



**WATERSAFE**

FLOPRO : Flood Prevention and River  
Observation

# Latar Belakang

detiksumbagsel

Home Berita Sepakbola Hukum & Kriminal Budaya Wisata Kuliner Bisnis Sumba

Sumatera Selatan

## 3 Kecamatan di Muratara Kebanjiran Karena 2 Sungai Meluap

A Reiza Pahlevi - detikSumbagsel

Minggu, 07 Apr 2024 23:49 WIB



BADAN NASIONAL PENANGGULANGAN BENCANA BNBP

BERANDA PROFIL LAYANAN BERITA INFORMASI PUBLIK PENGETAHUAN

### Bengawan Solo Meluap, Lima Kabupaten/Kota Dikepung Banjir

18 Feb 2023 23:00 WIB

④ Dilihat 9681 kali

A photograph showing a person standing in floodwaters inside a building, with water reaching up to their waist.

detikjatim

Home Berita Sepakbola Hukum & Kriminal Budaya Wisata Kuliner Bisnis

## Tiga Sungai Meluap, 5 Kelurahan di Kota Pasuruan Banjir

Muhajir Arifin - detikJatim

Selasa, 09 Apr 2024 09:17 WIB





# **Penanggulangan Bencana Banjir dengan Monitoring Real-time Ketinggian Air Sungai Berbasis IoT**

# **FLOPRO**

# Profil Tim



Moch Raihan Kemal P

Mobile Developer



Zanuar Dwi Novaliyanto

Mechanical



Ahmad Miftahur Rif'at

Mechanical



Thofail Syakirudin

Electrical



Dafit Ody Endriantono

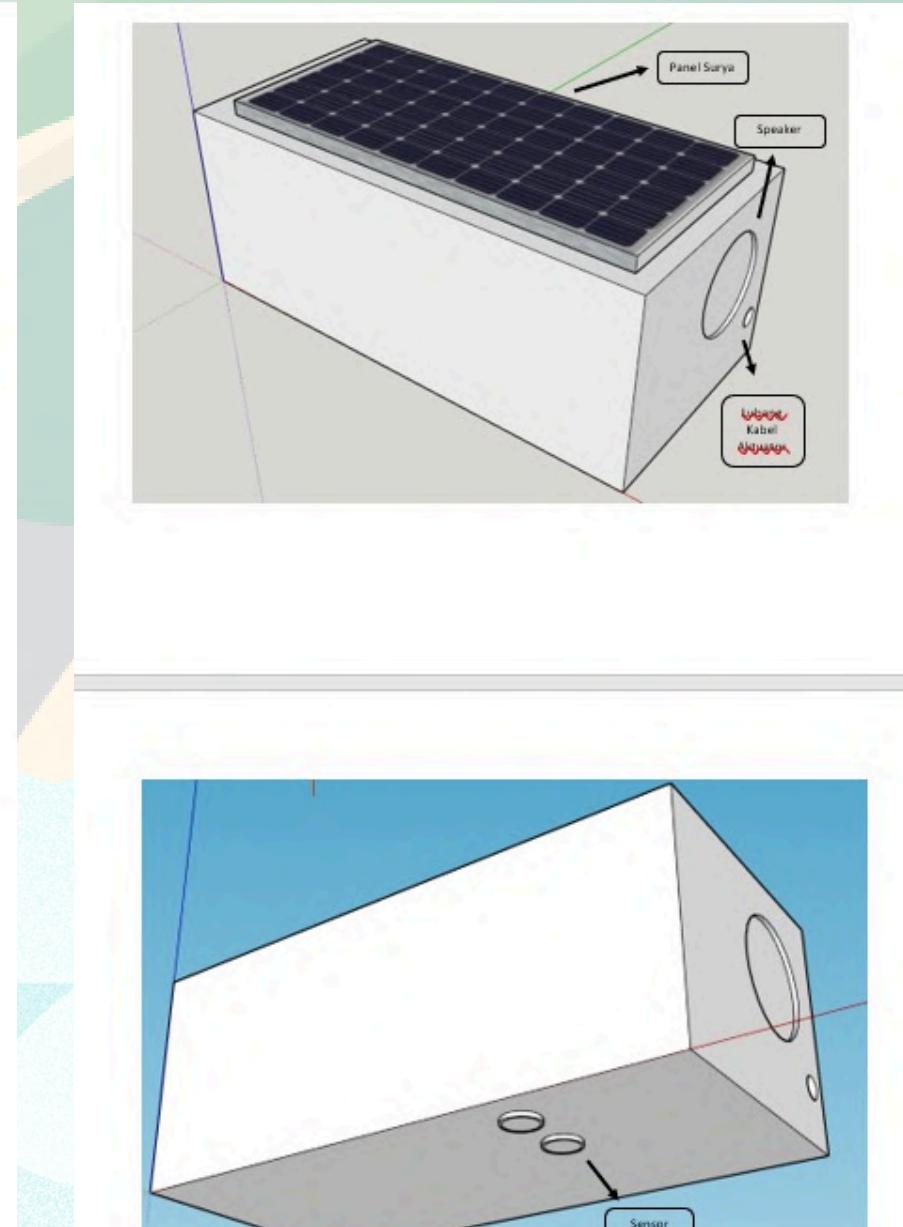
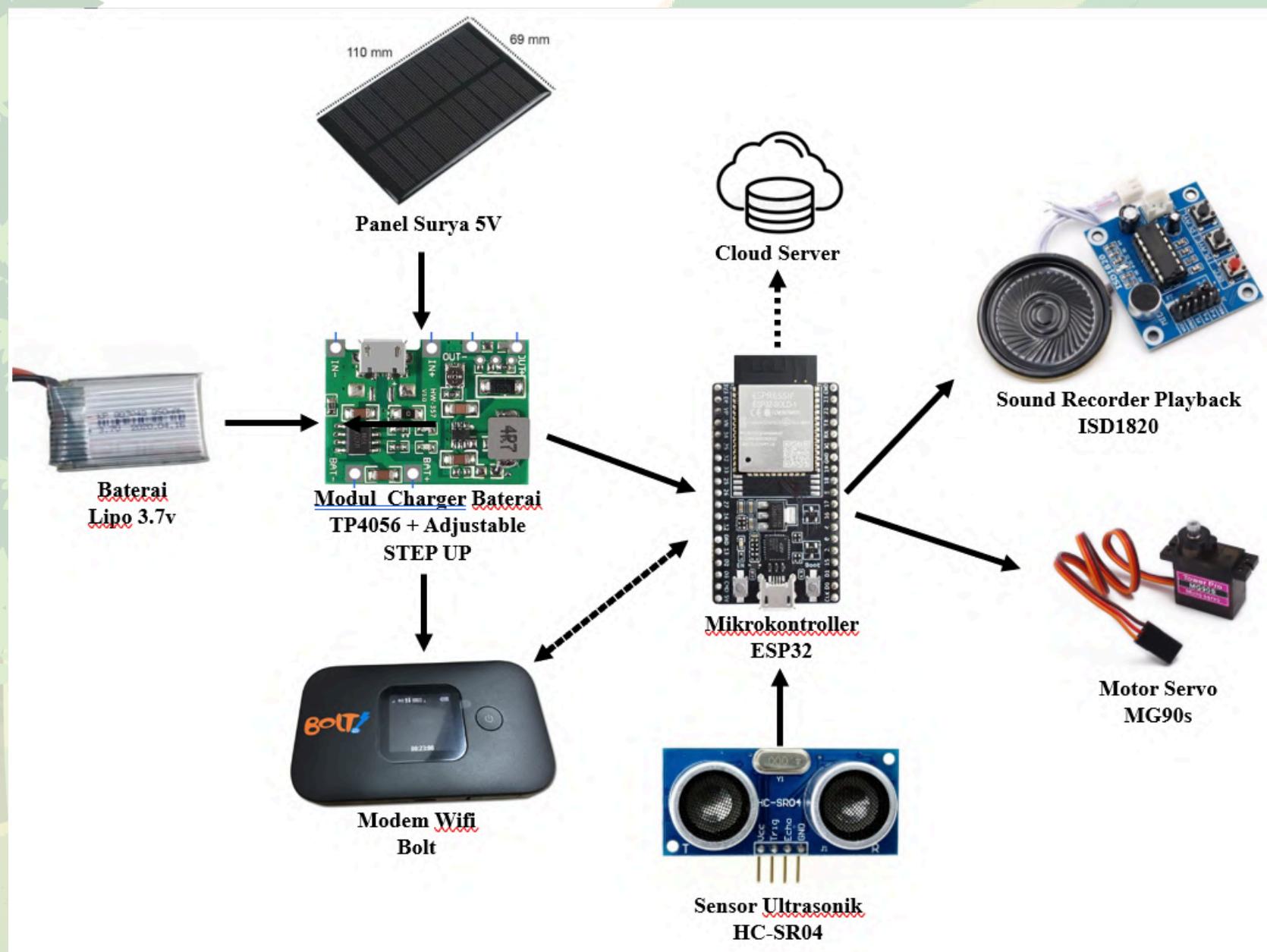
Electrical



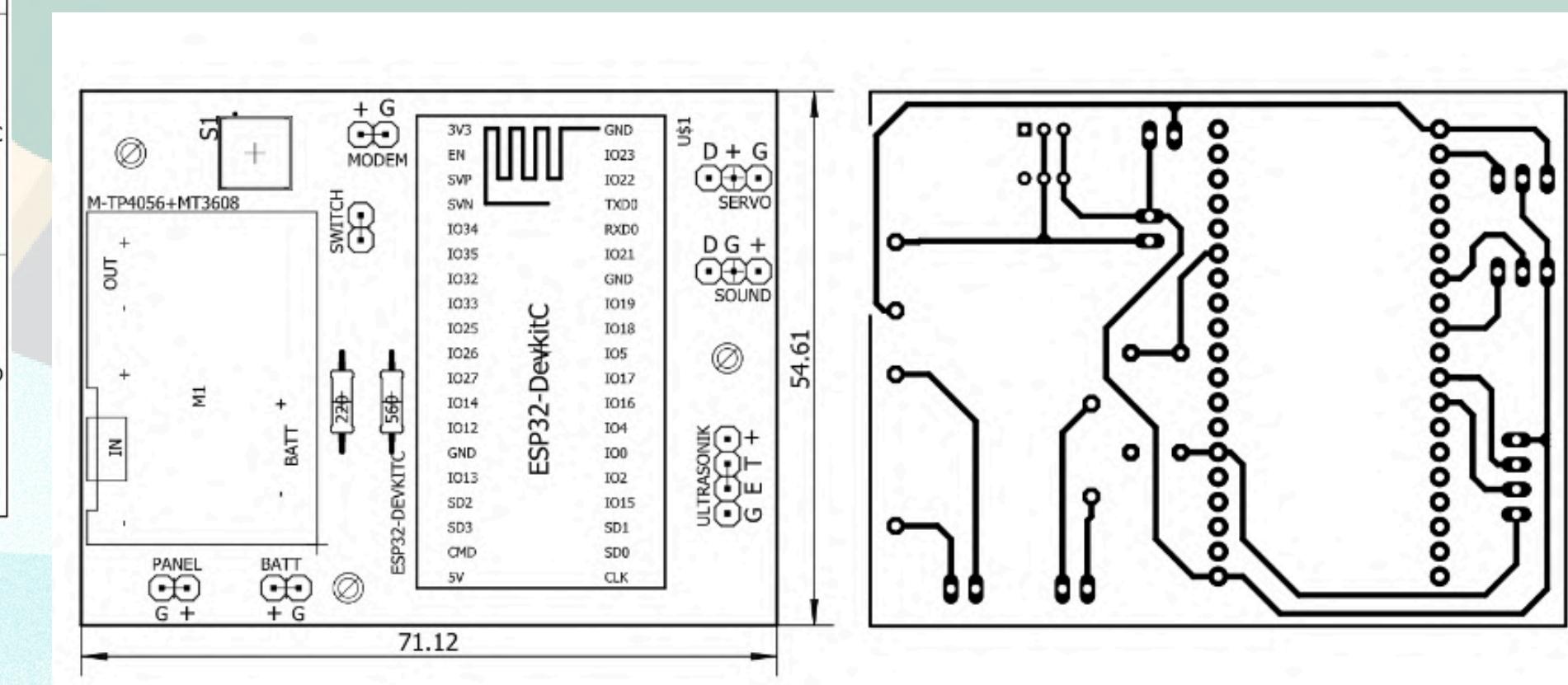
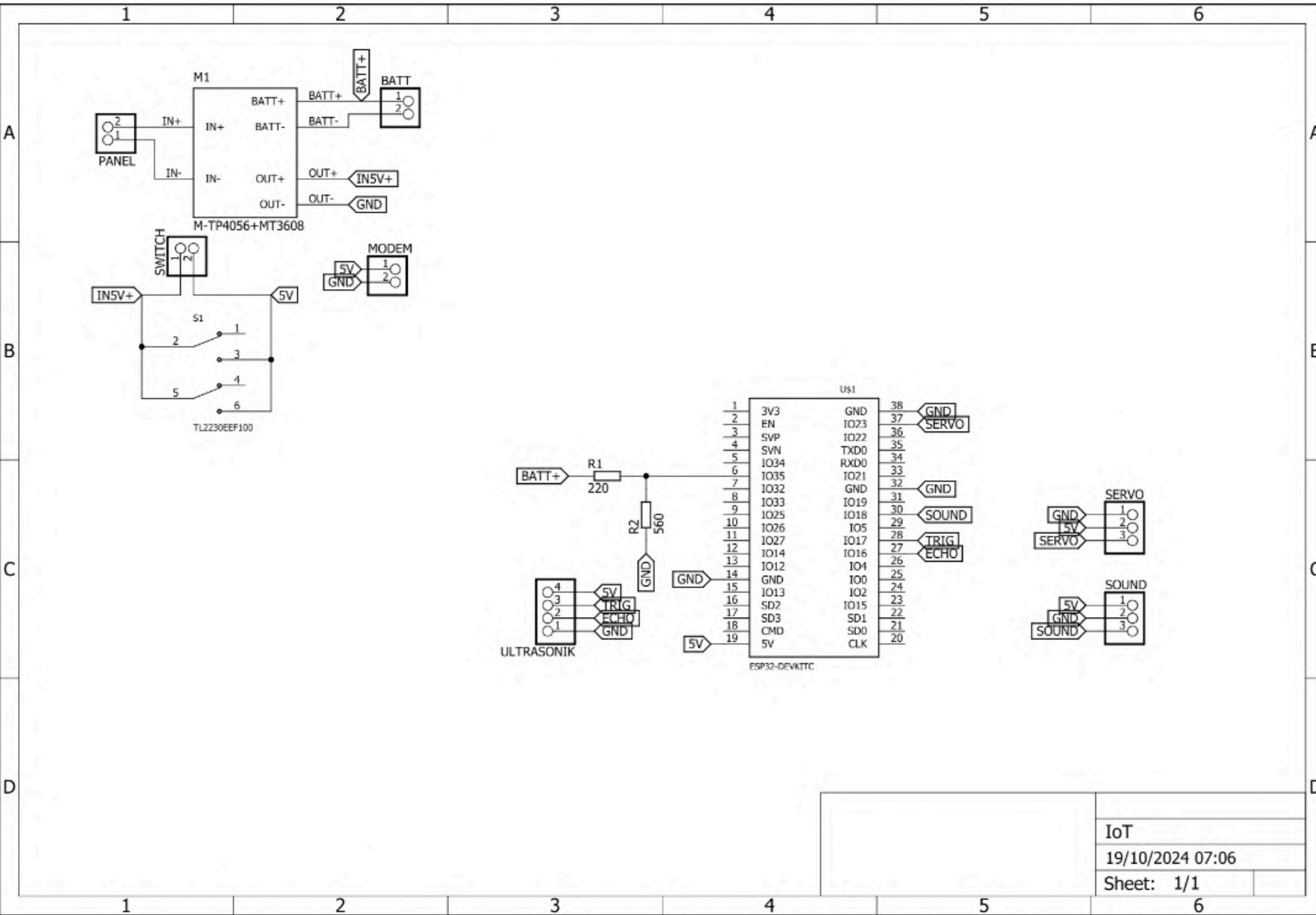
Asyraf Sulthan Zaky

Software

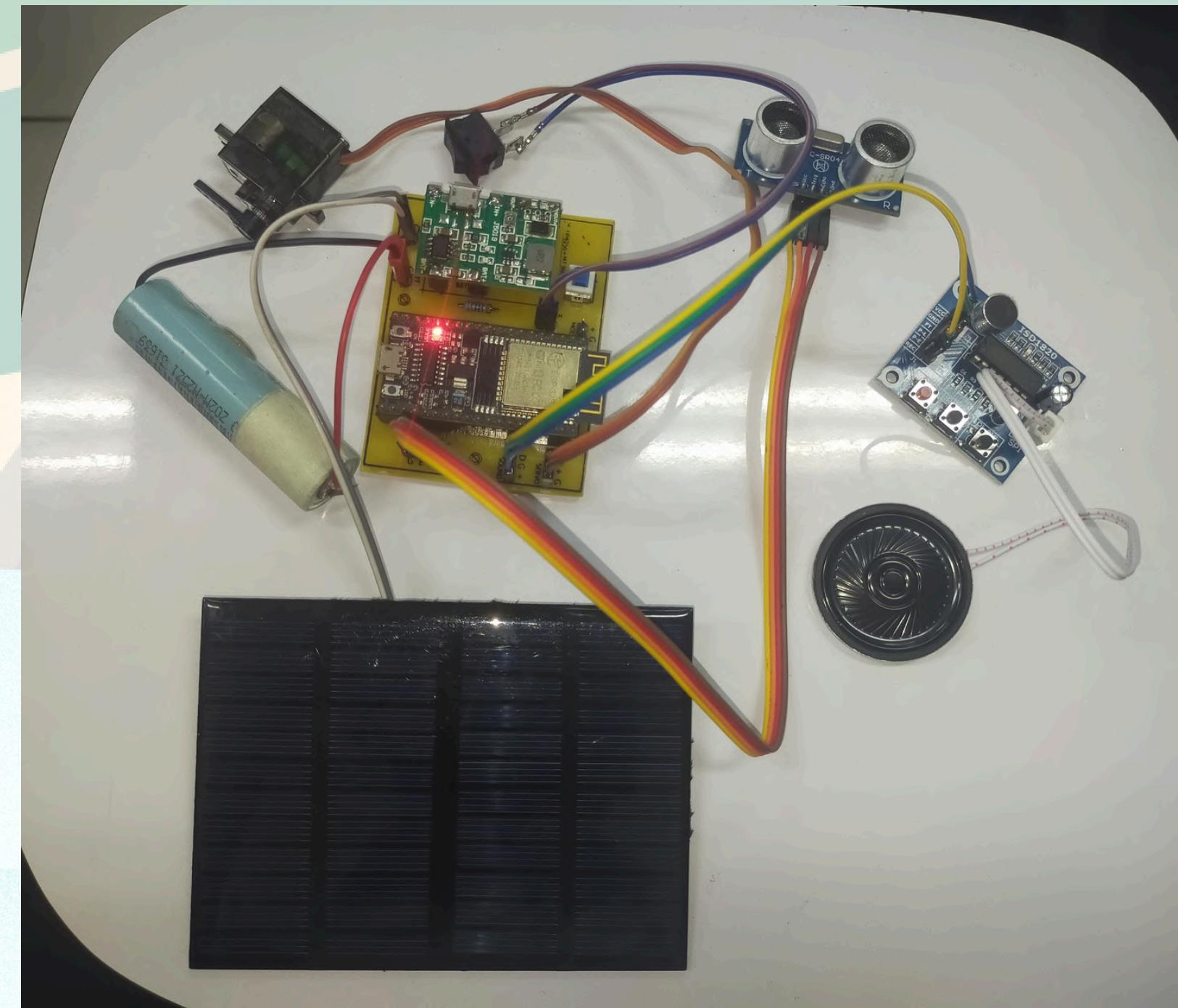
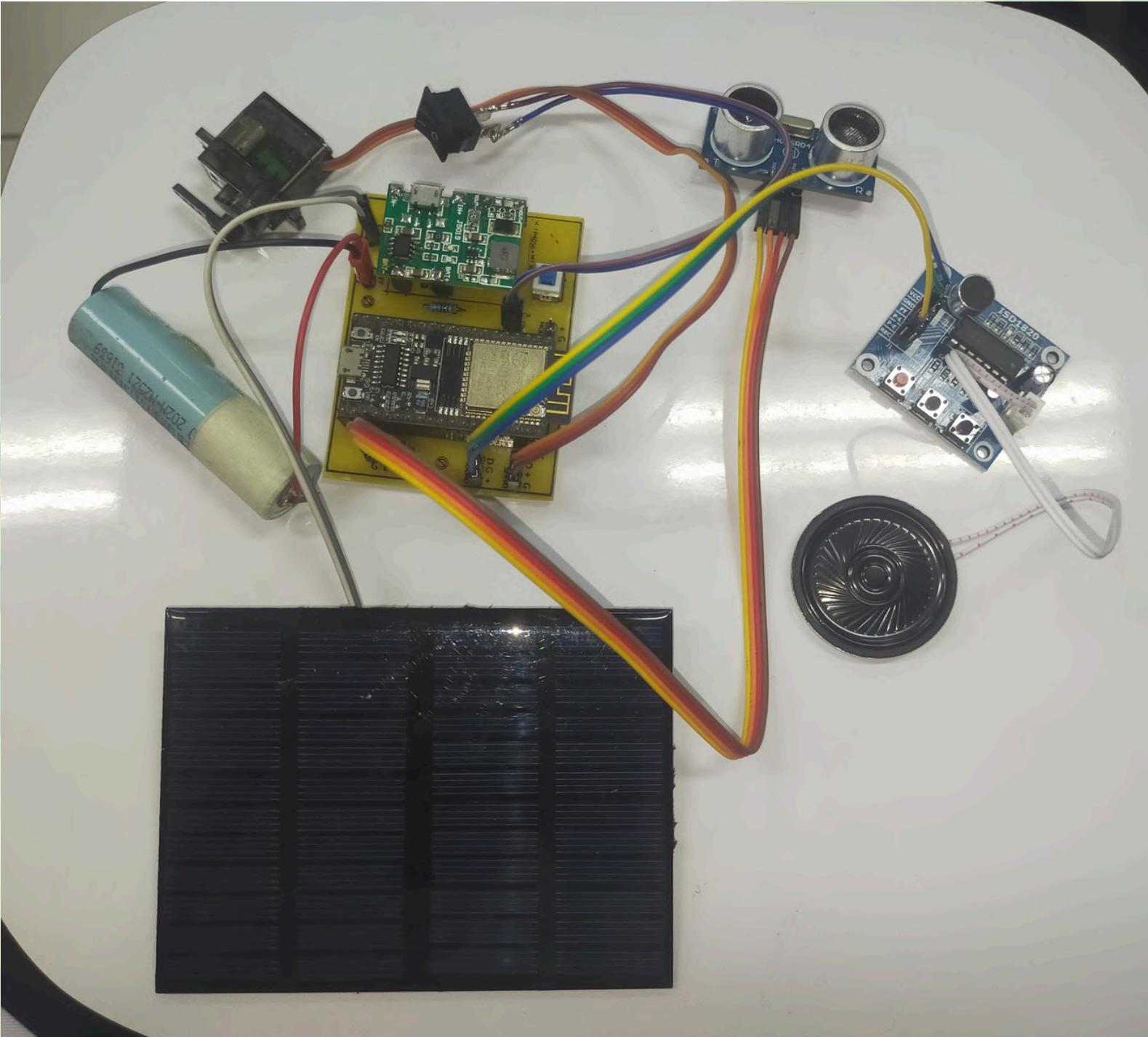
# Perancangan Konsep Produk



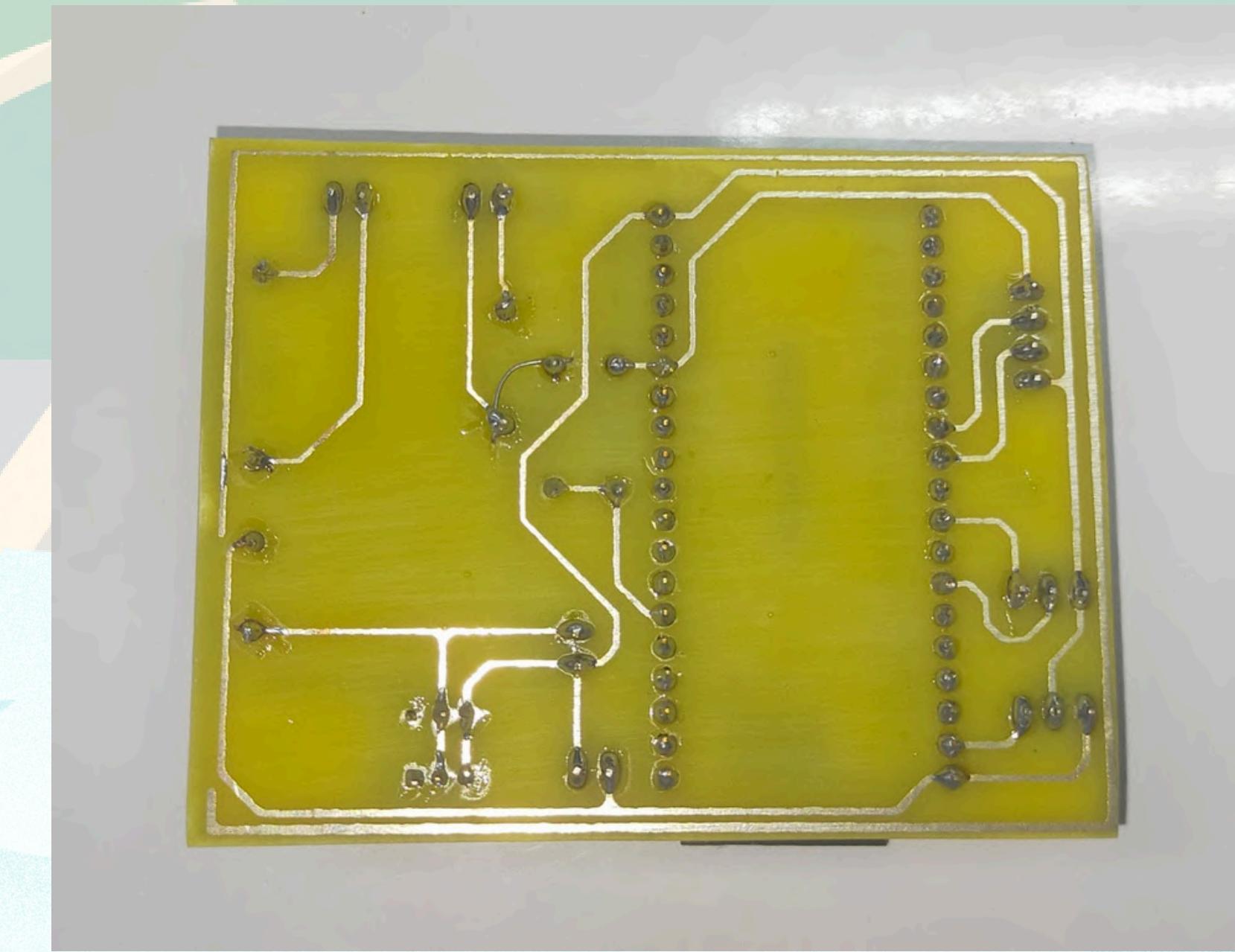
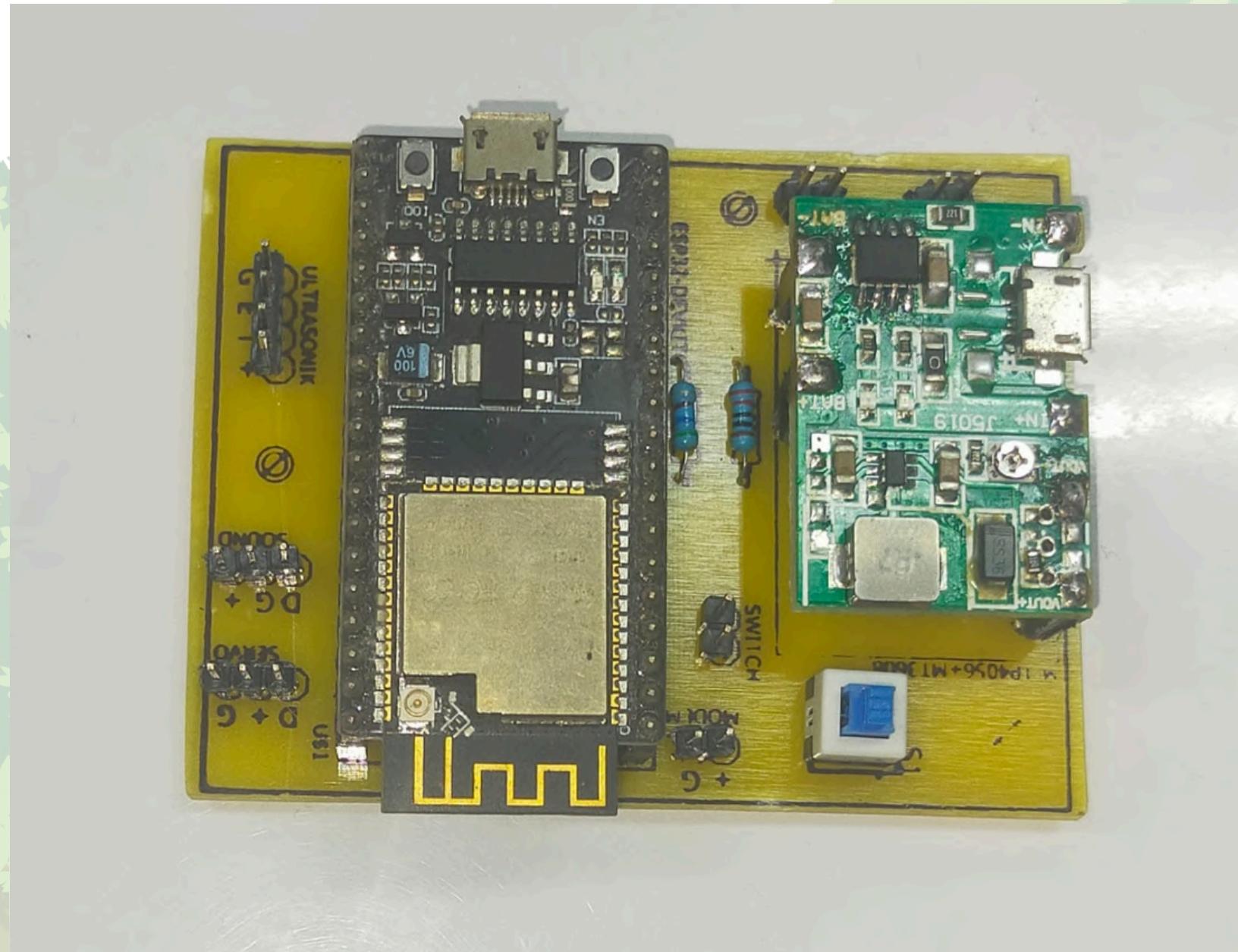
# Perancangan Konsep Produk



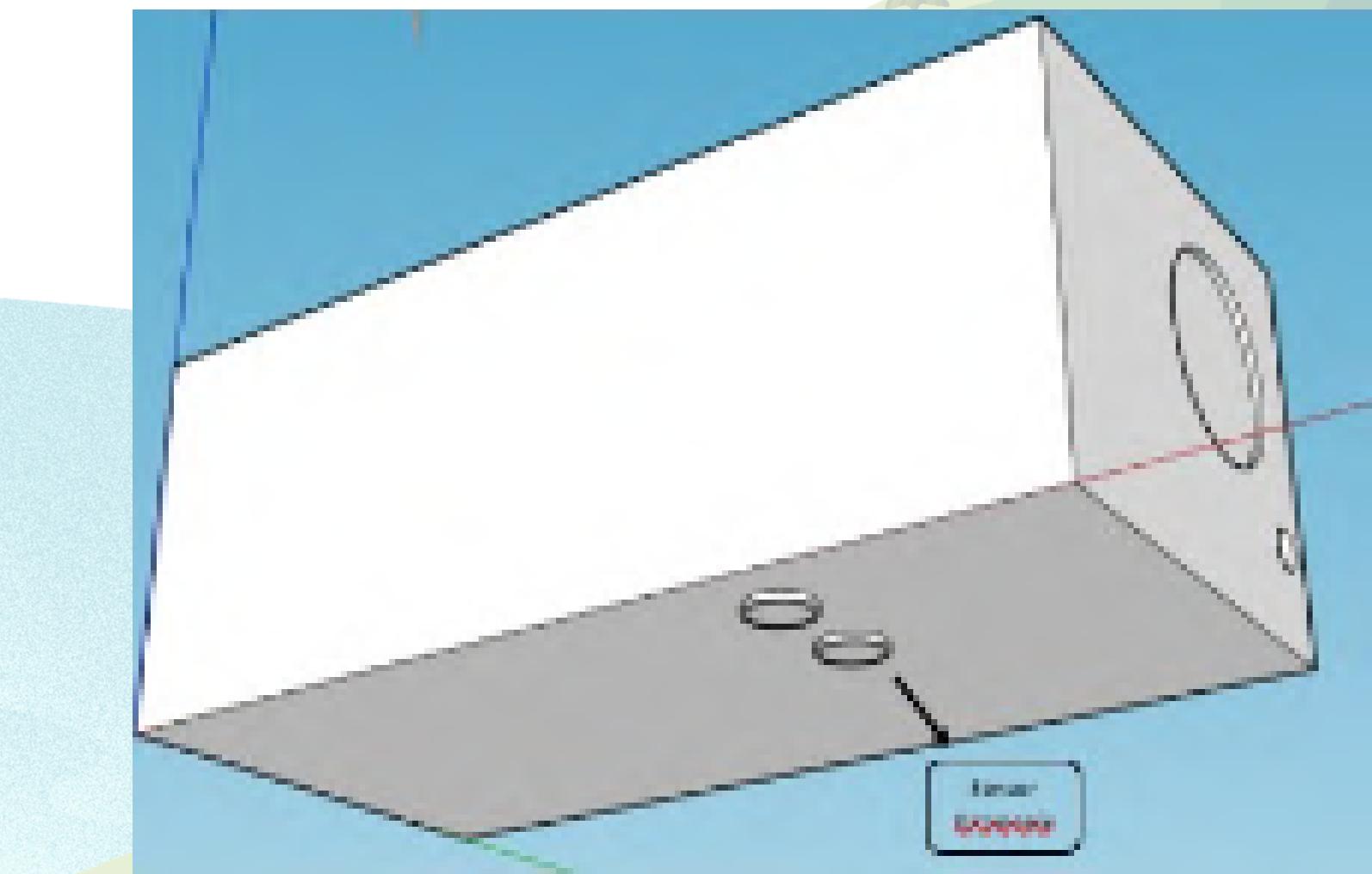
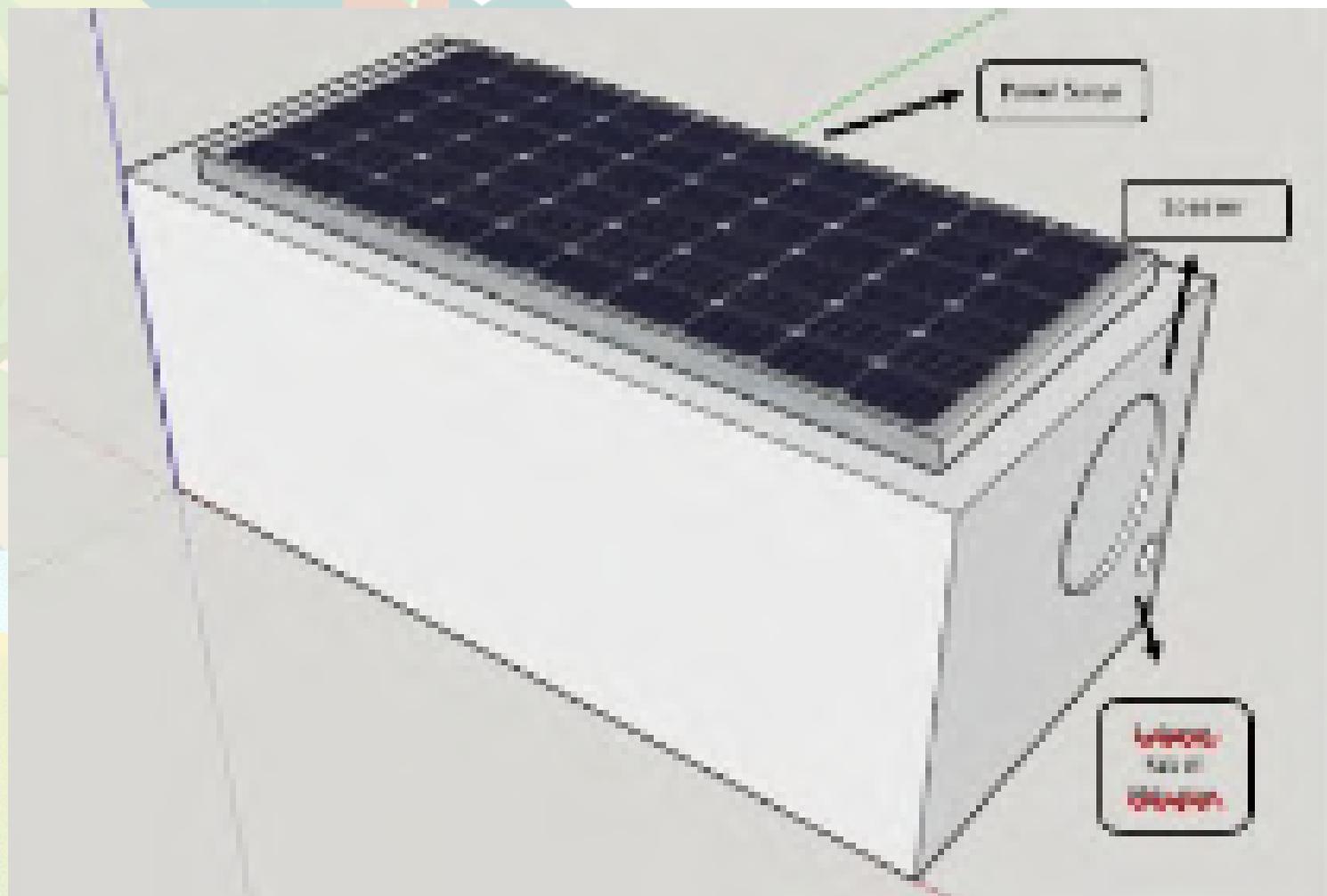
# Perancangan Konsep Produk



# Perancangan Konsep Produk



# Desain 3D



# Desain 3D



# Sketsa APK

User Login Screen

FLOPRO

Selamat Datang Kembali!

Masuk untuk mengakses dasbor anda

Nama Pengguna atau Email

Kata Sandi

Masuk

Lupa Kata Sandi

Daftar

User Registration

FLOPRO

Buat Akun

Nama Lengkap

Masukkan Nama Lengkap Anda

Alamat Email

Masukkan Email Anda

Tanggal Lahir

DD/MM/YYYY

Nama Pengguna

Pilih Nama Pengguna

Kata Sandi

Konfirmasi Kata Sandi

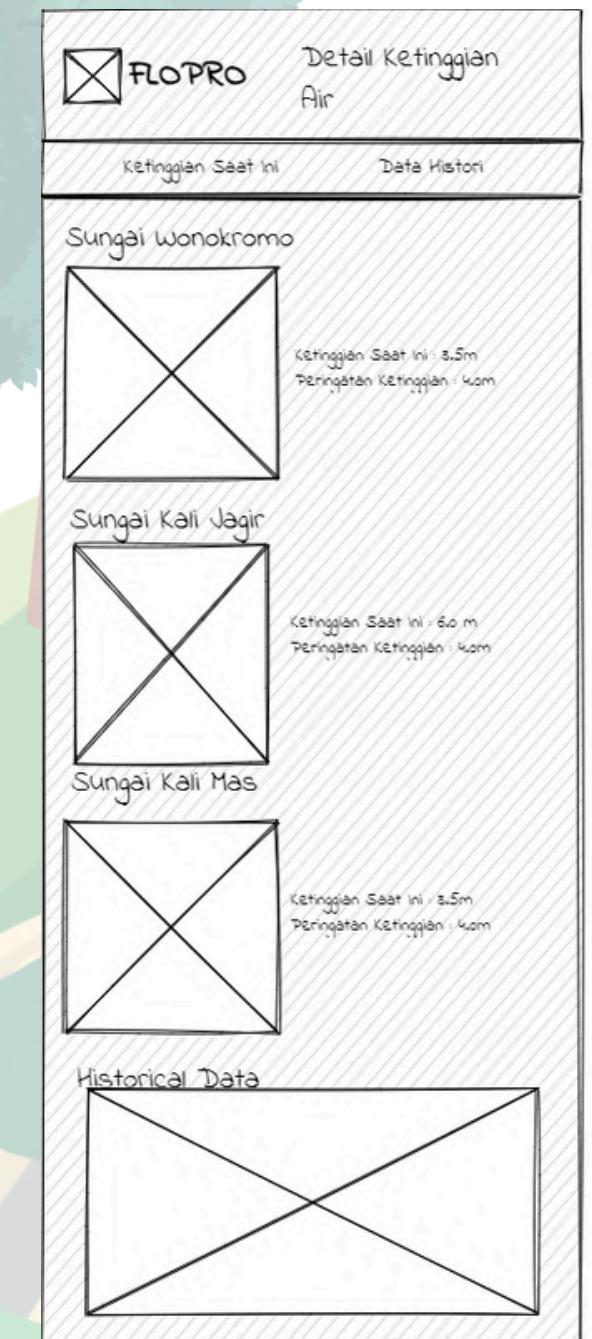
Konfirmasi Kata Sandi

Konfirmasi Kata Sandi Anda

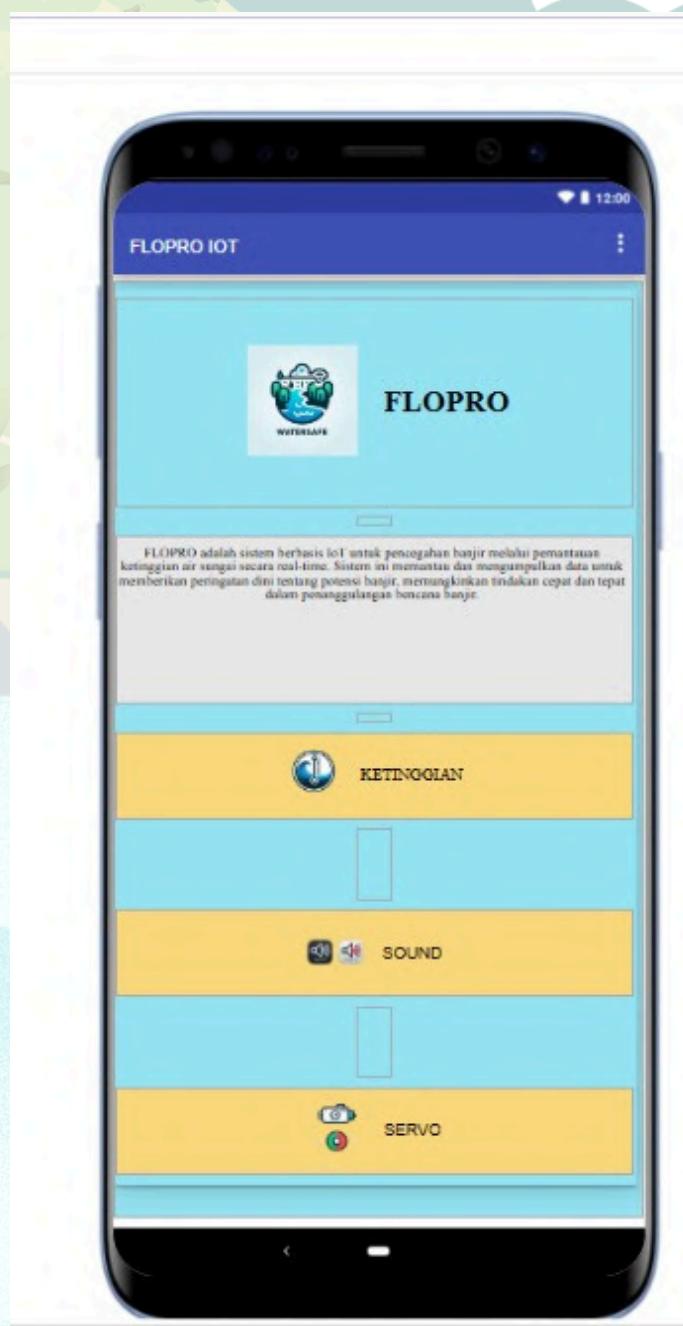
Daftar

Sudah memiliki akun? Masuk

Kebijakan Privasi



# Proses Pembuatan Aplikasi



# Preview Aplikasi FLOPRO



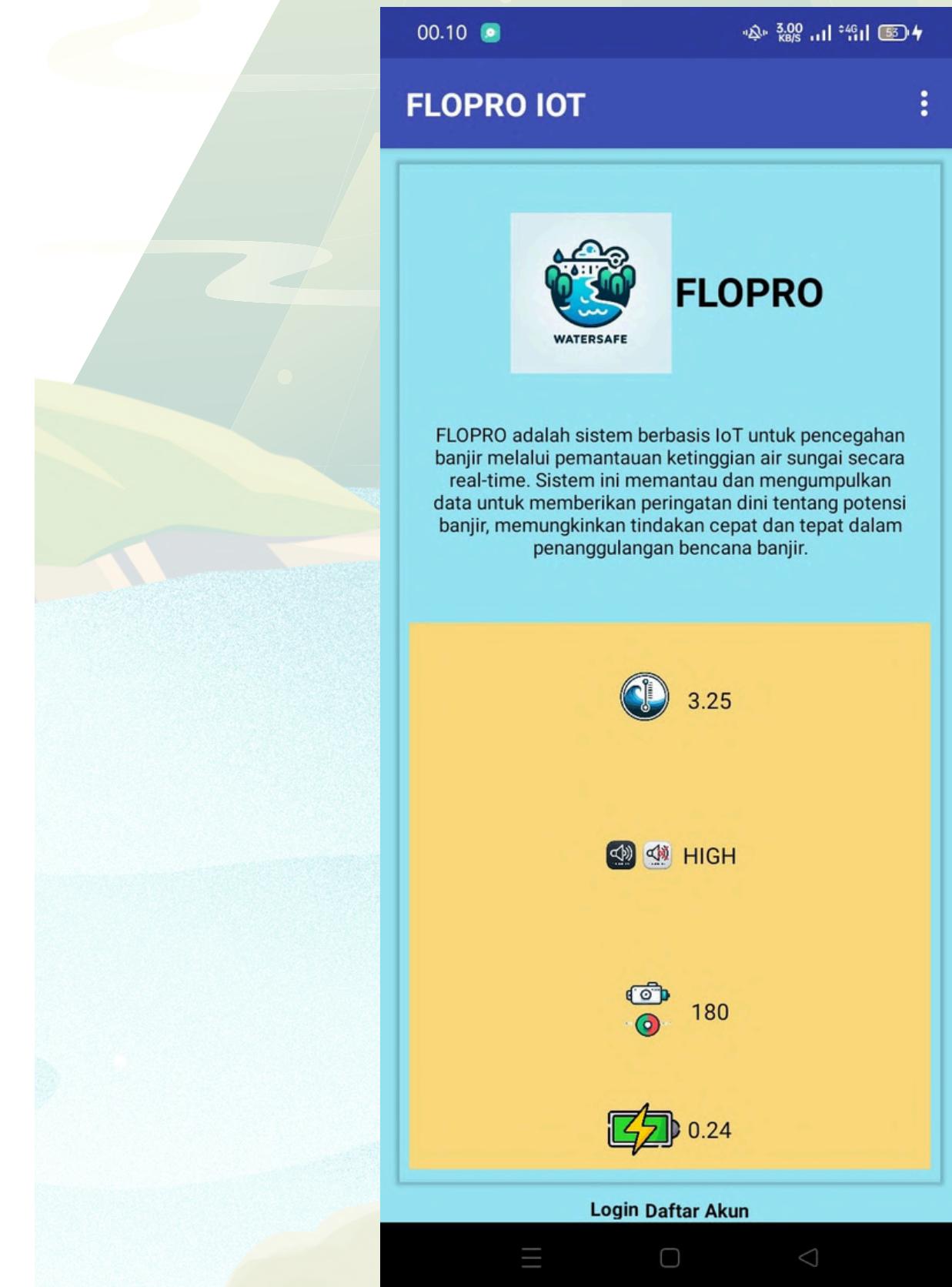
Login FLOPRO

Masukan Email

Masukan Password

**Login**

Belum Punya Akun? [Daftar Sekarang](#)



**FLOPRO**

Daftar Akun

**Masukan Nama**

**Masukan Email**

**Masukan Password**

**Konfirmasi Password**

**Daftar Akun**

Sudah Punya Akun?

[Login Sekarang](#)

# Block Programming Aplikasi (Dashboard)

The image shows a Scratch script for a dashboard application. The script consists of four main parts:

- Top Left:** A **when Label3 .Click** hat block with a **do [open another screen screenName Login]** script.
- Top Right:** A **when Label4 .Click** hat block with a **do [open another screen screenName Daftar\_Akun]** script.
- Middle Left:** A **when Clock1 Timer** hat block with a **do** script containing:
  - set UrsAI2MQTT1 Broker to "broker.hivemq.com"**
  - set UrsAI2MQTT1 Port to 1883**
  - set UrsAI2MQTT1 Client ID to "Flopro IOT/android/001"**
  - set UrsAI2MQTT1 UserName to "helloguys"**
  - set UrsAI2MQTT1 Password to "11111111"**
  - call UrsAI2MQTT1 .Connect** with **CleanSession true**
  - call UrsAI2MQTT1 .Subscribe** with **Topic odypens/jarak** and **QoS 0**
  - call UrsAI2MQTT1 .Subscribe** with **Topic odypens/servo** and **QoS 0**
  - call UrsAI2MQTT1 .Subscribe** with **Topic odypens/sound** and **QoS 0**
  - call UrsAI2MQTT1 .Subscribe** with **Topic odypens/vbatt** and **QoS 0**
- Middle Right:** A **when UrsAI2MQTT1 PublishedReceived** hat block with a **do** script containing:
  - if [compare texts get Topic = "odypens/jarak"] then [set Text\_Jarak Text to get Message]**
  - if [compare texts get Topic = "odypens/servo"] then [set Text\_Servo Text to get Message]**
  - if [compare texts get Topic = "odypens/sound"] then [set Text\_Sound Text to get Message]**
  - if [compare texts get Topic = "odypens/vbatt"] then [set Text\_Baterai Text to get Message]**

# Block Programming Aplikasi

## (Login)

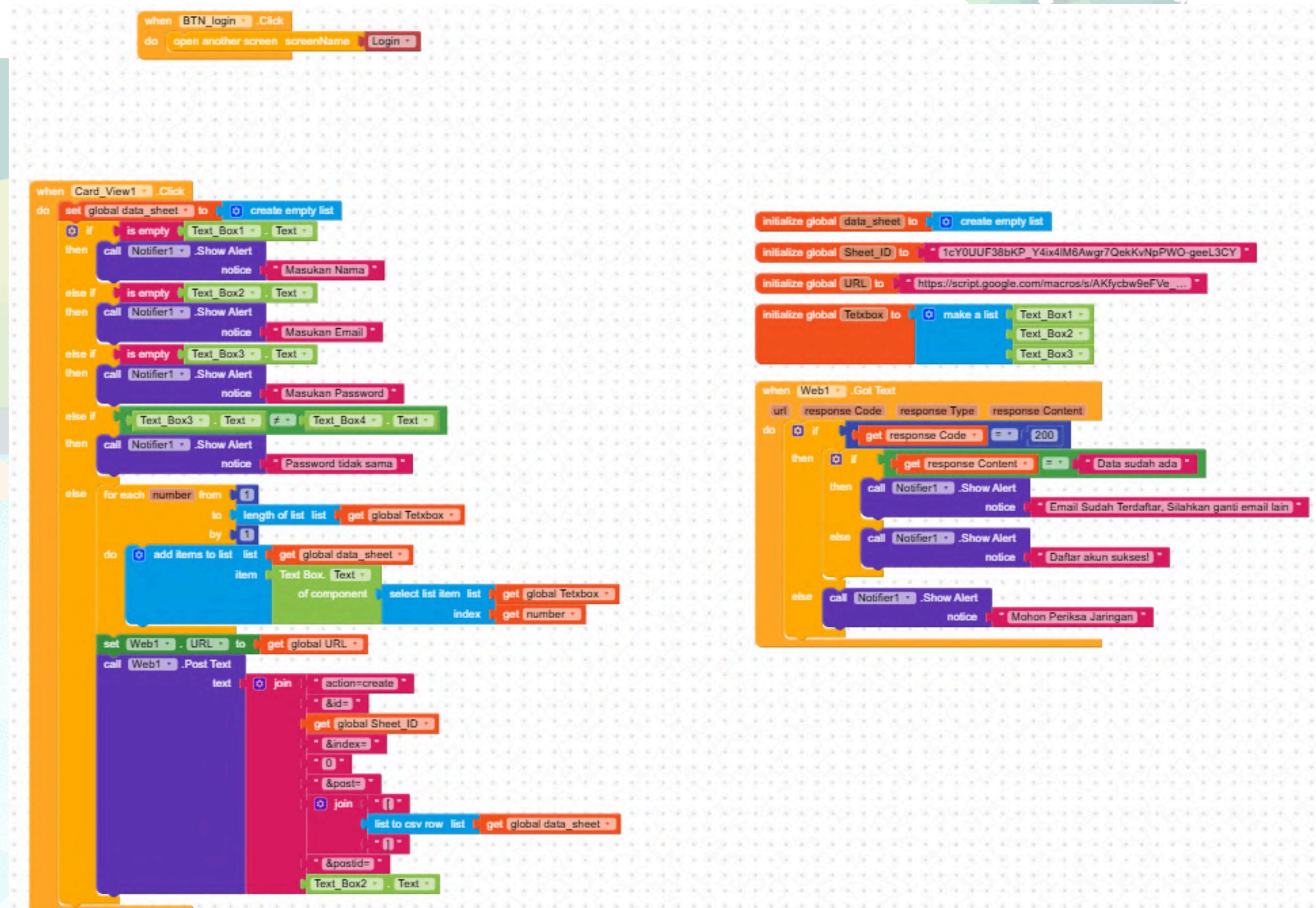
```
when [Login] initialize
do
  set [Web1 URL] to [get global URL]
  call [Web1 Post Text v1]
  text: [join "action=read&id=" [get global Sheet_ID]&index=0]
  do
    if [get response Code] = 200
      then
        set [global data_sheet] to [call [Web1 JSON Text Decode v1] json Text]
        remove list item [list] [get global data_sheet]
        index: [1]
        for each [item] in [list]
          get [global data_sheet]
          do
            add items to list [list] [get global name]
            item: [select list item [list] [get item]]
            index: [1]
            add items to list [list] [get global email]
            item: [select list item [list] [get item]]
            index: [2]
            add items to list [list] [get global password]
            item: [select list item [list] [get item]]
            index: [3]
        else
          call [Notifier1 Show Alert v1]
          notice: [Gagal mengambil data]
    end
  end
end

when [Label6 Click]
do
  open another screen [screenName: Dafar_Akun]
  initialize global [data_sheet] to [create empty list]
  initialize global [names] to [create empty list]
  initialize global [password] to [create empty list]
  initialize global [email] to [create empty list]
  initialize global [Sheet_ID] to [1cY0UUFP38bKP_Y4x4IM6Awgr7QekKvNpPWO-geel3CY]
  initialize global [URL] to [https://script.google.com/macros/s/AKfycbw9eFVe...]

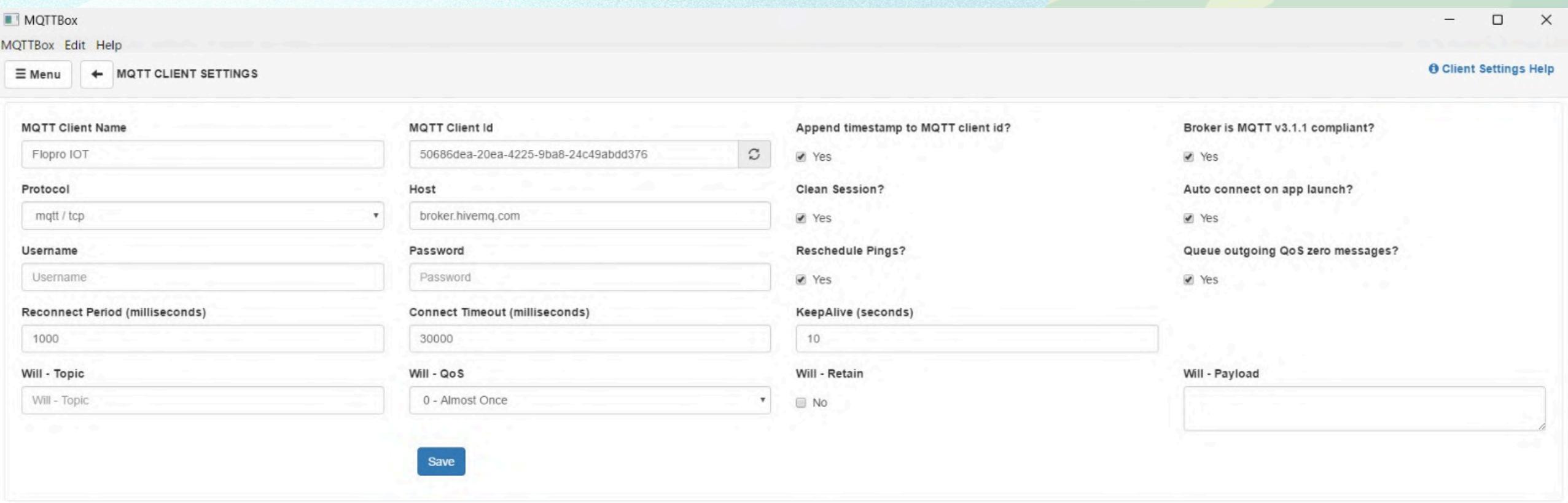
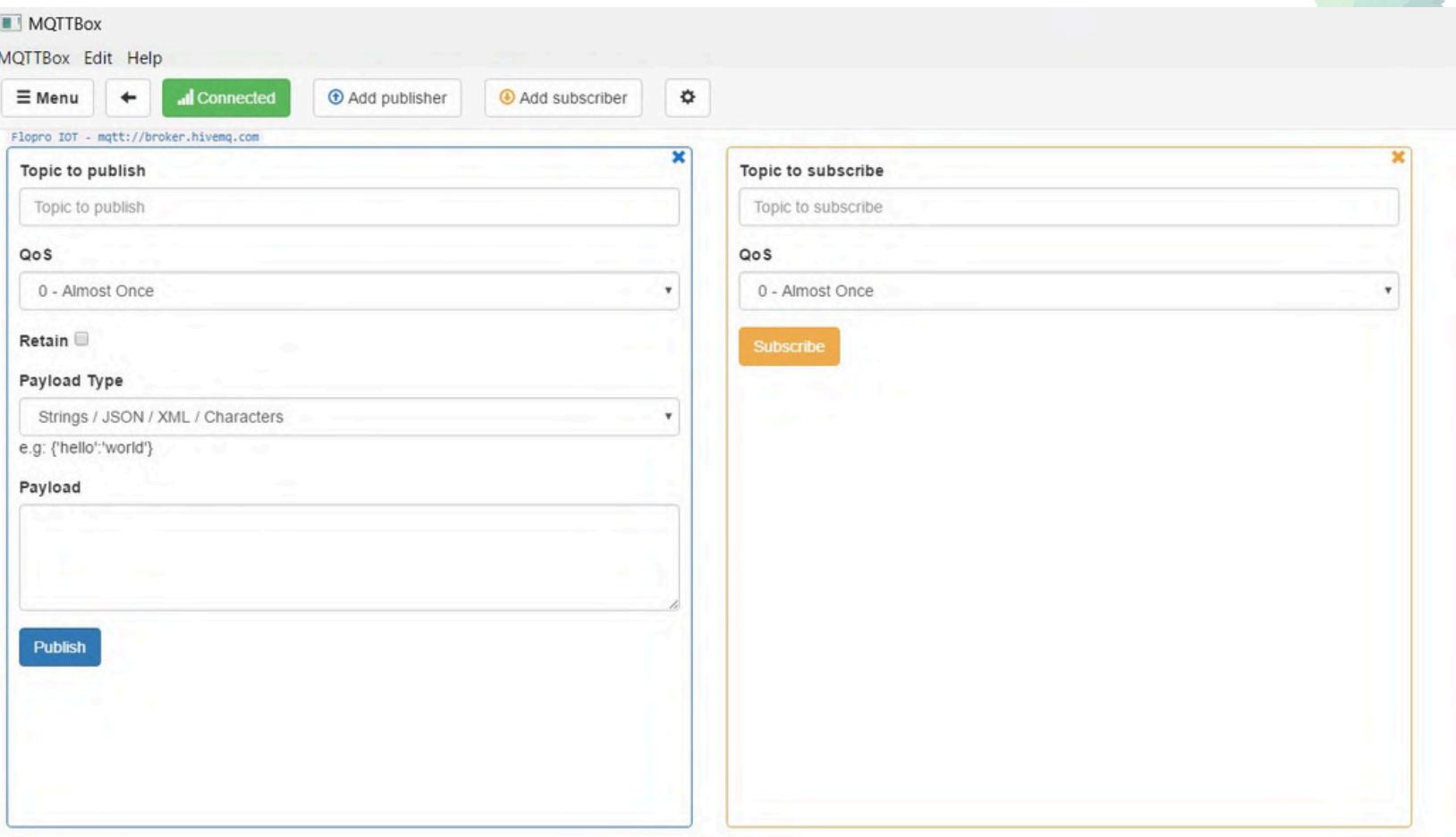
when [Card_View1 Click]
do
  if [Text_Box1 Text] is empty
    then
      call [Notifier1 Show Alert v1]
      notice: [Masukan Email]
    else if [Text_Box2 Text] is empty
      then
        call [Notifier1 Show Alert v1]
        notice: [Masukan Password]
      else if [Text_Box1 Text] not in [list]
        then
          get [global email]
          call [Notifier1 Show Alert v1]
          notice: [Email tidak tersedia]
        else if [Text_Box2 Text] ≠ [select list item [list] [get global password]]
          then
            index: [index in list [thing] [Text_Box1 Text] [list] [get global email]]
            index in list [thing] [Text_Box1 Text] [list] [get global email]
            call [Notifier1 Show Alert v1]
            notice: [Password Salah]
          else
            open another screen [screenName: Screen1]
        end
      end
    end
  end
end
```

# Block Programming Aplikasi

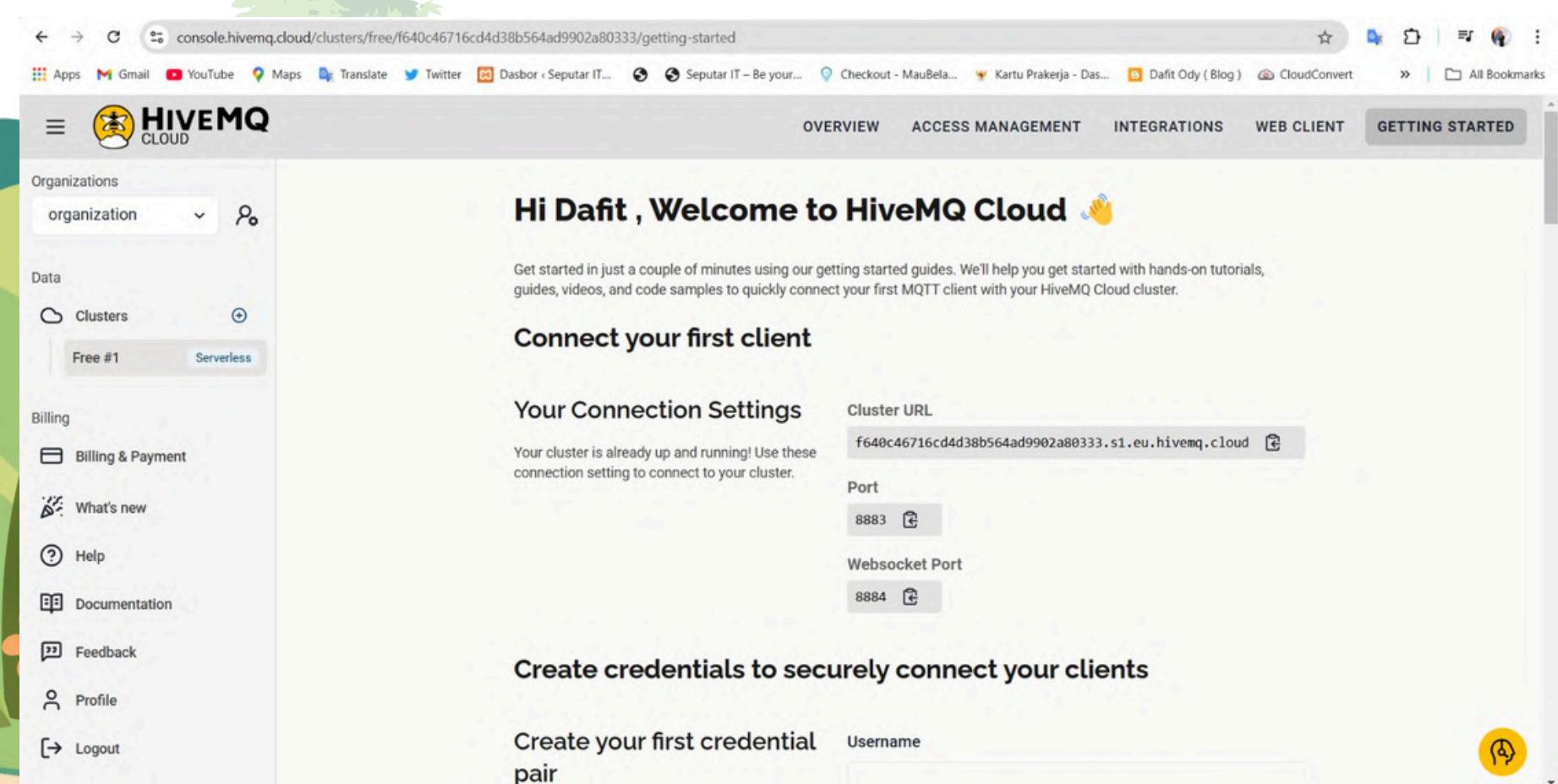
## (Daftar Akun)



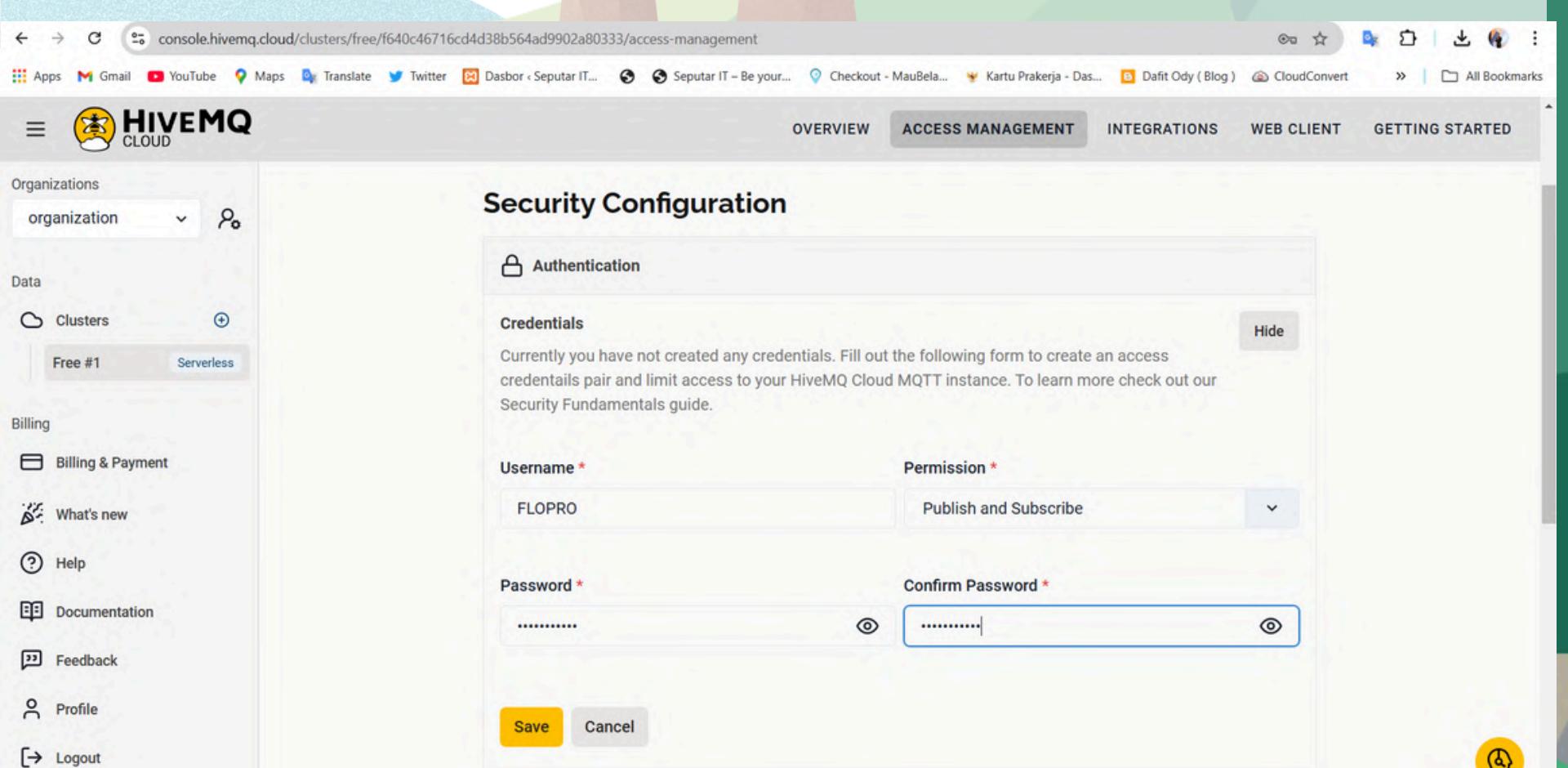
# Konfigurasi MQTT



# Konfigurasi MQTT



The screenshot shows the HiveMQ Cloud 'Getting Started' page. It features a sidebar with links for Organizations, Data (Clusters, Free #1, Serverless), Billing, Help, Documentation, Feedback, Profile, and Logout. The main content area displays a welcome message 'Hi Dafit, Welcome to HiveMQ Cloud' with a yellow hand icon. It includes sections for 'Your Connection Settings' (Cluster URL: f640c46716cd4d38b564ad9902a80333.s1.eu.hivemq.cloud, Port: 8883, Websocket Port: 8884) and 'Create credentials to securely connect your clients'. A 'Create your first credential pair' button is present.



The screenshot shows the HiveMQ Cloud 'Access Management' page. It has a sidebar with the same navigation as the first page. The main content is titled 'Security Configuration' under the 'Authentication' section. It includes a 'Credentials' section with a note about creating access credentials. A form is provided for creating a new credential, with fields for 'Username\*' (FLOPRO), 'Permission\*' (Publish and Subscribe), 'Password\*', and 'Confirm Password\*'. Buttons for 'Save' and 'Cancel' are at the bottom.

# Konfigurasi MQTT

4.\_MQTT\_Percobaan\_FLOPRO | Arduino 1.8.19

File Edit Sketch Tools Help



4.\_MQTT\_Percobaan\_FLOPRO

```
1 #include <WiFi.h>
2 #include <MQTT.h>
3 #include <ESP32Servo.h>
4
5 // Konfigurasi WiFi dan MQTT
6 const char ssid[] = "helloguys"; //SSID WiFi
7 const char pass[] = "11111111"; //Password WiFi
8 const char* mqtt_server = "broker.hivemq.com"; //MQTT Broker
9 const char* client_id = "Flopro IOT"; //Client ID
10
11 #define Echo 16
12 #define Trigger 17
13 #define pServo 23
14 #define Sound 18
15 #define Batt 35
```

4.\_MQTT\_Percobaan\_FLOPRO

```
64 rBatt= (analogRead(Batt) + 88) * 3.33 / 4095;
65 vBatt= rBatt * (560 + 220) / 560;
66 Serial.print(vBatt);
67 client.publish("odypens/vbatt", String(vBatt));
68
69
70 if (millis() - mSonik >= 50) {
71   mSonik = millis();
72   BacaSensor();
73 }
74
75 if (millis() - mSerial >= 1000) {
76   mSerial = millis();
77   Serial.println("Jarak: " + String(Jarak) + " cm");
78   client.publish("odypens/jarak", String(Jarak));
79 }
80
81 if (Jarak < jMin) {
82   servo.write(180);
83   Serial.println("Servo aktif: 180 derajat");
84   digitalWrite(Sound, HIGH);
85   Serial.println("Sound aktif");
86   client.publish("odypens/servo", "180");
87   delay(100);
88   digitalWrite(Sound, LOW);
89   Serial.println("Sound mati");
```

**Harga Pokok Produksi (HPP) = Biaya Variabel /  
Kapasitas Produksi**

$$= 3.200.000 / 4$$

$$= 800.000$$

**Omzet Per Bulan = Harga Jual Produk x  
Kapasitas Produksi per Bulan**

$$= 1.600.000 \times 4$$

$$= 6.400.000$$

**HARGA POKOK  
PRODUKSI**

**800.000**

- **Laba Bersih per Bulan = Omzet per Bulan - Biaya Variabel per Bulan**

$$= 6.400.000 - 3.200.000$$

$$= 3.200.000$$

- **Return Cost Ratio (R/C)**

R/C ratio yaitu adalah jumlah ratio yang dipakai guna melihat keuntunganrelatif yang nantinya akan diperoleh pada sebuah proyek atau sebuah usaha.

- **R/C Ratio = Pemasukan 1 tahun / Pengeluaran 1 tahun =  $(6.400.000 \times 12) / (3.200.000 + (3.200.000 \times 12)) = 76.800.000 / 41.600.000 = 1,880341 = 1,84$**

R/C Ratio memiliki nilai >1 atau lebih tepatnya adalah 1,84. Sehingga mengartikan bahwa usaha ini sangat layak untuk dilaksanakan dan memiliki keuntungan yang menjanjikan.

- **Proyeksi Keuangan Usaha**

Berikut ini adalah proyeksi keuangan FLOPRO selama 3 tahun, dengan pertumbuhan penjualan sebesar 10 % tiap 6 bulan. Dan pertumbuhan biaya operasional sebesar 5% per tahun

Tahun Ke -	Jumlah Pcs	Omzet (Pemasukan)	Operasional (Pengeluaran)	Laba Bersih
1	50	Rp. 80.000.000	Rp. 40.000.000	Rp. 40.000.000
2	60	Rp. 96.000.000	Rp. 50.400.000	Rp. 45.600.000
3	70	Rp. 112.000.000	Rp. 58.800.000	Rp. 53.200.000

**RETURN COST  
RATIO  
1,84**



# Pertanyaan



Terimakasih