

LAMPIRAN

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#include <LiquidCrystal_I2C.h>
#include <WiFiClientSecure.h>
#include <UniversalTelegramBot.h>
#include "DHT.h"
#define DHTPIN13 13
#define DHTPIN12 12
#define DHTPIN14 14
#define DHTTYPE DHT11

// Initialize Wifi connection to the router
char ssid[] = "Skripsi"; // your network SSID (name)
char password[] = "wisuda2019"; // your network key

// Initialize Telegram BOT
#define BOTtoken "1032314411:AAHkYwLY9M0-
EwPdE3kRJRuvgcKoAVrSp6g" // your Bot Token (Get from Botfather)

int pompa = 2;
int lampu = 4;
const int lcdColumns = 16;
const int lcdRows = 2;

WiFiClientSecure client;
UniversalTelegramBot bot(BOTtoken, client);

LiquidCrystal_I2C lcd(0x3F, lcdColumns, lcdRows);
DHT dht13(DHTPIN13, DHTTYPE);
DHT dht12(DHTPIN12, DHTTYPE);
DHT dht14(DHTPIN14, DHTTYPE);
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int Bot_mtbs = 1000; // berarti waktu antara pesan pindai
long Bot_lasttime; // pemindaian pesan terakhir kali telah dilakukan
bool Start = false;

const int ledPin = 2;
int ledStatus = 0;

void handleNewMessages(int numNewMessages) {
  Serial.println("handleNewMessages");
  Serial.println(String(numNewMessages));

  float temp13 = dht13.readTemperature();
  float temp12 = dht12.readTemperature();
  float temp14 = dht14.readTemperature();
  float temp = ((temp13 + temp12 + temp14) / 3);
  float lembab13 = dht13.readHumidity();
  float lembab12 = dht12.readHumidity();
  float lembab14 = dht14.readHumidity();
  float lembab = ((lembab13 + lembab12 + lembab14) / 3);

  for (int i=0; i<numNewMessages; i++) {
    String chat_id = String(bot.messages[i].chat_id);
    String text = bot.messages[i].text;

    String from_name = bot.messages[i].from_name;
    if (from_name == "") from_name = "Guest";

    if (text == "/suhu") {
      String suhu = "suhu sekarang : ";
      suhu += int(temp);
      suhu += " *C\n";
    }
  }
}

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    bot.sendMessage(chat_id, suhu, "");
}

if (text == "/kelembaban") {
    String humid = "kelembaban sekarang : ";
    humid += int(lembab);
    humid += " %\n";
    bot.sendMessage(chat_id, humid, "");
}

if (text == "/start") {
    String welcome = "selamat datang di projek aqmal, " + from_name +
".\n";
    welcome += "perintahe nok nisor.\n\n";
    welcome += "/suhu : suhu sekarang\n";
    welcome += "/kelembaban : kelembaban sekarang\n";
    welcome += "/status : untuk mengetahui kondisi ruangan\n";
    bot.sendMessage(chat_id, welcome, "Markdown");
}
}
}

void setup() {
    Serial.begin(115200);
    pinMode (pompa,OUTPUT);
    digitalWrite(pompa,0);
    pinMode (lampu,OUTPUT);
    digitalWrite(lampu,0);
    // Mencoba terhubung ke jaringan Wifi:
    Serial.print("Connecting Wifi: ");
    Serial.println(ssid);
    Serial.println("Deteksi Suhu dan kelembaban");
}
}
}

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dht12.begin();
dht13.begin();
dht14.begin();
lcd.begin (16,2); // <<----- My LCD was 16x2
lcd.init();
lcd.backlight();

WiFi.mode(WIFI_STA);
WiFi.begin(ssid, password);

while (WiFi.status() != WL_CONNECTED) {
  Serial.print(".");
  delay(500);
}

Serial.println("");
Serial.println("WiFi connected");
Serial.print("IP address: ");
Serial.println(WiFi.localIP());

pinMode(ledPin, OUTPUT); // inialisasi digital ledPin sebagai output.
delay(10);
digitalWrite(ledPin, LOW); // inialisasi pin sebagai off
}

void loop() {
  delay(2000);
  float lembab13 = dht13.readHumidity();
  float lembab12 = dht12.readHumidity();
  float lembab14 = dht14.readHumidity();
  float lembab = ((lembab13 + lembab12 + lembab14) / 3);

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float temp13 = dht13.readTemperature();
float temp12 = dht12.readTemperature();
float temp14 = dht14.readTemperature();
float temp = ((temp13 + temp12 + temp14) / 3);
if (isnan(lembab12) || isnan(temp12)){
Serial.println("Semsor lembab12 tidak terbaca!");
return; }
if (isnan(lembab13) || isnan(temp13)){
Serial.println("Semsor lembab13 tidak terbaca!");
return; }
if (isnan(lembab14) || isnan(temp14)){
Serial.println("Semsor lembab14 tidak terbaca!");
return; }
lcd.setCursor(0, 0);
lcd.print("lemb: ");
lcd.print(lembab);
lcd.print(" %");
lcd.setCursor(0,1);
lcd.print("temp: ");
lcd.print(temp);
lcd.print(" C");

Serial.print("Humidity: ");
Serial.print(lembab);
Serial.print(" % ");
Serial.print("Humidity1: ");
Serial.print(lembab12);
Serial.print(" Humidity2: ");
Serial.print(lembab13);
Serial.print(" Humidity3: ");
Serial.println(lembab14);

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Serial.print(" Temperature: ");
Serial.print(temp);
Serial.print(" C ");
Serial.print(" temp1: ");
Serial.print(temp12);
Serial.print(" temp2: ");
Serial.print(temp13);
Serial.print(" temp3: ");
Serial.println(temp14);

if ( temp >= 20 && lembab <= 85 ){
  digitalWrite ( pompa,1);
}
else {
  digitalWrite ( pompa,0);
}
if ( temp <= 25 && lembab >= 90 ){
  digitalWrite ( lampu,1);
}
else {
  digitalWrite ( lampu,0);
}

if ((millis() > Bot_lasttime + Bot_mtbs)) {
  int numNewMessages = bot.getUpdates(bot.last_message_received +
1);

  while(numNewMessages) {
    Serial.println("got response");
    handleNewMessages(numNewMessages);
    numNewMessages = bot.getUpdates(bot.last_message_received + 1);
  }

  Bot_lasttime = millis();
}
}

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FOTO ALAT

A. Foto Alat kontroller

Foto saat alat dalam keadaan hidup

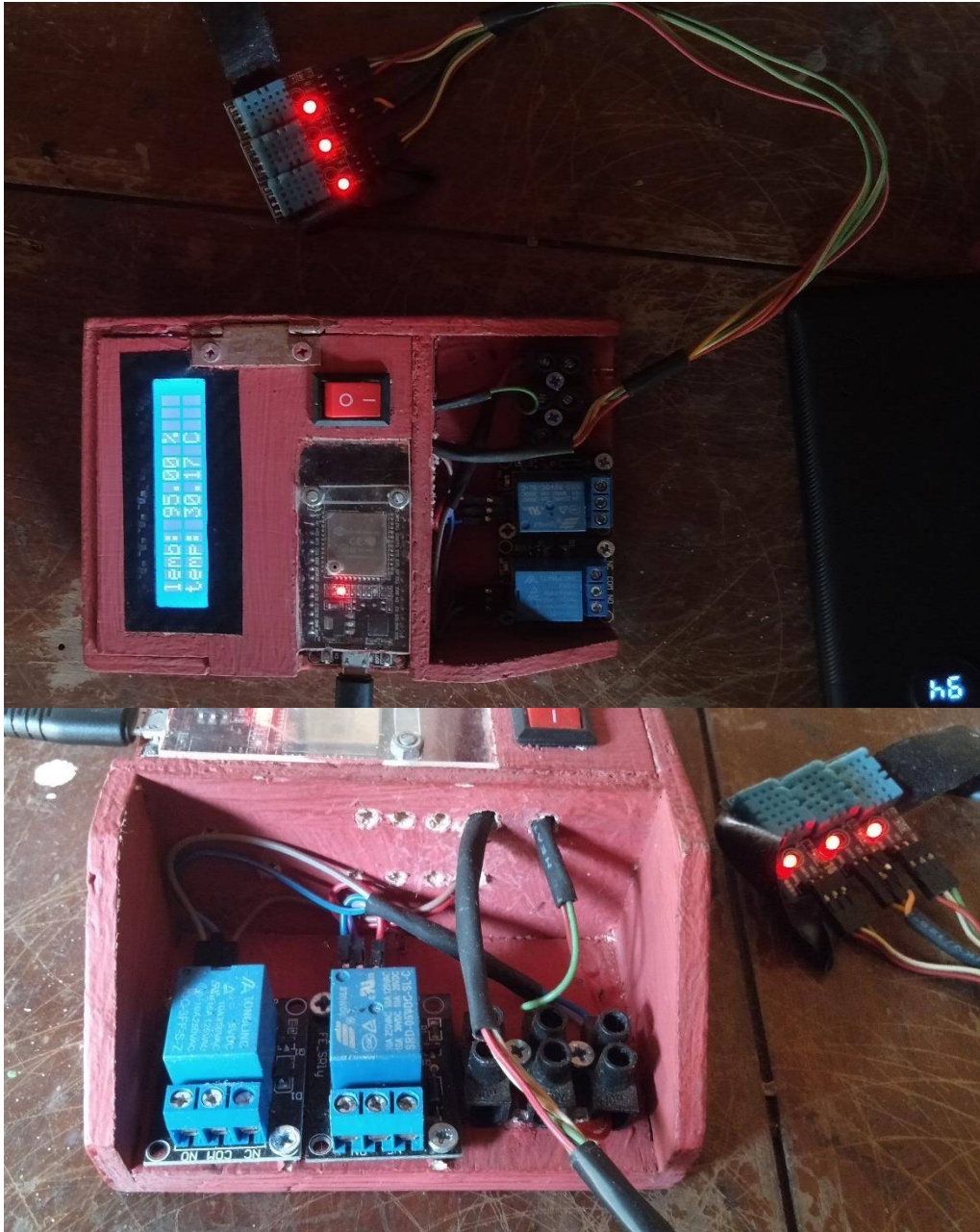
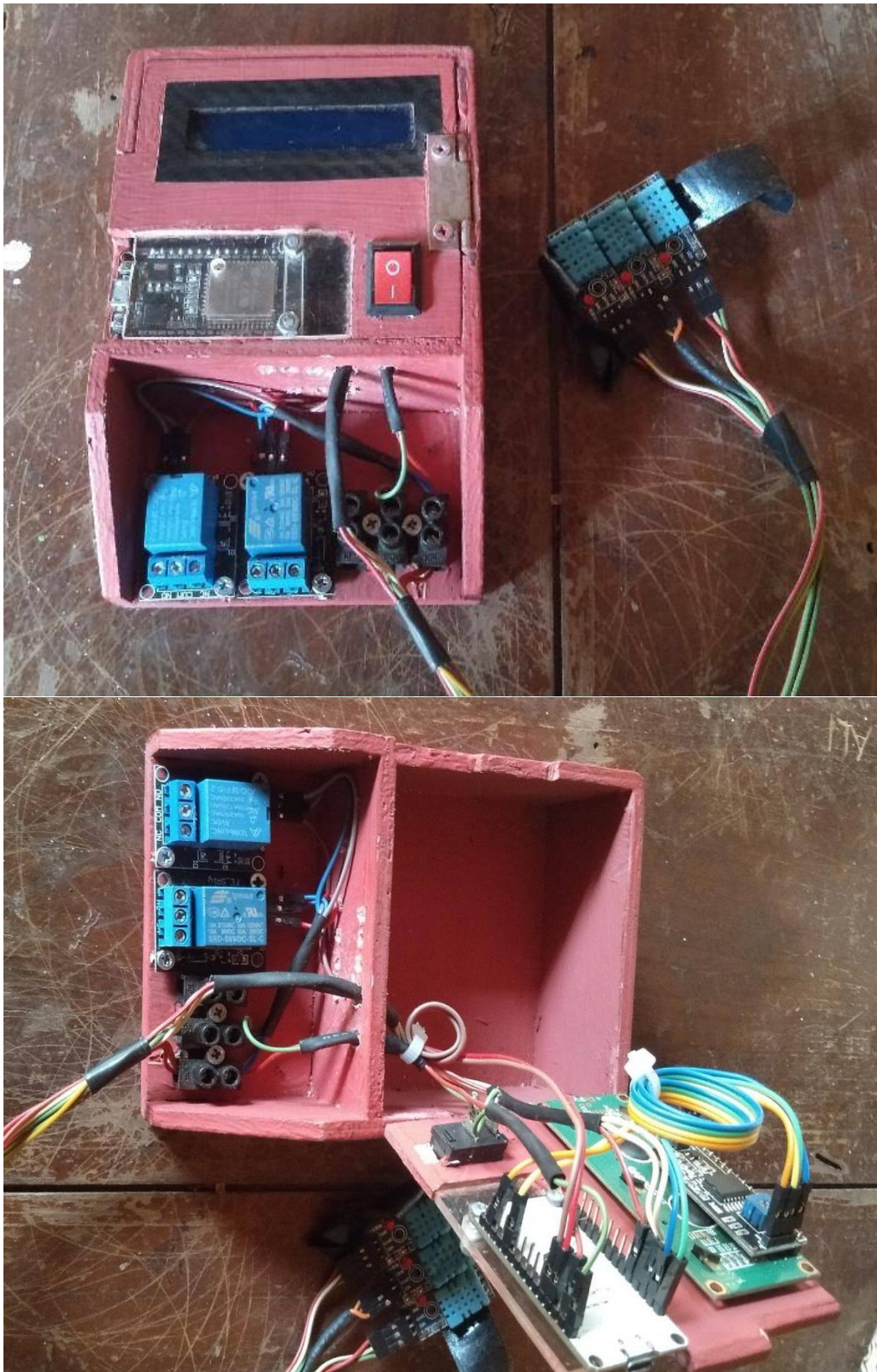


Foto saat alat dalam keadaan mati



Tampak depan



Tampak samping kanan



Tampak samping kiri



Tampak dari atas



Tampak dari belakang



Nampak dari jauh



Foto dalam ruangan

