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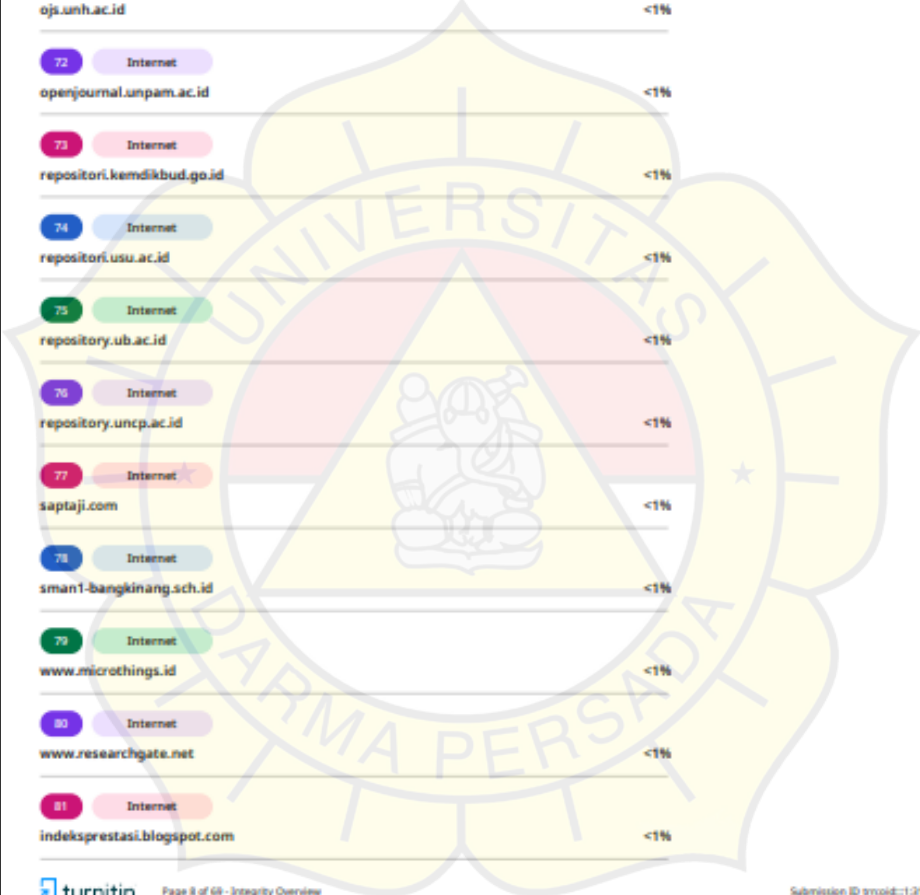
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## Lampiran Source Code

```
#include <Wire.h>
#include <LiquidCrystal_I2C.h>
#include <Adafruit_Sensor.h>
#include <DHT.h>
#include <DHT_U.h>
#include <WiFi.h>
#include <HTTPClient.h>

// Pin konfigurasi
#define DHTPIN 32 // Pin untuk DHT22
#define DHTTYPE DHT22 // Tipe DHT
#define MQ2PIN 34 // Pin analog untuk MQ2
#define LDRPIN 35 // Pin analog untuk LDR
#define RELAYPIN 23 // Pin untuk relay (kipas)
#define BUZZERPIN 4 // Pin untuk buzzer

// Inisialisasi DHT sensor
DHT dht(DHTPIN, DHTTYPE);

// Inisialisasi LCD (alamat default 0x27, 16 kolom x 2 baris)
LiquidCrystal_I2C lcd(0x27, 16, 2);

// Variabel untuk menyimpan status kipas dan buzzer
bool isFanOn = false;
bool isBuzzerOn = false;
bool isGasDetected = false;

// WiFi Credentials
const char* ssid = "iPhone";
const char* password = "12345678";
const char* IPAddr = "digitugas.my.id";
WiFiClient NodeMCU;
void setup() {
  Serial.begin(115200);
  dht.begin();
  lcd.init();
  lcd.backlight();
  pinMode(MQ2PIN, INPUT);
  pinMode(LDRPIN, INPUT);
  pinMode(RELAYPIN, OUTPUT);
  pinMode(BUZZERPIN, OUTPUT);
  digitalWrite(RELAYPIN, HIGH); // Pastikan relay mati saat awal
  digitalWrite(BUZZERPIN, LOW); // Pastikan buzzer mati saat awal

  // Koneksi ke WiFi
  WiFi.begin(ssid, password);
  while (WiFi.status() != WL_CONNECTED) {
    delay(1000);
    Serial.println("Menghubungkan ke WiFi...");
  }
  Serial.println("Terhubung ke WiFi!");
}
```

```

// Tampilkan pesan awal di LCD
lcd.setCursor(0, 0);
lcd.print("<SELAMAT DATANG>");
delay(2000);
lcd.clear();
Serial.println("Inisialisasi selesai!");
}
void loop() {

// Membaca suhu dan kelembapan dari DHT22
float temperature = dht.readTemperature(); // Celsius
float humidity = dht.readHumidity();
// Membaca data analog dari MQ2
int mq2Value = analogRead(MQ2PIN);
// Membaca data analog dari LDR
int rawLdrValue = analogRead(LDRPIN);
int ldrValue = map(rawLdrValue, 0, 4095, 0, 1000); // Normalisasi
nilai LDR (0-1000)
int ldrPercentage = map(ldrValue, 0, 1000, 0, 100); // Hitung
persentase (0-100%)
// Logika untuk kipas berdasarkan suhu
if (!isnan(temperature)) {
  if (temperature > 34 && !isFanOn) {
    digitalWrite(RELAYPIN, LOW); // Menyalakan kipas
    isFanOn = true;
    Serial.println("Kipas menyala karena suhu tinggi!");
  } else if (temperature <= 34 && isFanOn) {
    digitalWrite(RELAYPIN, HIGH); // Mematikan kipas
    isFanOn = false;
    Serial.println("Kipas mati karena suhu normal.");
  }
} else {
  Serial.println("Gagal membaca data dari DHT22.");
}
// Logika untuk buzzer dan deteksi gas
if (mq2Value > 1000) {
  digitalWrite(RELAYPIN, LOW); // Menyalakan kipas
  digitalWrite(BUZZERPIN, HIGH); // Menyalakan buzzer
  isFanOn = true;
  isBuzzerOn = true;
  isGasDetected = true; // Tandai gas terdeteksi
  Serial.println("Peringatan, Gas Terdeteksi!");
} else {
  digitalWrite(BUZZERPIN, LOW); // Mematikan buzzer
  isFanOn = false;
  isBuzzerOn = false;
  isGasDetected = false; // Reset jika gas aman
}
// Menampilkan data di Serial Monitor
Serial.println("=== Status ===");
Serial.print("Kipas: ");
Serial.println(isFanOn ? "ON" : "OFF");
Serial.print("Buzzer: ");
Serial.println(isBuzzerOn ? "ON" : "OFF");

```

```

Serial.println("=== Pembacaan Sensor ===");
if (isnan(temperature) || isnan(humidity)) {
  Serial.println("Gagal membaca data dari DHT22");
} else {
  Serial.print("Suhu: ");
  Serial.print(temperature);
  Serial.println(" °C");
  Serial.print("Kelembapan: ");
  Serial.print(humidity);
  Serial.println(" %");
}
Serial.print("Nilai MQ2: ");
Serial.println(mq2Value);
Serial.print("Cahaya: ");
Serial.print(ldrValue);
Serial.print(" | ");
Serial.print(ldrPercentage);
Serial.println(" %");
Serial.println("=====");
// Menampilkan data di LCD
lcd.clear();
if (isGasDetected) {
  lcd.setCursor(0, 0);
  lcd.print("Gas Terdeteksi!");
  lcd.setCursor(0, 1);
  lcd.print("MQ2: ");
  lcd.print(mq2Value);
} else {
  lcd.setCursor(0, 0);
  lcd.print("Suhu:");
  lcd.print(temperature, 1);
  lcd.print("C");
  lcd.setCursor(0, 1);
  lcd.print("Kelembapan:");
  lcd.print(humidity, 1);
  lcd.print("%");
  delay(2000);
  lcd.clear();
  lcd.setCursor(0, 0);
  lcd.print("MQ2:");
  lcd.print(mq2Value);
  lcd.setCursor(0, 1);
  lcd.print("Cahaya:");
  lcd.print(ldrPercentage);
  lcd.print("%");
}
// Mengirim data ke server
if (!NodeMCU.connect(IPAddr, 80)) {
  Serial.println("Gagal koneksi ke webserver");
  return;
}
String lightStatus = (ldrPercentage > 70) ? "Terang" :
(ldrPercentage > 30 ? "Redup" : "Gelap");
String url1 = "http://" + String(IPAddr) +

```

```

"/pdkg/kirimdata_history.php?" + "sensor_suhu=" +
String(temperature) + "&sensor_kelembapan=" + String(humidity) +
"&sensor_cahaya=" + String(ldrPercentage) + "&sensor_gas=" +
String(mq2Value) + "&status_cahaya=" + lightStatus + "&status_gas="
+ String(isGasDetected ? "Terdeteksi" : "Aman") + "&kipas=" +
String(isFanOn ? "ON" : "OFF");
    HTTPClient http;
    // Send to First URL
    http.begin(url1);
    int httpCode1 = http.GET();
    if (httpCode1 > 0) {
        String payload1 = http.getString();
        Serial.println("Response from first URL: " + payload1);
    } else {
        Serial.print("Error on first HTTP request: ");
        Serial.println(httpCode1);
    }
    http.end();
    // Kirim data ke URL2 hanya jika gas terdeteksi
    if (isGasDetected) {
        delay(2000);
        String url2 = "http://" + String(IPAddr) +
"/pdkg/kirimdata_statusg.php?" + "sensor_gas=" + String(mq2Value) +
"&status_gas=Terdeteksi";
        http.begin(url2);
        int httpCode2 = http.GET();
        if (httpCode2 > 0) {
            String payload2 = http.getString();
            Serial.println("Response from second URL: " + payload2);
        } else {
            Serial.

```