

## **FINGER PRINT BASED PHYSICAL ACCESS CONTROL VEHICLE IMMOBILIZER**

**(Or)**

## **FINGER PRINT BASED VEHICLE SECURITY SYSTEM**

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 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.

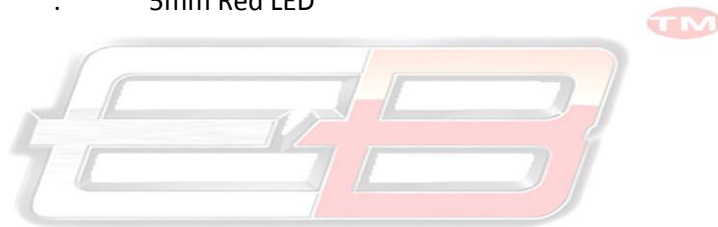
The project is designed to provide absolute security for vehicles. Normal vehicles (two or four wheelers) start with normal valid key. But there is wide scope to theft vehicle with duplicate keys. This system avoids theft of vehicles. For this microcontroller have finger print module with serial connectivity. Initially vehicle owner enroll in the Finger Print module (ROM). If he wants to start the vehicle scan image and microcontroller detects and compare with database of enrollment area. After checking, it gives output pulse through relay for IC engine ignition. If scan image is not valid it gives buzzer sound and display alerting message. (It is better to enroll at the time of program).

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 SPECIFICATIONS

- Micro controller : AT89S52
- Crystal : 11.0592 MHz
- LCD : HD44780
- LED : 5mm Red LED
- Bio Metric Module
- 12V Relay
- Basic GPIOs
- Buzzer



### POWER SUPPLY

- Transformer : 12V step down
- Filter : 1000uf/25V
- Voltage Regulator : 7805 / 7812

### SOFTWARE SPECIFICATIONS

- Keil IDE
- Proteus VSM
- UC flash

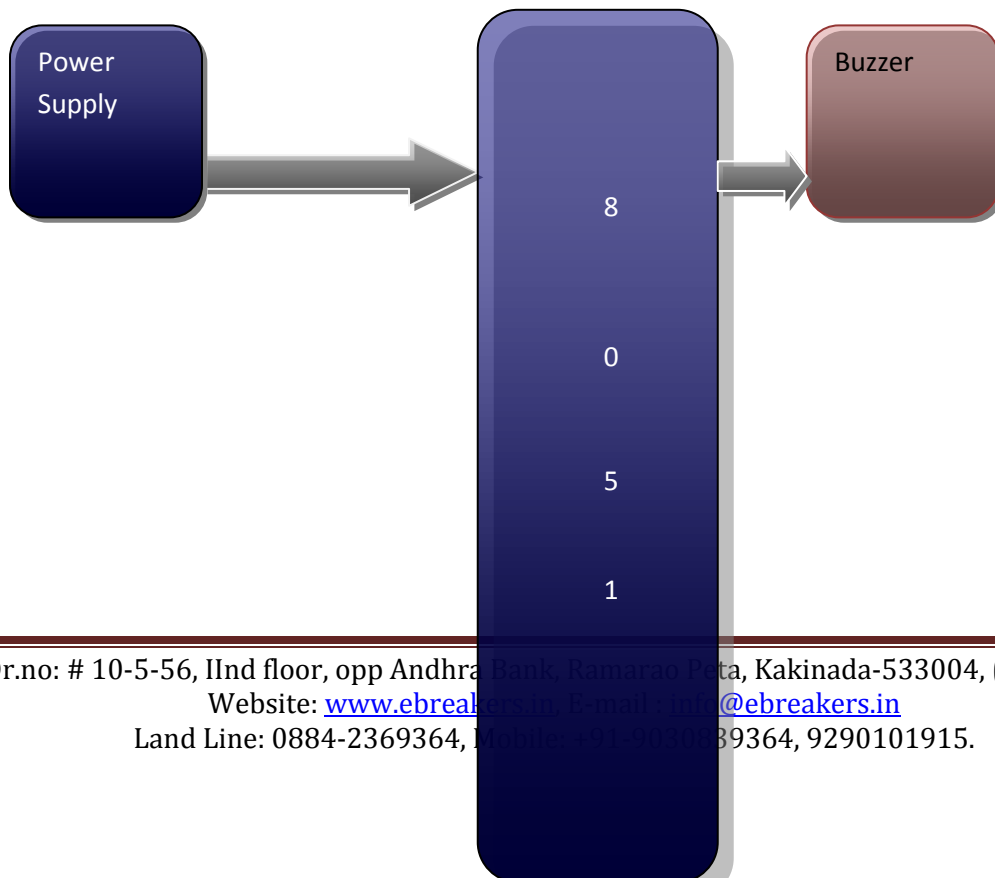
### APPLICATIONS

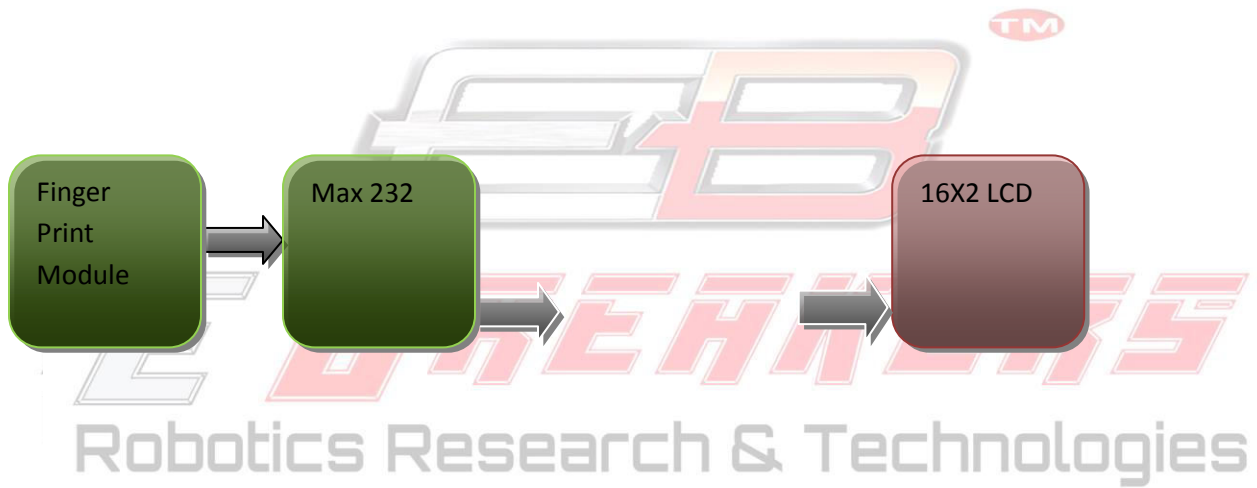
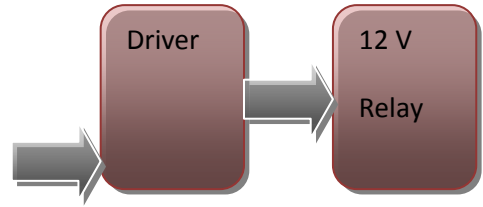
- Automobiles
- OEMs

- Transport companies



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### POWER SUPPLY BLOCK DIAGRAM



