#include <ArduinoBLE.h

#include "DHT.h"

#define DHTPIN 2

#define DHTTYPE DHT22

DHT dht(DHTPIN, DHTTYPE);

BLEService newService("180A");

BLEUnsignedCharCharacteristic randomReading("2A58", BLERead | BLENotify); // creating the Analog Value characteristic

BLEByteCharacteristic switchChar("2A57", BLERead | BLEWrite); // creating the LED characteristic

const int ledPin = 2;

long previousMillis = 0;

void setup() {

Pinmode(5,low);

Serial.begin(9600);

Serial.println("DHTxx test!");

dht.begin();

while (!Serial);

pinMode(LED\_BUILTIN, OUTPUT);

pinMode(ledPin, OUTPUT);

if (!BLE.begin()) {

Serial.println("starting Bluetooth® Low Energy failed!");

while (1);

}

BLE.setLocalName("MKR WiFi 1010");

BLE.setAdvertisedService(newService);

newService.addCharacteristic(switchChar);

newService.addCharacteristic(randomReading);

BLE.addService(newService);

switchChar.writeValue(0);

randomReading.writeValue(0);

BLE.advertise();

Serial.println("Bluetooth®

device active, waiting for connections...");

}

void loop() {

BLEDevice central = BLE.central();

if (central) {

Serial.print("Connected to central: ");

Serial.println(central.address());

digitalWrite(LED\_BUILTIN, HIGH);

while (central.connected()) {

long currentMillis = millis();

if (currentMillis - previousMillis >= 200) {

previousMillis = currentMillis;

int randomValue = analogRead(A1);

randomReading.writeValue(randomValue);

if (switchChar.written()) {

if (switchChar.value()) {

Serial.println("LED on");

digitalWrite(ledPin, HIGH);

} else {

Serial.println(F("LED off"));

digitalWrite(ledPin, LOW);

}

}

}

}

digitalWrite(LED\_BUILTIN, LOW);

Serial.print("Disconnected from central: ");

Serial.println(central.address());

}

delay(1800000);

float h = dht.readHumidity();

float t = dht.readTemperature();

float f = dht.readTemperature(true);

if (isnan(h) || isnan(t) || isnan(f)) {

Serial.println("Failed to read from DHT sensor!");

return;

}

float hif = dht.computeHeatIndex(f, h);

float hic = dht.computeHeatIndex(t, h, false);

Serial.print ("Humidity: ");

Serial.print (h);

Serial.print (" %\t");

Serial.print ("Temperature: ");

Serial.print (t);

Serial.print (" \*C ");

Serial.print (f);

Serial.print (" \*F\t");

Serial.print ("Heat index: ");

Serial.print (hic);

Serial.print (" \*C ");

Serial.print (hif);

Serial.println (" \*F");

}

if (t<=4){

Pinmode (5,high);

}

Elseif (t>=13){

Pinmode(5,low);

}

}