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# Anti Vehicle Theft and Engine Locking System with Image Acquisition

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**ABSTRACT:** Vehicle Theft is common issue which is ubiquitous, irrespective of the location. The main objectives of the entire system is to ameliorate the safety of the vehicles and truncate the theft at insecure parking places. Vehicle Tracking and Locking system is installed in the vehicle, to track the place and locking engine motor. When the theft is identified, the responsible person sends SMS to the Microcontroller, then microcontroller issue the control signals to signals to stop the engine motor. Before enter the vehicle key to read the RFID card otherwise the camera take the photo of the thief. Hence we can get back our Vehicle Easily

**KEYWORDS:** Send SMS, GSM, GPS, Raspberry pi 3, RFID Card, Camera

## I. INTRODUCTION

The vehicle theft is become a major problem that the entire world is facing now. To stopping this issue, there is a need of theft alert system which helps to owner to ensure theft prevention and provide speedy identification of an unauthorized person who was trying to steal the vehicles. The theft alert system makes a use of GPS and GSM which are embedded in vehicle to communicate with vehicle's owner mobile phone.

Sending of an SMS by GSM to owner's mobile phone to provide all information about vehicle and vice-versa. The GPS technology is used here to provide the exact location of target. It means that whenever any unauthorized person will try to steal our vehicles, then we can easily detect the location of theft with vehicle by using the application of GPS technology. In this system we are going to use two keys to open the vehicle lock, one is the owner's key which is used by owner and other is RFID card reading. Whenever RFID Card isn't used, the alarm become active and give the beep sound which indicate that the thief is detected. At the same time a warning SMS is sent by GSM to registered mobile number. After receiving the message, the vehicle's owner sent a message to remotely lock the engine, after turning off the engine, the motor cannot start without permission of password. In this way, this system helps in preventing the criminals from stealing vehicles.

## II. RELATED WORK

[1] **Champa Bhagavathi.R, Gowri.B.R, Kasturi.R, Pooja.C** suggested in their work on "Vehicle Theft Detection and Prevention Using GSM & GPS", International Journal Innovative Research in Computer and Communication Engineering, vol.4, Issue 5, May 2016. The Proposed System consists of Remote ignition cut-off and Vehicle tracking modules. Both of them make use of GSM sub module. Vehicle tracking module further makes use of GPS sub module and Remote ignition cut-off module uses password authentication sub module. User enters the correct password to start the vehicle. If incorrect password is entered three times, an auto-generated message is sent to owner and a buzzer activates alerting the nearby personnel. GSM modem is used to send OTP to owner. The owner is also notified if his vehicle is started. The owner can respond with an SMS. The ignition of the vehicle will be disabled whenever \$OFF message is sent. GPS technology is used to track the vehicle. Location co-ordinates of the vehicle are sent to owner whenever \$LOC message is sent.

[2] Maheshwari V.Chandravar,Shital Y. Gaikwad suggested in their work on "Anti-Theft Security System Using GSM, GPS &RFID Technology based on ARM7", International Journal of Engineering Research &Technology,vol.2, Issue 9,September 2013. The vehicle is provided with the RFID reader. The vehicle is developed by using two Direct



current motor which would be connected to the microcontroller using Motor Driver integrated circuit for increasing the current. The Door assembly is developed using DC motor which would be controlled using *Vol-5 Issue-5 2019 IJARIE-ISSN (O)-2395-4396* 10953 [www.ijarjie.com](http://www.ijarjie.com) 882 the relay. When the theft is there, the door will lock automatically. When unauthorized people want to open the door of car then he/she is unable to open without RFID tag.

[3] Kunal Maurya , Mandeep Singh , Neelu Jain suggested in their work on “Real Time Vehicle Tracking System using GSM &GPS Technology- An Anti-theft Tracking System”, International Journal of Electronics and Computer Science Engineering, vol.1, number3, 2015. This paper proposed to design a vehicle tracking system that works using GPS and GSM technology, which would be the cheapest source of vehicle tracking and it would work as antitheft system. It is an embedded system which is used for tracking and positioning of any vehicle by using Global Positioning System (GPS) and Global system for mobile communication (GSM)

### III. EXISTING SYSTEM

In existing system to pressed the secret button in every fifty minutes. In this method occur the more road accident, not applicable for Real life time

#### Limitations of Existing System

- It is not secured and more road accident
- Anti – Vehicle theft system and engine locking system
- In existing system to pressed the secret button in every fifty minutes
- In this method occur the more road accident, not applicable for Real life time
- Now a days, Increase vehicle theft. In this problem avoid by this project

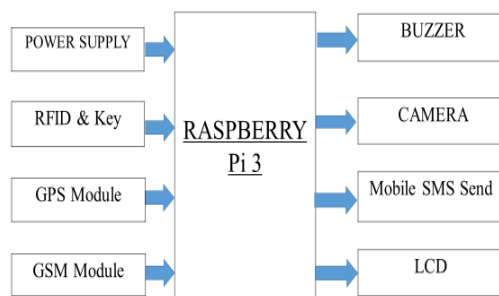
### IV. PROPOSED SYSTEM

In our proposed system we are design to read the RFID card after unlocking the vehicle. In this process to avoid the road accident. Does not read the RFID card the microcontroller take photo of the thief. Police is easily identify the thief and arrested him. After few seconds the vehicle will be Stop. GPS send the Location of the vehicle inn owner mobile number. Suddenly Buzzer will be ON.

#### Advantages of Proposed System

- Detection of the Vehicle theft
- It is safe and secure.
- To avoid the road accident
- Using more securable devices
- It is easy to access

### V. HARDWARE DESCRIPTION





The system uses RFID Card, Key, GPS Module, GSM Module, Buzzer, Camera, LCD display.

#### A. PIC CONTROLLER

PIC is a family of modified Harvard architecture microcontrollers made by Microchip Technology, derived from the PIC1650 originally developed by General Instrument's Microelectronics Division. The name PIC initially referred to "Peripheral Interface Controller" now it is "PIC" only. PICs are popular with both industrial developers and hobbyists alike due to their low cost, wide availability, large user base, extensive collection of application notes, availability of low cost or free development tools, and serial programming (and re-programming with flash memory) capability

#### B. POWER SUPPLY

A power supply also known as PSU which supplies electrical or other types of energy to an output load of group of loads. It is commonly applied to electrical energy supplies. AC voltage runs in a range of 230Vrms and connected to a transformer which helps in stepping down a voltage level.

#### C. GPS MODULE

Global Positioning System (GPS) is a navigational phenomenon by assemblage of satellites such that it sends signal and makes GPS receiver to find the exact location of an object. The Google map is a web-application based GPS receiver used in implementation of this function. GPS receiver is accessed for the location information or data. The GPS receiver identify, decode and process the signal received from satellites.



GPS MODULE

#### D. RADIO FREQUENCY IDENTIFICATION TAG (RFID)

EM-18 RFID Reader is one of the most commonly used RFID Reader to read 125 KHz tags. This is used for controlling the access in many projects and industries. Each RFID key could be configured to a RFID module. The RFID Proximity OEM Reader Module has a built-in antenna in minimized form factor. It is designed to work on the industry standard carrier frequency of 125 kHz. This LF reader module with an internal or an external antenna facilitates communication with Read-Only transponders—type UNIQUE or TK5530 via the air interface. The tag data is sent to the host systems via the wired communication interface with a protocol selected from the module. Both TTL and Wiegand Protocol.

#### E. GSM MODULE

This is a dual band GSM module that works on frequencies of 900/1800 hz. It can be used to communicate with the controller using AT commands. The module comes with RS 232 interface which allows connection with PC and microcontroller. This module could be used for sending messages, deleting messages, make calls, etc. Some of the AT commands are mentioned below.



GSM MODULE

#### F. BUZZER

Buzzer is used in this system for providing a sharp alarm on theft detection. It may be mechanical, electromechanical, or piezoelectric device having an acoustic signal.





### G.RASPBERRY PI 3

Quad Core 1.2GHz Broadcom BCM2837 64bit CPU.1GB RAM.BCM43438 wireless LAN and Bluetooth Low Energy (BLE) on board. 100 BaseEthernet.40-pin extended GPIO.4 USB 2 ports.4 Pole stereo output and composite video port. Full size HDMI

### H.CAMERA

A hidden camera can be wired or wireless. A hidden camera may be activated manually, by remote control or be connected to a motion detector. Wireless spy cameras are cameras that do not record to an internal memory but rather transmit video signal so that it can be recorded and viewed elsewhere.



CAMERA

### VI. CONCLUSION

We are design to read the RFID card after unlocking the vehicle. In this process to avoid the road accident. Does not read the RFID card the microcontroller take photo of the thief. Police is easily identify the thief and arrested him. After few seconds the vehicle will be Stop. GPS send the Location of the vehicle inn owner mobile number. Suddenly Buzzer will be ON.

A real time vehicle tracking system via google maps is presented. The mode switching is done for authorization, GSM messaging for alerting the owner and GPS for tracking the vehicle. This is the conclusion of the project.

### REFERENCES

1. The alarming rate of car theft in Abuja,[online].Available: [www.abujafacts.ng](http://www.abujafacts.ng) 23 Nov 2015
2. Auto theft [online] Available [www.iii.org/issue-update](http://www.iii.org/issue-update)16th Mar 2016
3. Abid k. and Ravi M, “GPS – GSM Based Tracking System ”International Journal of Engineering Trends and Technology,Volume3, Issue 2- 2012
4. Baburao K., et al, “GSM and GPS Based Vehicle Location And Tracking System”International Journal Of Engineering Research and Applications (IJERA) Vol. 1, Issue 3, pp.616-625
5. PankajVerma and Bhatia J.S, “Design And Development Of Gps- Gsm based Tracking System with Google map Based Monitoring” International Journal of Computer Science, Engineering and Applications (IJCSSEA) Vol.3,No.3, June 2013
6. Pravada P. W. and Dahad S. O, “Real Time Vehicle Locking and Tracking System using GSM and GPS Technology-An Anti-theft System” International Journal of Technology And Engineering System(IJTES):Vol.2.No.3, Jan –March 2011
7. Madhuri U. et al., “Remote Vehicle Tracking & Driver Health Monitoring System Using GSM Modem & Google Maps”, International Journal of Computer Science and Information Technologies, Vol. 5 (3) , pp. 2828-2832,2014.
8. Albert A. and Ezhilarasie R., “Cloud Computing Based Vehicle Tracking Information Systems” International Journal of Computer Science and Technology Vol. 2, Issue 1, March 2011.
9. Kale S. B. and Satyajit A. P., “Design and Development of Low Cost Automotive Vehicular Communication System Based on ARM” International Journal of Engineering and Advanced Technology (IJEAT) ISSN:Volume 3, Issue-5, June 2014
10. Muruganandham and Mukesh P.R., “Real Time Web based Vehicle Tracking using GPS” World Academy of Science, Engineering and Technology pp.91-99, 2010
11. Modi N. D., “Vehicle tracking system with GPS GSM Interface and Self-Created Map” International Journal of Application or Innovation in Engineering & Management (IJAIEM) Volume 3, Issue 4, April 2014



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