Raspberry Pi Diversions

Raspberry Pi

An experiment

Then an instructables page caught my eye:

https://www.instructables.com/id/How-to-Make-Raspberry-Pi-Webcam-Server-and-Stream-/

How to Make Raspberry Pi Webcam Server and Stream Live Video || Motion + Webcam + Raspberry Pi



By Being Engineers in Circuits > Raspberry Pi 🛛 🐠 245,013 🖤 199 🔜 47 🌟 Featured



Hello and welcome to Being Engineers.

If you are watching this, then you might know how to work with **Raspberry Pi** and you may want to make a **Webcam server** that can stream live video over the internet (local network).

This is what we will be doing today. The process will be very simple but the result is pretty



I have a PI and a budget USB webcam

Wouldn't be handy to keep an eye on the pets while we are away for the weekend?

Keep an eye on the back shed,

Be notified when neighbours contractors borrow the hose connection and leave the gate open.

How hard can it be to get started



What??? An 8 min video, it can't be that hard to install and run, TL;DR



Let's just install it and see how it goes

"sudo apt-get install motion"

Start the service, open a browser to localhost:8080



Black screen?

OK, waving my hand in front it shows as white.

Great for debugging, but what is IT seeing?

Tried a simpler approach:

- (and not just plugging it into a nearby PC, that's cheating)
- \$ sudo apt-get install fswebcam
- \$ sudo apt-get install mplayer
- Used fswebcam to capture a still and review,

OK, it's blurry, but 'working'

Black was setup_mode, now a really blurry live stream $\sqrt{(\mathcal{V})}$





Focus:

Ahh, the webcam is so budget it has manual focus ring



Makes sense for a face to face webcam.

Now it's late, and the gain is making a mess of the video.

Tried fixing the exposure controls: auto_brightness off, brightness, contrast, saturation

Better, but really limited as it won't adapt to normal daylight changes

Let it run for a while out the front window:

WTF, the detection area size is huge, but it's still recording everything

What should I have expected from a DSE rebadge. Alright, I'll switch to the Micro\$oft one when I can dig it out next.



But it looked like an occasional flash

So what happens if I increase the motion frames limits to compensate

Configuration option: minimum_motion_frames

So the range is 1-1000, and default of ONE?

More reasonable results from a 5 frame setting

Refining the trigger area

Trigger areas aren't tricky to set up, they're just a grayscale mask. Take a snapshot, black out the chaff (gray for less sensitivity)



Well my front section is the worst scene to pick.

Even the portions without vegetation have shadows, birds, and at the distance trigger when the area size is reduced to the usable amount (aka just big enough)

Adaptive detection area: smart_mask_speed

Tried 8 (range is 1 to 10)

Checked after an hour to settle and setup mode showed these exclusion:

It really shows that the test view isn't really practical with that many plants in the shot.

Motion 4.0 Running [1] Cameras



Extensions

Remote admin: stream_localhost off webcontrol_localhost off

Script triggers: on_event_start/end, on_picture_save, on_motion_detected, on_area_detected, on_movie_start/end, on_camera_lost/found

SMTP + IMAP (Must have a 'STOP' option)

Google Drive/iCloud/Dropbox – Store images and video offsite

PIR detectors, lighting relays

Doorbell/Alarm mode – Alter alerting severity when a resident is detectable.

www.home-assistant.io/



