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iot

Final Project

Brief

For the final project we made a self-watering plant system which is composed from:

Raspberry Pi 4

ADC for raspberry add-on

120V water pump.

3.3VCC/125VAC relay

Capacitive soil moisture sensor v1.2

PiCamera

We began by wiring the water pump to the relay, for this we wired up ground cable to the always open pin and welded one to the common pin.

Then we put the ADC on top of the raspberry and connected the analog input to the moisture sensor, a wire to gnd and a wire to vcc and the other to one of the 4 channels.

After this we wrote a python code to read the data coming from the sensor and enabled a gpio as an output to feed the coil of the relay. We had a problem there, as we didn't know that we needed a transistor, so the coil doesn't disperse voltage as heat.

And our final step, as redundancy we made surveillance camera to take a look to our plants when we are not at home, we build a simple web server and added the video streaming of the PiCamera to it.

Evidence

