 ISSN: 2321-8169
95 – 98

Recognizing Authenticate Driving License Using Fingerprint With Current Indian Scenario

Prof Rahul R Ambalkar
Asst.Prof.Dept.of EXTC
MGICOET,Shegaon,Maharshtra
ambalkar.rahul@gmail.com

Mr. Anil P Surduse
U.G.Student,Dept.of EXTC
MGICOET,Shegaon,Maharshtra
anilsurduse@gmail.com

Ms. Swati B Bhakare
U.G.Student,Dept.of EXTC
MGICOET,Shegaon,Maharshtra
swatibhakare92@gmail.com

Abstract—Every person in the world has a unique identification. Now a days various human authentication techniques are available such as Face recognition, Fingerprint identification, Hand geometry biometrics, Retina scan, Iris scan, Signature, Voice analysis etc. Fingerprints are one of the most popular and easiest forms of biometrics used to identify individuals and verify their identity. Finger print authentication are very easy to use, because of easily availability of finger print scanner. By using this biometric authentication, we can prevent the non-licensed person from driving. All the related detailed data such as two wheel licences or four wheel licence, their date of issue and expiry, age, residential address etc. can link with his/her finger print impression. While issuing the license, the specific person's finger print is to be stored in the card. At the time that person's details are fully stored in that database. So at anywhere the person should place on his finger on the finger print reader, That person's entire information will be displayed.

Keywords-*ARM controller,UART,TTLlogic,Proteus Software.*

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I. INTRODUCTION

In India, road accident is a major issue because number of persons dying in road accident is increasing day by day. These accidents may have various reasons such as non-licensed person driving a vehicle, some technical problem occurring during driving, wrong side driving, and teen age drivers etc. Preventing all these may reduce the total road accidents. In our proposed system we are introducing the finger print based identification system to restrict the non-licensed person from driving a vehicle. In India some of state have mandatory the Aadhar card in 2015 but now a day almost all country has been done Aadhar cards. Nine Indian states and Union Territories have now fully attained 100 percent Aadhaar saturation in India. The data provided by Unique Identification Authority of India (UIDAI), essentially means that the that the whole population of the place have got their Aadhar IDs. The National capital, Delhi topped the list with 119 percent, where the number of 'Aadhaar assigned' is 21,113,102 in a projected population of 17,720,573. Meanwhile, Haryana is in the second spot with 104 percent where the number of 'Aadhaar assigned' is 27,782,515 in a projected population of 26,816,977. Meanwhile, Telangana (102 percent) was placed third in the list. The other places in the list were Himachal Pradesh (102 percent), Punjab (102 percent), Lakshadweep (102 percent), Goa (101 percent), Chandigarh (101 percent)and Kerala (100 percent).Meanwhile, in the 'Aadhaar Saturation in 0 < 5 Years Age' category, Haryana topped the list with 68.8 percent. Chandigarh and Himachal Pradesh was placed second and third. In the 'Aadhaar Saturation in 5 < 18 Years Age' group, only Delhi crossed 100 percent. However, in the above 18 categories, 27 states and UTs could have attained full Aadhaar Saturation. The Aadhaar saturation is based on projected population as on 2015.(Source: UIDAI)Aadhaar is a biometric identifier program, which is recently in the news more than ever. TheAadhaar card us being used in loan authentications, job seeking, pensions and money transfers across the country. The central government now wants to make Aadhaar card mandatory for filing income tax returns as well as applying for a PAN card. In fact, the unique identification 12-digit number in your Aadhaar card is now becoming the one point source for all your needs. The main objective of this exercise to link the PAN with Aadhaar is to also identify tax evaders. However several critics have questioned the privacy and security issues which have allegedly not been addressed so far. The rigid position of the Modi government on this matter, have been criticised by many as the debate on making Aadhaar mandatory is still on.(Source: UIDAI)Meanwhile, according to a recent report, PM Modi government will soon make quoting of Aadhaar number compulsory for key managerial personnel and directors in regulatory filings under the Companies Act alsoThe move.

A. Human detection using DNA :-

The human genome is peppered with region of respective DNA –hypervariable region consisting of a short DNA sequence repeated in tandem. These region are polymorphic in that the sequence varies in the number of copies of the repeat unit.the number of repeat unit is indicate by the allele designation .for example ,14copies of the repeat unit would be prepared to ads allele141.in the early 1980s these region where investigated as informative markers to map the human genome.

In early day of DNA –based identification ,the hypervariable region of interest where variable number tandem repeat loci,

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which lad a high level of heterozygosis and were relatively large in size(300-10000bp)

B. Human detection using Iris:-

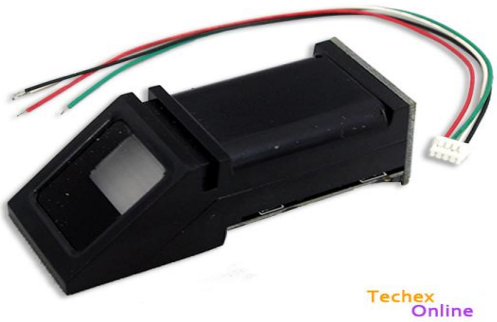
Human detection using Iris is simple method. It is an automatic technique of biometric authentication that uses mathematical pattern recognition technique on video pics of each the irises of a personal eye. Every person has unique eye retina. Retinal scanning is a different, ocular-based biometric technology that uses the unique pattern on a person's retina blood vessel and is often confused with iris recognition.in iris security uses video camera technology with inferred close to infrared illumination to accumulate image of the detail-rich, complex structures of the iris that as visible outwardly. Mathematical and Statistical algorithm allow the identification of an individual, which are encoded by Digital templates. Database of enrolled temples are searched by matcher engines at speeds measured in millions of templates per second per CPU, and with remarkable low false match rates. Almost all person with in the world are register in iris reorganizationsystem for convenience function like passports free automatic border crossing and a few national id program.

C. Human detection using dental technique:-

Human detection technique is a simple method by using several different dental notation systems with a specific tooth for follow information. The below technique are most important. Universal numbering system, and palmer notation method. Worldwide used methodology is that the ISO system where as the universal system is wide employed in the U.S the ISO system will be simply tailored to computerize charting. The linksman notation may be a system employed the by dentists to associate information with a selected tooth .through purportedly outdated by the FDI world dental federation notation, it overpoweringly still be the preferred methodology employed by dental student and practitioner with in the great Britain.

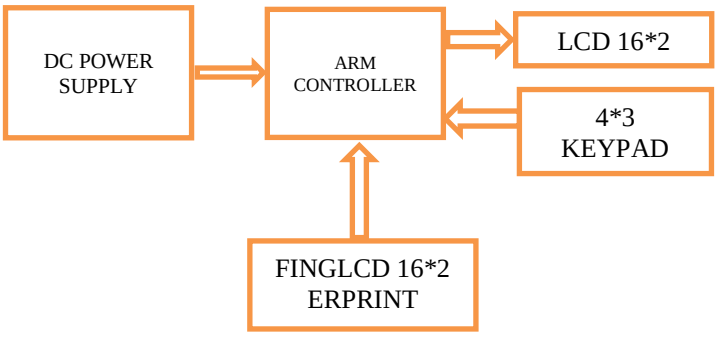
II. PROJECT DETAILS

2.1 FINGER PRINT SENSOR



This Is the fingerprint sensors module with Transistor-transistor logic merge for direct associate to microcontroller UART. At registration office all data of user will stored. User finger print is stored in fingerprint module and construct it in 1:1 or 1: N mode for recognizing/identifying the person. The fingerprint device module is directly connected with any three.3v or 5v microcontroller , however it needed device for interfacing with port of a computer.

3. Block diagram:-



4.Workingprinciple**:-**

Fingerprint processing works in two type, finger print matching and enlistment. At that fingerprint module there is one red LED is given which is use to indicate the module is ON or OFF condition. When enlist, user needs to enter the finger in two times.system is capture two times fingerprint images, And generates the templates which is place on scanner and stored it. This templates are compare with library .with the help of 1:N matching , system will distinguege the live finger with specific templates designing in module,for 1:N or searching system will find the specific user fingerprint on library. In both circumstances system will go to return back to matching result,it may be success or failure. In this system semiduplex asynchronous serial communication .every system has specific baud rate. User can chose any baud rate in between 9600-115200bps .by default baud rate is 57600bps 10bit of data will be transferring at given time. The low –level starting bit,8-bit data with the LSB first and an ending bit. There is no check bit. The atmega 328P is the lower power CMOS 8 bit microcontroller based on the AVR enhance RISC architecture. By execution powerful instruction in clock cycle, the atmega328P manage turn out returning unit of measurement per megacycle designer to advance power consumption versus method speed. This is finger print detector module with TTLUART interface for direct association to microcontroller UART of a pc through MAX 232/USB serial device.Date in form of finger print of user is store in module and that can be construct it in 1:1 or 1: N mode for recognizing the person. The FP module can directly interface with 3v3 or 5v microcontroller. A level converter is require for interfacing with PC serial port. Optical biometric fingerprint reader with nice feature and will be embedded into a veriety of impact such as: access management, attendance, safetydeedbox, door locks.With the help serial integrating, the module, the module relate with MCU of 3.3v or 5v power TD connects with RXD,RD connect with TXD.should the upper computer(PC) be in RS-232 mode, please add level converting circuit, like MAX232

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is an IC, first create in 191987 by maxim integrated circuit that convert signal from an 232 serial port to signal suitable for use in transistor-transistor logic suitable for digital logic circuit. The liquid ecstasy 232 could be a twin driver receiver and usually convert the RX, TX,CTS and RTS signal .the drivers give RS-232 voltage level outputs from a single +5v offer via on chip charge pumps and external capacitors. This makes it helpful for implementing RS 232 in devices that otherwise don't want any voltage outside 0v to +5v vary as power provide style doesn't got to be created additional exhausting only for driving the RS 232 during this case. The receiver reduce RS 232 inputs,to standard 5v transistor-transistor logic level. These receiver have a typical threshold of 1.3V , and a typical hysteresis of 0.5V.the later MAX232A is backward adaptable with the original MAX 232 but may operate at higher baud rates and can use smaller external capacitors - 0.1 Mf in place of 1.0 Mf capacitor used with the original device.the newer MAX232is also backward suitable,but operates at broader voltage range, from 3 to 5.5 V. desktop and some old laptops have serial port which comes in DB9 package. In many circuit the we use Tx and Rx pins only. remaining pin are not use. In above schematic circuit have a two driver, only one is use and second can be use for other purposes. transistor-transistor logic data is available on pin 12 and pin 11 and these pins can be attached to microcontroller or any system which accepts transistor-transistor logic. For this project we use some software i.earduino UNO, fingerprint reader module, proteus (simulation), visual basics.

V. RESULT

A. REGISTEREDVEHICLES:-For registered vehicles the result will shows the certificate of registration and certificate of insurance of particular person.

C.VALIDLICENSE:-

If person have valid license then system will showoutput

D. Unregistered vehicle:

If some one have not registered there name then system shows like output

FIG: 4 UNREGISTERED VEHICLES

5.4 Non license person:-

The person have not license then system shows output

FIG: 3 LICENSED PERSON

VI. ADVANTAGES

1] The whole system was built on the technology of embedded system which makes the system more safe.
2] It easy to use& Quick response.
3] Real time value monitoring.
4] Not carry card any time.
5] Fake license identify.
6] It is highly accurate.

VII. APPLICATION

1] By using system no one can drive without license.
2] Office and industries for login purpose.
3] Traffic police.
4] It can be used for security for vehicles.
5] To identify criminals in crime scenes. It was one major reason for development of this technology by FBI in USA.
6] To identify member of an organization.it help improves security such that only authenticated persons can enter the secured area and not any other member.
7] It is unique and can never be same for two persons.

VIII. CONCLUSION

Using the fingerprint authentication based project it will be more easy to find non license person as well as vehicle and preventing them from driving illegally. This fingerprint

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authentication is non-limitable biometric scheme.as we know all information is stored in the database,whenever officer want data then officer can access to database. The person entire information will display infront of police officer.Hence our project fulfilled to catch the non licenseperson very easily.This project is also helpful for identify the non registered vehicle and it help to licenseperson from fine , sometimes if they kept there license at home. Finally fingerprint authentication for driving license for India scenario is very to future life.

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