

# Design of Petrol Supply System by Using Licence and Biometric Module

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**Abstract:** - To check non-licences for driving and consequently happening the accidents one of the new system is introduced. 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 licence, the particular candidates thumb print reader is to be stored in the memory of reader. Vehicles like cars, bikes etc. must have a reader capable of reading the particular licence. The similar vehicle should have the capacity of thumb print reader component. A man, who is going to drive the vehicle, should keep the thumb on the reader and inserted card (licence) in the vehicle, if the thumb print stored in the module and swiped card are match, if and only if he/she can drive the vehicle, otherwise petrol supply will not work. So that system increase the safe keeping of vehicles and also ensures protected driving by prevent accident because of authorized persons.

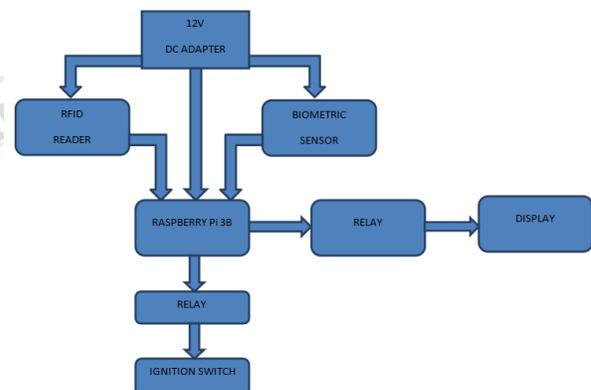
**Keywords:** - Licence, card reader, thumb print..

## I. INTRODUCTION

The main objective of this paper is to prevent non-licences from driving and causing accidents. An important and very reliable human identification method is fingerprint identification. 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, approximately half of all drunken driving takes place with drivers who do not have a valid driving license. So this paper aims to introduce a hardware architecture which detects the fingerprint as well as the age of the driver and takes a robust decision to turn on or off the petrol supply system.

## II. MATERIAL AND METHODS

### 2.1 System block diagram and working:



*Figure1. Block Diagram of petrol supply system*

#### Working:

##### 1. RFID READER :

A radio frequency identification system uses tags, for labels attached to the objects to be identified. To way radio transmitter receivers interrogators or readers send signal to the tag and read its response. RFID tags can be either passive or active. An RFID card can be understood as a remote storage unit where we can read and write information without contact firstly we generates the database on RFID card that data should be contain user information like Name, DOB, Mobile number, vehicle number. We use the 125KHz USB proximity sensor for

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detect the information on card. The card reader sends signals, each to individual pins of the Raspberry Pi, and the signals include fingerprint matching information.

**2. BIOMETRIC SENSOR :**

In this finger print module there are mainly two modules are commonly used R305 and S630. For our paper we use R305 module. It has direct connection to controller through UART or PC through RS232 serial communication IC. This module check the user finger prints and according to this information signals sends to Raspberry Pi. A biometric sensor is a transducer that changes a biometric treat of a person into an electrical signal.

**3. RASPBERRY PI 3B :**

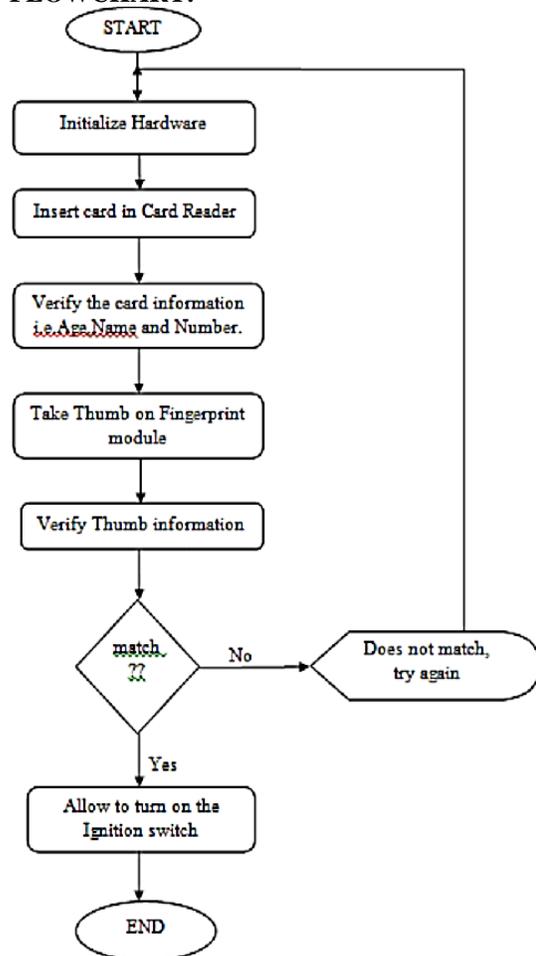
The raspberry pi is a credit card size computer that plugs into your TV and keyboard. It is a capable little computer which can be used in electronic paper, and for many of the things that your desktop PC does, like a spreadsheet, word processing, browsing the internet. The raspberry pi board comprises a program memory (RAM), processor and graphics chip, CPU, GPU, Ethernet port, GPIO pins, Xbee socket, UART, power source connector. And various interfaces for other external devices. The Raspberry Pi is fed with the required input signals from card reader and Biometric sensor. This can handles the inputs of RFID and Biometric Module. The RFID card contains the DOB of user when the card is inserted in RFID Reader module the controller gets input signal from RFID it checks the DOB, if the user age is greater than 18 then display the valid information otherwise invalid. Likewise RFID Controller have input signal from Biometric module if the store fingerprints and current fingerprints are match then controller generates output signal and relay gets ON otherwise it will be OFF.

**2.2 SOFTWARE IMPLEMENTATION:**

The Raspberry Pi has been nothing short of a revolution in introducing millions of people across the world to computing and being one of the drivers behind introducing computer programming to everyone. It has powerful enough hardware to get started with programming and the US\$ 35 price tag is hard to beat. The makers of Raspberry Pi have also paid special attention to ensuring that barriers to getting started are minimal. The recommended Linux distribution for Raspberry Pi, Raspbian comes bundled with multiple programming languages and IDEs so that you are ready to go from the time you power on the mini development board. Python, on the other hand, is one of the most popular languages in the world and has been around for more than two decades. It is heavily used in academic environments and is a widely supported platform in modern applications, especially utilities, and desktop and Web applications. Python is highly recommended as a language that is easy for newcomers to

program with its easy-to-read syntax, the introduction is gentle and the overall experience much better for a newbie.

**2.3 FLOWCHART:**



**Figure2. Flowchart for Petrol supply system**

At the beginning initialize the all hardware system. Then insert the card in card reader and verify the information of person on card. After that finger print module can sense the finger of person and verify thumb information can it is match or not. Card information and thumb both are match then system allows to user to start the vehicle otherwise start all procedure from beginning.

**III. RESULT AND ANALYSIS:**

This system was already exist but without Raspberry Pi Controller. This controller is easy to use and all advance features are inbuilt in it. So as compare to other controller it reduces the size of system. In this system finger print information of the person can verify using finger print

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module. Also the personal information verify by RFID card reader.

**Table For The Card Reader, Biometric Module And Switch.**

Sr.No	RFID card reader	Biometric thumb reader	Relay Condition
1	Valid	Thumbprint is match	ON
2	Not valid	Thumbprint is not match	OFF
3	Valid	Thumbprint is not match	OFF
4	Not Valid	Thumbprint is match	OFF

#### IV. CONCLUSION

The developed system ensures that only authorized drivers can drive the vehicle and misuse of vehicles by others can be prevented. The system makes sure that vehicle's access is given to only authorize person and thus accidents can also be averted. The below 18 age people can't drive the bike because of no licence. So this system gives some contribution for our society to save the life of children.

#### V. FUTURE SCOPE

The work covered in the paper tries to solve various issues, which emerged as a result of literature survey. In cars, it also ensures that the seat belt is worn by the driver, so that it adds the safety feature to cars. Though implementation of the proposed system may take time, it would be of great use for the safety of drivers and irregularities can be kept at check without any loopholes. The developed prototype serves as an impetus to drive future research, geared towards developing a more robust and embedded real-time fingerprint based ignition systems in vehicles.

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