**FINGERPRINT BASED LIFT OPERATING SYSTEM**

 **DESCRIPTION:**

According to ancient Greek scripts BIOMETRICS means study of life. Biometrics studies commonly include fingerprint, face, iris, voice, signature, and hand geometry recognition and verification. Many other modalities are in various stages of development and assessment. Among these available biometric traits, Finger Print proves to be one of the best traits providing good mismatch ratio and also reliable. To provide perfect security and to make our work easier, we are taking the help of two different technologies viz. EMBEDDED SYSTEMS and BIOMETRICS.

 Firstly discussing about Biometrics we are concentrating on Fingerprint scanning. For this, we are using FIM 3030N/other high voltage module as a scanner. This module has in-built ROM, DSP and RAM. In this, we can store the fingerprints of up to 100 users. This module can operate in 2 modes i.e., Master mode and User mode. We will be using Master mode to register the fingerprints which will be stored in the ROM present on the scanner with a unique id.

 This application will be mostly used in security buildings and constructions. The persons who want to use lift, they need to use finger print module. This finger print module allow only who are already enroll. Whenever person wants to use lift, scan his image through module. If image is valid then lift doors open automatically. Otherwise it gives beep sound and door doesn’t open. The DC gear motor rotates in clock and anti clockwise directions.L293D is a driver to operate DC gear motor. The validations of image scanning, lift operation and enroll process will be displayed on 16X2 LCD.

Here we use 8051 as a microcontroller with 5v DC Power supply. Serial (UART) protocol is primary concern here. The heart of this project is Bio metric module which works on serial (UART) protocol. 16X2 LCD display is connected to microcontroller through digital I/O pins.

# TECHNICAL SPECIFICATIONS:

**HARDWARE:**

Micro controller : AT89S52

Crystal : 11.0592 MHz

LCD : HD44780

LED : 5mm Red LED

DC gear motor (10/45/60/100 r. p. m)

Driver IC : L293D

Line driver IC : MAX232

Bio Metric Module

Basic GPIOs

Buzzer

**POWER SUPPLY:**

Transformer : 12V step down

Filter : 1000uf/25V

Voltage Regulator : 7805 / 7812

**SOFTWARE :**

Keil IDE

Proteus VSM

UC flash

**APPLICATIONS:**

* Security zones
* Constructions

**BLOCK DIAGRAM:**

Buzzer

Power Supply

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DC gear motor

L293D

16X2 LCD

Finger Print Module

Max 232

**POWER SUPPLY BLOCK DIAGRAM:**

Step down Transformer

Filter

Regulator

Output

Bridge Rectifier