

# VIDEO CALL RESULTS

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# PART 1: RECAP

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# IT WAS JUST LAST MAY...

Everything seemed so much clearer then.

I have cut the background info down a bit since it was  
been shown before

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# THE PROBLEM: FAMILY CALLS

I have some scattered family that has decided to have a weekly call to let everyone catch up. The call experience has been somewhat problematic.

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# WHY IS THAT?

Short version:

My in-laws want to sit back and use the TV as a display since they want to see three connections at once and attempts to stand a phone up and 'cast to a TV have been *interesting*.

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# MANY FAILED IDEAS

My father-in-law's multiple creative solutions to the camera/display battle have been interesting and have all failed in some way, usually amusing rather than bad.

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# MY ANSWER

A happy little cloud service.  
(pretend you hear celestial music)





# MUCH COLOURFUL LANGUAGE LATER...

I had a working system that I talked about

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## **PART 2: RESULTS**

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# I SAID...

I had a working system that I talked about

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# LET'S REPHRASE THAT

- I had talked about a better video conferencing system
- I had talked about setting it up and trying it out
- I had claimed it worked

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**I WAS SO WRONG**

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# TL;DR

- Abject failure

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# SO WHAT WENT WRONG?

- Actually, nothing went wrong
- It was more of a general problem

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# FIRST THING

- The platform works
- There has been a lot of development
- It is quite active

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# SECOND THING

- Did I say there has been a lot of development?
- So things get deprecated, abandoned, or just plain dropped

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# THE APPARENT PROBLEM

- Chromium in kiosk mode
  - It changes often
  - It has breaking changes

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# HARDWARE

Every reboot, it decided it couldn't detect the camera  
After a lot of playing around, it started working. I never  
managed to determine what made it work<sup>[1]</sup>.

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1. Magical pixies



# SOFTWARE

Every reboot, it decided the camera permissions had to be reset. This is a bit of an issue. I'll get to that in a few moments. Also, don't change the USB port for the camera, that way lies madness!

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# KIOSK MODE

I mentioned this earlier about the chromium setup. So that means no mouse pointer, no mouse, no menus, and no keyboard. Hard to fix without making some interesting changes (that **are** supported)

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# CONTAINERS

This is all running in containers on the system, so the management portal allows you to get access to the running containers AND you have access to the settings used to run chromium, so you can turn the menus and mouse pointer back on.

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# ADDITIONAL HARDWARE REQUIRED...

As I am building this fine embedded system, I can use a keyboard and mouse to "fix" the issue. All is good - until the next reboot.

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# SHAMPOO

- Lather
- Rinse
- Repeat

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# DESCENT INTO MADNESS

What was that phrase?

*Repeating the same thing over and over  
expecting a different result*

Quote Investigator Web page: [Insanity Is Doing the Same Thing Over and Over Again and Expecting Different Results](#)  
— Various

# I DECIDED TO ABANDON IT

- The level of effort was too high
- My solution was worse than my father-in-law's.
  - His only fell over, got knocked aside, the tape didn't hold, the dog ran into it, etc.
  - Mine was actively hostile to the idea.

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# OTHER IDEAS I HAD...

To fix the previous "solution:"

- Add a VNC container
  - Allow me to remotely see the screen and use my mouse and keyboard
- Change the way it worked to use Google Meet
  - Need to enter the meeting code
  - Google Meet only lasts one hour unless you pay \$12/month to use it



# IDEAS FOR A SOLUTION

I did have several ideas to try out to come up with a working solution, but I have not had the enthusiasm to attempt it yet.

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# MY CURRENT IDEA

The most promising one I considered was to install a full OS on the Pi and configure a VNC like service (lighter weight than X) and set it up to use a reverse ssh tunnel to an isolated system in my DMZ to tunnel VNC and I could just launch a browser, connect to whatever service and away we go.



# REFINEMENTS

- Maybe set up a VPN connection to my DMZ server instead of ssh
- Create a cron job that runs a script that collects the info from one of my servers via CURL and just makes the connection, also can tell if there is no call that week

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# DISCUSSION/QUESTIONS

# REFERENCES

- [Balena Home Page](#)
- [Video Call Project Blog Post](#)
- [Balena-CLI](#)
- [Balena-Dash](#)
- [Cloud Backgrounds](#)