2)

ADVANCE PATIENT MONITORING SYSTEM

1 /\*//////////////////////////////////////////////////////////////////////////////

2 \*\*\*\*\*\*\*Name programmer: Mukesh raj;\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

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13 ///\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*///

#define msensor A1

int in = 7;

int start=5;

int Reset=6;

int buzzer=4;

int count=0,i=0,k=0,rate=0;

float reading,temperature;

float check,moisture;

unsigned long time2,time1;

unsigned long time;

void setup()

{

Serial.begin(9600);

lcd.begin(16,2);

Serial.print("HTM STRESS MONITORING SYSTEM");

lcd.clear();

lcd.setCursor(0,0);

lcd.print("HTM STRESS METER.");

lcd.setCursor(2,1);

lcd.print("\*Monitering\*");

delay(1000);

pinMode(in, INPUT);

pinMode(Reset, INPUT);

pinMode(start, INPUT);

pinMode(buzzer, OUTPUT);

digitalWrite(buzzer, HIGH);

}

void loop()

{

if(start)))

{

k=0;

lcd.setCursor(0,1);

lcd.print("Please wait.......");

Serial.print("please wait......");

while(k<5)

{

if(digitalRead(in))

{

if(k==0)

time1=millis();

k++;

while(digitalRead(in));

lcd.clear();

lcd.setCursor(0,0);

lcd.print("H/b:");

lcd.setCursor(7,0);

lcd.print("T:");

lcd.setCursor(1,1);

lcd.print("S/R:");

lcd.setCursor(4,0);

lcd.print(rate);

Serial.print("Heart beat:");

Serial.println(rate);

lcd.setCursor(9,0);

lcd.print(temperature);

lcd.print("C");

Serial.print("Temperature:");

Serial.println(temperature);

delay(50);

lcd.setCursor(5,1);

lcd.print(moisture);

Serial.print("Sweat:");

Serial.println(moisture);

delay(1000);

if(rate>80)

{

digitalWrite(buzzer,LOW);

delay(1000);

digitalWrite(buzzer,HIGH);

lcd.setCursor(0,1);

lcd.print("Patient Stress .......");

Serial.println("Over stress on patient due to heart");

}

,HIGH);

lcd.setCursor(0,1);

lcd.print("Patient Stress.......");

Serial.println("Over stress on patient due to fever");

}

lcd.setCursor(0,1);

lcd.print("Patient Stress.......");

Serial.println("Over stress on patient due to swite");

}

k=0;

rate=0;

}

if(!digitalRead(Reset))

{

rate=0;

lcd.setCursor(1,1);

lcd.print("S/R:");

lcd.setCursor(5,1);

lcd.print(moisture);

delay(100);

}

}void PM\_CAL()

{

uint8\_t mData = 0;

uint8\_t i = 0;

uint8\_t mPkt[10] = {0};

uint8\_t mCheck = 0;

while (Serial.available() > 0)

{

// from www.inovafitness.com

// packet format: AA C0 PM25\_Low PM25\_High PM10\_Low PM10\_High 0 0 CRC AB

mData = Serial.read(); delay(2);//wait until packet is received

if(mData == 0xAA)//head1 ok

{

mPkt[0] = mData;

mData = Serial.read();

if(mData == 0xc0)//head2 ok

{

mPkt[1] = mData;

mCheck = 0;

for(i=0;i < 6;i++)//data recv and crc calc

{

mPkt[i+2] = Serial.read();

delay(2);

mCheck += mPkt[i+2];

}

mPkt[8] = Serial.read();

delay(1);

mPkt[9] = Serial.read();

if(mCheck == mPkt[8])//crc ok

{

Serial.flush();

//Serial.write(mPkt,10);

Pm25 = (uint16\_t)mPkt[2] | (uint16\_t)(mPkt[3]<<8);

Pm10 = (uint16\_t)mPkt[4] | (uint16\_t)(mPkt[5]<<8);

if(Pm25 > 999)

Pm25 = 999;

if(Pm10 > 999)

Pm10 = 999;

//get one good packet

return;

}

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