

International Journal of Computer Science and Mobile Computing

A Monthly Journal of Computer Science and Information Technology

ISSN 2320-088X



IJCSMC, Vol. 4, Issue. 7, July 2015, pg.567 – 570

RESEARCH ARTICLE

PROTOTYPE OF A FINGER PRINT BASED LICENSING SYSTEM FOR DRIVING

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Abstract- To check non-licensees as of driving and consequently happening the accidents one of the new system is introduced. Most important and very unfailing person recognition system is biometric verification. biometric verification is one of the most well-liked and personal biometric verification system. This system consists of a some amount of memory capability to store the thumb print of particular person. although providing the license, the particular candidates thumbprint reader is to be stored in the memory of reader. Vehicles like cars, bikes etc. must have a the reader capable of reading the particular license. The similar vehicle should have the capacity of thumbprint reader component. A man, who is going to drive the vehicle, should keep the thumb on the reader the card (license) in the vehicle and then swipe his/her finger. If the thumb print stored in the module and thumbprint swiped in the device matches, he/she can drive the vehicle, or else ignition will not work. in addition, and also the system is having the seat belt then prompts the user to wear the seat belt before driving. So that system increase the safekeeping of vehicles and also ensures protected driving by prevent accident.

Keywords- to protect the driver, Thumbprint, Thumbprint reader, License, Ignition system

INTRODUCTION

The main objective of this project is to prevent non-licensees from driving and causing accidents, a new system is proposed. An important and very reliable human identification method is fingerprint identification. Fingerprint identification is one of the most popular and reliable personal biometric identification methods. Existing security principle for the vehicles uses remote control access technology. No strong security systems designed so far. So car thefts have increased in large numbers. In this project we have developed seat belt detector, door lock sensor, alcohol sensor and Bio metric sensors. All stages need to be cleared to switch on the ignition. All stages can be performed sequentially.

Keywords: Authentication, Fingerprint Identification, License, Sensors

INTRODUCTION

Unlicensed driving is a matter of concern for several reasons. It is possible that drivers who have not undergone appropriate training and testing may be deficient in some aspect of the knowledge and skills required to drive safely and efficiently. Also, drivers who are unauthorized laws in that they would not be influenced by the rewards and penalties set up under the licensing system.

On this argument, drivers valid license may disregard the threat of license sanctions or the benefits of reduced noticeable in the literature [1] that the term "unlicensed" is used interchangeably to mean one of the below subcategories, as follows:

WORKING OF THE SYSTEM

The system operates in the following manner, Initially door lock detection is done using metal sensor. If the door is locked properly, the next stage i.e seat belt detection will be displayed in the LCD. Seat belt detection is done using IR sensor. When

the seat belt is weared, the next stage will be displayed otherwise it will remain in the same process. Before vehicle ignition, the user's finger print is compared with the template. If both the images are matched relay gets on and vehicle ignition takes place, Based on the match score generated (>95%) access rights will be given. IR SENSOR An infrared sensor is an electronic device that emits an infrared radiation in order to sense some aspect of its surroundings. Here we are using an active infrared sensor for seat belt detection. The principle behind an active infrared sensor is the transmission and receiving of infrared light. An element known as a light emitting diode (LED) transmits infrared light, which is reflected on the object and received by an optical receiver known as a All Rights Reserved c 2015 Fig 1. Fingerprint Template Generation.

The biometric fingerprint sensor takes a digital picture of a fingerprint. The fingerprint scan detects the ridges and valleys of a fingerprint and converts them into ones and zeroes. Complex algorithms analyze this raw biometric scan to identify characteristics of the fingerprint, known as the "minutiae". Minutiae are stored in a fingerprint template (a data file usually smaller than the initial scans). Up to 200 minutiae are stored in a template, but only a subset of these has to match for

Block Diagram

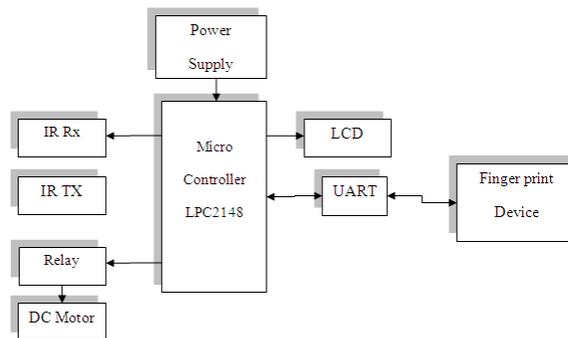


Fig 5. Ignition Control.



Fig 6. Histogram Equalization of fingerprint image

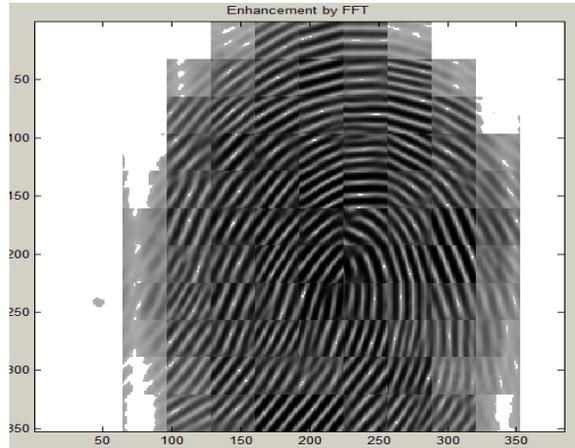


Fig 8. Binarization and Direction estimation.

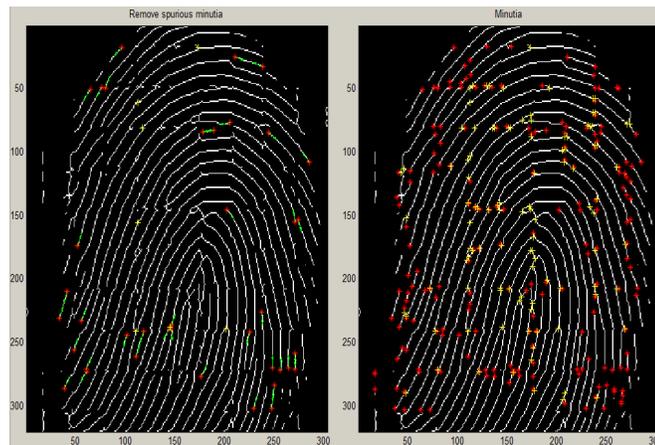


Fig 9. Thinning and Minutiae detection performed before minutiae matching.

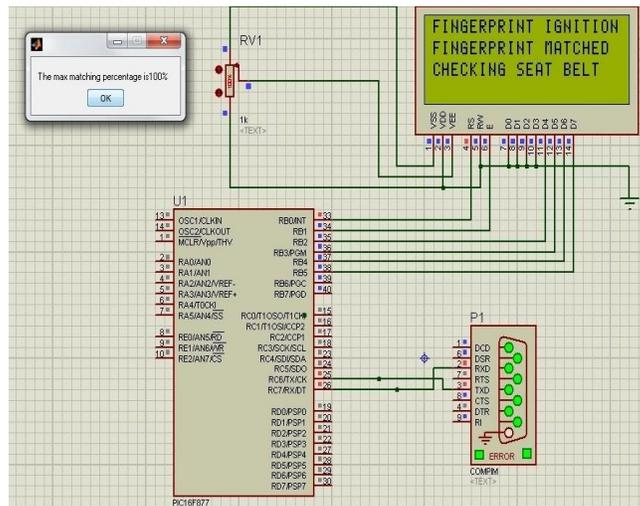


Fig 10. Simulation of PIC microcontroller showing matched fingerprint

