Full Circle
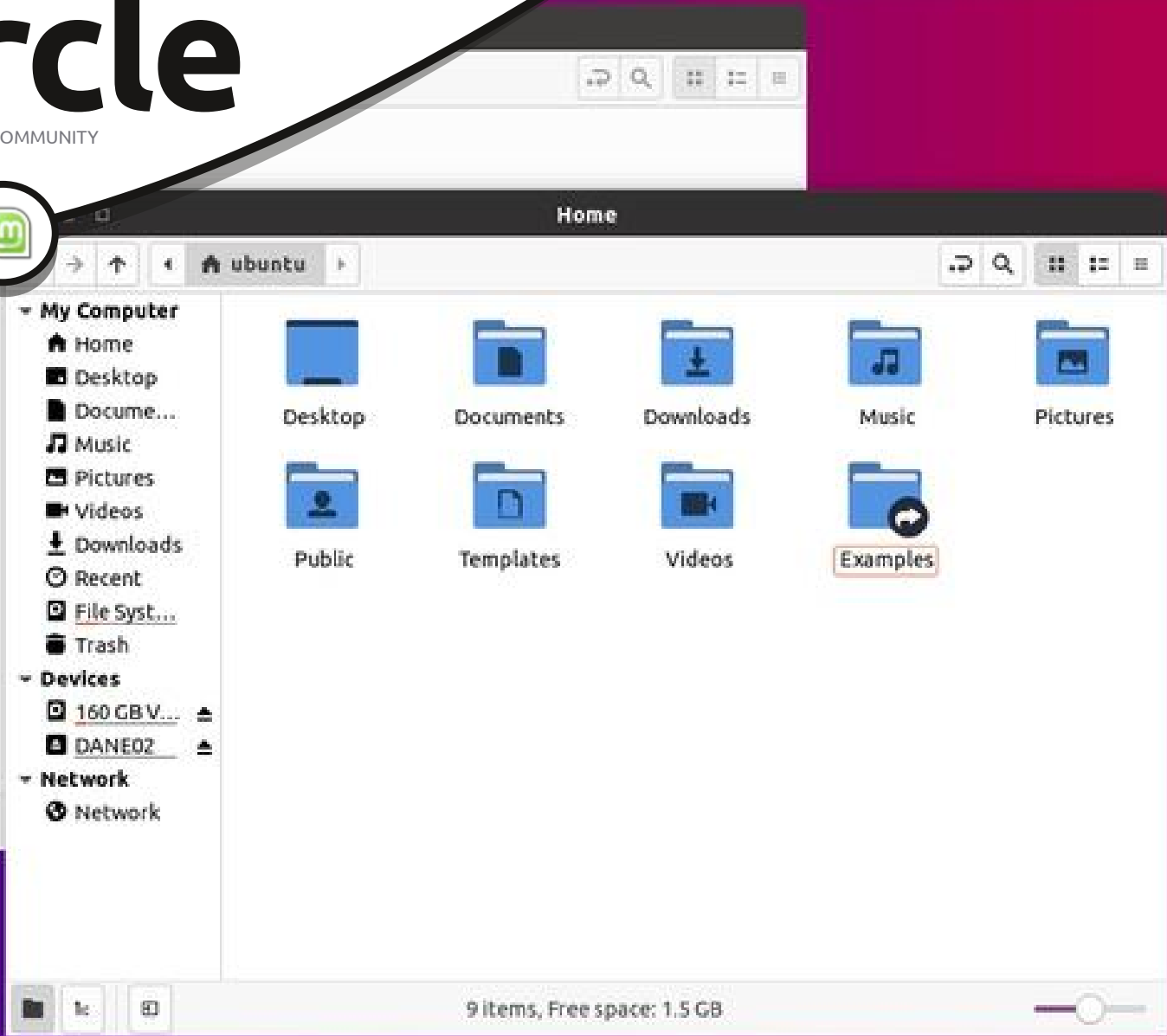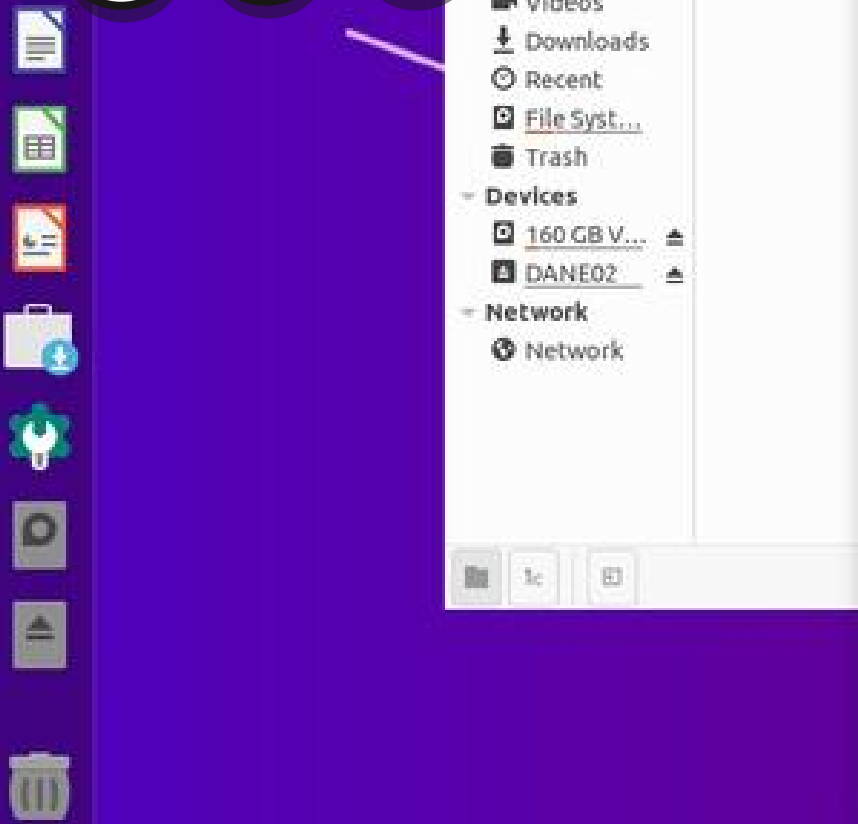
THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY

REVIEW OF UBUNTU UNITY 20.04
THE RETURN OF UNITY?

Full Circle
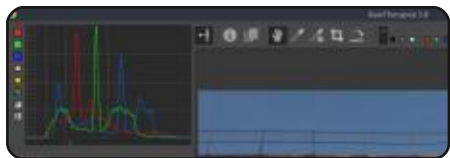
THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY

EDITORIAL

WELCOME TO THE LATEST ISSUE OF FULL CIRCLE

Once again, we have the usual suspects of Python, Inkscape, Krita and Rawtherapee. To complete the HowTo trilogy we have a new series on creating podcasts in Linux. Written by *Tony Hughes* of the Linux Mint **MintCast** team. And they know a thing or two about podcasting.

Unfortunately, nothing this month from Richard (Everyday Ubuntu). He's a bit under the weather. Feel free to send him good wishes at: acer11kubuntu@gmail.com

Rounding off our reviews of 20.04 we have Ubuntu Unity. Yes, Ubuntu with Unity. Even though, technically, Unity (the dash) doesn't exist anyone. It was renamed to Lomiri, and only really used in Ubports (Ubuntu) Touch. Until now. So, if you still want Ubuntu with Unity, this might be it. And if that's not confusing enough, it's not even an official 'flavor'. Yet. I'm sure it will be though.

Well, that's about it from me for this month.

Stay safe and well!

All the best, and keep in touch!
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http://www.stitcher.com/s?
fid=85347&refid=stpr

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

Rolling Rhino, a script for using rolling updates in Ubuntu

06/29/2020

Martin Wimpres, who served as director of development of desktop systems in Canonical, has proposed a shell script Rolling-Rhino, which allows Ubuntu to emulate a system with a rolling-update, which can be useful for advanced users or developers who need to be aware of all the changes. The script automates the translation of installations of experimental releases of Ubuntu to the use of devel-branches of repositories, which packages with new versions of applications are built (synchronized with Debian Sid / Unstable).

It supports the conversion of daily experimental builds with Ubuntu Desktop, Kubuntu, Lubuntu, Budgie, MATE, Studio and Xubuntu, which currently reflect the development of the future release of Ubuntu 20.10

https://twitter.com/m_wimpress/status/1277323423652421632

Open Games: Warzone 2100 and Project OpenDiablo2

06/29/2020

After 10 months of development, release 3.4.0 of the free real-time strategy game Warzone 2100 is out. The game was originally developed by Pumpkin Studios and was launched in 1999. In 2004, the original code was discovered and released under the GPLv2 license. The game continued with community-driven development. It supports both a single game against bots and network games. Packages are available for Ubuntu 18.04 / 20.04, Windows and macOS. Compared to the previous release, 485 changes were made!

In addition, the OpenDiablo2 project , which attempts to recreate the engine of Diablo 2, released in 2000 by Blizzard Entertainment, is out. Currently, the development team's efforts are focused on developing the functionality necessary to launch Diablo 2 (original game resources from Diablo 2 are required), but in the future the project will be expanded with tools for creating mods and providing an engine for writing new games. The implementation code is written in Go and distributed under the GPLv3 license.

https://opendiablo2.com/

https://forums.wz2100.net/viewtopic.php?f=1&t=15905

GnuCash 4.0

06/29/2020

The release of GnuCash 4.0, which provides tools for tracking income and expenses, maintaining bank accounts, managing information about stocks, deposits and investments, and loan planning, was announced. It is possible to maintain accounting records for small enterprises using GNU Cash. It supports the import of data in QIF / OFX / HBCI formats and visual presentation of information on graphs. The project code is licensed under GPLv2 +. There is also a GnuCash option for Android.

This new release introduces the gnucash-cli utility, which allows you to perform various financial functions, such as updating a price list and generating reports, on the command line without launching a graphical interface. A new dialogue "Transaction Association" was proposed and the possibility of adding associations to accounts, reversal postings, invoices and vouchers is implemented.

https://lists.gnucash.org/pipermail/gnucash-announce/2020-June/000324.html

NEED HOSTING FOR YOUR FREE PROJECT?? NON-PROFIT PROVIDER FOSSHOST

06/29/2020

As part of the FossHost project, the work of a non-profit provider that provides free virtual servers for free projects was organized. Currently, the project infrastructure includes 7 servers deployed in the USA, Poland, Great Britain and the Netherlands based on the ProxMox VE 6.2 platform . Equipment and infrastructure is provided by FossHost sponsors, and activities are carried out by enthusiasts.

Existing free projects with an active community and a site or page on GitHub, are free to get their hands on a virtual server with 4 vCPU, 4GB RAM, 200GB storage and IPv4 and IPv6 addresses. It is possible to register domains of the second level and organize the work of mirrors. Management is through SSH. Supports installation of CentOS, Debian, Ubuntu, Gentoo, ArchLinux, Fedora, and FreeBSD. It is noted that such open projects as ActivityPub (W3), Manjaro, XFCE, Xubuntu, GNOME and Xiph.Org have already taken advantage of FossHost virtual servers.

https://fosshost.org/

REDIS DBMS CREATOR HANDED OVER PROJECT SUPPORT TO COMMUNITY

06/30/2020

Salvatore Sanfilippo, creator of the Redis DBMS, announced that he would no longer be involved in project maintenance and would devote his time to something else. According to Salvatore, in recent years his work has come down to parsing third-party proposals for improving and changing the code, but this is not what he would like to do, since he likes writing code and creating something new rather than solving routine maintenance tasks. El Salvatore will remain on the advisory board of Redis Labs, but will be limited to generating ideas. Development and maintenance are handed over to the community.

http://antirez.com/news/133

LUA 5.4 PROGRAMMING LANGUAGE RELEASE

06/30/2020

After five years of development , the release of Lua 5.4 , a fast and compact scripting programming language, is widely used as an embedded language (for example, to determine the configuration or to write extensions). The Lua interpreter code is written in C and distributed under the MIT license.

Lua combines simple procedural syntax with powerful data description capabilities through the use of associative arrays and extensible language semantics. Lua uses dynamic typing; language constructs are converted to bytecode running on top of a register virtual machine with an automatic garbage collector. The interpreter itself is designed as a library that is easily integrated into projects in C and C++.

https://www.lua.org/news.html

SHOTCUT VIDEO EDITOR RELEASE 06/20

07/01/2020

The release of the video editor Shotcut 20.06 is published, which is developed by the author of the MLT project and uses this framework for organizing video editing. Support for video and audio formats is implemented through FFmpeg. You can use plug-ins with the implementation of video and audio effects compatible with Frei0r and LADSPA . Among the features of Shotcut, we can note the possibility of multi-track editing with the composition of video from fragments in various source formats, without the need for their preliminary import or transcoding. There are built-in tools for creating screencasts, processing images from a webcam and receiving streaming video. To build the interface, Qt5 is used. Code written in C ++ and distributed under the GPLv3 license.

https://www.shotcut.org/blog/new-release-200628/

NEWS

Fedora considers discontinuing BIOS support at boot time
07/01/2020

Fedora developers are discussing the issue of stopping the boot using the classic BIOS and leaving the option to install only on systems that support UEFI. It is noted that systems based on the Intel platform have been shipped with UEFI since 2005, and by 2020 Intel planned to stop supporting BIOS in client systems and data center platforms.

The discussion of the rejection of BIOS support in Fedora is also due to the simplification of the implementation of the technology of selective display of the boot menu, in which the menu is hidden by default and is shown only after a failure or activation of the option in GNOME. For UEFI, the necessary functionality is already available in sd-boot, but when using the BIOS it requires patches for GRUB2.

https://lists.fedoraproject.org/archives/list/devel@lists.fedoraproject.org/thread/QBANCA2UAJ5ZSMDVVARLIYAJE6TYTCD/

OpenSUSE Leap 15.2 distribution release
07/02/2020

After more than a year of development, the openSUSE Leap 15.2 distribution has been released. The release is formed using the basic set of packages from the SUSE Linux Enterprise 15 SP2 distribution under development, on top of which newer releases of user applications from the openSUSE Tumbleweed repository are delivered. A universal 4-GB DVD assembly is available for download , a stripped-down image for installation with downloading packages over the network (138 MB) and Live-assemblies with KDE (910 MB) and GNOME (820 MB).

https://www.opensuse.org/

GParted Live 1.1.0-3 distribution released:
07/03/2020

The release of the GParted LiveCD LiveCD 1.1.0-3 distribution kit is available, aimed at restoring the system after a failure and working with disk partitions using the Parted partition editor. The distribution is based on the Debian Sid package base as of July 1. The boot image size is 382 MB (amd64, i686).

The distribution package includes the GParted 1.1.0 package, in which the faster utilities minfo and mdir are used to read information about FAT16 / 32 partitions, a more accurate calculation of the JFS size is provided, recognition of drives included in ATARAID is implemented, and their employment status is determined. The Linux kernel has been updated to release 5.7.6. Solved the problem with the crash of the Netsurf browser on some sites.

https://gparted.org/news.php?item=232

Google is working on Steam support on Chrome OS through an Ubuntu virtual machine
07/03/2020

Google is developing the Borealis project, which aims to provide Chrome OS with the ability to launch gaming applications distributed via Steam. The implementation is based on the use of a virtual machine in which the components of the Ubuntu Linux 18.04 distribution kit are launched with the Steam client preinstalled and the Wine-based package for launching Proton Windows games.

The environment is undergoing internal testing on hi-end Chromebooks equipped with the 10th generation of Intel processors. So far, the Crostini Linux environment offered by Chrome OS has been shipped with Debian, which is also used as the basis for Valve's SteamOS distribution.

https://9to5google.com/2020/07/01/chrome-os-preparing-steam-gaming-ubuntu/

Elementary OS 5.1.6 distribution update
07/03/2020

Presented is the release of the Elementary OS 5.1.6 distribution, positioned as a fast, open and privacy-conscious alternative to Windows and macOS. The main focus of the project is on high-quality design, aimed at creating an easy-to-use system that consumes minimal resources and ensures high startup speed. Users are offered their own desktop environment, Pantheon.

The original components of Elementary OS are developed using GTK3, Vala, and its own Granite framework.

https://blog.elementary.io/updates-for-june-2020/

Ubuntu 20.10 will restrict access to dmesg:
07/03/2020

Ubuntu developers have agreed to restrict access to the /usr/bin/dmesg utility only for users in the adm group. Currently, unprivileged Ubuntu users do not have access to /var/log/kern.log, /var/log/syslog and system events in journalctl, but can view the kernel event log through dmesg.

As a reason, the presence in the dmesg output of information that can be used by attackers to simplify the creation of exploits to increase privileges is mentioned. For example, in dmesg, in case of failures, a stack dump is displayed and it is possible to determine the addresses of structures in the kernel, which can help bypass the KASLR mechanism. An attacker can use dmesg as feedback, gradually leading the exploit to its proper form, watching oops in the log after unsuccessful attempts to attack.

https://lists.ubuntu.com/archives/ubuntu-devel/2020-July/041079.html

MaXX 2.1 Desktop Release, an Adaptation of IRIX Interactive Desktop for Linux
07/05/2020

The release of the MaXX 2.1 desktop is presented, the developers of which are trying to recreate the custom shell IRIX Interactive Desktop (SGI Indigo Magic Desktop) using Linux technologies. Development is under agreement with SGI, which permits the complete re-creation of all IRIX Interactive Desktop features for the Linux platform on x86_64 and ia64 architectures. The source code is available upon special request and is a mixture of proprietary code (in accordance with the requirements of the agreement with SGI) and code under various open licenses. Installation instructions are prepared for Ubuntu, RHEL and Debian.

Initially, IRIX Interactive Desktop was shipped on SGI-based graphics workstations equipped with the IRIX operating system, which reached their peak in the late 1990s and were manufactured until 2006. Shell revision for Linux implemented on top of the 5dwm window manager (based on the OpenMotif window manager) and SGI-Motif libraries.

https://docs.maxxinteractive.com/

Sendmail SMTP Server Releases 8.16.1:
07/05/2020

Five years after the last release, the Sendmail 8.16.1 SMTP server release was generated . The new version introduces a large portion of improvements related to STARTTLS support (for example, the ability to use encryption algorithms based on elliptic curves has been added), logging has been improved, new options SSLEngine and SSLEnginePath for using OpenSSL engines have been added, and initial support for DANE (DNS-based Authentication) has been added of Named Entities). The new release also fixes bugs and provides compatibility with Darwin 14-18 (macOS 10.x) and FreeBSD 12.

https://www.proofpoint.com/us/products/open-source-email-solution

CLONEZILLA LIVE 2.6.7 RELEASED:
07/06/2020

Clonezilla Live 2.6.7 is available, designed for fast disk clone (coping of only used blocks). The tasks performed by the distribution are similar to the proprietary Norton Ghost product. The size of the ISO image of the distribution is 277 MB (i686, amd64).

The distribution is based on Debian GNU / Linux and uses the code of projects such as DRBL, Partition Image, ntfsclone, partclone and udpcast in its source. It can boot from CD / DVD, USB Flash and over the network (PXE). LVM2 and FS ext2, ext3, ext4, reiserfs, reiser4, xfs, jfs, btrfs, f2fs, nilfs2, FAT12, FAT16, FAT32, NTFS, HFS +, UFS, minix, VMFS3 and VMFS5 (VMWare ESX) are supported. There is a mode of mass cloning over the network, including the transfer of traffic in multicast mode, which allows you to simultaneously clone the source disk to a large number of client machines. It is possible to clone from one disk to another, as well as create backups by saving the disk image to a file. It is possible to clone at the level of entire disks or individual partitions.

https://sourceforge.net/p/clonezilla/news/2020/07/stable-clonezilla-live-267-28-released/

NOMADBSD 1.3.2 DISTRIBUTION RELEASED:
07/07/2020

NomadBSD 1.3.2 Live distribution is available, which is a FreeBSD edition adapted for use as a portable desktop loaded from a USB drive. The graphical environment is based on the Openbox window manager. DSBMD is used to mount drives (it supports mounting CD9660, FAT, HFS +, NTFS, Ext 2/3/4), and wifimgr to configure a wireless network . The boot image size is 2.6 GB (x86_64).

https://nomadbsd.org/index.html#1.3.2

SEAMONKEY 2.53.3 INTEGRATED INTERNET APPLICATION LAUNCH:
07/07/2020

The SeaMonkey 2.53.3 Internet application suite has been released, which combines a web browser, an email client, a feed aggregation system (RSS / Atom) and the Composer WYSIWYG html page editor, all in one product. In the form of pre-installed add-ons, the Chatzilla IRC client, the DOM Inspector toolkit for web developers and the Lightning calendar planner are offered. Corrections and changes from the current Firefox code base were transferred to the new release (SeaMonkey 2.53 is based on the Firefox 60 browser engine with porting security-related fixes and some improvements from the current Firefox branches).

https://blog.seamonkey-project.org/2020/07/07/seamonkey-2-53-3-has-been-released/

REISER5 ANNOUNCES SUPPORT FOR SELECTIVE FILE MIGRATION:
07/07/2020

Eduard Shishkin implemented support for selective file migration in Reiser5. As part of the Reiser5 project, a substantially revised version of the Reiser4 file system, at the file system level, and not the block device, support for parallel scalable logical volumes is implemented, which allows efficient distribution of data across a logical volume.

Previously, data block migration was carried out exclusively in the context of balancing the Reiser5 logical volume in order to preserve fair distribution on it. Now you can move the data of any file to any disk component of the logical volume. Moreover, you can mark this file in a special way so that the balancing procedure will ignore it, and, therefore, blocks of its data will remain on the specified disk.

https://marc.info/?l=reiserfs-devel&m=159394757714692&w=2

F3D 1.0, A COMPACT VIEWER OF 3D MODELS:
07/08/2020

Company Kitware, specializing in the field of medical imaging data and computer vision, introduced a fast and compact viewer for 3D-models: F3D 1.0. The program is written in C++, uses the

VTK visualization library , also developed by KitWare, and is distributed under the BSD license. Builds for Windows, Linux, and macOS platforms should now be available.

Display control and navigation on the resources proposed in the file is done through command line options or hot keys. It supports viewing 3D models in VTK, STL (Standard Triangle Language), PLY (Polygon File format), GML (CityGML), DCM (DICOM), EX2 (Exodus 2), PTS (Point Cloud), OBJ (Wavefront), GLTF / GLB (GL), 3DS (Autodesk 3DS Max) and VRL (VRML). For gltf / glb, 3ds, wrl, and obj formats that include scene information (light sources, cameras, textures, characters), the scene specified in the file is displayed, and for formats containing only geometry information, a default scene is generated. OpenGL or the ray tracing engines available in VTK can be used for rendering.

https://blog.kitware.com/f3d-v1-0-a-fast-and-minimalist-3d-viewer-has-been-released/

GOOGLE AND CANONICAL: THE ABILITY TO CREATE DESKTOP APPLICATIONS FOR LINUX IN FLUTTER:
07/08/2020

Google and Canonical have taken a joint initiative to support the development of graphical applications based on the Flutter desktop Linux framework. The Flutter user interface construction framework is written in the Dart language (the runtime engine for executing applications is written in C ++). It allows creating universal applications running on different platforms, and is considered as an alternative to React Native.

Despite the presence of the Flutter SDK for Linux, it has so far been used only for the development of mobile applications and did not support desktop applications for Linux. Last year, Google announced its intention to add to Flutter, the ability to develop full-fledged desktop programs. Flutter is now expanded with the ability to develop desktop applications for Linux. Support for developing applications for Windows is still at the initial prototype stage.

NEWS

https://ubuntu.com//blog/canonical-enables-linux-desktop-app-support-with-flutter

SUSE Announces Rancher Labs Purchase:
07/08/2020

SUSE, which last year regained the status of an independent company, has announced the purchase of Rancher Labs, dedicated to the development of the operating system RancherOS for insulated containers. It is also the repository of Longhorn, Kubernetes-distributions RKE (Rancher Kubernetes Engine) and K3S (the Lightweight Kubernetes), as well as Kubernetes-based container infrastructure management tools.

Details of the transaction were not disclosed, but according to unofficial information, the amount of the transaction ranged from 600 to 700 million US dollars. A detailed plan for integrating Rancher Labs technologies into SUSE products will be presented after regulatory approval of the transaction.

https://www.suse.com/c/news/suse-acquires-rancher/

Debian 8.0 "jessie" discontinued LTS Support:
07/09/2020

The maintenance period for the LTS branch of the Debian 8 Jessie distribution, released in 2015, has come to an end. The release of updates for the LTS branch was carried out by a separate group of developers of the LTS Team, formed from enthusiasts and representatives of companies interested in the long-term delivery of updates for Debian.

The initiative group has already begun to form a new LTS branch based on Debian 9 "Stretch", whose regular support expires on July 18, 2020. The release of updates for Debian 9 will be extended until June 30, 2022 (in the future, LTS support will be provided for Debian 10, updates for which will be released until 2024). As with Debian 8, the LTS support for

Debian 9 and Debian 10 will apply only to the i386, amd64, armel, and armhf architectures, with a total support period of 5 years.

https://www.debian.org/News/2020/20200709

Minetest 5.3.0 release, an open clone of MineCraft:
07/10/2020

Minetest 5.3.0, an open cross-platform version of MineCraft, which allows groups of players to jointly create various structures from typical blocks into a kind of virtual world is out. The game is written in C++ using the irrlicht 3D engine. To create your own extensions, use the Lua language. Minetest code is distributed under the LGPL license, and game resources are licensed under the CC BY-SA 3.0 license. Ready-made Minetest builds are designed for various Linux, Android, FreeBSD, Windows and macOS distributions.

https://forum.minetest.net/viewtopic.php?f=18&t=25044

Slackel 7.3 distribution released:
07/10/2020

After a year of development, Slackel 7.3 distribution, built on the shoulders of the Slackware and Salix projects, and fully compatible with the repositories they offer, was released. A key feature of Slackel is the use of the constantly updated "Slackware-Current" branch. The graphical environment is based on the Openbox window manager. (So they say, but it seems more like LXDE to me) The size of the boot image that can work in live mode is 1.9 GB (32 and 64 bit). The distribution can be used on systems with as little as 512 MB of RAM.

http://www.slackel.gr/forum/viewtopic.php?f=3&t=612

July KDE Application Update 20.04.3
07/10/2020

In accordance with the monthly update publication cycle

introduced last year, the July consolidated update of applications (04/20/3) developed by the KDE project is up for your perusal. In total, as part of the July update, releases of more than 120 programs, libraries and plugins were published.

https://kde.org/announcements/releases/2020-07-apps-update/

TAUON MUSIC BOX 6.0 MUSIC PLAYER RELEASED:

07/11/2020

The Tauon Music Box 6.0 music player is available, combining a fast and minimalistic interface with rich functionality. The project is written in Python and distributed under the GPLv3 license. Packages are prepared for Arch Linux in both Snap and Flatpak formats .

https://github.com/Taiko2k/TauonMusicBox/releases/tag/v6.0.0

WEBTORRENT PROTOCOL SUPPORT ADDED TO LIBTORRENT:

07/13/2020

Support for the WebTorrent protocol has been added to the libtorrent library, which offers an efficient implementation of the BitTorrent protocol in terms of memory consumption and CPU load. The code for working with WebTorrent will be included in the next major release of libtorrent, after the 2.0 branch. WebTorrent is an extension of the BitTorrent protocol. The project does not require external server infrastructure and browser plug-ins to work.

https://feross.org/libtorrent-webtorrent/

NEW VERSION OF CLAWS MAIL EMAIL CLIENT:

07/13/2020 21:24

The easy and fast email client Claws Mail 3.17.6 is out. In 2005 it separated from the Sylpheed project (from 2001 to 2005, the projects were developed jointly,

Claws was used to test future innovations of Sylpheed). The Claws Mail interface is built using GTK, the code is distributed under the GPL license. A Phishing warning is now shown when copying a phishing URL, (in addition to clicking a phishing URL). However, in this writer's opinion, it still looks like it came from 1979 and seriously needs a facelift.

https://www.claws-mail.org/news.php

IceWM 1.7 RELEASED:

07/13/2020

IceWM lightweight window manager release is available. Notable features of IceWM: full control through keyboard combinations, the ability to use virtual desktops, taskbars and application menus. The window manager is configured through a set of fairly simple configuration files, allowing you to use themes. Built-in applets are available for monitoring CPU, memory and network traffic. The code is written in C ++ and distributed under the GPLv2 license.

https://github.com/ice-wm/icewm/releases/tag/1.7.0

PALE MOON BROWSER RELEASE:

07/14/2020

Pale Moon 28.11 web browser, a fork of the Firefox code base to provide higher performance, maintain the classic interface, is out. Pale Moon binaries are configured for Windows and Linux (x86 and x86_64). The project code is distributed under the MPLv2 (Mozilla Public License).

The project adheres to the classic layout of the interface, without moving to the Australis interface integrated into Firefox 29, and with the provision of extensive customization options. Among the removed components are DRM, Social API, WebRTC, PDF viewer, Crash Reporter, code for collecting statistics and tools for parental control.

https://forum.palemoon.org/viewtopic.php?t=24760&p=193999#p193999

SAIL Image Decoding Library Available
07/14/2020

A cross-platform SAIL image decoding library is published under the MIT license. SAIL is a re-branded C codec from a long-unsupported KSquirrel image viewer, but with a high-level abstract API and numerous improvements. Target audience: image viewers, game development or loading images into memory for other purposes. The library is already usable, but still under development. Binary compatibility and source code compatibility are not guaranteed at this stage of development.

https://github.com/smoked-herring/sail

Nokia unveils SR Linux network operating system for routers
07/14/2020

Nokia has introduced a new network operating system, Service Router Linux (SR Linux). It is focused on data center use and cloud environments. SR Linux is seen as a key component of Nokia Data Center Fabric solutions and will be installed on Nokia 7250 IXR and 7220 IXR routers. The SR Linux-based solution is already being tested at Apple's new Danish data center.

Unlike other operating systems for network equipment based on the Linux kernel, SR Linux retains the ability to access the underlying Linux environment, which is not hidden behind specialized APIs and interfaces. Users have access to the unmodified Linux kernel and basic system applications (bash, cron, Python, etc.), and specific applications are created using the NetOps Toolkit, which is not tied to certain programming languages.

https://www.nokia.com/about-us/news/releases/2020/07/09/nokia-announces-generational-step-in-data-center-networking-new-os-and-tools-give-cloud-builders-unprecedented-ability-to-adapt-automate-and-scale/

OTOBO ticket system released, a fork of OTRS
07/14/2020

Rother OSS introduced the first stable release of the OTOBO 10.0.1 ticket system, a fork of OTRS CE . The system is designed to solve such problems as ensuring the operation of a technical support service (help desk), managing responses to customer requests (phone calls, email), coordinating the provision of corporate IT services, managing applications in sales and financial services, all in one place. OTOBO code is written in Perl and is distributed under the GPLv3 license.

Stefan Rother, now the founder and managing director of Rother OSS, joined OTRS GmbH (today OTRS AG) in 2004. In 2011, he founded his own company, Rother OSS. By 2019, Rother OSS has focused on providing business services related to open source OTRS options. In response to the changed OTRS AG release strategy and the delay in releasing new versions of the OTRS Community Edition, Rother OSS began to develop an OTOBO (Open Ticket Ours Based Otrs) application system based on OTRS version 6. OTOBO's business concept is to support business users and training.

https://otobo.de/en/

NetworkManager 1.26.0 Network Configurator Released
07/14/2020

A stable interface release has been introduced to simplify the configuration of network parameters - NetworkManager 1.26.0. Plugins for supporting VPN, OpenConnect, PPTP, OpenVPN and OpenSWAN are part of their development cycles.

https://www.mail-archive.com/release-team@gnome.org/msg08516.html

Popcorn will be removed from the Ubuntu base:
07/15/2020

Michael Hudson-Doyle of the Ubuntu Foundations Team announced a decision to remove

the popcon (popularity-contest) package from Ubuntu's core team, which was used to transmit anonymous telemetry about downloading, installing, updating, and removing packages. Based on the collected data, reports were generated on the popularity of applications and the architectures used, which were used by developers to make decisions on the inclusion of certain programs in the base delivery. Popcon was included in the distribution since 2006, but since the release of Ubuntu 18.04, this package and the server backend associated with it have been mothballed.

https://discourse.ubuntu.com/t/popcon-to-be-removed-from-the-standard-seed/17238

VIRTUALBOX 6.1.12 RELEASED:
07/15/2020

Oracle has released VirtualBox 6.1.12 - virtualization patch release, which boasts 14 fixes . At the same time, updates 6.0.24 and 5.2.44 are offered. The new versions also fix 25 vulnerabilities not explicitly mentioned in the changelist.

https://www.mail-archive.com/vbox-announce@virtualbox.org/msg00206.html

SWAY 1.5 USER ENVIRONMENT RELEASED:
07/16/2020

The release of the composite manager Sway 1.5 , built using the Wayland protocol and fully compatible with the i3 mosaic window manager and the i3bar panel, was heralded. The project code is written in C and distributed under the MIT license. The project aims to be used on Linux as well as FreeBSD.

Compatibility with i3 is ensured at the command level, configuration files and IPC, which allows you to use Sway as a transparent replacement for i3, using Wayland instead of X11. Sway allows you to place windows on the screen not spatially, but logically. The windows are arranged to form a grid that optimally uses the screen real estate and allows you to quickly manipulate the windows only using the keyboard.

https://github.com/swaywm/sway/releases/tag/1.5

ENDEAVOUROS DISTRIBUTION KIT:
07/16/2020

EndeavourOS 2020.07.15, which replaced Antergos, (development has been discontinued in May 2019) is available. The distribution offers a simple installer for installing the base Arch Linux environment with the default Xfce desktop and the ability to install one of 9 typical desktops based on i3-wm, Openbox, Mate, Cinnamon, GNOME, Deepin, Budgie and KDE. Endeavor OS allows the user to easily install Arch Linux with the necessary desktop in the way that it was meant, by the developers of the selected desktop, without additional pre-installed programs. Installation image size 1.7 GB (x86_64).

https://endeavouros.com/news/our-first-anniversary-the-july-release-and-whats-next/

THUNDERBIRD 78 EMAIL CLIENT EDITION:
07/17/2020

11 months after the publication of the last major release, Thunderbird 78, developed by the community and based on Mozilla technologies, was released. The new release is categorized as a version with a long support period, for which updates are issued during the year. Thunderbird 78 is based on the source of Firefox 78 ESR. The release is available only for direct download, automatic updating from previous releases to version 78.0 is not provided and will be available only in version 78.2.

https://blog.thunderbird.net/2020/07/whats-new-in-thunderbird-78/

CLAMAV 0.102.4 FREE ANTIVIRUS PACKAGE UPDATE:
07/17/2020

The free anti-virus package ClamAV 0.102.4 is out, in which three vulnerabilities have been

fixed: CVE-2020-3350, CVE-2020-3327, CVE-2020-3481

https://blog.clamav.net/2020/07/clamav-01024-security-patch-released.html

MICROSOFT HAS PUBLISHED AN OPEN LINUX VERSION OF THE MONITORING UTILITY PROCMON:
07/17/2020

Microsoft has, under MIT license, published the source code for the ProcMon utility (Process Monitor) for Linux. Initially, the utility was supplied in the Sysinternals suite for Windows and is now adapted for Linux. Tracing in Linux is organized using the BCC toolkit (BPF Compiler Collection), which allows you to create effective BPF programs for tracing and manipulating kernel structures. Ready-to-install packages are built for Ubuntu Linux. The utility provides a simple console interface for monitoring the status of processes in the system and analyzing the activity of accessing system calls.

https://github.com/microsoft/ProcMon-for-Linux

RELEASE OF CMAKE BUILD SYSTEM 3.18:
07/18/2020

The release of the cross-platform open source script generator CMake 3.18, acting as an alternative to Autotools and used in projects such as KDE, LLVM / Clang, MySQL, MariaDB, ReactOS and Blender, is out. The CMake code is written in C++ and is distributed under the BSD license.

CMake is noted for providing a simple scripting language, extensibility through modules, minimal dependencies (no binding to M4, Perl, or Python), caching support, cross-compilation tools, support for generating build files for a wide range of build systems and compilers, ctest and cpack utilities for defining test and build scripts, cmake-gui utility for interactively configuring build parameters.

https://blog.kitware.com/cmake-3-18-0-available-for-download/

DEBIAN FINAL UPDATE 9.13:
07/18/2020

A bug-fix update has been published for the last stable branch of Debian 9, which includes cumulative package updates and fixes in the installer. The release includes 75 updates that address stability issues and 73 updates that address vulnerabilities. This is the final release of the Debian 9 branch, further building of package updates will be passed on to the LTS Team. Native support for Debian 9 ended on 18 July 2020. As part of the LTS branch, updates for Debian 9 will be released until June 30, 2022.

https://www.debian.org/News/2020/20200718

MIDNIGHT COMMANDER 4.8.25 FILE MANAGER RELEASED:
07/19/2020

This is a maintenance release including several new features and fixes for issues found since the last one. It is now possible to change file attributes via a graphical dialog, just like file permissions. Key bindings for radio buttons can now be redefined. Annoying subshell warning when launching standalone editor & viewer should be finally gone. Other than that, a number of changes and fixes have taken place touching various components such as the build system, syntax definitions and so on.

https://mail.gnome.org/archives/mc-devel/2020-July/msg00001.html

LAUNCH OF KAOS 2020.07:
07/20/2020

KaOS 2020.07 is a rolling release distribution aimed at providing a desktop based on fresh releases of KDE and applications using Qt such as the Calligra office suite. The distribution is based on Arch Linux, but maintains its own independent repository, numbering about 1500 packages.

The new release offers KDE Plasma 5.19.3 desktop, KDE Applications 20.04.3, Qt 5.15.0,

Mesa 20.1.3, NetworkManager 1.26.0, Linux kernel 5.7.8, etc. The basic version includes an image editor Photoflare, music player vvave, etc. The design theme has been modernized. Support for boot process themes based on systemd-bootloader was added. Whenever possible, QAM-based modules were used in the Calamares installer, including a new QML-module for setting keyboard parameters, and a module for setting localization is being developed.

https://kaosx.us/news/2020/kaos07/

THE OFFICIAL FULL CIRCLE APP FOR UBUNTU TOUCH - UPDATED!

Brian Douglass has updated his FCM app for Ubports Touch devices that will allow you to view current issues, and back issues, and to download and view them on your Ubuntu Touch phone/tablet.

INSTALL

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

HUGE thanks to Brian for this.
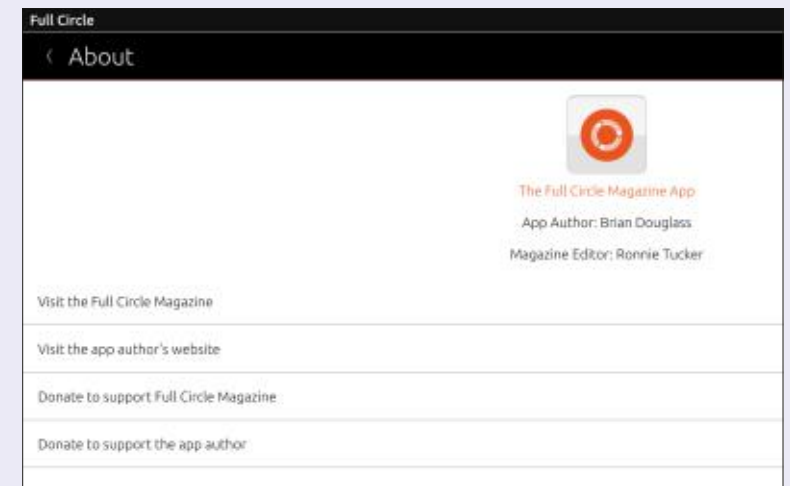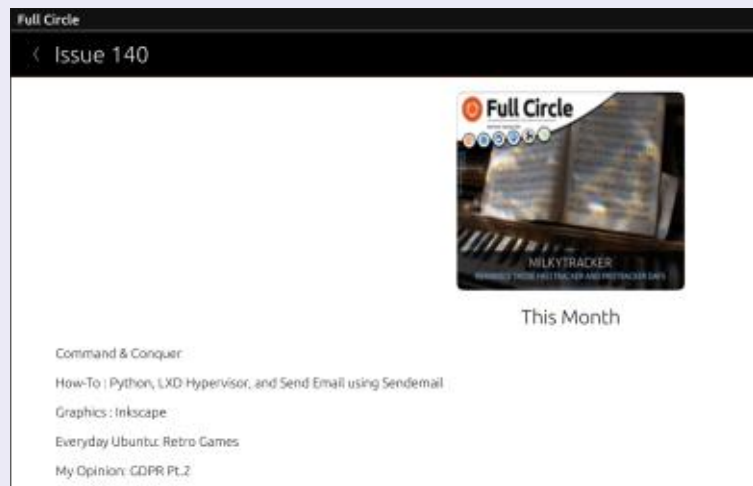
Okay rustafarians, we head back to Rust development as @Daredevil14 and Ellin complained about where Lucas' Rust blog went. It looks like you guys want more Rust and less 'security nonsense'. Firstly, do not neglect to read the above book. If you are a complete beginner to Rust or even programming, we've got you covered here at FCM.

These articles are not to replace the book mentioned above, think of them more as helpers along the way.

At the moment, we are just taking a high-level view of things. We can drill down into each of these topics we have covered in more detail. If you have been following Greg's excellent tutorials, you would be familiar with local and global variables. (The scope of the variables). The thing in Rust is, every variable has an owner, which is a variable too. Sounds confusing? Come read chapter 4.1 with us!

This will be chapter four in the book above. This is the direct link:

https://doc.rust-lang.org/book/ch04-01-what-is-ownership.html

What does it mean to own data? Why would you need to own data? Is there a tax to be paid for owning data? Well, from what I can tell, there is no performance hit, but you take a hit in file size. When you compile a tiny 'hello world' console application, you end up with 2MB instead of 2KB. Let me try to break it down. Each piece of data has an owner, which is obviously a variable. That owner is responsible for cleaning up after that data. The owner decides if the data can be changed (is it mutable?) This "cleanup" happens when the owner goes out of scope. What do we mean by this? When you create a function, you have starting and ending curly braces. Any variable within those curly braces has scope only there, so when your program steps out of the last curly brace, the magic happens. Just for those a bit more curious, that "magic" is called "drop".

How about we use a real world allegory: your friend Tammy has a games night. You bring your favourite card game, Exploding Kittens. Everyone else brings their favourite game too. When you are done playing Exploding Kittens, you, as the owner, pick up all the cards on the table and pack them back into the container and take it home with you when you leave. If you leave the cards lying on the table, it would make it difficult to play the next card game. You also won't be invited back if you expect someone else to pack up your cards after every game. You may have heard that some programming languages have "garbage collection". This is great, but there is a performance hit as this program needs memory and CPU cycles to clean up automatically after your mess.

Remember when we declare a variable in Rust, we have the option to use the "mut" keyword. Now obviously, when you change a variable, its size in memory changes too, imagine changing a string "FCM" to this whole article, three characters vs three thousand. So the memory allocation can change.

And that extra may need to be cleaned up. In the example in the Rust book, you may have noticed: " let mut s = String::from("hello"); " I am going to oversimplify this, but hear me out. This now creates data, say five bytes, each containing one character from that string "hello". So you have the first byte being an "h", the next an "e", and so on. The " :: " notation is new to me too, so don't feel left out. For now, simply do it that way and memorise how it is used. Don't worry, if you don't understand the references in the examples in the book, they refer to other programming language syntax, to help programmers who are familiar with those other programming languages transition to Rust more smoothly.

Because the owner of the data is a variable, that too, can change. Consider declaring a variable a, then assigning a to b (let a = "FCM" then let b = a). You have now transferred ownership from a to b. But, Aber, Pero, Ale. What if you want to keep using your original declaration? Well, then Rust has cloning. This allows you to keep

ownership of your data, but also give ownership to another piece of your code. If you see an error: "value used here after move", you probably need to clone. By the way, that error is really descriptive, it tells you that you tried to use a variable's value after it was moved to another owner (like in the example above). Now cloning takes up that same amount of memory again, so be careful when cloning. Don't just clone willy-nilly. To clone a variable, you add the ".clone" to your variable when you use it. So a.clone() will let you clone the "FCM" value in our example above. If you need to, re-read this section in the book, I certainly did!

Now that you have an idea of ownership, next time we can talk about things like borrowing. As with anything, practice makes perfect. Try out the examples in the book, make mistakes, learn what the error messages mean. I know how frustrated I was when all I kept getting was "syntax error" after "syntax error". At least Rust is a lot friendlier. Don't be shy to try something, the worst that can happen is that you can die. Wait, that is not correct? Syntax error... :)

I urge you to go through the whole section above, right down to part 4.4. We can delve into this later, but for now I want you to get to grips with why this is important and why this sets Rust apart from other programming languages. Now, I don't know Rust inside out, nor do I know all the nuances of programming, but as a newbie myself, I can give some newbie insights and things I have figured out for myself. Remember the book above is written for programmers, by programmers. As a newbie to Rust or programming, you may not always get what they are trying to bring across. This is where your friendly FCM team comes in, as we try to help you bridge that gap. If I made any mistakes, or if you have some insights to add that may aid new programmers and rustafarians alike, please drop us an email at: misc@fullcirclemagazine.org

We welcome the feedback, as it helps us too.

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.

PyFPDF is a library that allows you to generate PDF documents under Python. It was ported from FPDF ('Free'-PDF) to a PHP library. The repository is on github at https://github.com/reingart/pyfpdf and the documentation is at https://pyfpdf.readthedocs.io/en/latest/index.html

Some of the features that this library provides are the ability to include graphic images, positional printing, lines, rectangles, ellipses, headers and footers, and the ability to create templated forms for things like invoices.

It's rather old, and there hasn't been much activity recently. In fact, the last update to the repository was about 3 years ago.

You can easily install it with pip by using:

```
pip install fpdf
```

or you can clone the github repository and install it from there via pip like this:

```
pip install –e .
```

from the clone main folder.

Let's jump right in and create our first example program. Enter this program into your favorite IDE and save it as "ftest1.py". We'll make some changes to it later on.

```
from fpdf import FPDF

pdf = FPDF()
pdf.add_page()
pdf.set_font('Arial', 'B', 16)
pdf.cell(40, 10, 'Hello Full Circle Magazine!')
pdf.output('tuto1a.pdf', 'F')
```

Now we'll break down the program. After we import the FPDF library, we instantiate the library, by calling pdf=FPDF(), with the default options.

Next, we add a page. These are pretty much the first two things that you have to do before you can do anything else.

We then set the default font for the page, then we use the cell method to print some simple text,

and then we call the output method to create the PDF file itself.

When we created the PDF object, as I said, we used the default parameters. Here's the options:

```
pdf = FPDF(orientation, units, page format) where:

orientation = (p:portrait, l:landscape) (default = Portrait)

units = (pt:point, mm:millimeter, cm:centimeter, in:inch) (default is mm)

format = (A3, A4, A5, Letter, Legal) (default is A4) (see below)
```

If you need a custom page size, you can send a tuple with the width and height in the given units. If you are using Portrait mode, the order should be (width, height), but if you are using landscape, it should be (height, width). Also, try as I might, I couldn't get the units to work with the inch option. Nothing seems to render, so I stick with 'mm'.

Next we set the font to be used. The call is:

```
fpdf.set_font(family, style='', size = 0)
```

The set_font method allows you to specify the font to be used for the next lines of text to be rendered. It's not quite as open as you might think though. There are five normal fonts you can use which are pre-defined (unless you use "add_font" first). These are:
• Courier (fixed-width)
• Helvetica or Arial
• Times
• Symbol
• ZapfDingbats

These 5 fonts provide fixed width, sans-serif, serif, and two symbolic fonts. The font family parameter is case insensitive as well as the font style. Those styles can be:
　B : bold
　I : italic
　U : underline
　empty : regular

Note: if you want to change the font size within the document,

without changing the family or style, you can call:

```
fpdf.set_font_size(size)
```

If you want to use a special font for some reason, outside of the standard font set provided, you can use the add_font method. However, it is fairly difficult, so we'll discuss it in a future article. In the meantime, you can look at the documentation to see how to do it.

Now, we'll take a look at the cell method, that allows you to place the text to be rendered. This method will print a rectangular area with optional borders, possibly background and foreground colors, and the character string. The text can be aligned to the right or left or can be centered. When the call is finished, the current position moves to the right or to the next line, depending on a parameter passed, and allows for an optional link to be attached to the text. The format of the method parameters is fairly comprehensive, but, luckily, the author of the library has set a number of defaults, so it isn't as bad as it could be.

```
fpdf.cell(w, h=0, txt='',
border=0, ln=0, align='',
fill=false, link='')
```

We'll take a look at each parameter in a bit more depth...

w: Cell width. If this value is 0, the cell will extend to the right margin.

h: The cell height. Default is 0.

txt: string to print

border: 0: no border, 1 : frame (or a string containing which lines of the frame to be rendered)

ln : 0: to the right, 1 to the beginning of the next line, 2: below

align: 'L' left align, 'C': Center, 'R' : Right align

fill: True: Background painted, False: Transparent. Default = False

link: URL or identifier returned by add_link()

Finally, we call pdf.output to render the file and save it as the filename specified (which is the 'F' parameter). There are other parameters that you can research in the document.

Once the program is done, you can open it with your default PDF viewer. It should look something like the image above.

Now, we will take a look at adding the link parameter to the call method. Change the last two lines of your test program to:

```
pdf.cell(0, 10, 'Hello Full
Circle Magazine!',

    1,1,'C',0,"http://
fullcirclemagazine.org")

pdf.output('test1a.pdf', 'F')
```

Notice that we added all the parameters for the cell method. In this version, we will be adding a border with transparent fill, make the text centered, have the cell go from the far left extending to the far right of the page, set the next text line to be on the line below, and added a link to the Full Circle Magazine website, when you click on the text. We also changed the output file name.

Save the program as "test1a" and try it again (see image below).

That's great, but what if we want to do full paragraphs of text? There is a method that is close to the cell method that will handle this for us. It's called multi_cell. The multi_cell method uses the following parameters:

HOWTO - PYTHON

```python
pdf.multi_cell(w: float, h:
float, txt: str, border = 0,

    align: str = 'J', fill:
bool = False)
```

It can be used in place of the cell method, but we are going to do something special to demonstrate this. This time, we will extend and override some of the builtin functions (that are simply stubs that are designed to be implemented in your code) which are header and footer, and add a couple of our own. Open another blank file in your IDE and name the file Demo3.py.

```python
from fpdf import FPDF

import sys

import os
```

Of course, we have to start off with the import statements. Next, we'll extend the fpdf class by creating a header and footer method for ourselves (borrowed from one of the demos in the documentation). See top right.

The header method, as you might guess, creates a header that is (mostly) centered horizontally and consists of the title of our

document. First, we set the font, then we use the get_string_width() method to calculate the width in whatever unit value that was set for the title when it would be rendered. That is then placed in a cell starting at the proper place at the top of the page. You could use a "0" in the cell method in place of the "w" and not use the set_x method, forcing the cell to start at a x position of 0 and extending to the right margin, but you really should see this alternate method.

The footer method handles placing the page number at the very bottom of the page, in this case (middle right) 15 mm from the bottom. You can set the color of the font, but I commented it out.

Next, we'll create a method to handle multi-line text. You can create different methods to handle

```python
class PDF(FPDF):
    def header(self):
        self.set_font('Arial', 'B', 15)
        # Calculate width of title and position
        w = self.get_string_width(title) + 6
        self.set_x((210 - w) / 2)
        # Title
        self.cell(w, 9, title, 0, 1, 'C', 0)
        # Line break
        self.ln(10)
```

```python
def footer(self):
    # Position at 1.5 cm from bottom
    self.set_y(-15)
    self.set_font('Arial', 'I', 8)
    # Text color in gray
    # self.set_text_color(128)
    # Page number
    self.cell(0, 10, 'Page ' + str(self.page_no()), 0, 0, 'C')
```

different types of paragraphs. This, (below) again, was mostly borrowed from the documentation:

Now, we'll set some normal variables and add some properties to the PDF file. The properties are

optional, but we'll do it here, just to show you how to do if you ever want to (these are outside of the class, so they are not indented):

Now, we send each group of text into the chapter_body() method we just created. For the

```python
def chapter_body(self, name, fontfamily=None, fontattrib=None, fontsize=None):
    # Read text file
    with open(name, 'rb') as fh:
        txt = fh.read().decode('latin-1')
    if fontfamily == None:
        # Times 12
        self.set_font('Times', '', 12)
    else:
        self.set_font(fontfamily, fontattrib, fontsize)
    # Output justified text
    self.multi_cell(0, 5, txt)
    # Line break
    self.ln()
```

demo, I chose some text from last month's article and one of the programs to try to demonstrate how to use different font settings (top right).

```
pdf.chapter_body('demotext1.txt')
```

```
pdf.chapter_body('demotext2.txt','Arial','B',14)
```

```
pdf.chapter_body('birthdays2.py','Courier','B',11)
```

Now we render and save the PDF file:

```
pdf.output('demo3.pdf', 'F')
```

Finally, the following code (again borrowed from the documentation) will open the system default PDF viewer, assuming one is set, to display the PDF we just created. This saves you and the user the need to open a file manager window, dig around for the file and open it that way. I know the code works for Linux, but haven't tried it on a Windows machine or a Mac.

```
if
sys.platform.startswith("linux"):
    os.system("xdg-open ./demo3.pdf")
```

```
title = 'Demo3 for Full Circle Magazine'
pdf = PDF('p', 'mm', 'letter')
pdf.alias_nb_pages()
pdf.set_title(title)
# Properties start here...
pdf.set_author('G.D. Walters')
pdf.set_subject('Demonstration program for Full Circle Magazine Issue #159')
pdf.set_keywords("PDF, Demonstration, Full Circle Magazine")
pdf.set_creator("Python")
# Properties end here...
pdf.add_page()
```

```
else:
    os.system("./demo3.pdf")
```

Now that the PDF is (hopefully) visible, check the properties of the document, after you check the text in the PDF itself. You should see something like this:

So there you have it. The beginnings of the ability to create your own PDF files. I strongly suggest that you download the repository with all the source code. It gives you a great insight into the abilities of the library. The biggest thing we didn't talk about this time is the ability of the library to use pre-defined templates. We'll save that for the next article.

The code files (and the text files for the last demo) have been uploaded to pastebin to make life easy for you. The links are below:

test1.py - https://pastebin.com/L2vUhAfa

test1a.py - https://pastebin.com/WsrGVPPU

demo3.py - https://pastebin.com/jaXSAJKg

demotext1.txt - https://pastebin.com/6FiWk7HF

demotext2.txt - https://pastebin.com/6AkCvMxx

birthdays2.py - https://pastebin.com/0Gwke6FD

Until next time; 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 .

Properties	
General	Fonts
Title:	Demo3 for Full Circle Magazine
Location:	file:///home/greg/Desktop/pypdftest/demo3.pdf
Subject:	Demonstration program for Full Circle Magazine Issue #159
Author:	G.D. Walters
Keywords:	PDF, Demonstration, Full Circle Magazine

I know this is probably something everyone already knows, but, for clarity, and for the occasional reader who has never heard of a podcast, for the purpose of this article a podcast is a piece of Audio that has been released via the internet for listening to on an audio device at a time of the listener's choosing. This can be a professional program that also aired on the radio, or a piece of audio content that is created by someone who wants to reach an audience for whatever reason. Many people now make a living through creation of audio podcasts, in the same way as YouTube content creators. There are many podcasts out there to meet the needs of the different interests of people, such as technology, health and fitness, food and film fandom to name a few. There are also many podcasts out there relating to Linux, and Full Circle Magazine has a weekly news podcast informing the listener of the latest Linux News.

MY STORY

Before we start, just a little information about me and my podcasting journey. I started using Linux around 2006/7 when I started to refurbish old PC hardware (at that time Pentium 2/3 PCs. These were often made from donated PCs and parts given to me on Freecycle (now Freegle here in the UK). As many of the PC's did not have a valid Windows license, Linux was the only viable and legal option for these PCs.

This was shortly after Ubuntu had become an easier route into Linux, not perfect as you still needed a little bit of knowledge to get all your audio and video, including DVD movies, to play, but way easier than it had been prior to Canonical starting Ubuntu. So I started to use Xubuntu as the OS on these low-spec machines. Often they would have the bare minimum of 196MB of Ram that Xubuntu needed, and it would have been impossible to install Windows XP SP2 as it would not have run anyway. However Xubuntu, while not lightning fast, still worked quite well on these systems. As a result of using Xubuntu on these machines, I started to use Ubuntu as a dual-boot with Windows XP on my then Pentium 4 2.5 GHz tower PC, with 2GB Ram and a 40GB HDD.

A couple of years later, in 2009, I chose to only use Ubuntu after a PC meltdown requiring a total reinstall, and I have been a full-time Linux user since that time. Since 2011, I have been predominantly a Mint Mate user, although, as you will hear, I am a bit of a distro-hopper.

My first proper podcast was actually the Full Circle podcast, when it was still a full podcast and not a news show as it is now. For a few months, Les Pounder, John Chamberlain, Oliver Clark from Blackpool LUG, and myself, took over from the previous host, but, unfortunately, we suffered from pod-fade as, at that time, we were all in full time employment and had underestimated the amount of work involved in recording and editing a regular show. However, we had some fun, and it ignited a spark that has been rekindled in the last 3 years, first as a Hacker Public Radio (HPR) Host, and, since last October, one of the regular hosts of mintCast, which led to the creation of the Distrohoppers Digest podcast with one of my fellow hosts of mintCast.

So the idea for this short series will be to share some of what I've learned over the last few years about podcasting, and how, YOU, the reader, could go about having a go for yourself. So let's start.

REQUIRED HARDWARE

First, let us look at the hardware you need to record and edit your audio. If you want to record for Hacker Public Radio (HPR), they are more concerned on getting content

and new hosts, so, as long as your audio is legible, then you are OK. For more regular podcasting, the better your audio the more likely you are to build a regular audience, so I will be taking you through the steps to get fairly decent audio quality during this series, but first let's look at the basics.

If you just want to record the occasional short piece of audio, modern smartphones these days can record reasonable quality audio. You may have seen pictures of journalists chasing people in the streets, pushing their phone at them to get a quote, so if it's a good enough option for a professional, it may be sufficient for occasional recording to get you started. If you have a phone with an audio jack, you can buy fairly good microphone and headphone sets that will record directly onto your phone. Also if you want to use your phone to record interviews with others, there are standalone microphones available that will do this. A little research on the web will find a number of options ranging in price from around £10 upwards, but it's always good to read reviews of what is the best option in your price range. Also there are a number of apps that

you can install from the relevant app store that will record your audio onto the phone, but more of that when we look at software. You can also buy small portable recorders that are combination microphones and recording devices and these can be used as portable recording devices or connected to a PC as an audio input device. Zoom recorders are one device that many in the podcast world use, and earlier models can be picked up quite reasonably. I personally have the H2, and a number of my HPR interview episodes have been recorded with this over the years. If recording using a desktop or laptop PC and audio quality is more important to you, you may wish to invest in a more professional microphone with a boom arm, pop filter, and vibration damper, and a hardware mixing desk, but more of that later in the series.

For static recording and later editing of that or other audio, a basic laptop/desktop PC with Linux Mint (or your distribution of choice) will be sufficient; you can also get software for basic editing on a phone or tablet, but, as I've never used that option, I can not really say how effective it is. For

mixing long multi track audio, an i3 PC with 4-8GB Ram should be adequate for basic recording and editing.

So now you know what hardware you need to get started. In the next article in this series we will look at the software you will need to use for both recording and editing any audio you have, however you recorded it.

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th@mintcast.org

distrohoppersdigest@gmail.com

https://distrohoppersdigest.blogspot.com

https://mintcast.org/

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If you have been following along in our little tutorial series, welcome back. This time around, we have a very random photo. It is bland, but the lines are more or less straight. Mmm... think we can do something with this?
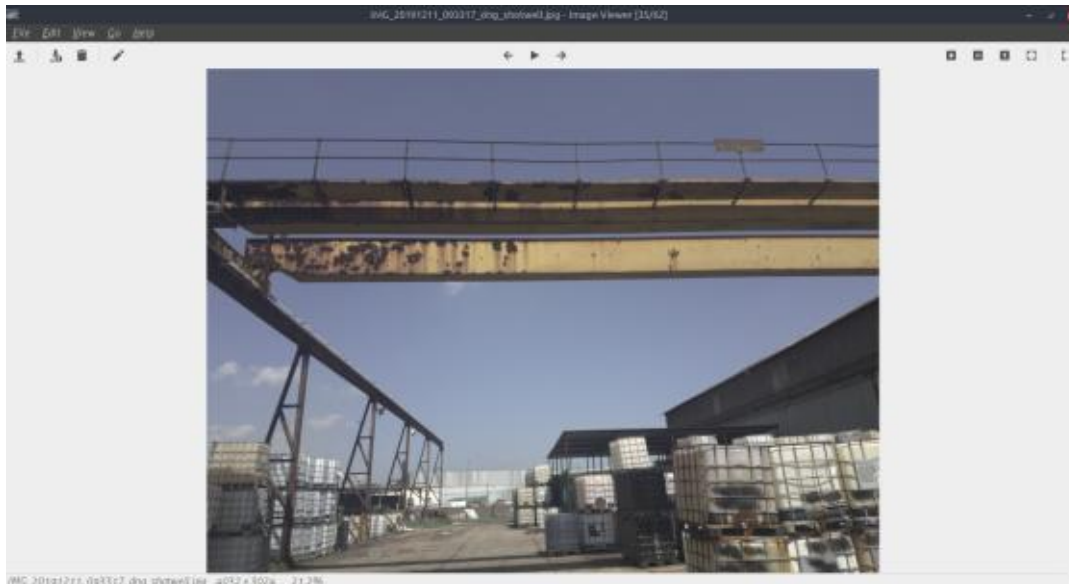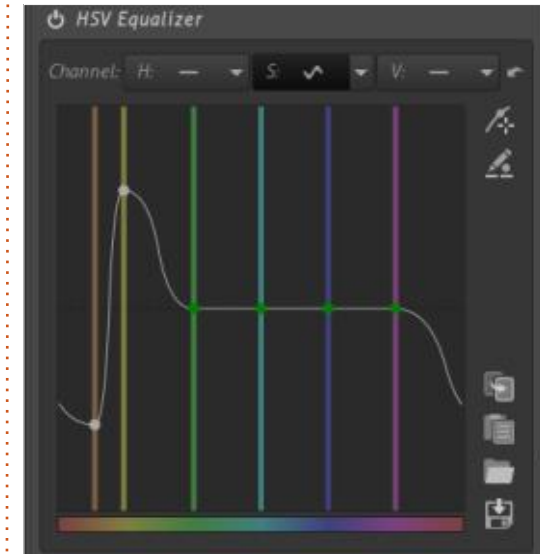
This is going to be a rather short / quick tutorial, as I want you to notice how quickly one can work inside Rawtherapee. You do not have to spend hours getting something like wallpaper for your new wide monitor, it should be quick. (I would just like to point out that I do not have a new wide monitor, but my friend does, and he was bemoaning the lack of original wide wallpapers.)

How about we hit the road running as you guys know your way around Rawtherapee already? Under our exposure tab, let's add some saturation, until the sky actually becomes a better blue. I will increase it by ten (10). Immediately we have more life or realism, if you like. Ten, may even be a bit much, but it is not set in stone and you are welcome to use less. (But - there is a method to the madness.) The idea here is just to teach you that washed out photos are not lost. Though the old ten ton crane is not the focus of the picture, I want to draw the eye to it.

Turn on your HSV equalizer. Bonus points if you knew where it was immediately. Again, we will head to saturation and open its equaliser. I want to create a sine wave between red and yellow, with yellow high and red low. Once I have my sine wave , I want to move the red vertical bar into the orange spectrum, to remove some of the red. That done, we open the

equalizer for the value and remove all the points except yellow and red. By now you should know that to remove a point, you simply drag it outside of the box. I will minimize and maximize red an yellow and move the red into orange again, making that gaudy yellow more natural.
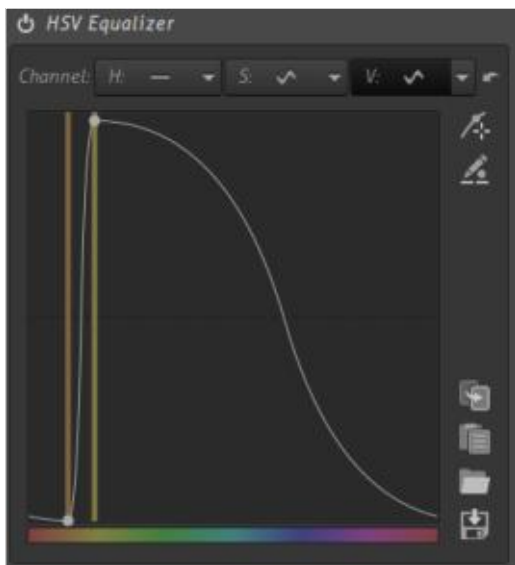
So now lets see what we can do about the rust? Head into hue and open that equaliser. The adjustments here are a lot more sensitive than the other two values. Zoom in to a section containing the rust. I am going to bump magenta and yellow up and dip red slightly, again moving it towards orange, but only slightly. If you want an artistic photo, this is your chance, just move yellow

towards green, until the yellow in the picture fades out. (So those of you who want to get freaky, this is where you get freaky.) Just realise, here is your chance to focus the attention by simply manipulating one colour and muting the rest.

I would like to reiterate that the interpretation of your photo is up to you. Do what makes you happy. If you follow our guides, you will know where to do that.

So now if I turn this picture on its head, crop it and export it, I have another nice wide wallpaper. :) The possibilities are limited by your imagination!

I hope you learned something, and if you have any comments or queries, direct them to misc@fullcirclemagazine.org.
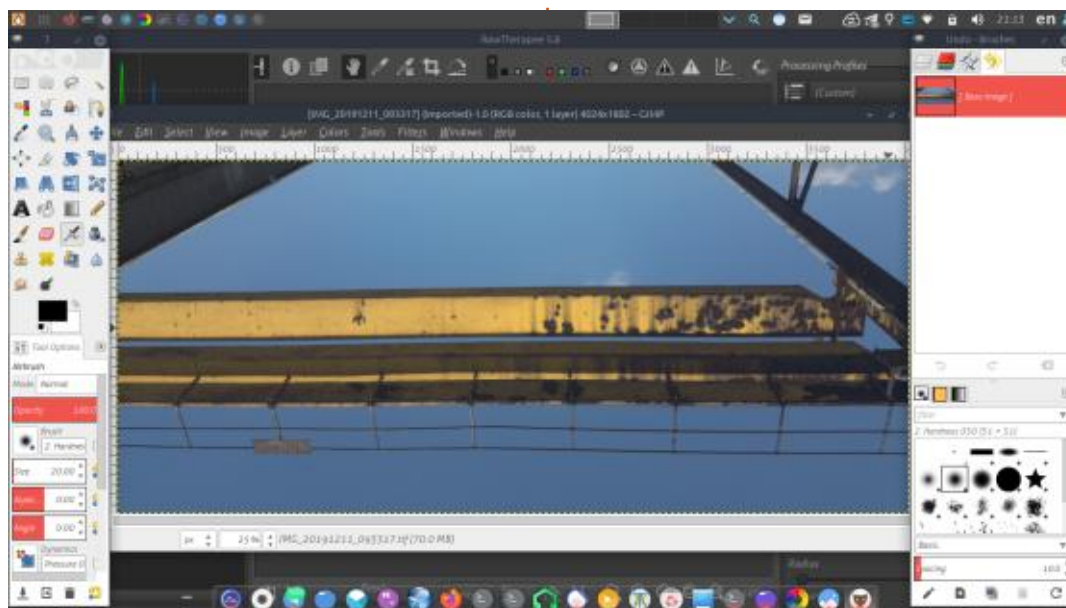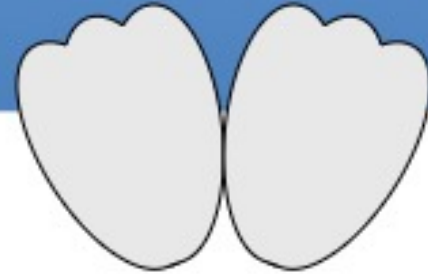

Erik has been in IT for 30+ years. He has seen technology come and go. From repairing washing machine sized hard drives with multimeters and oscilloscopes, laying cable, to scaling 3G towers, he's done it.

This month I'll be continuing to look at the new view features in Inkscape v1.0, beginning with an addition to the View > Display Mode menu. If you're a long-time reader of this column, then not only do you deserve some kind of award (perhaps an Inkscape-drawn certificate), but you'll also be familiar with the "Outline" display mode.

Known informally as the "where's my invisible stuff" mode, this feature renders every element as a simple outline, regardless of its usual fill and stroke settings. It's invaluable for those times when you've created an otherwise invisible object – whether by accident or intent (there are some good reasons why you might want to). Typically, this is an early mistake by new users who inadvertently clear both the fill and stroke, make the colors transparent, reduce the opacity on the whole object, or go a bit crazy with the blur slider. In these cases, View > Display Mode > Outline lets you see, and select, your invisible object, whether to delete it or try to wrangle it back into a visible state.

The new view mode is related, but different. Whereas Outline mode renders everything as outlines, losing patterns, fills and strokes in the process, the new "Visible Hairlines" feature just makes really thin strokes a bit thicker, but otherwise displays most other objects and properties the same as usual. An example will probably help to explain, so take a look at these five stars:

"Five stars?" you say. "But I can only see two. Maybe three or four if I zoom right in and squint a bit."

There are, indeed, five stars. None of them are hidden. None have any transparency or reduced opacity applied. None are filtered. Yet some are definitely easier to see than others – and one is not visible at all. What's going on here? Perhaps if I describe each star you might realise what's happening:
Top left: 1px black stroke.
Top right: 64px black stroke.
Bottom left: 64px light gray stroke.
Bottom middle: 0.1px black stroke.
Bottom right: Red fill.

The visible stars on the right are easy enough to explain – one has a thick stroke, one has a fill. The bottom left also has a thick stroke, but in a light color that makes it hard to see. The top left is possibly just about visible: these are large stars, and the page is zoomed out, so that a 1px stroke is just on the edge of Inkscape's display capabilities. If you go much thinner – as I have done with the 0.1px stroke on the remaining star – Inkscape just doesn't render it at all.

Let's see how these look in Outline mode.

Here we see the problem with Outline view. Yes, we can now see all the stars, which is great for finding invisible objects. But they all look the same, regardless of their original styles.

Compare this with View > Display Mode > Visible Hairlines:

Although it may not be clear in the magazine, the top left star is ever so slightly thicker. Our previously invisible star is also rendered with the same thickness.

The two stars on the right just appear as they usually would – as does the star at the bottom left, which is still difficult to see.

This view mode is intended to help if you are designing an image for use with a laser cutter or similar device. These machines often require paths to have a purely nominal thickness – 0.1mm is a typical value – which can easily result in them disappearing from view when you zoom out. By switching to Visible Hairlines mode, you ensure that Inkscape will always display strokes at a thickness that is enough to keep them visible. It doesn't change the actual widths in the SVG file, so your laser cutter won't complain, but does mean that objects no longer vanish while you work.

Any stroke that is already above the minimal limit will be rendered as usual. That's why the thicker strokes on the top right and bottom left stars are unaffected. As you can see with the bottom left, however, that can still lead to barely visible shapes, so Outline view still has its place. As the bottom right star shows, fills and other properties are also rendered as normal in this view. Filters don't fare very well, but as they are purely visual effects that don't alter the geometric information that a laser cutter might use, they're not generally used in the sort of situations that this mode is intended to address.

Most users won't need this mode. If you just want to find an invisible object, Outline mode is still your best bet. But if you do have to work with exceptionally thin strokes, and find they vanish when you zoom out, this mode is just the thing for you.

If you are on the hunt for invisible objects, or those hidden behind other items, there are a couple of other new features hanging around on the View menu: View > Split View Mode and View > XRay Mode. They're a little like dynamic versions of the Outline view mode, giving you the best of both worlds – both outline and full display, at the same time. They should also both be on the Display Mode submenu, in my opinion, but probably live on the main menu to make them more discoverable. Let's look at Split View Mode first.

This image is made up of four stars, identical except for their size.

I created the smallest one first, and set its opacity to 25%. Then I duplicated it and resized to create the second one; then duplicated and resized the second to make the third; same for the third to the fourth.

My question to you is this: what's the easiest way to select the smallest star? Due to the order in which I created them, it's at the bottom of the z-stack, so a simple click won't do the job. Here are some methods that would work in this particular case:
• Careful rubber band selection.
• Hold Alt (or Super-Alt on most Linux boxes) and repeatedly click in the same spot to select below the current object.
• Reorder the stack manually before selecting.
• Reorder the stack using Extensions > Arrange > Restack before selecting.
• Switch to Outline view mode, then select.

The last option is arguably the most practical. It doesn't require you to change the arrangement of items in your drawing, and is probably less likely than the others to result in the wrong thing being selected. But it's a pain to turn Outline mode on and off via the menu, and you may not use it often enough to warrant learning more keyboard shortcuts.

What would be really handy is a way to get a temporary outline view of the drawing, but then switch back to normal view simply and intuitively. With Split View Mode that's almost what we've got. Almost.

You can activate the new mode, via the View > Split View Mode menu. The default keyboard shortcut is Ctrl-6, but this is 6 on the main keyboard, not the numeric keypad. I find this a little odd, given that the default

shortcut for cycling through the display modes uses Ctrl with 5 on the numeric keypad. However you trigger it, enabling this mode will immediately split the workspace in two, with the left side showing the normal view of your document, and the right side showing the outline view.

A large circular handle at the middle of the screen can be dragged to move the split point, allowing more or less of the view to be displayed in outline mode. Four triangles within the control let you switch the orientation of the split between horizontal and vertical, and determine which side of the split should show the outline view. Both sides of the display work as normal, so you are free to select items in the outline view then manipulate them in the normal view, or vice versa. Clicks and drags on the splitter control are not propagated through to the objects below so you can, for example, make a selection in outline view then adjust the split to give you more of a normal view without the objects becoming deselected as you do so.

On the surface, this looks like a great addition for working with complex documents. Just enable Split View Mode then slide the splitter to one side to give you a normal view most of the time, swinging it back into play for tricky selections, before swiping it away to the side again, ready for redeployment in an instant. Except it doesn't work like that.

If you drag the handle too close to the edge of the workspace, this mode gets deactivated, requiring another trip to the View menu, or hitting the keyboard shortcut, to switch it on again. But there's no visual indication of where "too close" begins. And it's deactivated even if you're still in the process of dragging, without the courtesy of at least waiting for you to release the mouse button! The result is that it's too tricky to leave this mode enabled at all times, just swiping the splitter in and out of view as needed, because you're bound to swipe it too far at some point and turn the feature off.

Worse still, moving the big handle towards any edge has the same effect, regardless of the splitter orientation. With a vertical splitter, separating the two halves to the left and right, you might be tempted to move the handle up or down to get it out of the way of your content. But even though you're not moving the splitter itself, drag it a pixel too high or low and the whole mode turns off, requiring you to start at the menu again.

This mode also doesn't store the split state between invocations. Every time you enable it you'll be put directly into the same 50/50 view with the outline on the right. It doesn't matter if you previously switched to 70/30 with the outline at the bottom, or any other combination. Once this mode is turned off, and then back on again, it drops you straight to the default. And given how easy it is to accidentally turn it off, it makes working with this mode more of a pain than a pleasure. It does make for nice screenshots when demonstrating the density of objects in a complex drawing though.

View > Xray Mode is a closely related, but slightly different feature. The keyboard shortcut for this is Alt-6, by default, but once again this has to be the 6 on the top row of keys, not on the numeric keypad. Switching this on enables outline view in a circle immediately
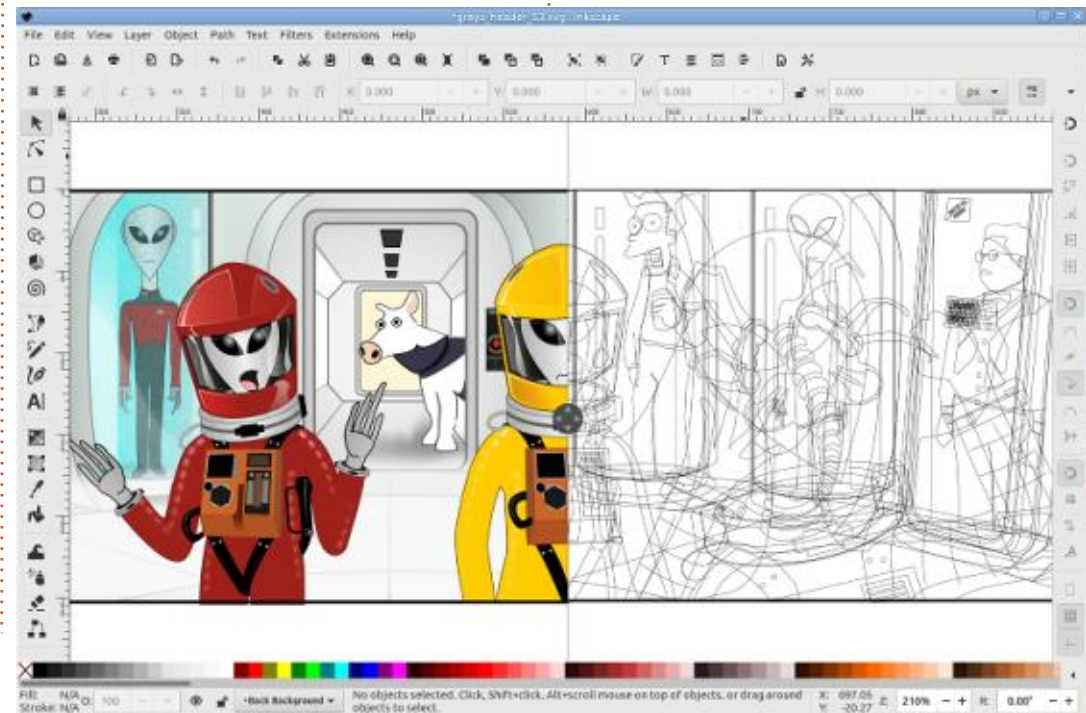
surrounding the mouse pointer. Like an X-ray, it cuts through the body of your drawing to show you the bones that support it. But it's more like a tightly controlled "X-ray beam" from a pulp comic book than the large format plates that are routinely hung from wall-mounted light boxes in medical dramas.

As with Split View Mode, you can still make selections and perform other tasks with this mode activated. There's no way to change the size or shape of the beam, and no way to 'leave it' at a particular place while you use the mouse elsewhere. To my mind this mode is a fun distraction, but ultimately not very useful for day-to-day work.

If you struggle to select objects in busy drawings, then it might be worth changing the keyboard shortcut to make it easier to toggle on and off. What would be nice is a 'hold-to-activate' key, like the 'Q' key for the quick-zoom function, which would allow you to press and hold a key for long enough to make a tricky selection, but would return you to the normal view as soon as you release it. It would certainly make for a better use of the 'X' key than as a shortcut for the largely

useless 3D box tool. I have, of course, filed a feature request for this – as well as one for improvements to the Split View mode.

That's it for the new view features in v1.0. Next month will be the 100th article in this series, so I'll be celebrating this milestone by… continuing to bring you details of some of the other new features in the latest Inkscape release.
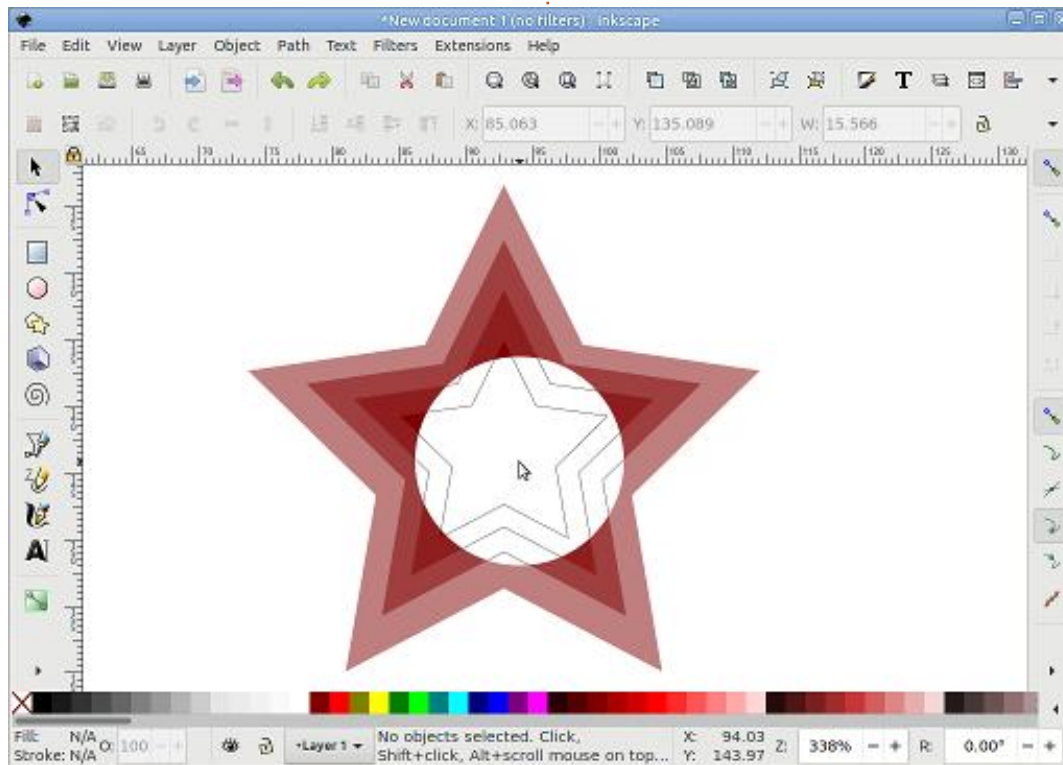
Mark uses Inkscape to create three webcomics, 'The Greys', 'Monsters, Inked' and 'Elvie', which can all be found at http://www.peppertop.com/

contents ^

This series is aimed at learning to make something of the old photos in my possession, and others in the public domain due to their age. You, the reader, are welcome to tag along and I hope glean some small insight and perhaps an idea or two from time to time. No promises are made as to quality of the content, or potential errors and omissions. I am a computer scientist, not a true artist or a professional of image restoration. So please take all this as a best effort, but with no firm guarantees — much as is the case of most open-source software.

In the previous part of this series, we focused on clearing up dark splotches and other defects on a photo that had been taken using 35mm photographic film, then scanned using a flatbed scanner and then converted to a positive. As announced at the end of Part 8, we will finish this series by taking a look at old photos taken using the digital cameras that became mainstream. Not all were created equal, and some of the earliest had sensors that lacked the quality we are used to seeing today in modern equipment. In four successive parts, we will tackle some specific defects of early light-sensitive chips: lack of sensibility, which is a drawback when shooting dark scenes; lack of contrast; lack of resolution; and finally lack of color dynamic range. Taken together, these weak points tend to give early digital photos a lackluster, washed-out and blurry feeling in contrast with those made using even rather common mobile phones today.

To begin with, let us take a look at an interior photo I took in Trinity College, Dublin, in year 2006. It posed two typical challenges to previous generation digital chips: on the one hand, the lighter parts where direct sun comes in through the ceiling and washed out, to the point that some of the joints look thinner than they really are, and on the other the lower half of the image has registered very little light at all. The chip inside the camera simply could not cope with such a huge variety of lighting levels in a single scene.

Our aim will be to maintain whatever quality is available in the upper half of the image, while enhancing the darker half to pick out as much detail as is hidden among the shadows. A simple strategy would be to use color curves as discussed in part 3 of this series, to correct this imbalance. So, we are off to menu option Filter, then Adjust and "Color Adjustment curves". We raise the lower (dark) part of the curve, while maintaining the upper half on the diagonal line to retain the original response. With just three control points adjusting the lower half of the curve, the darker part of the image clears up nicely, and we can now see some action at the end of the corridor.

More color is now to be seen. However, the lower half of the image is still not perfect, there are several darker shadows and the end result is quite dark and has less detail than one would like. Luminosity could, in theory, be increased yet more by giving the color adjustment curve an even steeper incline at the extreme left. This, however, can give weird effects to lower-to-mid tone colors, which tend to group together

around a drab gray. This is especially visible in the woodworking around the windows in the first floor, which has a completely washed out look. Basically, this is the result of a section of the adjustment curve that has a very flat slope, which can be seen on the curve between the second and third adjustment points. A flat slope means that similar colors will be drawn together, and contrast is lost.

So, applying a color adjustment curve directly does not seem to be a good solution. A more advanced technique consists of two stages. In the first, we shall decompose the image into three separate
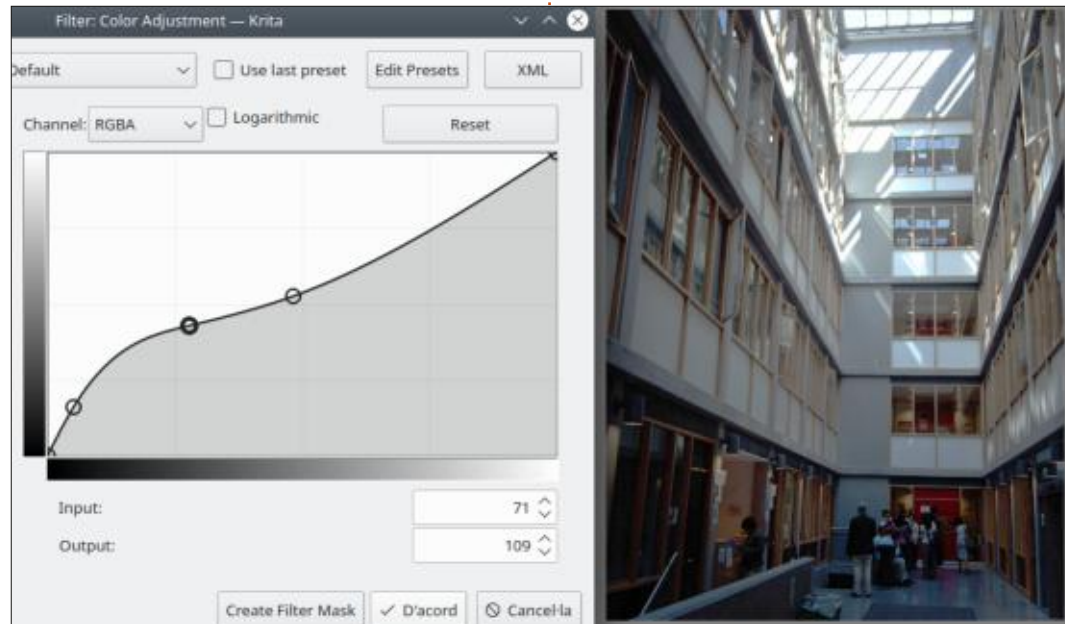
channels. The first, known as Hue (H), gives us the actual color of each pixel, as defined along the chromatic circle. We can think of hue as defining whether we are speaking of a red, or are more close to a green, or perhaps our pixel has a tinge of yellow. The second channel, Saturation (S) represents the force of the color. A gray is a color with low or extremely low saturation; as saturation increases, colors will have more character and seem vibrant. finally, Value (V) tells us whether the pixel is a dark, or a light color. Contrary to other image manipulation programs such as GIMP, in Krita one does not easily perform HSV channel separation decomposing a layer into its

different components in separate images. But the color adjustment curve can be used to tweak a single channel. Select "Color adjustment curves" once more, but this time choose channel "Lightness" (this being the Krita term for Value) instead of RGBA (see next page, bottom left). We can now push up the lightness of the lower portion of the image, without altering color balance.

The first floor woodwork now looks like natural wood, not gray paint. The dark red at the end of the lower hall section is now a more natural color than in our previous try.

We can go a bit further with this tool. Suppose we now wish to increase saturation, raising color intensity slightly in the lower half of our image. We could go, once more, into "Color adjustment curves" and select channel "Saturation" using the appropriate curve. But doing this would increase saturation all over the board, for all parts of our image. What we actually need to do is increase saturation, but only for the darker colors. For this reason, the tool we will use is in menu option Filter, then Adjust and

option "Cross-channel adjustment curves". In this, we can specify we wish to adjust Saturation, but making our adjustment dependent on another channel. This is called the "driver channel", which in this case is "Lightness". So, choose this curve and increase saturation for lower values of lightness – this is the left half of the curve.

The lower part of the corridor now has slightly more vibrant colors, though remaining quite realistic. The woodwork on the first floor also has a tad more character than in either of the previous images.

These tools are quite advanced, and showcase some of Krita's excellent range of options to rework our original photos that are slightly off. With some practice, we can often go quite a bit further in restoring old and dark photos, beyond increasing the whole image's luminosity. However, in other cases old digital photos can have quite the opposite defect, coming out too clear and with colors washed out by too much light in the original scene for the camera's chip. We will work on this scenario in the next part of our series. Until then, take care!

Alan holds a PhD. He teaches comp sci and eng at Escola Andorrana de Batxillerat. He has given GNU/Linux courses at the Uni of Andorra and taught GNU/Linux systems admin at the OU of Catalunya.

One of the hallmarks from BSD is the ZFS file system. It stands for Zettabyte File System. It was developed for use in openSolaris under the Sun Microsystem banner. The main authors are Matthew Aherns and Jeff Bonwick. Oracle purchased Sun, consequently openSolaris became close sourced. In retaliation, the ZFS developers left, and created the OpenZFS Foundation.

The foundation's sole purpose was to further develop ZFS for different operating systems. It was quickly adopted by the BSD world. However, it is slow in Linux distros for file system adoption. The original license is prohibitive and is not compatible with most Linux licenses. As I understand it, the original license requires all old ZFS contributors to sign on to the license change. Unfortunately a few of the ZFS coders are missing or deceased. Therefore it is difficult to have a successful license switch to a Linux compliant license for the kernel.

Yet developers will supply the means to install OpenZFS into the distro. According to the OpenZFS sources, these operating systems can utilize it.

Since Ubuntu 19.10, ZFS is installed as root as an option during installation. Further details can be found here regarding ZFS and Ubuntu. I recently installed Ubuntu MATE choosing the ZFS option.

I had no issues using the ZFS-fused Ubuntu MATE on my laptop. I use this laptop with the experimental code with zero issues. However, I am not a power user, so my use case is fairly weak. I am currently using it for writing, web surfing, and the occasional Zoom conference. Yet why consider using ZFS on Linux?

As taken from the FreeBSD manual, these are the three aims of ZFS: data integrity, pooled storage, and performance. Data integrity focuses on the ability of checking the data against a checksum; ZFS takes snapshots of the system. If there is no match against the checksum, ZFS will attempt to correct the errors. Pooled storage is the ability to increase memory when devices are added into the system for all the file systems. In a large data storage system, these features would be desired. I have no experience in data management file systems. The performance is desirable, but a central caveat is that ZFS can be expensive to maintain and implement. The system requires extra drives. Therefore it is a bit more expensive.

Next month I will take a look at the Software in the Public Interest non-profit corporation. It is a non-profit organization based in New York that focuses on open source hardware and software.
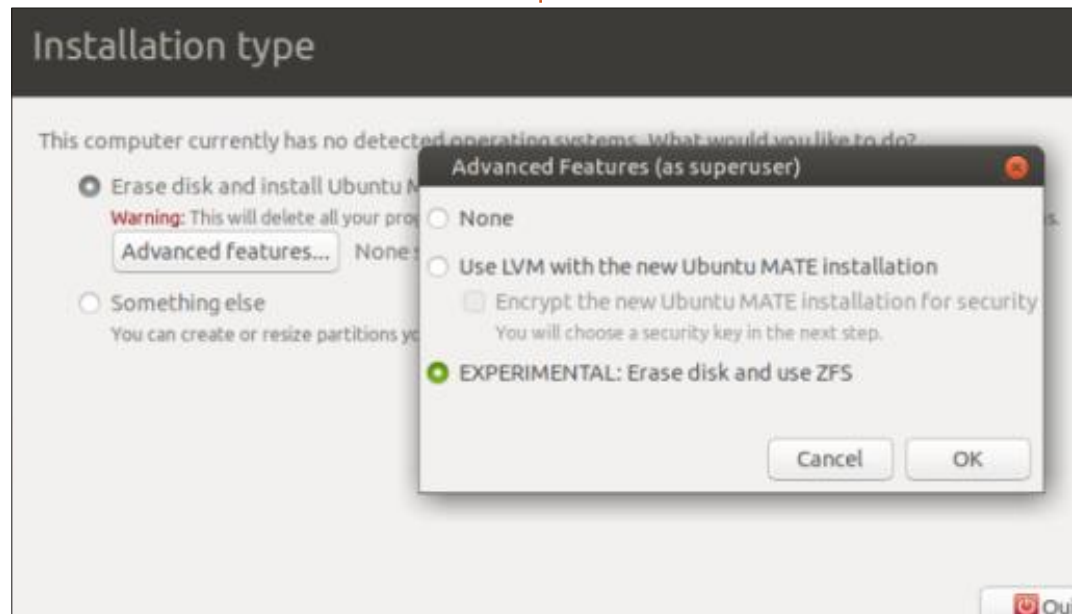
SJ Webb is a researcher coordinator. When he is not working, he enjoys time with his wife and kids. He thanks Mike Ferarri for his mentorship.

Installation type

This computer currently has no detected operating systems. What would you like to do?

- Erase disk and install Ubuntu M
  Warning: This will delete all your pro
  Advanced features... None

Advanced Features (as superuser)

- None
- Use LVM with the new Ubuntu MATE installation
  - Encrypt the new Ubuntu MATE installation for security
    You will choose a security key in the next step.
- EXPERIMENTAL: Erase disk and use ZFS

Cancel   OK

- Something else
  You can create or resize partitions yo

Quit

Richard 'Flash' Adams spent about 20 years in corporate IT. He lives in rural northwest Georgia, USA, with his adopted 'son', a cockatiel named Baby.

Everyone Likes A Piece Of Pie

Everyone likes a piece of Pie. Preferably hot apple pie with a slice of whipped cream or vanilla custard served on a hot day. However, that is not the Pie I am talking about. I'm gibbering about everybody's favorite Single Board computer that costs nothing, and can do more tricks than a hamster on cocaine: The Raspberry Pi. Should you have just returned from an interplanetary voyage that has cut you off from earth communications over the last 5 years, I'll quickly recapitulate. The Raspberry Pi is a tiny and super-cheap line of "single board computers" that run Linux. Lately, the fourth iteration of the Pi came out (each board even more powerful than its predecessor) heralding that it "could even be used as a desktop computer". But what if you already HAVE a desktop computer, and what if you aren't really good at soldering, and breadboards, and not able to program a pi-powered-orange-juice-machine if your life depended on them. Would it still be useful? I handed over 40 bucks and found out for you guys.

SO WHY GET A PI?

One thing I like about the Raspberry Pi is that they are small, simple and single purpose devices that consume hardly any power. They don't take up a lot of room, they don't have noisy fans, and my better half doesn't complain about 'yet another computer' that I'm dragging into the house. I love to experiment with Linux and this has led to me "adopting" a couple of broken-down laptops with busted screens from friends and family, and turning them into headless linux servers for a variety of purposes. It's a fun way to "experiment" but not very practical. A Raspberry Pi proved to be a very interesting alternative so I have been giving it a go.

WHAT DO I USE MY PI FOR?

Let me just say: I'm not a programmer, and can't solder 2 wires together at gunpoint. So building a brain for the next finalist of "Robot Wars" was out of the question. I've tinkered with the Raspberry PI 3 as a 'desktop replacement', but found it wanting. Sure: A 40 euro computer makes for a pretty cheap desktop, just like a 14-year-old second-hand Lada makes for a great first car: both of them are cheap, but leave you wanting something more. A Pi for me is an appliance. Something cheap and simple you use to do one thing and do it well (like an electric toothbrush). An appliance for me is easy to set up and low in maintenance. So, when picking a distro (there are plenty of them out there), I settled on Dietpi; a great distro that lets you turn a single-purpose device into a multi-purpose Linux server without having to break the bank OR get a degree in coding.

HOW DOES DIETPI WORK?

After installing Dietpi, if you can call copying the distro to your MicroSD card 'installing', you run through a command-line wizard that helps you set up the right IP address for your server, and reset the standard login and password. When you are done with that the fun starts. Using the commands 'dietpi-config' and 'dietpi-launcher', you can tune and tweak your Pi to your heart's delight. The interactive ncurses menu lets you change different configuration options that would otherwise take you weeks of digging around in the terminal. From a massive list of apps, you can select which functions you want your Pi to do. Stuff like Plex - an open VPN server, a surveillance station to a NAS drive, or even a BlockChain Bank – all get installed automatically using scripts that actually work.

WHAT APPLICATIONS DO I USE?

I could write a small book on the different kinds of software and services you can install with the "one click" menu. But I will let you find that out for yourself. The guys (and girls) behind the Dietpi project have written a comprehensive list of all the tools included, describing what they do, how to get them started, and, of course, provide the

link to the original project. You can peruse the list at your heart's content, and add and remove whatever apps and services you want – thanks to the automated scripts from the menu. I'll give you a small rundown of what I use my Dietpi for.

OpenVpn Server

I'm out and about a lot, and use quite a few guest wifi-networks at clients or when I travel. I consider these networks "Hostile". For the sake of privacy and security, I prefer to encrypt my traffic in a VPN. By turning my Raspberry Pi into an Open Vpn endpoint, I can do just that. I can encrypt my traffic (there are open VPN clients on all platforms), have a direct connection with my home network, AND I don't have to fork out extra cash for an external VPN Service. Don't worry if you don't have a static IP at home. Dietpi even has built in apps in the list that keep your changing IP linked to a fixed DNS name.

Pihole

I love ads! I love clicking on them and buying stuff from them. I adore how cookies track my every move, and how the Facebook Pixel is slowly starting to know me better than my own therapist. Sometimes, I just stare at websites for hours, just waiting for a popup to appear that I can click on. But seriously... of course not. That is why I run the Pihole server on my Dietpi. This customized DNS server takes care of filtering out all the ad riddled domains, and gives you a lot more control over the ads that you see on websites. Ad-blocker not required (so no need for websites to guilt-trip you about that). Just point your pc's DNS Server at the IP of your Pi and ab-bra-ca-dabra!

Ebook Server

I love to read, and I have built up a nice collection of DRM free eBooks, comics and PDF's through the years. Getting them to my various devices has always been a bit of a hassle. Perusing folders full of ePubs and pdfs, and having to scoop down to the level of actually using a usb cable to get content over, is too shameful for me. For a while, Calibre was a great tool to have a powerful eBook web server up and running. But uBookquity is just as good if you need something simple. In short: A web server that allows you to browse through and download your comics, ebooks and pdfs in any format you desire (oh, and regular files too!). Sweet, simple and password protected.

Sync-thing

When you are a cross platform user who hops around among Mac, Linux and Windows machines, it's hard to find a decent solution to keep a folder in sync. Dropbox was a nice alternative (if you trust them), but their 3-device limit that allows you to sync your files to only 3 devices offline is a bit of a hassle. Sync-thing does the same thing but without having to rely on "the cloud" as yet another repository for your files. One folder on my Dietpi is the "master folder" and all other machines use the sync-thing client to sync from there.

What else is possible?

There are plenty of other applications and services to choose from. Enabling too many might be a little hard for your Raspberry Pi to handle, so you might have to "pick and choose" a little. On most accounts, these different services work perfectly side-by-side. I love this since it turns your single-purpose-cheap-computer into a multi-purpose micro-server. If you are brave (I don't recommend nor discourage this), you might want to set up the holy-trinity of piracy: Sonarr Radarr and Laydar that automatically torrent all the Music, movies and TV shows you desire (fully automated) to your Pi. Fire up the Plex server (also a one-click-install) and you will be streaming the content straight to every screen in your home. But remember: you will be waving the pirate flag at your own peril if you do so.

Documentation

Documentation on the Dietpi is excellent because it is SHORT. No pages and pages of monotype fonts lulling you to sleep with technical details: just a simple website with a comprehensive list of all the services you can install (and de-install) at your own leisure. How do you install them, what do they do, and how do you use them... Boom.. That's it.

I was even more amazed by

MY OPINION

Dietpi when I found out that you could also install it on OTHER platforms. Plenty of Single-board platforms are supported AND you can even run it on I386 platforms. Run Dietpi on that old laptop you have lying around with the broken screen and, before you know it, you will have a super-simple but super-powerful machine in your home, even without 'a slice of pi'...

LINKS

The Dietpi Website:
https://dietpi.com/

The Dietpi Software list:
https://dietpi.com/phpbb/viewtopic.php?t=5
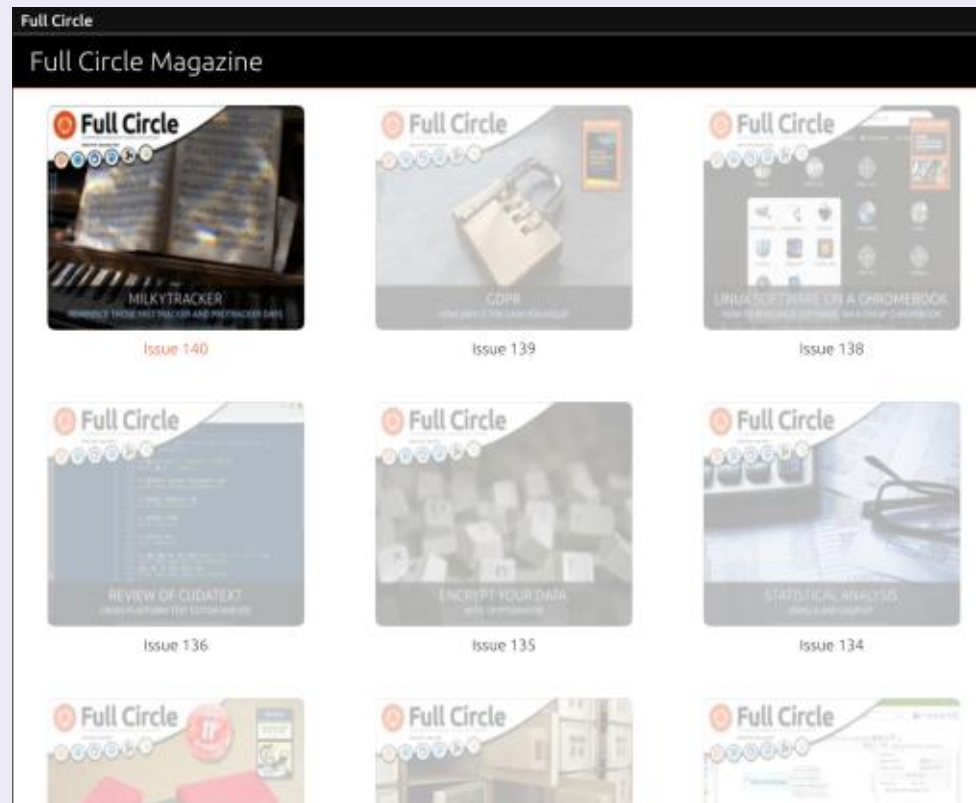
## THE OFFICIAL FULL CIRCLE APP FOR UBUNTU TOUCH - UPDATED!

Brian Douglass has updated his FCM app for Ubports Touch devices that will allow you to view current issues, and back issues, and to download and view them on your Ubuntu Touch phone/tablet.

INSTALL

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

HUGE thanks to Brian for this.
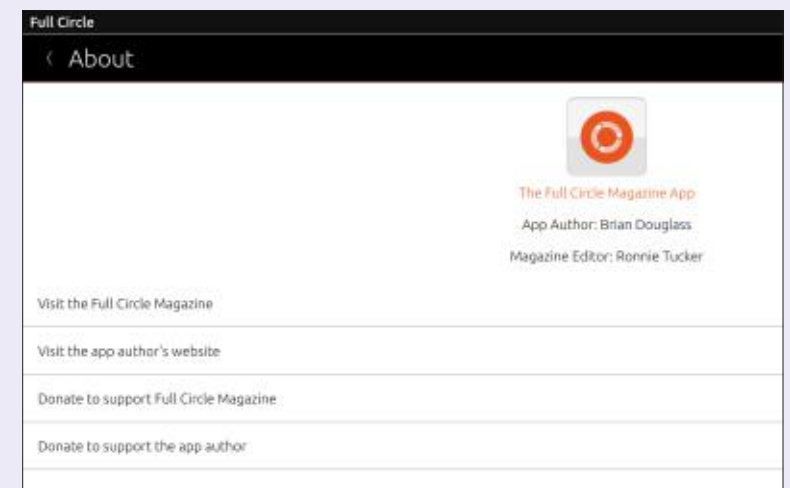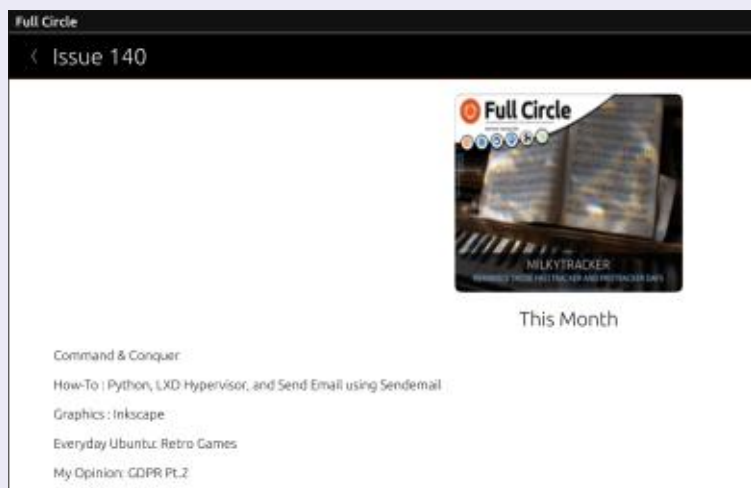
GUIDELINES

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.

After his obituary was published in the New York Journal in 1897, American writer Mark Twain famously wrote, "*the report of my death was an exaggeration.*" The same could be said for Unity, the user interface created by Canonical, and first fielded as the default interface in Ubuntu 11.04. The project was intended to lead to Unity version 8, the holy grail of interfaces that would run on everything from cell phones, tablets and laptops to desktops as part of a goal of "convergence".

Instead, Unity was axed after its final appearance in Ubuntu 17.04, as Ubuntu moved to Gnome 3 and its Gnome Shell interface, a move that ended the convergence dream and marked an attempt to reign in developer costs, too.

It seemed that Unity, which many Ubuntu users and developers grew to appreciate and even love for its keyboard-centric, efficient workflows and clean interface, was to be relegated to the proverbial "dustbin of history". Today, there are some Ubuntu users who are

happy with the switch to Gnome 3, but not all. Some Unity fans are still using Ubuntu 16.04 LTS, which is the last official Unity-based release that is still supported, with updates being provided until April 2021. As it is still in the repositories, some users have just installed Unity 7 on newer Ubuntu releases, too.

After Unity development was canceled, there were stirrings. The UBports community took over the development of Unity 8 as the interface for the Ubuntu Touch phone operating system. There were also indications that several developers intended to put out a

new desktop flavor of Ubuntu with Unity 7, the last fully developed and operational version, as used in Ubuntu 17.04. The tech media even reported in 2019 that Canonical had given its blessing to such endeavors, including the use of trademarks for such a distribution, an altruistic move on the
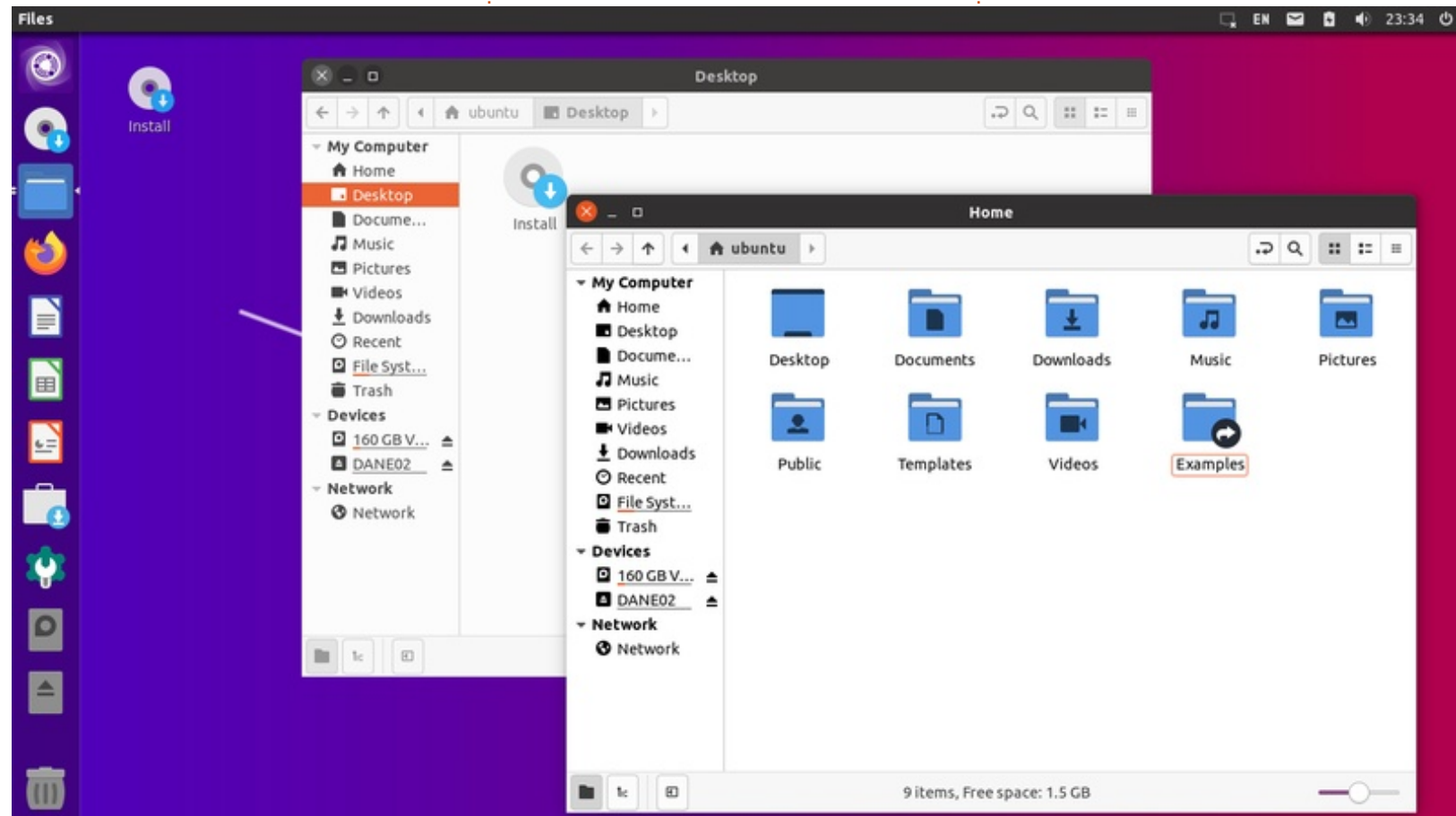
company's part.

These rumblings hadn't produced many tangible results until recently, with the release of Ubuntu Unity 20.04 LTS, an unofficial Ubuntu "flavor" that combines the best of Ubuntu 20.04 LTS with the Unity 7 interface.

DEVELOPMENT

What is probably the most remarkable aspect of this story is that this Ubuntu remix is developed by an Ubuntu team member, Rudra Saraswat, who is also a Linux Foundation Certified Developer. He lives near New Delhi, India and is ten years old. He started using Ubuntu 17.04 with Unity 7 when he was eight years old. He really liked it, was disappointed when it was discontinued, and decided to bring it back. This isn't his first effort in putting together a Linux operating system, as he has previously built several, including Krob Linux for servers.

Saraswat engaged in a number of Twitter surveys of Ubuntu users to create this new distribution. He decided to go with Nemo as the file manager, as it is a fork of Nautilus that reincorporated many of the needed features that Nautilus dropped a few years back such as an "up one level" button and "open as root". Nautilus is still included by default, as I suspect it cannot be easily removed from the Gnome desktop without breaking things, but Nemo is the file manager of choice on the Unity launcher and is a better file manager than Nautilus anyway.

Saraswat also eschewed Ubuntu's Gnome Display Manager and replaced it with LightDM instead, which provides the Unity sign-in. He designed a new logo and new wallpaper which gives Ubuntu Unity its own distinctive "Ubuntu family" look. Otherwise, the release is fairly "stock" and Unity 7.5.0 is little changed from its Ubuntu 17.04 days.

There are future plans for this distro, as Saraswat is hoping that Ubuntu Unity will be accepted as an official Ubuntu flavor. He has positioned this first release with that aim, including using no outside PPAs or non-free applications.

The 7 May, 2020 Ubuntu Unity 20.04 LTS release actually garnered quite a bit of attention from the tech press, with write-ups in Forbes and TechRepublic, among others.
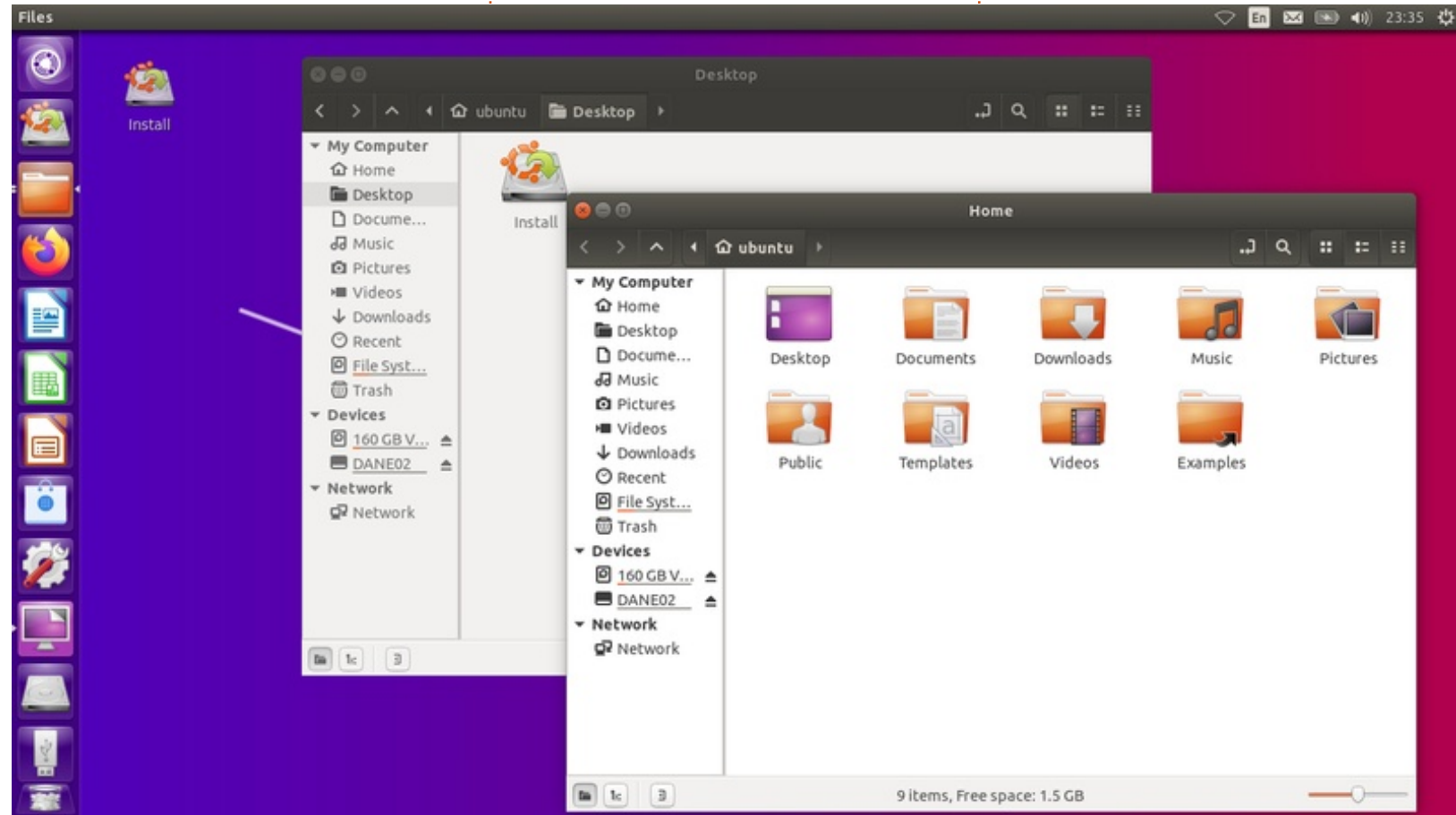
GETTING UBUNTU UNITY

Getting a copy of Ubuntu Unity 20.04 LTS is easy as the official website provides links to two http download sites plus a bit torrent site. ISOs and MD5Sums are available for 20.04 and for the alpha of the upcoming 20.10 release as well.

Once the 3.1 GB ISO file was

downloaded, I used the Startup Disk Creator to write it to a USB stick and booted to it, which all worked flawlessly.

TRYING IT OUT

If you have ever used a past Ubuntu release with Unity, then the boot-up leaves you in very familiar territory. The Unity launcher is on the left side of the screen. Everything looks and works

just as you left it, three years ago, with no dust on any of the components. It is quickly apparent that this is not a "nostalgia project", this is a functional, modern desktop.

The Unity dock includes commonly used applications and is easy to configure. Hitting the "super key" (Windows key) brings up the dash menus and the "alt" key gives instant access to the

"HUD" – the menu search that makes Unity so fast – while keeping your fingers on the keyboard.

Immediately it all comes back while using the desktop: the clean interface and the efficient workflows. Everything just works here and smoothly too, with no rough edges.

SETTINGS

These days Ubuntu's mainstream release has only three window themes, while Ubuntu Unity provides a choice of five: the default Yaru theme with Papirus icons, plus Adwaita, Ambiance, Radiance and High Contrast. Ambiance and Radiance are the classic dark and light Ubuntu themes that will look very familiar to any longtime Ubuntu user.

The settings available allow some degree of customization, making the launcher icons bigger or smaller, choosing new wallpaper and other tweaks that make it feel like home again. The whole Ubuntu Unity experience has a great feeling of familiarity to it for anyone who used Ubuntu between 2011 and 2017.

contents ^
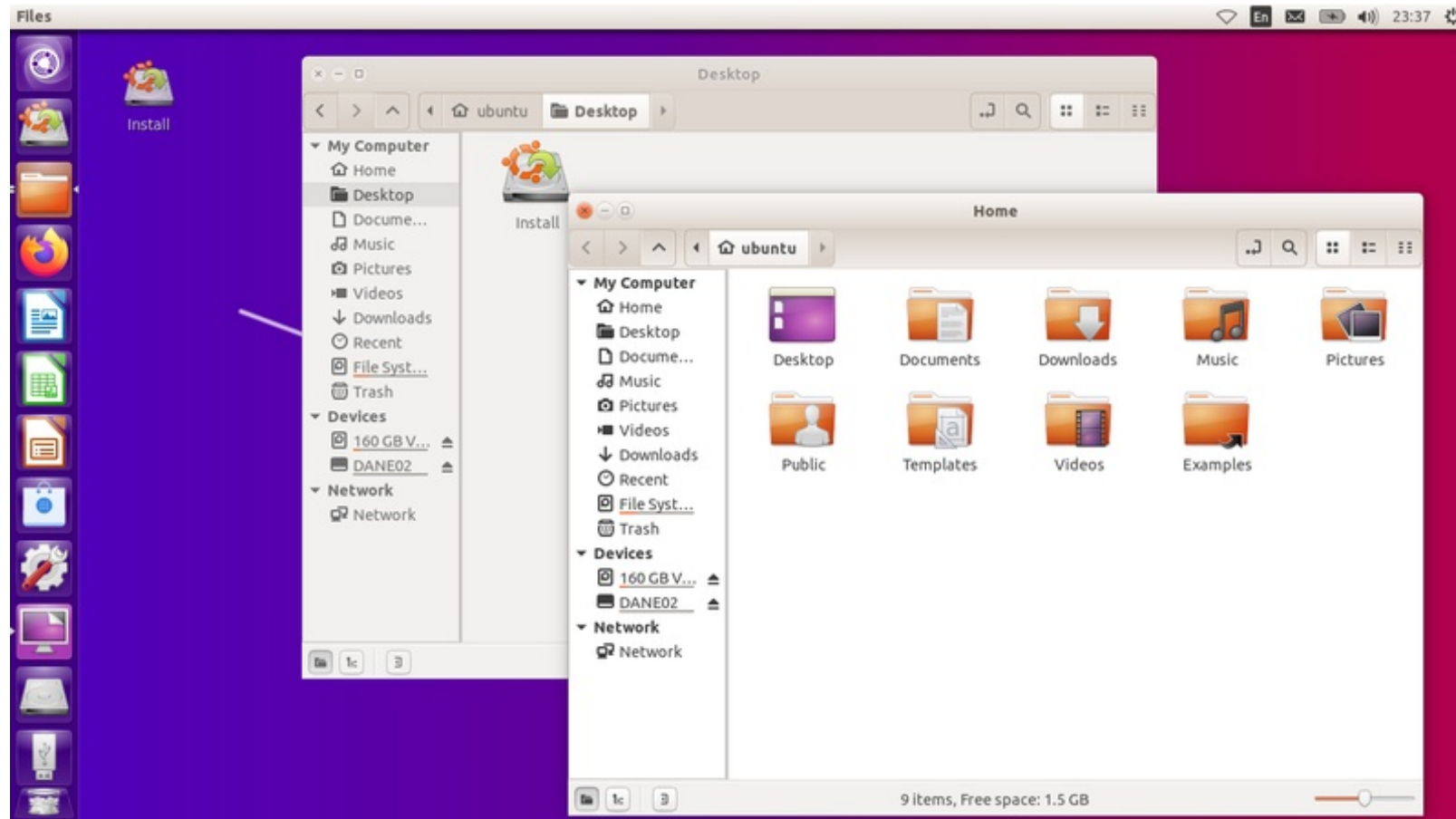
APPLICATIONS

Some of the applications included with Ubuntu Unity 20.04 LTS are:

Cheese 3.34 webcam application
CUPS 2.3.1 printing system
Document Viewer (Evince) 3.36.0 PDF viewer
Document Scanner (Simple Scan) 3.36.0 optical scanner
Files (Nautilus) 3.36.2 file manager
Firefox 76.0.1 web browser
Geary 3.36.1 email client
Gnome Calendar 3.36.1 desktop calendar
Gnome Disks 3.36.1 disk manager
Gnome Terminal 3.36.1.1 terminal emulator
Gparted 1.0.0 partition editor
Image Viewer (Eye of Gnome) 3.36.1 image viewer
LibreOffice 6.4.3.2 office suite
Nemo 4.4.2 file manager
PulseAudio 13.99.1 audio controller
Remmina 1.4.2 remote desktop client
Rhythmbox 3.4.4 music player
Shotwell 0.30.8 photo manager
Startup Disk Creator 0.3.7 (usb-creator-gtk) USB ISO writer
Text Editor (gedit) 3.36.2 text editor

Thunderbird 68.7.0 email client
Transmission 2.94-2 bittorrent client
Ubuntu Software (Gnome Software) 3.36.0 package management system
Videos (Totem) 3.34.1 movie player

Ubuntu Unity follows Ubuntu's lead in including a webcam application, Cheese, while omitting a default CD/DVD burning application. This makes eminent sense in 2020, as computers have not had optical drives for a long time. If required, there are good choices in the repositories that can be installed for CD/DVD burning such as Brasero, K3B, and Xfburn.

Ubuntu Unity 20.04 LTS includes almost all the components of LibreOffice 6.4.3.2, missing only LibreOffice Base, the database application, which can be added if needed.

Oddly, the Ubuntu Unity 20.04 LTS ISO includes two email clients, Geary 3.36.1 and Thunderbird 68.7.0, which may help explain the operating system's rather large 3.1 GB download size, some 600 MB bigger than Ubuntu's 2.5 GB download.

The included Gnome Software store provides both snap and deb files in many cases, giving users a choice of packages. For instance, Filezilla and Epiphany are available in both formats, while Chromium is available only as a snap package.

CONCLUSIONS

As in the case of Mark Twain in 1897, today Unity seems to be far from dead and still has an enthusiastic following.

For Ubuntu users who ran the Unity versions of Ubuntu in the past and find the Gnome 3 desktop falls short, then Ubuntu Unity 20.04 LTS will feel like coming home again. It is still fast, efficient, modern, and clean, with a good degree of customization available. In fact, with more themes available out-of-the-box, it is more customizable. This is not beta software either; it is ready for daily use right from first boot.

This release can't be termed "groundbreaking" or "a game-changer", but it does show exactly where the mainstream Ubuntu could have been today if it had not left Unity 7 behind for the Gnome Shell.

There seems to be lots of excitement around this release within the user base and that hopefully indicates that Ubuntu Unity will be around for a while. And, who knows, perhaps Ubuntu with Unity will even become an official flavor, like it used to be.

Official website:
https://ubuntuunity.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.

LETTERS

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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, UUID's or IP addresses. If your question does not appear immediately, it is just because there is such a lot, and I do them 'first-come-first-served'.

I am a certified SUSE Administrator, but I don't use it as my desktop any more.

I like SUSE Linux, green desktop and all. I like the chameleon mascot, what's not to like? As a kid, I used to love walking the long hedgerows of the cemetery looking for chameleons. I will try SUSE again, every few years, but, as usual, I end up disappointed. This time, I spotted Gecko Linux, promising to fix all the 'broken' parts of SUSE. I opted for the XFCE version, just to find it more broken than SUSE itself. I fired up YAST. Cute aardvark! Installed something, update completed, booted, and... broken system? Really? Reinstalled. Tried to add GIT. To install GIT, it needs to uninstall, say, my media players and office? (can't remember the precise details). Really? Try it on another machine that dual-boots. It won't find the other partitions. I open a ticket on github, the answer is, yes, it's a bug, but it will be fixed in two years. So I try 'tumbleweed' instead. Black screen after first update. Previously on my Clevo laptop, SUSE could never work the sound card... So why is Ubuntu so popular? You tell me. Not once (touch wood) have I run into dependency problems with Ubuntu. Nothing I have tried to install from the software centre has tried to uninstall something else I need. Love it or hate it, but Ubuntu has made Linux accessible to the unwashed masses. [ike me].

————————————————————

Q : I miss MS paint from my XP machine, back when I used to use windows. With WSL out now, can I use MS paint or do I need things like DXVK? Please don't make it difficult.

A : Are we talking MS paint or XP paint? It seems someone misinformed you. WSL allows you to load Linux on a Windows machine. Think of it like WUBI. DXVK allows directx on vulkan. May I suggest looking at: Tux paint, Gnome paint, gpaint aka gnupaint, Pinta, xpaint, cinepaint, kolourpaint, mtpaint, heliospaint and drawing? (Mypaint may be back soon). If all this fails, PlayonLinux is your go-to.

Q : Where can I get some free Ubuntu books?

A : Look here: https://www.ubuntufree.com/download-ubuntu-ebooks-and-linux-it-ebooks/

Q : Good day, I am a convert from the Windows world. What is the best torrent client for Ubuntu, as utorrent is not a thing, I see. Do I use WINE, but then where do the files go?

A : 'Best' is subjective, but you do have a few choices in Ubuntu. They can be simple, like Transmission, or you can look at Deluge, qbittorrent, Tixati or Vuze. See which you like best. See here: https://fossbytes.com/best-utorrent-alternatives/

Q : Hello friends, I am a developer, who wants to learn Web pages. Only having Ubuntu desktop. How to make a web server?

A : The simplest way I can think of is using Python. Simply open a terminal and type:

```
python -m http.server 8080
```

This will create a simple server for you at port 8080.

Q : I am really going to miss Windows 7. I have heard only bad things about Windows 10. So I

decided the safest option would be Ubuntu. I feel kinda dumb though, never having used Linux before. Should I rather go for something else, or stick it out?

A: Yes, Windows 10 IS bad, even the browsers fingerprint you before the websites do. LOL. You can look here: https://ubuntu.com/blog/how-to-upgrade-from-windows-7-to-ubuntu-desktop-tour-and-applications - Once you get the hang of it, you will not want to go back.

Q: Can you help me? I have installed Ubuntu Mate on my Raspberry PI 3b+ but it is slow. How can I speed it up? <image>

A: The PI 3 does not have the RAM needed. Yes, it has enough for the OS, but you need to do things with the OS. This is where the problems start (eg, browsing, movies). May I suggest sticking with Raspbian, or Ubuntu core. If you are planning to use it as a desktop, may I suggest trading it in for a PI 4, the 2GB one is currently $35. This is just too broad for a QnA. (But keep your peepers peeled to the magazine).

Q: Let me explain why I need it first. I have a Huawei 3g dongle and cellular data as my primary internet. I live in the rural North West. Unlike other people, I can't stream Youtube. I grab some music, then I make my own playlists for later. This way I can listen to it over and over without incurring the data cost. But, lately, youtube-dl has stopped working for me. What alternative is there? Thank you for your time.

A: Know that youtube-dl needs to be updated like any other program, to keep up with Google's changes. Simply type

```
sudo youtube-dl -U
```

and you should be on your way.

Q: My kodi is stuck on 17. I have run all my updates, but I can't seem to update to 18. I am still using Xubuntu 18.04. I suspect that this is the problem, but I don't wanna upgrade until 20.04 is released. I am not sure of myself enough to build from source. What are my options? I am not too keen on plex.

A: Just add the PPA and it will update with the rest of your system. See: http://ubuntuhandbook.org/index.php/2020/03/kodi-18-6-available-install-ppa-ubuntu-18-04/

Q: I have a Dell T410 with Ubuntu, 19.10 or 18.04, it doesn't matter. I bought 3 8TB drives, but I can't seem to format it to 24TB. I think I may need firmware for my sas6/ir Raid card or even my server. Maybe I need to swap my WD red drives for Seagate, but I need to know soon as I can't return the drives if I keep them. How can I resolve this?

A: Sorry to be the bearer of bad news, but your controller does not support drives larger than 2TB. It's a hardware problem.

Q: Steve Morgan, [In reply to EriktheUnready], Where can I buy a linux laptop? Something that is preconfigured and set up for me. Would prefer a rolling release.

A: See: https://www.2daygeek.com/buy-linux-laptops-computers-online/

Q: I am not a spring chicken any more, so be gentle. I decided to purchase a USB dongle to format my phone's SD card. I think I have run into a chicken and egg situation. I can't see my SD card without mounting it, and I can't format it while mounted. See what I am saying?

A: Actually I am going to be brutal! Brutally honest. Mounting a drive creates a link in your filesystem under /mnt or /media. You need to unmount the drive to speak to the drive directly, so to speak. Alternatively, you can use the "disks" application that ships with Ubuntu to format your cards. If that fails, Gparted is a good fallback.

Q: I tried the unofficial cinnamon flavor of ubuntu, but it takes ages to boot. Can you help me?

A: I can, if you would give me more information. Let's start with: sudo systemd-analyze blame - Look at what is eating up your boot time. Next, run dmesg | less - and see if there are any errors. A good idea is to turn off things in your

BIOS that you do not use, like serial / parallel ports. Hope this helps!

Q : What is the proper way to say Ubuntu? I hear so many versions?

A : This I am fully qualified to help you with. "Ooh-boon-too". We say abantu (people) "ah-bun-too". Don't mix the two like ignorant YouTubers and say "ooh-bun-too".

Q : My usb 3g dongle from <removed> works rather well under Ubuntu. I dual-boot into Windows 10, and there it does not work. I had no issues with Windows 7. Where can I check in Ubuntu what drivers it uses to get it working in Windows?

A : You are approaching the problem from the wrong side. To get those dongles to work in Windows 10, will require you to flash the firmware / image on there. The problem is that you may lose Ubuntu compatibility, so take it to the cellphone provider and let them confirm it will work with both OS's and have them flash it for

you.

Q : What is the best way to make my own icons for Ubuntu please? There are some icon packs I like, but they are not 100% what I was looking for. This is my fav at the moment. <image>

A : Make a base icon in Inkscape / Gimp / Gravit, then, for each new icon, simply add a new layer and add your design. Layers can usually be made invisible allowing you to turn them off and on at will. This way you will have consistency.

Q : Bru, how do I change a default app that is not in the little list? Windows control panel has a default app setting for all the apps, but Ubuntu only has a few. thanks

A : Ubuntu is intelligent. *wink. When you right-click a file in Linux, and choose "open with", that program will be associated with your file. Linux does not use file extensions, that is why there is no exhaustive list like in Windows. At any time, type: file - and the name of your file, in the terminal and Ubuntu will identify it for you, regardless of extension.

Q : Thanks for the help you have given me before. I am using Ubuntu 18.04. I did not change Writer settings. Some days ago, it opened with two pages next to each other. Now, after many hours trying to fix it with no luck, in Tools settings it shows one column and it is so, but two pages next to each other. If the pages are normal, you can't see the info on the first page. You go down at the bottom and there is a thin orange line you have to drag to the side to move the page in view. Then to view page two you drag it to the other side. I am so confused. If you make the pages smaller you can see two pages next to each other but the fonts/writing font size 14 is so small you can't read it.

A : At the bottom-right of LibreOffice writer, you should see the zoom slider. Right next to it, you should see the layout options. It is not uncommon to accidentally click one of them.

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

Website:
http://mableandthewood.com/

Price: +- $10 on Steam, and about $12 on GOG.

Blurb: "Mable & The Wood is a Metroidvania where you hunt down massive beasts and, upon destroying them, shapeshift into their forms in order to use their powers to save or destroy the world. Players with less violent intent can find secret paths to complete Mable without killing anything, including bosses."

You play Mable, a young girl, resurrected by a cult to stop the end of the world. Revenant anyone? The twist: Mable cannot do anything in human form, she cannot jump, or run, let alone fight. All of these things can be accomplished by her shape changing. There is a restriction on these abilities though, Mable has a power meter. So, in your Spiderman form, you shoot webs and swing around (sorry spider form. Wink-wink), but you cannot do it all the time. You gain more powers as you kill bosses, their powers actually. Megaman anyone? There are abilities like mole-form, stone-form, and ghost-form, to name a few.

You can supposedly finish the game without violence, but it is not clear how. With these powers you gained after killing a boss, you can supposedly go back and access areas that you could not before. How you are supposed to do this is also a mystery. Lots of areas look the same, and the map is not the best. The pixel art in the game is good, not great. Though there are lots of animations for different characters, I feel the art could have used just a bit more polish. The minimalism loses its charm after a while. The level design and coloring is top notch, and you can see a lot of thought went into the palette. The only thing missing is distinct areas / architecture / backgrounds so you can remember where you

SPIDER QUEEN
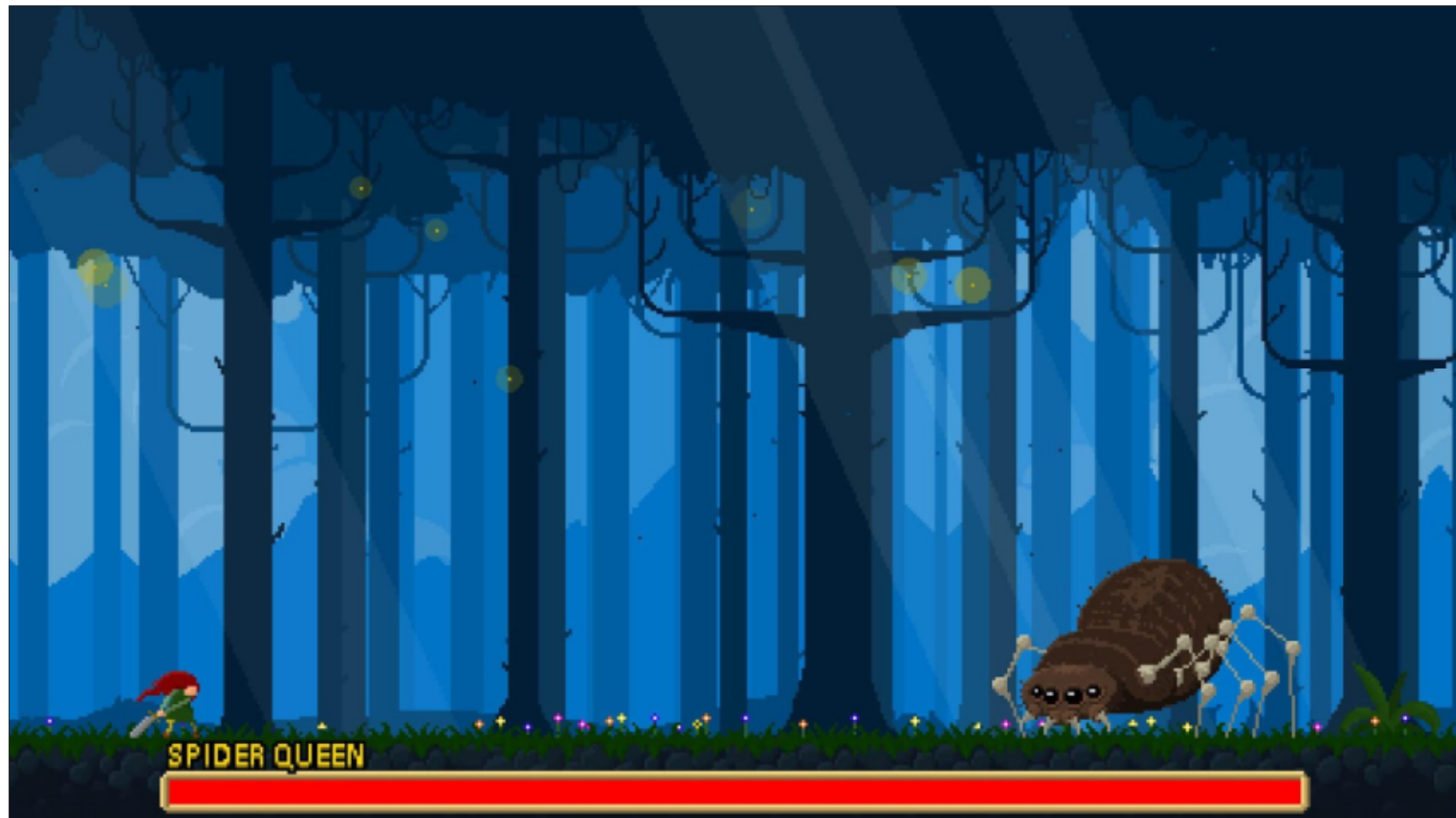
UBUNTU GAMES - MABLE AND THE WOOD

were and are going. The sound feels like it was made for a console though. It comes across as basic. I understand that it is the theme, basic pixel art, basic sound design, but it is like eating fries that need more salt. That said, it is a perfect fit and has no repeats that work your last nerve. Even with headphones on and doing something repetitive, I never tired of the sound.

However I did have issues with the playability. It seems there are still bugs to be sorted. Some spots are horrible. In some places, the collision detection blows, allowing you to move through solid objects. Anything with an angle seems to be a problem for the engine. In some places, sound is just missing. A fire will be silent or a creature will be. Your grave site that allows you to recover your goodies sometimes appears and sometimes not, and

sometimes behind a solid wall you cannot reach. You can not only get lost back-tracking, you can also get stuck. The only option is to start a new game. You don't always know if what you did was correct or a bug (ahem, feature). The twist being the hook of the game, will hook you. Though it was advertised as metroidvania, it is not quite, but it is addictive. I just think it came out of Steam greenlight a little too soon. That said, the developers are

actively fixing, and there are lots of updates. The game has a lot of potential and a lot of room for improvement.

Compared with modern games, it is not big, being about a 600MB download. However, if I compare it to, say, a game like Prehistorik2 that came on a few (or was it one?) stiffy's, it could be a lot smaller. Optimising space is also not the only issue; in some places you may see some slow-downs. A game like this, in 2020, should not have those. I almost want to say the game feels somewhat like a game-jam game that you would find on itch.io.

If this was polished to shine, it would be one of those outstanding games you see every so often, but, as it stands now, is meh.

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

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Monthly Patrons

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