants. The platform supports typical elements of social interaction among developers, such as issues, patches, and code reviews. The project's developments are written in Rust and distributed under the Apache 2.0 and MIT licenses. Builds are available for Linux and macOS. A desktop client, web interface and console interface are also being developed \.

Radicle eliminates the need for dependency on centralized platforms and corporations for code development and distribution, as dependency on these platforms introduces additional risks (single point of failure, company closure, or changes in operating conditions). Radicle uses familiar Git for code management, enhanced with tools for defining repositories in a P2P network. All data is stored locally (local-first) and is always available on the developer's computer, regardless of network connectivity.

https://radicle.xyz/2025/09/30/radicle-1.5.0

New President of the Free Software Foundation Elected:

03/10/2025

Ian Kelling has been appointed President of the Free Software Foundation. Geoffrey Knauth served as President of the Free Software Foundation since 2020. Prior to that , Richard Stallman was forced to resign following accusations of behavior unbecoming the leader of the Free Software movement and threats by several communities and organizations to sever ties with the Foundation.

Ian Kelling has been employed as a system administrator at the Free Software Foundation since 2017. In 2021, following a restructuring of the organization's governance processes, he joined the board of directors as a member representing the Foundation's staff. Prior to 2017, Ian assisted the Free Software Foundation as a volunteer. In addition to his work at the Free Software Foundation, Ian contributed to development and bug fixes for many open source projects, including GNU Emacs, Debian, Fedora, Arch Linux, and Mediawiki.

Ian was noted as a board member who combines the technical expertise to speak authoritatively on most free software issues with a strong connection to the community and the ability to communicate ideas publicly. Richard Stallman described Ian as having demonstrated sound judgment and a strong commitment to the free software movement. According to Jeffrey Knauth, the outgoing president of the Free Software Foundation, during his time on the board, Ian demonstrated a thorough understanding of the free software philosophy and its application to modern realities, as well as an ability to recognize threats to user freedom arising with the development of new technologies.

https://www.fsf.org/news/2025-ian-kelling-becomes-board-president

Raspberry Pi OS ported to Debian 13:

03/10/2025

The Raspberry Pi project developers have released a new version of the Raspberry Pi OS distribution, 2025-10-01 (Raspbian), based on Debian 13. The repository contains approximately 35,000 packages. The desktop environment is based on the labwc composite server, which uses the wlroots library from the Sway project. Three builds are available for download: a slimmed-down version (476 MB) for server systems, a basic desktop version (1.2 GB), and a full version with an additional set of applications (3.4 GB). Builds are available for 32- and 64-bit architectures. An update for the older Raspberry Pi OS release (Legacy) has also been created, built on Debian 12.

https://www.raspberrypi.com/news/trixie-the-new-version-of-raspberry-pi-os/

ZLUDA 5:

04/10/2025

Andrzej Janik announced the release of ZLUDA 5, an open-source implementation of CUDA technology. The project aims to enable unmodified CUDA applications to run on systems with non-NVIDIA GPUs, with performance close to that of applications running without interposers. The project's code is written in Rust and is licensed under the MIT and Apache 2.0 licenses.

ZLUDA 5 was the second major release of the project, formed after purging the codebase developed during Andrzej's time at AMD. Since 2022, Andrzej had been working at AMD on creating a CUDA compatibility layer for AMD GPUs, but the project was discontinued in 2024. In accordance with the terms of his contract and after receiving permission to publish from an AMD representative, Andrzej open-sourced the work he developed while at AMD, enabling the execution of CUDA applications on top of the ROCm stack and the Heterogeneous Computing Interface for Portability (HIP)

runtime.

https://vosen.github.io/ZLUDA/blog/zluda-update-q3-2025/

The Open Printer project:

04/10/2025

A group of French enthusiasts presented the Open Printer project, aimed at creating a color inkjet printer with open hardware and software. The device is modular and built using standard, replaceable parts. The printer can be assembled like a kit and upgraded, improved, or repaired as needed. The project's results, including files with electronic and mechanical component schematics, firmware, drivers, and Bill of Materials (BOMs), will be distributed under a Creative Commons BY-NC-SA 4.0 license , which prohibits commercial use.

The printer supports HP 63 (US) and HP 302 (Europe) cartridges, free of DRM, manufacturer lock-in, and refill restrictions. It supports one black or one color cartridge. Printing is supported on 27mm roll paper and on single A4 and A3 sheets. It prints at 600 dpi in black and 1200 dpi in color.

The device is controlled by a Raspberry Pi Zero W board with a 1.47-inch TFT display (172 x 320 pixels) and a jogger wheel for mode switching. An STM32 microcontroller controls the cartridge. Support for external devices includes USB Type-C (for connecting to a computer), USB Type-A (for storage devices), Wi-Fi 802.11ac, and Bluetooth 4.1.

https://www.crowdsupply.com/open-tools/open-printer

Free Software Foundation 40:

04/10/2025

The Free Software Foundation celebrated its fortieth anniversary. In 1985, a year after the GNU project, Richard Stallman established the Free Software Foundation. The organization was created to protect against companies with a dubious reputation, convicted of assigning code and trying to sell some of the first GNU project tools developed by Stallman and his comrades.

Three years after the founding of the organization, Stallman prepared the first version of the GPL license, which defined the legal framework of the free software distribution model.

At the fortieth anniversary of the event, Zoë Kooyman, the executive director of the SPO Foundation, presented a new project - LibrePhone, aimed at granting full freedom of computing in mobile devices. Details of the initiative are not yet given, it is mentioned only that it will convey to users of mobile devices basic concepts of software freedom, such as the right to run, copy, distribute, study, modify and improve software. The project is overseen by Rob Savoye, winner of the free software promotion and development, the creator of the free Flash player Gnash, a member of the development of GCC, Debian, GDB, DejaGnu, Newlib, Libgloss, Cygwin, One Laptop Per Child and Expect.

https://www.fsf.org/news/fsf-turns-forty-with-a-new-president-and-a-new-campaign

TinyUSB 0.19:

06/10/2025

TinyUSB 0.19, a cross-platform USB stack for embedded systems, is now available. It provides USB stack components for both USB hosts and USB devices. The project code is written in C and distributed under the MIT license.

To enhance security, TinyUSB does not use dynamic memory allocation. Multithreaded applications are supported. To ensure safe multithreaded operation, all interrupt events are not processed immediately upon receipt of an ISR (Interrupt Service Request) but are instead placed in a queue, which is parsed and processed within the context of the application, not the interrupt handler. Semaphores and mutexes are used when accessing shared resources, such as the CDC (Communication Device Class) FIFO.

The stack is abstracted from the operating system and can be used as a standalone component, unbound by operating system functionality. Modules are available for integrating TinyUSB with FreeRTOS , RT-Thread , and Apache

Mynewt. Power-saving features such as sleep and wake-up on activity are supported. An initial implementation of the PD 3.0 (Power Delivery) protocol for managing power transfer over USB Type-C is included.

https://github.com/hathach/tinyusb/releases/tag/0.19.0

OpenSH 10.1:

06/10/2025

OpenSSH 10.1 , an open-source client and server implementation for SSH 2.0 and SFTP, has been released .

Note the warning of future deprecation:

A future release of OpenSSH will deprecate support for SHA1 SSHFP records due to weaknesses in the SHA1 hash function. SHA1 SSHFP DNS records will be ignored and ssh-keygen -r will generate only SHA256 SSHFP records.

The SHA256 hash algorithm, which has no known weaknesses, has been supported for SSHFP records since OpenSSH 6.1, released in 2012.

Please see all the changes at the link below.

https://lists.mindrot.org/pipermail/openssh-unix-dev/2025-October/042178.html

GIMP 3.0.6:

07/10/2025

GIMP 3.0.6, the graphics editor, has been released. Builds have been released for Linux (AppImage and Flatpak for x86 and ARM64 architectures), macOS, and Windows. The focus of this new version is on fixing bugs and regressions. New functionality is being developed in the GIMP 3.1 branch, which will be the basis for the stable release of GIMP 3.2, which features support for link layers and vector layers , as well as expanded CMYK support and color management capabilities.

https://www.gimp.org/news/2025/10/06/gimp-3-0-6-released/

Ladybird browser:

07/10/2025

Andreas Kling reported that Ladybird passed 90% of the web-platform-tests, which determine compatibility with the reference web platform. According to Apple's requirements, this achievement is sufficient to qualify it as an alternative browser engine for iOS. Ladybird successfully passed 1,861,180 of 2,033,861 tests. By comparison, Chromium 139 passed 1,996,034 tests, Firefox 143 passed 1,942,510, Safari 26.0 passed 1,952,703, and Servo passed 1,672,466.

The web-platform-tests tests are part of the Interop initiative, jointly promoted by Google, Mozilla, Apple, Microsoft, Bocoup, and Igalia, and aimed at testing the level of implementation of web technologies in browsers and identifying discrepancies that affect the appearance and behavior of websites when processed.

https://news.ycombinator.com/item?id=45493358

Qualcomm aquires Arduino:

07/10/2025

Arduino, the company that designs and develops open-source microcontroller-based boards, announced the sale of its business to Qualcomm Technologies. The transaction amount was not disclosed. It was noted that joining Qualcomm will expand Arduino's ability to promote open-source hardware devices worldwide.

Following the acquisition, Arduino will remain an independent brand, support for existing boards will be maintained, and the mission and commitment to open technologies will remain unchanged. However, the project will receive significant resources for development. Qualcomm, for its part, intends to leverage Arduino technologies to form a unified edge computing stack.

https://blog.arduino.cc/2025/10/07/a-new-chapter-for-arduino-with-qualcomm-uno-q-and-you/

NGINX 1.29.2:

08/10/2025

The main nginx 1.29.2 branch has been released, continuing to develop new features. The parallel stable 1.28.x branch only includes changes related to fixing serious bugs and vulnerabilities. The stable 1.30 branch will later be based on the main 1.29.x branch. The project code is written in C and is distributed under the BSD license.

https://github.com/nginx/nginx/releases/tag/release-1.29.2

T2 SDE 25.10:

08/10/2025

The T2 SDE 25.10 meta-distribution has been released . It provides an environment for creating custom distributions, cross-compiling, and maintaining package versions up-to-date. Popular distributions built on the T2 system include Puppy Linux. The project provides 36 bootable ISO images with a minimal graphical environment, including versions with the Musl, uClibc, and Glibc libraries. Builds with graphical environments based on GNOME and Wayland are available for current architectures.

The platform focuses on creating builds based on the Linux kernel, but is also developing prototypes for building packages for various operating systems, including macOS, Haiku, and BSD systems. Plans include support for creating environments based on other kernels, such as L4, Fuchsia, and RedoxOS, as well as building builds based on Android (AOSP). Over 7,000 packages are available for building.

https://t2linux.com/#news-2025-10-07

WIRESHARK 4.6.0:

09/10/2025

After a year of development, the new stable branch of the Wireshark network analyzer, version 4.6, has been released. The program supports over a thousand network protocols and several dozen traffic capture formats. It provides a graphical interface for creating filters, capturing traffic, analyzing saved dumps, and inspecting packets. Advanced features include packet reordering, extracting and saving the contents of files transferred using different protocols, playing VoIP and RTP streams, and decrypting IPsec, ISAKMP, Kerberos, SNMPv3, SSL/TLS, WEP, and WPA/WPA2. The project's code is distributed under the GPLv2 license.

https://www.wireshark.org/blog/2025-10-08-whats-new-in-wireshark-46

OPENZL COMPRESSION SYSTEM:

09/10/2025

Engineers at Meta has introduced OpenZL, a data compression and decompression toolkit that offers higher compression levels and speed than the Zstd and XZ formats. OpenZL is designed for efficient compression of structured datasets, such as those used in machine learning, as well as data stores containing fields with various repeating types of information. OpenZL is written in C/C++ and is open-sourced under the BSD license.

When compressing a database containing the SAO astronomical star catalog , OpenZL reduced the data size by a factor of 2.06, while the zstd algorithm compressed the data by a factor of 1.31, and XZ by a factor of 1.64. Moreover, OpenZL outperformed zstd in compression speed by a factor of 2 (203 MB/s versus 115 MB/s), and XZ by a factor of 65 (203 MB/s versus 3.1 MB/s). Decompression in OpenZL was slightly slower than zstd (822 MB/s versus 890 MB/s) and 27 times faster than XZ. OpenZL is not a general-purpose algorithm and only shows good results for data with a known structure.

https://engineering.fb.com/2025/10/06/developer-tools/openzl-open-source-format-aware-compression-framework/

UBUNTU 25.10:

09/10/2025

Ubuntu 25.10 "Questing Quokka" has been released . It is considered an interim release, with updates being released every nine months. Pre-built installation images have been created for Ubuntu, Ubuntu Server , Lubuntu , Kubuntu , Ubuntu Mate , Ubuntu

Budgie , Ubuntu Studio , Xubuntu , UbuntuKylin (China edition), Ubuntu Unity , Edubuntu , and Ubuntu Cinnamon .

Alongside GNOME 49 and new default applications such as the Ptyxis terminal emulator and the Loupe image viewer, Ubuntu 25.10 introduces notable platform upgrades, from improved Bluetooth audio handling to expanded support for confidential computing features. Ubuntu 25.10 is the first to benefit from memory-safe implementations of “coreutils” and “sudo-rs,” as well as improvements in TPM-backed full disk encryption and support for nested virtualization on Arm.

Ubuntu 25.10 is a statement of intent for the next Ubuntu LTS in 2026. Canonical continues to deliver a resilient, performant Linux operating system trusted by individuals and enterprises alike, from makers and developers to Fortune 500 companies, across hardware from IoT devices to modern datacenters. I’m particularly pleased with the progress on memory-safe utilities, and the enhancements to our TPM-backed full disk encryption.

https://canonical.com/blog/canonical-releases-ubuntu-25-10-questing-quokka

Ubuntu 25.10 and Flatpak:

10/10/2025

Users upgrading to Ubuntu 25.10 have encountered an inability to install or update Flatpak packages. The issue is caused by changes to the AppArmor rules applied when running the fusermount3 utility. Due to incorrectly configured access rules, attempts to install or update packages using the flatpak utility result in an error about being unable to unmount the /var/tmp/flatpak-cache-* directory.

This issue has been rated critical. An update to the AppArmor ruleset has been developed and is currently being tested. Until it is ready, disabling the AppArmor profile for fusermount3 can be used as a temporary workaround.

https://www.omgubuntu.co.uk/2025/10/flatpak-broken-ubuntu-25-10-apparmor-bug

OpenSSH 10.2:

10/10/2025

Four days after the release of OpenSSH 10.1, a maintenance release of OpenSSH 10.2, an open-source client and server implementation for SSH 2.0 and SFTP, was published. The new version contains only bug fixes:

The ssh utility has resolved an issue with handling terminal parameters that prevented the use of an SSH session when ControlPersist was enabled.

The ssh-keygen utility has fixed an issue with loading keys from PKCS#11 tokens.

In ssh-keygen, an issue with digital signature generation operations when storing the certificate authority key in ssh-agent has been resolved.

Added support for platforms without mmap, such as WASM.

Fixed issues with building on FreeBSD and MacOS <10.12.

Stopped using PAM_RHOST if the external host is marked as "UNKNOWN" (set for connections not via IPv4 and IPv6), which could potentially lead to a hang when using some PAM modules.

https://lists.mindrot.org/pipermail/openssh-unix-dev/2025-October/042205.html

Luanti 5.14.0:

10/10/2025

After two months of development, Luanti 5.14.0 has been released. It's a free, cross-platform sandbox game engine that allows players to create Roblox-like games with voxel mechanics, using various blocks to collaborate with players to build structures and buildings that resemble a virtual world. Some games built on this engine aspire to clone Minecraft. The engine's gameplay relies entirely on a set of mods created in Lua. The engine is written in C++ using the IrrlichtMt 3D library (a fork of Irrlicht). Luanti's code is licensed under the LGPL, and its game assets are licensed under CC BY-SA 3.0. Pre-built builds are available for various Linux distributions, Android, FreeBSD, Windows, and macOS.

https://blog.luanti.org/2025/10/05/5.14.0-released/

A cluda driver for Mesa:

12/10/2025

Karol Herbst of Red Hat, a contributor to Mesa, the Nouveau driver, and the open source OpenCL stack, proposed the cluda driver for inclusion in Mesa. It implements the Gallium API on top of the CUDA API provided by NVIDIA's proprietary driver. Gallium is used in Mesa to abstract driver development and implements standard driver APIs that are not specific to individual hardware devices. cluda implements compute-related interfaces sufficient to implement the OpenCL specification on top of CUDA.

cluda is expected to address issues with using OpenCL over NVIDIA's proprietary driver. Using an additional framework allows for the implementation of missing OpenCL extensions in the NVIDIA stack based on the proprietary driver. cluda utilizes only the libcuda.so library, which is included in NVIDIA's GPU drivers and is not tied to the CUDA runtime. In its current form, the cluda-based OpenCL implementation supports memory operations and enables the execution of compute kernels.

https://gitlab.freedesktop.org/mesa/mesa/-/merge_requests/37831

Free Firefox VPN:

13/10/2025

Mozilla has begun testing Firefox VPN, a free VPN service built into Firefox that allows users to access websites indirectly via intermediary servers in various countries, hiding their IP address. The VPN will be the first service implemented as part of an initiative to integrate additional privacy and security tools into Firefox. The service is in the early stages of implementation and will be offered to a small percentage of randomly selected users as a trial over the next few months.

It's worth noting that Firefox VPN is not associated with the paid Mozilla VPN service, which is a full-fledged system-wide VPN. Firefox VPN is free and limited to one browser. Currently, Firefox VPN is enabled and disabled for the entire browser using a button in the address bar, but the developers promise to add the ability to selectively enable the VPN for individual tabs or for specific websites.

https://connect.mozilla.org/t5/discussions/new-experiment-firefox-vpn-beta/td-p/107182

Systemd behavior in Debian:

14/10/2025

The Technical Committee, which makes final decisions on contentious technical issues within the Debian project, has approved a change to the systemd package that modifies the behavior of the /var/lock directory. Since release 258, the systemd system manager has restricted writing to /var/lock to root users, while the Debian Technical Committee has approved maintaining the old behavior of allowing all users to write to /var/lock.

Debian project guidelines require preserving the original behavior of applications (configurations set in upstream) when packaging. Making Debian-specific changes to packages that violate the project guidelines requires special permission from the technical committee.

In the case of systemd, the committee supported the proposal not to implement the change that changes the permissions of /var/lock to enhance security, as publicly writable access to the /var/lock directory is mentioned in the Filesystem Hierarchy Standard specification and is necessary for the continued operation of some existing programs. For example, serial port applications such as uucp, minicom, mgetty+sendfax, and hylafax use the /var/lock directory to restrict access to /dev/ttyS* devices by creating lock files.

The need to restrict access to the /var/lock directory is explained by the systemd developers to protect against DoS attacks. The /var/lock directory is a symbolic link to the /run/lock directory. The partition containing the /run directory is usually mounted separately via tmpfs, and the ability to write to it without permission can be used to fill the partition and block the creation of new files in the /run hierarchy.

To prevent such attacks from occurring with unrestricted access, Debian previously used a patch that mounted /run/lock on a separate, small tmpfs partition. Last year, this patch was replaced with the run-lock.mount unit, and this summer, this unit was removed , leaving / run/lock on the /run partition.

https://translate.google.com/website?sl=auto&tl=en&hl=en-US&u=https://lists.debian.org/debian-devel/2025/10/msg00104.html

Tails 7.1:

14/10/2025

Tails 7.1, a specialized distribution developed by the Tor project, has been released. The distribution is based on Debian 13, ships with the GNOME 48 desktop, and is designed for anonymous web browsing using the Tor toolkit. All connections except those through the Tor network are blocked by default by a packet filter. Encryption is used when saving user data between launches. A 2GB live ISO image is available for download.

In the new version :

Instead of using an external page loaded from the Tails website as the home page in Tor Browser, a local page resembling the standard Tor Browser home page is used.

The password dialog before launching applications that require administrator rights now separately informs the user that an administrator password has not been set on the Welcome Screen.

Tor Browser 14.5.8, Thunderbird 140.3.0, and Tor toolkit 0.4.8.19 have been updated.

The ifupdown package got removed.

https://tails.net/news/version_7.1/

Linux Mint Debian Edition 7:

14/10/2025

Two years after the last release, an alternative build of the Linux Mint distribution, Linux Mint Debian Edition 7 (LMDE), has been released. It's based on Debian (the classic Linux Mint is built on the Ubuntu package base). The distribution is available as 3GB ISO installation images with the Cinnamon 6.4 desktop environment.

The LMDE distribution includes most of the improvements found in the classic Linux Mint 22.2 release, as well as original developments from the project (application manager, update installation system, configuration tools, menus, interface, Xed text editor, Pix photo manager, Xreader document viewer, and Xviewer image viewer). The distribution is fully compatible with Debian 13, but not package-wise with Ubuntu or classic Linux Mint releases. The system environment matches that of Debian GNU/Linux 13 (Linux kernel 6.12, systemd 257, GCC 14).

https://blog.linuxmint.com/?p%3D4924

Release of ravynOS 0.6:

15/10/2025

The ravynOS 0.6 project has been released. A FreeBSD-based operating system aimed at achieving compatibility with macOS applications and providing a macOS-style user interface. The project's code is distributed under the BSD license. The bootable ISO image is 760 MB (x86_64).

The project's stated goals include achieving compatibility with macOS applications at both the

source and executable levels. The former implies the ability to recompile macOS application code for execution on ravynOS, while the latter involves integrating kernel and instrumentation changes to run Mach-O executables built for the x86-64 and arm64 architectures.

File systems supported include ZFS and the HFS+ and APFS file systems used in macOS. In addition to the /usr and /usr/local hierarchies native to FreeBSD, macOS-specific directories / Library, /System, and /Volumes are created. User home directories are located in the /Users hierarchy. Each home directory contains a ~/ Library subdirectory for applications using Apple's Cocoa API.

For macOS compatibility, a partial implementation of the Cocoa API and Objective-C runtime (located in the /System/Library/ Frameworks directory) is provided, along with compilers and linkers modified to support them. In addition to the macOS compatibility layer, ravynOS also supports Linux applications, based on FreeBSD's Linux emulation framework (Linuxulator).

https://github.com/ravynsoft/ravynos/releases/tag/v0.6.0

Zorin OS 18:

15/10/2025

After seven months of development, Zorin OS 18, a Linux distribution based on Ubuntu 24.04, has been released. The distribution's target audience is novice users accustomed to Windows. For desktop customization, the distribution offers a dedicated configuration tool that allows you to customize the desktop to match various versions of Windows and macOS, and includes a selection of applications similar to those Windows users are accustomed to. The bootable ISO images are available in 3.6 GB and 7.6 GB sizes.

Zorin OS uses GNOME as the desktop platform, with a set of custom add-ons and a panel based on Dash to Panel and Dash to Dock. Zorin Connect (based on KDE Connect) is included for desktop integration with smartphones. In addition to deb packages and Ubuntu repositories, support for Flatpak, AppImage, and Snap formats is enabled by default, with the ability to install programs from Flathub and the Snap Store.

https://blog.zorin.com/2025/10/14/zorin-os-18-has-arrived/

Release of Mobian 13.0:

16/10/2025

Mobian 13.0, a Debian GNU/Linux release for smartphones and tablets, is now available. It features custom shells based on GNOME and KDE technologies, including Phosh and KDE Plasma Mobile. The project is developed using the Debian infrastructure and, where possible, relies on standard packages from the Debian repositories, along with a small number of additional packages. Builds are available for the x86_64 architecture (2 GB with Phosh and 2.1 GB with Plasma Mobile), the Purism Librem 5 smartphone, and various ARM devices on Qualcomm chips (Fairphone 4/5, Google Pixel 3a/3a XL, OnePlus 6/6T, Pocophone F1, SHIFT6mq), Rockchip (PINE64 PinePhone Pro, PineTab 2), and Allwinner Sunxi (PINE64 PinePhone, PineTab).

https://blog.mobian.org/posts/2025/10/new-stable-rotating-keys/

Qmmp 2.3:

16/10/2025

After a year of development, the Qmmp 2.3 music player, has been released. The player features two interfaces: a "simple" interface using standard elements, and a "classic" interface that replicates the Xmms/Winamp/Audacious interface. OSS4 (FreeBSD), ALSA (Linux), Pulse Audio, JACK, QtMultimedia, Icecast, WaveOut (Win32), DirectSound (Win32), and WASAPI (Win32) can be used for audio output. The code is written in C++ using the Qt library and is distributed under the GPLv2 license. Ready-to-use packages have been created for Ubuntu. A set of additional modules, Qmmp Plugin Pack 2.3, has also been released, adding experimental support for mpv.

https://qmmp.ylsoftware.com/

Asterisk 23:

17/10/2025

After a year of development, the stable branch of the open-source Asterisk 23 communications platform has been released. It is used for deploying software-based PBXs, voice communication systems, VoIP gateways, IVR systems, voicemail, conference calls, and call centers. The project's source code is written in C and is available under the GPLv2 license.

Asterisk 23 is categorized as a standard support release, with updates provided over a two-year period. Support for the Asterisk 20 LTS branch will continue until October 2027, and for Asterisk 22 until October 2029. Support for the 18.x LTS branch will end on October 20. LTS releases focus on stability and performance optimization, while standard releases prioritize feature additions.

https://www.asterisk.org/asterisk-news/asterisk-23-0-0-now-available/

MyLibrary 4.2.1:

18/10/2025

MyLibrary 4.2.1, a home library cataloger, has been released. The program code is written in C++ and is available (GitHub , GitFlic) under the GPLv3 license. The graphical user interface is implemented using the GTK4 library. The program is compatible with Linux and Windows.

MyLibrary catalogs book files in fb2, epub, pdf, djvu, odt, txt, and md formats, both directly accessible and packed into archives (zip, 7z, jar, cpio, iso, tar, tar.gz, tar.bz2, tar.xz, rar), and creates its own database without modifying the original files or changing their location. The fbd format is also available for cataloging (a book file packed into an archive along with a file with the fbd extension containing the fb2 description tag). The fbd format can store any files, not just books. Collection integrity and change control are monitored by creating a database of file and archive hash sums.

Books can now be searched for by various criteria (author's last name, first name, middle name, book title, series, genre) and read using the default program installed on the system for opening the corresponding file formats. When a book is selected, its abstract and cover are displayed, if available. Displaying a list of files in a collection, a list of books included in a specific file, a list of authors in a collection, and a list of books for which the user has created notes is supported.

https://github.com/ProfessorNavigator/mylibrary/releases/tag/v4.2.1

KDE report:

18/10/2025

Nate Graham, a quality assurance developer for the KDE project, has published the latest KDE development report. The most notable changes being developed for the release of KDE Plasma 6.6, scheduled for February 12th, include:

By default, Wi-Fi passwords are stored in a global context accessible only to the root user, rather than per-user. This change will allow new users to immediately access the network if the system has previously connected to Wi-Fi, without having to log in again. Functions requiring an internet connection, such as using LDAP accounts, will also work immediately on the login page.

The Application Dashboard widget now takes into account the selected color scheme for display in light tones in the light design mode (by default, the menu remains dark). The ability to resize the Favorites and regular app sections has been added to allow one to have more screen space.

https://blogs.kde.org/2025/10/18/this-week-in-plasma-plasma-6.5-is-nigh-and-kde-is-29-years-old-help-us-celebrate/

Forgejo 13.0:

18/10/2025

Forgejo 13.0, has been released. It allows users to deploy a system for collaboratively working with Git repositories on their servers, similar in its capabilities to GitHub, Bitbucket, and Gitlab. Forgejo is a fork of the Gitea project, which in turn forked from the Gogs platform. Forgejo was

spun off in 2022 following attempts to commercialize Gitea and the transfer of control to a commercial company. Forgejo adheres to the principles of independent governance and community control. Git hosting service Codeberg.org has switched to using Forgejo. The project's code is written in Go and is licensed under the GPLv3 license.

The platform's key features include low resource consumption (it can be used on a Raspberry Pi board or in low-cost VPS) and a simple installation process. A special feature is the ability to use the ActivityPub protocol to federate individual developer servers.

https://forgejo.org/2025-10-release-v13-0/

Node.js 25.0.0:

19/10/2025

Node.js 25.0.0, an asynchronous event-driven JavaScript runtime, Node.js is designed to build scalable network applications. Node.js 25.0 is an intermediate branch, supported for seven months (until June 2026). Stabilization of Node.js 24 will be completed in the coming days, and it will receive LTS status at the end of October and be supported until April 2028. Support for the previous LTS branches, Node.js 22.x and 20.x, will continue until April 2027 and 2026, respectively.

https://nodejs.org/en/blog/release/v25.0.0

Xubuntu website hacked:

19/10/2025

The official Xubuntu distribution website was compromised by unknown attackers, who replaced the torrent links on the distribution's download page with the file "https://xubuntu.org/wp-content/Xubuntu-Safe-Download.zip." As a result, the download page now only contains links to a malicious archive and available mirrors. Xubuntu developers have not yet commented on the situation, but a few hours ago they removed the malicious archive and blocked access to the "xubuntu.org/download/" section, redirecting it to the website's main page.

The archive.org service made copies of xubuntu.org on October 11 and 18. On October 11, the page had not yet been modified, while on October 18, the malicious modification was already present. The project's mirrors, through which the ISO images are distributed, are unaffected, judging by a preliminary checksum analysis, and match the reference site cdimage.ubuntu.com. Traces of compromise have so far been detected only on the xubuntu.org website, which uses the WordPress content management system. The hack was presumably carried out through an out-of-date WorkPress plugin containing a vulnerability.

The "Xubuntu-Safe-Download.zip" archive distributed by the attackers contains an executable file for the Windows platform, which is presented as an Xubuntu installer. A scan of this file using VirusTotal reveals the presence of malware.

When the executable file is launched, a fake interface is displayed, including fields for selecting the distribution version to download and the package type, as well as a "Generate Download Link" button. Clicking this button saves the "elzvcf.exe" file to the "AppData Roaming" directory and configures it to run at system startup in the Windows registry. According to preliminary information, the malware analyzes clipboard data and replaces Bitcoin, Litecoin, Ethereum, Dogecoin, Tron, Ripple, and Cardano cryptocurrency wallet addresses with those of the attackers.

Interestingly, on September 10th, one user complained about a blog post on xubuntu.org featuring a casino advertisement, but the blog post was quickly deleted and the incident was not pursued further (they likely assumed the advertisement was inserted by malware on the user's end).

https://www.reddit.com/r/linux/comments/1oad1m6/xubuntu_website_got_hacked_and_is_serving_malware/

Servo Browser Engine Release 0.0.1:

20/10/2025

The first standalone release of the Servo browser engine, written in Rust, is available. Until now, the project has only produced nightly builds. The release notes only say that it is functionally identical to the October 19th nightly build, which has undergone additional manual testing. New releases are planned to be published monthly going forward. This release also marks the beginning of builds for Apple macOS systems based on ARM processors. Completed builds are available for Linux, Android, macOS, and Windows.

The engine was originally developed by Mozilla but later came under the auspices of the Linux Foundation. Servo is distinguished by its support for multi-threaded web page rendering, parallelization of DOM (Document Object Model) operations, and the use of safe programming mechanisms provided by the Rust language. Servo was built from the ground up to support splitting DOM and rendering code into smaller sub-tasks that can be executed in parallel and more efficiently utilize multi-core CPUs. Firefox already integrates some parts of Servo, such as the multi-threaded CSS engine and the WebRender rendering system. The ServoShell demo browser is being developed using Servo .

https://servo.org/blog/2025/10/20/servo-0.0.1-release/

The ntfsplus driver:

20/10/2025

Namjae Jeon , a Samba project member who maintains the exFAT driver and KSMBD server in the Linux kernel, proposed including a new implementation of the NTFS file system, ntfsplus, in the kernel. It is hoped that a higher-quality and more maintainable NTFS driver will improve the compatibility of Linux systems with Windows devices and simplify the user experience.

Currently, NTFS support in Linux is limited to the old NTFS driver, which was removed from the Linux kernel and only supported read-only storage, as well as the current NTFS3 driver, which has numerous unresolved issues due to poor maintenance. Because of these issues, many users and distributions continue to use the old ntfs-3g driver, which runs in user space.

The ntfsplus driver is based on the codebase of the classic ntfs driver, which was removed from the kernel. It has been rewritten, expanded with data writing capabilities, and significantly improved to support modern features, such as the use of memory page folios instead of the buffer_head structure. The new driver implements lazy block allocation, achieving high write performance and reducing fragmentation. The iomap library is used for buffered read/write operations, direct I/O, extent mapping, and paged read/write operations.

https://news.ycombinator.com/item?id%3D45642874

SuperTuxKart 1.5:

21/10/2025

After nearly three years of development, Supertuxkart 1.5, a free racing game with a wide variety of karts, tracks and features, has been released. The game code is distributed under the GPLv3 license. Binary builds are available for Linux, Android, Windows, and macOS.

In the new version we have:

Three new artifact search tasks are offered in the Black Forest, Gran Paradisio Island and Old Mine tracks. Three new fields have been added to the multiplayer football racing game: Oasis, Hole Drop and XR-4R3N4. The user interface now features the ability to resize the game window. Settings for standard dimensions, a full-screen mode switch, and camera parameters have been moved to a new "Display" tab. To minimize scrolling and accommodate various screen sizes, the kart, track, and game mode selection interfaces have been adapted. Support for screens with non-standard aspect ratios has been improved. The contrast of some interface

elements has been increased. Keyboard navigation has been improved. Six new interface themes have been added. A new "Desert" variant has been added to the Classic theme, and five multicolored variants have been added to the Cartoon theme. The ability to mark tracks and karts with a heart has been added. Marked items are displayed at the top of lists and are also accessible through the "Favorites" tab. Volume control has been improved. Artifact activation sounds are now audible to all players, not just the owner. To improve texture quality and eliminate blur, x16 anisotropic filtering has been implemented. Several new shaders have also been implemented, and the shadow rendering and detail selection logic has been improved to enhance image quality. A spotlight effect has been added. Supersampling support has been implemented to increase detail on high-resolution displays. A performance measurement mode has been added, allowing you to evaluate the effectiveness of optimizations and the impact of changes made.

https://blog.supertuxkart.net/2025/10/supertuxkart-15-release.html

KDE Plasma 6.5:

21/10/2025

After four months of development, the KDE Plasma 6.5 desktop environment has been released. To evaluate the new KDE releases, you can use builds from the KDE Neon and openSUSE projects (Argon, based on openSUSE Leap, and Krypton, based on openSUSE Tumbleweed).

Key changes in KDE Plasma 6.5 include:

When using the Breeze theme, windows in KWin are now rendered with rounded bottom corners (previously, only the top corners were rounded, while the bottom corners remained straight). This new window appearance is offered by default, but can be disabled in the settings. Added support for dynamic desktop wallpapers that change depending on the time of day. The idea is to automatically display light wallpapers during daylight hours and dark wallpapers during dark hours. The preview interface for dynamic wallpapers has been improved (wallpapers that change depending on the light or dark theme are now marked with a special icon and shown in two versions). The KDE Initial System Setup (KISS) wizard has been implemented , complementing the Welcome Center. KDE Initial System Setup offers system operations that are performed before the first login after installation, such as creating a new user account for future work, selecting the language and time zone, setting the keyboard layout, and configuring network access. An explanation of how to use keyboard shortcuts has been added to the Welcome Center application. A button for copying the displayed QR code to the clipboard has been added to the clipboard manager. The ability to mark important entries in the clipboard history with a star has been implemented. Starred entries are protected from automatic clearing and can be filtered. In the desktop folder preview window, empty folders now display a placeholder with information about the absence of elements (a simple empty window created the impression of a glitch in the interface rendering). The configurator now supports configuring rotary controls on graphics tablets. These circular controls are typically used in graphics editors to scale the canvas or change brush sizes, but KDE now also provides the ability to use them as a mouse wheel for scrolling or as a cursor key for up and down movement. The printer configuration page in the configurator now provides more informative error messages about disabled services. Ink levels are now monitored and a warning is displayed when the ink level is low. The configurator now offers the ability to select global themes, which will be available for switching on the Quick Settings page. An option to automatically switch between day and night themes has also been added to the Quick Settings page. They added support for automatically switching to a separately selected dark theme at night. A setting has been added to display only light or only dark desktop wallpapers. Options have also been added to enable dynamic wallpaper color changes based on the selected color scheme or time of day, as well as lock the wallpaper to light or dark. In the configurator, the invert and scale settings have been moved to the "Accessibility" page, where they are more appropriate than on the desktop effects page. KCM (KDE Configuration Module) now allows

you to manage permissions for applications bundled in Flatpak packages (previously, only low-level sandbox settings for Flatpak packages could be changed). The color correction filters now include a grayscale output mode and the ability to reduce the saturation of all colors. When setting your desktop wallpaper in slideshow mode, you can now select the images to display by clicking on the image itself, without having to click the small button in the corner. The dialog for adding a new network connection has been modernized. The location settings used to determine sunrise and sunset times are located on a separate page in the configurator, along with day and night cycle settings. These cycles are used to automatically switch between light and dark versions of the desktop wallpaper, as well as to activate Night Mode, which reduces the amount of blue light on the screen to reduce eye strain and reduce the risk of insomnia when working before bed.

https://kde.org/announcements/plasma/6/6.5.0/

Valkey 9.0:

22/10/2025

Valkey 9.0 , a fork of Redis, has been released. The fork was created after Redis 7.4 was converted to a proprietary license. With the release of Redis 8.0, the code was reverted to the open source AGPLv3 license, but this did not impact the development of the Valkey project. Valkey is being developed on a neutral platform under the auspices of the Linux Foundation, with contributions from developers from companies such as Amazon, Google, Oracle, Ericsson, and Snap. The project's code is written in C and distributed under the BSD license. It runs on Linux, macOS, OpenBSD, NetBSD, and FreeBSD.

The Valkey and Redis DBMSs provide functions for storing key/value data, expanded with support for structured data formats such as lists, hashes, and sets, as well as the ability to execute server-side handler scripts in Lua. The database is stored in memory and synchronized with the disk version or reflected in the disk change log, ensuring data integrity in the event of a crash. Transactions, publish/subscribe mode, increment/decrement commands, list and set operations (union, intersection), key renaming, master-slave replication, multiple selections, and sorting functions are supported.

https://www.linuxfoundation.org/press/valkey-9.0-delivers-performance-and-resiliency-for-real-time-workloads

OpenWrt 24.10.4:

22/10/2025

OpenWrt 24.10.4, a distribution designed for network devices such as routers, switches, and access points, has been released. OpenWrt supports 2,815 devices and offers a build system that simplifies cross-compilation and the creation of custom builds. These builds allow users to create ready-made firmware with the desired set of pre-installed packages, optimized for specific tasks. Ready-to-use builds have been published for 39 target platforms.

https://lists.openwrt.org/pipermail/openwrt-announce/2025-October/000072.html

OpenBSD 7.8:

22/10/2025

OpenBSD 7.8, a free UNIX-like operating system, has been released. The full installation ISO image of the OpenBSD 7.8 base system is 597 MB.

In addition to the operating system itself, the OpenBSD project is known for its components, which have been widely adopted by other systems and have established themselves as some of the most secure and high-quality solutions. Among them are: LibreSSL (a fork of OpenSSL), OpenSSH , the PF packet filter , the OpenBGPD and OpenOSPFD routing daemons , the OpenNTPD NTP server , the OpenSMTPD mail server , the tmux text terminal multiplexer (analogous to GNU screen) , the identd daemon with an implementation of the IDENT protocol, mandoc , a BSDL alternative to the GNU groff package , the CARP (Common Address Redundancy Protocol) protocol for organizing fault-tolerant systems, a lightweight HTTP server , and the OpenRSYNC file synchronization utility .

https://www.mail-archive.com/announce@openbsd.org/msg00568.html

MySQL 9.5.0:

23/10/2025

Oracle has released a new branch of the MySQL 9.5.0 database management system. MySQL Community Server 9.5.0 builds are available for all major Linux distributions, FreeBSD, macOS, and Windows. In accordance with the release model introduced in 2023, MySQL 9.5 is assigned to the "Innovation" branch. Innovation branches are recommended for those who want early access to new functionality. They are published every three months and are supported only until the next major release (for example, after the release of branch 9.5, support for branch 9.4 ended). This winter, they plan to release LTS release 9.6, recommended for deployments that require predictability and long-term stability. Following the LTS branch, a new Innovation branch—MySQL 10.0—will be released.

https://github.com/mysql/mysql-server/releases/tag/mysql-9.5.0

LosslessCut 3.66:

24/10/2025

LosslessCut 3.66, a graphical interface for editing multimedia files without re-encoding, has been released. LosslessCut's most popular feature is cropping and trimming video and audio, for example, to reduce the size of large files shot with an action camera or a drone camera. LosslessCut allows you to select relevant sections of a file and discard unnecessary parts, preserving the original quality of the material without re-encoding. Since processing is performed by copying existing data rather than re-encoding, operations are very fast. LosslessCut is written in JavaScript using the Electron platform and is an add-on to the FFmpeg package. Its developments are distributed under the GPLv2 license. Builds are available for Linux, macOS, and Windows.

Without re-coding, the program can also handle tasks such as attaching audio tracks or subtitles to videos, cutting out individual scenes from videos (e.g., cutting out commercials from TV program recordings), saving fragments linked to tags/chapters separately, rearranging video sections, splitting audio and video into separate files, changing the media container type (e.g., from MKV to MOV), saving individual video frames as images, creating thumbnails, exporting a fragment to a separate file, and changing metadata (e.g., location data, recording time, horizontal or vertical orientation). Tools are available for detecting and automatically cutting out empty areas (black screens in videos and silent fragments in audio files), as well as linking to scene changes.

It's possible to merge fragments from different files, but the files must be encoded using the same codec and parameters (e.g., shot with the same camera without changing settings). Editing individual sections is possible, selectively re-coding only the data that changes, but preserving the rest of the untouched information in the original video. During editing, undo/redo is supported, and FFmpeg command logs can be displayed (typical operations can be repeated from the command line without using LosslessCut). https://github.com/mifi/lossless-cut/

https://github.com/mifi/lossless-cut/releases/tag/v3.66.1

uutils 0.3:

25/10/2025

The uutils coreutils 0.3.0 (Rust Coreutils) project, a development project for the GNU Coreutils package written in Rust, has been released. Coreutils includes over 100 utilities, including sort, cat, chmod, chown, chroot, cp, date, dd, echo, hostname, id, ln, and ls. The project's goal is to create a cross-platform alternative to Coreutils, capable of running on Windows, Redox, and Fuchsia platforms, among others.

Rust Coreutils is included by default in Ubuntu 25.10 and is used in the AerynOS (Serpent OS) and Apertis (developed by Collabora) distributions. Unlike GNU Coreutils, the Rust implementation is distributed under the permissive MIT license, rather than the copyleft GPL. The same team of developers is also developing Rust-based equivalents of the util-linux, diffutils, findutils, and procps utility

suites, as well as the sed and login programs.

https://github.com/uutils/coreutils/releases/tag/0.3.0

Qutebrowser 3.6.0:

25/10/2025

The qutebrowser 3.6.0 web browser has been released. It offers a minimal graphical interface that does not distract from content viewing and a Vim-style navigation system built entirely on keyboard shortcuts. The code is written in Python using PyQt and QtWebEngine. The source code is distributed under the GPLv3 license. Using Python does not impact website performance, as content rendering and parsing is handled by the Blink engine and the Qt library.

The browser supports a tabbed system, a download manager, private browsing mode, a built-in PDF viewer (pdf.js), an ad blocker (at the host blocking level), and a browsing history interface. An external video player can be configured to watch YouTube videos. Page navigation is performed using the "hjkl" keys; to open a new page, press "o." Tab switching is performed using the "J" and "K" keys or "Alt-tab number." Pressing ":" displays a command line prompt, allowing you to search the page and execute common vim-like commands, such as ":q" to quit and ":w" to save the page. A system of "hints" is available for quickly navigating to page elements, marking links and images.

https://github.com/qutebrowser/qutebrowser/releases/tag/v3.6.0

Open 3D Engine 25.10:

26/10/2025

The non-profit Open 3D Foundation has released Open 3D Engine 25.10 (O3DE), an open-source 3D game engine suitable for developing modern AAA games and high-fidelity simulators capable of running in real time and delivering cinematic-quality performance. The code is written in C++ and published under the Apache 2.0 license.

The engine includes an integrated game development environment, a multi-threaded photo realistic rendering system (Atom Renderer) with support for Vulkan, Metal, and DirectX 12, an extensible 3D model editor, a character animation system (Emotion FX), a prefab development system, a real-time physics simulation engine, and mathematical libraries using SIMD instructions. Game logic can be defined using a visual programming environment (Script Canvas), as well as Lua and Python.

The project is designed from the ground up to be customizable and features a modular architecture. Several dozen modules are available, delivered as separate libraries, suitable for replacement, integration into third-party projects, and standalone use. For example, thanks to its modularity, developers can replace the graphics renderer, sound system, language support, network stack, physics engine, and any other components.

https://o3de.org/o3de-release-25-10-now-available/

We have talked about quite a few things in our CnC articles so far. However, there is one that even I struggle with sometimes, mainly because I don't get to use it often. So as a refresher, let's talk about grep. As an Ubuntu newbie, it will not be high on your priority list; however, it is something you will use if you ever work in an environment that is Linux-based. Even if you never do, it is a rather weird thing to master. When you use it, to untrained eyes, it will seem like magic.

Grep is rather basic, but if you looked at the man page, you may have seen: "grep, egrep, fgrep, rgrep - print lines that match patterns"

The command egrep is the same as grep -E as far as I know... and does not mean 'extended grep' as I heard one of my co-workers name it. Rather it is extended regular expressions, but in essence, he is also right, as it is an extension of the regular grep we looked at in the last issue. (My proofreader gave me carrots about this, but I left it as is, as I'd like your opinions on the matter – you know where to post 'em: misc@fullcirclemagazine.org - I'm not starting a flame war, I'm just gathering points of view!)

The same is true for the other names you see in the man page. It is just an easier way to type them. It is easier to type

```
fgrep
```

instead of

```
grep -F
```

As a newbie, I want you to think of egrep as "understanding more", when you fire off your query. So far, we did very basic queries and we will work our way up the chain, don't worry!

However, I want us to step back here, just for a moment. If you don't know what regular expressions are, grep is going to stay very basic. I mean, the name literally means (G)lobal (RE)gular ex(P)ressions.

If you get that, then grep really shines when you take advantage of these regular expressions. Special characters let you match wider patterns than we did before. For example, you can find lines that contain a number "[0-9]", or maybe start with a capital letter "^[A-Z]", or end with a full stop "\.$". That last one needed the "\" as an escape character, as grep incorporates things from the shell. If I needed an exclamation mark in my query, I'd need to put an escape character before it, as the "!" has a special meaning in the shell.

However, instead of having like ten escape characters in a line, it's a lot easier to enclose the entire pattern within single or double-quotes (depending on your purpose). Then we can take it up another notch with PERL regular expressions, but that is beyond the scope of a newbie introduction. I want you to understand where things come from so you don't just copy/paste queries you find on the internet, but make your own.

So let's quickly talk about these "special" characters.

The full stop or dot (.) matches any single character. For example, to match lines that contain the text "f.m": grep "f.m" <filename> This will find "fcm" in our imaginary file, but it will also find "fhm" (wrong magazine!!) if it was present. Obviously it's not going to find a newline in there, so the exception to the rule would be a newline. However, if I wanted to find f.c.m, I'd need to add the escape character as now I want it (the dot) specifically. So "\.", not just "." – is the difference clear?

The other wildcard is the asterisk (*). So my query: grep "jav*" <filename> - could find "java" as well as "javascript". The asterisk (star) means any characters. You need to use this wisely, as it can *really slow down simple searches and should be avoided in queries that contain random letter combinations, like say 10000000 UUIDs or millions of transaction numbers.

In my ramblings above, you saw me use "[0-9]"; yep, we will quickly

touch on the square brackets. The 0-9 is what's known as a "range", but you can be specific and search for [321], for instance, and as you saw, this does not apply to only numbers, [a-z] is just as valid! We can even lump them all in: [a-zA-Z0-9] – now we are searching for alphanumerics.

There is a rather odd one that everyone I know forgets about, and that is the "+" plus sign. If I were to say, query: egrep "is+" <filename> looking for "issue" (random I know, but it is just to illustrate a point). This will match "is", "iss", "isssss", and so forth. This differs from the question mark (?) as you want at least one match. The question mark (?) matches zero or one occurrence of the previous character. Meaning, it may be skipped. If I were looking for "fcm" and I mistakenly used the question mark in my query, like so: egrep "f?m" <filename>, the result "fm" is valid. Is the difference clear?

Now one of the things you learn early on in Linux is to "pipe" (|) one command's output to another, but it is also the symbol used for "or" in some languages. Some double up and you may see "|| and &&" - "or" and "and". This principle is also valid in a query; egrep "bob|alice" <filename> - now we are searching for bob or alice. (Yes, don't ask why the cryptography lecture is now incorporated here, but it is what it is).

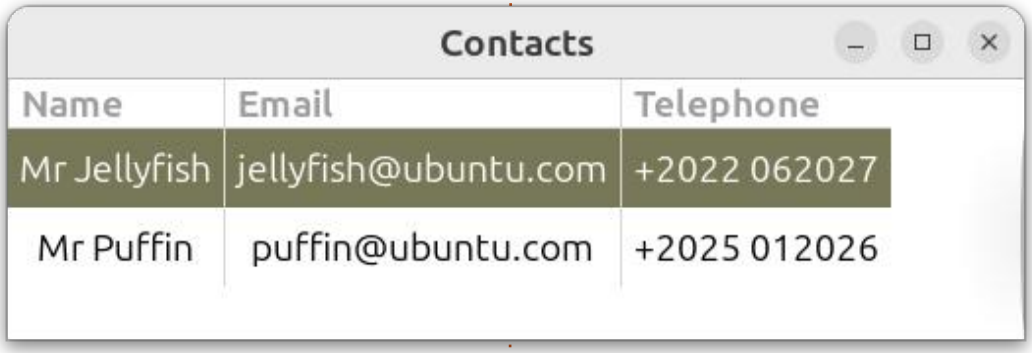
So if we were to repeat our mistake above, egrep "f?m|F?M" <filename> what are some of the possible outcomes? Answers in a e-mail on misc@fullcirclemagazine.org

So remember that the pipe symbol is also known as the OR operator. It matches the entire expression before *or after the pipe, not just the character before it.

Well, that's my time again in the magazine, so we will continue this in the next issue, keep practising!

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.

GTK4 Programming in C - Pt.3



As previously explained, GTK4 uses the GObject (GLib Object System) library to provide object-oriented programming (OOP) features using function-like macros. This article shows how to write a contact class so that contact object instances can be created with personal details (name, email, phone). These are then stored in a list using the GListStore class and a view widget called GtkColumnView exploited to display them.

A screenshot of the GTK4 contacts application that will be developed using Ubuntu 24.04 is shown above.

Object Oriented Programming (OOP)

OOP is a software design method that models the characteristics of real-world objects using software classes which have properties and methods. A class is a template or blueprint for how to build an object. Many object instances can be created from one given class. The main benefit of using the OOP approach is to make it easier to solve real-world problems by modelling natural objects as software objects. Identifying the state and behaviour for real-world objects is the starting point to begin thinking in terms of OOP.

In OOP, inheritance allows a new class known as the child class or subclass to inherit properties and methods from an existing class known as the parent class which is often GObject. With GTK4, macros are used to create a new child or subclass using header (.h) and source code (.c) files. In the simplest case, the macro G_DECLARE_FINAL_TYPE() is used in the header file, and this is coupled with the macro G_DEFINE_FINAL_TYPE() in the source file.

Contact Class

A contact class which inherits from GObject will be created with properties for a person name, their email address, and telephone details. In a real contact management application, there would be many more properties for items such as the person address.

The full source code for this project can be downloaded using the link: https://github.com/crispinprojects/fullcircle

Open and view the files person-contact.h, person-contact.c, and main.c file, to follow the explanation below.

The files person-contact.h and person-contact.c are the header and source files for the contact class. Function declarations go into the header file and source code implementations go into the source code file. Functions implemented in person-contact.c can be used by other files in the project provided they are declared in the header file and are not private.

The header file has standard C header guards and then includes glib-object.h which defines GObject. The G_BEGIN_DECLS and G_END_DECLS are the begin and end macro declarations. The #define is used to associate PERSON_TYPE_CONTACT with person_contact_get_type().

The macro G_DECLARE_FINAL_TYPE is used to declare a new class (i.e. register the new class to the type system). The FINAL in the macro name means

that the contact class cannot be sub-classed. The macro is used as shown below.

```
G_DECLARE_FINAL_TYPE(PersonCo
ntact, person_contact,
PERSON, CONTACT, GObject)
```

The first argument of this macro is the child class name in camel case i.e. PersonContact. The second argument is person_contact written in lower case and with an underscore. It is used as a function prefix. The third argument, PERSON, is the namespace, and is used as the first part of the name of the class. Choosing the right namespace is important to prevent naming conflicts and provide context, and in a larger application a more specific namespace related to the application name would be used. The fourth argument, CONTACT, is the object name. The last argument, GObject, is the parent class. The naming convention that has been used in the code is because macros require names in Camel case or words separated by an underscore "_", which may not be obvious if this is the first time of writing a GObject in C.

The next few declarations are accessor functions known as getters and setters. A getter function returns a property value while a setter function sets or updates a property value. There are three properties which are name, email and phone.

Inside person_contact.c a structure is defined as shown below.

```
struct _PersonContact
{
GObject parent_instance; //
parent
gchar* name;
gchar* email;
gchar* phone;
};
```

The way in which inheritance works when using the GObject library is to put the parent type as the first field of the structure. In this case GObject is the parent instance. This makes available all the properties, methods, and signals of GObject to the subclass called PersonContact. Consequently, because PersonContact is a subclass of GObject the functions g_object_set() and g_object_get() can be used to set and get properties respectively.

The rest of the fields are used for the PersonContact properties namely name, email and phone. The name, email and phone variables are of type gchar*. Just to note that gchar is an alternate name for the existing C data type char (i.e. a typedef) and is used to be consistent with the GTK4 API documentation.

The macro G_DEFINE_TYPE is used to implement a new GObject defining the basic structure for a new GObject type, including its class and instance initialisation functions. It is used to create custom object types as shown below.

```
G_DEFINE_TYPE (PersonContact,
person_contact,
G_TYPE_OBJECT);
```

The first argument is the name of the new type, in Camel case, which in this case is PersonContact. The second argument is the name of the new type, in lowercase, with words separated by an underscore "_", which in this case is person_contact. The third argument is the GType of the parent type, which is G_TYPE_OBJECT because GObject is the parent class.

An enum is used to define the properties PROP_NAME, PROP_EMAIL and PROP_PHONE. All properties need a unique identifier and the zero property cannot be used and so a dummy property called PROP_0 is created. LAST_PROP is the number of properties.

```
enum {
PROP_0,
PROP_NAME,
PROP_EMAIL,
PROP_PHONE,
LAST_PROP
};
```

Two constructors are required by all GObjects which are the class_init and the object init functions. In this case, these are the person_contact_class_init() and person_contact_init(). The person_contact_class_init() is the class constructor which is called only once and gets run on the first time an instance of the object is created. Inside the person_contact_class_init() constructor properties are defined using g_param_spec_string. Arguments are provided to give a property a name and range. These properties have to be accessed using the getter and setter functions. The getter and setter

functions are written to get and set the name, email and phone properties. The function person_contact_dispose(GObject *object) is the destructor.

The skeletal code presented here can be used as boilerplate code for writing other GObject classes although only properties are used in this example, and no signals. The GObject API provides further information.

```
GListModel *create_contact_model(void)
{
PersonContact *contact1= g_object_new(PERSON_TYPE_CONTACT,0);
PersonContact *contact2= g_object_new(PERSON_TYPE_CONTACT,0);

g_object_set (contact1, "name", "Mr Jellyfish", NULL);
g_object_set (contact1, "email", "jellyfish@ubuntu.com", NULL);
g_object_set (contact1, "phone", "+2022 062027", NULL);

g_object_set (contact2, "name", "Mr Puffin", NULL);
g_object_set (contact2, "email", "puffin@ubuntu.com", NULL);
g_object_set (contact2, "phone", "+2025 012026", NULL);

GListStore *store = g_list_store_new(G_TYPE_OBJECT);
g_list_store_append(store,contact1);
g_list_store_append(store,contact2);
return G_LIST_MODEL(store);
}
```

GListStore

At this stage a contact class has been written with the parent instance being GObject. By including the person-contact.h header in the main.c file, contact objects can be used.

A GListStore acts as a simple array-like list that stores objects derived from GObject such as contact objects. It is a container that holds a collection of objects providing methods to append, insert, remove, find, and sort them. GListStore is a specific implementation of the more general GListModel interface which provides a standardised way to represent a list of objects for use with view widgets. View widgets such as GtkColumnView are used to display data from a model. This is known as model view design.

The code below shows how to create a GListModel with a GListStore used to store two fictitious contacts “Mr Jellyfish” and “Mr Puffin”, named after Ubuntu releases. For example, the PersonContact pointer called *contact1 is created using the g_object_new() constructor. This constructor creates a new instance of a GObject subtype using its type which in this case is PERSON_TYPE_CONTACT. The g_object_set() function sets the properties of an object and is used to set the name, email and phone properties.

The g_list_store_new() function is used to create a new GListStore and then g_list_store_append() is used to add PersonContact objects to the store. The store can be thought of as holding rows of contact details which can then be displayed using a view widget.

View Widgets

View widgets such as GtkColumnView display data from a model. The GtkColumnView view widget is used to display a list of items using multiple columns. In this example, a column for the name, a column for the email, and a column for the phone details, are needed. To do this, they use a "factory" pattern which abstracts the process of object creation. The factory is responsible for creating the visual representation and a factory has to be created for each column. The code snip on the next page shows how a factory is created for the “name” column.

Two callbacks are used. The callback called “callbk_setup” uses the gtk_list_item_set_child() function to associate a label widget with the list view. The second callback called “callbk_bind_name” is used to determine what is displayed on the label which in this

case is the name property.

Use the Makefile in the download to build the application which produces an executable called “addressbook”. In the next article, the application will be expanded to manipulate contact information and save and open data.

```
factory = gtk_signal_list_item_factory_new();
g_signal_connect(factory, "setup", G_CALLBACK(callbk_setup),NULL);
g_signal_connect(factory, "bind", G_CALLBACK(callbk_bind_name),NULL);
column = gtk_column_view_column_new("Name", factory);
gtk_column_view_append_column (GTK_COLUMN_VIEW (column_view), column);
g_object_unref (column);
```

External Links

GObject API
https://docs.gtk.org/gobject/

GObject Tutorial
https://docs.gtk.org/gobject/tutorial.html

G_DECLARE_FINAL_TYPE Macro
https://docs.gtk.org/gobject/func.DECLARE_FINAL_TYPE.html

G_DEFINE_FINAL_TYPE Macro
https://docs.gtk.org/gobject/func.DEFINE_FINAL_TYPE.html

Alan is retired and a Linux enthusiast. He has worked in education and industry and has used many programming languages including C, C++, Delphi and Java. His Linux projects can be found on his Github: https://github.com/crispinprojects.

Trading Up To Linux Pt.10

As I write the final part in this series of articles in early August, 2025, not a great deal has changed with regards to the projected end-of-life (EOL) for Windows 10 being October 14th. Microsoft stubbornly holds onto the stringent specifications for the range of CPU chips that are supported by Windows 11, and the requirement that a Trusted Platform Module (TPM 2.0) be available and enabled in order to upgrade to the latest version of the operating system.

The ironic nature of the October 14th date for Microsoft ending support for Windows 10, and possibly condemning millions of PCs to the electronic scrapheap, was pointed out by Chris Taylor, OPCUG's President, at a recent Q&A session. EOL for Windows corresponds precisely with International E-Waste Day, an annual event organized by the WEEE Forum (https://weee-forum.org)!

However, one glimmer of optimism in this entire sad process is a move by Microsoft to enable users of Windows 10 to obtain one year of extended support at no cost. The original announcement of the Extended Security Updates (ESU) programme for Windows 10 offered only a single option, namely the purchase of one year of additional support for US $30. Recently, another announcement (Windows 10 Consumer Extended Security Updates (ESU) program [https://support.microsoft.com/en-us/windows/windows-10-consumer-extended-security-updates-esu-program-33e17de9-36b3-43bb-874d-6c53d2e4bf42]) indicated that two further options will be made available, neither of which will have any monetary costs. One of the options is for users to synchronize their PC's settings on Microsoft's cloud storage. The second such option is to redeem 1000 Microsoft Reward points.

Note that the ESU programme is both specific and limited. There are several requirements that must be met in order to enroll in the programme when it becomes available in mid-August. Firstly, PCs must be running Windows 10 Version 22H2, i.e. the most recent feature release of the operating system, and the latest updates must be installed. Secondly, the enrollment process must be carried out using a Microsoft administration account. [Note that if only one Microsoft account is available then this will necessarily be an administrator account.]

The option to synchronize the PC's settings involves using Windows Backup (Settings > Accounts > Windows Backup) to store the settings on Microsoft's cloud server. However, the simplest way to achieve this will be by using the ESU enrollment wizard when this becomes available. The process has been described in detail by Christopher Barnatt in the video "Setting Up Windows 10 ESUs - For Free!" [https://www.youtube.com/watch?v=ERDjeKN1_Es&t=510s] on his 'Explaining Computers' YouTube Channel. Specifically, he shows how to enrol in the ESU programme while sharing the minimum amount of information with Microsoft, and notes that the enrollment is maintained when switching back to the use of a local account to run Windows.

Many users will not realize that they have accumulated Microsoft Reward points. I checked the status of my reward points by logging in to https://rewards.bing.com using my Microsoft account and discovered that I already had 804 reward points, presumably from previously using Microsoft's Bing search engine. The website lists multiple ways of accumulating points such as conducting searches using Bing, looking up recipes, finding local restaurants, and undertaking various puzzles. There are, therefore, several ways to accumulate the 1000 points required to enrol in the ESU programme prior to the EOL date. At the time I was researching this method, a special offer provided 500 reward points for downloading the Bing app to my smartphone and conducting searches using the app on two separate days. In consequence, I now have over 1300 reward points and can use these to enrol in the ESU programme when

it becomes available.

While the ESU programme provides extended support for Windows 10, it should be noted that this is only for twelve months following EOL. Should nothing change in the meantime, users in the ESU programme will once again be subject to loss of support for Windows 10 in October, 2026. In addition, the ESU programme will provide only security patches for the operating system. There will not be any feature updates, bug fixes, and no technical support will be provided by Microsoft.

For individuals whose computers are not capable of having Windows 11 installed, all of the options outlined in Part 1 of this series remain available. This includes my preference of Trading Up To Linux! Indeed, the entire point of this series of articles has been to provide the information necessary for Windows users to try Linux ahead of the EOL deadline.

Notably, we have seen how to obtain a Linux distro, create a live-USB, and use this bootable drive to ensure that Linux will run without any issues on a specific computer. Subsequently, we reviewed how to install Linux on a computer's hard drive in dual-boot mode so as to have the capability to select either Windows or Linux at boot time. We also looked at how to update Linux, customize the system, install software that was not bundled with the original distro, and how to potentially run many Windows programs inside the Linux operating system.

When you read this, the EOL on October 14, 2025 may have passed by, so I hope that you have taken advantage of this series of articles to investigate the use of Linux. However, the option to enroll in the ESU programme will provide an additional year for such activities for anyone who has yet to explore the capabilities of Linux. I sincerely hope that the suite of articles in this series are sufficient to get you started on the journey!

[**PS/Ed**: Since the above paper was written, there have been reports that an additional free, 12-month, ESU option is available from Microsoft for users in the European area].

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 - some L packages

Written by Robert Boardman

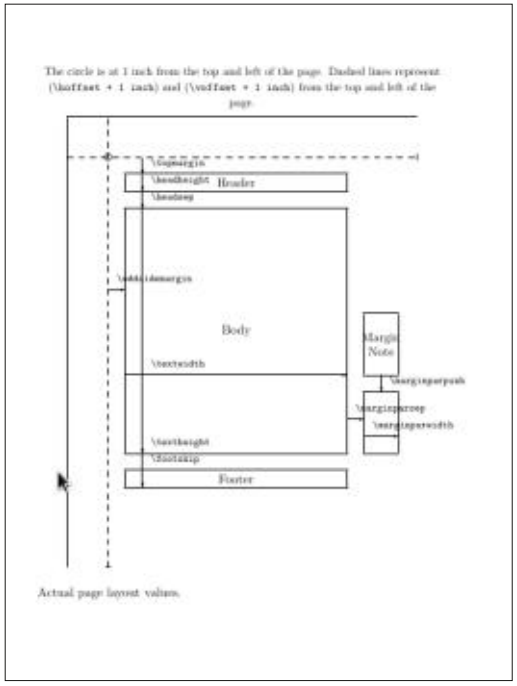
Welcome or welcome back to FCM and to Latex. I realized a short time ago I have been presenting packages with specific functions. I have neglected to mention how to start Latex documents so that 'packages' can be used. Latex documents can be made in any application that will generate plain text (ASCII) files. I use TexStudio in Linux; there are other applications which work well; there are online applications many people like. (A text editor is sufficient if the user is familiar with Latex commands.)

Every Latex command starts with a back-slash. Every Latex file starts with: \documentclass[options]{class name}. Unless I state otherwise, I start with \documentclass[11pt,letterpaper]{article}. This is the first command in the preamble. It is the only required command in the preamble. The document itself starts with \begin{document} and finishes with \end{document}. All document contents must be written between these two commands. If there are no specific instructions, Latex ignores all whitespace except for one space between words and two new lines between paragraphs. If you need to use any other commands in order to duplicate the work I do, I will tell you in my column.

This time, I am going to explore packages available in the K and L topics at ctan.org. Well... not K since it contains only one package other than those using Tex / Latex in Korean, Kurdish and Kurmanji.

There are about 40 packages in the L topic. The languages represented are Latin, Latvian, Lithuanian. There is a topic called lang-invented which contains two packages, one for Tengwar script and one for Arka. I am surprised there is not one for Klingon.

There is a long list of packages in the Layout topic, all have to do with the placement of items on pages. One I have discussed previously is the widows-and-orphans package. It identifies widows and orphans in a document: single lines of text at the bottom or top of a page which belong to text on the previous or next page. Once identified, the document author can then make suitable adjustments.



A package called booklets can be helpful to people making small publications or making signatures for books. The documentation says "*the pages of documents processed by the booklet package will be reordered and scaled so that they can be printed as four pages per physical sheet of paper, two pages per side of the sheet.*" It continues "*the default orientation is that the original document is in a portrait orientation and the pages are printed rotated onto a landscape sheet. Folding the sheet in half will produce a half-sized document, again with portrait orientation.*"

The document class Leaflet is somewhat similar to booklet. It produces a two-page leaflet. The contents are printed in three fully justified columns. If printed two-sided in landscape mode, the paper can be folded to make a leaflet. The size of the sheet of paper is controlled through the options in the documentclass declaration in the first line of the document preamble. There are very detailed descriptions of the coding of this document class in the documentation. To use the default settings, simply change the documentclass to "leaflet".

Another layout package that is of interest is hanging. As you might guess, it will set up hanging indents. An ordinary indent moves the start

of line one of a paragraph a set space to the right of the left paragraph margin. A hanging indent starts line one at the left paragraph margin and moves (indents) the rest of the paragraph a set amount. Traditionally the default indent was five spaces. The hanging indent package allows the user to set the indent space at whatever distance the page designer wishes.

First (of course) the page designer must have usepackage{hanging} in the document preamble. In the body of the document, this package allows you to set a hanging indent either for single paragraphs or for a group of paragraphs using either hangingpara (one paragraph), or the hangingparas environment for a group of paragraphs. Both commands take two options: a measure of the length of the indent and a number of lines to be affected by the hanging command. The length of the indent can be any unit accepted by Latex, so in, cm, mm, em, etc. I also tried a negative number for the size of the indent. It indents the right side of the paragraph from the paragraph margin on the right side. The hangingparas is an environment so it starts with \begin{hanagingparas} and closes with \end{hangingparas}. Otherwise the two commands are the same.

This package also allows for hanging punctuation. I do not know what hanging punctuation might be used for. If this sounds interesting to you, read the documentation that comes with the hanging package.

The Leading package is very useful for many documents. The term "leading" is pronounced to rhyme with "sledding", or pronounced as if it were spelled "ledding". Leading is the distance between two successive baselines of text. Word processors usually set leading as a percentage of the font size. If leading is equal to the font size, it is usually called "tight". If leading is less than type size, the lines of text will overlap. At least one word processor defaults to font size +2 points. Font sizes are usually expressed in points. (A point is almost exactly 1/72 of an inch or 0.035cm.) When setting type, the size and the leading are written 11/13: font size 11pt, leading 13pt. This gives 2pt of space between the bottom of one line of text and the top of the next line of text.

The leading package allows the page designer to control the line spacing rather than using the Latex default. Of course the larger the value of the leading the more space required for the document. Sometimes leading is adjusted so make sure a document fills a page but does not overflow onto another page. Magazines, newspapers and journals almost always use consistent type sizes and leading. Sometimes certain features, like call outs, use different type sizes and leading to separate them from the main articles. Headings are normally made larger than body text and the leading is also increased. As the author points out in the short documentation for this package, using the leading instruction fixes its size. If the font size is changed later then the leading size may need to be adjusted.

In complex or complicated documents, sometimes it is helpful to get a view of how the various pieces fit together. There is a package called Layouts which will help with this. It enables the display of a document's layout, usually at 50% of the real size, but this is adjustable. There is extensive 55-page documentation available. Page layout parameters can all be changed using the \setlength command, for example: \setlength{parameter}{length}. Length units can be any unit accepted by Latex. If you want to know what the current parameters and their lengths are, use the \pagevalues command.

I have shown an example of the layouts package output without text to keep the image simple. You can and probably should use it with the parameters set to your desired lengths and with all the necessary contents. The layouts package will help you determine if your choices make an attractive document. Few people will read by choice what they consider to be a poorly designed or ugly document. One warning: you must use the \setuplayouts command after the begin{document} command and before any commands which might affect the text block, for example, font sizes or margins. The author recommends putting it immediately after the begin{document} command.

In the L topic, there are many packages having to do with letters.

```
\usepackage{coloredbelts}
\begin{document}

  \includegraphics[width=2cm]{judobelt-yellow.pdf} This is a test of the coloredbelts
package using the include graphics command.

  \ColorBelt[Height=1cm,OffsetV=1cm]{blue-brown} Alternate coding to insert a colour
belt image. The ColorBelt command is a pseudonym for the includegraphics command.

  \ColorBelt[Height=1cm,OffsetV=-1cm]{yellow-orange} Alternate coding to insert a
colour belt image.

  An example of a default \ColorBelt{green} inline belt.
```

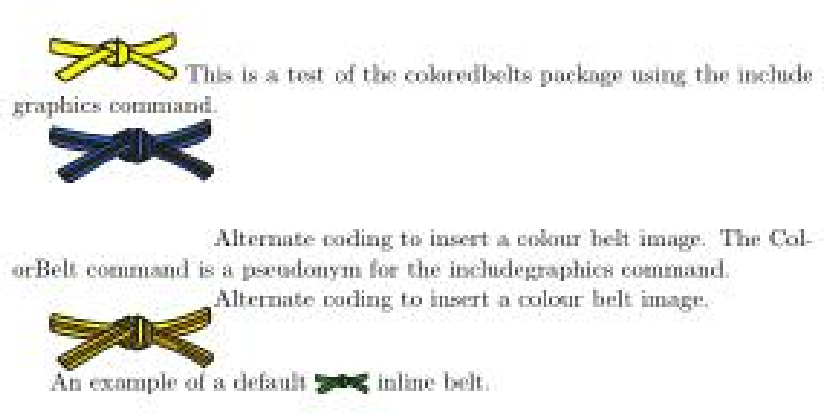
There is a package called gcard which produces a greeting card from a sheet of paper. When folded in half two times the sheet becomes a front cover, left and right inside pages and a back cover. The package establishes four environments, one for each "page" in the card. The sequence of commands is:

```
\begin{frontcover}
Some text for the front cover
\end{frontcover}
```

The same structure is used for insideleft, insideright and backcover. Any page environments not set up are left blank when the file is compiled. According to the author this is a very simple package which should not interfere with any other package. That means you can use fonts, colours and graphics to make printed cards attractive. As I said, this package is designed for printing cards on paper. It does not make e-cards.

The last package for this time is called Coloredbelts. The author wanted a way to insert simulated coloured belts into documents like judo or karate or taekwondo belts. These could be useful to indicate levels of attainment or simply to add visual interest to a document.

This is a fun package to play with. There is four-page documentation for this package. It lists the available colour names and has a few examples. The size of the belt can be changed with width and height options. Since the belts are inline objects they can be affected by commands used to change font size. There is a nice graphic illustrating the possibilities in the documentation. Because the belts are SVG images in individual PDF files, each belt can also be rotated or scaled.



There are many more packages linked to the L topic. Perhaps I will come back to this area in the future. For this time, enjoy your work with Latex. Let me know if there is some situation which requires some help, or if you want to know will Latex do this.

Inkscape - Part 162

Written by Mark Crutch

Over the years, I've used a wide variety of computer systems, both old and new, and I have to confess that my personal preference is for a GUI more closely aligned with the conventions and styles of the late 90s and early 2000s. Before that time, most computers didn't have the graphical capabilities to do justice to the designers' ideas. Pixels were large, color palettes were small, and the result often ended up being UI controls that were hardly a delight to look at. A little later, and the graphical prowess of even a cheap desktop machine allowed designers to experiment with more realistic, "skeuomorphic" controls, which often favoured style over substance.

Then came the era of the smartphone. Now we all carry powerful, colorful computers with ultra-high resolution screens that should open up a world of design options. But our big, chunky fingers don't offer the finesse of a mouse pointer, so a lot of the UI design book of old is no longer relevant. We've thrown out small spinboxes and scrollbars in favor of large, finger-friendly alternatives. Ironically, we finally have machines that could do justice to the original ideas of the UX gurus of old, but instead, we render our UIs in flat colored rectangles. Is that a button, a menu, a label or a toggle switch? When everything is a solid colored box with some text in, it's hard to tell.

While our buttons have become more colorful, our icons have taken a journey in the opposite direction. Increasingly the trend is for simple, single-color images. This has partly been driven by the use of 'icon fonts' in web frameworks which removed the burden of icon design from developers by supplying a vast array of pre-drawn icons, shoehorned into a font file so that they can be delivered to the browser as efficiently as possible. Unfortunately, until quite recently, browsers couldn't handle colored fonts (there was an exception in the form of SVG fonts, which allowed for colored glyphs, but Firefox never supported them so they're more of a curiosity than something I would recommend using).

Despite finger-friendly buttons being most useful on phones and tablets, and colorless icons having some small benefit on the web, both these trends have made their way into applications whose home is really only a desktop or laptop machine.

All of which is to explain that I've turned into a curmudgeonly old man who thought it was all better in the past. At least when it comes to UI design. As such, I still insist on using the 'old fashioned' colored icons within Inkscape, rather than the 'symbolic' style that was added a few releases back. I find it easier to distinguish icons from one another if they differ in multiple ways – their placement in the application, their shape and, yes, their color. I don't really understand the logic of removing one of these identifiers. Mind you, I also prefer a light theme and I do recognise that, when used with a dark theme, most of the classic colored icons are too bright. Personally, I think this calls for a set of colored-but-darker icons, but I guess that a single set of largely colorless icons is easier to create and maintain across both dark and light UI themes.

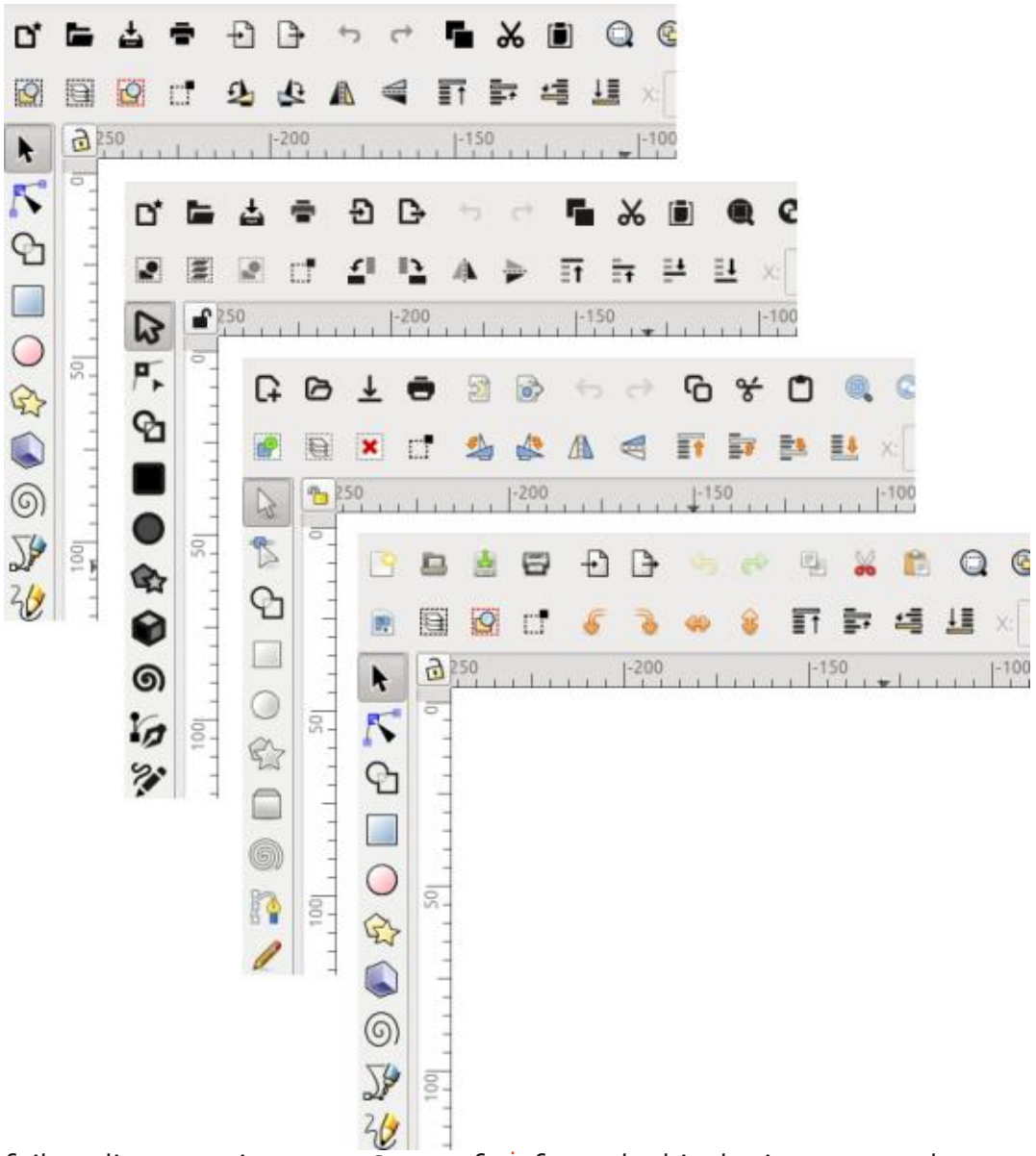
I just wanted to put my biases on the table before I take a look at the latest icon set to become available in Inkscape.

I'm running Inkscape from an AppImage on a Ubuntu Mate 24.04 desktop. This gives me access to five different choices of icon theme, via Edit > Preferences, then selecting the Interface > Theming pane. Those five options are:

- Dash
- hicolor
- multicolor
- Tango
- Use system icons (mate)

The first of these is the new theme, and I'll come back to it shortly. Before then, however, let me show you a screenshot comparing the top-left corner of my Inkscape window with each of the last four selected.

Starting at the top-left, 'hicolor'



fails to live up to its name. Some of the icons are colored, but many of them – especially the system tools at the top – appear as simple, monochrome icons. I can only assume that those icons are missing from the hicolor icon set, and fallback icons have been used – but it seems an odd omission to not include the file, print and clipboard icons in the main set.

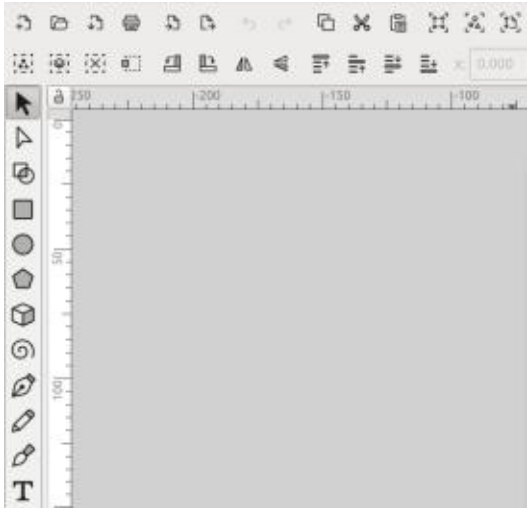
The second theme, 'multicolor', has a thoroughly misleading name. As you can see, it's entirely monochromatic. Enabling the 'Use symbolic icons' option adds some colored accents to the icons, which does help to categorise them more. But on a light theme, some of those accents almost disappear, effectively making the shape of some icons harder to see.

The 'Tango' icon set, again, lacks some of the system-level icons, and falls back to flat colored icons. Though it's interesting to note that these assumed fallback icons differ between 'hicolor' and 'Tango', which suggests that in at least one of those cases they're not actually fallback icons but have, presumably, been included in the icon set deliberately. 'Tango' also suffers from some extremely light coloring on many icons – especially the tools themselves – which actually serves to make them look like they've been disabled.

Which leaves the System icons. Colored and consistent throughout. Shapes and colors differ between icons, making it easier to identify them at a glance, and they're all distinct and clear without being too overpowering.

No prizes for guessing which icon set I actually use.

So, let's see how the new 'Dash' icon set compares. According to the Inkscape 1.4 Release Notes, this theme "reduces complexity on some of the existing icons, while still being explanatory", and it "also borrows some concepts from other software". Let's take a sample from the top-left of my Inkscape window to see how it stacks up against these claims.

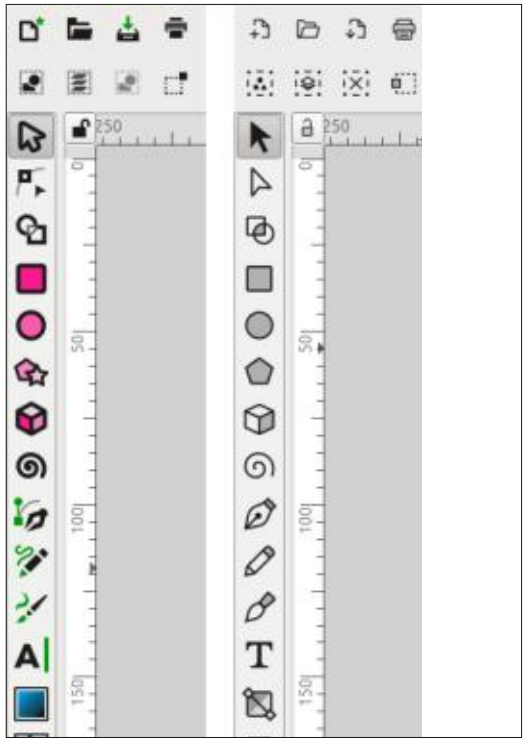


My immediate reaction is that I think the tool icons down the left are pretty good. They're clean and understandable, and rendered at a comfortable line thickness. The icons at the top, however, seem a

little too lightweight in comparison. It almost feels like they're rendering a little too small for the space available – they could all have been a pixel or three larger without encroaching on each others' space. To be fair, this criticism can also be levelled at some of the other icon themes, but the addition of color, or the weightier style of the other monochrome icons, tends to compensate for the smaller size somewhat.

I can't say much about the claim to borrow some concepts from other software – at least not without more details. Which concepts, and from what other software? It's an ambiguous statement that could represent anything from the concept of clipboard operations being represented by a clipboard icon, through to a wholescale reproduction of another program's icons. I'm definitely in favour of consistency across applications, so any unification of icon styles between them seems like a step forward to me. But without knowing more details, it's hard to say if this feature is supposed to appeal to refugees from the Adobe world, or if the intention is for Inkscape's UI to feel more at home next to The GIMP or Krita.

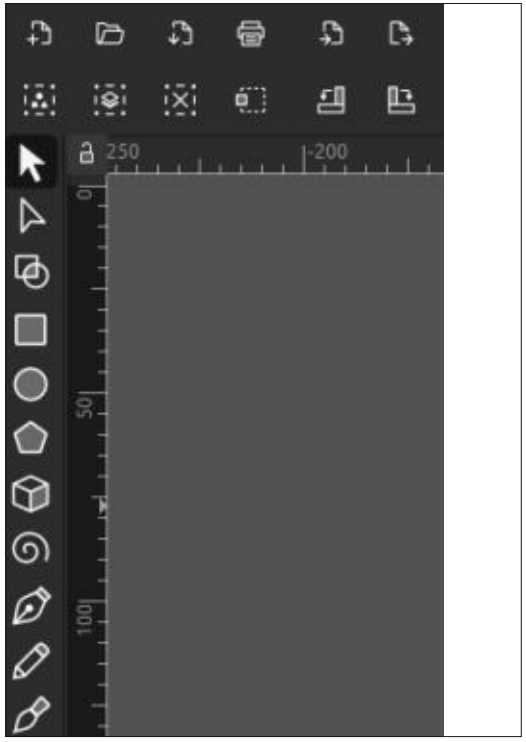
One thing that this icon set definitely has going for it, however, is consistency. Compared with the odd mixture of colored and monochrome icons I get with 'hicolor' and 'Tango', at least these all feel like they belong together. The Release Notes go on to state that there are "500+ icons, with cursors, scalable and symbolic versions." I'm not going to count them all, but that claim does at least suggest that you're less likely to run into a fallback icon with this set than with some of the others.



The statement about 'scalable' icons seems like pure marketing spiel. As far as I can tell, Inkscape doesn't offer a way to adjust the scaling of icons in the UI, so the fact that scalable versions of the icons are available is of little use to end users. And what about those 'symbolic' versions? Here's a comparison between 'multicolor' and 'Dash' when the 'Use symbolic icons' option is selected.

While 'multicolor' finally lives up to its name in this mode, 'Dash' appears to be identical whether the symbolic option is selected or not. Perhaps I'm missing something, but the claim to have symbolic versions of the icons seems to be somewhat overblown to me. Perhaps some of the more obscure icons do something useful in Symbolic mode, but if I have to go hunting through all the dialogs to find them, then the option may as well not exist in practice.

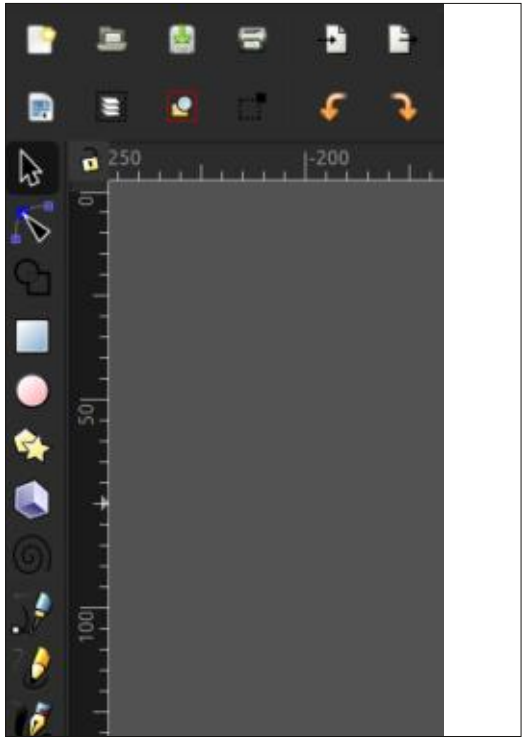
The final claim in the Release Notes is that Dash "works on dark and light themes". We've seen how it looks on a light theme, so I guess it's time for me to embrace the dark side of my computer…



Clearly, this is where the Dash theme shines – which is an ironic turn of phrase when talking about grayscale icons in a dark theme. It seems to me that Dash is best suited to users with a light theme but an austere taste in icons, or those with a dark theme. By comparison, on a dark theme, the more colorful icon sets look awful – including my preferred System icons.

Even with a dark theme, however, Symbolic mode seems to do nothing to Dash. Interestingly this checkbox does have an effect

on some of the other icon themes: hicolor and the System icons both switch to a monochrome icon set which is more suited to the dark theme (and perhaps suggests the source of those different fallback icons we saw earlier).

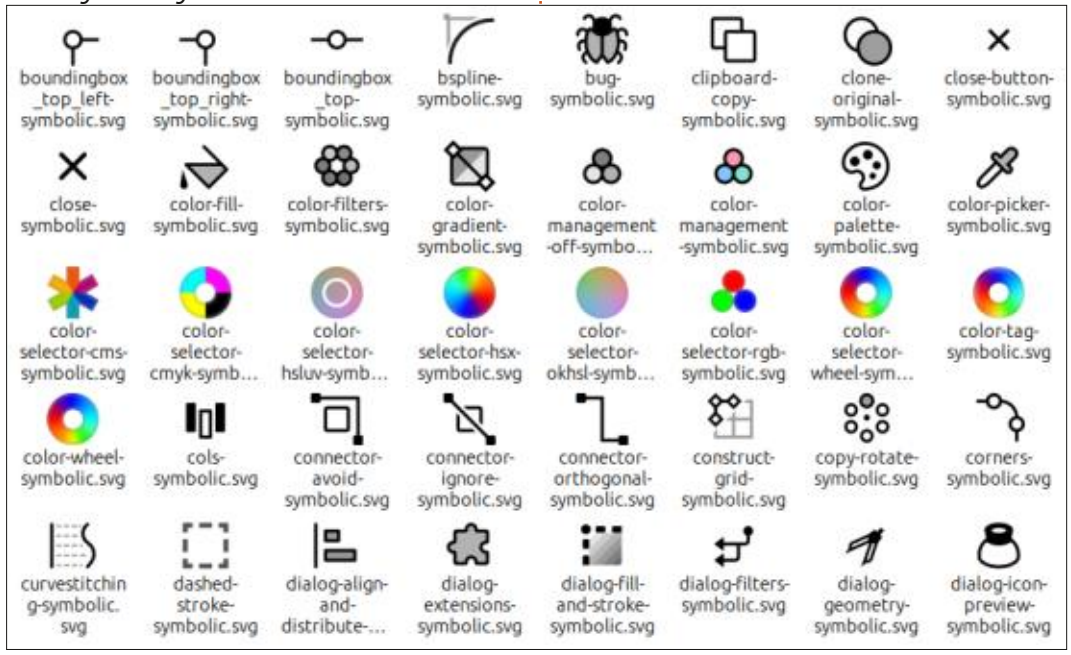


Speaking of monochrome icon sets, the screenshots I've shown so far might have led you to believe that Dash is entirely grayscale. Although the vast majority of the icons are either grayscale or entirely monochrome, there are some colored icons included where the subject matter requires it.

Below is a screenshot of part of the Dash icon directory inside my mounted AppImage:

As you can see, there are some colored icons which are used within Inkscape for some color-related features – such as the color wheel option in the Fill & Stroke dialog. These appear sparingly in the UI, so even with a dark theme, they don't scream for attention in the same way that a full set of colored icons does.

Themes, colors and icons are, of course, a very personal choice, and you should definitely experiment to find out which combination best suits you. If you're the sort who prefers more minimal icons – and especially if you use a dark system theme – Dash could be just what you need to make Inkscape look a little more cohesive and polished. But if you're an old-fashioned grump who prefers things the way they used to be, then for now, at least, there are still other, more colorful themes available. If you've never explored the various options available to you, perhaps it's time to do so. You may well end up back with the same theme you started with (I know, I have) – but there's a chance that your new favorite is just a few mouse clicks away. Assuming your imprecise, smartphone-stabbing fingers still know how to click a mouse.



References

Inkscape 1.4 Release Notes: https://wiki.inkscape.org/wiki/Release_notes/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

shells.com

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BODHI CORNER

Written by Moss Bliss

BACK NEXT MONTH

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.

OTA-10 Release

We are happy to announce the release of Ubuntu Touch 20.04 OTA-10, a maintenance release of the 20.04 series. Ubuntu Touch 20.04 OTA-10 will become available for the following supported Ubuntu Touch devices over the next days:

Asus Zenfone Max Pro M1
F(x)tec Pro1 X
Fairphone 3 and 3+
Fairphone 4
Google Pixel 3a and 3a XL
JingPad A1
Lenovo Tab M10 HD 2nd Gen WiFi / LTE
Oneplus 5 and 5T
OnePlus 6 and 6T
OnePlus Nord N10 5G
OnePlus Nord N100
Rabbit R1 (new in this release)
Sony Xperia X
Volla Phone
Volla Phone X
Volla Phone 22
Volla Phone X23
Volla Phone Quintus
Volla Tablet
Xiaomi Poco X3 NFC / X3
Xiaomi Poco M2 Pro
Xiaomi Redmi 9 and 9 Prime
Xiaomi Redmi Note 9
Xiaomi Redmi Note 9 Pro/Pro Max/ 9S

What's new?

Ubuntu Touch 20.04 OTA-10 contains only a minimal number of changes due to our current focus on Ubuntu base OS upgrade. The most important change in this release is the inclusion of the new Ubuntu Touch upgrader, which allows users to upgrade to Ubuntu Touch 24.04-1.0 once it's released.

Changelog OTA-10

Changelog of aethercast since 2025-05-28:
src/ac: Adapt bitrate calculation (@fredldotme)
ac: h264encoder: Improve SetBitrate() calculation (@Azkali)
src/ac/mir: Lock Mir screencast calls with mutex (@fredldotme)
src/ac: make iteration_time factor configurable to mitigate latency issues on Volla devices (@Azkali)

Changelog of bluez since 2025-05-28:
Merge version 5.64-0ubuntu1.4 from Ubuntu jammy-security (@peat-psuwit)
Do not try to autopair with Nissan Connect devices (@Flohack74)

Changelog of libusermetrics since 2025-05-28:
TranslationLocator: don't try to determine system locale dir for GlibC (@peat-psuwit)

Changelog of lomiri-system-settings-system-update since 2025-05-28:
plugin/click: transition to framework-based update fetching (@peat-psuwit)
ReleaseUpgradeManager: determine version to display by stability (@peat-psuwit)
Add release upgrade workflow based on meta-release file (@peat-psuwit)

Changelog of lxc-android-config since 2025-05-28:
Fix mistake due to us forgetting that ssh.socket and ssh@.service exist (@peat-psuwit)
preliminary nix support (@XiaoFuse)

Changelog of pulseaudio-module-droid-discover since 2025-05-28:
Handle merging of quirks parameters from envvar for module_args (@NotKit)

Changelog of qtwebengine since 2025-05-28:
Merge version 5.15.19+dfsg-1 from Debian experimental (@peat-psuwit)

Changelog of wds since 2025-05-28:
Add UHD format and add update AVC level types (@Azkali)

The Daily Waddle

TEMPERATURES ARE ABOUT TO HIT 100. PLEASE WEAR SUNSCREEN. WEATHER BROUGHT TO YOU BY: GOOGLE AI

As a storage space pauper and metered internet user, I hate Snap packages (Flatpaks too!). However, there is something to be said for a self-contained application, like not polluting my system with packages not "meant" for it, for example, just to run one application. The more packages installed, the larger the attack surface becomes if someone tries to compromise your system. There are also problems with Snap packages, for instance, one cannot just add a few files to one installed on your system. For example, say I installed ADOM, and there is a texture pack that was just released, I cannot add it to the application. I have to wait for the flatpak packager to do it, or I have to package my own. Can you see the pattern here? For me, it's wastefulness. Wasted time, wasted space, wasted bandwidth, et cetera, and I hate wasteful. But! Snap management is great.

The reason I use Ubuntu instead of Fedora is that I was stuck in dependency hell as a young lad, when Fedora 1 launched, when all I wanted to do was play a mp3 file. This (dependency) hell is a real problem for package maintainers, that is why you often find that a package is outdated on a certain release. For instance, when I was on Ubuntu 14.04, I thought VLC was outdated and I had to update to 16.04 to get the latest version so I could use a feature, or something. To develop truly portable packages, Canonical created the Snapcraft framework implementing application sandboxing and auto-updates.

The way that works is that Snaps isolate applications in lightweight containers giving them just enough access while enabling updating individual applications without impacting the system. Supposedly, the Snap Store 'reviews publisher verification, enforces code checks, vulnerability scanning and manual approval to enhance security'. This alone, should tip the scales in favour of Snaps over, say, Flatpaks. Though there has been malware in the Snap store before!

Whether you love or hate them, let's talk about how to handle them.

To search, use the "find" keyword, like so:

```
snap find <keyword>
```

Useful fields are displayed like publisher name and a brief one-line description.

Verified publishers get a green check mark.

Installation works just as you'd expect, with the "install" keyword.

Example:

```
sudo snap install enpass
```

But it does not end there! We can also add flags to the end of that.

They are:
--beta
Install beta channel releases
--candidate
Early access to upcoming releases
--classic
Disable confinement giving full system access
--dangerous
Disable all security checks during install
--edge
Bleeding edge nightly builds
--jailmode
Force strict confinement.

Sometimes you may see them referred to as "modes". I'm not going to repeat what is on the official website: https://snapcraft.io/docs/install-modes

I encourage everyone to go through the Snapcraft pages above, as it will be a lot more in-depth than anything I'm going to chat about. As a newbie, you don't need to know every use case. What we will cover is probably the 80/20 case.

To see what you currently have installed, you use the "list" keyword.

```
snap list
```

(nothing fancy!)

Now, if you, or the maintainer, enabled one of these flags, it will

```
Name          Version Rev    Tracking       Publisher       Notes
sublime-text   4200   209  latest/stable  snapcrafters✪    classic
```

show up under notes, the last column. Let's use Sublime Text as an example (output shown above)

To update your snaps, it is not "update", but "refresh". If your network is set to metered (like mine), the auto-updates will not happen from the App Center.

So it stands to reason that "sudo snap refresh" is all you need, but did you know that you can update a single application, all on its own?

```
sudo snap refresh pinta
```

This should give you an output of the version change. I do not have any updates to show, but the output will be in the following format:

```
pinta refreshed from
xxxxx.xx.x to xxxxx.xx.x
```

If the new snap is broken, you can then simply copy that version number and roll back, using the --channel keyword:

```
sudo snap refresh pinta --
channel=xxx.xx
```

If something went *really wrong, you can disable the snap with the "disable" keyword, like so:

```
sudo snap disable pinta
```

It's not gone, it is still there, but let's say it interfered with the display, this now gives you the opportunity to upgrade or downgrade your display drivers and try again, thus avoiding wasting bandwidth with uninstall and re-install. Once you are done, you simply "enable" it again, the same way you disabled it.

Let's say you run out of space, and your system will not run a GUI (this happened to my cousin recently). You can uninstall any snap with the "remove" keyword. Before you do, I suggest that you check to see if you have any older versions still hovering in the background. This does happen and it's not a bad thing!

Go ahead and list all your snaps, like so:

```
snap list --all
```

Your configuration files for your Snaps are in /var/snap/

The command "snap remove --purge" - should remove these, but sometimes some stay behind, you can simply delete the corresponding folder, but since it is not owned by you, you will need root permissions. Snap folders in the virtual file system are read-only, so you don't have to worry about leftover files sitting somewhere and filling up your system when you uninstall / purge a Snap.

The nice thing about the commands I have stepped you through here, is that they are the same on other distros like Fedora or Arch, meaning that you have to learn only one way.

For any newbie, this is the basics you need to know for snap on the command-line. I don't think I'll go any deeper as the Ubuntu documentation is very thorough.

As always, mistakes to: misc@fullcirclemagazine.org

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.

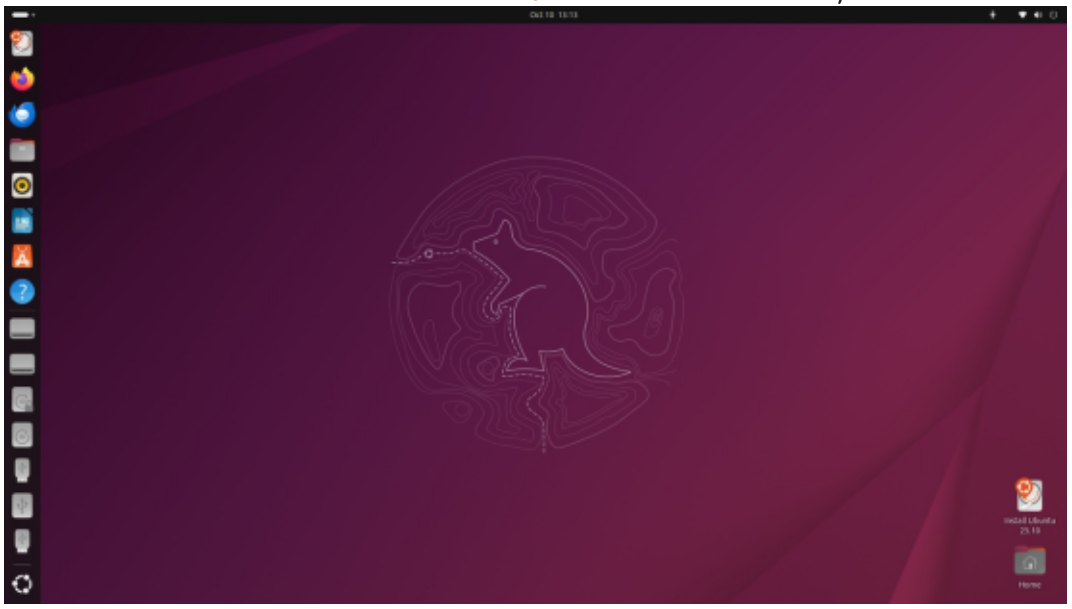
Ubuntu 25.10 came out on 9 October, 2025. This new interim release is the last one of three in this development cycle. The next release will be the long term support (LTS) version, Ubuntu 26.04 LTS, expected on 23 April, 2026.

As is often the case with the third of three interim releases, this one brings many new things for both desktop users and behind-the-scenes, to enable testing prior to the LTS.

25.10 is Ubuntu's 43rd release and the 17th with the modified GNOME 3 desktop. Because it is an interim release, it is supported for only nine months, until July 2026.

Named after the smiling Australian marsupial, this version has the codename Questing Quokka. This is the second Ubuntu release that has a "Q" code name. The previous one was Ubuntu 12.10 Quantal Quetzal, which was released on 18 October 2012, 13 years ago. Since there are 26 letters in the English alphabet and two Ubuntu releases per year, the letters naturally repeat on a 13 year cycle.

This release did ship with one undesirable new bug: it arrived with Flatpaks broken. Flatpak is a system for installing applications. The breakage was caused by a problem between AppArmour and fusermount3 permissions. A fix was quickly propagated, though, installing apparmor 5.0.0~alpha1-0ubuntu8.1. Yes, this was a failure of beta testing, but since Flatpaks are not installed on Ubuntu by default, it is not entirely surprising that it was not caught.



Installation

I downloaded Ubuntu 25.10 from the official source via BitTorrent using Transmission. Once I had the file I carried out a SHA256 sum check to ensure that the ISO file download was good, which it was.

This release has actually dropped in size over the previous one, from 6.28 GB with Ubuntu 25.04 to 5.8 GB this time around, a decrease of 580 MB, or 9%. This was a bit of a surprise, but smaller downloads are always welcome!

I tested out Ubuntu 25.10 live from a USB stick using Ventoy 1.1.07, which worked perfectly.

System requirements

The recommended minimum system requirements for Ubuntu 25.10 have not changed in the five years since the 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 25.10 should run fine on hardware designed for Windows 7 or later although I suggest at least 8 GB of RAM as a working minimum, especially for web browsing.

New

While this release has some new things for desktop users, there is also a lot that is new behind the scenes. Here is an overview.

The Ubuntu 25.10 desktop is based on GNOME 49. It includes two new default user applications, the Ptyxis terminal emulator and the Loupe image viewer, as described below under applications.

This release came out with Linux kernel 6.17 RC 7 which is a "release candidate" version rather than an actual "stable" kernel (Don't worry, it is actually stable). A few weeks after the release, the stable version should be pushed out via the update process. For RISC-V hardware the kernels from now on only support RVA23S64 ISA profiles, so older RISC-V hardware will not be able to run this and later Ubuntu releases. This kernel also has full support for Intel Core Ultra Xe3 integrated Intel Arc graphics, Intel Arc Pro B50 and B60 Battlemage discrete GPUs, plus initial support for Intel's next-generation Panther Lake client platform.

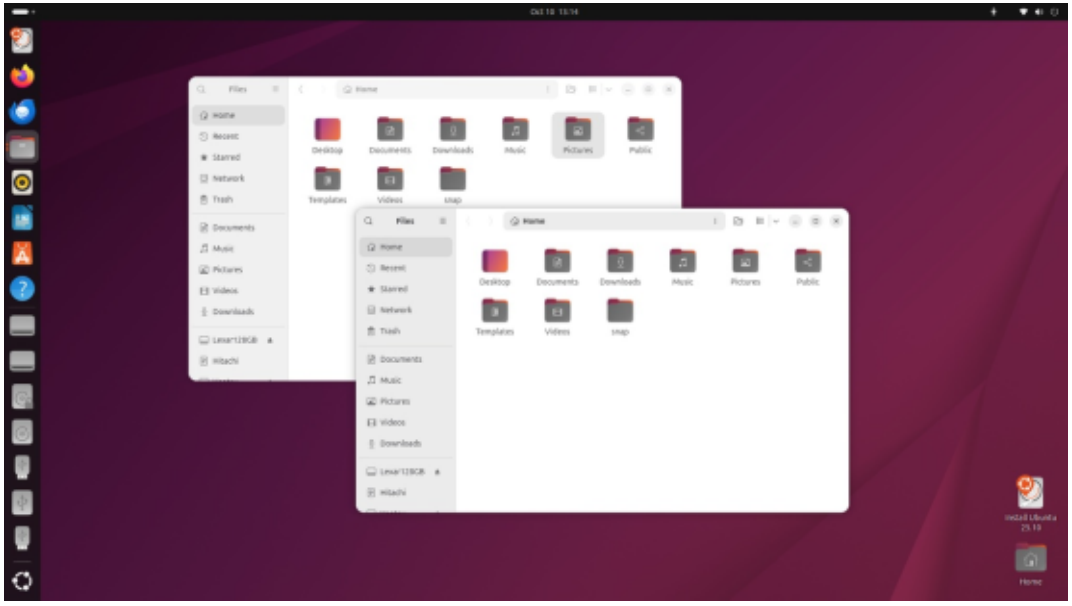
Suspend-resume support now uses a proprietary Nvidia driver on devices with Nvidia hardware, to prevent corruptions or freeze-ups on waking.

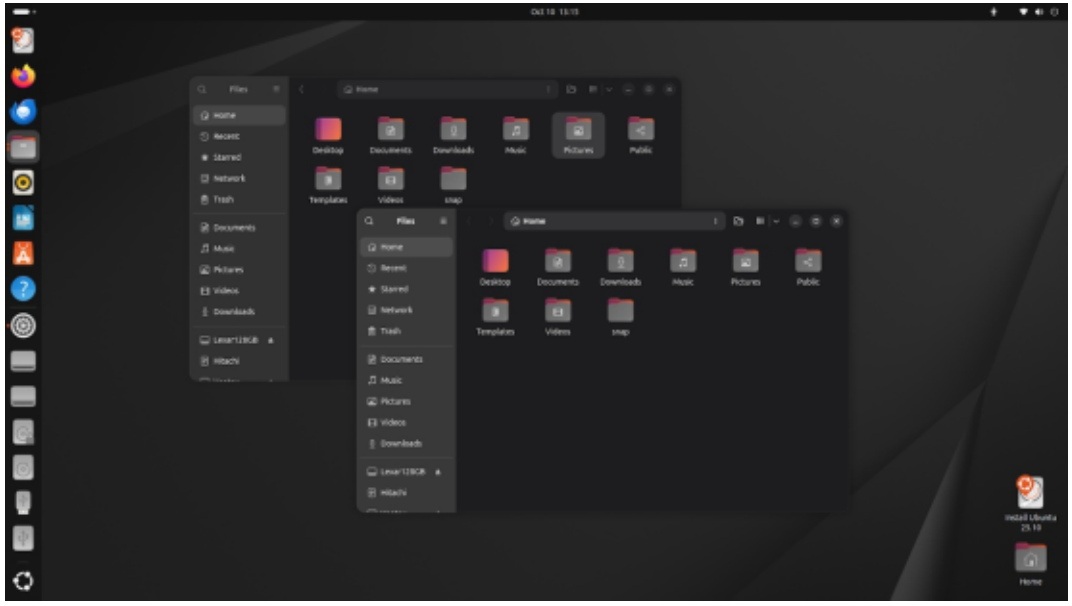
Ubuntu 25.10 uses systemd 257.9 as its initialization system. Systemd has been employed on Ubuntu for over ten years, since Ubuntu 15.04, and this marks 22 releases without any issues. I will admit I was a bit skeptical when systemd was first introduced, replacing Canonical's Upstart, but it has proven itself over time.

Starting with this release, the Rust-based sudo-rs is now the default sudo provider, replacing the original sudo (now called sudo-ws). The good news for users is that it works the same way as the old sudo did.

The operating system core utilities are now provided by the rust-coreutils 0.2.2 package which features "incredible performance improvements to base64". Because the rust-coreutils are not fully compatible yet system-wide, the old utilities are still installed.

There is a new TPM-backed disk encryption which allows passphrase support and management, regeneration of the recovery key and better integration with firmware updates. Also on installation, you can choose to





Install third-party software for graphics and Wi-Fi hardware and additional media formats, which will enable screen recording to be hardware accelerated on hardware that is supported.

This will be popular among users: when there are system updates available, the Software Updater window no longer pops up, stealing keyboard focus. Instead, there is a notification, with options to open the Software Updater or to install all the updates directly. Furthermore, a system tray icon reminds you that updates are available, even if you dismiss the notification, and also provides a quick way to apply all the updates or read through the list of them in Software Updater.

Ubuntu 25.10 only uses a Wayland display server, there is no more X11 support, because GNOME Shell can no longer run on X11. There are benefits though, as fractional scaling is improved and blurriness eliminated. The default monospace font size used in terminals and similar has been reduced to match the default user interface font size. It can be increased in individual applications or globally with fractional scaling. Even though there is no more X11 on Ubuntu 25.10, you can still run any "unconverted" X11-only applications because the XWayland compatibility layer comes already installed.

In the Security Center, users can now manage recovery keys for the TPM-backed Full Disk Encryption.

Ubuntu 25.10 now uses Dracut for its default initial ramdisk infrastructure, replacing initramfs-tools. Dracut uses systemd in the initial ramdisk and supports new features like Bluetooth and NVM Express over Fabrics (NVMe-oF).

Users can also now control audio playback from the lock screen which means you can turn things that are playing off without unlocking. Furthermore, in GNOME 49 the Do Not Disturb switch has been moved from the notification and calendar applet up to the top right Quick Settings menu which is a more logical place to find it.

There is a new waiting system "spinner" that is less distracting than the old one, an expanded Yaru icon set with a new trash icon and improvements to window corner radius rendering.

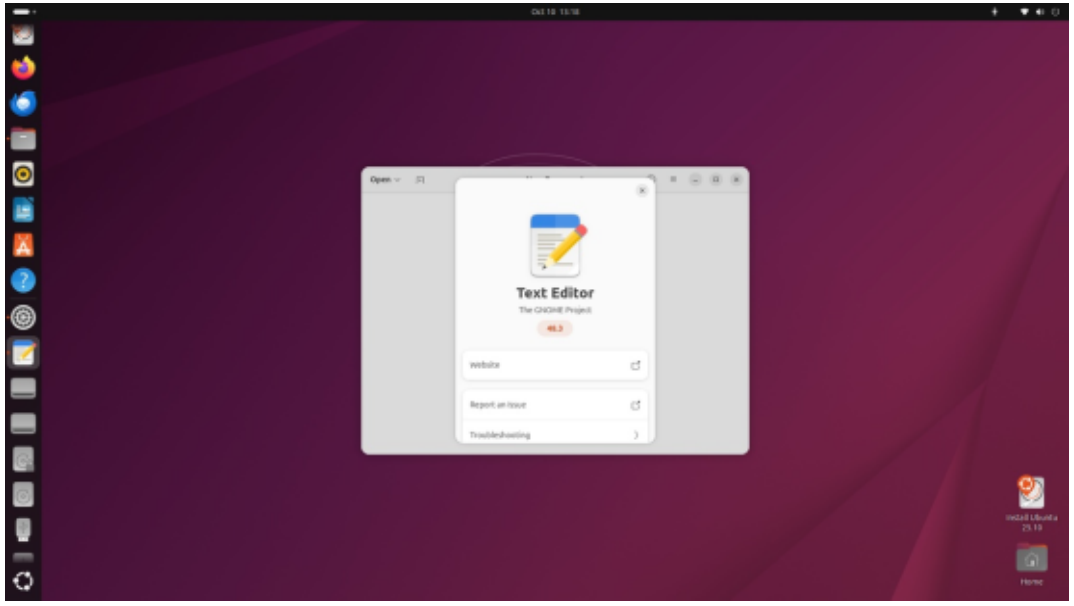
There are also many behind-the-scenes changes to packages and toolchains that most desktop users will probably not notice. For both desktop and server these include: Apache 2.4.64; APT 3.1.6 for package management, including apt why and apt why-not commands; Bacula 15.0.3, now in the main repo (was in the “universe” before); binutils 2.45,

BlueZ 5.83 14 bluetooth; Chrony 4.7 time management; cloud-init 25.3; Django 5.2; Dovecot 2.4; GCC 15.2; glibc 2.42; Golang 1.24; HAProxy 3.0.10; libvirt 11.6.0; LLVM defaulting to version 20, with 21 available; MySQL 8.4; .NET 10; Netplan v1.1.2ubuntu3 which adds support for non-standard OVS setups, for instance inside Snap environments; Nginx 1.26.3; OpenJDK 21 (LTS), with version 25 (LTS) and an early access snapshot of version 26 available; OpenLDAP 2.6.10; OpenSSH 10.0; OpenStack 2025.2 (Flamingo); OpenSSL 3.5.3; Open vSwitch (OVS) 3.6.0; Open Virtual Network (OVN) 25.09.0; PHP 8.4.11; PostgreSQL 17.6; Python 3.13.7, with 3.14 available; QEMU 10.1.0; Rust 1.85, with 1.88 also available; Samba 4.22; Strongswan 6.0.1; sos (sosreport) 4.10.0; Valkey 8.1.1 and finally that the Zig general-purpose programming language and toolchain is available for the first time in Ubuntu and defaults to version 0.14.1. I will add that for desktop users, if you don't know what any of these are, you don't need to worry!

Settings

Ubuntu continues to offer only limited choices in user customization. There are just two window themes: light and dark, although there remains a choice of ten highlight colors (with orange set as the default). This doesn't seem like a lot of choices compared to Kubuntu or Pop!_OS, but it probably enough for most users to make it feel their own, even for an "enterprise-focused" distribution like Ubuntu is today.

Ubuntu 25.10 is code-named Questing Quokka and so, predictably, it comes with a new quokka-themed light wallpaper which changes to a dark wallpaper when the window color theme is changed from light to dark. There are 11 wallpapers provided, of which seven are quokka-themed, one is a very bright camel caravan and the 4 remaining are toned down Ubuntu wallpapers.



Applications

Some of the applications included with the full 25.10 extended selection installation are:

Archive Manager (file-roller) 44.5 file archiver*
CUPS 2.4.12 printing system*
Deja Dup 49.9 file back-ups
Firefox 143.0.4 web browser**
GNOME Calculator 48.0 desktop calculator*
GNOME Calendar 48.1 desktop calendar*
GNOME Clocks 48.0 clocks*
GNOME Disks 48.0 disk manager*
GNOME Disks Usage Analyzer (baobab) 48.0 disk manager
GNOME Document Scanner (simple-scan) 48.1 optical scanner
GNOME Document Viewer (papers) 48.0 PDF viewer*
GNOME Files (nautilus) 49.0 file manager
GNOME Image Viewer (Loupe) 47.0 image viewer
GNOME Snapshot 49 alpha webcam application
GNOME System Monitor 48.1 system monitor
GNOME Terminal (Ptyxis) 49.1 terminal emulator
GNOME Text Editor 48.3 text editor
GNOME Videos (totem) 43.2 movie player
Gparted 1.6.0 partition editor***
LibreOffice 25.8.1 office suite, less LibreOffice Base
PipeWire 1.4.7 audio controller
Remmina 1.4.40 remote desktop client
Rhythmbox 3.4.8 music player*
Security Center (desktop-security-center) 0+git.d2e7fd4 security controller**
Shotwell 0.32.10 photo manager*
Startup Disk Creator (usb-creator-gtk) 0.4.1 USB ISO writer*
Systemd 257.9 init system
Thunderbird 140.3.0 ESR email

client**
Transmission 4.1.0 bit torrent client
Ubuntu App Center 1.0.0 package management system**
Wget 1.25.0 command line webpage downloader

* indicates same application version as used in Ubuntu 25.04
** supplied as a Snap, so the version depends on the upstream package manager
*** included on the ISO for boot-up, but not included in a full installation

As can be seen, despite the desktop being upgraded to GNOME 49, there are very few applications from the GNOME 49 desktop release and, instead, it has a collection of older GNOME applications, most of which are from GNOME 48 with a few holdovers from GNOME 43, 44 and 47.

There are two changes to the suite of default applications in this release. The venerable GNOME Terminal has been replaced by the GTK4 and libAdwaita-based GNOME Ptyxis. Most desktop users will probably not notice that swap-out except for the cute red header bar when using sudo commands. It is even still called "Terminal" on the menus and on its "about" box, so you won't have to try to figure out how to pronounce "Ptyxis" for everyday conversation. In English, the word seems to be unique to this software application, although it is derived from the Greek word πτυχίς which means "degrees".

The other application change is that GNOME Image Viewer (Eye of Gnome) or “EOG” has been replaced with the Rust-based Loupe which uses the Glycin image rendering library. Loupe is also listed as "Image Viewer" on the menus and in its "about" box. It introduces more capabilities than EOG had, including multi-touch gestures and image cropping. Some of the features, like image rotation, are hidden behind menus whereas EOG had them on-screen. The name “loupe” refers to a small magnification device (and not a wolf).

Both the old GNOME Terminal and EOG remain available to install in the repositories, in case you don't like the new applications.

The GNOME Files (nautilus) 49.0 file manager introduces a number of upgrades including a better progress bar display now in the sidebar, improved search display, the ability to copy network addresses directly from the networking panel, the incremental loading of files in MTP-backed folders and that the sidebar now sorts devices by name.

As in recent Ubuntu releases, if you install Ubuntu's default minimal installation you will get only Firefox, Nautilus, GNOME Text Editor and a few GNOME utilities, although any desired applications can easily be added from the repositories via Ubuntu Software or APT from the command line. The download ISO file includes the complete extended selection of applications, though, in case you would rather do the full installation. You can note that if you run a live session, it presents the full extended selection. The choice between the two installation options is really a trade-off between spending the time adding the applications that you want versus removing the ones that you don't want.

Conclusions

One thing you do notice in Ubuntu over time is that more and more it is using the Rust programming language and, while that may sound like the “programming flavor-of-the-day”, it actually provides many advantages especially in the area of memory safety. At least for the next few years, much of the future of Linux is going to be “corroded” and that is probably a benefit to users.

Other than that one noted Flatpak problem which was quickly solved, Ubuntu 25.10 is another good release.

The next release will be the long term support version that completes this development cycle, Ubuntu 26.04 LTS, expected out on 23 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.

Pop!_OS 24.04 Beta

After a gap of five months since the last alpha release, Pop!_OS 24.04 Beta arrived on 25 September, 2025.

With seven alpha releases over a period of ten months in 2024 and 2025, there has been a lot of user anticipation as to what would turn up in this new beta release. That last release, Alpha 7, was reviewed in FCM#220.

Work on the new COSMIC DE ("desktop environment") using the Rust programming language, iced toolkit, and Wayland display server, has now been in process by System76 for three and a half years, with the final stable version promised before the end of 2025. The developers have also indicated that we can expect at least one "release candidate" version in between the beta and the stable.

On 5 September 2025, an official Bluesky post set the date for this beta release as 25 September. The beta almost didn't arrive on that announced day though, as some last minute ISO issues resulted in System76's development team putting in a long day and finally getting it done around midnight, Boulder, Colorado time.

Background

System76 is an American computer manufacturer specializing in Linux computers. They originally supplied their products with Ubuntu but, after that distribution moved on from the Unity interface, System76 built their own modified interface for Ubuntu which slowly grew into the COSMIC interface (a backronym for Computer Operating System Main Interface Components).

Announced in 2022, as a project to replace that previous COSMIC modified GNOME interface, the current work will result in the newly-written COSMIC DE desktop, combined with the tested and true Ubuntu back-end, to create the final, stable version of Pop!_OS 24.04 LTS.

Not only is COSMIC DE an all-new Linux desktop, but it comes with a suite of new core applications including COSMIC Files, COSMIC Media Player, COSMIC Screenshot, COSMIC Store, COSMIC Terminal, and COSMIC Text Editor.

Getting Pop!_OS 24.04 Beta

It is worth noting that Pop!_OS 24.04 Beta can be downloaded and run on almost any Intel or AMD computer and not just System76 hardware.

There are several ways of getting Pop!_OS 24.04 Beta. If you were already running Pop!_OS 24.04 Alpha 7, then you will already have Pop!_OS 24.04 Beta through the update process. If you are running the last stable release, Pop!_OS 22.04 LTS, then you can upgrade to Pop!_OS 24.04 Beta from your terminal with:

```
pop-upgrade release upgrade -f
```

Or you can just download the ISO file, write it to a USB stick and do a fresh installation.

Installing

I downloaded Pop!_OS 24.04 Beta from the official source, the System76 website. There is no BitTorrent option, just https for download. As usual I carried out an SHA 256 sum check to ensure file integrity.

The ISO file is 3.0 GB, which is only 100 MB larger than Alpha 7's 2.9 GB. By contemporary standards these are relatively small ISO files, less than half the size of Ubuntu 24.04 LTS which was 6.1 GB. One reason why Pop!_OS is smaller is that it includes fewer applications.

I dropped the ISO file onto a USB stick equipped with Ventoy 1.1.07 and booted it up for testing. Pop!_OS is officially supported by Ventoy and it booted up fine after an initial USB writing error which resulted in consistent kernel panics until I fixed it with a second write.

System requirements

There are no listed system requirements for Pop!_OS 24.04 Beta, but I can report that it is not light on RAM usage.

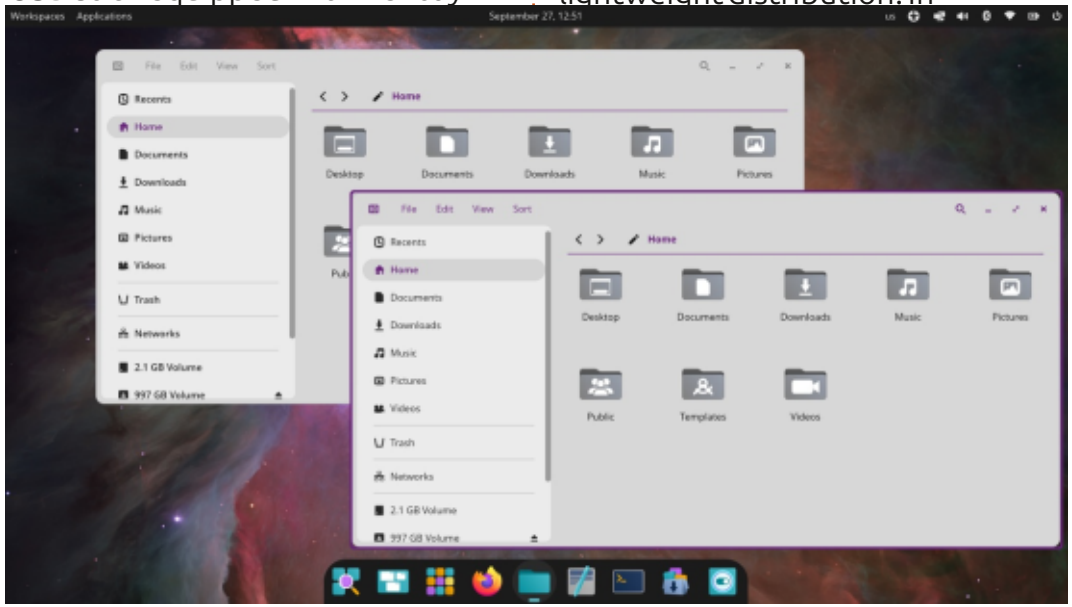
One of my previous complaints about Pop!_OS 22.04 LTS was that, after a fresh boot, its idle RAM was 3.9 GB. Pop!_OS 24.04 Alpha 7 increased that to 4.3 GB and the Beta is 4.7 GB, so this is not a lightweight distribution! In comparison, also running on Ventoy Ubuntu 25.04 and Ubuntu Cinnamon 25.04 both idle at 2.3 GB.

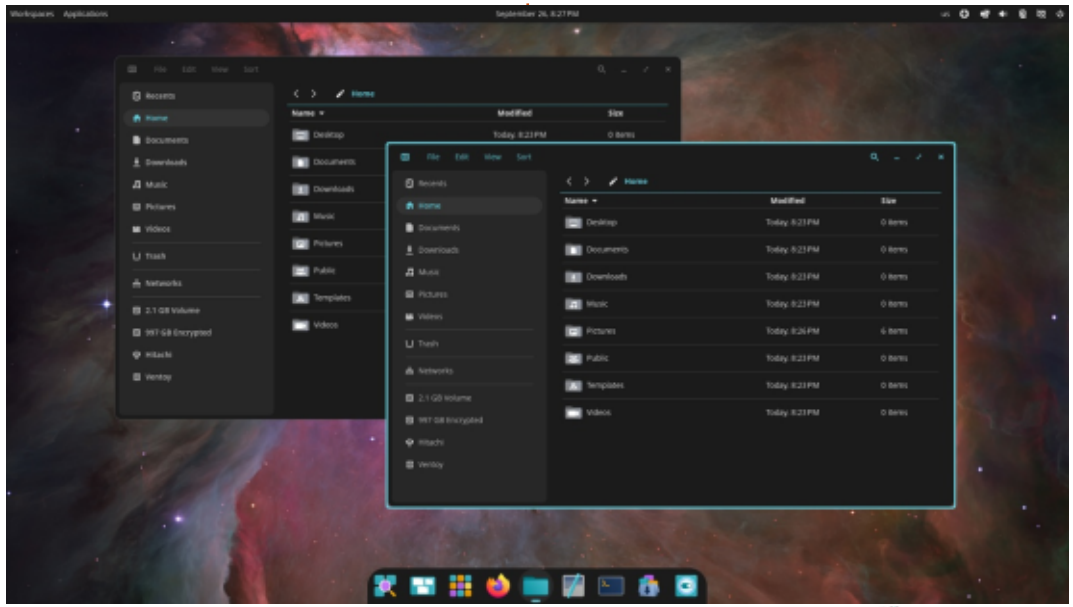
In my testing of Pop!_OS 24.04 Beta with a collection of common applications open, I easily reached 9 GB of RAM in use so I would recommend 16 GB as the minimum, with 32 GB being better. A similar set of applications on Ubuntu Cinnamon 24.04 LTS uses about the same amount of RAM, so POP!_OS may not actually suffer from excess RAM consumption in daily use, despite the higher idle RAM.

Trying out Pop!_OS 24.04 Beta

In running Pop!_OS 24.04 Beta, the new desktop worked well with only a couple of minor menu crashes, which is not totally unexpected for beta-level software. Hopefully these will be corrected for the stable version.

There is actually very little new in Pop!_OS 24.04 Beta over Alpha 7 that users will notice. From reading the System76 Bluesky posts, much of the work done since April seems to have been on the desktop tiling and workspace drag and drop functionality but not the application feature shortcomings. I can report that the panel clock is now working right and presents dates much more conventionally.





A desktop setting from the panel menu allows selecting “floating” or “tiling” windows with a simple switch. Despite all the development emphasis on tiling, in my testing I found that Pop!_OS's tiling is not really of much value on smaller screens. Trying it out on a standard 1920 × 1080 pixel laptop screen, it works fine with two application windows open, but the results are not good with six! Tiling two applications puts one on each half of the screen; tiling six results makes most of them too small to use. Tiling may be useful on a really big screen or even a multi-screen setup, but on laptops it does not work well.

Still not yet added as a feature is the ability to add some desirable missing desktop shortcuts like "hide window" and "show desktop (hide all windows)". The customizable settings to add those exist but do not yet work.

Settings

Pop!_OS 24.04 Beta continues to maintain a focus on maximizing user choices and that makes it very different from Ubuntu and more comparable to Kubuntu.

As before, most of the settings are found in the new COSMIC Settings manager, which is very well organized and makes everything easy to find. A few specific menus are hidden away in the panel icons but are easy enough to find there.

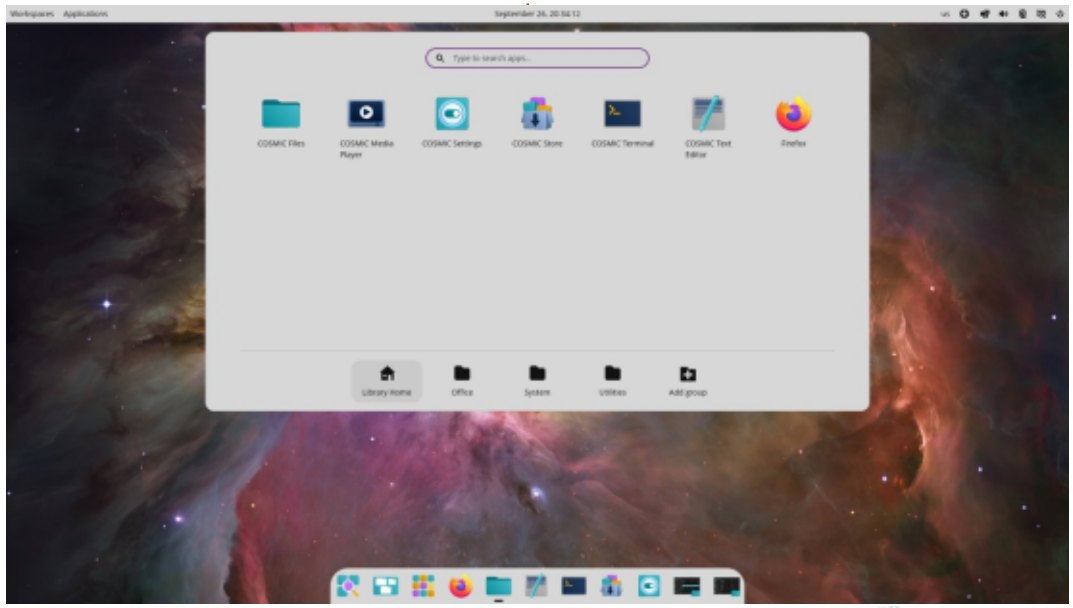
The settings available do provide a wide range of customization including adding or removing anything on the panel since those are all individual applets. The panel does have additional applets that can be installed but these are currently very few in number. There are still some desirable items missing though, like the ability to display battery time and percentage charge remaining on the panel.

The dock has many user settings, including the ability to move it to any screen edge, change its color, opacity, and size, shrink or expand it to the screen edge, or turn the dock off entirely.

Pop!_OS 24.04 Beta has two window themes, light and dark. There are also nine provided highlight color schemes for each of the light and dark themes, or you can pick your own color from a color-picker. These colors provide selection highlighting in application windows and also frame the active window (the so-called "active hint" feature), which is very helpful to identify which window is in use.

This release includes seven wallpapers, all of which have "space" themes.

I think that Pop!_OS’s wide



range of settings really do make it easy to customize Pop!_OS, which should prove popular with users.

Applications

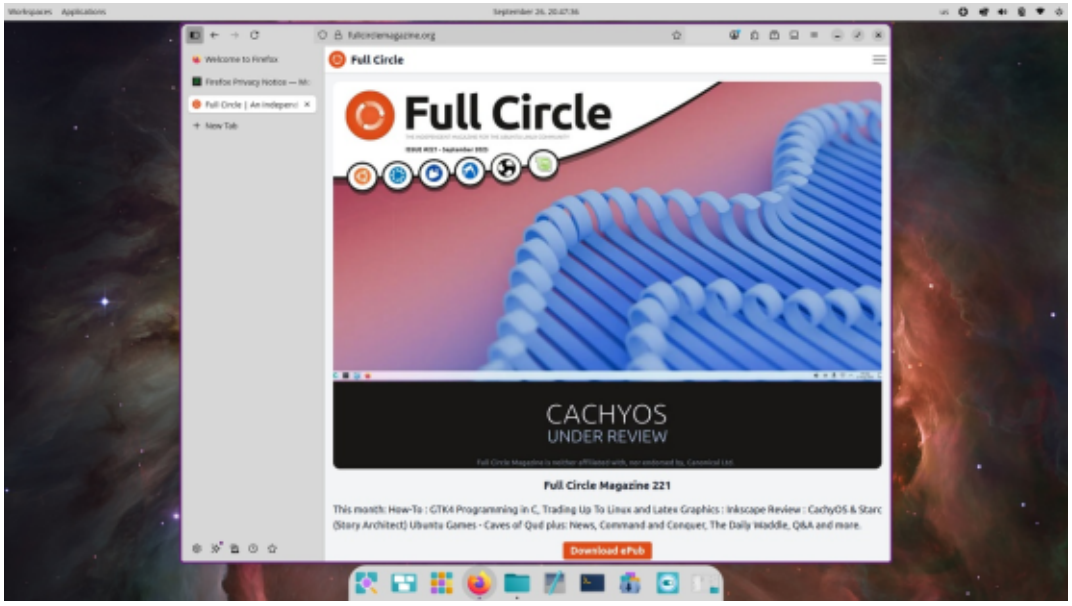
The applications included with Pop!_OS 24.04 Beta are the same mix as in Alpha 7, and most are the same version, too, except for Firefox and Thunderbird which have been updated:

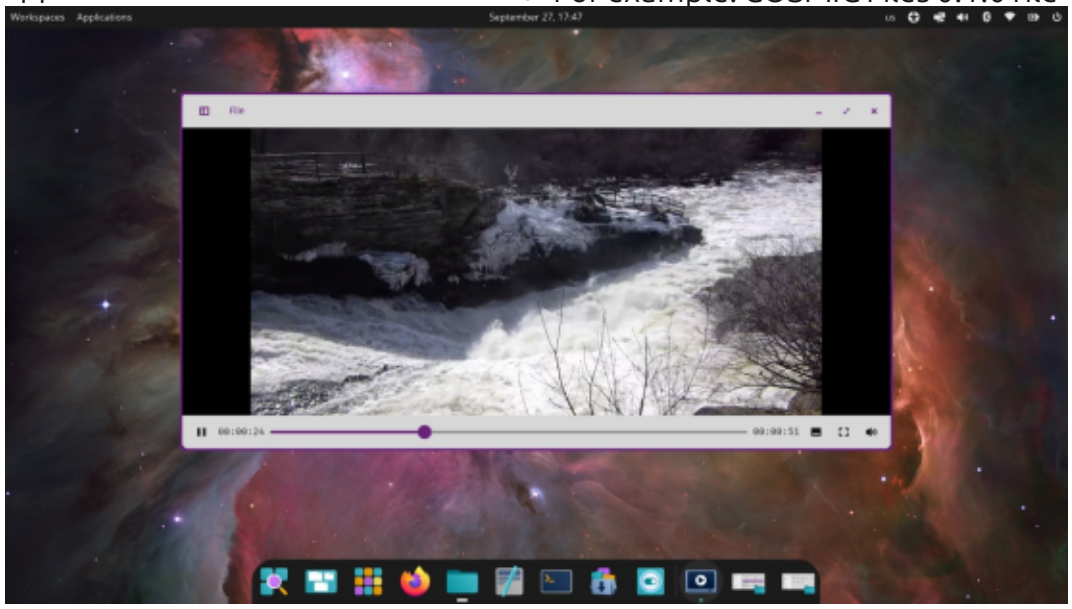
Archive Manager (file-roller) 44.3 file archiver
COSMIC Files 0.1.0 file manager
COSMIC Media Player 0.1.0 media player
COSMIC Screenshot 0.1.0 screenshot utility
COSMIC Store 0.1.0 package management system
COSMIC Terminal 0.1.0 terminal emulator
COSMIC Text Editor 0.1.0 text editor
CUPS 2.4.7 printing system
Firefox 143.0.1 web browser
GNOME Disks 46.0 disk manager
GNOME Disks Usage Analyzer (baobab) 46.0 disk manager
GNOME Document Scanner (simple-scan) 46.0 optical scanner
GNOME Document Viewer (evince) 46.3.1 PDF viewer
GNOME Image Viewer (Eye of Gnome) 45.3 image viewer
GNOME System Monitor 46.0 system monitor
Gparted 1.5.0 partition editor
LibreOffice 24.2.7.2 office suite, less LibreOffice Base
PipeWire 1.2.7 audio controller
Popsicle 1.3.3 USB writer
Systemd 255.4 init system
Thunderbird 128.14.0 ESR email client
Wget 1.21.4 command line webpage downloader

Both the Firefox and Thunderbird versions provided are the Mozilla binaries and not Ubuntu's Snap format ones. Pop!_OS does not use Snap files by default, although snapd can be installed to facilitate using Snaps if desired. Pop!_OS is set up for the usual .deb file repositories, mirrored from Ubuntu, and also has Flatpak installed by default, although no actual Flatpak applications are installed.

As can be seen, the suite of default applications remains moderately minimal. In comparison to more complete desktop distributions like Ubuntu, it is lacking a bittorrent client, calendar, file back-up utility, webcam, image editor, photo organizer and remote desktop client. All of these can be installed from the repositories or using Flatpak, if needed.

The biggest shortcoming in Pop!_OS 24.04 Beta remains the same as I noted with Alpha 7, the lack of features in the core COSMIC applications. They all work but need some features added before they will be ready for serious daily use. For example: COSMIC Files 0.1.0 file





manager does not display disk space, has no bulk file renaming, and does not even give a count of files selected. COSMIC Media Player 0.1.0 is lacking codecs for .mov files although it will play some .webm ones. It offers to install the missing codecs, but then doesn't. COSMIC Screenshot 0.1.0 lacks a countdown timing feature. COSMIC Text Editor 0.1.0 has syntax highlighting that works, but it still lacks spellchecking. The release notes state "printing support in COSMIC Text Editor is planned for the release candidate". It is pretty late in the process to still be scrambling to add needed features but, in fact, the beta release notes promise a number of fixes for the next release candidate including to the xwayland implementation to improve gaming, rounding the "active hint" feature corners to match the window corners, Flatpak suggestions in the COSMIC Store and screen reader accessibility improvements. If these come to pass, then the release candidate could have much that is new.

Until these applications are improved, there are still many alternatives to all of them in the repositories that can be installed instead. I have tested the Nemo 6.0.2 file manager and the gedit 46.2 text editor and they work just fine on Pop!_OS.

Conclusions

Between the release of Pop!_OS 24.04 Alpha 7 on 24 April 2025 and this beta on 25 September 2025, development seems to have slowed. It is possible that there has been more work happening behind the scenes and that the release candidate version will show a capability jump.

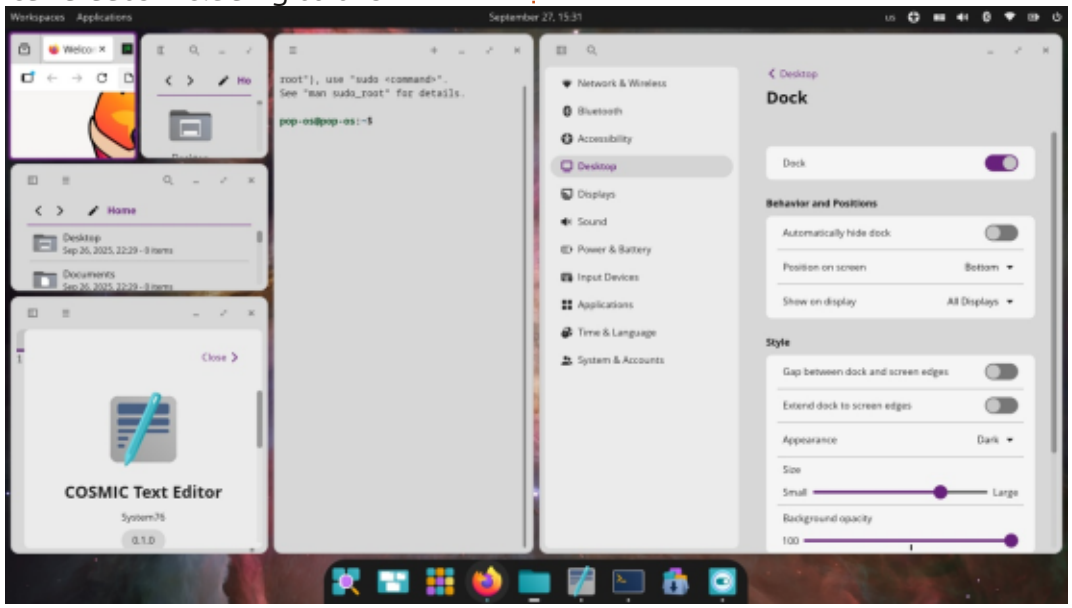
As of this beta release, most of the desktop itself works well (plus or minus the odd crash) and it is just the core COSMIC applications that need more features added.

The development team at System76 has now put in three and a half years on the new COSMIC desktop and it won't be long before we all see the final result in the form of a released stable version, hopefully later in 2025.

External links

Official website: https://system76.com/pop/pop-beta/

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.



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Full Circle Needs You!

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

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

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

Q&A

Compiled by 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 recently met a real-life NPC and it got me thinking about how people think about Linux. I went to a shop and was about to pick up some toothpaste, when I saw a "new" brand I did not know (I say "new" but I haven't bought it in years as I usually buy bulk). A lady walked up next to me and took a few tubes. I politely asked her if it was a "good" toothpaste. She pointed out that the box said "50% more calcium". I laughed and said it may as well be 1000% more, as your teeth cannot absorb calcium from brushing for a minute, from toothpaste. She proceeded to stare at me and, totally disgusted, said that she "follows the science" and I "should take my conspiracy theories elsewhere" and walked off, shaking her head like I was the idiocracy candidate. (There is a reason that kids who are allergic to milk get calcium supplements). This reminded me of someone who told me that Windows is better because it "looked more modern". I have had that response before regarding LibreOffice, so I usually use OnlyOffice as a substitute for people who get fed-up paying M$, as it "looks" more modern than LibreOffice. (I actually hate the look of M$ Office as it takes up too much space, etcetera, but what do I know?). Does Linux need more "looksmaxxing", as the kids say, out of the box? Or... should it be open-source applications?

Quick thank you to ***@judascreep*** for coming back to me about .cue files and their uses. If you have Audacious installed, and you open the .cue files with it, it will chapter-ize your audio books. I can see this being useful for .m4a and .m4b audio books if you wanted to see each chapter.

Q: I connected my redmi phone to my Ubuntu 24.04 laptop, just to test and transfer a few photos. I did not change anything and used everything as-is. The thing is, since that day, my alarm on my phone that used to go off for minutes at a time, now goes off for only like 30s, then stops by itself. Previously it used to ring and ring and ring until I killed it. How can I set this back?

A: My best guess is that it is unrelated. I'd say check your phone settings, as I'd say it was something unintentional like being unlocked in your pocket that caused it, not being connected to your Laptop.

Q: Is it possible for you to tell me what this command does? Awk -F 'S1 <removed> I don't want to enter it in case it messes up my computer. I got it from an acquaintance, but she is rather bitchy and I sorta don't trust her.

A: There are a number of websites you can test out commands or scripts on, for instance: https://www.shellcheck.net If that one is not to your liking, simply search in your favourite search engine for more sites like this.

Q: This is a weird one; I have Ubuntu 24.04 installed and updated, everything works, other than my microphone in Audacity. I have tried a bluetooth headset and the internal microphone as well as a wired headset. I can't think what else to try, as it used to work,I used it about three months ago, and not once did it give me issues. The test in settings shows everything is fine.

A: First suggestion, if you are in Wayland, boot to X11 and test and vice-versa. Try removing things like docks and HDMI cables, if you have any connected. If you have

Audacity as a Snap, try the .deb-version. It may just be an update that caused the error. Also, I suggest getting something like Stacer and use the cleaning option to clean all your cache files. You could also uninstall it and install an older version to see if that helps.

Q: Is there a way to keep more commands so I can keep pressing the up arrow?

A: Open your terminal, open the preferences and find your profile, even if it has only "default" and find the "Scrolling" tab, and set "Limit Scrollback" to 1000 or more (how many you may need). Some terminals require you to create a profile other than default first, though.

Q: How do I know what version of Ubuntu I have on my computer? When I run uname -a in my terminal, I get "Linux deathstar 6.11.0-29-generic #29~24.04.1-Ubuntu", but I'm sure I installed the non-24.04.1?

A: That is the kernel version. Try this: source /etc/os-release ; echo $PRETTY_NAME - or, if you have Gnome, go to Settings -> About.

Q: I deleted a bunch – like a lot! - of photos after going through them one by one. I was tired and I hit the delete key a few times in my sleepy state. Is there a way of restoring just the photo I want, without restoring them all again, just to get that one back? I don't know the name, all are named DSC-345xxxx.jpg? Ubuntu 24.04 Gnome core i5 <removed>

A: Ubuntu is not Windows, you can open your trash and double-click a picture file and it should open, so you can see which pictures are what. If that is not what you want to know, please ping me again, as I am not sure what you want.

Q: When I open a picture, I get: could not open IMG004.JPG Fatal error reading file : Not a JPG file. How can I see the picture?

A: Ubuntu is telling you the file is not what it seems. In the folder where the file is located, right-click and select: Open terminal here / Open in terminal. In the terminal, type: file IMG004.JPG - and see what it tells you. It may not be a picture. If it is, right-click on the file and choose "open with" and open the file with your image viewer.

Q: OK, so I tried yt-dlp on Ubuntu 24.04 and the names are all messed up. File names with nonsense after. How can I fix this?

A: Honestly, you are giving me very little to work with. When *I use yt-dlp, I usually see the name of the video, followed by the tag in the url, say: https://www.youtube.com/watch?v=FFb52rSmIiU, then I would see FFb52rSmIiU appended to the end of the file name, that is normal. If that is *not what you are getting, try getting yt-dlp from their github page (https://github.com/yt-dlp/yt-dlp/releases/) and run ./yt-dlp_linux <URL> and see if the version you have is not out-of-date. If you used pip or the package manager to install it, try updating it.

Q: My man pages in Ubuntu 24.04 are monochrome. It used to be colourful on 22.04. I'm not sure if it is something I did? I installed the minimal install and copied my .bashrc over like I did for 22.04. My cousin set it all up for me and he is currently abroad, so I'm all thumbs.

A: According to Stack Exchange, there were updates to "Groff ≥1.23" and that may be why. Nothing you did. According to them: "The theory: Termcap is a library that Less uses to access the terminal". Termcap is largely obsolete, having been replaced by Terminfo, but Terminfo offers a Termcap compatibility interface to applications. See: https://unix.stackexchange.com/questions/108699/documentation-on-less-termcap-variables

Q: I have a Raspberry pi 3B with Ubuntu Mate installed on it. It was fine previously, as I used it as a media PC. Now that I've upgraded tho, I cannot get to the login. I've tried to install a few times, checked the SHA, checked the SD card, etc. Nothing is amiss and if I install the desktop version, no issues either.

A: Are you using the IOT version and making it Mate, with a desktop, and gdm, etcetera, you may get issues yes, but you have my brain reeling now. Are you following some tutorial or are you

just messing about by yourself? Please explain some more of what you are doing and what you are trying to achieve, and what errors you are seeing when you try to log in with another TTY, other than 7.

Q: Why does Ubuntu tell me "503 Service Unavailable? No server is available to handle this request" On the Ubuntu website? My firefox is 141.0 up-to-date.

A: Rule of thumb, if you see 5xx errors, it means the server has the issue, not you. See: https://www.lifewire.com/503-service-unavailable-explained-2622940 I usually call it the "come back later error". Give it time and try again, the server may just be overloaded.

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

Website: http://www.wadjeteyegames.com/games/shardlight/

Price: $5.99 GOG

Blurb: "*The world ended on the day the bombs fell. Since then, it's always been like this: disease, hunger, death. The ruling Aristocrats — a faceless oligarchy that controls all resources — have unchallenged authority. There's never enough food, water, or vaccines to go around. The rich receive regular doses of vaccinations in exchange for their unconditional government support. The poor live in fear, superstition, and squalor until they die.*

Amy Wellard, a young woman, reluctantly working for the government to qualify for the vaccine lottery, believes there's a cure — and she's going to find it. Even if it costs her her life."

So, somehow I mixed up "Old Skies" and "Shardlight", I suppose because the art and color palette are the same. Sharlight is from 2016 and Old Skies is 2025 and they look the same. What can I say? Other than you are treated to my play-through of Shardlight instead of Old Skies.

Installation

Yep, you guessed it, GOG installer :) The game installed quickly and I could see that the audio was the largest part of the game. Though the game is older, it installed on Ubuntu Gnome 24.04.

Gameplay

I did have issues starting the game, where it complained that adventure game studio 64 (I think!) was not responding. After a few attempts at killing the game, I went ahead and clicked "wait" a few times, and, lo and behold, the game started. We are presented with a menu screen.

The first thing you notice is that there is no mouse acceleration. I headed into the options, but there are only options related to sound.

There is also a "commentary" check box that overlays four keys that you can use to hear commentary from different departments.

I'm not going to lie, I have this on-and-off, love-hate relationship with Wadjeteye games. There are always Linux versions, so I cannot be too strict, but lacking mouse acceleration settings is a large oversight. Tap-drag, tap-drag, tap-drag on my touchpad to move 30% across the screen is not on.

In this story, we have a post-apocalyptic ruined city with people getting something called the green lung. A nod to black lung, I think, which was Tuberculosis, if I remember correctly, but I suppose black lung was taken and more black on an already grim storyline, may have been over the top. Yep, you heard me, "grim". If you are into noire stories and dark plot twists, this game may scratch an itch.

Trigger: People will ask you to kill them, in like the first few minutes of the game. So if you don't like that sort of thing, stop reading now.

There are no cute bunnies and happy endings here, be prepared for the worst. You (Amy) start off with the green lung disease. I'm not sure if the sluggish mouse is supposed to convey this? Also the so-called lottery, is for a temporary vaccine that cures your green lung, only for a while. You can get to enter said lottery, by doing jobs no-one else is willing to do.

The keepers of the vaccines are the not-very imaginatively named "Aristocrats". You (Amy) are on a mission to repair a reactor (Think Star Trek, Mr Spock's death) for these Aristocrats with "powdered face" masks that remind one of the Guy Fawkes masks you see in toy stores, but more "French". The Aristos are the bad guys. The story is very straightforward once you complete the game. I can say I was expecting "Usual suspects"-twists, but there never were any. I won't spoil the story for anyone who wants to get their $5 worth, but know there are other "factions" too.

Graphics

When it comes to background painting in pixel art, Wadjeteye are masters at their craft. While this game is 10 years old (almost) - I am not sure when the Special Edition was released – it still holds up. You get that Kings Quest feel, but with better graphics and more colors. It's not Old Skies, I'll see if I can lay my hands on a copy in the next month or so, unless someone wants to make a donation, misc@fullcirclemagazine.org, however, I feel that Old Skies may be in the same vein as this in the graphics department, as Wadjeteye is an Indie studio. As beautiful as the settings are, I feel that the characters could have gotten a bit more love, in some places. The lightning, on the other hand, was really nice for a pixel art game, helping with the immersion.

Music

While the music works in-game, enhancing the experience, the OST you receive in the special edition should never be on anyone's playlist, ever!!! It cannot stand alone. (I'd rather add the Caves of Qud music to my playlist.) The music is tailored to certain scenes and somehow they fit in, but take it out of context and you end up with music that accompanies diarrhea. It is ambient sounds that somehow got labelled "music" and should not be in a soundtrack folder. To give you some idea, I haven't frowned this much in a very long time, listening to game music.

Sound

Yes, I split off sound as I need to highlight the voice actors in this game. It is really well done and rounds off the already rounded characters. In fact, while your Special Edition package is about 1.4GB, the game shell script is only about 600MB and of that, about 70% is sound. This may be because of the commentary, which for me, was the only cool part of the "special edition".

Thoughts

I always give Steam reviews a look to see what people complain about, you know, valid things or nonsense reasons, but this time I gave Metacritic the benefit of the doubt. "Generally Favorable Based

on 26 Critic Reviews 75." I'm sorry, I don't see that and I'll tell you why: The story starts out great with tension and suspense, but loses it towards the end. The backdrops and world building and the storyline are just not in the same tier. A solid 60% sure, but 75%, not really. The puzzles were not difficult and everything felt like it was ambling along, there were no hooks or twists and turns. The trackpad control was terrible.

Takeaway

The special edition is not worth it. The OST is a cacophony of sound and the voice-over videos are mildly entertaining, once. The wallpapers leave much to be desired – no, scrap that, they are crap, there, I said it - and the character concepts I would not use for an avatar. That leaves the five propaganda posters that are sort of interesting in a Fallout way, but nothing to write home about. My advice is: Buy the base game, then use your savings to get some chocolate to munch on while playing the game, you will thank me later!

To answer @Bigfoot: - I have had to shift towards GOG for games as Steam blatantly said you do not own the games you paid for, so I cannot in good conscience spend any more money there. GOG gives me a shell file that I can keep and install on as many PCs as I want and it's always want DRM free.

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.

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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.

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