



# VIDEO CALLS

## SOLVED!

Scott Murphy



**Linux-Ottawa**  
linux-ottawa.org



# MY APOLOGIES

Here we go again...

Linux-Ottawa

[linux-ottawa.org](http://linux-ottawa.org)

# IT WAS JUST LAST MONTH...

What happens right after I decide to not look at it again? I run across an article that describes pretty much exactly what I talked about last month for the video conference system and an enhancement.

Linux-Ottawa  
linux-ottawa.org



# BACKGROUND

My previous attempts failed as I picked a bit of a bad horse in the technology races and lost at the implementation stage.

Linux-Ottawa  
linux-ottawa.org



# HOWEVER, ALL IS NOT LOST

I managed to describe what I would call a better solution and within a couple of days, an article describing it arrived in my feed. Linux Magazine had an article on this very topic in the May 2021 issue.

I wish I had seen it sooner.

Linux-Ottawa  
linux-ottawa.org

# SO HERE WE ARE AGAIN.

The good news is this is not a story of failure, but one of success.

While the article is not 100% accurate (at least for me), it showed me most of the pieces I wanted in a much simpler manner.

Linux-Ottawa  
linux-ottawa.org

# I EMBRACED THE CHALLENGE

Since I had already admitted defeat, I was over it and didn't care any more, so of course I went for it.

Statements of being a glutton for punishment are permitted.

Linux-Ottawa

linux-ottawa.org

# MY PARTS

- Raspberry Pi4 2GB
- Plastic enclosure with heat sinks and a fan
- USB drive for the OS
- 5.1v 3A power supply
- LAN cable
- Generic webcam with microphone
- Momentary switch (normally open)
- Wire for switch
- HDMI cable



# SHORT INSTRUCTIONS

I'll do this verbally, it is pretty basic and I have pictures...

Linux-Ottawa  
linux-ottawa.org

# PUT PI IN CASE





# CREATE A HOLE FOR THE BUTTON

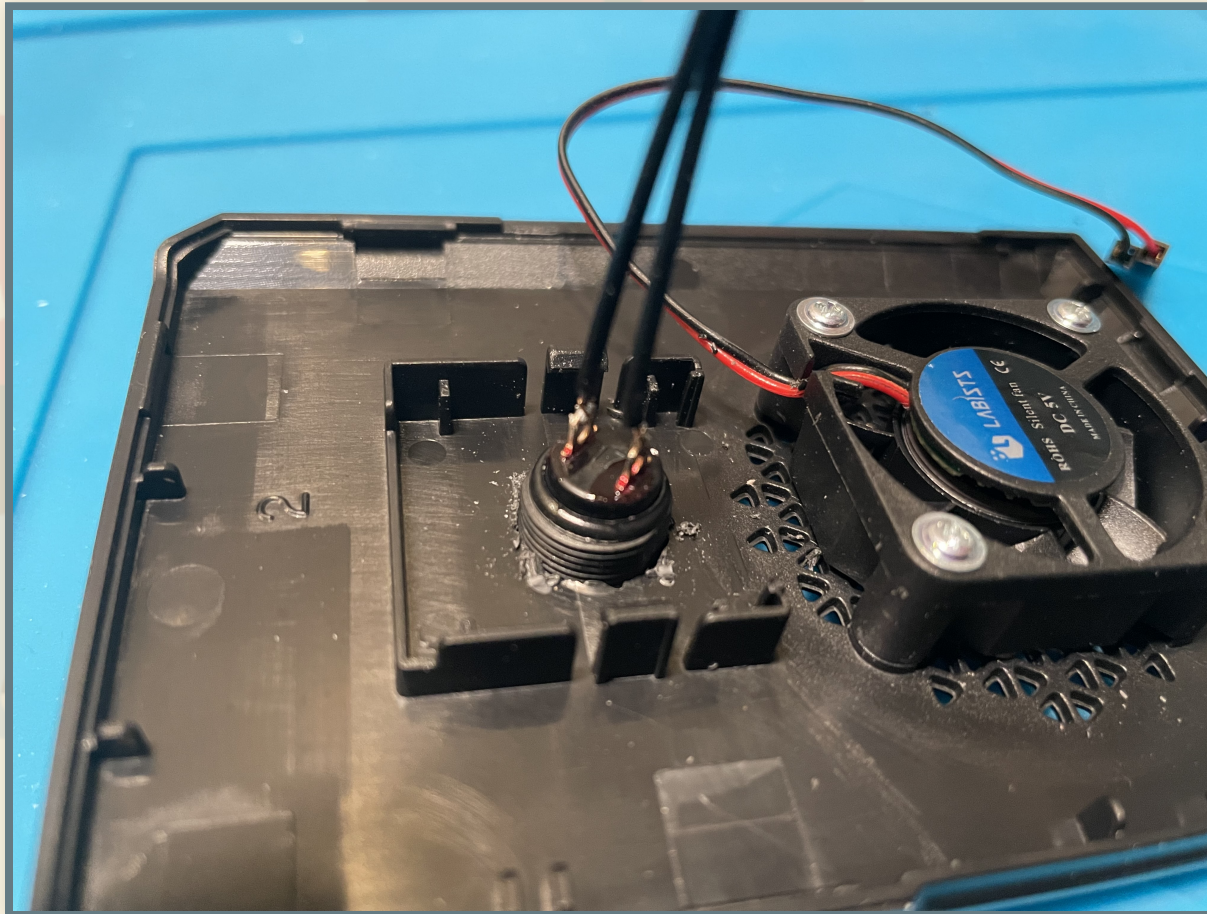


# SOLDER WIRES

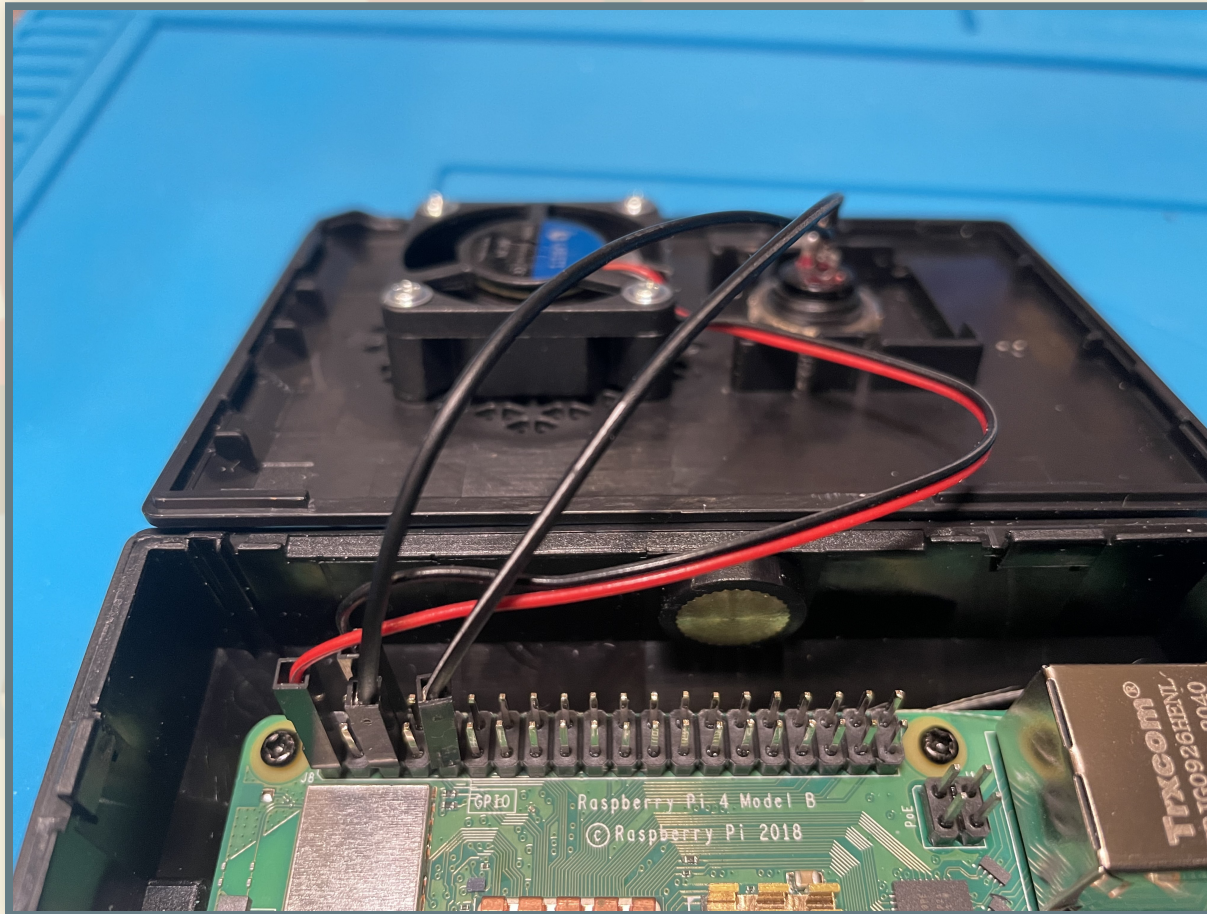




# INSTALL BUTTON



# CONNECT WIRES TO PI





# CLOSE CASE



# BURN AND CONFIGURE THE OS

I have become quite fond of the Raspberry Pi imaging tool. You can just place the appropriate storage device and burn to it. There are some advanced feature that we can use if you type `Ctrl` + `Shift` + `x` on 1.6 and newer.



# GET ALL UPDATES

It takes a while. You may want to be on a LAN connection for this.

Actually, I use a LAN connection and disable the WiFi and Bluetooth

Linux-Ottawa  
linux-ottawa.org

# WE ARE READY TO DO THE ACTUAL SETUP

This is the more interesting part. It is also where things diverge a bit. Rather than give a ton of slides and code snippets, I'm going to just show the article and discuss what is different and some gotchas.

Linux-Ottawa  
linux-ottawa.org



# DEMO

- I'll do a proper demo of the system, including the email with the link, etc.

**Linux-Ottawa**  
linux-ottawa.org

# CONNECTIVITY FOR SERVICING

The most irritating part is that this is remote and I have no control over what happens on the remote network.

I decided to make it easy initially and set up a reverse proxy tunnel to one of my servers.

Linux-Ottawa

linux-ottawa.org



# VNC FOR THE SAME

I turned on VNC, as I may need to do a browser tweak later and VNC is faster than tunnelling X11.

It also helps to be able to see what is being displayed on the screen.

Linux-Ottawa

linux-ottawa.org



# THE ACTUAL CONFIGS ON THE PI

Time permitting of course.

Linux-Ottawa

[linux-ottawa.org](http://linux-ottawa.org)

# OTHER THINGS

- Use a VPN instead of a tunnel
  - <https://pimylifeup.com/raspberry-pi-wireguard/>
  - <https://www.ovpn.com/en/guides/raspberry-pi-raspbian>
- Backup the disk for the eventual emergency restore

Linux-Ottawa

linux-ottawa.org



# DISCUSSION/QUESTIONS



# REFERENCES

- [Push of a Button](#)
- [Create a Pi backup image](#)

Linux-Ottawa  
linux-ottawa.org