ANOTHER NEW RASPBIAN RELEASE

201 Comments

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Some of you may have spotted that there is a new Raspbian release available for download. For most people, this is primarily updates and bug fixes to the existing Jessie image – but there's one exciting new feature that might be of interest to some people…

But before we get to that, here's a summary of the other changes.

New versions of applications

There are new versions of many of the standard applications.

Sonic Pi is now at version 2.9. A full list of changes can be found in the History section of the Info window in Sonic Pi, but the highlights include two new effects functions, a new logging system, and the inclusion of all of Sam Aaron's articles for The Magpi magazine as part of the online tutorials.

Scratch is now at version 20160115. This has improved sound input capabilities, support for the CamJam EduKit 3 robotics board, basic PWM support in the GPIO

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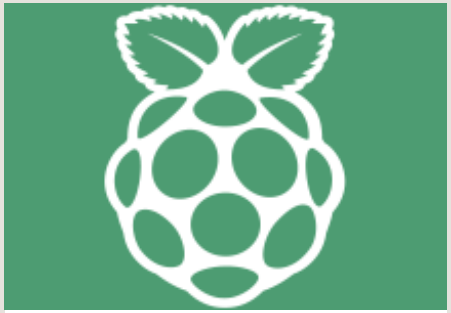


RASPBERRY PI WEEKLY

server, and various improvements to the display, including font scaling.

Mathematica is now at version 10.3. This adds support for a larger set of the functionality detailed in Stephen Wolfram's new "Elementary Introduction to the Wolfram Language" book. It also supports the use of the Sense HAT, adds interfacing to Arduino, and includes many new Mathematica functions.

Node-RED is now at version 12.5 – this adds no significant new functionality, but fixes a number of bugs and contains some internal performance improvements.

New versions of libraries

WiringPi has been updated to version 2.31, which allows GPIO pins to be accessed from applications that use the library without needing to use `sudo`. For more details, see the WiringPi website.

The RPi.GPIO Python library has been updated to version 0.6.1 which includes some bug fixes which affected the new GPIO Zero library.

The Java platform included has been updated to version 8, update 65.

Bug fixes

The volume/audio device icon on the taskbar is now compatible with a wider range of USB audio devices – people reported that it was impossible to set some USB sound devices as the default output. Due to the way the ALSA system works, it is very difficult to make this completely infallible, but the new version should work with a much wider selection of devices than before.

The Main Menu editor now allows new menus to be created. In earlier versions, due to an issue with the way the LXDE desktop environment interpreted its configuration files, creating a new menu caused all other menus to be hidden – this should now work correctly.

The GUI Raspberry Pi Configuration and command-line *raspi-config* applications now offer the correct overclocking options on all Pi 1, Pi 2 and Pi Zero boards. There are also some updated language translations submitted by the community – many thanks to the translators!

The Wastebasket is now consistently named as such everywhere when the desktop is set to British English. (It previously had a wide selection of names in different places, including Trash and Rubbish Bin…)

The `ping` command no longer requires `sudo`.

One more thing…

We hope the above changes are useful, but Raspbian will still look pretty much the same as it did for the last release in November. But we have been working on one other thing behind the scenes for this release: this won't be of interest to most users, but for some, we hope it will be very useful.

In this release we are shipping an experimental OpenGL driver for the desktop which uses the GPU to provide hardware acceleration. This is turned off by default – if you want to enable it, you can find it in the command-line version of *raspi-config*, under Advanced Options->GL Driver. Due to memory requirements, this will not work on Pi 1 or Pi Zero boards – it is solely for Pi 2. (raspi-config will only allow

it to be enabled on a Pi 2; be warned that if you enable it on a Pi 2 and then move that SD card into a Pi 1 or Pi Zero, the Pi will not boot.)

If you don't use this option, the desktop does have OpenGL support, but it uses a very slow software renderer, which makes all but the most basic OpenGL applications pretty much unusable. The hardware-accelerated version is much faster, and makes some quite decent OpenGL games playable on the Pi.

As a quick demonstration of the effect of the driver, try installing the *mesa-utils* package with

```
sudo apt-get install mesa-utils
```

This installs a simple OpenGL demo program called *glxgears* which shows three rotating gear-wheels. To run it, type

```
glxgears
```

With the standard software renderer, this runs at around 23 frames per second, flickers a lot, and doesn't actually show the correct colours. If you try it again with the new driver enabled, it runs at the screen refresh rate of 60 fps, with no flicker and the correct colours.

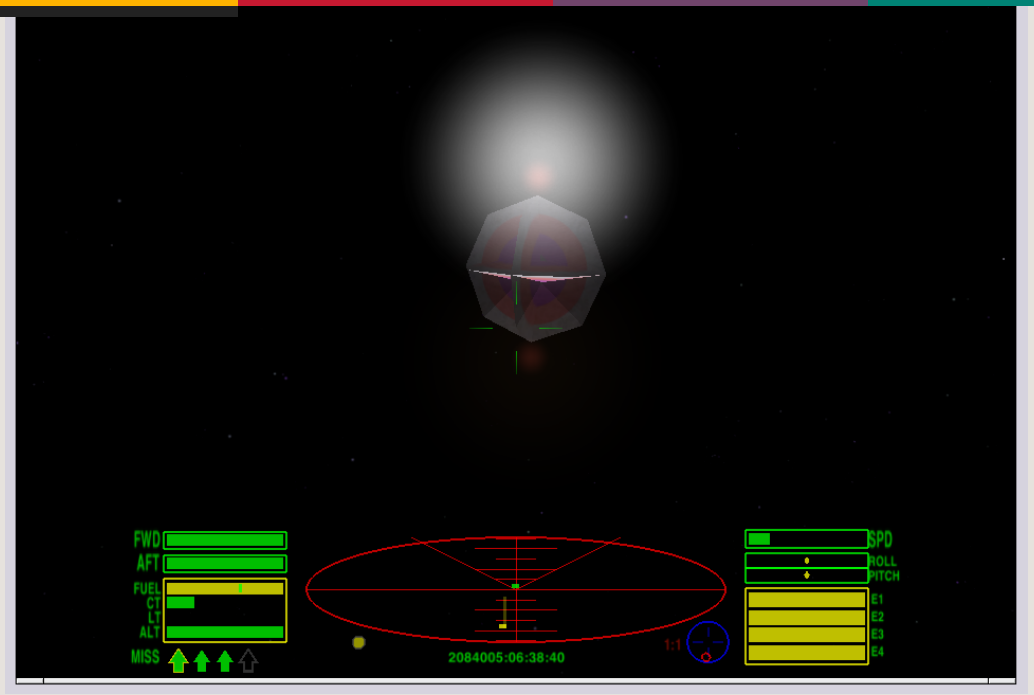
Rotating gears are all very well, but they aren't that exciting, are they? So how about some actual games? One that is popular in the office is Neverball – try

```
sudo apt-get install neverball
```

This barely runs at all under the software renderer, but is quite slick and playable with the new driver.

Or try Oolite, which looks quite similar to another game that those of us of a certain age remember fondly.

```
sudo apt-get install oolite
```



There are various other OpenGL games and applications available in *apt* – to find them, try

```
apt-cache search opengl
```

Bear in mind that this is an experimental release of the driver which we are making available to the community as a public beta test; it is still slightly unstable, there will inevitably be some graphic glitches, and you shouldn't expect every OpenGL program to run perfectly. It also has some side effects, notably in terms of making small changes to the way normal windows and menus are displayed. For this reason, we'd advise only enabling the driver if you know that it is going to be useful

for some specific program you are using; if you're not sure whether or not you should be using it, you probably shouldn't be!

Also note, this experimental driver may break Raspberry Pi Camera and video playback support, and perhaps other GPU functionality.

How do I get it?

A full image and a NOOBS installer are available from the Downloads page on this website.

If you are running the current Jessie image, it can be updated to the new version by running

```
sudo apt-get update
sudo apt-get dist-upgrade
sudo apt-get install raspi-gpio
```

To add the experimental GL driver, you will also need to run

```
sudo apt-get install xcompmgr libgl1-mesa-dri
```

We strongly advise that if you are going to try out the experimental GL driver, that you backup your SD card first.

As ever, your feedback on the new release is very welcome – feel free to comment here or in the forums.