

Lampiran 1 Listing Program

a. Proses baca kondisi sensor bluetooth

```
while (BT.available())
{
    delay(10);
    char c = BT.read();
    perintah += c;
}
```

b. Kondisi baca relay, LCD, dan sinkronisasi manual *control* mobil

```
{
    valtombolstg = digitalRead(A1);
    if (valtombolstg != stattombolstg)
    {
        if (valtombolstg == HIGH)
        {
            digitalWrite(relay2, LOW);
            stattombolstg = valtombolstg;
        }
        else
        {
            digitalWrite(relay2, HIGH);
            stattombolstg = valtombolstg;
        } } }

{
    valtombolacc = digitalRead(A2);
    if (valtombolacc != stattombolacc)
    {
        if (valtombolacc == HIGH)
        {
            digitalWrite(relay3, LOW);
```

```

    stattombolacc = valtombolacc;
}
else
{
    digitalWrite(relay3, HIGH);
    stattombolacc = valtombolacc;
} } }
{
    valtombolig = digitalRead(A3);
    if (valtombolig != stattombolig)
    {
        if (valtombolig == HIGH)
        {
            digitalWrite(relay4, LOW);
            stattombolig = valtombolig;
        }
        else
        {
            digitalWrite(relay4, HIGH);
            stattombolig = valtombolig;
        } } }
    {
        valtombolst = digitalRead(A4);
        if (valtombolst != stattombolst)
        {
            if (valtombolst == HIGH)
            {
                digitalWrite(relay5, LOW);
                stattombolst = valtombolst;
            }
            else
            {

```

```

        digitalWrite(relay5, HIGH);
        stattombolst = valtombolst;
    } } }
{
    Serial.println(perintah);
    if (perintah == "hidup1"){
        lcd.clear();
        lcd.setCursor(02,00);
        lcd.print("Central Lock");
        lcd.setCursor(05,01);
        lcd.print("aktif");
        digitalWrite(relay1, HIGH);
        digitalWrite(relay6, HIGH);
    }
    else if (perintah == "mati1"){
        lcd.clear();
        digitalWrite(relay1, LOW);
        digitalWrite(relay6, LOW);
    }
    else if (perintah == "hidup2"){
        lcd.setCursor(02,00);
        lcd.print(" Kunci Stang");
        lcd.setCursor(05,01);
        lcd.print("aktif");
        digitalWrite(relay2, HIGH);
    }
    else if (perintah == "mati2"){
        lcd.clear();
        digitalWrite(relay2, LOW);
    }
    else if (perintah == "hidup3"){
        lcd.setCursor(00,00);

```

```
lcd.print("ACC (Accesories)");
lcd.setCursor(05,01);
lcd.print("aktif");
    digitalWrite(relay3, HIGH);
}
else if (perintah == "mati3"){
    lcd.clear();
    digitalWrite(relay3, LOW);
}
else if (perintah == "hidup4"){
    lcd.setCursor(00,00);
    lcd.print("IG/ON (Ignition)");
    lcd.setCursor(05,01);
    lcd.print("aktif");
    digitalWrite(relay4, HIGH);
}
else if (perintah == "mati4"){
    lcd.clear();
    digitalWrite(relay4, LOW);
}
else if (perintah == "hidup5"){
    lcd.setCursor(04,00);
    lcd.print("Starter");
    lcd.setCursor(05,01);
    lcd.print("aktif");
    digitalWrite(relay5, HIGH);
}
else if (perintah == "mati5"){
    lcd.clear();
    digitalWrite(relay5, LOW);
}
```



```
    perintah="";  
}
```

c. Program keseluruhan

```
#include <Button.h>  
#include <LiquidCrystal.h>  
LiquidCrystal lcd(12, 11, 5, 4, 3, 2);  
#include <SoftwareSerial.h>  
SoftwareSerial BT(0,1);  
  
int relay1 = 6;  
int relay2 = 7;  
int relay3 = 8;  
int relay4 = 9;  
int relay5 = 10;  
int relay6 = 13;  
  
int stattombolstg = 0; // A1  
int stattombolacc = 0; // A2  
int stattombolig = 0; // A3  
int stattombolst = 0; // A4  
  
int valtombolstg = 0;  
int valtombolacc = 0;  
int valtombolig = 0;  
int valtombolst = 0;
```

```
String perintah;
```

```
void setup() {
```

// put your setup code here, to run once:

```
BT.begin(9600);
```

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

```
lcd.begin(16,2);
```

```
pinMode(relay1, OUTPUT);
```

```
pinMode(relay2, OUTPUT);
```

```
pinMode(relay3, OUTPUT);
```

```
pinMode(relay4, OUTPUT);
```

```
pinMode(relay5, OUTPUT);
```

```
pinMode(relay6, OUTPUT);
```

```
lcd.setCursor(01,00);
```

```
lcd.print(" Welcome to ");
```

```
lcd.setCursor(01,01);
```

```
lcd.print("Emergency Key");
```

```
digitalWrite(A1, HIGH);
```

```
digitalWrite(A2, HIGH);
```

```
digitalWrite(A3, HIGH);
```

```
digitalWrite(A4, HIGH);
```

```
}
```

```
void loop() {
```

```
while (BT.available())
```

```
{
```

```
delay(10);
```

```
char c = BT.read();
```

```
perintah += c;
```

```
}
```

```
{
```

```
valtombolstg = digitalRead(A1);
```

```
if (valtombolstg != stattombolstg)
```

```
{
```

```

if (valtombolstg == HIGH)
{
    digitalWrite(relay2, LOW);
    stattombolstg = valtombolstg;
}
else
{
    digitalWrite(relay2, HIGH);
    stattombolstg = valtombolstg;
} } }
{
    valtombolacc = digitalRead(A2);
    if (valtombolacc != stattombolacc)
    {
        if (valtombolacc == HIGH)
        {
            digitalWrite(relay3, LOW);
            stattombolacc = valtombolacc;
        }
        else
        {
            digitalWrite(relay3, HIGH);
            stattombolacc = valtombolacc;
        } } }
{
    valtombolig = digitalRead(A3);
    if (valtombolig != stattombolig)
    {
        if (valtombolig == HIGH)
        {
            digitalWrite(relay4, LOW);
            stattombolig = valtombolig;

```

```

    }
    else
    {
        digitalWrite(relay4, HIGH);
        stattombolig = valtombolig;
    } } }
{
    valtombolst = digitalRead(A4);
    if (valtombolst != stattombolst)
    {
        if (valtombolst == HIGH)
        {
            digitalWrite(relay5, LOW);
            stattombolst = valtombolst;
        }
        else
        {
            digitalWrite(relay5, HIGH);
            stattombolst = valtombolst;
        } } }
    {
        Serial.println(perintah);
        if (perintah == "hidup1"){
            lcd.clear();
            lcd.setCursor(02,00);
            lcd.print("Central Lock");
            lcd.setCursor(05,01);
            lcd.print("aktif");
            digitalWrite(relay1, HIGH);
            digitalWrite(relay6, HIGH);
        }
        else if (perintah == "mati1"){

```



```

    lcd.clear();
    digitalWrite(relay1, LOW);
    digitalWrite(relay6, LOW);
}
else if (perintah == "hidup2"){
    lcd.setCursor(02,00);
    lcd.print(" Kunci Stang");
    lcd.setCursor(05,01);
    lcd.print("aktif");
    digitalWrite(relay2, HIGH);
}
else if (perintah == "mati2"){
    lcd.clear();
    digitalWrite(relay2, LOW);
}
else if (perintah == "hidup3"){
    lcd.setCursor(00,00);
    lcd.print("ACC (Accesories)");
    lcd.setCursor(05,01);
    lcd.print("aktif");
    digitalWrite(relay3, HIGH);
}
else if (perintah == "mati3"){
    lcd.clear();
    digitalWrite(relay3, LOW);
}
else if (perintah == "hidup4"){
    lcd.setCursor(00,00);
    lcd.print("IG/ON (Ignition)");
    lcd.setCursor(05,01);
    lcd.print("aktif");
    digitalWrite(relay4, HIGH);
}

```

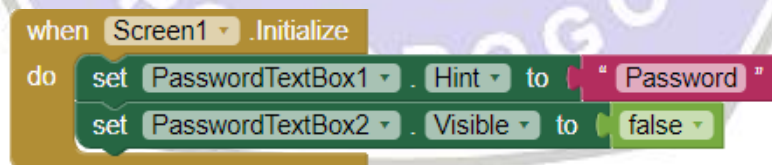
```

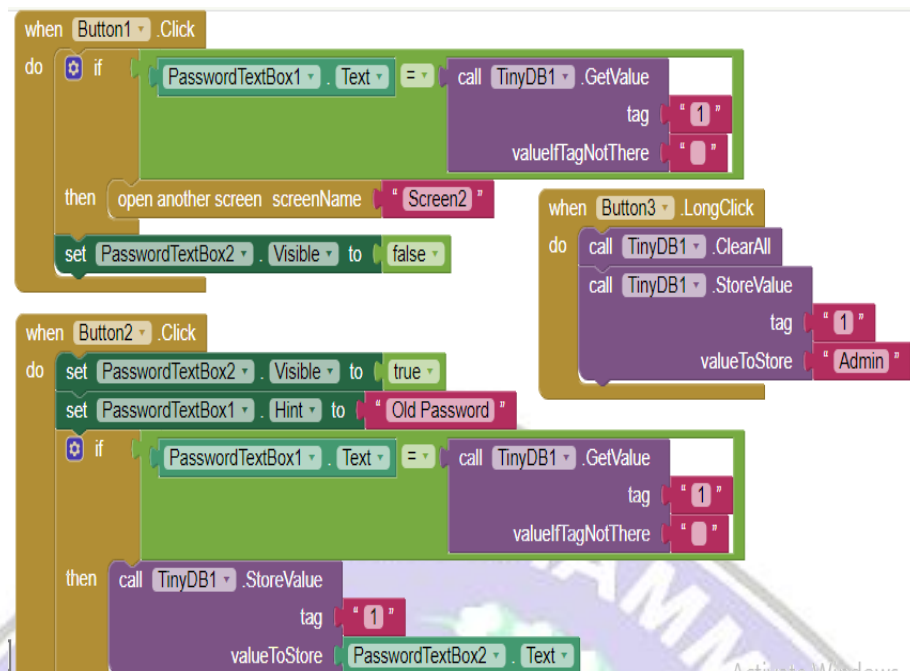
}
else if (perintah == "mati4"){
    lcd.clear();
    digitalWrite(relay4, LOW);
}
else if (perintah == "hidup5"){
    lcd.setCursor(04,00);
    lcd.print("Starter");
    lcd.setCursor(05,01);
    lcd.print("aktif");

    digitalWrite(relay5, HIGH);
}
else if (perintah == "mati5"){
    lcd.clear();
    digitalWrite(relay5, LOW);
}
perintah="";
}
}

```

d. Kondisi baca log in aplikasi kunci darurat mobil





e. Kondisi baca *screen 2* aplikasi kunci darurat mobil

