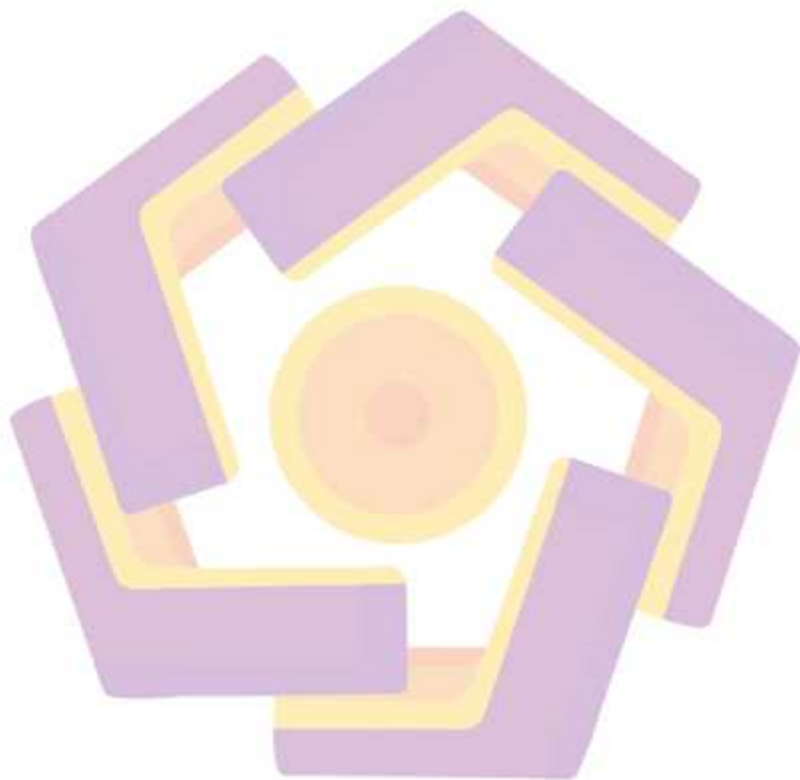


REFERENSI

- [1] Anif Farida. "Prediksi Banjir Menggunakan Model Answers Kasus Di Das Code Yogyakarta", vol. 10, no. 2, 2018.
- [2] Ermawan Susanto. "MASYARAKAT DAERAH ALIRAN SUNGAI CODE DALAM MENANGGULANGI DAMPAK BENCANA BANJIR", *J. Penelitian Humaniora*, vol. 15, no. 1, 2010.
- [3] Sembiring, J.P., et all. "Alat Deteksi Ketinggian Air Menggunakan Sensor Ultrasonik Dengan Database", vol 3, no. 1, pp.47, 2022.
- [4] Salamah, K.S., A. Samsul. "Rancang Bangun Sistem Pendeteksi Banjir Otomatis Berbasis Internet of Things", vol.12, no. 1, pp 40-41, 2021.
- [5] Pamungkas, T.D., Fitriawati. "Sistem Peringatan Dini Bencana Banjir Berbasis IoT Dengan Platform Firebase", *SENATEK*, vol.6, pp. 122-123, 2023.
- [6] Susanto, F., et all. "IMPLEMENTASI INTERNET OF THINGS DALAM KEHIDUPAN SEHARI-HARI", vol. 2, p. 36. April 2022.
- [7] G. Herandy., B. Suprianto. "MONITORING BIAYA DAN PENGUKURAN KONSUMSI DAYA LISTRIK", vol. 08, p. 1, 2017.
- [8] B. Riyanta., et all. "Perancangan dan Implementasi Pemrograman Mikrokontroler Arduino Mega 2560 R3 Untuk Pengendalian Gerakan Body Stabiliser Control Pada Model Kendaraan Roda Empat", vol. 30, no. 30, 2022.
- [9] Sri Mulyono., et all. "Penggunaan Node-RED pada Sistem Monitoring dan Kontrol Green House Berbasis Protokol MQTT", *TRANSISTOR EI*, vol. 3, no. 1, pp. 33, 2018.
- [10] Fitri Puspasari., et all. "Sensor Ultrasonik HCSR04 Berbasis Arduino Due Untuk Sistem Monitoring Ketinggian", vol. 15, no. 2, Yogyakarta, 2019.

- [11] Ismailov, A.S., et all. "Study of Arduino Microcontroller Board", *SCIENCE AND EDUCATION*, vol. 3, no. 3, pp. 172-177, 2022.
- [12] Perdana, J.P and W. Theophilus. "Perancangan dan Implementasi Sistem Kontrol Untuk Tempat Sampah Otomatis Menggunakan Arduino dan Sensor Ultrasonik", vol. 2, no.2, pp. 105-106, 2023
- [13] Firmansyah, A., Pratama, D.A. "Perancangan Smart Parking System Berbasis Arduino Uno", vol. 10, no.1, pp. 3-4, 2019.
- [14] Perdana, J.P and W. Theophilus. "Perancangan dan Implementasi Sistem Kontrol Untuk Tempat Sampah Otomatis Menggunakan Arduino dan Sensor Ultrasonik", vol. 2, no.2, pp. 105-106, 2023
- [15] D. Setiawan and I. Zulkarnaen. "Prototype Alat Pemantauan Ketinggian Air Pada Bendungan Menggunakan Sensor Ultrasonik Berbasis Arduino", vol. 17, no. 2, pp. 171, 2018.
- [16] R. Shaputra., et all. "Kran Air Otomatis Pada Tempat Berwudhu Menggunakan Sensor Ultrasonik Berbasis Arduino Uno", vol. 2, no. 2, pp. 195-196, 2019.
- [17] M. Ramzi, B. Kurniawan. "Implementasi Pemrograman Python Menggunakan Visual Studio Code", *JIK*, vol. XI, no. 2, 2020.
- [18] Putra, A.S., et all. "Sistem Monitoring Realtime Jaringan Irigasi Desa Dengan Konsep Jaringan Sensor Nirkabel", vol. 8, no. 2, pp. 224, 2018.
- [19] I. Solikin., "Implementasi Penggunaan Smartphone Android untuk Control PC (Personal Computer)", *J. Pengem. IT*, vol. 03, no. 02, pp. 249-250, 2018.
- [20] T. Sutikno., et all "WhatsApp, viber and telegram: which is the best for instant messaging?", *Int J.Electr. Comput Eng.*, vol. 6, no. 3, pp. 910-911, 2016.
- [21] Angga Dwi Mulyanto. "Pemanfaatan Bot Telegram Untuk Media Informasi Penelitian", *Jurnal IKTI*, vol. 12, no. 1, pp. 49-50, 2020.

- [22] A. Anggarani, T. Feri., "RANCANG BANGUN SISTEM PENDETEKSI KEBAKARAN DAN PEMADAM API OTOMATIS BERBASIS INTERNET OF THINGS (IoT)", JURTIKOM, vol. 1, no. 2, pp. 100, 2024.



LAMPIRAN

PengKodingan Arduino IDE

```
#include <Wire.h>
#include <LiquidCrystal_I2C.h>
LiquidCrystal_I2C lcd(0x3F, 16,2);

#define trigpin 3 // trigger
#define echopin 2 // echo
const int ledlow = 5; // hijau
const int ledmiddle = 6; // kuning
const int ledhigh = 7; // merah
const int buzzer = 12; // buzzer

void setup() {
  Serial.begin(115200);
  lcd.begin (16, 2);
  lcd.init();
  lcd.backlight();

  pinMode (trigpin, OUTPUT);
  pinMode (echopin, INPUT);
  pinMode (ledlow, OUTPUT);
  pinMode (ledmiddle, OUTPUT);
  pinMode (ledhigh, OUTPUT);
  pinMode (buzzer, OUTPUT);

  digitalWrite (ledlow, LOW);
  digitalWrite (ledmiddle, LOW);
  digitalWrite (ledhigh, LOW);
  digitalWrite (buzzer, LOW);
}

void loop() {

  int duration, distance;
  digitalWrite (trigpin, HIGH);
  delayMicroseconds(500);
  digitalWrite(trigpin, LOW);
  duration = pulseIn(echopin, HIGH);
  distance = (duration / 2) / 29.1;
  //Serial.println(" cm: ");
  //Serial.println(distance);
}
```

```

Serial.print("\Sensor\");
Serial.print(distance);
Serial.print(",\Stats\");

lcd.setCursor(0, 0);
lcd.print(" Jarak = ");
lcd.print(distance);
lcd.print(" cm ");

if ( (distance > 0) && (distance <= 10) ) // level ambang bahaya
{
  Serial.print("\BAHAYA\");
  digitalWrite (ledlow, LOW);
  digitalWrite (ledmiddle, LOW);
  digitalWrite (ledhigh, HIGH);
  digitalWrite (buzzer, HIGH);
  lcd.setCursor(0, 1);
  lcd.print(" BAHAYA");
} else

if ( (distance > 10) && (distance <= 50) ) // level tinggi awas
{
  Serial.print("\AWAS\");
  digitalWrite (ledlow, LOW );
  digitalWrite (ledmiddle, HIGH);
  digitalWrite (ledhigh, LOW);
  digitalWrite (buzzer, LOW);
  lcd.setCursor(0, 1);
  lcd.print(" AWAS");
} else

if ( (distance > 50) && (distance <= 100) ) // level sedang aman
{
  Serial.print("\AMAN\");
  digitalWrite (ledlow, HIGH);
  digitalWrite (ledmiddle, LOW);
  digitalWrite (ledhigh, LOW);
  digitalWrite (buzzer, LOW);
  lcd.setCursor(0, 1);
  lcd.print(" AMAN");
} else

if (distance > 100) // level sangat aman
{
  Serial.print("\AMAN\");
  digitalWrite (ledlow, LOW);

```

```

    digitalWrite (ledmiddle, LOW);
    digitalWrite (ledhigh, LOW);
    digitalWrite (buzzer, LOW);
    lcd.setCursor(0, 1);
    lcd.print(" AMAN");
}
Serial.println("{}");
delay(10000);
}

```

Visual Studio Code

```

<?php
$servername = "localhost";
$username = "root";
$password = "";
$dbname = "sensordb";

// Create connection
$conn = new mysqli($servername, $username, $password, $dbname);
// Check connection
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}

$sql = "SELECT * FROM sensor_data ORDER BY id DESC LIMIT 1";
$result = $conn->query($sql);

if ($result->num_rows > 0) {
    // output data of each row
    while($row = $result->fetch_assoc()) {
        $data = "Sensor: " . $row["sensor"]. " - Status: " .
        $row["stats"]. " - Time: " . $row["time"]. " ";
        echo $data;
        if ($row["sensor"] <= 100) {
            sendMessage($data);
        }
    }
} else {
    echo "0 results";
}

```

```
function sendMessage($text) {
    $botApiToken = '6667635273:AAGhrma3_kz2p7PbaLpKVMTIiX2M4nYmVL0';
    $channelId = '-1002205523189';

    $query = http_build_query([
        'chat_id' => $channelId,
        'text' => $text,
    ]);
    $url =
"https://api.telegram.org/bot{$botApiToken}/sendMessage?{$query}";

    $curl = curl_init();
    curl_setopt_array($curl, array(
        CURLOPT_URL => $url,
        CURLOPT_RETURNTRANSFER => true,
        CURLOPT_CUSTOMREQUEST => 'GET',
    ));
    curl_exec($curl);
    curl_close($curl);
}
$conn->close();
?>
```