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Computer Systems & Networks

Assignment 2, IoT Application Proposal Document

SMART BATHROOM

In an attempt to tackle the scourge that is black mold in bathrooms, I want to use an Arduino to sense temperature and humidity in a bathroom – in addition I would also like to measure gas levels and light levels to add an extra level of control.

I want to be able to use my phone to send a message to the Arduino switch on the heater. The Arduino would then alert me when the bathroom is at the desired temperature. (all using MQTT).

I then go into the bathroom and turn the shower on. The humidity sensor is connected to the extractor fan, so when the humidity levels are elevated above a certain threshold the fan switches on. This data is also sent to my phone and stored in a database (using HTTP Web Sockets) so that I can monitor my fan efficiency and check if it needs cleaning/replacing. The fan will stay on after I am finished in the shower, either until humidity levels have dropped to an acceptable level, or I decide to manually switch it of using my phone.