EVENT NAME

Raspberry Pi Technical Information Link

At Ubuntu Summit 2022 in Prague

DATE	EVENT ORGANIZE
NOV 7TH IN 2022	JAPANESE RASPBERRY PI USERS GROUP

MASAFUMI OHTA
FOUNDER AND REP. JAPANESE RASPBERRY PI USERS GROUP

Established Raspberry Pi community in Japan with Raspberry Pi Nerds and lead the community since 2012, and volunteering for Raspberry Pi Foundation/ LTD, helping Japanese categories and helping their business in Japan.
Lately looking into Asian markets to help them

日本語フォーラムについて

Post a reply | Watch | Moderator Control Panel | Lock topic | Go

1 post

by **masafumi_ohta** Edit post Delete post Report this post Information Reply with quote Permalink
» Fri Dec 14, 2012
2:14 pm

太田といいます。何人かの日本の皆さんはじめまして。日本Raspberry PIユーザグループの代表をしてます。

ようやっと悲願でもありました日本語フォーラムを作っていただきました。まずここまで来たことに日本のコミュニティメンバーの皆さん、また日本でこの機械をお使いいただいている方、これからお使いいただこうと考えている皆さんに御礼申し上げます。

是非今後日本のコミュニティを盛り立てるためにもどうぞこのフォーラムをどしどしお使いくださいませ。普段日常のお仕事もあり、ポスト承認がおくれちゃったらごめんなさい、なのですが、できる限りスムーズに皆様がここでいろいろお話できるよう、頑張ります。

#ちょっとさっきまで他のモデレータにおせぇぞ承認とおこられますた 😟

で、スパムや商品売り込みに関しては結構厳しくやってます...他のモデレータも他国のフォーラムであってもキチンと見てます。スパムやあやしい商品売り込みであろうポストは僕以外からも削除されることをあしからず承知くださいませ。(Google翻訳で調べているようですよ、まぢで)

基本ルールは通常のこういうOSS系フォーラムと変わりありません。節度と紳士淑女であらんことを。なにか使い方でご不明な点などありましたらどしどし太田までください。

ではでは、太田でした。

Masafumi Ohta
https://groups.google.com/d/forum/japanese-raspberry-pi-users-group

Forum Moderator
MODERATOR

Posts: 251

Joined: Sun Sep 09, 2012 10:07 am

Location: Tokyo

I am one of the volunteer for Raspberry Pi Foundation.

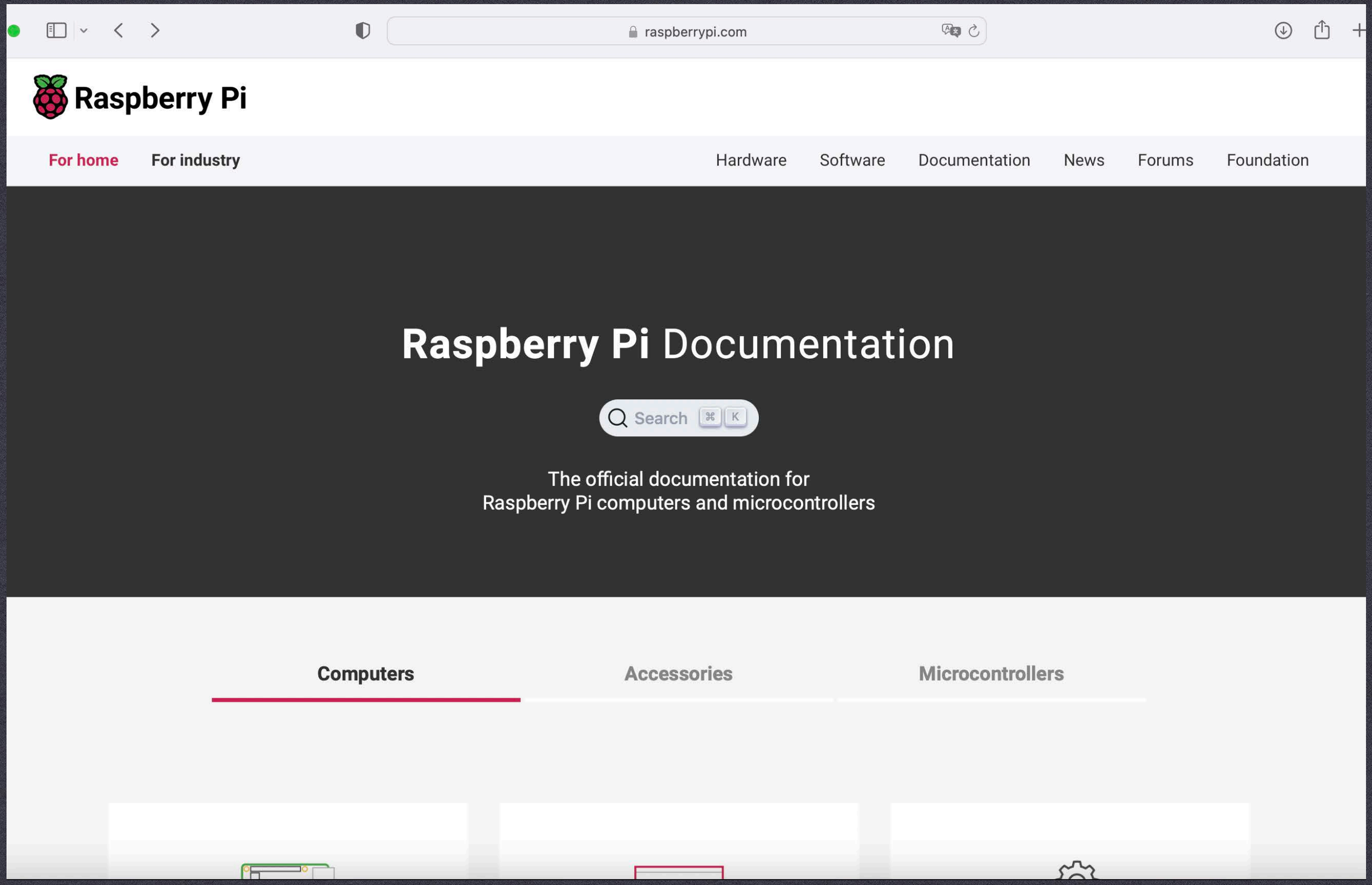
I am volunteering for them as one of the forum moderator on Raspberry Pi official forum site.

RASPBERRY PI
COMPUTE MODULE 1
2014

On loan to the National
Museum of Computing,
Bletchley

RASPBERRY PI
ALPHA PROTOTYPE
2011

On loan to the National
Museum of Computing,
Bletchley



Raspberry Pi Docs is useful for your first hack

There are many more docs that is useful for you

pip.raspberrypi.com

Raspberry Pi

For home | For industry | Hardware | Software | Documentation | News | Forums | Foundation

Product Information Portal

Browse and download documents, reports, and notices for all Raspberry Pi products

Search...

Home | Masafumi Ohta | Log out

Documents

Accessories

Accessories to Raspberry Pi products; cables, power supplies, cases

2 subcategories

Computers

Computing products; Raspberry Pi 4 etc.

11 subcategories

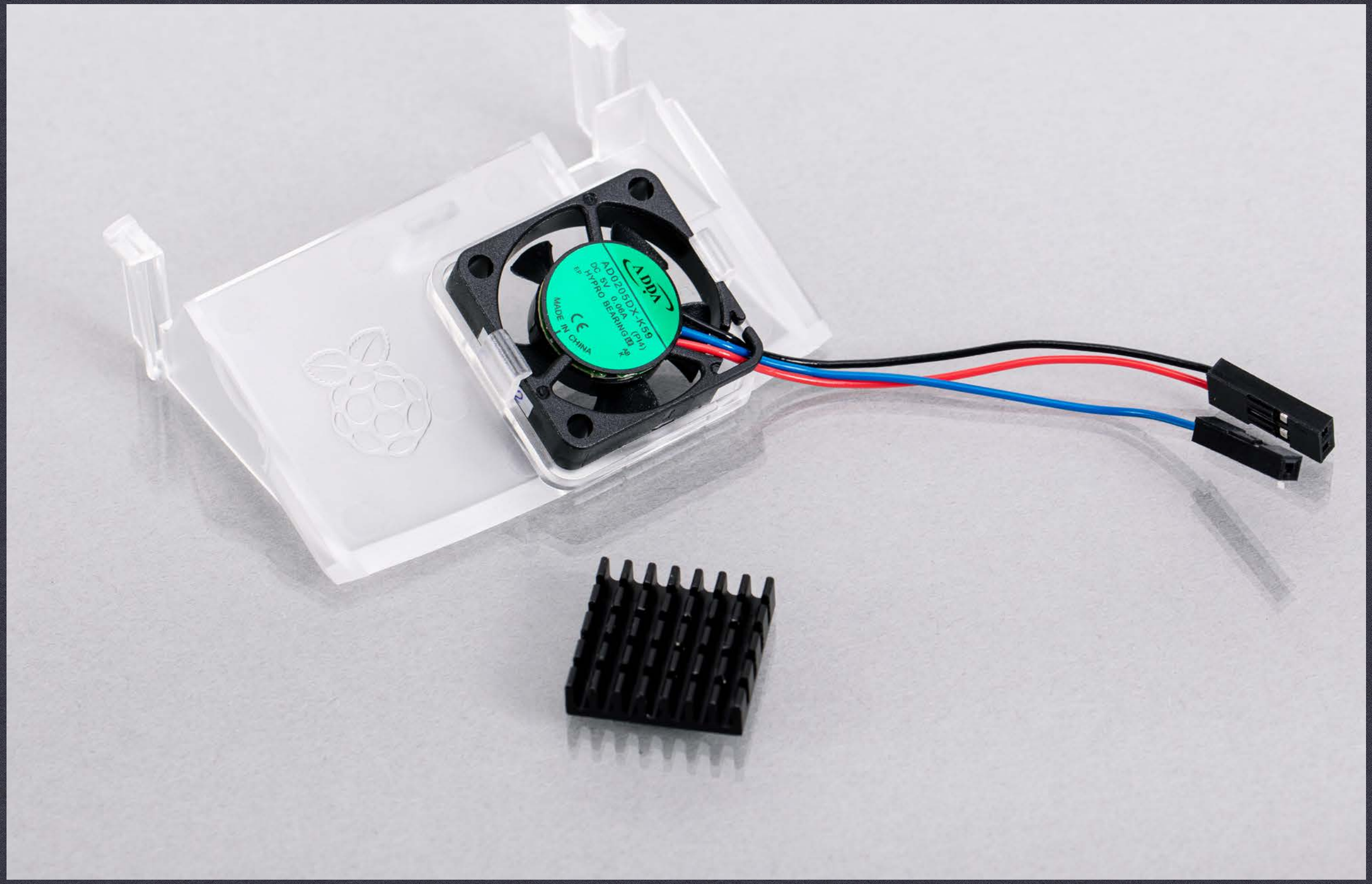
Documents covering all products

Materials, volatility etc

10 subcategories

Product Information Portal is really important to make some

Require accounts needs some accounts



Why Raspberry Pi 4 needs fan?

Let”s check the documentation by yourself.

AYA KUME, KISS OF L... pi@Raspberrypi-01: ~

ゴミ箱

32 GB ボリューム

IPOD

pi@Raspberrypi-01: ~

ファイル(F) 編集(E) タブ(T) ヘルプ(H)

```
pi@Raspberrypi-01:~ $ vcgencmd measure_temp
temp=75.9'C
pi@Raspberrypi-01:~ $  strings /boot/start.elf | grep VC_BUILD
VC_BUILD_ID_USER: dom
VC_BUILD_ID_TIME: 13:20:54
VC_BUILD_ID_VARIANT: start
VC_BUILD_ID_TIME: Mar 24 2022
VC_BUILD_ID_BRANCH: bcm2711_2
VC_BUILD_ID_HOSTNAME: buildbot
VC_BUILD_ID_PLATFORM: raspberrypi_linux
VC_BUILD_ID_VERSION: e5a963efa66a1974127860b42e913d2374139ff5 (clean)
pi@Raspberrypi-01:~ $
```

AYA KUME, KISS OF LIFE | Mixxx 2.2.0

ファイル(F) ライブラリ(L) 表示(V) オプション(O) ヘルプ(H)

7:12 BALANCE MASTER EFFECTS SAMPLERS MICS

Rock And Roll All N... 0.00 -03:24 MATCH SYNC +0.00 FX1 FX2 CUE

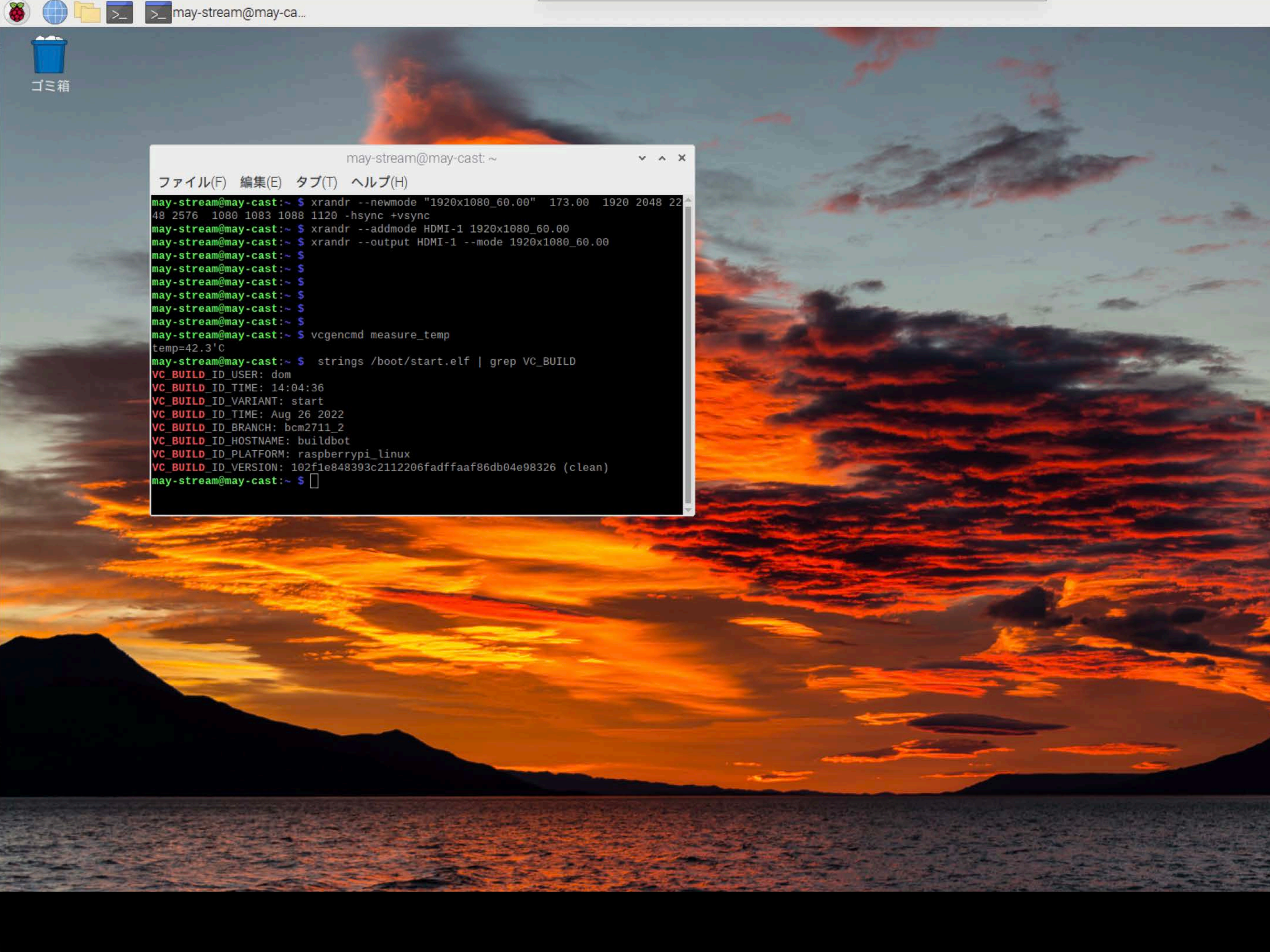
KISS OF LIFE -00:33

FX1 MASTER FX2

なし なし なし なし

シャッフル Add Random トラックをスキップ 今すぐフェードする 10 SEC.

#	プレビュ	カバーアート	再生回数	アルバム	アーティスト
14			(...	Rilakkuma FACTORY ~ ...	Nikki Loy
15			(...	Rilakkuma FACTORY ~ ...	Nicolle Rochelle
16			(...	Rilakkuma FACTORY ~ ...	Melina Jacob
17			(...	Relax and Good sleep	KAWAI FUJII
18			(...	Relax and Good sleep	AYA KUME


may-stream@may-ca...
ゴミ箱
may-stream@may-cast: ~
ファイル(F) 編集(E) タブ(T) ヘルプ(H)
may-stream@may-cast:~ $ xrandr --newmode "1920x1080_60.00" 173.00 1920 2048 2248 2576 1080 1083 1088 1120 -hsync +vsync
may-stream@may-cast:~ $ xrandr --addmode HDMI-1 1920x1080_60.00
may-stream@may-cast:~ $ xrandr --output HDMI-1 --mode 1920x1080_60.00
may-stream@may-cast:~ $
may-stream@may-cast:~ $
may-stream@may-cast:~ $
may-stream@may-cast:~ $
may-stream@may-cast:~ $
may-stream@may-cast:~ $
may-stream@may-cast:~ $ vcgencmd measure_temp
temp=42.3'C
may-stream@may-cast:~ $ strings /boot/start.elf | grep VC_BUILD
VC_BUILD_ID_USER: dom
VC_BUILD_ID_TIME: 14:04:36
VC_BUILD_ID_VARIANT: start
VC_BUILD_ID_TIME: Aug 26 2022
VC_BUILD_ID_BRANCH: bcm2711_2
VC_BUILD_ID_HOSTNAME: buildbot
VC_BUILD_ID_PLATFORM: raspberrypi_linux
VC_BUILD_ID_VERSION: 102f1e848393c2112206fadffaaf86db04e98326 (clean)
may-stream@may-cast:~ $

Compare Pi400 if you have - fan-less heatsink system

It is cooler than Pi4

Pi 4 - full specification of VideoCore 6

Locked | Search this topic... | 98 posts | 1 2 3 4 >

Pi 4 - full specification of VideoCore 6

Wed Jul 03, 2019 11:26 am

So, the Pi 4 has a "VideoCore VI" which appears to be reasonably unique. Wikipedia tells me there are no other Broadcom chips with a VC6. There's an older chip with a VC5 but it appears to be quite different to VC6.

Looking at the GPU dump (glxinfo), the VideoCore 6 appears as a "VC 4.2", whereas the VideoCore 4 as featured on the Pi 3B+ shows up as a "VC4 2.1". This, to me, suggests VC6 is an uprev of VC4, rather than a completely new core, which makes sense.

Can anyone with technical knowledge (RasPi team or otherwise) confirm or deny any of the following?

- Presence/absence of a H265 block? I tried H265 playback. OMXPlayer said no, VLC used software and stuttered. I'm sure if there is one, the software isn't there yet, which is fine, but is there hardware to support it with a roadmap for some software support? Is encode supported for H265 too? Will encode support 4K or be limited to 1080p30 H264 as on the Pi 3? Will other codec support be available, just like VC-1 and MPEG2 is supported on older Pi's?

- Can the Pi 4 drive both HDMI outputs @ 4K60 plus the DSI @ 1080p30? (Obviously theoretical, I'm aware that the drivers aren't there yet. The DSI bus should be capable of 1080p30.)

- Technical information on VC. Is the VC6 an uprev of VC4 and so by-and-large compatible with VC4 software (e.g. open source compilers) or is the architecture significantly different? Are there more QPUs? More VPUs? Is the VPU instruction set similar? I notice OpenGL ES 3.0 is supported (up from 2.0), so presumably some of the limitations of VC4 have been lifted.

- MMAL and CSI seem to work as before. But, I'm curious if there's much difference in the ISP because raspiraw has difficulties with AWB/gain right now. It might be related to the ability to write I2C, but it seems to initialise fine. Is this expected?

- I saw mention of a 500MHz clock rate for VC, is this genuine? This would be a significant uplift. Will overclocking be permitted on all parts as before?

tom66

Posts: 18
Joined: Tue Jan 10, 2012 12:14 am

SD Card hacks

- Consider SD card itself
  *vendors
  *number of write is much more different each vendors.
  *doesn’t have any ‘trims’ to reduce the number of write.

- Understand that SD Cards are really easy to corrupt data and be broken.
  * if you meets suspected suspicious failure you need to do some actions

- Raspberry Pi recommends SANDISK as official preinstall SD

SD Card can NOT

- Trim like SSD
  *SD Card doesn’t have the feature
  *Consider how to reduce the number of write
  *Check your data corrupted or not
  *Check the responses are really slow..
  *Check your SD turns ‘Read-only’

If you meet the SD failure

- ‘touch’ command to check ‘read-only’
- Booting from LiveCD(USB) and chkdisk by gparted may be recovered the issue
  *a SD card vendor set the number of write to reset the number with chkdisk
- If you cannot recover with chkdsk but can read the data, dd to move other SDs is easy tool to solve the issue.
  *dd as sd backup may be useful if the capacity is small
- Some failure SD cards are re-used by chkdsk or format, others are not
  * throw to dustbox..

Tuning to solve the issue

- Working directory on NAS, Ramdisk as temp

```
*/etc/fstab
#working directory
//xxx-nas.local/works   /works  cifs
username=xxx,password=xxx,iocharset=utf8,file_mode=0777,dir_mode=0777,nofail
0       0
#working directory for temp
none /media/ramdisk tmpfs nodev,nosuid,noexec,nodiratime,size=512M 0 0
```

Tuning to solve the issue

- Ramdisk as temp (using temp for firefox)

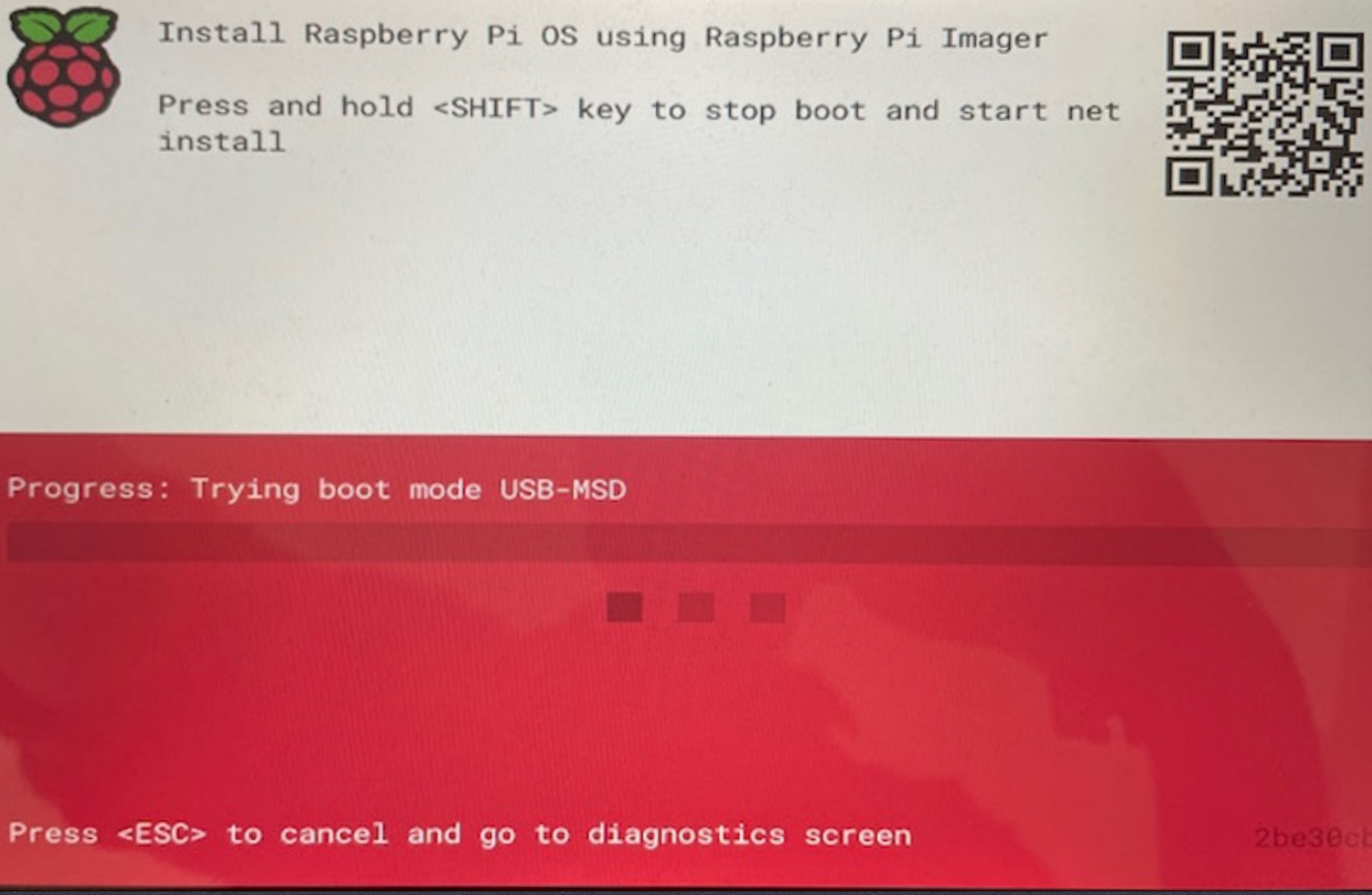
```
*/home/xxx/.mozilla/firefox/xxxxxxx.default-release/user.js

// Relocate parent directory for browser cache
user_pref("browser.cache.disk.parent_directory", "/media/ramdisk/firefox");
```

To understand the sd issue

- Pete Stevens reported the story of Raspberry Pi Cloud and many issues on SD cards using their Raspberry Pi cloud service.
  https://www.mythic-beasts.com/blog/wp-content/uploads/2017/03/raspberry-pi-cloud-final.pdf

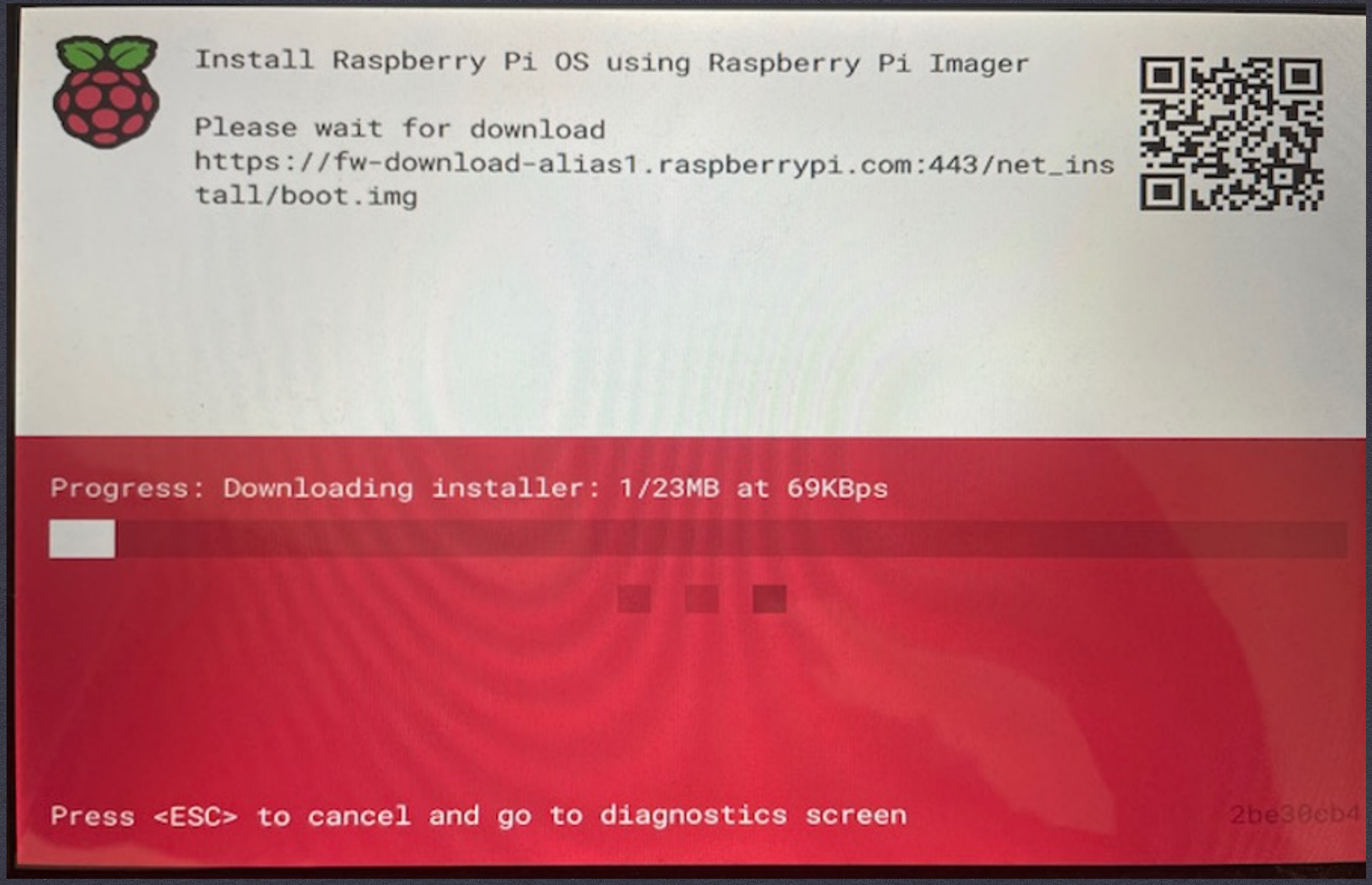
Raspberry Pi Network install

https://www.raspberrypi.com/news/network-install-beta-test-your-help-required/



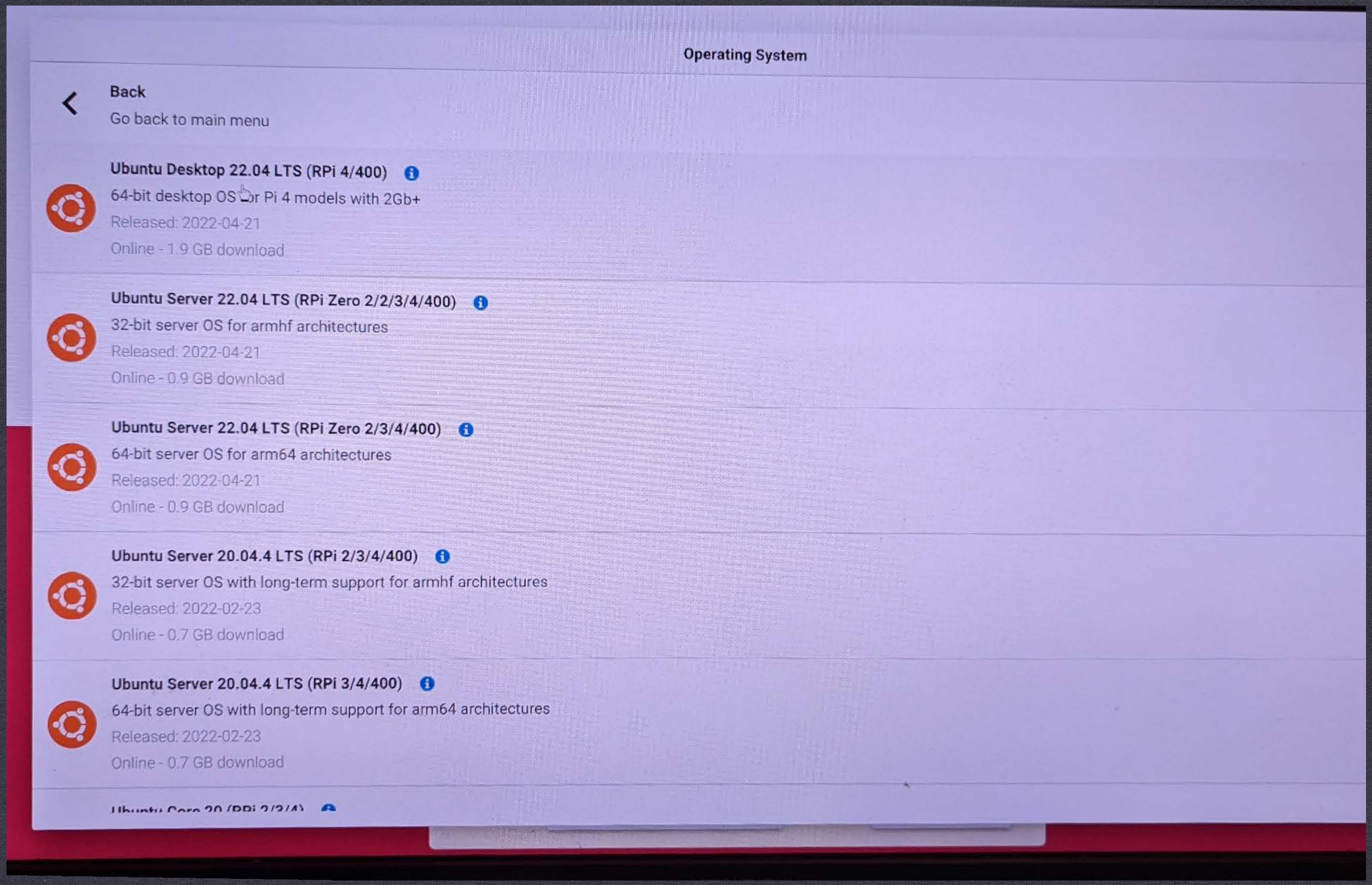
Raspberry Pi imager is now ‘embedded’ into its ‘EEPROM’

It is planned long while ago (since last year?) now it is beta that you can use it to install Ubuntu



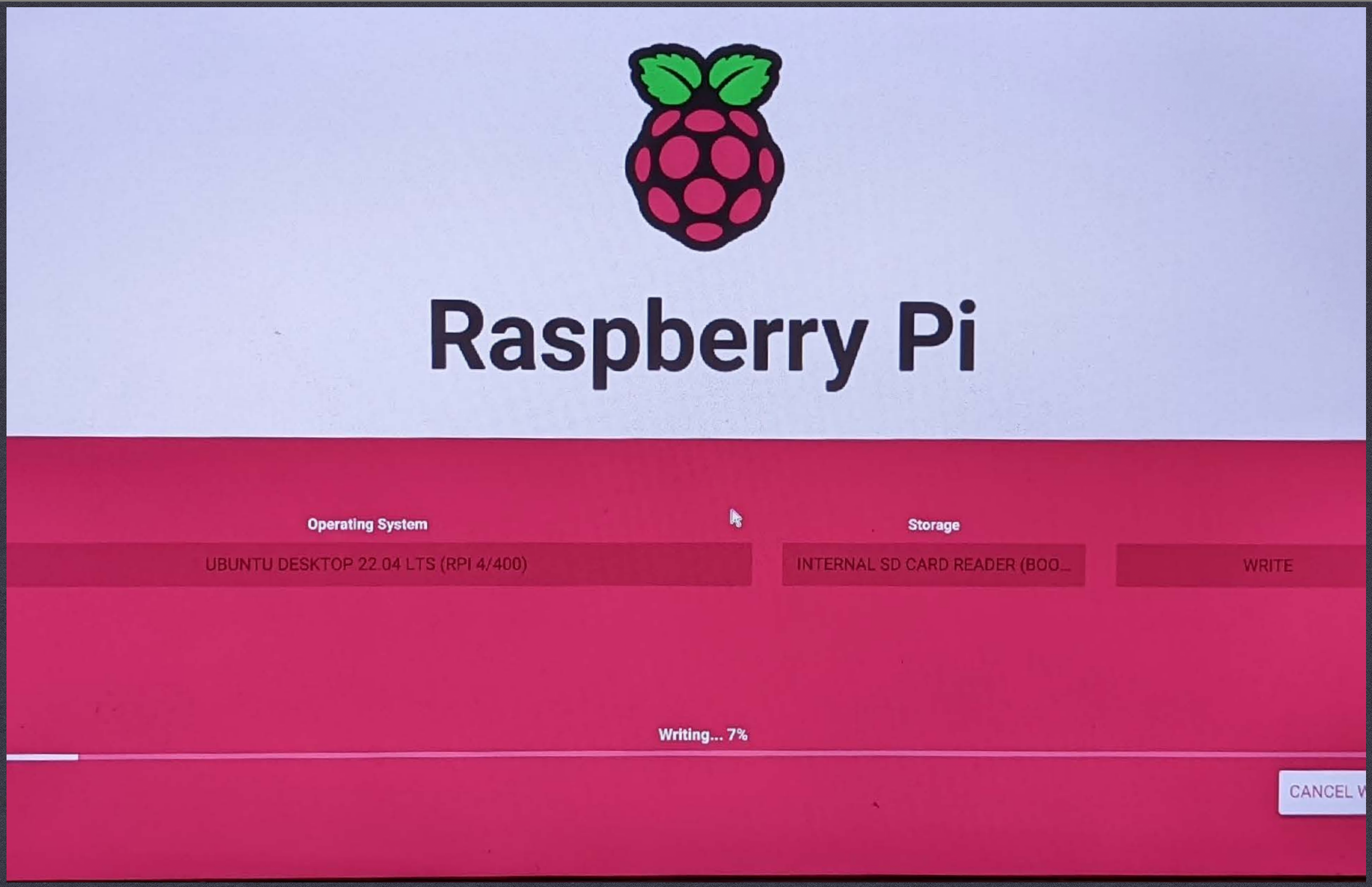
Downloading installer images starting press/hold ‘shift’ key

Not only Raspberry Pi OS images but also other OS images



You can see the latest Ubuntu images in the imager installer

Other OSes on Raspberry Pi can be installed on your Raspberry Pi without PCs



Install Ubuntu 22.04 Deskstop images in the imager installer

I am wondering old alternatives has gone… it is the issue by Canonical?

The installer Requirement

- Raspberry Pi 4/400
  *cannot use PiZero2 W or 3/2

- Need wire Ethernet to download Raspberry Pi Imager

- Updated latest EEPROM image w/
  *apt update && apt dist-upgrade (safest way)
  *sudo raspi-config
   6 Advanced Options Configure advanced settings >
  A7 Bootloader Version Select latest or default boot ROM software > E1 Latest Use the latest version boot ROM software
  ** both need to reboot the system

Check EEPROM version

- Check EEPROM version update

```
pi@raspberrypi:~ $ sudo rpi-eeprom-update
BOOTLOADER: up to date
   CURRENT: 2022年  4月 26日 火曜日 10:24:28 UTC (1650968668)
    LATEST: 2022年  4月 26日 火曜日 10:24:28 UTC (1650968668)
   RELEASE: default (/lib/firmware/raspberrypi/bootloader/default)
            Use raspi-config to change the release.

 VL805_FW: Dedicated VL805 EEPROM
    VL805: up to date
  CURRENT: 000138a1
   LATEST: 000138a1
```

Check EEPROM version

- Check the status of EEPROM release

```
pi@raspberrypi:~ $ cat /etc/default/rpi-eeprom-update
FIRMWARE_RELEASE_STATUS="default"
```

*critical(=default)/stable/beta,
**critical(=default): factory default
**stable: can be chosen as ‘latest stable’ by rasps-config
**beta: beta version - now there is 1 version improved boot speed.

Appendix
Calling for your RPi project

CutiePi

Want to liberate your projects from the desktop? This all-in-one Raspberry Pi tablet may provide the answer. **Phil King** investigates

MAKER

Penk Chan

A digital nomad wannabe from Taiwan, currently living in Tokyo and working as a principal software engineer at The Qt Company. He's leading a team of open-source enthusiasts to make the CutiePi tablet happen.

Having long dreamt of owning a usable Linux-based portable device, a group of enthusiasts set out to create one and the CutiePi tablet was born. Based around a Raspberry Pi Compute Module 3+ Lite and custom carrier board, it features an 8-inch touchscreen, typical tablet features, and everything you need to make your Raspberry Pi projects portable.

"We tried to make the CutiePi tablet on par with normal tablets," says project lead Penk Chan. "You'll find a gyro, a microcontroller for battery and button monitoring, WiFi/Bluetooth, and a speaker. We also kept the camera connector and made the remaining GPIO pins available, keeping it hacking friendly." This will enable it to be used as a launchpad for users' portable Raspberry Pi projects.

Making a portable device isn't easy, though. "It's not just about the Li-Po battery nor the DC-DC step-up converter," says Penk. "Those features that we take for granted in consumer electronics, like using the device while it's charging, reading

▲ You'll be able to rotate the screen to portrait mode, for instance to use it as an e-reader

their own custom-designed carrier board. "Using the Compute Module allowed us to make the device a lot thinner, explore other form factors other than the regular Raspberry Pi 3's, and probably most important of all, it allowed us to mass-produce the CutiePi tablet," explains Penk.

Taking around three months to develop, the CutiePi carrier board is based on the reference designs made freely available by Raspberry Pi, and the team have open-sourced their now OSHWA-certified hardware: **magpi.cc/CutiePiBoard**. "At the heart of this project is our love for open-source, and CutiePi is our expression of that

Looking for good project to intorduce to MagPi - Official Raspberry Pi Magazine

This is one of the case - CutiePi by Penk Chen

Vineyard Kikushima

We've seen plenty of beer brewed with the help of Raspberry Pi, but now it's wine's time to shine. We paired **Rob Zwetsloot** with this full-bodied article

MAKER

Kunio Kikushima

An ex-employee of electronics manufacturers

We've covered several plant and garden automation projects in *The MagPi* before, and even a robot farm or two. However, we've not previously come across a vineyard with some IoT/automation abilities thanks to Raspberry Pi.

"We are now doing viniculture in Koshu city, Yamanashi Prefecture, and we aim to open a small winery in Katsunuma in the spring of this year," says Kunio Kikushima, owner of Vineyard Kikushima. "We also aim for eco-friendly wine without any agricultural chemicals where possible. We are now doing viniculture

▲ The first prototype system set out in the field. Sensors hang out of the box to obtain an accurate reading

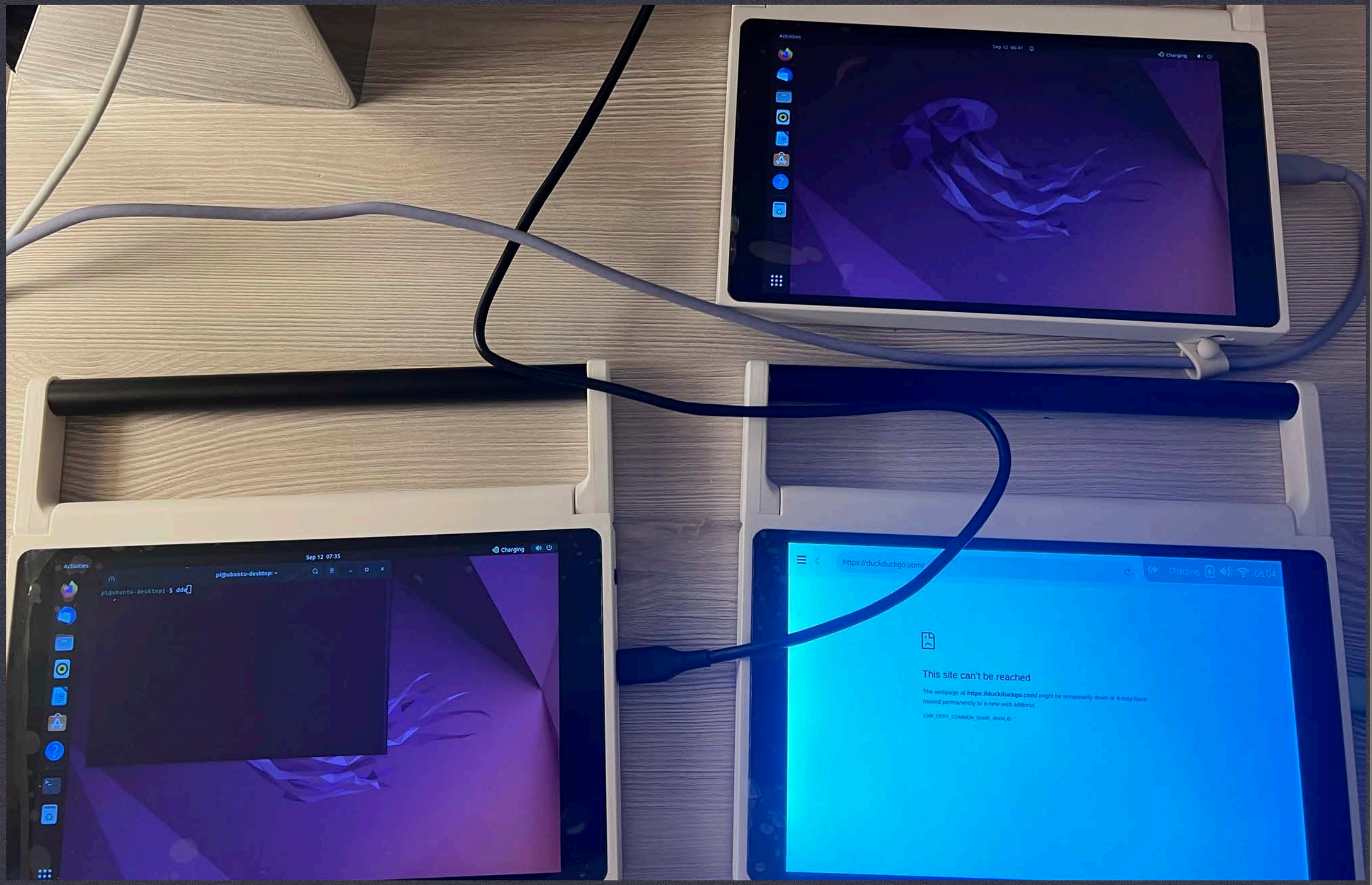
2nd Case: Vineyard use Raspberry PI to measure Temps and Humidity

Kikushima-san is not familiar with IT, he tried his project with the knowledge on search listings.

Conclusion

Conclusion

- There are useful documentation in offical website
- Ask on the official forum, you may get the answers from Raspberry Pi engineers.
- We should understand how SD-card works
- You can use Raspberry Pi imager to install from network on Raspberry Pi 4
- Please let me know if you have good projects with Raspberry Pi.



THANK YOU!

MASAFUMI OHTA - REP OF JAPANESE RASPBERRY PI USERS GROUP masafumi@pid0.org tweet @masafumiohta