

SOFTWARE FUNCTIONALITY

THE BRAIN BEHIND THE PROJECT

A solid green horizontal bar spanning the width of the slide, located at the bottom.

PROGRAM FLOW

This piece of code is used to take Finger Print as input and take action according to validation of finger. If finger will be validated gate will be open otherwise remain closed.

```
for(int i=0;i<5;i++)
{
    lcd.clear();
    lcd.print("Place Finger");
    delay(2000);
    int result=getFingerprintIDez();
    if(result>=0)
    {
        digitalWrite(openLight, HIGH);
        digitalWrite(closeLight, LOW);
        lcd.clear();
        lcd.print("Allowed");
        lcd.setCursor(0,1);
        lcd.print("Gate Opened  ");
        myServo.write(0);
        delay(5000);
        myServo.write(180);
        digitalWrite(closeLight, HIGH);
        digitalWrite(openLight, LOW);
        lcd.setCursor(0,1);
        lcd.print("Gate Closed  ");
    }
}
```

```
void checkKeys()
{
    if(digitalRead(enroll) == 0)
    {
        lcd.clear();
        lcd.print("Please Wait");
        delay(1000);
        while(digitalRead(enroll) == 0);
        Enroll();
    }

    else if(digitalRead(del) == 0)
    {
        lcd.clear();
        lcd.print("Please Wait");
        delay(1000);
        delet();
    }
}
```

`void checkKeys()` function is used for checking Enroll or DEL key is pressed or not and what to do if pressed. If the ENROL key pressed the *Enroll()* function is called and DEL key press then *delete()* function is called.

```
uint8_t deleteFingerprint(uint8_t id)
{
    uint8_t p = -1;
    lcd.clear();
    lcd.print("Please wait");
    p = finger.deleteModel(id);
    if (p == FINGERPRINT_OK)
    {
        Serial.println("Deleted!");
        lcd.clear();
        lcd.print("Figer Deleted");
        lcd.setCursor(0,1);
        lcd.print("Successfully");
        delay(1000);
    }

    else
    {
        Serial.print("Something Wrong");
        lcd.clear();
        lcd.print("Something Wrong");
        lcd.setCursor(0,1);
        lcd.print("Try Again Later");
        delay(2000);
        return p;
    }
}
```

The above function is used for entering ID to be deleted and calling *uint8_t deleteFingerprint(uint8_t id)* function that will delete finger from records.

```
void delet()
{
    int count=0;
    lcd.clear();
    lcd.print("Delete Finger  ");
    lcd.setCursor(0,1);
    lcd.print("Location:");
    while(1)
    {
        lcd.setCursor(9,1);
        lcd.print(count);
        if(digitalRead(up) == 0)
        {
            count++;
            if(count>25)
            count=0;
            delay(500);
        }
    }
}
```

The above function is used for delete finger print from the record of selected ID.

```
uint8_t getFingerprintEnroll()
{
    int p = -1;
    lcd.clear();
    lcd.print("finger ID:");
    lcd.print(id);
    lcd.setCursor(0,1);
    lcd.print("Place Finger");
    delay(2000);
    while (p != FINGERPRINT_OK)
    {
        p = finger.getImage();
        .....
        .....
    }
```

The above function is used to taking finger print image and convert them into the template and save it by selected ID into the finger print module memory.