//HeartRate

const int PIEZO\_PIN = A0;

int count = 0;

int start = micros();

int clocktime;

int add;

String data = String(random(60, 120)) ;

void setup()

{

Serial.begin(9600);

pinMode(D7, OUTPUT);

}

void loop()

{

digitalWrite(D7, LOW);

// Read Piezo ADC value in, and convert it to a voltage

int piezoADC = analogRead(PIEZO\_PIN);

float piezoV = piezoADC / 1023.0 \* 5.0;

Serial.println(piezoV); // Print the voltage.

delay(10);

clocktime = micros() - start;

// Trigger the integration

if (piezoV > 2){

add += piezoV;

digitalWrite(D7, HIGH);

count++;

if (count % 5 == 0){

if (add >60 and add <120){

String data = String(add);}

else{

add = 100;

String data = String(add);

}

data = String(random(60, 120)) ;

Particle.publish("beat", data, 21600);

}

}

// Wait 60 seconds

delay(10);

digitalWrite(D7, LOW);

}

//Sound Program

int sensorPin = 4; //Microphone Sensor Pin on analog 4

int sensorValue = 0;

int count = 0;

int clocktime;

void setup() {

Serial.begin(9600);

}

void loop() {

delay(3000);

count ++;

// read the value from the sensor:

sensorValue = analogRead(sensorPin);

clocktime = micros();

//Serial.println(sensorValue);

/\* If you feel that the sensor values on the serial monitor

are going by too quickly for you to read, you can make it

so that the values only show up on the serial monitor

if you make a noise. You can replace

Serial.println(sensorValue);

with:

\*/

if (sensorValue > 10 and count < 10 and count % 2 == 0){

if (count < 10){

Particle.publish("sound", String(sensorValue), 21600);}

}

else{

if (count < 10)

Particle.publish("sound", "1500", 21600);

}

}

//Temp Program

int sensorPin = 3;

int count = 0;//the analog pin the TMP36's Vout (sense) pin is connected to

//the resolution is 10 mV / degree centigrade with a

//500 mV offset to allow for negative temperatures

/\*

\* setup() - this function runs once when you turn your Arduino on

\* We initialize the serial connection with the computer

\*/

void setup()

{

Serial.begin(9600); //Start the serial connection with the computer

//to view the result open the serial monitor

}

void loop() // run over and over again

{

//getting the voltage reading from the temperature sensor

int reading = analogRead(sensorPin);

// converting that reading to voltage, for 3.3v arduino use 3.3

float voltage = reading \* 5.0;

voltage /= 1024.0;

// print out the voltage

Serial.print(voltage); Serial.println(" volts");

// now print out the temperature

float temperatureC = (voltage - 0.5) \* 100 ; //converting from 10 mv per degree wit 500 mV offset

//to degrees ((voltage - 500mV) times 100)

Serial.print(temperatureC); Serial.println(" degrees C");

// now convert to Fahrenheit

float temperatureF = (((temperatureC \* 9.0 / 5.0) + 32.0) / 100) + 15;

Serial.print(temperatureF); Serial.println(" degrees F");

delay(3000);

count ++;

if (count < 15)

Particle.publish("temp", String(temperatureF), 21600);

//waiting a second

}

