FINGERPRINT BASED ATTENDANCE RECORD SYSTEM

(Or)

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According 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. Registering the attendances of students has become a hectic task as sometimes their attendance may be registered or missed. To overcome this problem i.e. to get the attendances registered perfectly, 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 fingerprint module will be interfaced with the microcontroller through serial interface. The images of the students of a particular class will be scanned and stored in the microcontroller. The students have to scan their images to register their attendance daily. When the student has to register his attendance on that particular day, he has to scan his fingerprint image. The fingerprint module scans the student's image and passes the scanned image to the microcontroller. The controller reads the scanned image, compares this image with the already stored image. If both are matched, the student's attendance will be registered for that day. If it is not matched, the student's attendance will be marked as absent and buzzer indication will be given. By simply pressing a switch, we can get the list of

absentees for that day. We can see details on 16X2 LCD. (In this project we can connect microcontroller to PC and PC maintain presents and absents list with help of C# application-But it was optional).

TECHNICAL SPECIFICATIONS:

HARDWARE SPECIFICATIONS

- Micro controller : AT89S52
- Crystal : 11.0592 MHz
- LCD : HD44780
- LED : 5mm Red LED
- Serial driver : MAX-232
- Bio Metric Module
- Basic GPIOs
- Switch with positive logic

POWER SUPPLY

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

SOFTWARE SPECIFICATIONS

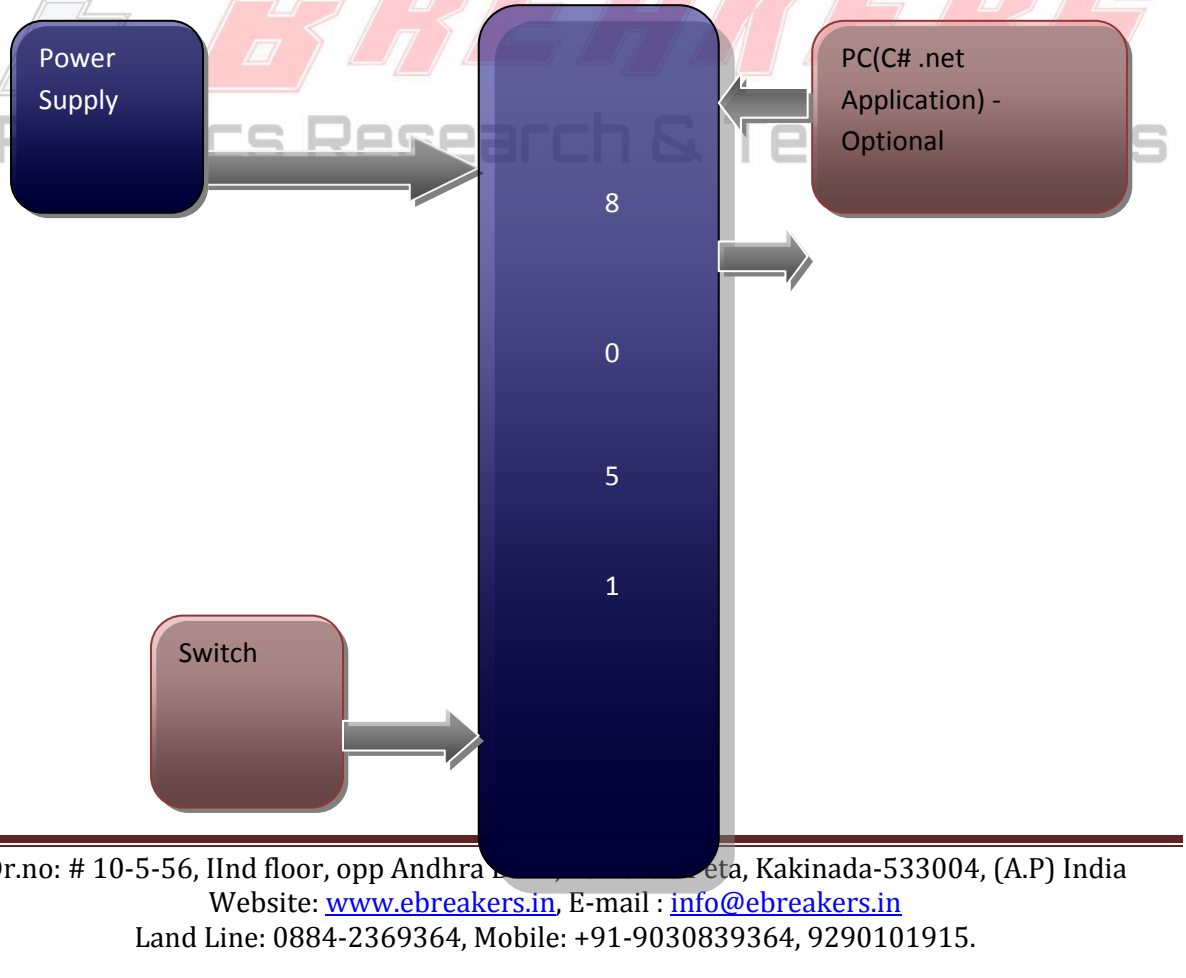
- Keil IDE
- Proteus VSM
- UC flash
- .Net C# application

APPLICATIONS

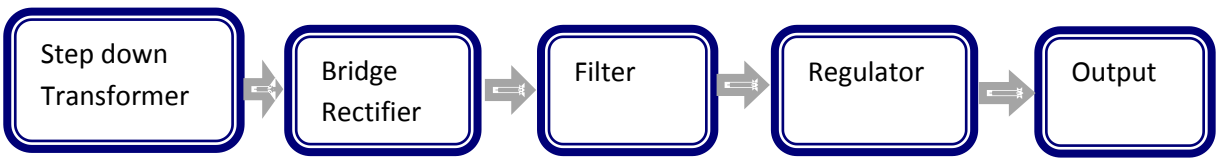
- Schools
- Offices

- Industrials

BLOCK DIAGRAM:



POWER SUPPLY BLOCK DIAGRAM

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