LAMPIRAN

Lampiran 1.

1. Program Minimum Sistem

```
#define WAKTU 3000
long code1, code2, code3, code4, code5, code6, HRG1, HRG2,
HRG3, HRG4, HRG5;
String TLL, AK, BR1, BR2, BR3, BR4, BR5, lcdHRG1, lcdHRG2,
lcdHRG3, lcdHRG4, lcdHRG5, TNGGL1, TNGGL2, TNGGL3,
TNGGL4, TNGGL5;
#include <Keypad.h>
const byte rows = 4;
const byte cols = 4;
char keys[rows][cols] = {
  {'1','2','3','A'},
  {'4','5','6','B'},
  {'7','8','9','C'},
  {'*','0','#','D'}
};
byte rowPins[rows] = {22, 24, 26, 28};
byte colPins[cols] = {30, 32, 34, 36};
Keypad      keypad      =      Keypad(makeKeymap(keys),rowPins,
colPins,rows, cols);
/////////////////////////////////////////////////////////////////////////
#include <Wire.h>
#include <LiquidCrystal_PCF8574.h>
LiquidCrystal_PCF8574 lcd(0x27);
/////////////////////////////////////////////////////////////////////////
long data1 = 0;
long second = 0;
long total,boh;
int pindah=0;
```

```cpp
int      kamar1=0,      kamar2=0,      kamar3=0,      kamar4=0;
/////////////////////////////////////////////////////////////////////////
const int buttonPin = 46;
int buttonState = 0;
const int buttonPin2 = 4;
int switchdp = 0;
const int buttonPin3 = 5;
int switchbk = 0;
const int buttonPin4 = 2;
int SENSOR = 0;
int cnt=0;
#define doorclok 6
#define motor1 40
#define motor2 42
/////////////////////////////////////////////////////////////////////////
#include <hidboot.h>
#include <hiduniversal.h>
String DataBarcode;
bool x = false;
class KbdRptParser : public KeyboardReportParser
{
    void PrintKey(uint8_t mod, uint8_t key);
  protected:
    void OnControlKeysChanged(uint8_t before, uint8_t after);
    void OnKeyDown  (uint8_t mod, uint8_t key);
    void OnKeyUp  (uint8_t mod, uint8_t key);
    void OnKeyPressed(uint8_t key);
};
void KbdRptParser::PrintKey(uint8_t m, uint8_t key)
{
  MODIFIERKEYS mod;
```

```cpp
  *((uint8_t*)&mod) = m;
}
void KbdRptParser::OnKeyDown(uint8_t mod, uint8_t key)
{
  PrintKey(mod, key);
  uint8_t c = OemToAscii(mod, key);
  if (c)
    OnKeyPressed(c);
}
void KbdRptParser::OnControlKeysChanged(uint8_t before, uint8_t after) {
  MODIFIERKEYS beforeMod;
  *((uint8_t*)&beforeMod) = before;
  MODIFIERKEYS afterMod;
  *((uint8_t*)&afterMod) = after;
}
void KbdRptParser::OnKeyUp(uint8_t mod, uint8_t key)
{
  //Serial.print("UP ");
  //PrintKey(mod, key);
}
void KbdRptParser::OnKeyPressed(uint8_t key)
{
  //Serial.print((char)key);
  if (key == 0x0D){
    x = true;
   //lcd.print("1");
  }
  else{
   DataBarcode += (char)key;
  }
}
```

```cpp
USB Usb;
HIDUniversal Hid(&Usb);
KbdRptParser Prs;
void setup()
{
  Serial.begin(9600);
  lcd.begin(20, 4);
  lcd.setBacklight(255);
  lcd.clear();
  pinMode(buttonPin, INPUT);
  pinMode(buttonPin2, INPUT);
  pinMode(buttonPin3, INPUT);
  pinMode(buttonPin4, INPUT);
  pinMode(motor1, OUTPUT);
  pinMode(motor2, OUTPUT);
  pinMode(doorclok, OUTPUT);
  digitalWrite(doorclok, LOW);
  digitalWrite(motor1, HIGH);
  digitalWrite(motor2, HIGH);
  Serial.println("Start");
  if (Usb.Init() == -1)
    Serial.println("OSC did not start.");
  delay( 200 );
  Hid.SetReportParser(0, &Prs);
   lcd.setCursor(6,0);
   lcd.print("SILAHKAN");
   lcd.setCursor(4,1);
   lcd.print("PILIH BARANG");
pindah=0;
}
void loop()
{
```

```
while (pindah==0)
{
////////////////////////////////     SET    YANG    BISA    DIGANTI
////////////////////////////////////////////////////////////////
code1="3856013213206";
BR1="aquamaris";
TNGGL1="5-2-25";
lcdHRG1="Rp 80000";
HRG1=80000;
////////////////////////////////////////////////////
code2="1389ID";
BR2="ALOE";
TNGGL2="21-1-21";
lcdHRG2="Rp 100000";
HRG2=100000;
////////////////////////////////////////////////////
code3="8998866105637";
BR3="LOVELY";
TNGGL3="20-2-20";
lcdHRG3="Rp 8500";
HRG3=8500;
////////////////////////////////////////////////////
code4="8991111109107";
BR4="WEDAK BABY";
TNGGL4="20-2-20";
lcdHRG4="Rp 12750";
HRG4=12750;
////////////////////////////////////////////////////
code5="32";
BR5="jh";
TNGGL5="kj";
lcdHRG4="Rp ";
```

```
            HRG5=77;
            //////////////////////////////////////////////////
code6="0942300000020763";
            /////////////////////////////////////////////////////////////////////////////////////
            /////////////////////////////////////////////////////////////
            Usb.Task();
            if (x){
               Serial.println(DataBarcode);
               x = false;
             DataBarcode = "";
             }
            char key0=keypad.getKey();
             if (DataBarcode==code1 || key0=='1')
             { lcd.clear();
              DataBarcode = "";
             data1=HRG1;
             AK=BR1;
             TLL=lcdHRG1;
            lcd.setCursor(0,0);
            lcd.print("NB=");
            lcd.print(BR1);
            lcd.setCursor(0,1);
            lcd.print("EX=");
            lcd.print(TNGGL1);
            lcd.setCursor(0,2);
            lcd.print("HRG=");
            lcd.print(lcdHRG1);
            lcd.setCursor(0,4);
            lcd.print("TL=");
            lcd.print(data1);
             }
             if (DataBarcode==code2 || key0=='2')
```

```
{ lcd.clear();
 DataBarcode = "";
data1=HRG2;
AK=BR2;
TLL=lcdHRG2;
lcd.setCursor(0,0);
lcd.print("NB=");
lcd.print(BR2);
lcd.setCursor(0,1);
lcd.print("EX=");
lcd.print(TNGGL2);
lcd.setCursor(0,2);
lcd.print("HRG=");
lcd.print(lcdHRG2);
lcd.setCursor(0,4);
lcd.print("TL=");
lcd.print(data1);
}
 if (DataBarcode==code3 || key0=='3')
 { lcd.clear();
 DataBarcode = "";
data1=HRG3;
AK=BR3;
TLL=lcdHRG3;
lcd.setCursor(0,0);
lcd.print("NB=");
lcd.print(BR3);
lcd.setCursor(0,1);
lcd.print("EX=");
lcd.print(TNGGL3);
lcd.setCursor(0,2);
lcd.print("HRG=");
```

```
lcd.print(lcdHRG3);
lcd.setCursor(0,4);
lcd.print("TL=");
lcd.print(data1);
 }
 if (DataBarcode==code4 || key0=='4')
 { lcd.clear();
  DataBarcode = "";
 data1=HRG4;
 AK=BR4;
 TLL=lcdHRG4;
lcd.setCursor(0,0);
lcd.print("NB=");
lcd.print(BR4);
lcd.setCursor(0,1);
lcd.print("EX=");
lcd.print(TNGGL4);
lcd.setCursor(0,2);
lcd.print("HRG=");
lcd.print(lcdHRG4);
lcd.setCursor(0,4);
lcd.print("TL=");
lcd.print(data1);
 }
 if (DataBarcode==code5 || key0=='5')
 { lcd.clear();
  DataBarcode = "";
 data1=HRG5;
 AK=BR5;
 TLL=lcdHRG5;
lcd.setCursor(0,0);
lcd.print("NB=");
```

```
lcd.print(BR5);
lcd.setCursor(0,1);
lcd.print("EX=");
lcd.print(TNGGL5);
lcd.setCursor(0,2);
lcd.print("HRG=");
lcd.print(lcdHRG5);
lcd.setCursor(0,4);
lcd.print("TL=");
lcd.print(data1);
 }  if (DataBarcode==code6 || key0=='A')
 { digitalWrite(doorclok,HIGH);
  DataBarcode = "";
 } if (key0=='B')
 { digitalWrite(doorclok,LOW);
  DataBarcode = "";
 }
while (key0=='#')
{
   ///////////////////////////////// MEMBUKA
digitalWrite(motor1, HIGH);
digitalWrite(motor2, LOW);
  switchdp = digitalRead(buttonPin2);
if (switchdp == HIGH)
{
digitalWrite(motor1, LOW);
digitalWrite(motor2, LOW);
kamar1=1;
}
while (kamar1==1)
{
int sensorValue = analogRead(A8);
```

```
if (sensorValue<=400)
{cnt++;
  data1= (total != 0 ? total : data1);
  total = data1 + second;
  lcd.setCursor(0,4);
  lcd.print("TL=");
  lcd.print(total);
  data1 = 0, second = 0;
for (long x=0; x <WAKTU; x++) {
    delay(1);
 if (x==500) {
Serial.print("NB=");
Serial.println(AK);
Serial.print("TL_JMLH_BRNG=");
Serial.println(cnt);
Serial.print("TL=");
Serial.println(total);
Serial.println("");
 }
}
kamar2=1;
}
while (kamar2==1)
{
digitalWrite(motor1, LOW);
digitalWrite(motor2, HIGH);
 switchbk= digitalRead(buttonPin3);
while (switchbk == HIGH)
{
digitalWrite(motor1, LOW);
digitalWrite(motor2, LOW);
pindah=1;
```

```
return;
}
  }
}
}
}
///////////////////////////////// prses ke 2/////////////////////////////
 while (pindah==1)
 {
Usb.Task();
if (x){
   //Serial.println(DataBarcode);
   x = false;
 DataBarcode = "";
 }
char key0=keypad.getKey();
if (DataBarcode==code1 || key0=='1')
 {lcd.clear();
  DataBarcode = "";
second=HRG1;
 AK=BR1;
lcd.setCursor(0,0);
lcd.print("NB=");
lcd.print(BR1);
lcd.setCursor(0,1);
lcd.print("EX=");
lcd.print(TNGGL1);
lcd.setCursor(0,2);
lcd.print("HRG=");
lcd.print(lcdHRG1);
lcd.setCursor(0,4);
lcd.print("TL=");
```

```
lcd.print(total);
}
if (DataBarcode==code2 || key0=='2')
 {lcd.clear();
  DataBarcode = "";
second=HRG2;
 AK=BR2;
lcd.setCursor(0,0);
lcd.print("NB=");
lcd.print(BR2);
lcd.setCursor(0,1);
lcd.print("EX=");
lcd.print(TNGGL2);
lcd.setCursor(0,2);
lcd.print("HRG=");
lcd.print(lcdHRG2);
lcd.setCursor(0,4);
lcd.print("TL=");
lcd.print(total);
}
if (DataBarcode==code3 || key0=='3')
 {lcd.clear();
  DataBarcode = "";
second=HRG3;
 AK=BR3;
lcd.setCursor(0,0);
lcd.print("NB=");
lcd.print(BR3);
lcd.setCursor(0,1);
lcd.print("EX=");
lcd.print(TNGGL3);
lcd.setCursor(0,2);
```

```
lcd.print("HRG=");
lcd.print(lcdHRG3);
lcd.setCursor(0,4);
lcd.print("TL=");
lcd.print(total);
}
if (DataBarcode==code4 || key0=='4')
 {lcd.clear();
  DataBarcode = "";
second=HRG4;
 AK=BR4;
lcd.setCursor(0,0);
lcd.print("NB=");
lcd.print(BR4);
lcd.setCursor(0,1);
lcd.print("EX=");
lcd.print(TNGGL4);
lcd.setCursor(0,2);
lcd.print("HRG=");
lcd.print(lcdHRG4);
lcd.setCursor(0,4);
lcd.print("TL=");
lcd.print(total);
}
if (DataBarcode==code5 || key0=='5')
 {lcd.clear();
  DataBarcode = "";
second=HRG5;
 AK=BR5;
lcd.setCursor(0,0);
lcd.print("NB=");
lcd.print(BR5);
```

```
lcd.setCursor(0,1);
lcd.print("EX=");
lcd.print(TNGGL5);
lcd.setCursor(0,2);
lcd.print("HRG=");
lcd.print(lcdHRG5);
lcd.setCursor(0,4);
lcd.print("TL=");
lcd.print(total);
}
  if (DataBarcode==code6 || key0=='A')
 { digitalWrite(doorclok,HIGH);
  DataBarcode = "";
 }
 if (key0=='B')
 { digitalWrite(doorclok,LOW);
  DataBarcode = "";
 }
while (key0=='#')
{
   ///////////////////////////////////// MEMBUKA
digitalWrite(motor1, HIGH);
digitalWrite(motor2, LOW);
  switchdp = digitalRead(buttonPin2);
if (switchdp == HIGH)
{
digitalWrite(motor1, LOW);
digitalWrite(motor2, LOW);
kamar3=1;
}
while (kamar3==1)
{
```

```
int sensorValue = analogRead(A8);
if (sensorValue<=400)
{   cnt++;
  data1= (total != 0 ? total : data1);
   total = data1 + second;
   lcd.setCursor(0,4);
   lcd.print("TL=");
   lcd.print(total);
   data1 = 0, second = 0;
for (long x=0; x <WAKTU; x++) {
      delay(1);
 if (x==500) {
Serial.print("NB=");
Serial.println(AK);
Serial.print("TL_JMLH_BRNG=");
Serial.println(cnt);
Serial.print("TL=");
Serial.println(total);
Serial.println("");
 }
}
kamar4=1;
}
while (kamar4==1)
{
digitalWrite(motor1, LOW);
digitalWrite(motor2, HIGH);
 switchbk= digitalRead(buttonPin3);
while (switchbk == HIGH)
{
digitalWrite(motor1, LOW);
digitalWrite(motor2, LOW);
```

```
kamar3=0;
kamar4=0;
return;
}
  }
}
}
}
}
```

2. Program Board ESP

```
#include <SoftwareSerial.h>
SoftwareSerial serial(D2,D3);
#include <ESP8266WiFi.h>
#include <WiFiClientSecure.h>
#include <UniversalTelegramBot.h>
char ssid[] = "Redmi Note 7";
char password[] = "popi9999";
#defineBOTtoken
"1865326888:AAG_BLvOh0rzwCTtFvvRvdMvzCpXcgmPBLU"
String chat_id = "1760815333" ;
WiFiClientSecure client;
UniversalTelegramBot bot(BOTtoken, client);
String data="";
void setup() {
 // Open serial communications and wait for port to open:
 Serial.begin(9600);
 serial.begin(9600);
 client.setInsecure();
  pinMode(D4, OUTPUT);
 WiFi.mode(WIFI_STA);
 WiFi.disconnect();
 delay(100);
```

```
// Attempt to connect to Wifi network:
Serial.print("Connecting Wifi: ");
Serial.println(ssid);
WiFi.begin(ssid, password);
while (WiFi.status() != WL_CONNECTED) {
  digitalWrite(D4, LOW);
  Serial.print(".");
  delay(500);
  digitalWrite(D4, HIGH);
  delay(500);
}
Serial.println("");
Serial.println("WiFi connected");
Serial.print("IP address: ");
Serial.println(WiFi.localIP());
bot.sendMessage(chat_id,"SISTEM TROLI OTOMATIS ON");
digitalWrite(D4, LOW);
}
void loop() { // run over and over
  while(serial.available()>0) {
   //Serial.write(Serial.read());
   delay(100);
char C=serial.read();
data+= C;
}
if (data.length()>0){
  String welcome ="";
  welcome += data;
   Serial.print(welcome);
  bot.sendMessage(chat_id,welcome);
  data="";
}
```