```
#define pir1 8
#define pir2 9
#define pir3 10
#define relaysensor 12
#define remote 2
#define ledpir3 5
#define ledpir2 4
#define ledpir1 3
bool kondisiAC;
bool sensor1;
bool sensor2;
bool sensor3;
int logicsensor;

unsigned long startTime1 = 0;
unsigned long startTime2 = 0;
unsigned long motionDuration = 0; //Lama durasi gerakan
unsigned long motionlessDuration = 0; //Waktu tanpa ada pergerakan

unsigned long lastMotionTime1 = 0; //sensor 1
unsigned long lastMotionTime2 = 0; //sensor 2
unsigned long lastMotionTime3 = 0; // sensor 3
unsigned long highDuration1 = 0; // Durasi high sensor 1
unsigned long highDuration2 = 0; // Durasi high sensor 2
unsigned long highDuration3 = 0; // Durasi high sensor 3

#include <DS3231.h>
#include "RTClib.h"
#include <Wire.h>
RTC_DS3231 rtc;
char daysOfTheWeek[7][4] = {"Min", "Sen", "Sel", "Rab", "Kam",
"Jum", "Sab"};
int Day;
```

```
int Month;
int Year;
int Secs;
int Minutes;
int Hours;
String dofweek; // hari
String myDate;
String myTime;

void setup ()
{
  Serial.begin(9600);
  if (! rtc.begin()) {
    Serial.println("tidak menemukan RTC");
    while (1);
  }
  //  rtc.adjust(DateTime(F(__DATE__), F(__TIME__)));
  kondisiAC = 0;

  pinMode(ledpir3, OUTPUT);
  pinMode(ledpir2, OUTPUT);
  pinMode(ledpir1, OUTPUT);
}

void tekanremote() {
  digitalWrite(remote, HIGH);
  delay(3000);
  digitalWrite(remote, LOW);
}

void infosensor() {
  int s1 = digitalRead(pir1);
  Serial.print("Sensor 1 :");
  Serial.println(s1);
  int s2 = digitalRead(pir2);
  Serial.print("Sensor 2 :");
```

```
Serial.println(s2);
int s3 = digitalRead(pir3);
Serial.print("Sensor 3 :");
Serial.println(s3);

highDuration1 =  millis() - lastMotionTime1;
highDuration2 =  millis() - lastMotionTime2;
highDuration3 =  millis() - lastMotionTime3;

if (s1 == HIGH) {
 lastMotionTime1 = millis();
 sensor1 = 1;
 digitalWrite(ledpir1, HIGH);
}
else if (s1 == LOW) {
 digitalWrite(ledpir1, LOW);
}
if (sensor1 == 1 && highDuration1 >= 120000) {
 sensor1 = 0;
}
if (s2 == HIGH) {
 lastMotionTime2 = millis();
 sensor2 = 1 ;
 digitalWrite(ledpir2, HIGH);
}
else if (s2 == LOW) {
 digitalWrite(ledpir2, LOW);
}
if (sensor2 == 1 && highDuration2 >= 120000) {
 sensor2 = 0;
}
if (s3 == HIGH) {
 lastMotionTime3 = millis();
 sensor3 = 1 ;
 digitalWrite(ledpir3, HIGH);
```

```
}
else if (s3 == LOW) {
  digitalWrite(ledpir3, LOW);
}

if (sensor3 == 1 && highDuration3 >= 120000) {
  sensor3 = 0;
}


Serial.print("highDuration1: ");
Serial.println(highDuration1 );
logicsensor = sensor1 || sensor2 || sensor3;

if (logicsensor == 1) {
  startTime2 = 0;
  motionlessDuration = 0;
  //   digitalWrite(ledpir, HIGH);
  if (startTime1 == 0) {
    startTime1 = millis();
  }
  motionDuration = millis() - startTime1;
} else if (logicsensor == 0) {
  startTime1 = 0;
  motionDuration = 0;
  //   digitalWrite(ledpir, LOW);
  if (startTime2 == 0) {
    startTime2 = millis();
  }
  motionlessDuration = millis() - startTime2;
}

Serial.print("MotionDuration : ");
Serial.println(motionDuration);
Serial.print("MotionlessDuration : ");
```

```
  Serial.println(motionlessDuration);


}

void loop ()
{

  infosensor();
  Serial.print("Logic PIR:");
  Serial.println(logicsensor);

  DateTime now = rtc.now();
  Day = now.day();
  Month = now.month();
  Year = now.year();
  Secs = now.second();
  Hours = now.hour();
  Minutes = now.minute();
  dofweek = daysOfTheWeek[now.dayOfTheWeek()];
  myDate = myDate + dofweek + ", " + Day + "/" + Month + "/" + Year ;
  myTime = myTime + Hours + ":" + Minutes + ":" + Secs ;
  // send to serial monitor
  Serial.println(dofweek);
  Serial.println(myDate);
  Serial.println(myTime);
  myDate = "";
  myTime = "";
  delay(1000);

//  if (now.dayOfTheWeek() == 6 || now.dayOfTheWeek()==0) { //Hari
Jumat dan Sabtu
//    digitalWrite(relaysensor, LOW);
//    Serial.println("(1)Sensor PIR Off");
//  }
```

```
//  else
  if (now.dayOfTheWeek() < 5 ) { //&& now.dayOfTheWeek() >= 1
    digitalWrite(relaysensor, HIGH);
    Serial.println("Sensor PIR On");
    if ((now.hour() < 6 || now.hour() >= 18) && (kondisiAC == 1)) {
      tekanremote(); //(1) AC OFF
      kondisiAC = 0;
      Serial.println("(1)AC OFF");
      //    digitalWrite(ledAC, LOW);
    }
    else if (now.hour() >= 6 && now.hour() < 18) {
      if (motionDuration >= 180000 && kondisiAC == 0) {
        tekanremote(); //(1) AC ON
        kondisiAC = 1;
        Serial.println("(1)AC ON");
        //    digitalWrite(ledAC, HIGH);
      }
      else  if (motionlessDuration  >=  180000  &&  kondisiAC  ==  1)  {
//1800000
        tekanremote(); //(2) AC OF
        kondisiAC = 0;
        Serial.println("(2)AC OFF");
        //    digitalWrite(ledAC, LOW);
      }
    }
  }

  Serial.println("Kondisi AC:");
  Serial.println(kondisiAC);
  Serial.println(now.dayOfTheWeek());

Serial.println("==========================================
===================================")
```

BIODATA PENULIS

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Hobi	:	Melukis, Travelling, Anime.
Motto	:	Dunia akan terus berjalan normal tak peduli anda berhasil ataupun gagal. Jadi, pastikan anda menikmati setiap moment yang lewat dengan perasaan bahagia.

Riwayat pendidikan :

SDN 3 Banjarparakan	Tahun 2009 – 2015
SMPN 1 Jatilawang	Tahun 2015 – 2018
SMKN 2 Purwokerto	Tahun 2018 – 2021
Politeknik Negeri Cilacap	Tahun 2021 - 2024

Penulis telah mengikuti seminar Proyek Akhir pada tanggal 14 Agustus 2024, sebagai salah satu persyaratan untuk memperoleh gelar Ahli Madya (A. Md).