

Monitoring Mum Technology List

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21 April 2017

1 Original datalogger (2012)

Early (2012) Arduino clone (nanode) based on Atmel ATmega 328

Arduino IDE www.arduino.cc

Arduino Mini Pro

Ultrasonic rangefinder SRF-02

Analogue temperature sensors MCP9701A

Data transfer by HTTP POST to Perl script on server

RRDTool database, RRD graph-generation tools running as CGI scripts

2 WiFi Prototype roomnodes (2016)

WeMos D1 mini-pro

Arduino IDE with ESP8266 code-generator and libraries

<https://github.com/esp8266>

DS18B20 1-wire digital temperature sensors

SR501 PIR

Generic LDR light sensor

Homie software framework for MQTT communication:

<https://github.com/marvinroger/homie>

3 Home gateway

GL-Inet AR150 router running OpenWRT <https://www.gl-inet.com/ar150/>

Mosquitto MQTT broker

4 Server

Linux, Apache

Mosquitto MQTT broker <https://mosquitto.org/>

InfluxDB time-series database <https://portal.influxdata.com/downloads>

WSGI data-provider scripts written in Python

D3/Cubism rolling horizon-graph display <https://square.github.io/cubism/>
<https://d3js.org/>

OpenHAB home-automation bus <https://www.openhab.org/>

5 Future

Battery-powered roomnode with low-power radio

<https://github.com/scalz/MyMultisensors> looks promising

Lots of stuff on <https://www.mysensors.org/>

RFM69 radios (433/868MHz) or ZigBee perhaps?

ATSHA204A key storage / encryption / message digest chip