

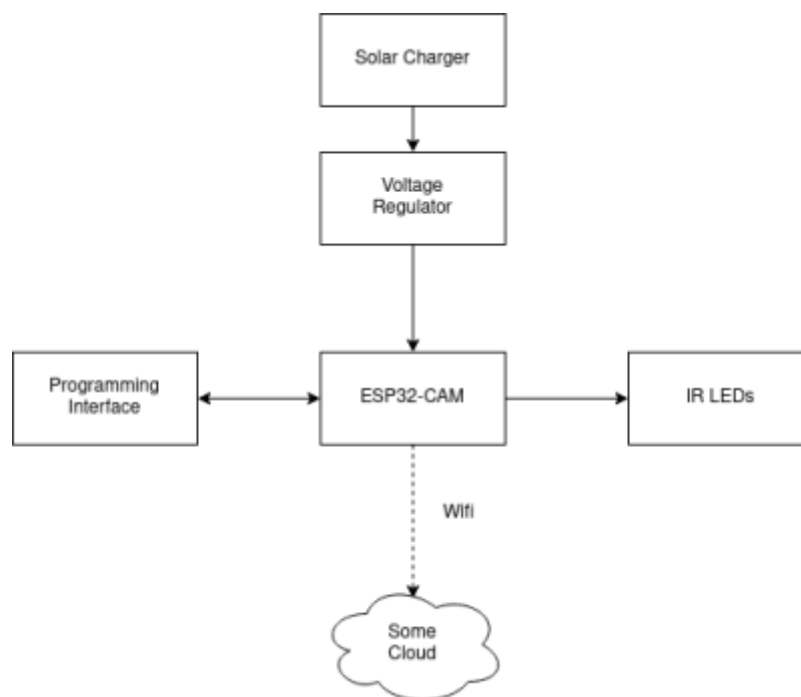
Open-Source Wifi Camera

The idea behind this project is to provide a base platform that can be used in different visual monitoring activities. First, it was needed in a birdhouse project where a birdhouse should be monitored over an extended period.

Here are the goals that we try to hit with this project:

- a rather small footprint (should fit in the top of a birdhouse)
- Wifi capable
- good enough image quality (photo) so you can actually identify something
- solar chargeable
- night vision
- useable for other projects and also workshops

Block concept



First prototype

As a base platform, the known-working [ESP32-Cam](#) was chosen. But shortly after making the first prototype based on it, a couple of flaws were discovered. The prototype had a PCB which allowed plugging in multiple daughter boards together to make one complete system. Furthermore, it also included some IR LEDs to enable night vision. The main problem was the ESP32-CAM board itself. It works okay on its own, but it is harder to implement in another system. For example, we had to desolder the onboard flash led because it was not needed and consumed way too much power. Also was it hard to program the board because of the programming buttons which were located on the wrong side of the PCB. So there was more soldering and hacking involved than what should be

needed. In the end, the prototype worked but we knew that we had to improve upon that.

Besides the hardware, a small NodeJS Server was developed which was able to get images from the ESP32 and save it on a server.

Second prototype (WIP)

Online Viewing Software

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