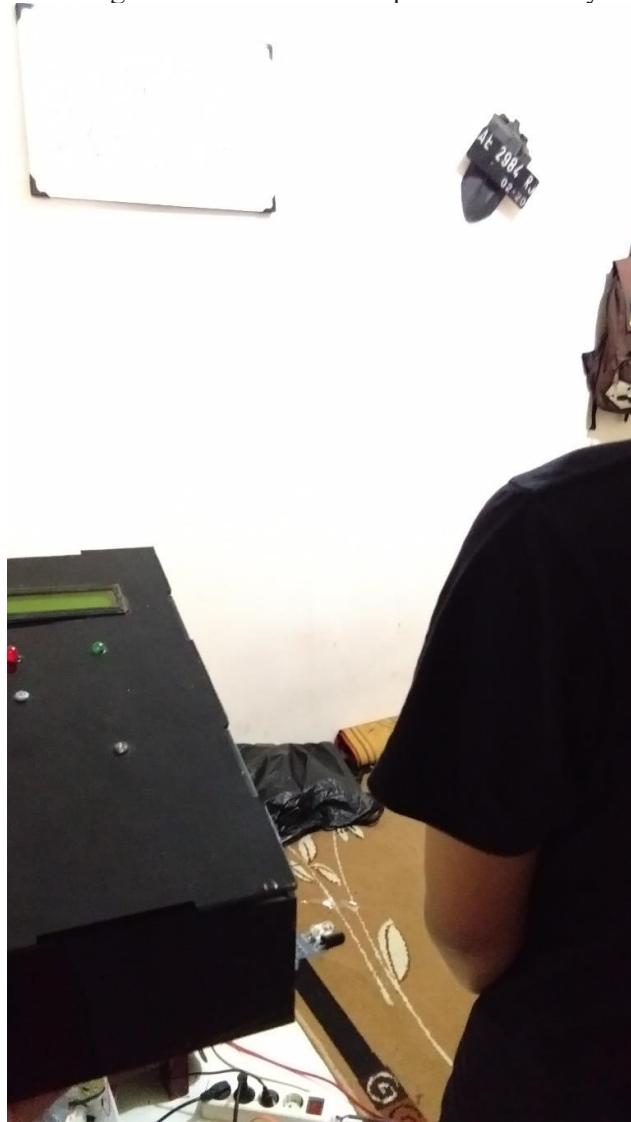


LAMPIRAN

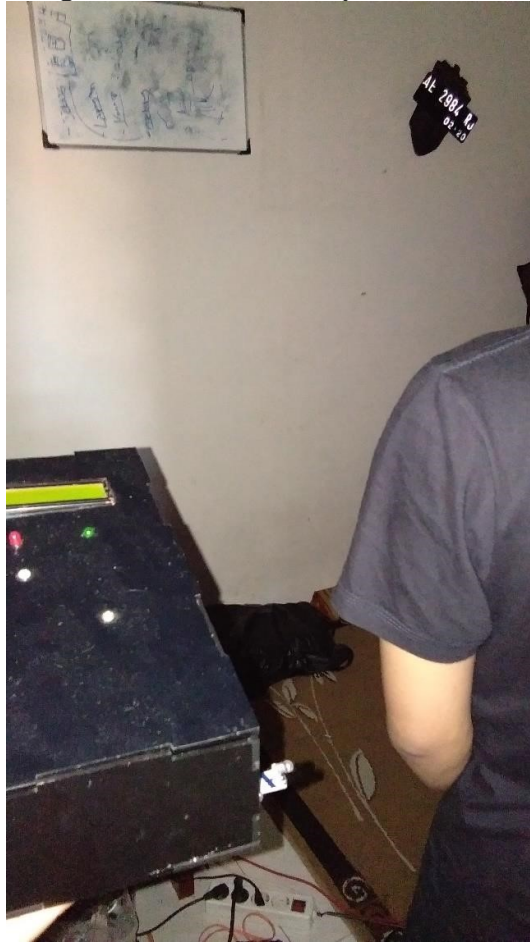
Lampiran 1. Proses Pemasangan Komponen



Lampiran 2. Proses Pengambilan Data Terhadap Intesitas Cahaya Baik



Lampiran 3. Proses Pengambilan Data Terhadap Intesitas Cahaya Kurang Baik



```

Lampiran 4. Program Keseluruhan Arduino Uno R3
#include <Wire.h>

#include <LiquidCrystal_I2C.h>

#include <SPI.h>

#include <MFRC522.h>

#define SS_PIN 10 //RX slave select

#define RST_PIN 9

MFRC522 mfrc522(SS_PIN, RST_PIN); // Create MFRC522 instance.

LiquidCrystal_I2C lcd(0x27, 16, 2);

byte card_ID[4]; //card UID size 4byte
byte n1[4]={0x93,0x87,0x78,0x1A}; //first UID card
byte n2[4]={0x40,0x3A,0xA2,0x10}; //second UID card
byte n3[4]={0x13,0x06,0xC4,0x1B}; //second UID card
byte n4[4]={0xE2,0x9C,0x4F,0x0A}; //second UID card
byte n5[4]={0x20,0x6A,0xF1,0x0E}; //second UID card
byte n6[4]={0x40,0xA5,0xB9,0x11}; //second UID card
byte n7[4]={0xD6,0x70,0x99,0xF4}; //second UID card
byte n8[4]={0x2A,0x8D,0xDB,0x01}; //second UID card
byte n9[4]={0x36,0xDE,0xEC,0xF6}; //second UID card
byte n10[4]={0xE2,0xBD,0xAE,0x0A}; //second UID card
byte n11[4]={0x66,0xBA,0xAE,0x0A}; //second UID card
byte n12[4]={0x66,0x6F,0x91,0xF4}; //second UID card
byte n13[4]={0xD6,0x76,0xEF,0xF6}; //second UID card
byte n14[4]={0xC6,0x94,0x94,0xF4}; //second UID card
byte n15[4]={0x46,0x40,0x98,0xF4}; //second UID card

```

```

byte n16[4]={0x66,0xC5,0x9C,0xF4};//second UID card
byte n17[4]={0xA3,0x4A,0x5D,0x1A};//second UID card
byte n18[4]={0xC3,0x61,0x37,0x1A};//second UID card
byte n19[4]={0x40,0xE8,0x17,0x11};//second UID card
byte n20[4]={0x40,0x6D,0xF4,0x11};//second UID card

int NumbCard[40];//the number of cards. in my case i have just two cards.
int j=0;
int statu[40];//the number of cards. in my case i have just two cards.
int s=0;

int const RedLed=5;
int const GreenLed=6;

String Log;
String Name;//user name
String Number;//user number
int n ;//The number of card you want to detect (optional)

//Galih
String totalname ;
int total = 0;
//Galih

void setup() {

    pinMode(2, INPUT);
    pinMode(4, INPUT);

```

```

lcd.begin();
lcd.setCursor(0,0);
lcd.print("Scan Kartu Anda");

Serial.begin(9600); // Initialize serial communications with the PC
SPI.begin(); // Init SPI bus
mfrc522.PCD_Init(); // Init MFRC522 card

Serial.println("CLEARSHEET"); // clears starting at row 1
Serial.println("LABEL,Date,Name,Number,Time IN,Time OUT,Jumlah");//
make four columns (Date,Time,[Name:"user name"]line 48 & 52,[Number:"user
number"]line 49 & 53)

pinMode(RedLed,OUTPUT);
pinMode(GreenLed,OUTPUT);

delay(200);
}

void loop (){

rfid();

//Galih
counter();
//Galih
}

```

```

void rfid() {
    //look for new card
    if ( ! mfrc522.PICC_IsNewCardPresent()) {
        return;//got to start of loop if there is no card present
    }
    // Select one of the cards
    if ( ! mfrc522.PICC_ReadCardSerial()) {
        return;//if read card serial(0) returns 1, the uid struct contains the ID of the read
        card.
    }

    for (byte i = 0; i < mfrc522.uid.size; i++) {
        card_ID[i]=mfrc522.uid.uidByte[i];

        if(card_ID[i]==n1[i]){
            Name="Dhiyaa Yumna Syarif";//user name
            Number="16506134020";//user number
            j=0;
            s=0;
        }
        else if(card_ID[i]==n2[i]){
            Name="Muhammad Galih Watu Lanang";//user name
            Number="16506134007";//user number
            j=1;
            s=1;
        }
        else if(card_ID[i]==n3[i]){

```

```
Name="Hegar Hartarto";//user name
Number="16506134027";//user number
j=2;
s=2;
}
else if(card_ID[i]==n4[i]){
Name="Tri Gustian";//user name
Number="16506134011";//user number
j=3;
s=3;
}
else if(card_ID[i]==n5[i]){
Name="Ardi Hartanto";//user name
Number="16506134015";//user number
j=4;
s=4;
}
else if(card_ID[i]==n6[i]){
Name="Afrizal H";//user name
Number="16506134022";//user number
j=5;
s=5;
}
else if(card_ID[i]==n7[i]){
Name="M Zahroni";//user name
Number="16506134002";//user number
j=6;
s=6;
```



```

}
else if(card_ID[i]==n8[i]){
Name="Apriiana P.P";//user name
Number="16506134001";//user number
j=7;
s=7;
}
else if(card_ID[i]==n9[i]){
Name="Rizki Hermawan";//user name
Number="16506134024";//user number
j=8;
s=8;
}
else if(card_ID[i]==n10[i]){
Name="Laduni Aura.A";//user name
Number="16506134031";//user number
j=9;
s=9;
}
else if(card_ID[i]==n11[i]){
Name="Ludhi Prasetyo";//user name
Number="16506134009";//user number
j=10;
s=10;
}
else if(card_ID[i]==n12[i]){
Name="Abdul Cholil";//user name
Number="16506134013";//user number

```

```
j=11;
s=11;
}
else if(card_ID[i]==n13[i]){
    Name="Gito Syahril F";//user name
    Number="16506134005";//user number
    j=12;
    s=12;
}
else if(card_ID[i]==n14[i]){
    Name="Amalah";//user name
    Number="16506134014";//user number
    j=13;
    s=13;
}
else if(card_ID[i]==n15[i]){
    Name="Jodi Rahmanto";//user name
    Number="16506134004";//user number
    j=14;
    s=14;
}
else if(card_ID[i]==n16[i]){
    Name="Ilham Rifqi R.";//user name
    Number="16506134003";//user number
    j=15;
    s=15;
}
else if(card_ID[i]==n17[i]){
```

```

Name="Muchlis Abdillah";//user name
Number="16506134010";//user number
j=16;
s=16;
}
else if(card_ID[i]==n18[i]){
Name="Amriani Amelia";//user name
Number="16506134018";//user number
j=17;
s=17;
}
else if(card_ID[i]==n19[i]){
Name="Jimmy Luthfi";//user name
Number="16506134016";//user number
j=18;
s=18;
}
else if(card_ID[i]==n20[i]){
Name="Afrian Akbar";//user name
Number="16506134021";//user number
j=19;
s=19;
}

else{
digitalWrite(GreenLed,LOW);
digitalWrite(RedLed,HIGH);
lcd.clear();
}

```

```

        lcd.setCursor(0,0);
        lcd.print("Belum Terdaftar");
        delay(1000);
        lcd.clear();
        lcd.setCursor(0,0);
        lcd.print("Scan Kartu Anda");
        goto cont;//go directly to line 71
    }
}
if(NumbCard[j] == 1 && statu[s] == 0){
    statu[s]=1;

    lcd.clear();
    lcd.setCursor(0,0);
    lcd.print("Terima Kasih");
    lcd.setCursor(0,1);
    lcd.print(Name);
    digitalWrite(RedLed,HIGH);
    Serial.print("DATA,DATE," + Name);//send the Name to excel
    Serial.print(",");
    Serial.print(Number); //send the Number to excel
    Serial.print(",");
    Serial.print("");
    Serial.print(",");
    Serial.println("TIME");

}
else if(NumbCard[j] == 0){

```

```

NumbCard[j] = 1;
n++;

lcd.clear();
lcd.setCursor(0,0);
lcd.print("Selamat Datang ");
lcd.setCursor(0,1);
lcd.print(Name);

Serial.print("DATA,DATE," + Name);//send the Name to excel
Serial.print(",");
Serial.print(Number); //send the Number to excel
Serial.print(",");
Serial.print("TIME");
Serial.print(",");
Serial.println("");
digitalWrite(GreenLed,HIGH);
digitalWrite(RedLed,LOW);
delay(30);
}
else if(statu[s] == 1){
//Turn Red LED when the employee Already Left

lcd.clear();
lcd.setCursor(0,0);
lcd.print(Name);
lcd.setCursor(0,1);
lcd.print("Sudah Keluar");

```

```
digitalWrite(RedLed,HIGH);  
}  
delay(1000);  
lcd.clear();  
lcd.setCursor(0,0);  
lcd.print("Scan Kartu Anda");
```

cont:

```
delay(1000);  
digitalWrite(GreenLed,LOW);  
digitalWrite(RedLed,LOW);
```

```
}
```

```
//Galih
```

```
void tampilcounter() {
```

```
totalname = total;
```

```
if (total >= 0){
```

```
Serial.println("DATA,,,,," + totalname); //kirim data ke excel
```

```
}
```

```

else {
Serial.println("DATA,,,,," );
}

}

void counter(){
  if (digitalRead(2) == LOW) {
    while (digitalRead(4) == HIGH) {
      }
    total++;
    tampilcounter();
    delay(1000);
  }
  else if (digitalRead(4) == LOW) {
    while (digitalRead(2) == HIGH) {
      }
    total--;
    tampilcounter();
    delay(1000);
  }
}

//Galih

```