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LAMPIRAN

Lampiran 1 Source Code Program Arduino

PROGRAMARDUINO.cpp

```
#include <Wire.h>

#include <LiquidCrystal_I2C.h>

#include <SoftwareSerial.h>

#include <HX711_ADC.h>

#include "RTClib.h"

#define rx 46

#define tx 47

#define DT4 5

#define SCK4 7

#define DT3 9

#define SCK3 11

#define DT2 13

#define SCK2 15

#define DT1 17

#define SCK1 19

#define button4 A1
```

PROGRAMARDUINO.cpp

```
#define button3 A3

#define button2 A5

#define button1 A7

#define IR4 A9

#define IR3 A11

#define IR2 A13

#define IR1 A15

float massa1, massa2, massa3, massa4;

unsigned long waktu = 0;

unsigned long waktuRst = 0;

unsigned long RstLCD = 0;

unsigned long RstRTC = 0;

static boolean newDataReady = 0;

boolean wadah1, wadah2, wadah3, wadah4;

String dataWaktu;

HX711_ADC LoadCell_1(DT1, SCK1);

HX711_ADC LoadCell_2(DT2, SCK2);

HX711_ADC LoadCell_3(DT3, SCK3);
```

```
PROGRAMARDUINO.cpp
```

```
HX711_ADC LoadCell_4(DT4, SCK4);
```

```
SoftwareSerial serialToESP(rx, tx);
```

```
LiquidCrystal_I2C lcd(0x27,16,2);
```

```
RTC_DS3231 rtc;
```

```
void setup(){
```

```
Serial.begin(9600);
```

```
serialToESP.begin (9600);
```

```
pinMode(button1,INPUT_PULLUP);
```

```
pinMode(button2,INPUT_PULLUP);
```

```
pinMode(button3,INPUT_PULLUP);
```

```
pinMode(button4,INPUT_PULLUP);
```

```
pinMode(IR1,INPUT);
```

```
pinMode(IR2,INPUT);
```

```
pinMode(IR3,INPUT);
```

```
pinMode(IR4,INPUT);
```

```
lcd.init();
```

```
lcd.init();
```

```
lcd.backlight();
```

```
if (! rtc.begin()) {Serial.println("Couldn't find RTC");Serial.flush();abort();}
```

PROGRAMARDUINO.cpp

```
LoadCell_1.begin();

LoadCell_2.begin();

LoadCell_3.begin();

LoadCell_4.begin();

boolean _tare = true;

byte loadcell_1_rdy = 0;

byte loadcell_2_rdy = 0;

byte loadcell_3_rdy = 0;

byte loadcell_4_rdy = 0;

while ((loadcell_1_rdy + loadcell_2_rdy + loadcell_3_rdy + loadcell_4_rdy) <
4) {

    if (!loadcell_1_rdy) loadcell_1_rdy = LoadCell_1.startMultiple(2000,
_tare);

    if (!loadcell_2_rdy) loadcell_2_rdy = LoadCell_2.startMultiple(2000,
_tare);

    if (!loadcell_3_rdy) loadcell_3_rdy = LoadCell_3.startMultiple(2000,
_tare);

    if (!loadcell_4_rdy) loadcell_4_rdy = LoadCell_4.startMultiple(2000,
_tare);}

    if (LoadCell_1.getTareTimeoutFlag()) {Serial.println("Timeout, check
MCU>HX711 no.1 wiring and pin designations");}
```

```
PROGRAMARDUINO.cpp
```

```
    if (LoadCell_2.getTareTimeoutFlag()) {Serial.println("Timeout, check  
MCU>HX711 no.2 wiring and pin designations");}
```

```
    if (LoadCell_3.getTareTimeoutFlag()) {Serial.println("Timeout, check  
MCU>HX711 no.3 wiring and pin designations");}
```

```
    if (LoadCell_4.getTareTimeoutFlag()) {Serial.println("Timeout, check  
MCU>HX711 no.4 wiring and pin designations");}
```

```
    LoadCell_1.setCalFactor(18.20);
```

```
    LoadCell_2.setCalFactor(19.84);
```

```
    LoadCell_3.setCalFactor(18.19);
```

```
    LoadCell_4.setCalFactor(18.34);
```

```
    LoadCell_1.tareNoDelay();
```

```
    LoadCell_2.tareNoDelay();
```

```
    LoadCell_3.tareNoDelay();
```

```
    LoadCell_4.tareNoDelay();
```

```
    delay(1000);
```

```
}
```

```
void loop(){
```

```
    DateTime now = rtc.now();
```

```
    dataWaktu = String (now.hour())+ ":" + String(now.minute()) + ":" +  
String(now.second());
```

PROGRAMARDUINO.cpp

```
if (digitalRead(IR1)==0) {wadah1=1;}

if (digitalRead(IR1)==1) {wadah1=0;}

if (digitalRead(IR2)==0) {wadah2=1;}

if (digitalRead(IR2)==1) {wadah2=0;}

if (digitalRead(IR3)==0) {wadah3=1;}

if (digitalRead(IR3)==1) {wadah3=0;}

if (digitalRead(IR4)==0) {wadah4=1;}

if (digitalRead(IR4)==1) {wadah4=0;}

waktu=millis();

if ((waktu-waktuRst) >= 50) {

    LoadCell_1.update();LoadCell_2.update();LoadCell_3.update();LoadCell
_4.update();

    massa1 = LoadCell_1.getData();

    massa2 = LoadCell_2.getData();

    massa3 = LoadCell_3.getData();

    massa4 = LoadCell_4.getData();

    if (massa1<50.0){massa1=0.0;}

    if (massa2<50.0){massa2=0.0;}

    if (massa3<50.0){massa3=0.0;}
```


PROGRAMARDUINO.cpp

```
        if (massa4<50.0){ massa4=0.0;}

        lcd.setCursor(0,0);lcd.print(massa1);lcd.print("g");
lcd.setCursor(8,0);lcd.print(massa2);lcd.print("g");

        lcd.setCursor(0,1);lcd.print(massa3);lcd.print("g");
lcd.setCursor(8,1);lcd.print(massa4);lcd.print("g");

        waktuRst=waktu; }

if ((waktu-RstLCD) >=5000) {lcd.clear();RstLCD=waktu;}

if (digitalRead(button1)==0) {LoadCell_1.tareNoDelay();}

if (digitalRead(button2)==0) {LoadCell_2.tareNoDelay();}

if (digitalRead(button3)==0) {LoadCell_3.tareNoDelay();}

if (digitalRead(button4)==0) {LoadCell_4.tareNoDelay();}

if ((waktu-RstRTC) >=20000) {serialToESP.print
("#"+dataWaktu+"#+String(wadah1)+"#+String(wadah2)+"#+String(wadah3)+"#+
String(wadah4)+"#+String(massa1,1)
+"#+String(massa2,1)+"#+String(massa3,1)+"#+String(massa4,1)+"#+"$");
RstRTC=waktu;}

}
```

Lampiran 2 Source Code Program WEMOS

PROGRAMWEMOS.cpp

```
#include <ESP8266WiFi.h>

#include <FirebaseESP8266.h>

#include <SoftwareSerial.h>

#define FIREBASE_HOST "https://my-project-b13b6.firebaseio.com/"
// "https://hanatest-80048-default-rtdb.firebaseio.com/"

#define FIREBASE_AUTH "AIzaSyC9-11Y98yRhQXJJd9M-k0KnQU2HZHV54"

#define WIFI_SSID "Xandria"

#define WIFI_PASSWORD "password"

#define rx D5

#define tx D6

String inData, data[15];

bool parsing=false;

int wadah1,wadah2,wadah3,wadah4;

float massa1,masa2,masa3,masa4;

String dataWaktu;

SoftwareSerial serialToNano(rx,tx);
```

PROGRAMWEMOS.cpp

```
FirebaseData firebaseData;

void setup() {
    Serial.begin(9600);

    serialToNano.begin(9600);

    WiFi.begin (WIFI_SSID, WIFI_PASSWORD);

    while (WiFi.status() != WL_CONNECTED) {Serial.print (".");delay (500);}

    Firebase.begin(FIREBASE_HOST, FIREBASE_AUTH);

    Firebase.reconnectWiFi(true);
}

void loop() {

    while (serialToNano.available()>0){char inChar=serialToNano.read();
inData+=inChar; if(inChar=='$'){parsing=true;};

    if (parsing){int indeks=0;

        for (int x=0; x<inData.length(); x++) {

            if (inData[x]=='#'){indeks++;data[indeks]="";}

            else {data[indeks]+=inData[x];}

        }
    }
}
```

PROGRAMWEMOS.cpp

```
Serial.println(inData);

dataWaktu= data[1];

wadah1= data[2].toInt();

wadah2= data[3].toInt();

wadah3= data[4].toInt();

wadah4= data[5].toInt();

massa1= data[6].toFloat();

massa2= data[7].toFloat();

massa3= data[8].toFloat();

massa4= data[9].toFloat();

Serial.println (dataWaktu);

Serial.println (wadah1);

Serial.println (wadah2);

Serial.println (wadah3);

Serial.println (wadah4);

Serial.println (massa1);

Serial.println (massa2);

Serial.println (massa3);

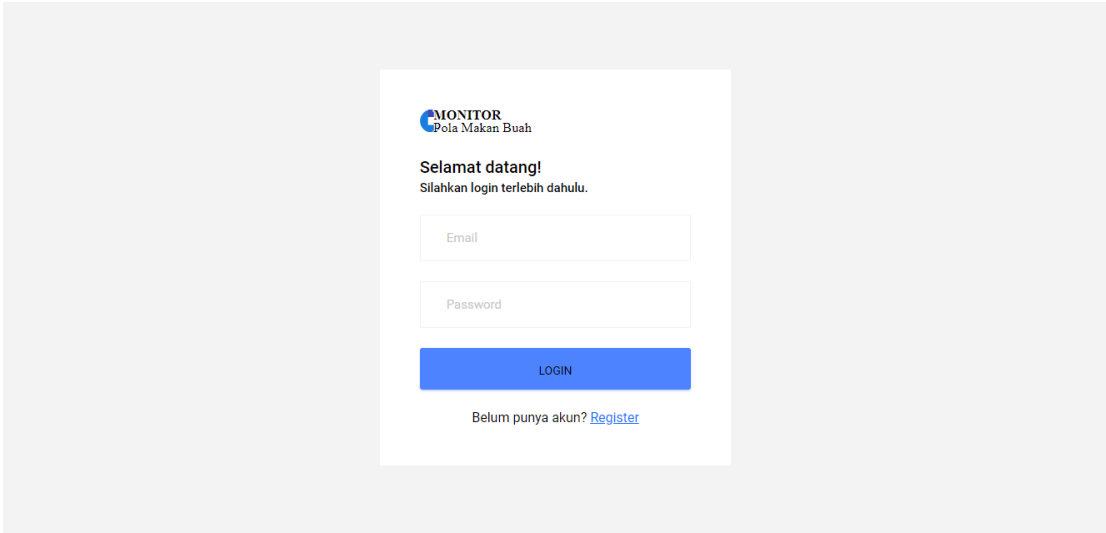
Serial.println (massa4);
```

PROGRAMWEMOS.cpp

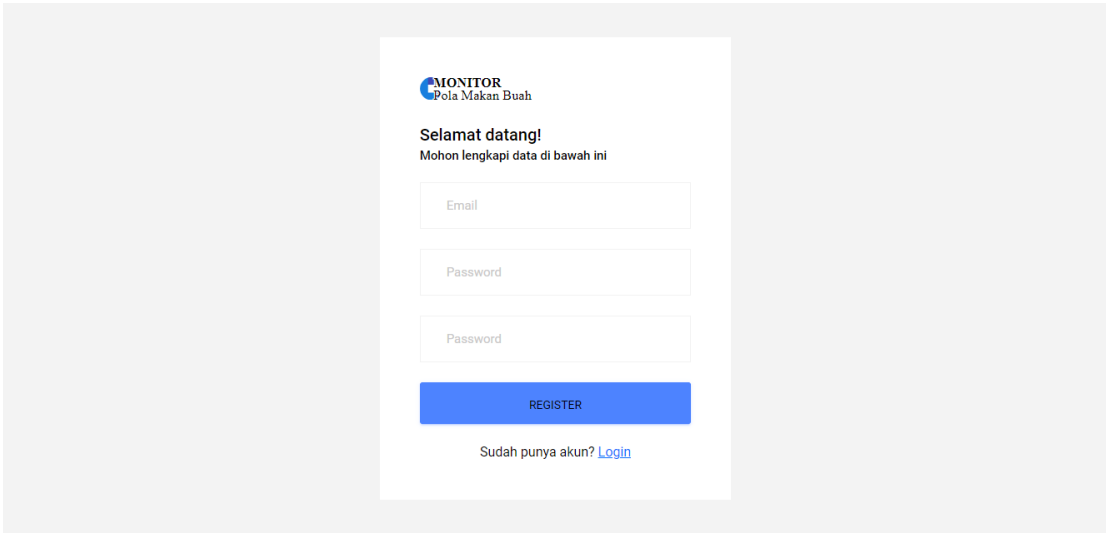
```
        String dataBuah = String(dataWaktu) + " " + String(wadah1) + " " +  
String(wadah2) + " " + String(wadah3) + " " + String(wadah4) + " " + String(massa1)  
+ " " + String(massa2) + " " + String(massa3) + " " + String(massa4) + " " ;  
  
        if (Firebase.ready()){Firebase.pushString(firebaseData, "/MONITORING  
BUAH/DATA",dataBuah);}  
  
        parsing=false;  
  
        inData="";  
  
    }}  
}
```

Lampiran 3 Tampilan Aplikasi Website

Halaman *Login*:



Halaman *Register*:



Halaman *Dashboard*:

MONITOR
Pola Makan Buah

iespacexandria@gmail.com

Dashboard

Tabel

Info

Selamat datang,

Website monitoring pola makan buah lansia.

DATA TERAKHIR

- Apel 0.00 gram
- Jeruk 0.00 gram
- Anggur 0.00 gram
- Pisang 0.00 gram

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Halaman *Tabel*:

MONITOR
Pola Makan Buah

iespacexandria@gmail.com

Dashboard

Tabel

Info

TABEL RIWAYAT

Waktu	Apel	Jeruk	Anggur	Pisang
26/13:18:36	266.30	198.80	696.50	639.20
26/13:19:37	266.60	196.60	713.30	646.60
26/13:20:36	267.70	194.60	762.10	661.60
26/13:21:36	270.70	191.80	767.30	672.90
26/13:22:37	279.30	189.40	796.00	684.30
26/13:23:36	277.20	188.20	800.20	690.20
26/13:24:36	266.90	184.50	810.80	697.20

Lampiran 4 Gambar Sistem



Lampiran 5 Gambar Sistem Saat Proses Perekaman Data







