



# UNIVERSITAS PGRI ADI BUANA SURABAYA

## FAKULTAS TEKNIK

Program Studi : Teknik Lingkungan – Perencanaan Wilayah Kota  
Teknik Industri – Teknik Elektro - PVKK

KAMPUS II: Jl. Dukuh Menanggal XII/4 ☎ (031) 8281181 Surabaya 60234 Website  
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### FORM REVISI SKRIPSI

Nama Mahasiswa : Rizqy Aminullah Effendi  
NIM : 183600034  
Fakultas / Progdil : Teknik Industri / Teknik Elektro  
Judul Skripsi : RANCANG BANGUN SISTEM  
PERINGATAN DINI KEBAKARAN  
BERBASIS INTERNET OF THINGS (IoT)

Ujian Tanggal :

No Bab.	Tanggal	Materi Konsultasi	Keterangan Catatan	Tanda Tangan Penguji
I	26 Juni 2023	Perbaikan daftar Isi	acc	P.
II	27 Juni 2023	Perbaikan Masalah	acc	P.
III	28 Juni 2023	Revisi	acc	P.
IV	30 Juni 2023	Data hasil	Acc	P.
V	5 Juli 2023	Perbaikan Alat	Acc	P.

Disetujui Dosen Penguji  
Pada Tanggal 05 Juli 2023

Penguji I,

**(Dwi Hastuti, S.Kom., M.T.)**

Penguji II,

**(Akhmad Solikin, S.T., M.Kom.)**

- Penyelesaian Revisi paling lambat 2 minggu dari pelaksanaan Ujian Skripsi.
  - Pengetikan, penjilidan, penandatanganan Skripsi dan mengumpulkan Skripsi paling lambat 2 minggu dari revisi.
- Apabila sampai batas waktu tersebut ( point 1, a dan b ) mahasiswa belum menyelesaikan revisi dan tanda tangan, maka **Ujian dinyatakan Gugur.**
- Foto copy Form Revisi diserahkan ke Program Studi.
  - Skripsi yang sudah direvisi diserahkan ke Fakultas tiga eksemplar untuk dijilid.



Unipa Surabaya

# UNIVERSITAS PGRI ADI BUANA SURABAYA FAKULTAS TEKNIK








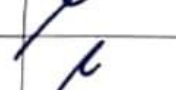


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## BERITA ACARA BIMBINGAN SKRIPSI

Form Skripsi-03

Nama	: Rizqy Aminullah Effendi			
NIM	: 183600034			
Program Studi	: Teknik Elektro			
Pembimbing	: Akbar Sujiwa. S.Si., M.Si.			
Periode Bimbingan	: Gasal/Genap*) Tahun 20... / 20....			
Judul Skripsi	: Rancang Bangun Sistem Peringatan Dini Kebakaran Dini Berbasis Internet Of Things ( IoT )			
<b>KEGIATAN KONSULTASI / BIMBINGAN</b>				
No	Tanggal	Materi pembimbingan	Keterangan	Paraf
	3 Maret 2023	Bimbingan Bab 1 Skripsi	Acc	
	15 Maret 2023	Bimbingan Bab 1 Skripsi	Acc	
	30 Maret 2023	Bimbingan Bab 2 Skripsi	Acc	
	4 April 2023	Bimbingan Bab 2 Skripsi	Acc	
	2 Mei 2023	Bimbingan Bab 3 Skripsi	Acc	
	5 Mei 2023	Bimbingan Bab 3 Skripsi	Acc	
	16 Mei 2023	Bimbingan Bab 4 Skripsi	Acc	
	29 Mei 2023	Bimbingan Bab 4 Skripsi	Acc	
	8 Juni 2023	Bimbingan Bab 5 Skripsi	Acc	
Dinyatakan selesai tanggal : ..... 20....				

Mengetahui,  
Ketua Program Studi,


  
AKBAR SUJIWA, S.Si., M.Si.

Pembimbing,

  
AKBAR SUJIWA, S.Si., M.Si.

Surabaya, .....

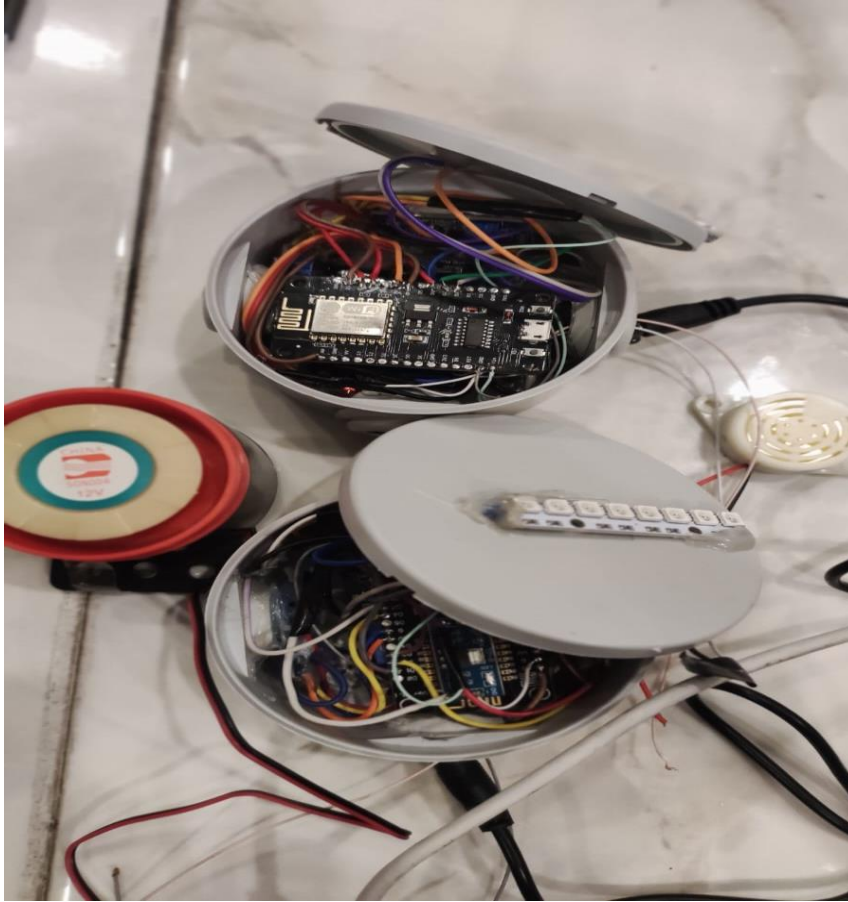
Mahasiswa,

  
RIZQY AMINULLAH E.





## Lampiran



## Coding

```
#define BLYNK_PRINT Serial
#include <MQ2.h>
#include <ESP8266WiFi.h>
#include <DHT.h>
#include <BlynkSimpleEsp8266.h>
#include <FastLED.h>
#define BLYNK_AUTH_TOKEN "1rOhJETyLIKufDeaT3T7gkeql6ytFg6D" //Enter your
blynk auth token

#define NUM_LED 8 //jumlah led
#define LED_PIN 15 //PIN D5
#define DHTPIN 12 // PIN D6
#define DHTTYPE DHT11 // DHT 11
#define relay1 0 // PIN D3
#define relay2 5 //PIN D1
CRGB leds[NUM_LED];
DHT dht(DHTPIN, DHTTYPE);

char auth[] = BLYNK_AUTH_TOKEN;
char ssid[] = "TP-LINK_2A437C";//Enter your WIFI name
char pass[] = "1234567890";//Enter your WIFI password

int Analog_Input = A0; // PIN A0
int lpg, co, smoke;
int smoke1 = 4; // PIN D2
int sensorThres = 400;
int analogSensor = 0;
int MQ7_GAS_SENSOR = 13; // PIN D7

MQ2 mq2(Analog_Input);
//Get the button value

BLYNK_WRITE(V1) {
  bool RelayOne = param.asInt();
  if (RelayOne == 1) {
    digitalWrite(relay1, HIGH);
  } else {
```

```

    digitalWrite(relay1, LOW);
  }
}

void setup() {
  FastLED.addLeds<WS2812B, LED_PIN, GRB>(leds, NUM_LED);
  FastLED.setBrightness(50);

  splashled();
  dht.begin();
  mq2.begin();

  WiFi.begin(ssid, pass);

  while (WiFi.status() != WL_CONNECTED) {
    for(int i=0; i<NUM_LED; i++){
      leds[i] = CRGB::Yellow;
      FastLED.show();

    }
    delay(500);
  }

  for(int i=0; i<NUM_LED; i++){
    leds[i] = CRGB::Green;
    FastLED.show();
    delay(50);
  }
  pinMode(relay1, OUTPUT);
  pinMode(relay2, OUTPUT);
  pinMode(smoke1, INPUT);
  pinMode (MQ7_GAS_SENSOR, INPUT_PULLUP);
  //Initialize the Blynk library
  Blynk.begin(auth, ssid, pass, "blynk.cloud", 80);
}

void loop() {
  //Run the Blynk library
  Blynk.run();
  analogSensor = analogRead(smoke1);

  float h = dht.readHumidity();

```

```

float t = dht.readTemperature(); // or dht.readTemperature(true) for Fahrenheit

if (isnan(h) || isnan(t)) {
  Serial.println("Failed to read from DHT sensor!");
  return;
}
// You can send any value at any time.
// Please don't send more that 10 values per second.
Blynk.virtualWrite(V5, h);
Blynk.virtualWrite(V6, t);

float* values= mq2.read(true); //set it false if you don't want to print the values in the Serial
//lpg = values[0];
lpg = mq2.readLPG();
//co = values[1];
co = mq2.readCO();
//smoke = values[2];
smoke = mq2.readSmoke();

Blynk.virtualWrite(V7, lpg);
Blynk.virtualWrite(V8, co);
Blynk.virtualWrite(V9, (smoke*100)/1000000);

//=====
//
//      JIKA MQ2 DETEKSI ASAP GAS
//
//=====
if (analogSensor > sensorThres)
{
  cyan();
  digitalWrite(relay2, LOW);
}
else
{
  magenta();
  digitalWrite(relay2, HIGH);
}
//=====
//
//      JIKA TERDETEKSI CARBON
//
//=====
int GAS_SENSOR = digitalRead (MQ7_GAS_SENSOR);

```

```

if (GAS_SENSOR == LOW)
{

magenta();
digitalWrite(relay2, HIGH);

}
else
{

cyan();
digitalWrite(relay2, LOW);

}
}

```

```

//=====
//
// splash intialiting
//
//=====
void splashled () {
  leds[0] = CRGB::Red;
  leds[1] = CRGB::Red;
  leds[2] = CRGB::Red;
  leds[3] = CRGB::Red;
  leds[4] = CRGB::Red;
  leds[5] = CRGB::Red;
  leds[6] = CRGB::Red;
  leds[7] = CRGB::Red;
  FastLED.show();
  delay(300);
  leds[0] = CRGB::Blue;
  leds[1] = CRGB::Blue;
  leds[2] = CRGB::Blue;
  leds[3] = CRGB::Blue;
  leds[4] = CRGB::Blue;
  leds[5] = CRGB::Blue;
  leds[6] = CRGB::Blue;
  leds[7] = CRGB::Blue;
}

```



```
FastLED.show();
delay(300);
leds[0] = CRGB::Green;
leds[1] = CRGB::Green;
leds[2] = CRGB::Green;
leds[3] = CRGB::Green;
leds[4] = CRGB::Green;
leds[5] = CRGB::Green;
leds[6] = CRGB::Green;
leds[7] = CRGB::Green;
FastLED.show();
delay(300);
leds[0] = CRGB::Cyan;
leds[1] = CRGB::Cyan;
leds[2] = CRGB::Cyan;
leds[3] = CRGB::Cyan;
leds[4] = CRGB::Cyan;
leds[5] = CRGB::Cyan;
leds[6] = CRGB::Cyan;
leds[7] = CRGB::Cyan;
FastLED.show();
delay(300);
leds[0] = CRGB::Magenta;
leds[1] = CRGB::Magenta;
leds[2] = CRGB::Magenta;
leds[3] = CRGB::Magenta;
leds[4] = CRGB::Magenta;
leds[5] = CRGB::Magenta;
leds[6] = CRGB::Magenta;
leds[7] = CRGB::Magenta;
FastLED.show();
delay(300);
leds[0] = CRGB::Yellow;
leds[1] = CRGB::Yellow;
leds[2] = CRGB::Yellow;
leds[3] = CRGB::Yellow;
leds[4] = CRGB::Yellow;
leds[5] = CRGB::Yellow;
leds[6] = CRGB::Yellow;
leds[7] = CRGB::Yellow;
FastLED.show();
delay(100);
leds[0] = CRGB::Black;
leds[1] = CRGB::Black;
```

```
leds[2] = CRGB::Black;
leds[3] = CRGB::Black;
leds[4] = CRGB::Black;
leds[5] = CRGB::Black;
leds[6] = CRGB::Black;
leds[7] = CRGB::Black;
FastLED.show();
delay(100);
leds[0] = CRGB::White;
leds[1] = CRGB::White;
leds[2] = CRGB::White;
leds[3] = CRGB::White;
leds[4] = CRGB::White;
leds[5] = CRGB::White;
leds[6] = CRGB::White;
leds[7] = CRGB::White;
FastLED.show();
delay(100);
leds[0] = CRGB::Black;
leds[1] = CRGB::Black;
leds[2] = CRGB::Black;
leds[3] = CRGB::Black;
leds[4] = CRGB::Black;
leds[5] = CRGB::Black;
leds[6] = CRGB::Black;
leds[7] = CRGB::Black;
FastLED.show();
delay(100);
leds[0] = CRGB::White;
leds[1] = CRGB::White;
leds[2] = CRGB::White;
leds[3] = CRGB::White;
leds[4] = CRGB::White;
leds[5] = CRGB::White;
leds[6] = CRGB::White;
leds[7] = CRGB::White;
FastLED.show();
delay(100);
leds[0] = CRGB::Black;
leds[1] = CRGB::Black;
leds[2] = CRGB::Black;
leds[3] = CRGB::Black;
leds[4] = CRGB::Black;
leds[5] = CRGB::Black;
```

```
    leds[6] = CRGB::Black;
    leds[7] = CRGB::Black;
    FastLED.show();
    delay(5000);
}

//=====
void magenta(){
    leds[0] = CRGB::Magenta;
    leds[1] = CRGB::Magenta;
    leds[2] = CRGB::Magenta;
    leds[3] = CRGB::Magenta;
    leds[4] = CRGB::Magenta;
    leds[5] = CRGB::Magenta;
    leds[6] = CRGB::Magenta;
    leds[7] = CRGB::Magenta;
    FastLED.show();
    delay(300);
}

void cyan () {
    leds[0] = CRGB::Cyan;
    leds[1] = CRGB::Cyan;
    leds[2] = CRGB::Cyan;
    leds[3] = CRGB::Cyan;
    leds[4] = CRGB::Cyan;
    leds[5] = CRGB::Cyan;
    leds[6] = CRGB::Cyan;
    leds[7] = CRGB::Cyan;
    FastLED.show();
    delay(100);
}
```