Full Circle

REVIEW
KUBUNTU 24.04

BOOK REVIEW

The Linux DevOps Handbook

KUBUNTU 24.04 REVIEW
PLUS WE-MO MINI LINUX PC
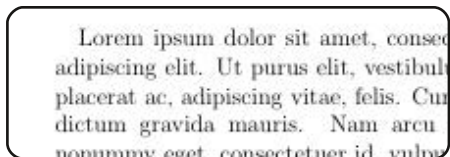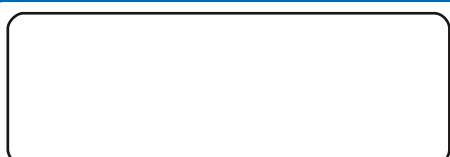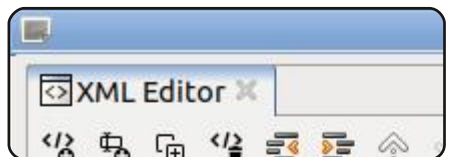
Full Circle

THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY

EDITORIAL

WELCOME TO THE LATEST ISSUE OF FULL CIRCLE

Another full house this month with Python, Micro This Micro That, Latex, Stable Diffusion, Inkscape and a *buntu review.

Elsewhere, Adam reviews Kubuntu 24.04, Erik reviews the Devops Handbook, and a hardware review from Abigsky: the WoWe Mini PC. Giving his opinion, Erik looks at non-Snap *buntu distros. I have to say: I'm not a fan of this Snap nonsense. I'm sure there's a very good reason for it, but the only thing it seems to do is hugely inflate an apps size.

Oh, and for those of you who follow the FCM Facebook page for updates: **Facebook, in their infinite wisdom, have decided to unpublish the FCM Facebook page**. The only reason they've given is that it 'goes against our Community Standards'. So, in short, I can't publish anything to that page now. If you want to keep up with FCM releases (magazine, or podcast) then it's best to keep an eye on our main site, Twitter, Mastodon or sign up to the mailing list (via the main site). Links to those things are in the side box (right) on this very page.

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

All the best!
Ronnie
ronnie@fullcirclemagazine.org

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

Find Full Circle on:

facebook.com/ fullcirclemagazine

twitter.com/#!/fullcirclemag

https://mastodon.social/ @fullcirclemagazine

Weekly News:

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

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

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

RELEASE OF ARMBIAN 24.5:

28/05/2024

Armbian 24.5 has been published, providing a compact system environment for various single-board computers with processors based on ARM, RISC-V and x86 architectures, including various models of Raspberry Pi, Odroid, Orange Pi, Banana Pi, Helios64, pine64, Nanopi and Cubieboard based on Allwinner, Amlogic, Actionsemi, Freescale / NXP, Marvell Armada, Rockchip, Radxa and Samsung Exynos processors.

Debian and Ubuntu are used to generate builds, but the environment is completely rebuilt using its own build system, including optimizations to reduce size, increase performance, and apply additional security mechanisms. For example, the /var/log partition is mounted using zram and stored in RAM in a compressed form with data flushed to the drive once a day or upon shutdown. The /tmp partition is mounted using tmpfs.

The project supports more than 30 Linux kernel builds for different ARM and ARM64 platforms. An SDK is provided to simplify the creation of your own system images, packages and distribution editions. ZSWAP is used for swapping, also when logging in via SSH, an option is provided to use two-factor authentication. The box64 emulator is included, allowing you to run programs compiled for processors based on x86 architecture. Ready-made packages are offered for running custom environments based on KDE, GNOME, Budgie, Cinnamon, i3wm, Mate, Xfce and Xmonad.

https://www.armbian.com/newsflash/armbian-24-5-1-havier/

RELEASE OF KAOS 2024.05:

28/05/2024

A new release of KaOS 2024.05 has been published, a rolling-release distribution aimed at providing a desktop based on the latest releases of KDE and applications using Qt. Distribution-specific design features include the placement of a vertical panel on the right side of the screen. The distribution is developed with an eye on Arch Linux, but maintains its own independent repository of more than 1,500 packages, and also offers a number of its own graphical utilities. The default file system is XFS. Builds are published for x86_64 systems (3.4 GB).

https://kaosx.us/news/2024/kaos05/

UBUNTU 24.04 BUILDS FOR THE RISC-V BOARD MILK-V MARS:

29/05/2024

Canonical has announced the preparation of separate builds of Ubuntu 24.04, specially optimized to run on the Milk-V Mars board, equipped with a 4-core 64-bit StarFive JH7110 (1.5GHz) processor based on the RISC-V architecture (RV64GC). This is the first miniature board based on the RISC-V architecture, the size of a credit card (board size 85 x 56 mm). The board is also notable for its relatively low cost for RISC-V boards - in the minimum configuration with 2 GB of RAM, the board retails for $39.

The board comes in RAM sizes of 1, 2, 4 or 8 GB (LPDDR4) and is equipped with slots for eMMC and Micro SD cards, three USB 3.0 ports, one USB 2.0 port, an HDMI 2.0 port with support for 4K resolution, an RJ45 connector (Ethernet), an M.2 E-Key slot for connecting a Wi-Fi/Bluetooth module, a MIPI CSI (Camera Serial Interface) interface and a 40-pin GPIO. You can connect two monitors to the board (one via HDMI, and the second via MIPI DSI) and provide power via Ethernet (PoE). It supports hardware acceleration for H.264, H.265 (4K@60fps) and JPEG decoding, as well as H.265 (1080p@30fps) and JPEG encoding.

There are two options for Ubuntu builds available for

download - a pre-built boot environment for copying to an SD card and an installation image for installation on an eMMC, USB drive or NVMe. The builds correspond to Ubuntu Server 24.04 with the Linux 6.8 kernel. Limitations include the lack of support for the built-in GPU and incomplete support for PCIe are mentioned (an NVMe drive can be used, but connecting modules with Wi-Fi and an external GPU is not yet supported); as for the USB ports, only USB 3.0 ports are currently supported, and the USB port 2.0 is not available.

As part of a strategic cooperation agreement between Milk-V and Canonical, the Ubuntu distribution will be adapted to work on other Milk-V devices, including future products. The Ubuntu platform will be promoted as the primary supported and maintained system for all Milk-V board variants, with a focus on support for compute acceleration and AI engines.

In addition to Milk-V devices, specially optimized builds of Ubuntu 24.04 are also available for AllWinner Nezha, Microchip Polarfire, SiFive Unmatched, Sipeed LicheeRV Dock and StarFive VisionFive 2 boards. Builds for boards based on the RISC-V architecture are also being developed by the Debian , Armbian , Alpine , DietPi projects, Fedora and Arch Linux.

https://canonical.com/blog/canonical-enables-ubuntu-on-milk-v-mars

RELEASE OF RHINO LINUX 2024.1:
29/05/2024

Rhino Linux 2024.1, which implements a variant of Ubuntu with a continuous update delivery model, allowing access to the latest versions of programs, is out. New versions are mainly transferred from devel branches of Ubuntu repositories, which build packages with new versions of applications synchronized with Debian Unstable. Desktop components, the Linux kernel, boot screens, themes, the Firefox browser and utilities developed by the project are distributed through a separate Pacstall repository. Live installation images are prepared for x86_64 (2.3 GB) and ARM64 (2.2 GB) architectures, as well as for ARM devices PineTab, PineTab2, PinePhone, PinePhone Pro and Raspberry Pi.

Package management is carried out using its own package manager rhino-pkg (rpk), which implements a binding over the package managers APT, Pacstall, flatpak and snap. Rhino-pkg allows you to use one universal utility to perform common operations with various package formats, such as installing, uninstalling, updating and searching for packages. To build the distribution, the LiveBuild toolkit from the Debian project is used with modifications borrowed from VanillaOS. Calamares installer is the default installer.

The graphical interface is built on Unicorn's own user environment, which is a redesigned version of Xfce, in style to GNOME, but remaining lightweight. In Unicorn, the developers tried to combine a more modern design with a traditional approach to building a desktop. Plank Dock is used as the sidebar, and the standard Xfce panel is used as the top panel. To navigate through installed applications, the App Grid mode, implemented based on Lightpad, is used.

https://rhinolinux.org/news-13.html

THE XZ PROJECT PUBLISHED THE RESULT OF A COMMIT AUDIT AND THE FIRST UPDATE AFTER THE BACKDOOR WAS IDENTIFIED:
30/05/2024

Lasse Collin, the old maintainer of the xz project, who in 2022 transferred rights to the new maintainer Jia Tan, whose activities led to the introduction of a backdoor, published corrective releases of the XZ Utils packages 5.2.13, 5.4.7 and 5.6.2, which removed backdoor components and other suspicious changes added as a result of malicious activities of the previous maintainer.

In addition, a review report has been published on the Git repository and changes added since December 2022 during Jia Tan's tenure as maintainer. Changes are analyzed at the level of individual commits. The commits in the repository were not digitally signed, but there were no signs of

tampering on the part of the committers. A total of 8 malicious commits were removed from the repository.

https://www.mail-archive.com/xz-devel@tukaani.org/msg00681.html

CANONICAL HAS PUBLISHED REAL-TIME UBUNTU 24.04:
30/05/2024

Canonical has announced the availability of Real-time builds of Ubuntu 24.04, optimized for real-time tasks. The builds use the Linux 6.8 kernel with RT patches ("Realtime-Preempt", PREEMPT_RT or "-rt"), which reduce latency and allow for predictable event processing times. The builds additionally include optimizations aimed at improving performance and reducing latency on Raspberry

Pi 4 and 5 boards, and systems based on Intel Core processors that support TCC (Time Coordinated Computing) and TSN (Time-Sensitive Networking) technologies.

Ready-made builds are generated for x86_64 and Aarch64 architectures and are distributed through the Ubuntu Pro service, which is a paid for commercial application. For personal use, you can connect up to 5 machines to Ubuntu Pro for free (50 machines for Ubuntu Community members).

https://canonical.com//blog/real-time-24-04

MAJOR RELEASE OF SOLARIS 11.4 SRU69:
31/05/2024

Oracle has published Solaris 11.4 SRU 69 (Support Repository Update), which offers a series of significant changes and improvements for the Solaris 11.4 branch. To install the fixes offered in the update, simply run the 'pkg update' command. Users can also take advantage of the free Solaris 11.4 CBE (Common Build Environment) edition, which is developed using a continuous release model.

https://blogs.oracle.com/solaris/post/whats-new-in-oracle-solaris-114-sru69

RELEASE OF NETWORKMANAGER 1.48.0:
31/05/2024

A stable release of NetworkManager 1.48.0 has

been introduced to simplify the configuration of network parameters. Plugins for VPN support (Libreswan, OpenConnect, Openswan, SSTP, etc.) are developed as part of their own development cycles.

https://networkmanager.dev/blog/networkmanager-1-48/

FEDORA 41 INTENDS TO REMOVE NETWORK-SCRIPTS AND ALLOW UPDATING OF ATOMIC EDITIONS WITHOUT A PASSWORD:
31/05/2024

The Fedora 41 release proposed removing the network-scripts package, which provides support for classic network configuration scripts based on the ifup and ifdown commands. Such scripts have been declared obsolete since 2018. The reason for the deletion is said to be plans to remove ISC dhcp, because the maintenance of it was discontinued at the end of 2022.

The proposals are still at the discussion stage and have not been reviewed by the FESCo (Fedora

NEWS

Engineering Steering Committee), which is responsible for the technical part of the development of the Fedora distribution.

RELEASE OF THE ROCKY LINUX 8.10:
01/06/2024

A new release of the Rocky Linux 8.10 distribution is out, aimed at creating a free build of RHEL capable of taking the place of the classic CentOS, after Red Hat prematurely stopped supporting the CentOS 8 branch at the end of 2021, and not in 2029, as originally planned. Rocky Linux builds are prepared for x86_64 and aarch64 architectures. Additionally, builds are generated for cloud environments Oracle Cloud Platform (OCP), GenericCloud, Amazon AWS (EC2), Google Cloud Platform and Microsoft Azure, as well as images for containers and virtual machines in RootFS/OCI and Vagrant formats (Libvirt, VirtualBox, VMWare).

Among the changes specific to Rocky Linux, are the supply of additional repositories: plus with the open-vm-tools package, nfv with packages for virtualization of network components developed by the NFV (Network Functions Virtualization) SIG group, RT with packages for working in real time, PowerTools, ResilientStorage and HighAvailability.

https://rockylinux.org/news/rocky-linux-8-10-ga-release

KASPERSKY LAB HAS PUBLISHED A FREE MALWARE SCANNER FOR LINUX:
01/06/2024

Kaspersky Lab introduced the KVRT application for scanning Linux systems for threats and malicious applications, such as viruses, backdoors, Trojans, adware and spyware, as well as applications that can facilitate attacks on the system. In addition to checking files, the program scans memory and boot sectors. Console and graphical operating modes are supported, as well as the ability to run without root permissions (the functionality will be limited to checking files available to the user). During operation, telemetry is sent, including data on detected malware, to KSN (Kaspersky Security Network) servers.

The scanner is designed as a universal, self-sufficient application that supports 64-bit environments based on distributions like AlmaLinux OS 8+, AlterOS 7.5+ Astra Linux Common Edition 2.12+, CentOS 6.7+, Debian GNU/Linux 10.0+, EulerOS 2.0+, Linux Mint 19.2+, openSUSE Leap 15.0+, Oracle Linux 7.3+, Red Hat Enterprise Linux 6.7+, Rocky Linux 8.5+, SUSE Linux 12.5, Ubuntu 12.04+, AltLinux 8+, Rosa 12+ and RED OS 7.3+. The program is distributed free of charge. The size of the executable file offered for download is 175 MB. Automatic updates of anti-virus databases are not supported in KVRT - to obtain the latest anti-virus data, you need to download a new version (the program is updated several times a day).

https://www.kaspersky.ru/blog/kvrt-for-linux/37571/

LYX 2.4.0 PUBLISHED:
02/06/2024

After six years of development, a major release of the visual editor for scientific documents LyX 2.4.0 has been published, allowing you to create texts using TeX/LaTeX markup, while visually editing the document layout in a WYSIWYM view. The resulting document is saved in LaTeX format, but text can be imported and exported into formats such as PDF, Postscript, DVI, ASCII, HTML, OpenDocument, RTF, ODF, DOC and ePub. Binary builds are generated for Windows and macOS.

http://www.lyx.org/News

RELEASE OF MATE 1.28:
03/06/2024

After almost three years of development, the MATE 1.28 desktop environment has been officially announced, continuing the development of the GNOME 2.32 codebase, while maintaining a classical desktop layout. The announcement of the release indicated February 27, but the announcement on the MATE

project website appeared 03/06/2024, and before that, a new branch was mentioned only in the form of tags in the Git repository of the project, without a clear announcement of the release and without the publication of the general list of changes. Packages with MATE 1.28 are already available in distribution repositories such as Fedora 40, Gentoo, Mageia, Manjaro, openSUSE Tumbleweed, Arch Linux, ALT Linux, Artix, OpenIndiana, GhostBSD, Parabola, Solus and Void Linux.

https://mate-desktop.org/blog/2024-02-27-mate-1-28-released/

SerenityOS loses BDFL: (and Linux gains a browser)
03/06/2024

Andreas Kling, the creator of the SerenityOS, announced the removal of the powers of the "benevolent dictator" (BDFL) of the project and the switch to the development of the fork of Ladybird web-browser, which previously developed as part of SerenityOS. According to Andreas,

for the last two years, he has been detached from the development of the operating system and was focused only on the development of his own browser engine and the Ladybird application based on it. Since a strong community has formed around SerenityOS, numbering more than a thousand participants and able to do without him, Andreas decided to switch entirely to the development of the Ladybird browser and its promotion as self-sufficient and independent of the SerenityOS project.

After the separation, the developers of the Ladybird browser will stop supporting SerenityOS OS and focus on the development for Linux and macOS platforms. The developers of SerenityOS will be able to return to the original model of development for pleasure, communication with like-minded people and as a hobby. Unlike SerenityOS in the Ladybird project, restrictions will be removed that banned the use of third-party code in the project. Ladybird's Old Repository is transferred to archive mode.

https://awesomekling.substack.com/p/forking-ladybird-and-stepping-down-serenityos

FreeBSD 14.1 release with improved sound stack and cloud-init support:
04/06/2024

After six months of development, FreeBSD 14.1 has been released. Installation images are prepared for amd64, i386, powerpc, powerpc64, powerpc64, powerpcs, armpe, armv7, aarch64 and riscv64 architectures. In addition, builds for virtualization systems (QCOW2, VHD, VMDK, raw) and cloud environments Amazon EC2, Google Compute Engine and Vagrant are prepared.

https://download.freebsd.org/ftp/releases/ISO-IMAGES/14.1/

Canonical has published Ubuntu Core 24:
04/06/2024

Canonical has unveiled the release of Ubuntu Core 24, a compact version of the Ubuntu

distribution adapted for use on Internet of Things (IoT) devices, in containers, consumer and industrial equipment. Ubuntu Core comes in the form of an indivisible monolithic image, which does not break down into separate deb-packages. Images of Ubuntu Core 24, which are synchronized with the Ubuntu 24.04, are prepared for x86_64 and ARM64 systems (the announcement also announced support for RISC-V, but the builds are not yet available). The time for supporting the release will be 12 years.

Ubuntu Core serves as the basis for the launch of additional components and applications, which are designed as self-sufficient add-ons in snap format. Ubuntu Core components, including the base system, the Linux kernel and system add-ons, are also supplied in snap format and managed by snapd tools. Snappy technology makes it possible to form an image of the system as a whole, without parting into separate packages. Instead of a phased update at the level of individual deb-packages in Ubuntu Core, the mechanism of atomic update of snap-packs and the base system is used, similar to Fedora

Atomic, ChromeOS, Endless and openSUSE Leap Micro. When updating the basic environment and snap-packs, it is possible to revert the state to the previous version, in case of problems identified after the update.

To ensure security, each component of the system is verified by digital signature, which allows you to protect the distribution from getting hidden modifications or installing unverified snap-packs. The components supplied in Snap format are isolated using AppArmor and Seccomp, which creates an additional layer to protect the system in case of compromising individual applications. The basic system includes only a minimum set of necessary applications, which not only allowed to reduce the size of the system environment, but also had a positive effect on security by reducing possible vectors for attacks.

The base file system is mounted in read-only mode. You can use data encryption on the storage using TPM. Updates are released regularly, delivered in OTA mode (over-the-air) and synchronized with the composition of Ubuntu 24.04. To minimize traffic, updates are delivered in a compressed form and include only changes relative to the past update. Automation of updates solves problems with maintaining the system's security when used on embedded devices.

Thanks to the logical separation of the base system from the applications, this approach allows you to reduce the cost of supporting products, the software environment of which is built on the basis of Ubuntu Core, since their manufacturers do not need to produce and deliver system updates and focus only on their specific components.

https://ubuntu.com/blog/canonical-launches-ubuntu-core-24

NITRUX 3.5.0 WITH CUSTOM NX DESKTOP ENVIRONMENT:
05/06/2024

A new release of Nitrux 3.5.0, built on Debian, KDE technologies and the OpenRC initialization system, has been published. The project offers its own NX Desktop desktop, which is an add-on over KDE Plasma. Based on the Maui library for the distribution, a set of typical user applications are in development, which can be used on both desktop and mobile devices. AppImages is being promoted to install additional applications. The size of the full boot image is 4.6 GB. The project is distributed under free licenses.

The NX Desktop desktop offers a different style design, its own implementation of the system tray, notification output center and various plasmoids, such as a network connector and multimedia applet to control the volume and control the playback of multimedia content.

https://nxos.org/changelog/release-announcement-nitrux-3-5-0/

NXS-BACKUP 3.7.0 IS AVAILABLE:
05/06/2024

Nxs-backup 3.7.0, which allows you to backup, rotate the backups and store the backups on local or external storage, is out. In addition to file backup files, you can also create backups of various DBMSs: MySQL, PostgreSQL, MongoDB, Redis. The project code is distributed under the Apache 2.0 license.

Backups can be stored both locally and in remote repositories (S3, FTP, SSH, SMB, NFS, WebDAV), for which various libraries are used. Thanks to the mini-framework go-nxs-appctx, you can use the environment variables in the configuration. Backup can be done not only for the specified period of time, but also taking into account the maintenance of a specific number of backups. There is a self-renewal function and the ability to expand the functionality through custom scripts.

https://nxs-backup.io/

FFMPEG PRESENTED ITS OWN IMPLEMENTATION OF xHE-AAC DECODER:
05/06/2024

The developers of the multimedia package FFMpeg, announced the creation of their own implementation of the

decoder for the xHE-AAC (Extended High-Efficiency AAC) sound encoding format, defined in the ISO/IEC 23003-3 standard. The xHE-AAC decoder has already been adopted in the main code base of FFMpeg and will be included in the next release. The implementation can be used for most xHE-AAC stereo streams. The streams of SBR, USAC and MPEG-H with surround sound, as well as speech coding are not supported yet. Support USAC and SBR promise to add soon.

xHE-AAC is used in Netflix streaming and is involved in digital radio broadcasting - Digital Radio Mondiale. The codec is notable for the support of a wide bitrate range (from 12 to 300 kbit/s), high compression, constant volume reproduction, high-volume, high-deficit at all volume levels, additional dynamic range control profiles when listening to noisy places and adding metadata that allows you to restore losses on the receiving side.

https://ffmpeg.org/
index.html#xheaac

THE FIRST RELEASE OF KLEVERNOTES:

06/06/2024

Developers from the KDE project presented KleverNotes 1.0, which is written using the Kirigami framework and can be used on both desktops and mobile devices. When writing notes, they propose you use Markdown language, the result is then immediately displayed in the preview area. In addition, TODO lists and pasting simple drawings with lines are supported.

Notes can be placed in a hierarchical form, broken down into categories and groups. The functionality of the application expands through plugins, for example, plugins are available for linking different notes, highlighting syntax, fast insertion of emoji and creating diagrams using the PlantUML markup. The style of preview of text, in Markdown format can be changed by the user using CSS.

https://blogs.kde.org/2024/06/05/
klevernotes-version-1.0-official-
release/

OPENSSH ADDED BUILT-IN PROTECTION AGAINST PASSWORD ATTACKS:

07/06/2024

The OpenSSH code added built-in protection against automated password attacks, where bots try to guess the user's password by entering various typical combinations. To block such attacks, the PerSourcePenalties parameter has been added to the sshd_config configuration file, which allows you to determine the lock threshold that works with a large number of failed connection attempts from one IP address. The new protection mechanism will be part of the next release of OpenSSH and will be included by default in OpenBSD 7.6.

When you turn on protection, the sshd process begins to track the completion status of child processes, determining situations where the authentication has not passed or when the process has been accidentally completed due to a failure. The high intensity of failures in authentication indicates attempts to guess passwords, and emergency completion may indicate attempts to exploit vulnerabilities in sshd.

Through the PerSourcePenalties parameter, a minimum threshold of anomalous events is set, after exceeding that, the IP address where the suspicious activity is coming from will be blocked. With the PerSourceNetBlockSize parameter, you can additionally define a subnet mask to block the entire subnet to which the problematic IP belongs.

To disable the locking for individual subnets, the PerSourcePenaltyExemptList parameter is proposed, which can be useful in situations leading to false positives, for example, when the SSH server is accessed from a large network, requests from different users from the same IP or proxy.

https://marc.info/?l=openbsd-
cvs&m=171769392207688&w=2

RELEASE OF THE GNU TALER 0.11:

07/06/2024

The GNU project has unveiled Taler 0.11 free electronic payment system, which provides anonymity to buyers, but retains the ability to identify sellers to ensure transparency in tax reporting. The system does not allow you to track information about where the user spends money, but provides means to track the receipt of funds (the sender remains anonymous), which solves the problems with the tax audit inherent in BitCoin. The code is written in Python and is licensed under AGPLv3 and LGPLv3 licenses.

GNU Taler does not create its own cryptocurrency, but works with existing currencies, including dollars, euros and bitcoins. Support for new currencies can be ensured through the creation of a bank that acts as a financial guarantor. The business model of GNU Taler is based on the execution of exchange operations - money from traditional payment systems, such as BitCoin, Mastercard, SEPA, Visa, ACH and SWIFT, are converted into anonymous electronic money in the same currency. The user can transfer electronic money to the sellers, who can then change them back to the real money presented by traditional payment systems at the exchange point.

https://taler.net/en/news/2024-11.html

RELEASE OF PARROT 6.1:

10/06/2024

A new release of Parrot 6.1 is available, based on Debian 12 and including a selection of tools for checking the security of systems, conducting forensic analysis and reverse engineering. Several iso images with the MATE environment are offered for download , intended for everyday use, security testing, installation on Raspberry Pi boards and creating specialized installations, for example, for use in cloud environments. Additionally, ready-to-run images of virtual machines built for amd64 and Apple Silicon (M1 and M2) architectures are supplied.

The Parrot distribution is positioned as a portable laboratory environment for security experts and forensic scientists, which focuses on tools for examining cloud systems and Internet of Things devices. The ISO also includes cryptographic tools and programs for providing secure access to the network, including TOR, I2P, anonsurf, gpg, tccf (Two Cents Cryptography Frontend), zulucrypt, veracrypt, truecrypt and luks.

https://parrotsec.org/blog/2024-06-05-parrot-6.1-release-notes/

PERL 5.40.0 AVAILABLE:

10/06/2024

After 11 months of development, the release of a new stable branch of Perl has been published. In preparing the new release, about 160 thousand lines of code were changed (without documentation and automatically generated code - 110 thousand), the changes affected 1,500 files, and 75 developers took part in the development.

Branch 5.40 was released in accordance with the fixed development schedule approved eleven years ago, which implies the release of new stable branches once a year and corrective releases every three months. In about a month, they plan to release the first corrective release of Perl 5.40.1, which will correct the most significant errors identified during the implementation of Perl 5.40.0. Along with the release of Perl 5.40, support for the 5.36 branch was discontinued, where updates can be released in the future only if critical security problems are identified. On June 20, the development process of the experimental branch 5.41 will begin, on which a stable release of Perl 5.42 will be formed in May or June 2025, unless a decision is made to switch to numbering 7.x.

https://www.nntp.perl.org/group/perl.perl5.porters/2024/06/msg268252.html

RELEASE OF WINLATOR 7.0:

11/06/2024

The release of the Android application, Winlator 7.0 has been published, providing a framework over Wine and Box86 / Box64 emulators for running

Windows applications on the Android platform. Winlator deploys a Linux environment based on Ubuntu with Mesa, DXVK , D8VK , Vkd3d and CNC DDraw, in which Windows applications compiled for the x86 architecture are executed on ARM devices with Android using an emulator and Wine. The project code is distributed under the MIT license. The APK package size is 251 MB.

https://github.com/brunodev85/winlator/releases/tag/v7.0.0

webOS Open Source Edition 2.26:

11/06/2024

WebOS Open Source Edition 2.26 has been introduced, which can be used on various portable devices, boards and automotive infotainment systems. Raspberry Pi 4 boards are considered as the reference hardware platform. The platform is developed in a public repository under the Apache 2.0 license, and development is supervised by the community, adhering to a collaborative development management model.

https://www.webosose.org/blog/2024/06/05/webos-ose-2-26-0-release/

Release of systemd system manager 256 with run0 utility to replace sudo:

12/06/2024

After six months of development, the release of the system manager, systemd 256 was presented. Key changes: the run0 utility to replace sudo, the importctl utility for working with disk images, the possibility of versioned access to resources, the concept of capsules for launching additional service managers, the mode of redirecting systemd-journald logs to an arbitrary socket, support for the Varlink protocol in systemd-networkd, systemd-machined, bootctl, systemd-creds and systemd-hostnamed, unit generator "systemd-ssh-generator" and utility "systemd-ssh-proxy".

https://lists.freedesktop.org/archives/systemd-devel/2024-June/050407.html

Release of openSUSE Leap 15.6:

12/06/2024

After a year of development, openSUSE Leap 15.6 was released. The release is based on the same set of binary packages as SUSE Linux Enterprise 15 SP 6 with some user applications from the openSUSE Tumbleweed repository. Using the same binary packages in SUSE and openSUSE simplifies the transition between distributions, saves resources on building packages, distributing updates and testing, unifies differences in spec files and allows you to move away from diagnosing different package builds when parsing error messages. A universal DVD build of 4.4 GB in size (x86_64, aarch64, ppc64les, 390x), a stripped-down image for installation with downloading packages over a network (200 MB) and Live builds (~900 MB) with KDE, GNOME and Xfce are available for download. X86_64 and ARM64 architectures.

It is expected that openSUSE Leap 15.6 will be the last release in the 15.x series, and openSUSE Leap 16 will be released on the ALP platform in 2025 . The key difference between ALP is the division of the core distribution into two parts: a stripped-down "host OS" for running on top of hardware and a layer for supporting applications, aimed at running in containers and virtual machines.

https://news.opensuse.org/2024/06/12/leap-unveils-choices-for-users/

SELKS 10 is available:

13/06/2024

Stamus Networks has published their specialized distribution, SELKS 10, designed for deploying network intrusion detection and prevention systems, as well as organizing responses to identified threats and monitoring network security. Users are provided with a complete network security management solution that can be used immediately after downloading. The distribution supports Live mode and running in virtualization environments or containers. The project's code is distributed under the GPLv3 license. Two iso images were

created for downloading: with the Xfce graphical environment (3.5 GB) and running in console mode (2.7 GB).

The distribution is built on Debian and uses the open Suricata attack detection system . Data coming from various sources is processed using the Logstash platform and stored in ElasticSearch storage. To track the current status and identified incidents, a web interface is proposed, implemented on top of the Kibana interface. To manage rules and visualize the activity associated with them, the Stamus CE web interface is used. It also includes a system for capturing, storing and indexing network packets Arkime, an interface for evaluating events that have occurred EveBox and a data analyzer CyberChef .

https://www.stamus-networks.com/pr/13-june-2024

RELEASES OF IPFIRE 2.29 CORE 186:
14/06/2024

A new release of the distribution for creating routers and firewalls IPFire 2.29 Core 186 has been published. IPFire is distinguished by a simple installation process and configuration through an intuitive web interface, replete with visual graphics. The size of the installation iso image is 421 MB (x86_64, AArch64).

The system is modular: in addition to the basic functions of packet filtering and traffic management for IPFire, modules are available that implement a system for preventing attacks based on Suricata, for creating a file server (Samba, FTP, NFS), a mail server (Postfix, ClamAV) and a print server (CUPS), wireless access point, streaming systems (MPFire, MiniDLNA/ReadyMedia, Gnump3d, VDR). To install add-ons in IPFire, a special package manager, Pakfire, is used.

https://www.ipfire.org/blog/ipfire-2-29-core-update-186-released

POSIX 1003.1-2024
STANDARD APPROVED:
15/06/2024

After seven years of development, the professional society of the Institute of Electrical and Electronics Engineers (IEEE Computer Society) and the Open Group consortium have approved a new version of the POSIX 1003.1-2024 standard, aimed at ensuring program portability between UNIX-like systems. The standard defines software interfaces between operating systems and application programs and covers a set of library functions, shell capabilities, and utilities.

The text of the standard is currently only available in PDF format for paying customers, educational institutions and users with an account on the IEEE website. In the near future, the text of the standard will be published publicly on the Open Group website (for now, only the previous edition of POSIX 1003.1-2017, released in 2017, is publicly available).

Among the changes in POSIX 1003.1-2024, in addition to bug fixes, we can note the implementation of the $'...' strings in the shell, the addition of the readlink and realpath utilities, the appearance of the "-print0" and "-iname" options in the find utility, the addition of the xargs option "-0" (using the null character as a delimiter, for example, generated via find -print0), in read - options "-d" (separator), in sed options " -E " (extended regular expressions), in set - options " -o pipefail ".

For programs in C, support has been added for the SIGWINCH constant, tools for creating shared objects, functions tcgetwinsize (determining the size of the terminal window), gettext (organizing multilingual interfaces), asprintf (formats a string and allocates a buffer taking into account the size of the output), strlcpy and strlcat (analogues strncpy and strncat, which contain buffer overflow protection and set the trailing null byte). The make utility now supports nested macros, allows specifying multiple files in the include directive, adds new targets .NOTPARALLEL, .PHONY and .WAIT, adds the CURDIR macro pointing to the current directory, adds operators for assigning macros and variables "::=", " :::=",

"+=", "?=" and "!=".

https://www.opengroup.org/austin/

NEW UI DESIGN GUIDELINES FOR KDE APPLICATIONS:
15/06/2024

Nate Graham, QA developer for the KDE project, has published another report on the development of KDE and presented a new edition of the KDE Human Interface Guidelines (HIG). The document defines general templates and rules for the design of the interface of KDE applications, allowing developers to unify the appearance of their applications with the general design of the KDE platform and achieve its harmonious combination with other applications.

This tutorial reflects the current state of KDE development and focuses on using the Kirigami framework based on Qt Quick, which allows you to create universal interfaces suitable for both desktops and mobile devices. It is noted that the old HIG has long lost its meaning, as it described outdated design concepts from which the project has long moved away (for example, the "hamburger" menu and flat panels are now actively used), and was also confusing and verbose. The new document is free of fluff and philosophizing, has a simple structure and is aimed at providing concise, practical development recommendations . The document is not final and is designed for constant development, addition and adaptation to changing realities. The guide is in Markdown format and is available for submission of additions and changes.

https://pointieststick.com/2024/06/14/this-week-in-kde-final-plasma-6-1-polishing-and-new-features-for-6-2/

RELEASE OF THE ICEWM 3.6.0:
16/06/2024

The lightweight window manager IceWM 3.6.0 is available. IceWM provides full control through keyboard shortcuts, the ability to use virtual desktops, the taskbar and application menus, and you can use tabs to group windows. The window manager is configured through a fairly simple configuration file; themes can be used. Combining windows as tabs is supported. Built-in applets are available for monitoring CPU, memory, and traffic. Separately, several third-party GUIs are being developed for customization, desktop implementations, and menu editors. The code is written in C++ and distributed under the GPLv2 license.

https://github.com/ice-wm/icewm/releases/tag/3.6.0

SUSE LINUX ENTERPRISE 15 SP6:
17/06/2024

After a year of development, SUSE Linux Enterprise 15 SP6 distribution is out. Based on the SUSE Linux Enterprise platform products. SUSE Linux Enterprise Server , SUSE Linux Enterprise Desktop , SUSE Linux Enterprise High Performance Computing and SUSE Linux Enterprise High Availability Extension are now abailable. The distribution is free to download and use, but access to updates and patches is limited to a 60-day trial period. The release is available in builds for aarch64, ppc64le, s390x and x86_64 architectures.

SUSE Linux Enterprise 15 SP6 supports full binary package compatibility with the community-developed openSUSE Leap 15.6 distribution, which was released last week. A high level of compatibility is achieved by using a single set of binary packages with SUSE Linux Enterprise, instead of rebuilding src packages. It is expected that users can first build and test a working solution using openSUSE, and then seamlessly switch to a commercial version of SUSE Linux with full support, SLA, certification, long-term update releases and advanced tools for mass adoption.

https://www.suse.com/c/announcing-suse-linux-enterprise-15-sp6-the-linux-choice-for-security-and-compliance-in-a-reliable-it/

RELEASE OF THE KDE PLASMA 6.1:
18/06/2024

After three and a half months of development, the KDE Plasma 6.1 desktop environment has been released . To evaluate the performance of 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).

https://kde.org/announcements/plasma/6/6.1.0/

PALE MOON BROWSER 33.2.0:
18/06/2024

Pale Moon 33.2.0 has been published, branching from the Firefox code base to provide higher performance, preserve the classic interface, minimize memory consumption and provide additional customization options. Pale Moon builds are created for Windows and Linux (x86_64). The project code is distributed under the MPLv2 (Mozilla Public License).

The project adheres to the classic interface layout, without switching to the Australis and Photon interfaces integrated into Firefox 29 and 57, and with extensive customization options. The removed components include DRM, Social API, WebRTC, PDF viewer, Crash Reporter, code for collecting statistics, tools for parental controls and people with disabilities. Compared to Firefox, support for extensions using XUL has been returned to the browser, and the ability to use both full-fledged and lightweight themes has been retained.

https://forum.palemoon.org/viewtopic.php?t%3D31260%26p%3D252591%23p252591

TINYGO 0.32:
18/06/2024

Tinygo 0.32 is now available, developing a Go compiler for applications that require compact output code and low resource consumption, such as microcontrollers and compact single-processor systems.

Compilation for various target platforms is implemented using LLVM, and libraries used in the main toolkit from the Go project are used to support the language. The code is distributed under the BSD license.

The compiled program can be directly run on microcontrollers, allowing Go to be used as a language for writing automation scripts. In its current form, more than a hundred models of microcontrollers are supported, including various Adafruit, Arduino, BBC micro, ESP32, M5Stack, ST Micro, Digispark, Raspberry Pi Pico, Nordic Semiconductor, SiFive HiFive1, STM32, Makerdiary and Phytec boards. Special drivers are provided to interact with sensors and connected external devices, as well as to support interfaces such as I2C, GPIO and SPI . Programs can also be built in WebAssembly (wasm/wasi) format to run in a browser and as executables for Linux.

https://github.com/tinygo-org/tinygo/releases/tag/v0.32.0

RELEASE OF EASYOS 6.0:
19/06/2024

Barry Kauler, founder of the Puppy Linux project, published the EasyOS 6.0, which combines Puppy Linux technologies with the use of container isolation to run system components. The distribution is managed through a set of graphical configurators developed by the project. The boot image size is 905 MB.

https://bkhome.org/news/202406/easyos-scarthgap-series-version-60-released.html

A NEW RELEASE OF LIBGCRYPT 1.11.0:
19/06/2024

The GNU Project introduced the release of Libgcrypt 1.11.0, an implementation of the components underlying the encryption mechanisms used in GnuPG. The library provides functions for using various cryptographic algorithms in third-party applications, including symmetric ciphers (AES, Arcfour, Blowfish, Camellia, CAST5, ChaCha20, DES, GOST28147, Salsa20, SEED, Serpent, Twofish),

hashing algorithms (MD5, RIPE-MD160, SHA -*, SHAKE256, TIGER-192, Whirlpool), authenticated encryption algorithms (HMAC-*, CMAC-*, GMAC-*, Poly1305-*), public key encryption (RSA, Elgamal, DSA, ECDSA, EdDSA, ECDH). The new branch is fully compatible at the API and ABI level with the 1.10.x branch (using the new version does not require rebuilding programs).

https://lists.gnupg.org/pipermail/gnupg-devel/2024-June/035585.html

RELEASE OF SYSLINUXOS 12.4:
19/06/2024

SysLinuxOS 12.4 was released, built on Debian 12 and aimed at providing a bootable live environment optimized for system integrators and administrators. Builds with GNOME (4.8 GB) and MATE (5 GB) desktops have been prepared for download. The environment works in Live mode, but also supports installation on disk using the Calamares installer. In the new release, the Linux kernel is updated to version 6.7, and the package base is synchronized with Debian 12.4.

It includes a selection of pre-installed applications for monitoring and diagnosing network operation, tunneling traffic, running VPN, remote access, intrusion detection, security testing, simulating network operation and traffic analysis, all which can be used immediately after downloading the distribution from a USB drive. Applications included in the package are: Wireshark, Etherape, Ettercap, PackETH, Packetsender, Putty, Nmap, GNS3, Lssid, Packet Tracer, Wine, Virtualbox, Teamviewer, Anydesk, Remmina, Zoom, Skype, Sparrow-Wifi, Angry Ip Scanner, Fast-cli, Speedtest-cli, ipcalc, iperf3, Munin, Stacer, Zabbix, Suricata, Firetools, Firewalk, Firejails, Cacti, Icinga, Monit, Nagios4, Fail2ban, Wireguard, OpenVPN, Firefox, Chrome, Chromium, Microsoft Edge and Tor Browser .

https://syslinuxos.com/syslinuxos-12-4-released/

THE X WINDOW SYSTEM IS 40 YEARS OLD:
20/06/2024

It's been 40 years since Robert Scheffler announced the creation of the X Window System protocol. The protocol traveled from the release of X1 to X11 in just three years, after that, the state of X11 stabilized and over time only acquired extensions, but does not change its essence. For example, at one time such widespread features as XVideo, X Font Server, XKB, Xinerama, XCB, Multi-Pointer X, Present, DRI2, DRI3, RandR, X Input, etc. were presented as extensions. In 2011, an initiative arose to create the X12 protocol , but it did not go beyond discussions, and all activities on the development of the graphics subsystem focused on the development of the Wayland protocol.

https://www.talisman.org/x-debut.shtml

RELEASE OF VIVALDI 6.8:
20/06/2024

A release of the proprietary browser Vivaldi 6.8, developed, based on the Chromium engine, has been presented. Vivaldi builds are prepared for Linux, Windows and macOS. The project distributes changes made to the Chromium codebase under an open license. The browser interface is written in JavaScript using the React library, the Node.js platform, Browserify and various ready-made NPM modules. The implementation of the interface is available in source code, but under a proprietary license.

The browser is being developed by former Opera Presto developers and aims to create a customizable and functional browser that preserves the privacy of user data. Key features include a tracking and ad blocker, note, history and bookmark managers, private browsing mode, synchronization protected by end-to-end encryption, tab grouping mode, sidebar, configurator with a large number of settings, horizontal tab display mode, and also in test mode built-in email client, RSS reader and calendar.

In the new version, the main work was done with the built-in email client, which has now grown to version 2.0.

https://vivaldi.com/blog/desktop/desktop-releases/vivaldi-on-desktop-6-8/

THE EXECTOS OPEN OS:
20/06/2024

The ExectOS project attempted to create a new operating system from scratch, equipped with a microkernel with the XT architecture, based on the Windows NT kernel. ExectOS kernel components are separated from the device driver subsystem, allowing the main kernel to be updated without the need to recompile drivers for a new kernel. The project code is written in C and is distributed under the GPLv3 license.

The XT kernel architecture provides preemptive multitasking and consists of two underlying layers: the microkernel and user-space components. Kernel-level components run in a separate, protected memory area and have full access to hardware and system resources. Moreover, unlike the NT kernel, XT does not have a separate HAL (Hardware Abstraction Layer),

which works as a layer between the hardware and the rest of the operating system.

The user level includes subsystems that provide the ability to run applications written for various operating systems. For example, such subsystems can implement layers to support a POSIX-compliant environment or to enable programs running based on the Win32 API. The project is also developing its own XT Boot Loader , which supports UEFI, and the XTChain build toolkit based on LLVM/Clang/LLD.

https://exectos.eu.org/

RELEASE OF DARKTABLE 4.8.0:
22/06/2024

Darktable 4.8 has been published. Darktable acts as a free alternative to Adobe Lightroom and specializes in non-destructive work with raw images. Darktable provides a large selection of modules for performing all kinds of photo processing operations, it allows you to maintain a database of source photos, visually navigate

through existing images and, if necessary, perform operations to correct distortions and improve quality, while preserving the original image and the entire history of operations with it. The project code is written in C and is distributed under the GPLv3 license. The interface is built using the GTK library. Binary builds have been prepared for Linux (AppImage, OBS, flatpak, snap will be published in the future), Windows and macOS.

https://www.darktable.org/2024/06/darktable-4.8.0-released/

AMELIA 5.8:
23/06/2024

Amelia 5.8 has been published, an alternative console installer for Arch Linux, written in Bash and distributed under the GPLv3 license. Navigation through installable packages, settings, and installation modes is done through a menu system that allows you to switch between configuration stages before starting the actual installation.

It supports manual and

automatic partitioning, using Ext4 and Btrfs, installing standard desktop environments, encrypting the swap partition, root and home directory, setting the locale and keyboard layout, setting Linux kernel parameters. The installer starts after downloading the standard Arch Linux iso image by downloading the script using the curl utility or copying from a USB drive. There is a demo mode that allows you to try out the installer on an existing system without performing the installation.

https://www.reddit.com/r/archlinux/comments/1dm6y7s/amelia_installer_updated/

It's time to party!

Why you should organize Software Freedom Day!

Because it's fun!

So... what's your favorite piece of Free Software? How do you feel like thanking the developers for all the effort? Software Freedom Day is the ideal opportunity to thank all those volunteers and professionals for sharing us their skills.

So here's what you do! Gather some friends and organize a party. Invite a bunch people and tell them about your favorite software projects. Tell them about Software Freedom and explain those 4 Freedoms of GPL :

0. RUN   1. STUDY   2. SHARE   3. IMPROVE

At the end of the day, you'll have made new friends, rich encounters and probably discovered things about Software Freedom you didn't know yet!

Sat. 21 September 2024

Software Freedom Day

Because it matters!

In 2004 Matt Oquist first started the project because he noticed how CDs in magazines only contained commercial software, and he saw how Free Software was *up to standards*.

Later on, we learned how Software Freedom was important to know what an application was actually doing. Only by having *access to the code*, you could prevent getting viruses or spyware. That's when Frederic Muller founded the Digital Freedom Foundation.

Nowadays, we keep getting confronted with *cloud services disappearing* on their users, pushing us into expensive plans for the same service.

Global event

SFD 2009

digitalfreedoms.org/sfd

@dff@fosstodon.org

[matrix] #SoftwareFreedomDay:matrix.org

Because you can!

Software Freedom Day has existed since 2004. Communities all over the world have organized Software Freedom Day in universities, libraries, hackerspaces, LUGs, shopping malls, an office space at work, or even just a local pub!

We all have some FOSS projects we're passionate about. Basically all we're doing is sharing our passion with friends (and sometimes strangers).

Some examples:

- Linux install party
- Introduction into Inkscape
- Battle of Wesnoth LAN party
- Presentation on the 4 freedoms
- Program a robot

7 easy steps

1. Gather a small **team**
2. Decide **what** you can do
3. **Register** (or not) on digitalfreedoms.org
4. **Spread the word** in your region and online
5. Find **volunteers**
6. **Prepare** the event
7. **Party!**

DFF Digital Freedom Foundation

Written by Erik

One of our NOC engineers is writing some Linux exam/test/ whatever. We were having a chat and he confessed not knowing how test worked. I thought about it and realised I have never typed test at the command line either. He showed me what he was looking at: https://opensource.com/article/ 22/10/test-command-linux

I had to read it twice, to figure out what they were talking about. The very last piece hit me, back in the day, I got caught with the [[ ]] command, and it took me a few retries to grok it. It turns out it is something I have used often, never knowing that it was also a command (named test). Before I go on "my way" of doing things, let's look at this from the bottom up.

So if you are a newbie and someone tells you to read the man


```
TEST(1)                         User Commands                         TEST(1)

NAME
        test - check file types and compare values

SYNOPSIS
        test EXPRESSION
        test
        [ EXPRESSION ]
        [ ]
        [ OPTION

DESCRIPTION
        Exit with the status determined by EXPRESSION.

        --help display this help and exit

        --version
                output version information and exit

        An omitted EXPRESSION defaults to false.  Otherwise, EXPRESSION is true
        or false and sets exit status.  It is one of:

Manual page test(1) line 1/168 13% (press h for help or q to quit)
```

page, you have my permission to spit in their coffee. (OK don't) Seriously, the man page is about as much help to a newbie as a pin in a rainstorm if you don't know what test does.

It says nothing... I need you to think of it as a comparison command in bash that nets you a boolean. That's it. To understand where this comes from, you need to know a bit about programming. Not much, just enough to hurt yourself. You see, when a C program exits

cleanly, without error, your exit status is 0. If not, it is not 0. (make sense?) The same happens here, you evaluate or compare two things and you get 0 or 1. There is no hidden meaning or anything esoteric. It's true or false. If you want to see that result, you type: echo $?

Go ahead, open a terminal and type it to see the default value. I'm not going to tell you what it is, you need to see it for yourself. OK, with that out of the way, let's use it to see how it works. Type:

```
test 1 eq 2 ; echo $?
```

Yes, I know it is oversimplified, but you are going to have to look at it that (the simple) way. You should have got an error. Look at the output. Now let's do it right and look at that output (proper term is exit status), type:

```
test 1 -eq 2 ; echo $?
```

This is where the man page comes in handy, helping you remember all the comparison

The [command, often called a "test," is a command from the GNU Core Utils package, and initiates a conditional statement in Bash. Its function is exactly the same as the test command. When you want to execute a command only when something is either true or false, use the [or the test command. However, there's a significant difference between [or test and [[, and there's a technical difference between those commands and your shell's versions of them.

contents ^

COMMAND & CONQUER

operators. I'm not going to list them here, you have a terminal. If you are a native English speaker, you should know them. If you are not, now you have the opportunity to learn them.

Now the part I did not know is that I have been using test all along, just not in that way. Open your terminal and type:

```
[ 1 –eq 1 ] ; echo $?
```

mmm... Oh and be aware that there is a space after "[" and one before "]" as, with "[[" it is then treated as a command. So what happened? Yes same pudding, different sauce. Go ahead and leave out the space, so you can see what the error looks like. No, really, this is important. Familiarity breeds contempt, if you are used to the error, you know how to fix it.

So the syntax is, we compare something in the "box" and we can then do something (or nothing) with the result (0 or 1).

Let's do a very simple example, type:

```
[ 6 –gt 7 ] && echo "it is!"
|| echo "nope..."
```

Now do it again, swapping the 6 and the 7 around. What happened? Do you see why I said it is a comparison that nets you a boolean?

NOTE: if you are too lazy to type and copypasta, remember that this: " is not this: "

That was integers, but you can also do it for strings. For strings we can use "=" and "!="
Type:

```
[ "FCM" = "fcm"] ; echo $?
```

Type:

```
[ "FCM" != "fcm"] ; echo $?
```

If you did not get those t-shirts before; != is funny 'coz its true, you will now.

We can also use the "zero" and "non-zero" operators, "-z" and "-n"

Type:

```
[ –n "fcm"] ; echo $?
```

Type:

```
[ –z "fcm"] ; echo $?
```

You are all smart people, so I'm not going to pull out the wax crayons here.

Let's take it one step further, we can use it on files and folders, why? Because we get a boolean back. Type:

```
[ –e a.out ] ; echo $?
```

This tests for a file named "a.out". You can test for any file you like. (bottom left is a screen-shot to see it in action.)

So I have a file named icon.svg, but not one named icons.svg in my folder.

Now, the "-e" is for "exist", but we can also check if it is a file or a directory, and yes, you guessed it they are "-f" or "-d". As I said, this is not difficult.

As you can see, once you get the basics, the rest just fall into place. Like, for instance, would you like to know if a file has write permissions?

Hah, see you are getting smarter already! Yes, type:

```
[ –w a.out ] ; echo $?
```

So now you know* how the test command works, you can go through the switches in the man page and it will start making sense to you. One of the other options you may come across is "-s" which checks if a file has meat on the bones. To see this in action, type:

```
touch man.man && [ –s
man.man ] ; echo $?
```

Did you understand what you just typed? If not, misc@fullcirclemagazine.org

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

PIPX???

Greetings again fellow Sentient Lifeforms and, as Dr. Johnny Fever would say, "Fellow Babies". Once again, I'm beaming from landing pad 2997 on Terra to bring you more information on Python and its related goodies, add-ons, tips, tricks, traps, and other weirdness.

This month, we will be talking about pipx. Right about now, I'm sure you are thinking, "What the HECK is pipx, and is Greg having problems typing 'pip'?" Well, the answer, to the last part first, is yes, Greg IS having problems typing, but that's a story for another day!

Pipx IS REAL. Pipx, according to their website, allows you to "Install and Run Python Applications in Isolated Environments". Now isn't that about as clear as mud?

So let's open a browser and look at https://github.com/pypa/pipx/tree/main?tab=readme-ov-file, which is the pipx distribution site, and scroll about ⅓ of the way down the page, or search that page for "what is pipx".

According the the web page: "pipx is a tool to help you install and run end-user applications written in Python. It's roughly similar to macOS's brew, JavaScript's npx, and Linux's apt.

It's closely related to pip. In fact, it uses pip, but is focused on installing and managing Python packages that can be run from the command-line directly as applications."

In fact, if you dig deeper, you will find this statement: "pipx is a specialized package installer. It can be used to install only packages with cli entry points."

Now that makes things much clearer. So how do you install such a thing?

There are two ways to install pipx on a Linux machine. The first is via apt, and the other is via (guess what) pip.

So we'll look at the apt method first. Assuming you are running Ubuntu 23.04 or above (or a distro based on that)...

```
sudo apt update

sudo apt install pipx

pipx ensurepath

sudo pipx ensurepath --global
# optional to allow pipx
actions with --global
argument
```

If, however, you want to install via pip(3)...

```
pip install pipx
```

You might want to run the last two lines from the apt install section above, after you've installed via pip – to make sure pipx is available from pretty much anywhere on your system.

```
pipx ensurepath

sudo pipx ensurepath --global
# optional to allow pipx
actions with --global
argument
```

Ok. It's installed. Now what?

We'll take a look at some of the command-line options to help us out here.

If you don't know what to do, you can always ask for help...

```
pipx -h

~/Desktop$ pipx -h
usage: pipx [-h] [--version]

{install,inject,upgrade,upgra
de-all,uninstall,uninstall-
all,reinstall,reinstall-
all,list,run,runpip,ensurepat
h,completions}
        ...

Install and execute apps from
Python packages.
```

Actually, I'm breaking the terminal output here to save space (more shown on the next page, top right).

And it keeps going, so I'm going to just leave it at this. The important commands (at least for me) are list, install, and uninstall.

So let's install something. We'll use the silly pycowsay program as our example.

```
>> pipx install pycowsay
  installed package pycowsay
2.0.3, Python 3.10.3
  These apps are now globally
available
    - pycowsay
done!
```

Now that you have something installed, let's try doing a list.

```
greg@Earth2:~/Desktop$ pipx
list
venvs are in /home/
greg/.local/pipx/venvs
apps are exposed on your
$PATH at /home/greg/.local/
bin
    package pycowsay 0.0.0.2,
installed using Python
3.10.12
      - pycowsay
```

Now, we can run the pycowsay program without calling Python directly or even using the .py extension.

```
greg@Earth2:~/Desktop$
pycowsay "Howdy fellow
beings!  Good to see you
again!"
```

```
  ---------------------------
< Howdy fellow beings!  Good
to see you again! >
  ---------------------------
    \   ^__^
     \  (oo)_____
        (__)\       )\/\
            ||----w |
            ||     ||

greg@Earth2:~/Desktop$
```

```
subcommands:
   Get help for commands with pipx COMMAND --help {install,inject,upgrade,upgrade-
all,uninstall,uninstall-all,reinstall,reinstall-all,list,run,runpip,ensurepath,completions}
    install            Install a package
    inject             Install packages into an existing Virtual Environment
    upgrade            Upgrade a package
    upgrade-all        Upgrade all packages. Runs `pip install -U <pkgname>` for each
package.
    uninstall          Uninstall a package
    uninstall-all      Uninstall all packages
    reinstall          Reinstall a package
    reinstall-all      Reinstall all packages
    list               List installed packages
    run                Download the latest version of a package to a temporary virtual
environment, then run an app from it.
```

As I said. It's a silly program. But it's a pretty good test.

Another feature of pipx is that it can download and run an application in a temporary virtual environment without installing the application. You can use the pipx run command:

```
greg@Earth2:~/Desktop$ pipx
run pycowsay moo
```

Now I've already installed pycowsay into pipx, so it will complain at me just a little bit, but will still download and run it.

```
pycowsay is already on your
PATH and installed at /home/
greg/.local/bin/pycowsay.
Downloading and running
anyway.
```

```
   ---
 < moo >
   ---
    \   ^__^
     \  (oo)_____
        (__)\       )\/\
            ||----w |
            ||     ||
```

What happens if you try to install a program that doesn't have an entry point, or has a name that doesn't match the actual filename? The esptool package is a good example of this. I use this package to flash some of the esp microcontrollers that I have.

First, we'll try to run just normally, but not install it (next page, top right).

You can see that there are four different applications that seem to be associated with the name "esptool".

To get around that, we can use the --spec option with the name of the program.

```
greg@Earth2:~/Desktop$ pipx
run --spec esptool esptool.py
esptool.py is already on your
PATH and installed at /home/
greg/.pyenv/shims/esptool.py.
Downloading and running
anyway.
```

Again, I've already got it loaded, but pipx will download the latest version and then run it in a virtual environment for me. There is a LOT of terminal output so I'll just pick some to show that it really runs (next page, bottom right).

There are SO many reasons to give pipx a try.

Again, their website is https://github.com/pypa/pipx.

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

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

```
greg@Earth2:~/Desktop$ pipx run esptool
'esptool' executable script not found in package 'esptool'.
Available executable scripts:
    esp_rfc2217_server.py - usage: 'pipx run --spec esptool esp_rfc2217_server.py
[arguments?]'
    espefuse.py - usage: 'pipx run --spec esptool espefuse.py [arguments?]'
    espsecure.py - usage: 'pipx run --spec esptool espsecure.py [arguments?]'
    esptool.py - usage: 'pipx run --spec esptool esptool.py [arguments?]'
```

```
esptool.py v4.7.0
usage: esptool [-h]
               [--chip
{auto,esp8266,esp32,esp32s2,esp32s3beta2,esp32s3,esp32c3,esp32c6beta,esp32h2beta1,esp32h2
beta2,esp32c2,esp32c6,esp32h2,esp32p4}]
               [--port PORT] [--baud BAUD] [--before
{default_reset,usb_reset,no_reset,no_reset_no_sync}]
               [--after {hard_reset,soft_reset,no_reset,no_reset_stub}] [--no-stub] [--
trace]
               [--override-vddsdio [{1.8V,1.9V,OFF}]] [--connect-attempts
CONNECT_ATTEMPTS]

{load_ram,dump_mem,read_mem,write_mem,write_flash,run,image_info,make_image,elf2image,rea
d_mac,chip_id,flash_id,read_flash_status,write_flash_status,read_flash,verify_flash,erase
_flash,erase_region,merge_bin,get_security_info,version}
               ...

esptool.py v4.7.0 - Espressif chips ROM Bootloader Utility
```

And the terminal output continues...

```
options:
  -h, --help                  show this help message and exit
  --chip
{auto,esp8266,esp32,esp32s2,esp32s3beta2,esp32s3,esp32c3,esp32c6beta,esp32h2beta1,esp32h2
beta2,esp32c2,esp32c6,esp32h2,esp32p4}, -c
{auto,esp8266,esp32,esp32s2,esp32s3beta2,esp32s3,esp32c3,esp32c6beta,esp32h2beta1,esp32h2
beta2,esp32c2,esp32c6,esp32h2,esp32p4}
                              Target chip type
  --port PORT, -p PORT  Serial port device
  --baud BAUD, -b BAUD  Serial port baud rate used when flashing/reading
  --before {default_reset,usb_reset,no_reset,no_reset_no_sync}
                              What to do before connecting to the chip
```
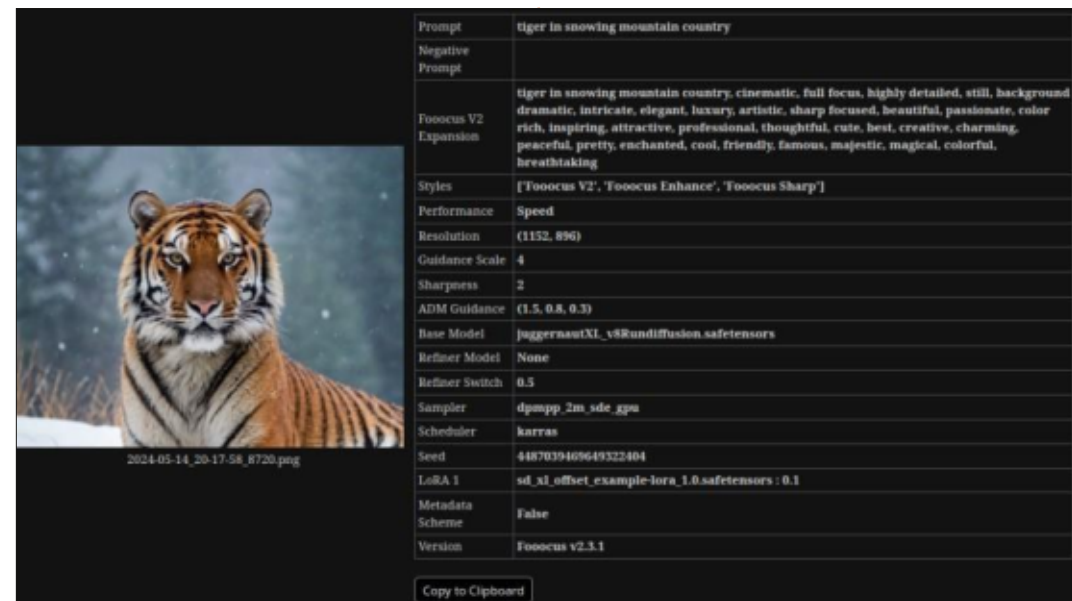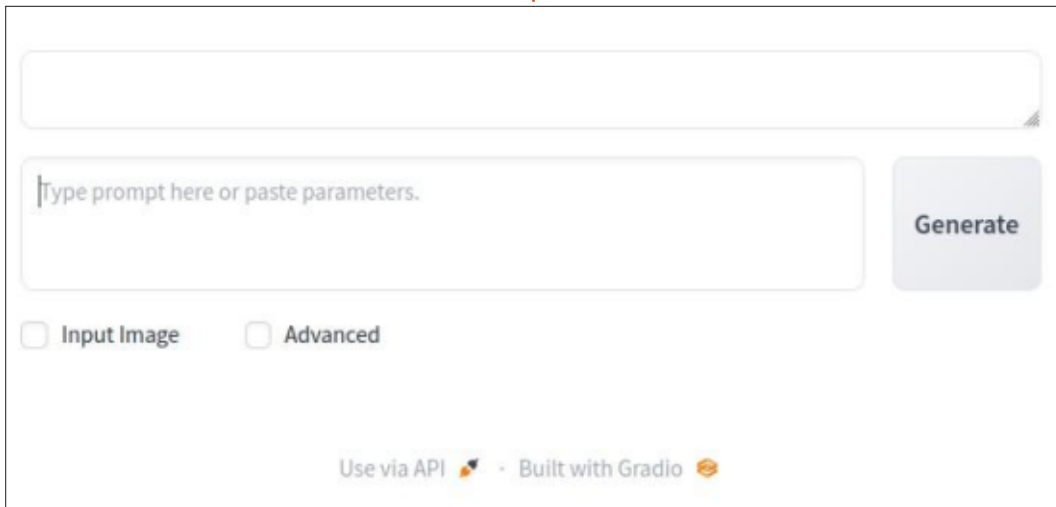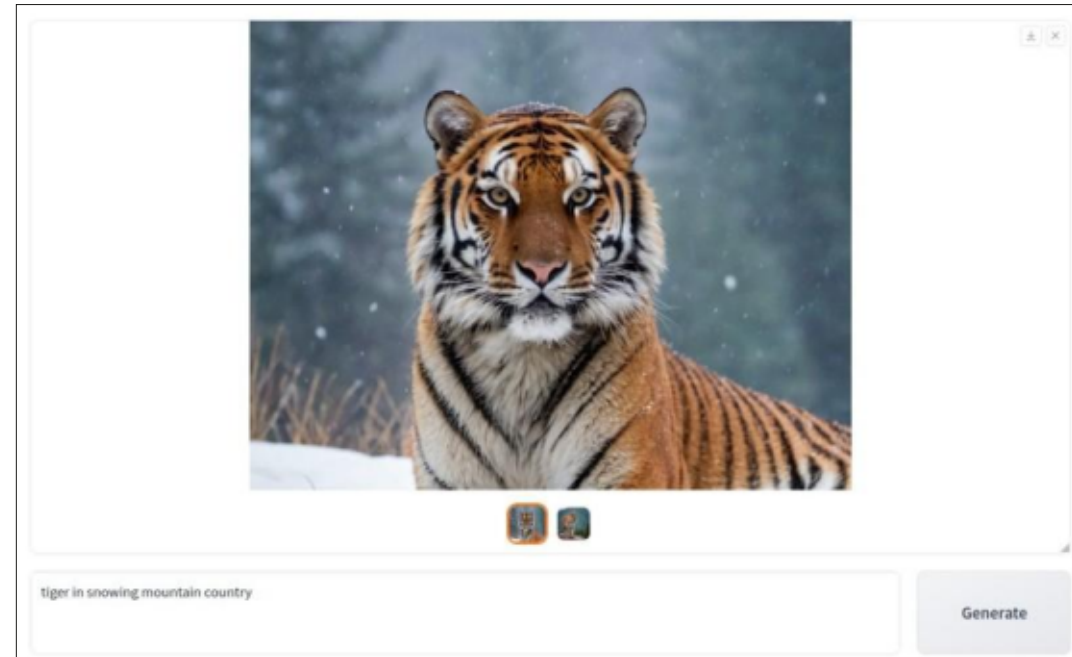
[EDITOR SNIPPED IT HERE]

This month, as noted last time, we will take a look at Fooocus. The Fooocus interface is simplicity itself as shown. Only an image window and prompt space is immediately obvious, and your gut feeling is likely unimpressive, it's almost childlike. But typing in a few Prompt words: tiger in snowy mountain country, and selecting the Generate key, is almost amazing. Without any further input, Fooocus creates a stunning image, two by default. The secret is that it expands the input prompt used adding what it "thinks" might work.

Thus if you look at the actual prompt used, not the one you input, you will find a significantly larger prompt: *tiger in snowing mountain country, cinematic, full focus, highly detailed, still, background dramatic, intricate, elegant, luxury, artistic, sharp focused, beautiful, passionate, color rich, inspiring, attractive, professional, thoughtful, cute, best, creative, charming, peaceful, pretty, enchanted, cool, friendly, famous, majestic, magical, colorful, breathtaking*, and also any negative prompts when used.

You can do this using a wonderful feature called History Log. You can access this by checking the Advanced checkbox on the

Prompt	tiger in snowing mountain country
Negative Prompt	
Fooocus V2 Expansion	tiger in snowing mountain country, cinematic, full focus, highly detailed, still, background dramatic, intricate, elegant, luxury, artistic, sharp focused, beautiful, passionate, color rich, inspiring, attractive, professional, thoughtful, cute, best, creative, charming, peaceful, pretty, enchanted, cool, friendly, famous, majestic, magical, colorful, breathtaking
Styles	['Fooocus V2', 'Fooocus Enhance', 'Fooocus Sharp']
Performance	Speed
Resolution	(1152, 896)
Guidance Scale	4
Sharpness	2
ADM Guidance	(1.5, 0.8, 0.3)
Base Model	juggernautXL_v8Rundiffusion.safetensors
Refiner Model	None
Refiner Switch	0.5
Sampler	dpmpp_2m_sde_gpu
Scheduler	karras
Seed	4487039409649322404
LoRA 1	sd_xl_offset_example-lora_1.0.safetensors : 0.1
Metadata Scheme	False
Version	Fooocus v2.3.1

HOWTO - STABLE DIFFUSION

bottom of the page, and then clicking on the History Log feature with the Setting tab selected (see below). This opens an HTML file of your most recent session. It is saved by default in the Home>Fooocus>outputs folder as a folder named for the date of creation. It will contain each generated image, along with the log.html file (the History Log) which, when opened, shows all the data and pictures created. The History Log feature should make it much easier to recreate images because all the important parameters are listed. Or you can

try using the same inputs and parameters via a different interface like ComfyUI or Easy Diffusion.

Its simplicity makes it so useful, especially for the newbie. Let's say you need an image "Serendipitous Synchronicity" for some purpose. No muss, no fuss, just input the two words and see what you get. One output is the view of sunflowers facing you and not the sun. You can add the needed text via Inkscape and you are done. Note that not every simple Prompt text will create a terrific image, and even creating 20 images is not a

guarantee of success.

The created input text is: ***serendipitous synchronicity, rich vivid colors, ambient light, dynamic dramatic cinematic magical atmosphere, precise perfect, focus,, very inspirational, innocent, trustworthy, elegant, intricate, highly detailed, generous, color, fine detail, clear, aesthetic, cool, cute, pretty, friendly, artistic, professional, decorated, deep royal, elite, glowing, noble.***

While text creation using the

prompt is getting better, it's not dependable, so avoid the extra work and add it yourself. The program created text is not editable in the produced image so even slight modifications would require regeneration. That additional complexity would likely increase the model size and ultimately hardware requirements. But we are still in a steep growth phase with Artificial Intelligence image creation software.

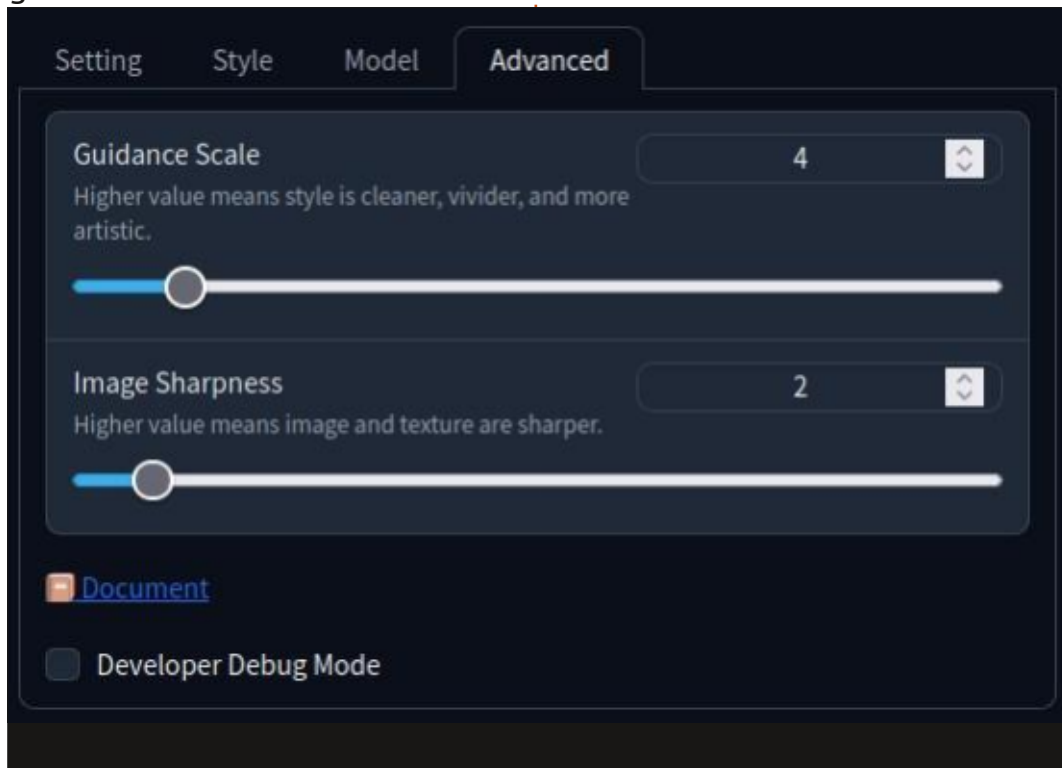After creating a few images, you probably want more options, perhaps not to the level of
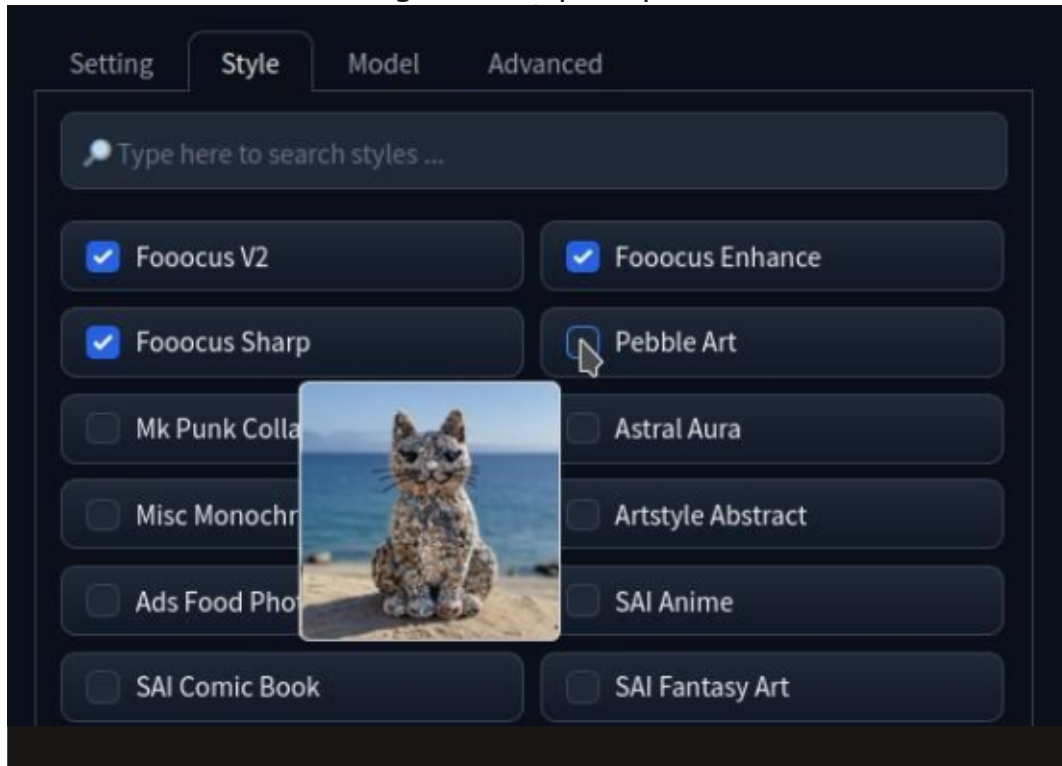
ComfyUI, and Fooocus does not disappoint. When you select the Advanced checkbox, a variety of the expected options become available. Under the Setting tab, various performance and image options are now available. Selecting the Style tab offers several hundred styles, and when your cursor is moved over a style, a small cat image pops up to show how it will modify your image. The search option at the top helps find the desired style. Selecting one will move it to the top, and un-checking it will remove it from image generation. The third tab Model gives you options for the models used. This is dependent on which models were downloaded and whether you restarted Fooocus after adding the model. And finally the Advanced tab allows you to adjust the Guidance Scale and Image sharpness via sliders.

Next time I will address installation and use of some other options.

| Setting | Style | Model | **Advanced** |

Guidance Scale   4
Higher value means style is cleaner, vivider, and more artistic.

Image Sharpness   2
Higher value means image and texture are sharper.

Document

☐ Developer Debug Mode

This time we are going to examine the first instruction in a Latex document file. Every Latex document starts with: \documentclass[]{}. What the writer puts inside the curly braces sets much document formatting in place before a single word of text is written. In most of the examples seen in Full Circle Monthly the document class has been article. That is the quickest and easiest document class to show in these pages. For the purposes of the examples in previous issues the document class chosen has had no consequences on the results of the example. This time we are going to look at what the article class entails, what other options are available and what parameters can be put into the square brackets.

There are four standard document classes: article, report, letter and book. The text of a document can be split into parts which generate a hierarchical structure. The parts of that structure are determined by the document class being used. There are five standard levels: part,

chapter, section, subsection, subsubsection. Class book and class report can use all five, class article cannot use part and chapter. Letter class cannot use any of the five hierarchical levels. As you know if you have been reading this series Latex packages are often included in the preamble of documents. These additional packages may define other levels of sectioning.

Note: There is a fifth document class: slides. It is used to set the default configuration for slide presentations. It is rarely used. I will not discuss its features in this article.

There are two more divisions allowed in standard Latex: paragraph and subparagraph. They are not used to force the start of new paragraphs. They are used to indicate divisions lower in the hierarchy than subsubparagraph without using a ridiculous number of "sub-" prefices.

Note: users are also able to define new Latex macros in document preambles. These

custom macros may be used to define the features of new document divisions.

When complete the documentclass command will look like the following:

```
\documentclass[font
size,paper size, other
possible options]{class}
```

As you would expect all of the options have their defaults. Quite often when making Latex documents I use only the class and set the other options through whatever packages I have included.

Because of the technology available when Tex was written (early 1970s) there are only three font sizes available to the documentclass command: 10pt, 11pt, 12pt with 10pt being the default. This is not a problem. Review my article in FCM 189 for some instructions about using fonts in Latex.

There are six paper sizes which can be specified. Latex users in North America get a break here.

The default paper size is letterpaper which is 8.5 x 11 inches so it does not need to be specified. The five other paper sizes available to documentclass are: a4paper, a5paper, b5paper, executivepaper and legalpaper. In North America we are familiar with legal paper, 8.5 x 14 inches. A4, A5, B5 are generally well-known in the rest of the world. Executive is smaller than letter, only 7.25in x 10.5in. I believe it is a standard size for writing letters.

If you need to use a paper size different from these six then you need to define the physical page size. One way to do that is to define the page width and height using \pdfpaagewidth and \pdfpageheight. A more flexible way is to include the geometry package which gives many options for the physical size and the print area.

Other possible options for the documentclass command:
landscape: selects landscape setup (long side of page will be horizontal), default is portrait (short side of page will be

horizontal).

draft / **final**: Mark (draft) or do not mark (final – default) overfull boxes with a black box in the margin

fleqn: force formulas to be flush-left, default is centered

leqno: insert equation numbers to left of equations, default is to the right

openbib: use the "open" bibliography format

titlepage (default for reports) / **notitlepage** (default for other printed documents): specifies if there is to be a separate page for title and for abstract

onecolumn (default) / **two column**: typeset in one or two columns (this one should be obvious as should be the next one)

openright / **openany**: for the book class, openright is the default. It means every chapter starts on a right hand (odd-numbered) page. All others default to openany.

oneside / **twoside**: one or two-sided layout, twoside is default for the book class, all others are oneside by default

SPECIAL CONSIDERATIONS

Oneside means the text will be placed in a "window" which is

Figure 1 (bottom right): Default settings

```
\documentclass[letterpaper,12pt]{article}
\begin{document}
    \paragraph{Equation 1}
    Balance the following equation.\\
    \begin{equation}\label{key}\\
        NaHCO_{3} + heat \longrightarrow NaCO_{3} + H_{2}O
    \end{equation}
\end{document}
```

Figure 2 (next page, bottom left): Equation numbering on left

```
\documentclass[letterpaper,12pt,leqno]{article}
\begin{document}
    \paragraph{Equation 1}
    Balance the following equation.\\
    \begin{equation}\label{key}\\
        NaHCO_{3} + heat \longrightarrow NaCO_{3} + H_{2}O
    \end{equation}
\end{document}
```

Figure 3: (next page, top right) Equation aligned left

```
\documentclass[letterpaper,12pt,fleqn]{article}
\begin{document}
    \paragraph{Equations}
    Balance the following equation.\\
    \begin{equation}\label{key}\\
        NaHCO_{3} + heat \longrightarrow NaCO_{3} + H_{2}O
    \end{equation}
\end{document}
```

centred between the margins.

Twoside means the size of the text window must be calculated since the margins for the left hand and right hand pages are mirror images. In twoside there are no margins labelled left and right. Rather they are labelled inner and outer in most desktop publishing and word processing software. In Latex / Tex they are also called oddside and evenside. Inside margins are usually wider than outside margins in order to have enough paper for binding the book. Of course, if your book is only to be

Equation 1   Balance the following equation.

$$NaHCO_3 + heat \longrightarrow NaCO_3 + H_2O$$

(1)

printed electronically (PDF) then inside and outside margins can be equal.
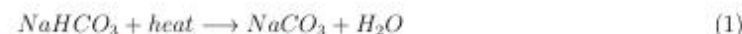
As I am sure you realize, demonstrating many of these possibilities is not effective in FCM. Changing paper size or orientation , changing document class, and others cannot be observed in this format. There are a few which can be changed. Follow the code (previous page) and the images (below) to see a few examples.

Equations   Balance the following equation.

$$NaHCO_3 + heat \longrightarrow NaCO_3 + H_2O \tag{1}$$

Equation shifted to left

Equation 1   Balance the following equation.

$$(1) \quad NaHCO_3 + heat \longrightarrow NaCO_3 + H_2O$$

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis.

Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetuer adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus sem-

KILOBYTE
MAGAZINE

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

https://retro.wtf/kilobytemagazine/

This month I'm going to rattle through a handful of smaller improvements in Inkscape 1.3 that don't really warrant an in-depth exploration, but which are worth calling out nevertheless.

XML EDITOR

This is the dialog we all love to hate. Ideally there would never be a need to edit a file's XML data directly. Practically, however, there are some more advanced tricks that can be done only this way, and for anyone creating SVG files to be manipulated by JavaScript on a web page, this can be an invaluable tool.

The most immediately obvious change in 1.3 is the addition of syntax highlighting to the DOM tree in the left-hand pane. This makes it much quicker and easier to visually distinguish the elements, attributes and values – assuming you're familiar enough with XML to know what those terms mean.

The toggle to switch between horizontal and vertical layout has been moved into a drop-down at the top-right of the dialog. It's gained an 'Automatic layout' option, too… though that doesn't seem to work terribly well, as it's based solely on the dialog's width rather than its aspect ratio. If you really want a vertical layout for this dialog, better to select it explicitly.
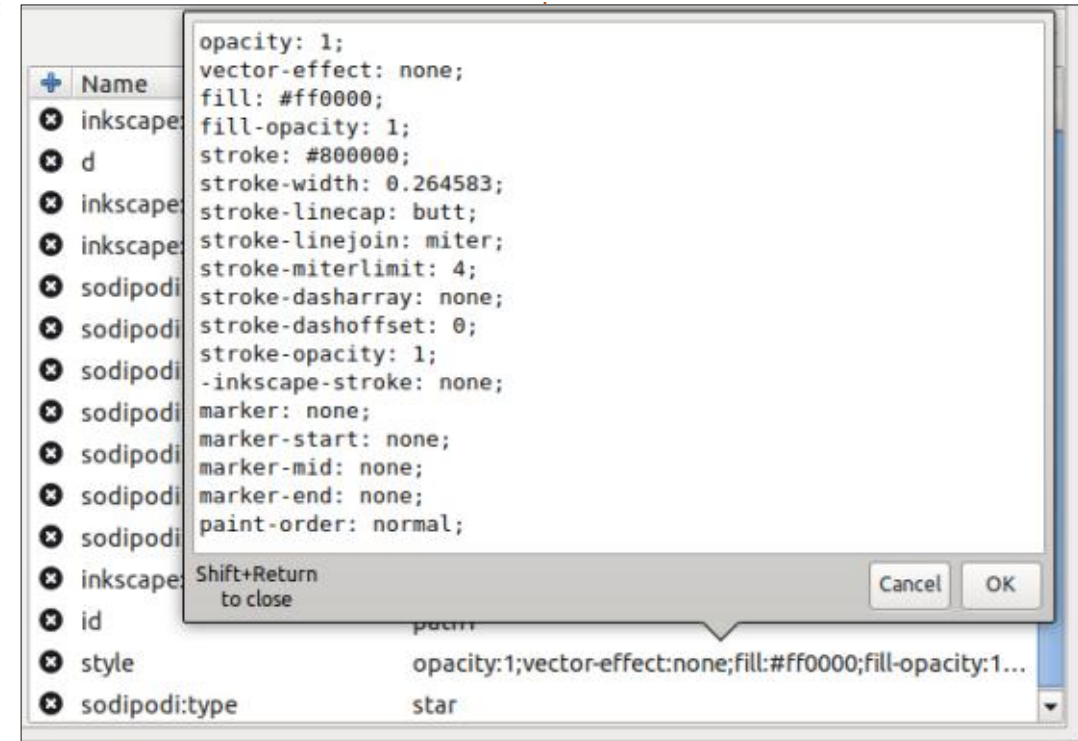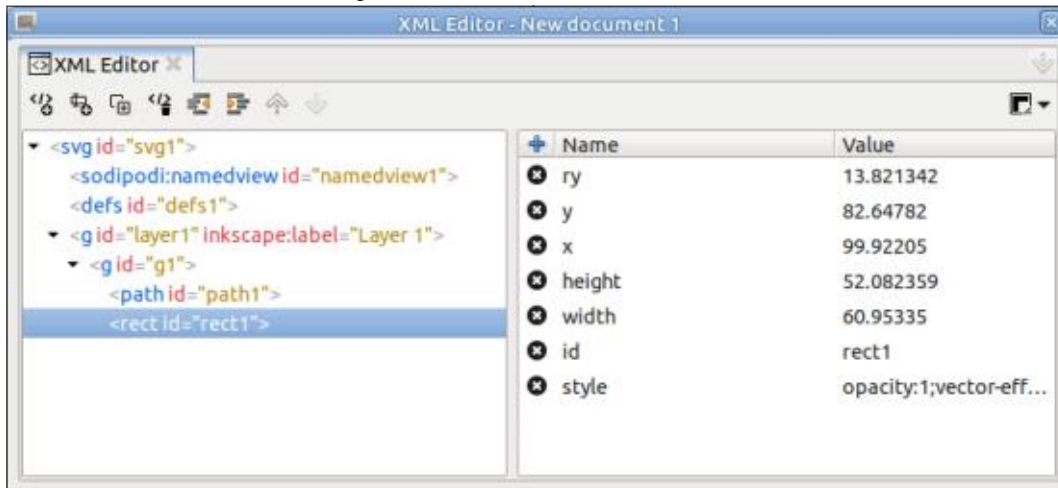
The rather useless option to hide the attributes pane has also been removed.

The editing pop-ups have been improved with this release. Selecting a 'style' attribute's value now shows the properties as a vertical list, much like you would use when writing a CSS file by hand. There's no syntax highlighting in here though, unfortunately.

When editing the 'd' attribute of a path element of some sort (a list that includes things like stars and spirals, as well as the more obvious Béziers and pencil lines), there's a small button and pop-up at the bottom of the editor. Clicking the button will round the path values to the number of digits selected in the pop-up, as shown in this before and after image.

This is something that can be achieved across a whole document when exporting as an 'Optimized

SVG', or more generally by adjusting the 'Numeric precision' value in the 'SVG Output' pane of the Inkscape Preferences dialog (Edit > Preferences), but it's quite nice to be able to do this on a more ad-hoc basis here. I imagine this might be of use to people creating small icons, for example, who want to ensure that their path coordinates all correspond to whole pixel values.

TOUCH SELECTION OF PATH NODES

'Touch selection' is a long-standing option in Inkscape that is often missed by new users, as it's not triggered by any obvious button or toggle in the UI. It's a feature of the Selector tool (F1) whereby holding down the ALT key allows you to draw a thin red line on your page: any element touched by that line will be selected when you release the mouse button. This option has now been made available in the Node tool (F2) as well.

'Touching' nodes with the red line isn't quite as easy as touching entire objects, so this is best used by roughly drawing a line around the nodes you wish to select.
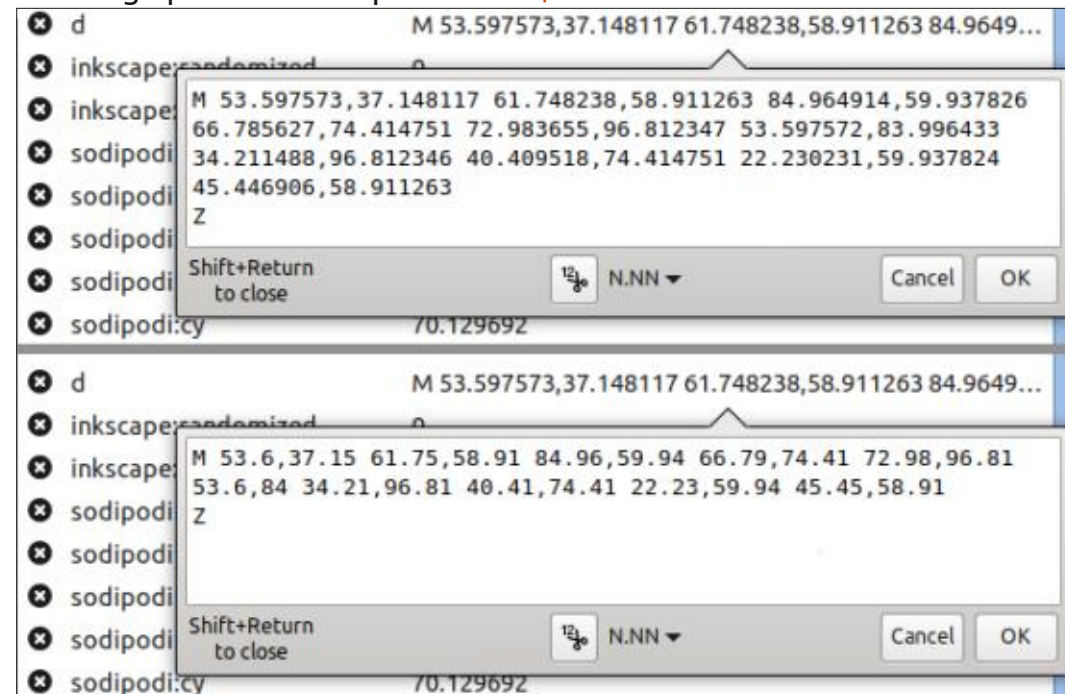
Inkscape does a pretty good job of working out which ones you intended to include, and which your line is just passing by, so you don't have to be terribly accurate, nor do you have to form completely closed loops around the nodes.

There's one big caveat with this feature for Linux users though. It's something I've discussed several times in the past, but it bears repeating: most Linux window managers use the ALT key for window operations. Typically, holding the ALT key and dragging the mouse (with the button pressed) will move the window, rather than activate Inkscape's touch mode. There are three solutions to this that I'm aware of:
• Change the settings for the ALT key in your window manager
• Hold the SUPER key at the same time as ALT
• Change the keyboard shortcut in Inkscape's Preferences dialog

I don't like the first of these, as I don't believe you should be forced to make a global change to your environment just to support a feature in a single application. But if you find you're frequently triggering window movements through ALT-dragging in other applications as well, this might be something to consider.

Option 2 is not guaranteed to work with all window managers – though it's done the job with all the ones I've used over the years, and is my preferred solution to this problem. Simply hold the SUPER key (the 'Windows' key on most PC keyboards) at the same time as ALT for any Inkscape functions that need the ALT key. This seems to be enough to not trigger the window manager's default actions, but Inkscape usually ignores the distinction and carries on as expected. This typically works well for features that have a long-standing history in Inkscape, but not for newer additions, as we'll see later.

The third option is to change the Inkscape keyboard bindings so that this mode is triggered by a key other than ALT. I'm not a fan of this approach, as it takes you off on a non-standard path to using Inkscape that might lead to confusion when trying to follow instructions, YouTube videos, or even future instalments of this series. But you may prefer it to option 1 if the second approach doesn't work. The location of this

setting is buried within the Preferences dialog (Interface > Keyboard > Modifiers tab > Selection), so you might want to follow the image below as a guide.

SELECTOR TOOL IMPROVEMENTS

There's now an option to enable selecting transparent objects. In the Preferences dialog, expand the 'Behaviour' section and click on the 'Selecting' entry. The new option is the second one in the pane, labelled as 'Select transparent objects, strokes and fills' on my system. Enabling this may avoid a few trips to the Display Mode menu if you have to work with transparent objects frequently.

There's now a way to save and restore the current selection, though it's not the easiest thing to use. You can access it by pressing the '?' key to open the 'Commands bar', then search for 'selection backup' to find the commands to set, restore, and empty the saved selection. It works for selected objects or nodes, but you can save only one selection at a time, which somewhat limits its usefulness. I've always found Inkscape's implementation of a command palette to be a bit clunky, so if you do want to use this feature, I'd recommend setting keyboard shortcuts for the set/restore commands, at least.

There's a keyboard shortcut to reapply the last transform. For example, if you rotate an object by 15°, then press CTRL-ALT-T, it will be rotated by another 15°. Based on what you've read so far, Linux users might expect to use SUPER-CTRL-ALT-T to achieve the same result, but unfortunately this is one case where Inkscape doesn't treat it as the same command. You can reassign this feature to that shortcut (or any other) via the Preferences dialog – search for 'Reapply Transforms' in the Interface > Keyboard pane.

It might not be immediately obvious to you why you would want to use this shortcut. Surely you could just rotate by 30° in the first place? In theory this could be useful for applying the same transform to multiple objects, one by one. In practice the reapplied transform is based on the same rotation origin as the original object, which makes this less useful for rotating, skewing, and scaling. In the rotation example, using this feature on a second object won't rotate it in place, but rather may send it shooting off to another part of the canvas entirely, if it's located some way from the first object's center of rotation.

A related feature that might prove more useful, though, is 'Duplicate and Transform'. By default, this is bound to CTRL-ALT-D, but Linux users will probably also have to re-bind this in the Preferences dialog, as adding the SUPER key to the mix doesn't work by default. With this shortcut, the selected object is duplicated and has the previous transformation applied to it as well. For example you might use these steps to create several objects that are equally spaced:

• Select an object.

- CTRL-D to duplicate it.
- Drag or otherwise move the duplicate to a new location.
- With the duplicate still selected, press CTRL-ALT-D (or the keyboard shortcut you've set) to create another duplicate spaced apart by the same amount.
- Repeat the keyboard shortcut to create a series of duplicates with equal spacing.

Unfortunately there isn't an equivalent of this for creating clones rather than duplicates, which is a slightly odd omission given the next addition to the Selector tool…

You may be familiar with the ability to drag an object around the canvas and hit the Spacebar to 'stamp' a copy. With 1.3, you can do the same but pressing 'C' instead of the Spacebar, resulting in a clone being created each time rather than a copy.

The next feature isn't exactly part of the Selector tool, but selections play their part. The rulers have been improved to provide a little more information, including some about the current selection. They now have a different colored background to indicate the page

boundaries, and a thin blue line, with circles at either end, to indicate the size and position of the current selection.

I'm not sure how useful it is to be able to see the size of the selection at all times, but it doesn't hurt either. More beneficial is the fact that you can now right-click on a ruler to set the document units, rather than having to do so via the Document Properties dialog. As this is a global setting for the document, it also affects the units used for number fields elsewhere in the application. If you have to switch between multiple units in the same document this will certainly be faster than opening a dialog.

PASTING OPTIONS

The options for pasting in Inkscape have increased over the years. As well as the most common case of pasting objects that have been copied to the clipboard, additional capabilities have been added to allow just pasting the

width or height, for example, which lets you easily set one object on the canvas to the same dimensions as another. With this increase in options, the Edit menu was starting to get a little long, so all the 'special' pasting modes have been moved to a separate sub-menu, simply called 'Paste…'. This should not be confused with the normal 'Paste' menu entry just above it (which has no ellipsis after the name), which is the one to use for simply pasting an object onto the canvas. The new menu contains these options:
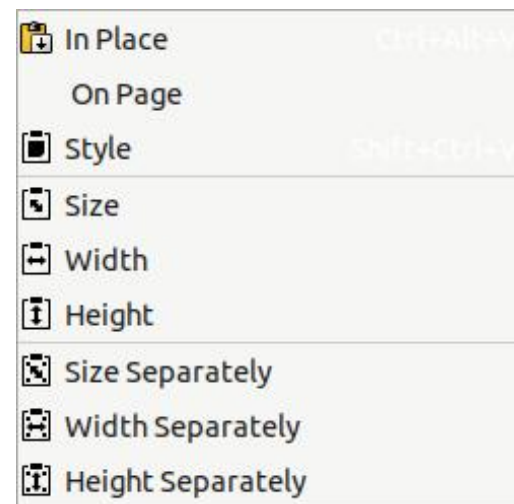
'In Place' will paste the object

back at exactly the same coordinates from which it was copied. While this may seem the same as simply creating a duplicate, the difference is that you have the opportunity to change layers, enter/exit a group, or even switch to a completely different document before pasting. I often use this to remove individual objects from within a group, but put them back at the same location so that the drawing looks the same, even if the structure has changed a little.

'On Page' is new with version 1.3, and is similar to 'In Place' except that it is relative to the current page in a multi-page document. This can be used to copy an object from one page to exactly the same place on another (e.g. a common header or border). Before using this, the destination page has to be made 'active' by selecting an object on it, selecting the page itself using the Page tool, or by changing the current page using the pop-up menu in the status bar (which is only visible if the document contains multiple pages).

The next three size-related entries are pretty simple. Copy an object to the clipboard, then select another object on the canvas. Select Edit > Paste… > Width to change the width of the selected object to match that of the copied object. 'Height' behaves similarly, and 'Size' sets both the width and height at once.

If, before choosing these paste options, you select multiple objects rather than just one, the behaviour may not be quite what you expected. The width/height/size is applied to the entire selection, rather than each individual object. If you want that behaviour, then the last set of options will provide you with the desired result. If you have only one object selected, then either set of options will give the same effect.

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**

Greetings again fellow Sentient Lifeforms. Things here at landing pad 2997 on Terra have been so busy, I feel like a "long tailed cat in a room full of rocking chairs". Since we last were together, we had some very severe storms move through one night, and it was so bad, large hail broke two windows, the strong winds blew down two sections of the fence here at the house, and the roof has to be replaced. The storm dumped over 4 inches of rain and the hailstones were between 3 to 4 inches, in 45 minutes. But life moves on as does the world of Micocontrollers.

MicroPython turned 10 years old on May 3rd. On June 2, 2024, Micropython version 1.23 was released. Each time there is an official release of a software package, especially Micropython, Python and so on, it's a big deal and this release is no different.

According to the Micropython website, https://github.com/micropython/micropython/releases/tag/v1.23.0, the biggest changes are "**Dynamic USB devices, revamped webassembly port, openamp, tls, vfs modules**". What does all that mean? Well, I'm going to try to tell you about some of it, and we'll explore some of them in depth in future articles.

First, let's look at the Dynamic USB device support. According to rumors, only the SAMD and RP2020 (RPi Pico/Pico-W type devices) have this support at the moment. What can you do with this addition? Supposedly you can build multiple send/receive serial streams using PIO, talk easily to MIDI devices and HID (Human Interface Devices) like keyboards, mice, game controllers and more. That in itself is exciting, but as I showed above, there is more.

Another big addition is around the openamp support, which is an inter-core communication system that allows MicroPython to run on one core, and other systems on the other core(s) at the same time. Supposedly there is a WebAssembly port in the interpreter, letting you run MicroPython in your browser? We'll try to look at this also in the future.

As to the vfs and tls support, "**vfs (virtual filesystem) related functions and classes, such as mount, umount, and VfsFat. These were originally in the os module, but having them there is not compatible with CPython, so they have been moved to their own dedicated module. They still exist in the os module for now, but will eventually be removed from there, so it's recommended to start using the vfs module from now on. Similarly, the new tls module is an evolution of the ssl module, whereby all the existing functionality in ssl has been moved to the tls module. This is done because MicroPython's SSL interface is becoming increasingly different to CPython's, and moving this SSL/TLS functionality to a new tls module gives it room to grow and obtain new features that are useful for embedded applications. And compatibility with normal Python is still retained via a pure Python**

implementation of the ssl module. One new feature in the new tls module is the ability to register a certificate verification callback."

As to support for the esp32 Microcontrollers, "**The esp32 port has seen some important bug fixes in the BLE component, to deinitialise without crashing, and increase the BLE task stack size. This port also uses the new I2S IDF driver, and supports IDF 5.0.5 and 5.2. There is support to enter the bootloader via machine.bootloader(), and a new esp32.mcu_temperature(), for ESP32-C3/S2/S3 devices.**"

The list of things that have changed goes on and on. I've provided the link above so you can look at them at your leisure.

Remember, if you don't want to bother with the whole, unplug your RPi Pico, press and hold the bootsel button, re-plug your USB cable, then release the bootsel to load a different firmware version; you can simply go to the REPL and enter the

command "machine.bootloader()". After a few seconds, the file manager will open so you can drag and drop the new firmware version to that window to load and reboot the microcontroller. It's a WHOLE lot easier than trying to juggle the microcontroller device and plug in the USB cable.

As I said, things are really hopping here at landing pad 2997, so I'm going to close this month's article. Look forward to some big projects in the future.

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

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

Linux on Your iPad

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

UBPORTS DEVICES

Written by UBports Team

Moem and Alfred where at T-Dose this weekend keeping the Ubuntu Touch and UBports flags flying. More on this next time. Alfred will also be on the Angry Nerds podcast, which will be streamed from and recorded at T-Dose.

Credit to @Kaizen for his original designs that this project is based on (see: https://forums.ubports.com/post/33598). And to @Lga for providing awesome looking images of devices (see: https://forums.ubports.com/topic/10106/phone-and-tablet-models-for-ubuntu-touch, more on

how these will be used will be shared soon). To Bram, Kiek and Jeroen for Odoo implementation, project organization and documentation."

These are some of the initial images created by Lga, to go with the website that can be found using this link: https://forums.ubports.com/topic/10106/phone-and-tablet-models-for-ubuntu-touch

Your trusted source in easy steps **for fast learning**

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

Mike McGrath

4th Edition

PHP

for interactive websites – updated for PHP 8

in easy steps

PLAIN ENGLISH

EASY TO FOLLOW

FULLY ILLUSTRATED

IN FULL COLOR
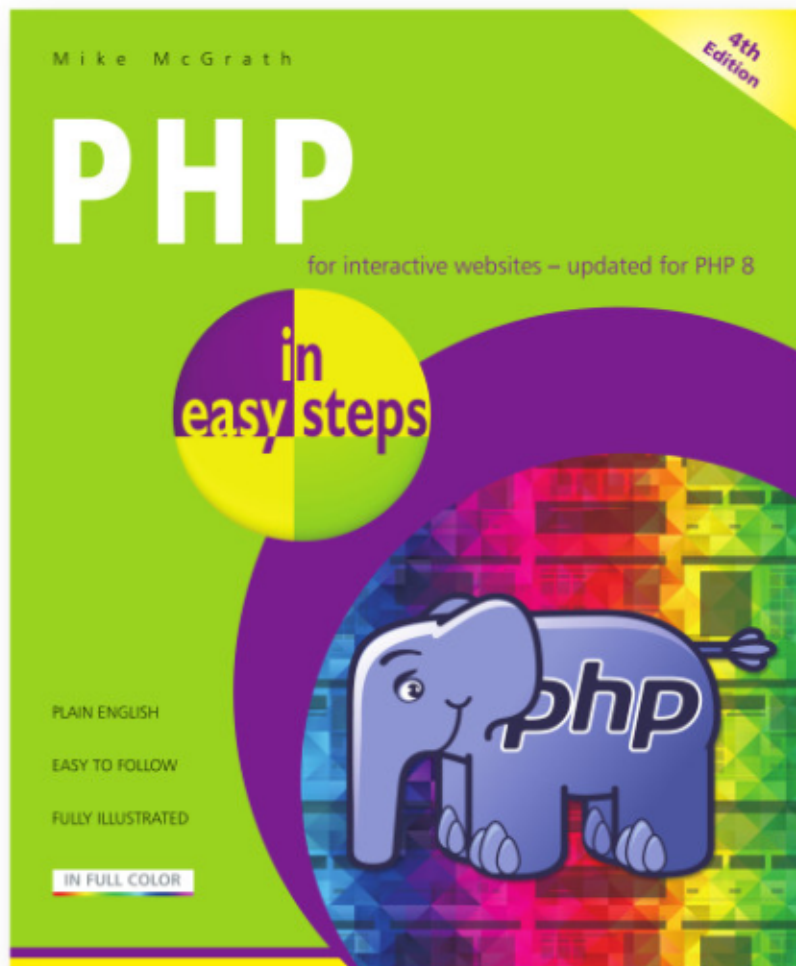
PHP in easy steps, 4th edition is ideal for PHP newbies who want to quickly learn the fundamentals of server-side programming with PHP and create interactive web pages.

- Shows PHP language basics including variables, arrays, logic, looping, functions and classes.

- Covers how to install a free web server and the PHP interpreter to create an environment in which you can produce your own data-driven web pages.

- Shows how to write PHP server-side scripts; master PHP operators and control structures; process HTML form data; get cookies and session data; access Web Services APIs over HTTP... and much more!

Updated for PHP 8

£11.99 / $16.99 paperback (ebook version also available)

ISBN: 9781840789232 / 192 pages / By: Mike McGrath

It's no secret that people do not like Snap packages, like Flatpak packages, they can be useful, but mostly fill up a lean system with bloat and ignore system settings. Linux Mint is the most well known non-snap version of Ubuntu. It comes with its own flagship desktop environment to boot. However, today we want to compare apples with apples, so we are going to take three non-snap Ubuntu derivatives and run them all with XFCE. We will look at what comes with each and how they perform with the same resources. Before we plop it onto metal, it may be a good idea to see how they perform in a virtual environment. We will assign 3 CPU's and 8Gb of memory to each.

First up is **Linux Lite 7.0**.

BOOTING:

The startup was reasonable, with a pleasant tinkling of sound sprinkled in. The top ten speed hogs are as follows:


```
File  Edit  View  Terminal  Tabs  Help
ed    ~       sudo systemd-analyze blame
12.671s networking.service
 2.238s zfs-load-module.service
 1.236s lightdm.service
 1.210s plymouth-quit-wait.service
  987ms systemd-udev-settle.service
  821ms NetworkManager.service
  800ms postfix@-.service
  598ms dev-sda3.device
  537ms blueman-mechanism.service
  346ms accounts-daemon.service
  287ms networkd-dispatcher.service
  283ms gpu-manager.service
```
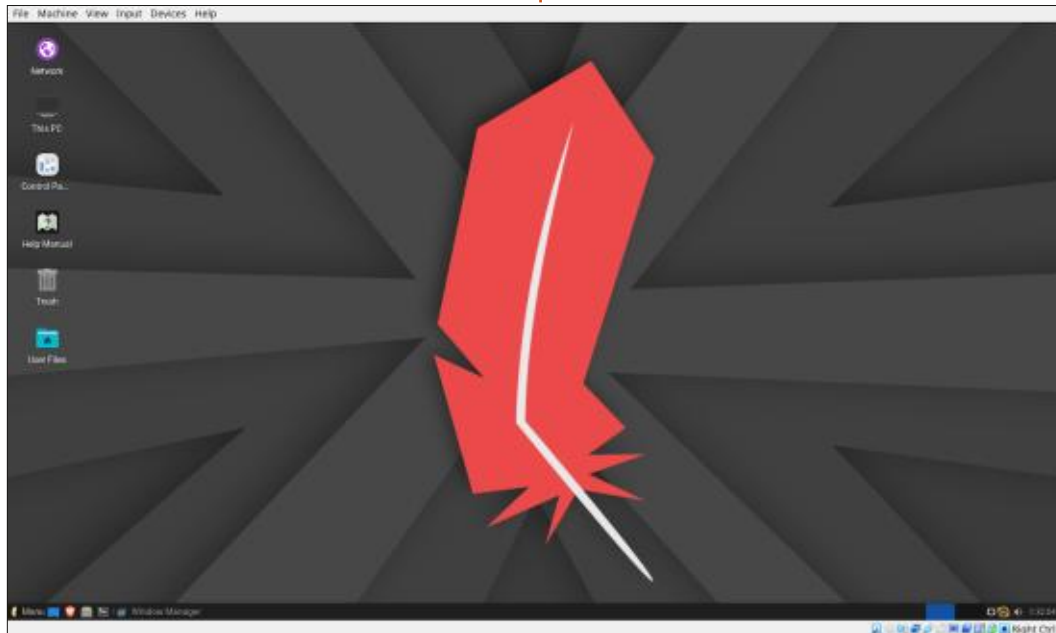

Twelve and a half seconds for networking being the longest, followed by zfs-load-module at two and a half seconds and lightdm at one and a half. Overall, decent, with a lot of services you will probably remove, depending on your system set up. To confirm, we did a restart and got almost the same results, except this time Plymouth-quit-wait was not in the top 10 and systemd-udev-settle replaced it at almost 1 second. We are greeted with a Linux Lite Welcome window with various tasks pinned.

Htop tells us that the resting memory is 743 Mb, which is reasonable for XFCE.

LOOK AND FEEL:

By default, the distribution ships with Materia as the style and Papyrus Adapta as the default icon set. Though the distribution is Ubuntu-based, the default font is Roboto. The terminal is the standard XFCE terminal with bash, and the prompt has been pimped out with a powerline-style look. There is no "development" or

MY OPINION

"games" category in the default menu and no applications installed that could be considered such. The layout of the menu is category left and contents right, with the logout and switch user icons at the bottom. (quite small) We have one panel running across the bottom with sensible icons and placing. The panel is still confused as in the previous version, placing the window bars representing windows down in alphabetical order, instead of the order opened. The desktop comes with a few desktop icons. The default mouse theme was boring adwaitha, and it ships with another similar theme.

APPLICATIONS:

The office package is LibreOffice with all the applications installed as well as all the languages. The default browser is Chrome, not Chromium and the default file manager is Thunar. It comes standard with a paint program, that you seldom see and all the "Lite" applications. One of these is the "Lite Software", that allows you to install popular software quickly. Unlike version 6, it does not offer the Snap version of Firefox. This is also where you

install the "restricted-extras" package, should one require it. This is handy for newbies, who may not have their script ready for first install. The Lite-widget is not on by default as in previous versions and you can enable it separately. Linux Lite, curiously still ships with a CD/DVD burning application. There is also a default HiDPi setting application that ships with the distribution, for those with screens larger than 1920x1080. (this is separate from the "scale" in the display settings). The update manager is simple and functional.
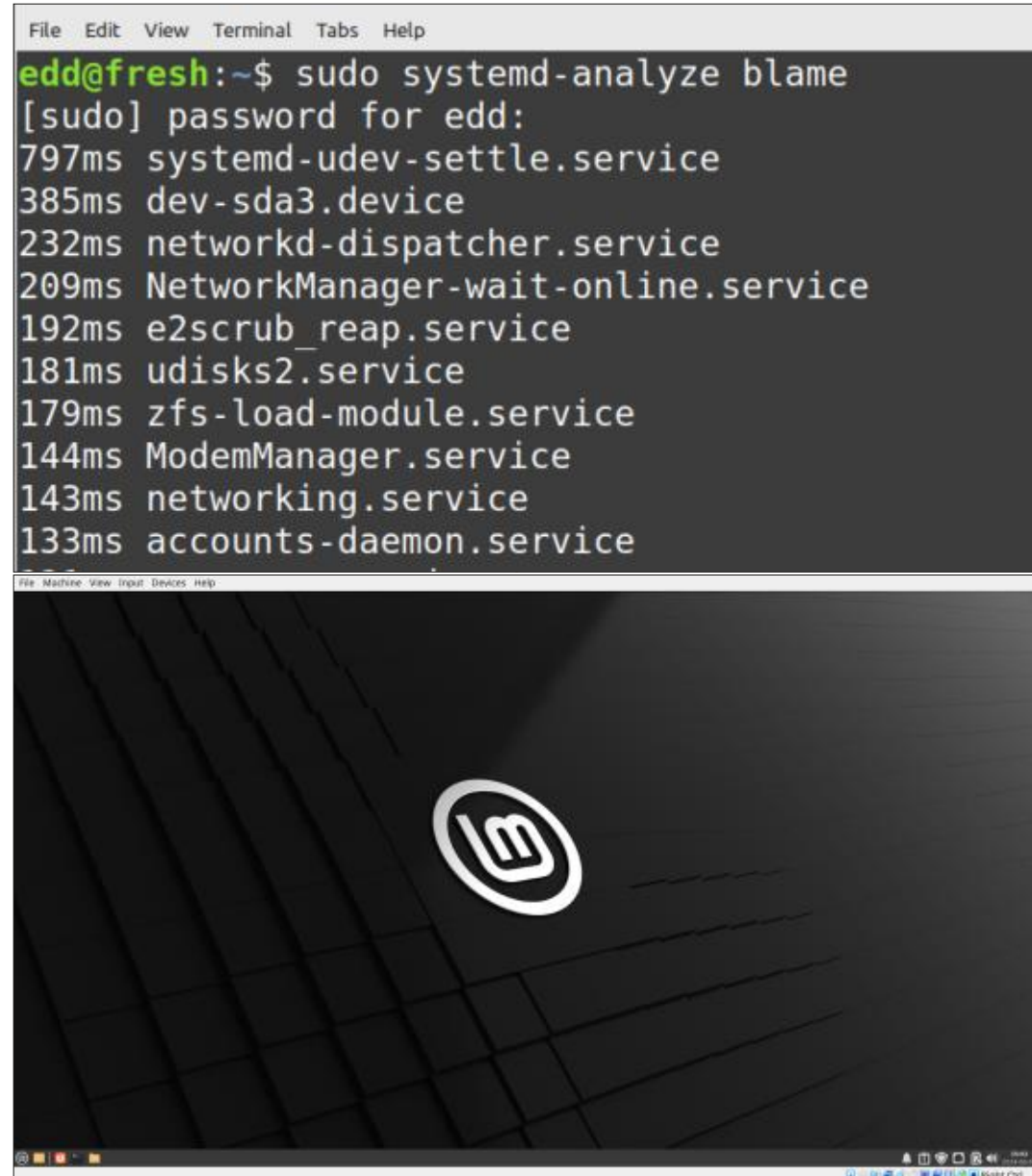
OVERALL:

The distribution does not favour any package type over another, it does not ship with Flatpak instead of Snap and you are left to do your own thing. (this is the main reason Linux Lite is usually my daily driver) After about an hour of usage, we closed all the applications and ran htop again, to be pleasantly surprised by 661Mb in use. Out of the box it is a good experience backed up by a slew of "Lite" applications unique to this distribution.

Second was **Linux Mint 21.3**.

BOOTING:

The start up was snappy and there was no sound. Linux Mint ships with a slightly older kernel, so here things may not be 100% on par. However, it does not suffer the penalties you see in other distributions when booting.

MY OPINION

All the wait states are below one second. Multiple boots never saw any of these over one second. Once logged in, we are greeted with the Linux Mint Welcome screen.

Htop tells us that the resting memory is 681 Mb, which is reasonable for XFCE.

LOOK AND FEEL:

The one thing that struck me about Mint XFCE was how similar it looked to Mint Cinnamon. The menu icons were well chosen, as they fill the menu bar nicely and are not too small. Little attention to detail is what makes Linux Mint so popular. There is no "development" or "games" category in the default menu and no applications installed that could be considered such. The layout of the menu is category left and contents right, with the logout and switch user buttons in line with the user name and similarly sized. By default, the distribution ships with Mint-Y-Aqua as the style and Mint-Y-sand as the default icon set. The default font is Ubuntu. This all comes together nicely for a good out-of-the-box experience. The default terminal is XFCE terminal with green colouring and comes with bash as standard. Though the terminal is easy to customize, I would have liked to see a bit of effort put in here too. There are no icons on the desktop. The mouse theme was stylish bibata.

APPLICATIONS:

The office package is LibreOffice with all the applications installed as well as all the languages. I would like there to be an application to remove all the other languages, or not install them once you have chosen the default. The default browser is Firefox and the default file manager is Thunar. It comes standard with a TV application called "Hypnotix" and other stand-out applications are compiz-manager, warpinator and redshift that you do not see as default on other distributions. Other than the Mint Welcome application, there are no specific Mint applications. Linux Mint does ship with mintinstall as its default software manager. One of the weird choices for Linux Mint was that it does not ship with htop. The default text editor is Xed. For people with bigger screens, they have to be content with the scaling of the display settings.

OVERALL:

The distribution does not favour any package type over another, but it does ship with Flatpak instead of Snap and there is no choice other than Flatpak for some applications in the software center. After about an hour of usage, we closed all the applications and ran htop again, to find 718 Mb in use. Linux Mint looks gorgeous as always, just being let down by a bland terminal.

Finally we looked at **Asmi Linux**.

BOOTING:

The startup is fast and there is no sound. There are no real, speed hogs:

Restarting a few times, the zfs-load-module kept being between one and two seconds. Nothing else over one second. As you can see, this was the only distribution I did not need to install the virtualbox-guest-addons. There is no welcome screen, but this distribution is not aimed at newbies.

LOOK AND FEEL:

By default, the distribution ships with Yaru-blue-dark as the style and

```
15:05:37 edd askme ~/Desktop 4m28s
→ sudo systemd-analyze blame
[sudo] password for edd:
1.882s zfs-load-module.service
 579ms systemd-udev-settle.service
 557ms NetworkManager.service
 392ms dev-sda1.device
 346ms blueman-mechanism.service
 243ms ufw.service
 235ms accounts-daemon.service
 231ms udisks2.service
 199ms virtualbox-guest-utils.service
```

MY OPINION

Telabudgie-dark as the default icon set. The default font is Ubuntu. The terminal is the standard XFCE terminal with bash, and the prompt has been pimped out. (as well as a few other surprises!) The distribution also ships with fish as an alternative. (you will find many alternatives in this distribution) There is no "games'' category in the default menu and no applications installed that could be considered such. There is a "Development" category, with Geany and Meld installed and Geany has been pimped for you. The layout of the menu is category left and contents right, with the logout and switch user icons at the top, in line with the username. (same size as the font) We have one dock rather than a panel running across the left with a more standard Ubuntu look and feel. The time applet is at the top and not the bottom. There is no "show desktop" icon or space by default. There is a asmi-indicator icon that allows for more actions. The icons for opened applications are placed sanely, as you open the applications, rather than alphabetical as in the previous distributions. The desktop comes with a "home" icon. The default mouse theme was breeze light and

not the standard pointer.

APPLICATIONS:

The office package is LibreOffice with all the applications installed as well as all the languages. The default browser is Firefox and the default file manager is Thunar and they put effort in configuring it so that it is transparent whilst dragging. It comes with Nemo as an alternative. (you will find many of the applications come with alternatives) There is a distribution-specific application, named asmi settings. This allows you to change
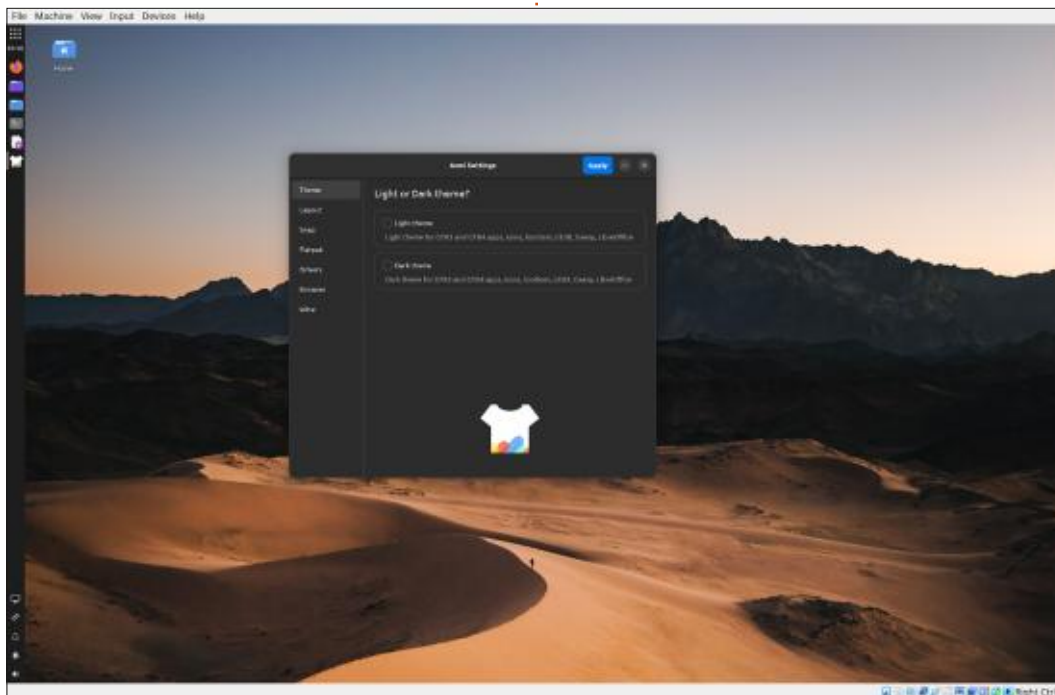
your layout, ala Zorin OS, set default browsers and turn Flatpak and Snap on or off as well as wine. The distribution ships with CherryTree installed. You have a screen recorder, vokoscreen and uget installed by default. We have already mentioned that Geany was set up correctly and that you can use it as both a text editor and an IDE. There are some KDE applications like Kdiskmark and Kvantum manager in the mix as well. It ships with version 0.5.0 of mission center as well. There is no software centre, but synaptic is included. Variety is also included as standard, so your wallpaper

changes often.

OVERALL:

The distribution favours Appimage over Flatpak and Snap and comes with an Appimage launcher built in. As mentioned before, you have the option to enable the others. After about an hour of usage, we closed all the applications and ran htop again, to find 848 Mb in use, this is to be expected running KDE and Gnome applications and some QT applications too.

The more "traditional" windows layout.

While they all pursue their own goals, they are similar in that they offer a Snap-free version of Ubuntu that is still compatible with all the myriad of software that ship with Ubuntu only binaries. I will now test these on metal and I will add anything here if there are any issues.
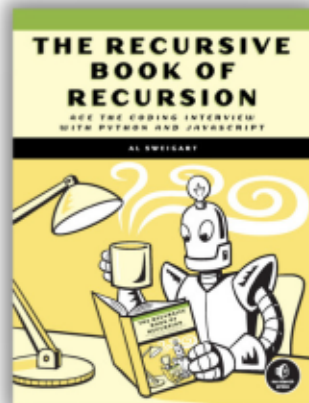
*they performed the same as they did in the virtual machine
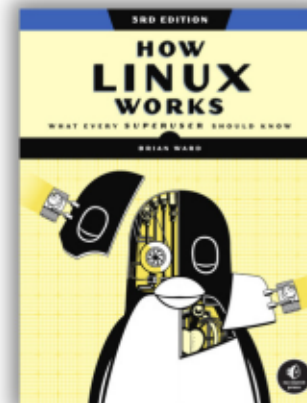
Tech Books Made Better

no starch press®

Python Crash Course, 3rd Edition
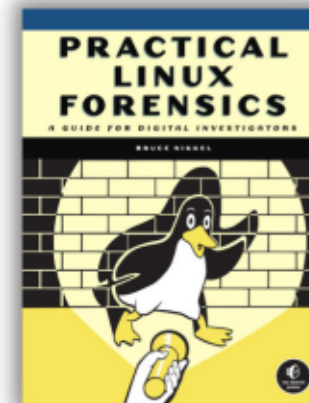9781718502703
$44.99 PB | 552 pages

The Recursive Book of Recursion
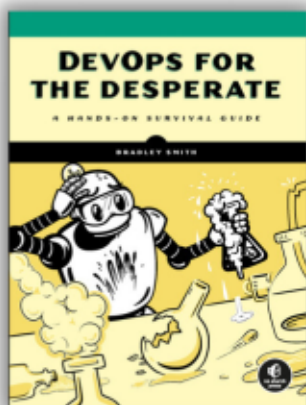9781718502024
$33.99 PB | 328 pages

Dead Simple Python
9781718500921
$59.99 PB | 752 pages

How Linux Works, 3rd Edition
9781718500402
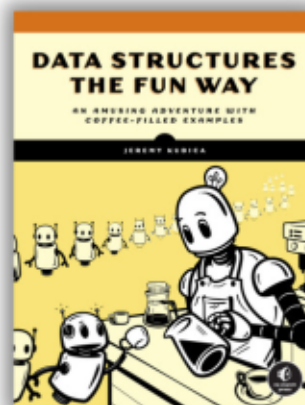$49.99 PB | 464 pages

Practical Linux Forensics
9781718501966
$59.99 PB | 400 pages

DevOps for the Desperate
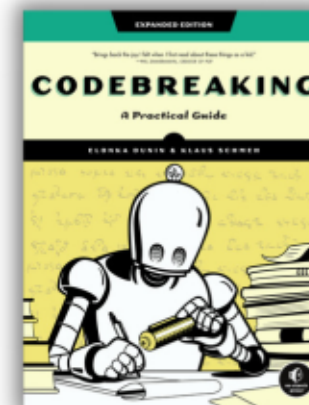9781718502482
$29.99 PB | 176 pages

The Rust Programming Language, 2nd Edition
9781718503106
$49.99 PB | 560 pages

Data Structures the Fun Way
9781718502604
$39.99 PB | 304 pages

Deep Learning
9781718500723
$99.99 PB | 776 pages

Codebreaking
9781718502727
$29.99 PB | 488 pages

GUIDELINES

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

RULES

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

• For advice, please refer to the **Official Full Circle Style Guide**: http://bit.ly/fcmwriting

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

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

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

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

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

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

TRANSLATIONS

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

REVIEWS

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

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

HARDWARE
When reviewing hardware please state clearly:

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

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

The latest Kubuntu release came out, along with all the other Ubuntu flavors, on 25 April, 2024. Kubuntu 24.04 LTS is a long term support (LTS) release, which means it comes with three years of support, running until April, 2027.

Kubuntu has been around for 19 years now, since 2005, and was the first official Ubuntu flavor. Kubuntu 24.04 LTS is the 39th overall release and the 18th with the Qt toolkit-based Plasma 5 desktop. It may also turn out to be the last one with Plasma 5 as Plasma 6 is set to be introduced into Kubuntu shortly.

This development cycle, consisting of three interim releases leading to this LTS release, has been quiet, with only a few small changes introduced. Overall, I think it is a good thing, as Kubuntu has a dedicated fan base who like the way it looks and works and most don't see a need for big changes. A few small refinements is exactly what they will see in the Kubuntu 24.04 LTS release.

Installation

I downloaded the Kubuntu 24.04 LTS ISO file from the official sources using the Transmission BitTorrent client. I ran a command line SHA256 sum check on it to make sure the download was correct and it passed.

This download was 4.1 GB, up slightly from the 3.9 GB file size of the last release, Kubuntu 23.10.

I tested Kubuntu 24.04 LTS from a USB stick equipped with Ventoy 1.0.97 over a series of live sessions. Unlike the last Kubuntu release
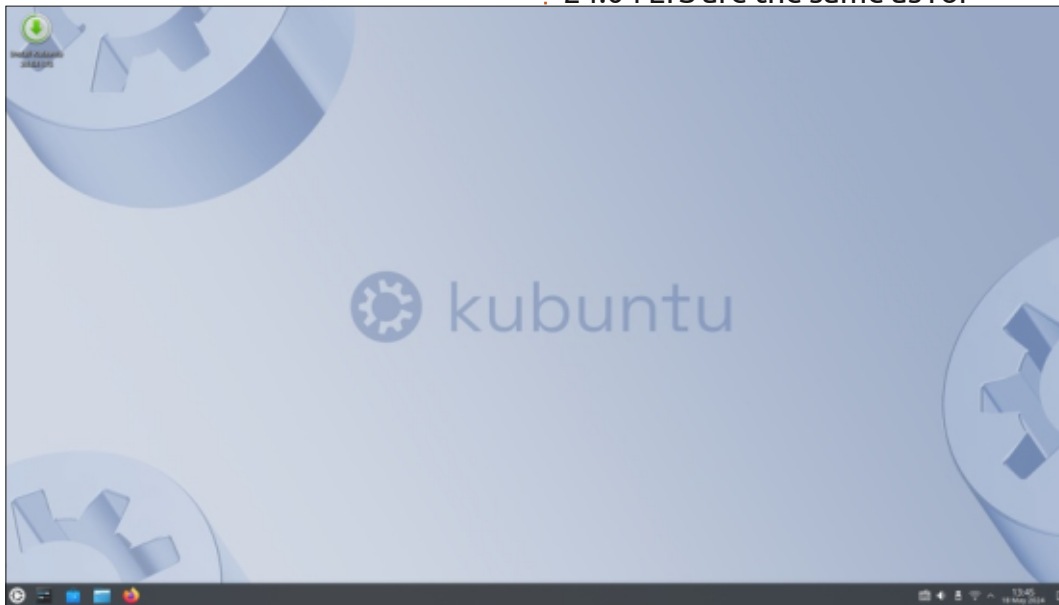
where the screen would lock after 15 minutes of inactivity and demand a password that no one seemed to know, Kubuntu 24.04 LTS has no such issue and has returned to more user-friendly, no password required live sessions once again. It also does not prevent mounting drives in the live session unlike Ubuntu Cinnamon 24.04 LTS and Xubuntu 24.04 LTS.

SYSTEM REQUIREMENTS

The recommended minimum system requirements for Kubuntu 24.04 LTS are the same as for

Ubuntu and have not changed for this release:

2 GHz dual core processor
4 GB RAM
25 GB of hard-drive, USB stick, memory card or external drive space
Screen capable of 1024 x 768 pixel screen resolution
Either a CD/DVD drive or a USB port for the installation media
Internet access is useful but not essential

It is probably worth noting that the recommended 4 GB of RAM is likely less than ideal for web browsing and 8 GB is probably more realistic.

NEW

The last Kubuntu release, 23.10, did not get a new default wallpaper which was unusual as most releases get a new one. Kubuntu 24.04 LTS returns to the tradition of a new default wallpaper, in this case it is called "Kubuntu Light" and is by Fabio Maricato and Micheal

Mikowski. This time there are 44 wallpapers provided, many of them from past Kubuntu releases, so if you have an old favorite it may well be here. Given that the code name for the 24.04 LTS Ubuntu family of releases is "Noble Numbat", it is worth pointing out that there are no Numbat-themed wallpapers.

Kubuntu 24.04 LTS uses the Qt 5.15.13 toolkit, KDE Frameworks 5.115.0, has applications from the KDE Gear 23.08.5 collection and uses the KDE Plasma 5.27.11 desktop. Like all the Ubuntu 24.04 LTS family of releases, Kubuntu comes with Linux kernel 6.8 and has systemd 255.4 as its initialization system. This release also switches to using the Calamares installer,

also used by Lubuntu, instead of moving to Ubuntu's new Flutter-based installer. Both of these installers work quite well and are easy to use.

As noted, the Plasma 5.27 series is likely to be the last of the Plasma 5 desktops, as Plasma 6 was already out in February 2024. It was not clear initially whether Plasma 6 would make it into this release or not. Given that this is an LTS release, the conservative decision was of course to use Plasma 5.27.11 rather than take a chance on a new desktop and so Plasma 6 will have to wait until at least the release of Kubuntu 24.10 in October 2024.

Kubuntu still has the Wayland

display server on test and so this release continues to use the venerable X.org display server instead. The release notes do say, "a Plasma Wayland session is available for testing by installing the plasma-workspace-wayland package, but is not supported. A Wayland session can then be started by selecting it at the login screen."

SETTINGS

One of Kubuntu's enduring appeals has always been that it is highly customizable, giving its users a wide choice of how they want it to look. Kubuntu 24.04 LTS has even more choices than earlier releases,

as it offers five global themes, four application styles, six Plasma styles, six window colors, three window decoration styles, eight icon sets, 14 cursor styles, two splash screens and ten boot splash screens. And it is worth pointing out that those are just the installed options, as most of the settings pages have one-button downloads to add many more.

One suggestion I do have for Kubuntu users is that if you find a combination of themes and colors that you like, you had better write it all down for any future installation you have to do, as otherwise you will never duplicate it!

Kubuntu 24.04 LTS also has 68
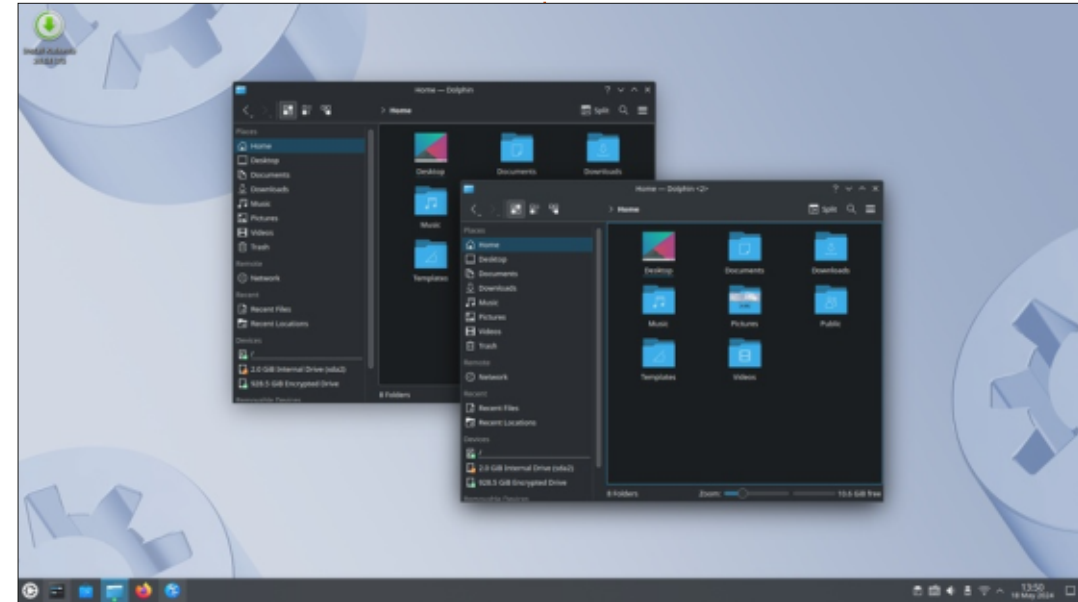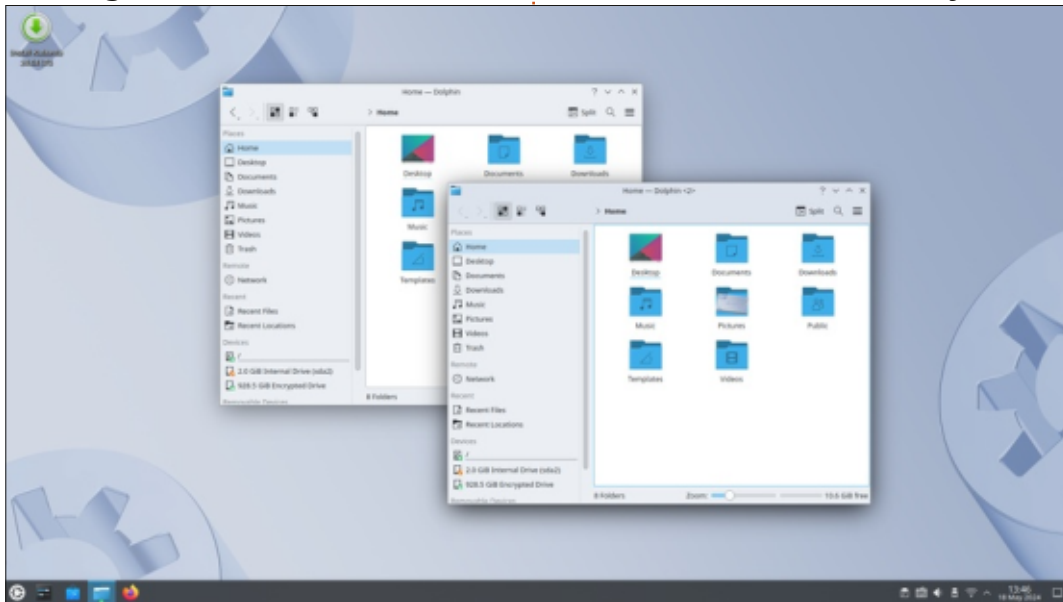
pre-installed desktop widgets, the same number as in the last few releases. These widgets are small applications that can be added to the desktop, for things such as clocks and weather reports. Hundreds more of them can be downloaded, too, with the main constraint being the user's tolerance for clutter.

APPLICATIONS

Some of the applications included with Kubuntu 24.04 LTS are:

Ark 23.08.5 archive manager
Discover 2.1.2 software store*
Dolphin 23.08.5 file manager

Elisa 23.08.5 music player
Firefox 125.0.2 web browser**
Gwenview 23.08.5 image viewer
Haruna 0.12.3 video player
Kate 23.08.5 text editor
Kcalc 23.08.5 calculator
KDE Partition Manager 23.08.5 partition editor
Konsole 23.08.5 terminal emulator
Kmahjongg 23.08.5 game
Kmines 23.08.5 game
Konversation 23.08.5 IRC client
Kpatience 23.08.5 game
Ksudoku 23.08.5 game
LibreOffice 24.2.2 office suite, less only LibreOffice Base database
NeoChat 23.08.5 Matrix client
Okular 23.08.5 PDF viewer
PipeWire 1.0.5 audio controller
Plasma System Monitor 5.27.11 system monitor

Skanlite 23.08.5 scanning utility
SkanPage 23.08.5 multi-page scanning utility
Spectacle 23.08.5 screenshot tool
Startup Disk Creator 0.3.17 (usb-creator-kde) USB ISO writer*
Thunderbird 115.10.1 email client**
Vim 9.1.16 console text editor

* indicates same application version as used in Kubuntu 23.10
** supplied as a Snap, so version depends on the upstream package manager

As usual, the lack of asterisks shows that almost all of the applications included are updated versions taken from KDE Gear 23.08.5.

Not mentioned in the release notes are a few additions and deletions to the list of default applications provided. The Muon package manager and the Ktorrent BitTorrent client have been removed. The lack of Muon leaves the Discover software store to handle package management, but the removal of Ktorrent leaves no default BitTorrent client installed although there are several available for installation in the repositories including Ktorrent itself. Also unannounced were the addition of the NeoChat Matrix chat client and SkanPage, a multi-page scanning utility. The latter is really to make up for shortcomings in the provided Skanlite scanning utility. The GTK toolkit-based Document Scanner
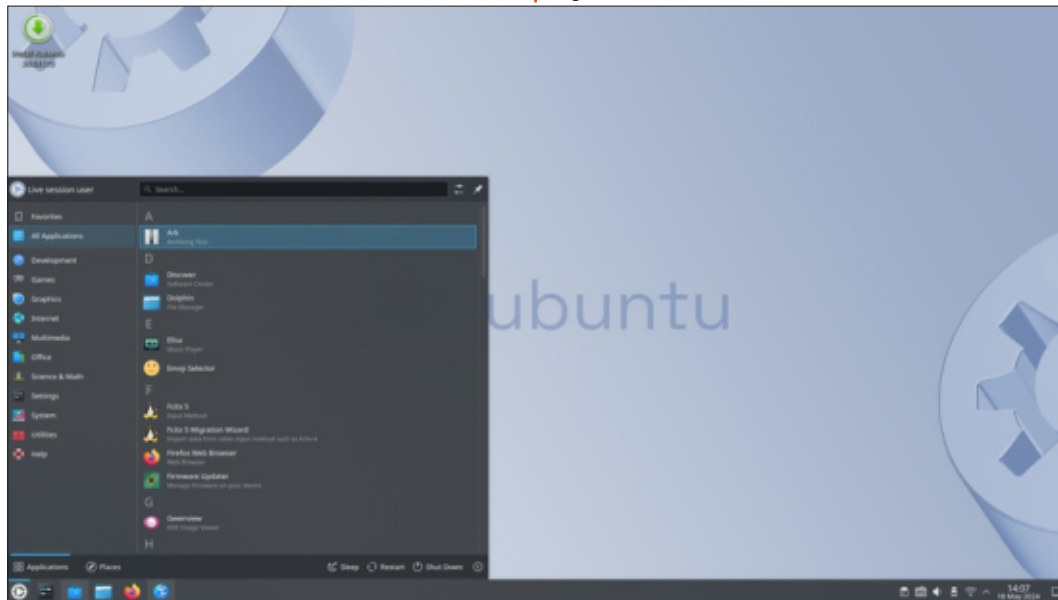
(Simple Scan) optical scanner actually works better, though.

LibreOffice 24.2.2 is once again supplied complete, lacking only LibreOffice Base, the office suite's database application. Base is probably the least used component of the suite but it can be added from the repositories, if required.

The Thunderbird email client is still included but is now a Snap package rather than a .deb. This should aid Mozilla in keeping it up to date and provide users with newer versions more quickly.

As in past releases, Kubuntu 24.04 LTS does not include a webcam application, an image editor or video editor by default although there are many options for these in the repositories, if desired.

CONCLUSIONS

With 19 years of Kubuntu releases behind them, predictably the Kubuntu developers have put out 24.04 LTS, a highly polished and refined long term support release, with no obvious flaws. The lack of any serious changes means that
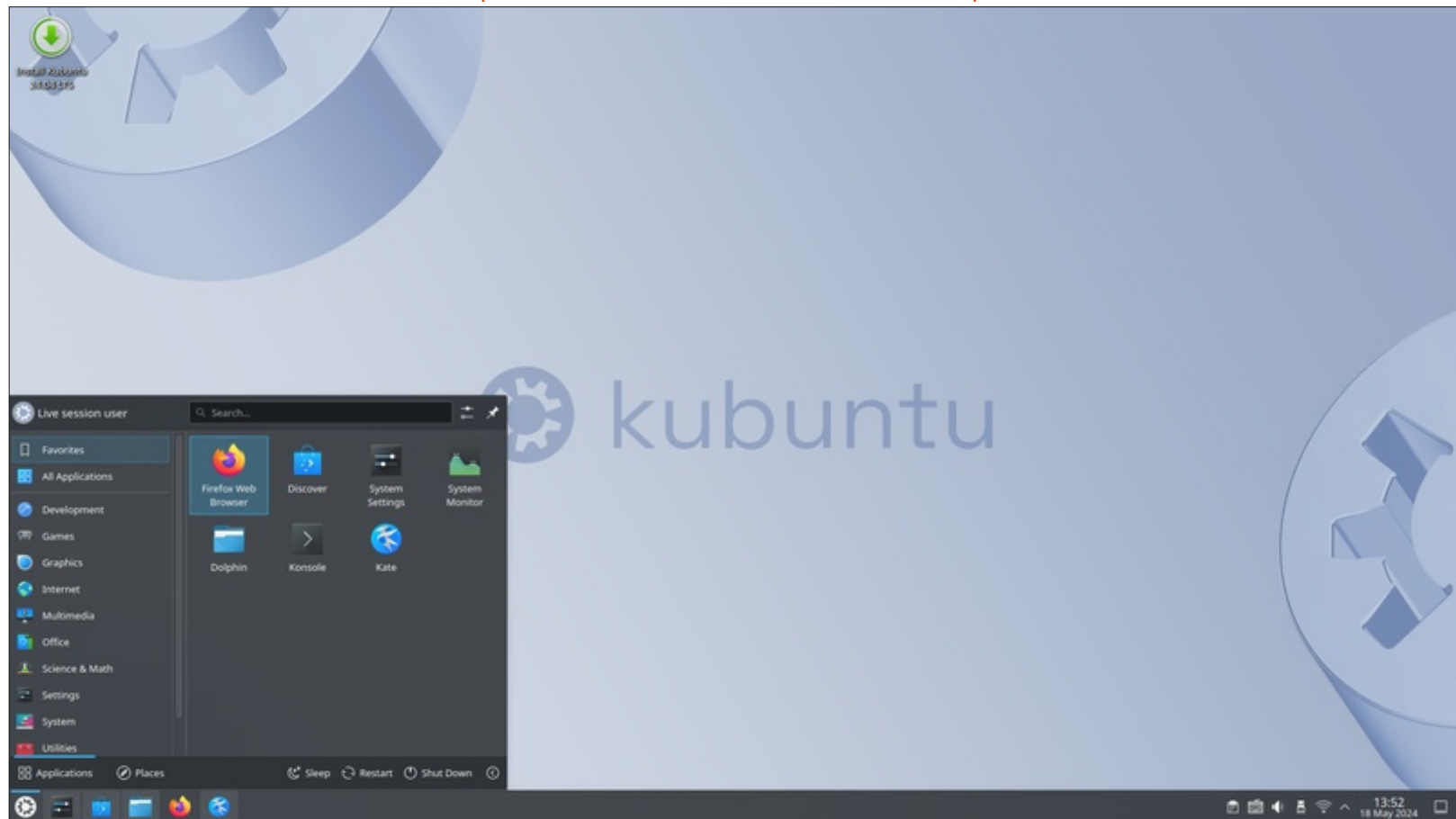
users can upgrade for another three years of support and not have to deal with much of a learning curve and that should keep Kubuntu fans happy!

EXTERNAL LINKS

Official website:
https://kubuntu.org/

Adam Hunt started using Ubuntu in 2007 and has used Lubuntu since 2010. He lives in Ottawa, Ontario, Canada, in a house with no Windows.

I compared prices and ordered this mini PC for around $100 (USD), plus a few dollars tax. Please keep in mind this was the late 2023 price, and as such is subject to change.

This is a mini PC and it is fairly small (roughly 5"x4.5"x2"). It has the AMD Excavator CPU with Radeon R5 GPU integrated, 8GB of RAM and 1238GB SSD storage. It also has a very modest power consumption of 12 volts.

The model I ordered came preinstalled with Ubuntu 22.04.1 LTS, but the same mini PC can be purchased preinstalled with Microsoft Windows 10 Pro. So you have options.

Upon delivery, I immediately upgraded to Ubuntu 22.04.3 LTS, and patched up-to-date.

In this review I will be discussing how it worked for the use cases for entry level, mid-level, and small business computers.

FOR ENTRY LEVEL USE:

For general entry level users, I would expect activities like basic documents, spreadsheets, some common web browser use, browser based streaming video, e-mail, and maybe instant messaging. I threw in an eBook reader application just for good measure (and my personal enjoyment). I also installed Rhythmbox to play some music and listen to a couple podcasts. In my use of these applications, I find this

mini PC does a very good job. It is more than powerful enough in my use of these applications. Even with most of them up at the same time.

FOR MID-LEVEL AND SMALL BUSINESS USE:

As with any business, improved security may be needed. So, I have tested what I perceive as the two most common secure messaging applications, Telegram and Signal, both of which worked flawlessly. I also installed Nord VPN for further improved security, it worked exactly as expected. For e-mail and calendar use, I employed Thunderbird mail and linked it to an Outlook account. All the e-mail and calendar collaboration features worked as expected. Multiple displays may be needed in a small business and this computer comes with dual HDMI ports that provide a very respectable resolution with the built in Radeon R5 GPU.

In the testing I did the AMD Excavator CPU with the integrated Radeon R5 GPU was very pleasantly surprised at its all around performance with good video and audio .

OTHER CONSIDERATIONS:

Due to its diminutive size this mini PC comes with no speakers, as most full size PCs don't. So you will need to plug in an external speaker or use a stereo headset for audio output. I found the audio output to

be good. But if you are an audiophile, whose ears are far more discerning than mine; you may want to look at a USB sound card device to get you to the kind of clarity and quality you enjoy.

If you are a competitive, multi-player, high frame rate gamer; this might not be the PC for you. As a low cost and low power consumption mini PC, with a price tag this low, it may be unreasonable to expect this PC to meet a high end competitive gamer needs. For less demanding stand alone or single player games it tested with, I found it surprisingly good and enjoyed playing on it.

If you feel this WO-WE is a little

too lightweight for your needs; they do make a model powered by the AMD Ryzen 7 CPU, but at a higher price (like 250% higher).

POSSIBLE ADDITIONAL USE CASES (UNTESTED):

As a general use media PC, this mini PC should meet these needs as well. With the dual HDMI ports supporting multiple monitors or a monitor and a TV. With a set of speakers it would probably do a respectable job. I just didn't have the time to test this myself.

Used as an amateur radio operator's "shack" computer. As a technician class licensed radio

operator, this is where I will be going with my testing next.

IN SUMMARY:

I am very pleased with this mini PC, and feel my money was well spent. It outperforms the cost nicely. A very good value.

SOFTWARE/APPLICATIONS TESTED THUS FAR:

Nord VPN:
NordVPN, as usual, was the first thing I installed. Installation was smooth. I configured it to auto-start (init.d). It has auto-started and has run flawlessly. Because I'm a paranoid old IT guy, I check it

occasionally via a terminal session (nordvpn status command).

Firefox (browser):
Second installation was the Firefox browser. Configured as securely as I can tolerate it. Installed a few notable extensions/add-ons like Ghostery and EFF's Privacy Badger, set the home to be startpage. The browser has run well. I tested several web sites and even played a movie on Amazon prime. The only issue I've had is the slow first load after a reboot, but that is normal and expected. I'm just impatient.

ClamAV/ClamTK (anti-virus):
Install was smooth and it runs fine. Setup auto scans and check it

occasionally with a manual scan

Thunderbird Mail (email client):
Install was smooth, connected with an existing Hotmail/Outlook account (yes, I'm that old). It is working well. E-mail and calendar collaboration features all work for me. So, totally as expected.

Telegram (secure messaging app):
Install was smooth. It has worked as expected and has had zero errors.

Signal (secure messaging app):
Install was smooth. It has worked as expected and has had zero errors.

Foliate (eBook reader):
Install was smooth. Since it is the first time I have used this app, the interface took me a few minutes to get used to and get books added to it. I downloaded several books from The Gutenberg Project (a great source for free eBooks for you reading junkies) and tested it out. Being light sensitive I'm enjoying the dark mode. I like it and it has worked great.

LibreOffice:
LibreOffice was preinstalled with Ubuntu, so you don't get much easier than that. I have used the writer and calc spreadsheets apps. They have behaved exactly as expected.

WO-WE Mini PC LINUX (Ubuntu) Preinstalled Computer Technical Details:

Manufacturer:	WO-WE
Model Number:	HU-MNPC007-L(LINUX)
Preinstalled Operating System:	Ubuntu 22.04.01 (LTE)
Cost:	Around $100 (USD) plus tax in late 2023
CPU:	AMD "Excavator" A9-9400 - 7th Gen.
Architecture:	A9 (Stoney Ridge)
Clock Speeds:	
Frequency:	2.4 GHz
Base Clock Speed:	100 MHz
Turbo Clock Speed	3.2 GHz
CPU Cache:	
L1 / L2 Cache:	128 KB (per core) / 1MB (per core)
Socket Type :	AMD FT4
Number of Compute Cores:	2
Number of Compute Threads:	2
Integrated Graphics (GPU):	AMD/ATI Radeon R5 (rev c6)
Memory:	
Physical RAM out of the box:	8GB (upgradable)
Supported Memory type:	DDR4 (2666MHz)
Storage:	
SSD storage out of the box:	128GB M.2 2280 SATA SSD (upgradable)
Operating Systems Supported:	
- LINUX	LINUX (Ubuntu 22.04.1)
- Microsoft Windows	Microsoft Windows 10 Pro
System Ports:	
- Power Port:	1 (12volts output)
- NIC port:	1 (RJ45)
- USB 2.0 Ports / 3.1 Ports	2 / 2
- USB Type-C-Thunderbolt Port	1
- Micro SD Port	1
- Audio Jack (3.5mm)	1
Network Interfaces:	
Physical NIC:	Intel corporation Ethernet Connector I225-V (rev3), 2.5G
WiFi:	Realtek Semiconductor Co., Ltd. RTL8822CE 802.11ac PCIe Wireless (WiFi 5.0)
Bluetooth:	

Rhythmbox Player:

An old favorite of mine. It was installed smoothly. Plays all my locally stored music just fine. My regular podcasts were easily found and played as expected. My only issue was remembering how to get it to play SomaFM streams, but I got it working (it was pretty obvious on their web site).

Games:

The preinstalled games such as Mahjongg, Mines, and Solitaire, all played the same as ever. I also installed and played Open Arena in single user mode and it worked very well. No issues other than losing more time than I intended to playing them. Or is that just me?

WHAT CAME IN THE BOX:

1). The WO-We Mini PC
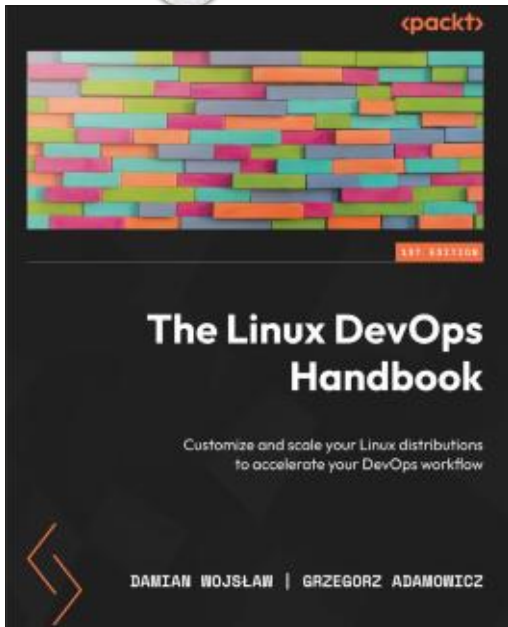2). The Power Supply
3). The User Manual

Abigsky is an FCM fan, Linux user, IT professional (virtualization specialist) with decades of experience, amateur radio operator, and haphazard wannabe author.

https://www.packtpub.com/product/the-linux-devops-handbook/9781803245669

Price: $39-49 USD

Blurb: "*This book is designed to be a comprehensive guide to DevOps, covering everything from choosing the right Linux distribution to avoiding pitfalls in DevOps. Each chapter in this book provides detailed information and practical examples to help you understand the concepts and apply them to real-world scenarios.*"

I was looking for a book to bind what I knew about "devops". Instead of being unconnected pieces of information, I was hoping to find how some stuff ties together, but on a practical level. I had the 1000ft overview, OK, I wasn't too concrete on that either, but I was planning on clearing up my picture. I settled on this Packt title. I knew what docker and kubernetes, etc, were, but not coming from that side of the IT world, I decided everything I knew needed polish. Luckily for me, this title was authored by two Polish gentlemen. OK, I'll see myself out.

We start out with "Linux Basics", explaining distributions, but it is not hard to realise these polish gentlemen are biased. RHEL stuff is in bold, but Debian and Ubuntu are not treated the same. I will put an example in. Luckily, none of the examples or homework in the book is distribution-specific, so you can use whatever distribution you like. I just thought that was interesting and wanted to point it out.

Luckily, the chapter is concise and to the point, and an easy read for any devops newbie.

We then move to "command-line basics", and again we are given information in concise, easy to assimilate, chunks. Instead of faffing with bash or zsh, you are told which directories you should familiarise yourself with, and the importance thereof. They touch on a few commands, but sort of funnel you to the man pages. They touch on permissions and processes, and then how to manipulate files, before giving you some basic homework. Up until this point, anyone with zero Linux experience, should be comfortable.

As we move into "Intermediate Linux", you would need some Linux knowledge. Though the concepts are explained well, if you have not dipped your toes into the Linux ecosystem, some of the concepts may be lost to you. The authors did, however, specify in the beginning of the book that: "This book is designed for individuals who have already gained some knowledge and experience in the field of software development and IT operations, and are now seeking to further expand their knowledge of DevOps and Linux systems." That said, I would still recommend this book to any newbie wanting to learn devops. You just need to fire up a virtual machine with Linux and follow along. Everything you need is touched upon, with just enough to get you going. The part on ssh is thorough enough to keep you safe and do your job.

It starts to get interesting with "Automating with shell scripts". In each chapter, the difficulty level is raised another step, but not at the expense of the newbie reader. It is just enough to keep you coming back for more and keeping the book interesting. You are not just shown basic shell scripting and kicked from the nest, this section covers right up to debugging your scripts, something I find invaluable. You can see the authors' field is Linux troubleshooting, this is the chapter it shines through.

Though the chapter covering

automation came before and only covered cron, I would have preferred if it came after (the automation part), and joined shell scripting automation recipes and real world examples. I mean it would be a "nice to have" and not crucial.

Part 2 covers the day-to-day part of devops. Because almost all the modern distributions have systemd, we fall in the door with managing services. We even get to learn about other init systems, but we all know that, in production, with your RHEL or Ubuntu servers, we never use the others. The level of detail is amazing for the compactness and I dare say, newbies should also not have an issue here, but as a newbie, you cannot skim this chapter. Even I learned something new here, not that I know everything, not by a long shot, but it was refreshing.

In chapter 6 we move onto "networking" where we cover ground with the basics again, and because the book is new, netplan is also covered. Since a lot of your time will be checking ingress and egress ports on containers, etc, I do suggest you give this chapter another go. The reason I say this is because I was told by a mid-level

dev that "all that old stuff you learned about networking is now out the window" – when we were talking about containers. It most certainly is not. In fact I would say it is even more prudent that you know this. The problem with IT today is that lots of stuff gets abstracted away to make the development cycle faster, making it easier to get more fingers on more keyboards coding, lowering that bar to entry.

Then, in Chapter 7, "Git" is the focus. Not an old git like me, but version management.

Now this is where I currently am in the book, the next chapter being "Docker", that I have skimmed over. Not skimming to skip, but skimming to judge content. I'm not going to lie to you, so far, I'm loving this book. It took a longer run up to get to the devops stuff than I expected, but that time you spend on the first six chapters will not be wasted.

After "docker" and the "deep dive into docker", there is the "cloud kit" chapter that I'm looking forward to. I thought I would write this impression of the book now, while it is still fresh (it is a Christmas release as far as I can tell), even though I have not

completed it 100%, as I have to put it down for a month or two as there are some work-related things that take precedence. I am really excited for this book, and I hope I have transferred that excitement to you. This needs to be on your desk, right now.

Would you like to say something?
misc@fullcirclemagazine.org

LETTERS

Join us on:

facebook.com/ fullcirclemagazine

twitter.com/#!/fullcirclemag

linkedin.com/company/full-circle-magazine

ubuntuforums.org/ forumdisplay.php?f=270

FULL CIRCLE NEEDS YOU!

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

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

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

Q&A

Compiled by EriktheUnready

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

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

So I was looking at some games on Steam... No I wasn't, but I'll know if Ronnie read this. (Sorry guys, insider joke)(Ronnie says: it was merely a 'senior moment'.) I recently ran into an issue where I had weird errors, like truly bizarre, but my OS functioned normally, so I wrote it off to bad shutdown's etc. (we have lots of power issues) I had memory installed in slots B and D (from the manufacturer) and it was only when I added more to slots A and C, that I found out the memory in the machine was not OK. (I started seeing arb errors in dmesg) As Ubuntu installed just fine there and worked flawlessly is actually a testament to how far Ubuntu has come. The original owner of the laptop complained about BSOD's and so forth, so the first avenue of attack was just to replace the OS. Ubuntu installed and just worked. People always joke about the "year of the desktop" for Ubuntu, but I'd argue we have passed that point already and Ubuntu is just a superior product. Yes, it may not have proprietary blob x or y, but that is usually due to the manufacturer of some peripheral being asshats. If Microsoft stopped paying OEM's for loading Windoze on their computers, that "superior" desktop numbers would drop, quickly. Instead of BSOD, all I got was Firefox not wanting to take focus over say, LibreOffice writer when I clicked on it. Alt + tab would put the window behind LibreOffice, for instance. Since 24.04 was basically here, I decided I could live with it for a month or two more. (However, replacing the memory and updating actually fixed that, just so you know.) So now you know, BSOD's getting you down? Load the new and improved Ubuntu operating system, your computer will thank you! LOL

————————————————

Q : I have installed all my software I wanted and transferred all my data to my Ubuntu machine, it worked fine for about a month, now, whenever I use the software updater to update it says:"Sorry, Ubuntu 22.04 has experienced an internal error, send problem report to the developers? If you notice any further problems try rebooting your machine. I have probably rebooted 10x but still nothing. Any help would be appreciated.

A : Firstly, I'd say create an empty file in root, named forcefsck:

```
touch /forcefsck
```

and reboot then run

```
sudo apt update
```

from the terminal, followed by

```
sudo apt upgrade
```

and see if you get errors and get back to me.

Q : I encrypted my drive on my computer, but due to hardware failure it stood around the house for 9+ months. The problem is, now that it is fixed, I cant remember my veracrypt password to boot it any more. How do I use the live disk to do a repair please?

A : The short answer is that you can't. The long answer is you cannot. Only kidding. The booting into live mode only fixes Ubuntu issues. Veracrypt is its own thing. You will need to use your Veracrypt rescue disk to recover. If you don't have that you will need to reload.

Q : I have Skype installed on my Ubuntu Machine, Optiplex 990. I have a logitech webcam and I can confirm that it works in Cheese. It does not, however, work on Skype. What could be the problem?

A : Firstly, what skype do you have? The package as in .deb-

Q&A

file install or a containerized install like Flatpak or Snap? Secondly, go into Skype, go to properties and see if you can select another webcam. Microsoft has Skype buggy lately, where it will pick up multiple webcams of the same type. Try switching. Otherwise you will need to ask on the Microsoft forums.

Q: Hi guys, I just want to know if I change my theme to dark, how do I do it with gdm/lightdm? I'm new to ricing and I'd like to know why my gdm/lightdm does not change with the main theme, or is it even possible?

A: Let's first see what you have, gdm and lighdm is not interchangeable and use different methods for changing them, once you know, you can look it up on the internet, properly. Type the following into your terminal:

```
grep '/usr/s\?bin' /etc/
systemd/system/display-
manager.service
```

just like that and check the output.

Q: On Windows they recommend that you use your amount of memory + 2GB for a swap file. I can't find info about it on Xubuntu. There are no hits - https://docs.xfce.org/start?do=search&id=xfce%3Athunar%3A4.16%3Astart&q=swap+size

A: I'd say it is because you are looking under "Thunar" under your DE. You are asking the right question in the wrong places. Pressing F1 usually gives help on your DE and all its bits-n-bobs. Rather look here: https://help.ubuntu.com/community/SwapFaq

Q: Hello, new to all this, can you tell me how to drag an icon to my dock in Ubuntu 22.04 please? Every time I try it, it is like water off a duck's back and it is frustrating.

A: Hi, you did not say what dock you are using? If you are on Vanilla Ubuntu, you don't have a dock. That panel is not a dock. I suggest installing a dock like "plank" and hiding your panel if you want a dock. I'm not sure if the dash2dock or panel2dock extension allows that kind of thing, but you can try that too.

Q: I am not an Ubuntu native, though I have been using Ubuntu Budgie for 4 years. I am using Ubuntu plain and I wanted to slim it down and change it up. When I use the software centre and I go to "installed" I do not see transmission, but when I press the windows key and page over, it is there.

A: There is a magnifying glass on the top left of your Software Centre. Click on that and search for Transmission, then click on it, to focus and click the little bin icon to remove. I'm not sure why it does not show up for you.

Q: Why do I have to type quit() once I start python in my terminal? All I'm saying is if I start python3 geo-recon.py and I am done, I am back at ready player one.

A: OK, honestly I have no idea what you want, you may want to structure your question differently, or ask it in another way, as now you leave it to me to interpret. What I think you are not understanding is signals. When a

program is running, we press CTRL+C to interrupt it (SIGINT), but some programs do not respect that. We can use CTRL+D (SIGQUIT) to end it. That is the same as typing quit() in the python shell. Type kill -l in your terminal to see all of them.

Q: We put down an Ubuntu machine at our company for clients to do payments or bank transfers, that is basically locked down with a minimal user and no ports or drives enabled. How can we remove the user list, so they don't try to log in as other users?

A: I am going to assume flagship Ubuntu here and point you somewhere as it would be too long to explain in a QnA. See: https://fostips.com/hide-user-list-gdm-login-screen-ubuntu-20-04-20-10/

Q: I noticed a new folder that I did not notice before /lost+found. I compared it with my newer Ubuntu 22.04 laptop and I don't have it there either. It could just be an Ubuntu 18.04 thing, but I have become paranoid lately. How would I know if a folder belongs?

A : Before I say it is a system folder, as it can be, should your system shut down 'dirty'. Look what is in it, is it your files or executables? Open a terminal and type: man hier - to find out about system folders.

Q : This is going to sound weird, but I want to write a script, to ping me every time a USB drive or SD card gets plugged into my machine. I can see the devices when I plug them in and out in dmsg, if I put a watch on that. I just can't wrap my head around how to get that specific update into my script.

A : Hi, what you are actually looking for is udev. It is like a crow's nest on a ship looking for land. (in our case devices) I will link you here: https://opensource.com/article/18/11/udev

Q : I am installing Ubuntu Rolling on Virtualbox and I fill in all the required options. It boots and I can install it. Every time, afterwards, I am in an installation loop that I can't seem to get out of no matter what I try. Is there any way for me to break this loop? I have verified my downloaded image and it is

intact. My base OS is Ubuntu 20.04 and I have assigned 2 of my CPU's and 8G of RAM to virtualbox.

A : I am going to assume you mean Rhino Linux. I have found something similar with Arco Linux, I'm not sure if this is your issue, but let me know if it is not. On the very first screen in Virtualbox, when creating a new machine, do not choose an ISO image there. (ISO image, leave as <not selected>) Instead, add it under storage and eject it if it does not eject by itself when you reboot the first time after installation. It sounds like it is booting to the live image instead of the virtual hard drive.

Q : Help me out here, I downloaded the latest version of Ubuntu Kylin and installed it in English in Virtualbox 7. Everything is cookies and cream, until I try to change the display size. My base OS is Ubuntu. In Kylin, it defaults to 1024x800, I can change it in the settings to 1920x1080, but nothing happens, there is no apply. I don't know if the apply button got lost in translation.

A : My first question would be, did you verify your ISO image

and your installation media? (if you did) Otherwise, it's Linux, there are many ways to skin your cat. Open the terminal in your virtual OS and type: xrandr - and see the outputs supported, then set one with the "-s", for example: xrandr -s 1920x1080

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.

Price: Free on Steam, but DLC costs

Blurb: "*Hey, do you have 5 minutes to spare? Let's play hide and seek with 100 cats in Osaka! Can you find them all? *"

Hidden Winter Cats - Find and paint 100 hidden cats in this big snowy location! Test your attention and relax in this cozy and free game"

So I was looking for new games to review... (sorry, I had to) When I decided to use the Steam filters and look for a "relaxing" game that supported Linux and was dirt cheap. That is when I stumbled across these two games. Now I'm not going to lie to you, casual games, especially cute ones, are a slippery slope. It has been the undoing of many a tablet user. Today I'll be looking at a two of the lures in the sea that is casual gaming.

I tried **Winter Cats** first and honestly I was stumped. There was no way there were 100 cats there. It took me probably five minutes of staring and scratching my head, before I realised that I could move the viewport. The image was much larger than my screen. I only stumbled across this when I switched it over to night mode. (I mean it was midnight, OK 00:22). You can also choose one of eight colours for the cats, just btw. Then things moved along and I hit my proverbial wall of 99 cats. This also happens to be what is in my pockets playing Kenshi. I realised I had a fun time, (almost ten minutes) with this simple game and when I found the last cat, I did it again to prove to myself I could do this in under five minutes. This is very clever marketing bait. The DLC is like 99c and one can be forgiven for spending the money. As the announcer said in "The running man", "I'd buy that for a dollar!". This is an arcade machine for the newer generations. Feed it another 99c for more hand drawn maps. Unlike arcade games, you get to keep it and play it whenever you want, and it is re-playable. A definite win in my book. Hidden Winter Cats does not have a zoom function, but the game offers a hint button if you really need to find that last cat. The soundtrack is also very very, * yawn * very relaxing. Oh and do try the hint button, it
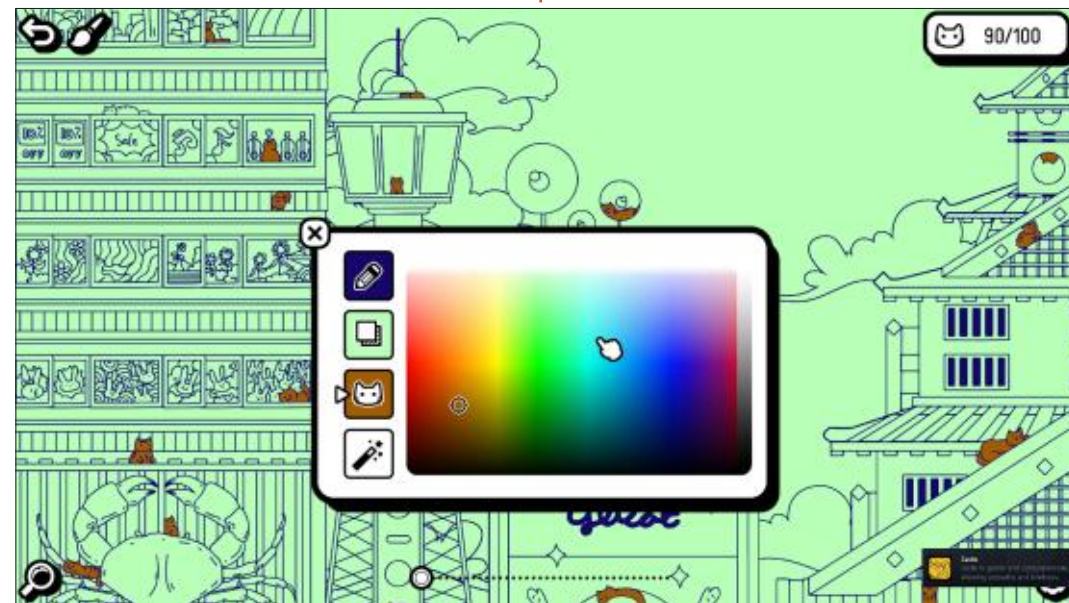
purrs!

Next, I gave **Cats and Seek** (Osaka) a go, but before I continue, I have to put it out there, I'm *not a cat person and I never was or will be. This could have been beavers or llamas and I still would have given it a go. Unlike Hidden Winter Cats, this does have a zoom option at the bottom of the screen and you can reset the view with the spyglass at the bottom left. Cats and Seek has more upbeat music and you are not likely to fall asleep, but is mellow none-the-less. This does not mean it isn't relaxing at all. Just like the first game, it is a relaxing hidden object game with speed running undertones. (or should it be overtones?)

This time, though, it isn't just black and white or white and black, you can choose your colours or click the wand icon, for random colours. Unlike the previous game, you can also choose your own custom colour for the cats.

Eventually I went 'dark mode' again, just to save my eyes. (I made it not as bright, as I did here for the screen-shot, which makes for a pleasant experience and it stands out in the magazine.) If you hit your

ninety-nine cat wall, you just have to soldier forth, as there is no hint button. What this one offers, is animated backgrounds, for instance the wind will blow the clouds from right to left and left to right across the screen.

On Cats and Seek, the hitboxes were not as generous as Winter Cats, as I had to click, sometimes up to three times to tag a kitty, making speed running a bit more difficult.

What I would have liked to see in both games was a few red herrings, things that look like cats but are not. A little more variety in the cat poses and "looks" or type of cat would have been nice. I'm not expecting where's Waldo levels, or

anything. Other than that, you have pretty solid games with minimal feel that play really well, whether you are a casual gamer or speed runner, that are very alike. The pricing is good and the money making model is not 'gatcha', like most free-to-play games are these days.

If you feel we were unfair: misc@fullcirlemagazine.org

P.S. There are steam "achievements" for both of these games and it is strange to see so many people that do not have all of these as in the free games, the cats are not difficult to find at all.

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

PATRONS

Monthly Patrons

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

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

Single Donations

2024:
Louis W. Adams, Jr.
Sergio Arroyos
Brian Kelly
Linda Prinsen
Christophe CARON
Borso Zsolt

Ennio Quattrini
Kimberly James Kulak
Yvo Geens

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

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

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

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

https://www.patreon.com/fullcirclemagazine

https://paypal.me/ronnietucker

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

HOW TO CONTRIBUTE

FULL CIRCLE NEEDS YOU!

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

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

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

FCM#207
Deadline:
Sunday 07th July 2024.
Release:
Friday 26th July 2024.

For the Full Circle Weekly News:

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

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

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

Getting Full Circle Magazine:

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

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

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