LAMPIRAN A

Daftar Program Arduino Ide

A. Program RTC

```
#include "RTClib.h"
RTC_DS3231 rtc;
int tanggal, bulan, tahun, jam, menit, detik,  jam1, jam2,
menit1, menit2;
char dataHari[7][12] = {"Minggu", "Senin", "Selasa",
"Rabu", "Kamis", "Jum'at,", "Sabtu"};
String hari;
void setup() {
 Serial.begin(115200);
#ifndef ESP8266
  while (!Serial);
#endif
    if (! rtc.begin()) {
    Serial.println("RTC Tidak Ditemukan");
    Serial.flush();
    abort();
  }
  //Atur Waktu
  //rtc.adjust(DateTime(F(__DATE__), F(__TIME__)));
 // rtc.adjust(DateTime(2022, 5, 26, 23, 26, 0));
}
void loop() {
  DateTime now = rtc.now();
  hari    = dataHari [now.dayOfTheWeek()];
  tanggal = now.day(), DEC;
  bulan   = now.month(), DEC;
  tahun   = now.year(), DEC;
  jam     = now.hour(), DEC;
  menit   = now.minute(), DEC;
  detik   = now.second(), DEC;
```

```
  Serial.println(String() + hari +"," + tanggal +"-" + bulan +
"-" + tahun);
  Serial.println(String() + jam + ":" + menit + ":" + detik);
  Serial.println();
  delay(500);
}
```

B. Program Sensor Turbidity

```
static float kekeruhan;
static float teg;
void setup() {
  Serial.begin(115200);
}
void loop() {
  int val = analogRead(0);
  teg = val*(5/1024);
  kekeruhan = 100.00-(teg/5)*100.00;
  Serial.print (teg);
  Serial.print("    ");
  Serial.print(" Nilai ADC = ");
  Serial.print(val);
  Serial.print(" Nilai Kekeruhan = ");
  Serial.print(kekeruhan);
  Serial.println (" NTU");
}
```

C. Program Sensor Ultrasonik

```
int trigPin = 12;
int echoPin = 14;
int durasi, jarak;
void setup() {
  Serial.begin(115200);
  pinMode(trigPin, OUTPUT);
  pinMode(echoPin, INPUT);
}
```

```
void loop() {
  digitalWrite(trigPin, LOW);
  delayMicroseconds(8);
  digitalWrite(trigPin, HIGH);
  delayMicroseconds(8);
  digitalWrite(trigPin, LOW);
  delayMicroseconds(8);
durasi = pulseIn(echoPin, HIGH);
  jarak = durasi * 0.034 / 2  ;
  Serial.println(jarak);
  delay(500);
}
```

D. Program Pakan Ikan

```
#include <ESP8266WiFi.h>
#include <FirebaseArduino.h>
#define FIREBASE_HOST "coba-default-
rtdb.firebaseio.com"
#define FIREBASE_AUTH
"XFD2vh29PFnggoxJA08k1KGL6dWROgHMe2N1Oh"
#define WIFI_SSID "Samsung A22"
#define WIFI_PASSWORD "qwer1234"
#include "RTClib.h"
RTC_DS3231 rtc;
int jam, menit, detik,  jam1, jam2, menit1, menit2;
#include<Servo.h>
Servo motorServo;
void setup() {
  Serial.begin(115200);
motorServo.attach(16);
#ifndef ESP8266
  while (!Serial);
#endif
  if (! rtc.begin()) {
    Serial.println("RTC Tidak Ditemukan");
```

```
    Serial.flush();
    abort();
  }
  //rtc.adjust(DateTime(F(__DATE__), F(__TIME__)));
 // rtc.adjust(DateTime(2022, 5, 26, 23, 26, 0));
WiFi.begin(WIFI_SSID, WIFI_PASSWORD);
  Serial.print("connecting");
  while (WiFi.status() != WL_CONNECTED) {
    Serial.print(".");
    delay(500);
  }
  Serial.println();
  Serial.print("connected: ");
  Serial.println(WiFi.localIP());

  Firebase.begin(FIREBASE_HOST, FIREBASE_AUTH);
}
void loop() {
  DateTime now = rtc.now();
  jam     = now.hour(), DEC;
  menit   = now.minute(), DEC;
  detik   = now.second(), DEC;
  Serial.println(String() + jam + ":" + menit + ":" + detik);
  Serial.println();
String j1, j2, m1, m2;
  j1 = Firebase.getString("absd/jam1");
  m1 = Firebase.getString("absd/menit1");
  j2 = Firebase.getString("absd/jam2");
  m2 = Firebase.getString("absd/menit2");
  jam1 = j1.toInt ();
  menit1 = m1.toInt();
  jam2 = j2.toInt ();
  menit2 = m2.toInt();
```

```
if(jam == jam1 & menit == menit1 & detik <= 30 || jam ==
jam2 & menit == menit2 & detik<=30){
   motorServo.write(180);
   delay(500);
   motorServo.write(0);
   delay(500);
  }
}
```

E. Program Penggantian Air

```
int relay1 = 2;
int relay2 = 13;
void setup() {
  Serial.begin(115200);
  pinMode(relay1, OUTPUT);
  pinMode(relay2, OUTPUT);
}
void loop() {
     if (kekeruhan>=10){       // kondisi keruh
    if(jarak>=7 && jarak<=20){
      digitalWrite(relay1,HIGH);
      digitalWrite(relay2,LOW);
     delay(500);
      }
    else if(jarak>=23 ){          // jarak setengah
     digitalWrite(relay1,LOW);
     delay(500);
     }
    else if(jarak>=10 ){          // isi
     digitalWrite(relay2,HIGH);
     delay(500);
    }
    else if(jarak<=10 && a==1){         // jarak penuh
    digitalWrite(relay2,LOW);
delay(500);
```

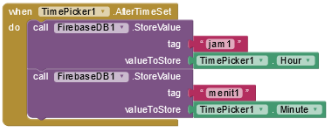
```
}
  }
  else if(kekeruhan <=10){
     digitalWrite(relay1,LOW);
    if (jarak>=10){
     digitalWrite(relay2,HIGH);
     delay(500);
    }

    else if(jarak<=10){
     digitalWrite(relay2,LOW);
     delay(500);
    }
  }
}
```

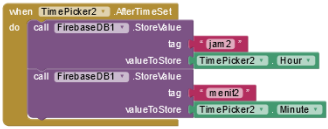
LAMPIRAN B

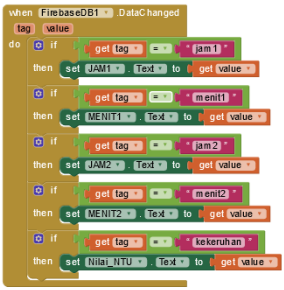
Tampilan Aplikasi Android

LAMPIRAN C

Blok Program Aplikasi Android



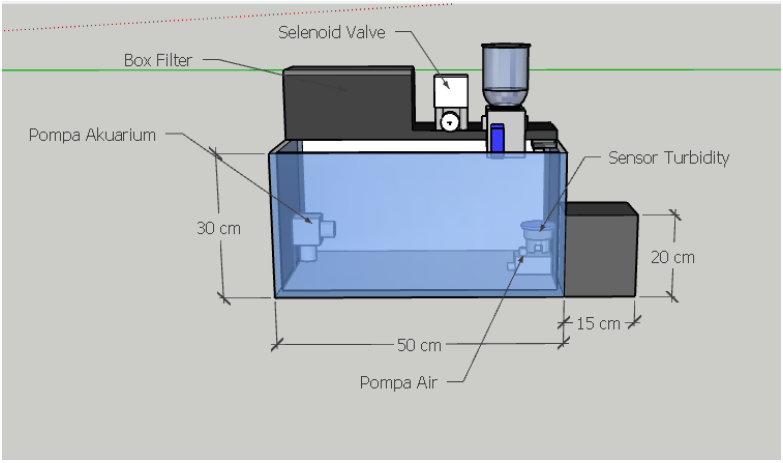
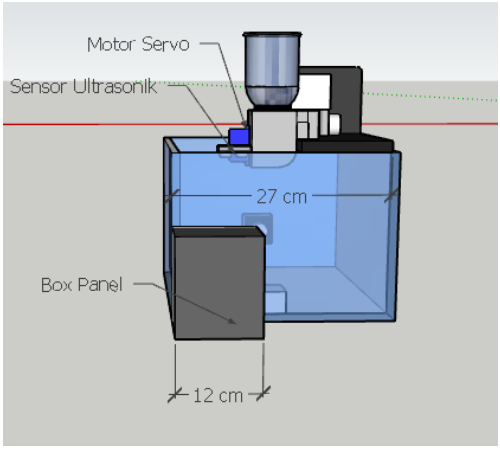




LAMPIRAN D

Desain Mekanik Alat

1. Tampak Depan



2. Tampak Samping