esp8266-mqtt-rat-trap

IoT internet enabled rat snap-trap used to monitor mouse and rat traps remotely. using ESP8266, Arduino, MQTT / mosquitto.org

IoT Rat Trap

•ESP8266 (ESP-12E WiFi SOC CPU)

•MQTT (mosquitto.org message queue broker software)

•MQTT Client (Raspberry Pi) --> IFTTT 'Maker' Channel

[trap] ---> [ESP8266] ---> [MQTT Broker] ----> [MQTT Client] ---> email

Why?

•Lazy...got tired of checking traps in attic and garage.

•Forget...to check traps.

•Excuse... to MAKE! Wanted to make IoT with ESP8266 and MQTT. Learn, Enjoy, Share!

What Next

•Transmit battery level, easier to plan batter replacement before failure.
•GPIO pin to trigger LEVEL interrupt (intead of polling) - to get immediate notification.
•MQTT app on phone, tablet, or use AWS IoT.

github.com/scottjames/esp8266-mqtt-rat-trap

Trap

•Standard snap-trap from hardware store, modified with switch sensor.

•Use magnet + reed switch to detect position.

•Connect to CPU GPIO pin as closed-loop alarm.

ESP8266

•ESP-12E WiFi System On Chip (SOC) for about $3

•Program with Arduino IDE (version 1.6.8)

•Read GPIO pin for switch position as "ready" or "sprung"

•Publish MQTT messages on 'trap' topic.

MQTT Broker

•mosquitto.org open source software MQTT broken, run on laptop or Raspberry Pi.

•Listen for Topic event message, then re-transmitts message to client listeners on topic.