

FINGERPRINT USING LICENSE CHECKING FOR AUTO-MOBILES

Rajesh Kunte¹, Prof.M.D.Pawar²,

Research student,Dept.of ETC Engineering,MIT college,Maharashtra,India

Asst.Prof,Dept.of ETC Engineering,MIT college,Maharashtra,India

Abstract - Driving license system is a very difficult task for the government to monitor . In this project, all the citizens' images will scan and recorded. Whenever a citizen crosses the traffic rules, the police can scan his image and can collect penalty / fine from the defaulter. Using this method, the police can track the history of the driver. This biometric based driving license monitoring system is very easy and convenient to monitor. 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 work 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 (Size 10 & Italic , cambria font)

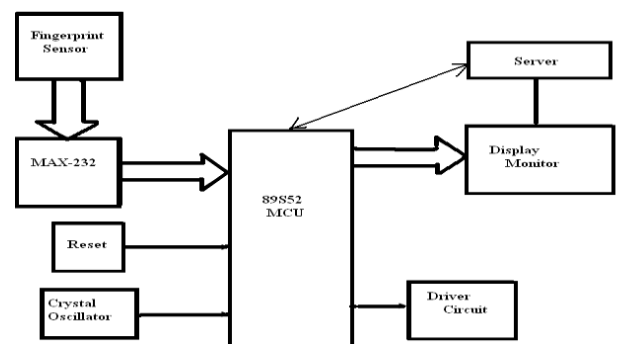
Key Words: - Authentication, Fingerprint, License, Matching, Registration, Sensor

1.INTRODUCTION (Size 11 , cambria font)

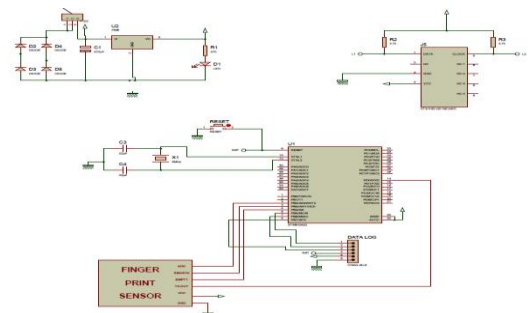
Recently while us discussing about Biometrics we are concentrating on Fingerprint scanning. For this we are using R305 FP+PIC MCU that can read different fingerprints and store in its own flash memory. The sensor can perform three functions namely Add(Enroll) , Empty Database or Search Database and return the ID of stored fingerprint. In this we can store up to „n“ no of users fingerprints. This module can operate In 2 modes they are 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. When this module is interfaced to the microcontroller, we will be using it in user mode. In this mode we will be verifying the scanned images with the stored images. When coming to our application the images of the citizens will be stored in the module with a unique id. Citizens have to scan their image on demand by police, which is then

verified with the image present in fingerprint module and their record will be updated. This scanner is interfaced to Atmega 32 microcontroller through max232 enabling serial communication. By using this controller we will be controlling the scanning process. After the scanning has been completed the result is stored in the microcontroller. By simply pressing a switch we can get the details of the polling. This project uses regulated 5V, 500mA power supply. 7805 three terminal voltage regulator is used for voltage regulation. Bridge type full wave rectifier is used to rectify the ac output of secondary of 230/12V step down transformer.

2. Block Diagram:



3. Circuit Diagram



4. Sensor:

The fingerprint sensor is combination of R305 FP+PIC MCU board that can read different fingerprints and store in its own flash memory. The sensor can perform three functions namely Add(Enroll) , Empty Database or Search Database and return the ID of stored fingerprint.

Any of three functions can be called simply by making the pin low of the sensor or pressing onboard three switches. The response is either error or ok which is indicated by onboard LED. The response is also returned as single serial data byte. The return byte is a valid ID or error code. The response byte is a single byte at 9600 bps thus making whole sensor very easy to use. We have provided indicating LEDs and function switch already so it's ready to use when you receive it. Just give power and start using the sensor using onboard switches. Then you can move on making external application using these functions.

Features

- Easy to use
- Status LEDs
- Function Switches
- Single byte response
- Works at 5V
- UART 9600bps response

Inputs and Outputs of Sensor

Input: Two ways to trigger the function of fingerprint sensor

1. Onboard switch: Add, Empty or Search.
2. Make pin low from external microcontroller for 5ms as per function required to be executed.

Outputs(Response): Two ways to monitor output response after a function is executed

1. Onboard LEDs: ERROR or OK
2. Read byte after executing function

Types of function

There are namely three functions you can call for the fingerprint sensor. We will see each in brief.

Add(Enroll) Function: Adds a fingerprint to database and return a byte of newly added ID. Return values are from

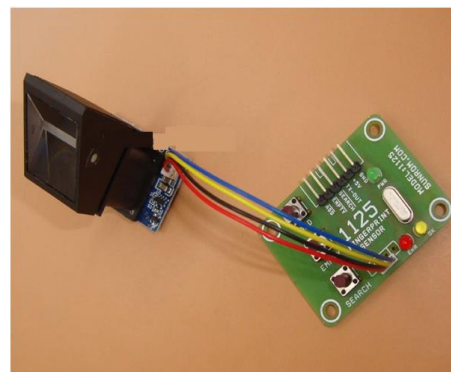
0x00 to 0xFE. In case of error like no finger placed, return code is 0xFF. Here 0xFF means error executing function

Search Function: When a finger is put and search function is called, it returns a matching ID if found in its existing memory. Return values are from 0x00 to 0xFE. In case of error like no finger placed, return code is 0xFF. Here 0xFF means error executing function.

Empty Function: When you wish to empty all fingerprint data stored on sensor you can use this function. After executing this function, you will get 0xCC as OK or 0xFF in case of error.

Application Example

We will use an example of AT89S52 MCU to interface but can be any MCU like AT89C51 or AVR or PIC. Since the sample code is in C language. The logic will remain same across all C compilers.



3. CONCLUSIONS

Automated fingerprint identification systems have been successfully deployed around the globe for both law-enforcement and civilian applications, and new fingerprint matching applications continue to emerge. The fingerprint will continue to be the dominant biometric trait, and many identity management and access control applications will continue to rely on fingerprint recognition because of its proven performance, the existence of large legacy databases, and the availability of compact and cheap fingerprint readers. Further, fingerprint evidence is

acceptable in courts of law to convict criminals. In this paper we have proposed method based on “Minutiaebased” algorithm for efficient and more secured because of these features.

REFERENCES

1. National Science and Technology Council Subcommittee on Biometrics and Identity Management, Biometrics in Government Post-9/11: Advancing Science, Enhancing Operations, Aug 2008.
2. A.K. Jain, P. Flynn, and A.A.Ross, eds., Handbook of Biometrics, Springer, 2007.
3. H.C.Lee and R.E.Gaensslen. eds., advances in FringerprintnTechnology, 2nd., CRC press 2001.
4. J. Feng, “Combining Minutiae Descriptors for Fingerprint Matching,” Pattern Recognition, Jan. 2008, pp. 342-352