

International Journal of
Engineering Research and Science & Technology



ISSN : 2319-5991

www.ijerst.com

Email: editor@ijerst.com or editor.ijerst@gmail.com

THEFT VEHICLE DETECTION SYSTEM USING IOT

**Mr. K.RAMESH¹, A.BHANUSRI², D.BALA SAI ADITYA³, B.SAI NITHIN⁴,
B.MUKESH RAJ⁵**

¹Assistant Professor , Department of Electronics and Communication Engineering, TEEGALA KRISHNA REDDY ENGINEERING COLLEGE, Meerpet , Hyderabad , 500097

²³⁴⁵UG Students, Department of Electronics and Communication Engineering, TEEGALA KRISHNA REDDY ENGINEERING COLLEGE, Meerpet , Hyderabad , 500097

ABSTRACT

The created framework makes utilization of an inserted framework focused around IOT innovation. An interfacing mobile or IOT server is associated with the microcontroller, which in turn is joined with the engine through relay. In the event that the vehicle is stolen, the data is sent to the owner that somebody has stolen his vehicle. After that the user or owner will send the command to blynk server or mobile which is joined with motor ignition through transfer or relay to switch off the engine. The system is able to provide real-time text alert for speed. The owner or user can control or stop the vehicle by simply sending the stop to IOT server mobile connected to circuitry board. After receiving that notification ignition system will turn off and also captures the photo of a person. It also monitors the seat belt detection of a person then only it will turn on the ignition.

INTRODUCTION

The current paper is focused on microcontrollers for realtime-vehicle monitoring and IoT technology describing the vehicle-tracking and control system. GPS, GPRS or GSM, and by using microcontroller to incorporate this device, which allows the car to be tracked easily. The device can control and monitor vehicles remotely via SMS control (emergency stop by cutting-off the fuel impeller).

People use vehicle tracking devices as a recovery mechanism and a burglary deterrent. The biggest advantage of vehicle tracking devices is that they provide surveillance by detecting the vehicle's location, and can be used as a deterrent for stolen cars by sending their position coordinates to a police centre as a stolen vehicle warning. When a police station gets a stolen

car warning, they will take steps to deter the burglary. The primary objective is twofold: theft prevention and user safety. In the event of a vehicle theft, the system promptly alerts the owner, empowering them to take decisive action. Through the mobile or Blynk server interface, the owner can issue commands to disable the engine, thereby thwarting the theft attempt.

It is now used as a supplement or extension to car alarms to protect the vehicle from vandalism, or as a tracking device to track the vehicle in real time. As a result, a variety of applications may be used to disable a car's engine or doors in order to shield the vehicle. Vehicle detection devices have advanced in technologies to the point that they can now identify and monitor illegal vehicle movements and warn the driver. This gives it an edge on other software and bits of hardware that would do the same thing. Vehicle-tracking is most widely used software nowadays. For example, the maps provided to vehicle drivers, can perform a major task in monitoring in addition vehicle tracking. Main issue is that car owners will not be able to identify their vehicle in a location due to conflicting maps, which makes tracking and monitoring difficult. It necessitates need of such devices to locate and detect where items were at any given time, as well as the distance travelled on a trip to a car. This may be an extra point to help the police deter robberies and locate the car by drawing on reports from these licensed databases and reviewing and evaluating them.

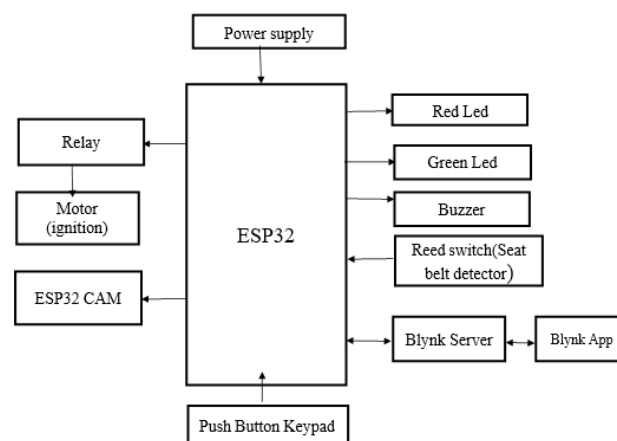


Figure.1 Block Diagram

LITERATURE SURVEY

1. The author Wu Aiping, the author puts forward an idea of using microcontroller in the 2017 paper [1], as the core and GPS and GSM interfaced through the serial port in the micro-

controller. However, the system is loud sound and light which brings the notice of the owner and also shares the location of the car if it has moved. The aim is to find the vehicle where it is and also you can stop that particular vehicle by sending a message. A keypad and a display is provided inside the vehicle. Using that we can switch on and switch off the vehicle. And also we can track the vehicle using this GSM modem. If the wrong password is entered, then the location of the vehicle is tracked by the GPS module and the message will be sent to the owner of the vehicle.

2. The authors Kompalli supriya and M.Venkateshwarlu, in the July 2015 paper [2] have mentioned that in recent years, vehicle thefts are increasing at an alarming rate around the world. People have started to use the theft control systems installed in their vehicles. The commercially available anti-theft vehicular systems are very expensive. Here, we make a modest attempt to design & develop a simple, low cost vehicle theft control scheme using an inbuilt microcontroller. This scheme involves a microcontroller & a mobile for the communication purposes.

3. Vinoth Kumar Sadagopan, Upendran Rajendran and Albert Joe Francis, proposed an embedded chip that uses vibration sensor, which senses the key during insertion and sends a text message to the owners mobile stating that the car is being accessed in the 2011 paper [3]. This is followed by the system present in the car asking the user to enter a unique password. The password consists of few characters/ numbers. 4 If the user fails to enter the correct password in three trials, a text message is sent to the police with the vehicle number and the location tracked using a GPS module.

4. The authors Ms.Padmaja Adgulwar, Prof. Nilesh Chaubey and Prof. Shyam P Dubey proposed in the paper 2007 [5], that in current years, automobile theft are growing at an disturbing rate throughout the world. Commercially present anti-theft vehicular systems are too costly. We mark a modest effort to design & develop a low cost, simple vehicle theft control scheme using an integral microcontroller.

5. A.M. Salman in 2020, conceptualized as well as executed system aimed at conveying essential data for pursuing to reduce the conveyed data between GPS receiver and the host-server. Module is combining GPS, GSM for conveying data and Arduino-UNO R3 microcontroller. Position coordinates are conveyed to a server by GSM as well as GPRS sends

Hipper Text Transfer Protocol requests. The duration between two Hipper Text Transfer Protocol requests was ten seconds when the vehicle moved and no Hipper Text Transfer Protocol requests when the vehicle is stopped. Information is displayed by Google Maps after storing it in the server.

PROPOSED SYSTEM

This system is a necessary device for tracking of vehicles any time the owner wants to observe or monitor it and today it is really trendy among people having costly cars, used as theft avoidance and recovery of the stolen car. The collected data can be observed on a digital maps by using internet and software. There is tremendous demand for object tracking application for the business process. The real-time tracking information on valuable things and assets could solve many problems in the world. GPS is the Global Positioning System which provides the location, using off-line and on-line both in any atmospheric conditions. There are several types of GPS tracking system available in the market.

The Internet of Things (IoT) is a concept that refers to the interconnected network of physical objects, devices, and sensors that are embedded with software, sensors, and other technologies to collect and exchange data with other devices and systems over the internet. IoT enables these "things" to communicate, share information, and perform various tasks, often without direct human intervention. It has applications in various domains, such as smart homes, industrial automation, healthcare, agriculture, and more, offering improved efficiency, convenience, and data-driven insights. IoT plays a pivotal role in the digital transformation of industries and our everyday lives.

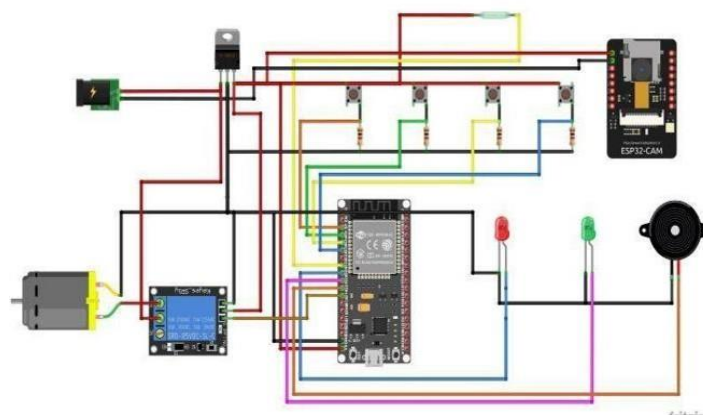


Figure.2 Schematic Diagram

RESULTS

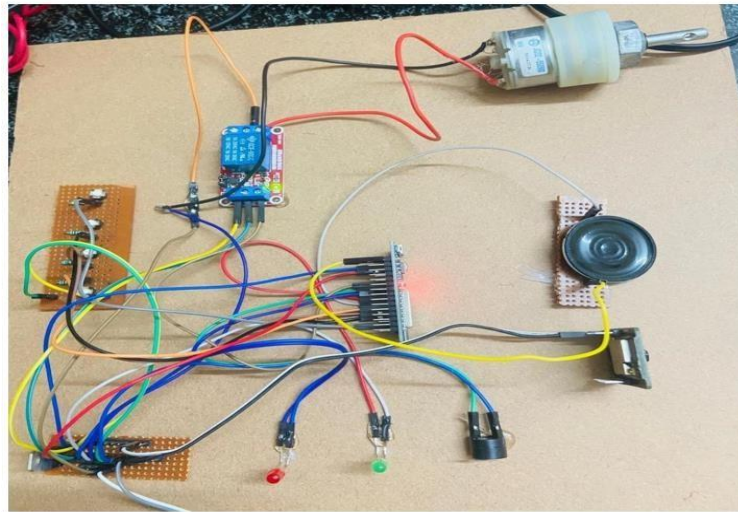


Figure.3 Project Setup

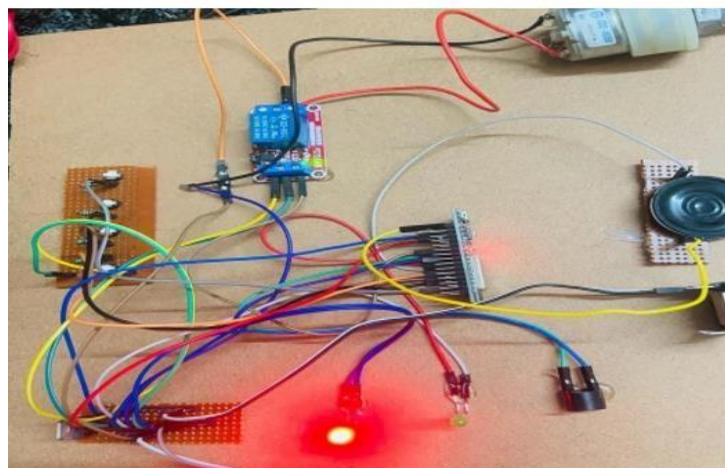


Figure.4 Working Kit

ELEMENT	INPUT	OUTPUT
Keypad	Correct pin	Green Led ON Motor ON Red Led OFF Buzzer OFF
Keypad	Incorrect pin	Green Led OFF Motor OFF Red Led ON Buzzer ON
Blynk app Ignition Button	Ignition ON	Motor ON
Blynk app Ignition Button	Ignition OFF	Motor OFF

Table.1 Results

ADVANTAGES

- Easy to use.
- It reduces the time delay.
- Low power consumption.
- Flexible and reliable.

APPLICATIONS

- This system can be used in cars and bikes.
- This system can be used in defense.
- This system can be used in industry.

CONCLUSION

The ongoing research in the field of IoT and its implementation in full or partial manner will improve the quality of life. Thus, the proposed project “IoT Based Advanced Vehicle System” would take the security level a step forward and try to cover many of the loopholes which are in existing technology. The verification shows that the IOT based advanced vehicle System is realistic and can control the theft automatically. The response time delay is also less. This IOT based advance vehicle system enables user safety by seat belt compulsion, key less locking /unlocking system to operate the car. In addition to the above, it gives security from towing of car and theft through the car window. The system is ideal for cars, further it can be used for other vehicles too by using these components and modules used in this project. IOT based advance vehicle system offers utmost efficiency, convenience, safety & reliability. It is an ideal solution for car users

FUTURESCOPE

This embedded system will be used in all automobile vehicles in next generations due to its features. It is very important for us to secure our vehicles for doing so we can use this system in our vehicles. As we can see vehicle theft is increasing day by day this system helps us to secure our vehicle as well as show the location of the vehicle. This project can be further modified by using the application in which we can know the name of the place and location instead of using keypad we can use fingerprint and face recognition. So this project by using a GPS system that

helps to find out the exact position of the vehicle with the help of its latitude and longitude which then can be sent to the owner of the vehicle via SMS.

REFERENCES

1. S. Gupta, A. Kumar, and R. Singh (2021) "Design and Development of Theft Vehicle Detection System Using IoT."
2. A. Sharma, S. Yadav, and N. Gupta (2020) "IoT-Based Theft Vehicle Detection and Tracking System."
3. P. Singh, R. Gupta, and S. Verma (2019) "Theft Vehicle Detection System Using IoT for Real-Time Monitoring and Tracking."
4. M. Gupta, A. Verma, and S. Sharma (2018) "Development of a Smart Theft Vehicle Detection System Using IoT Technology."
5. N. Jain, S. Agarwal, and A. Sharma (2017) "IoT-Based Theft Vehicle Detection and Alarm System for Enhanced Security."
6. S. Yadav, R. Sharma, and A. Singh (2016) "Real-Time Theft Vehicle Detection and Tracking System Using IoT."
7. R. Kumar, S. Gupta, and P. Kumar (2015) "IoT-Enabled Theft Vehicle Detection and Monitoring System with GPS Tracking."
8. A. Kumar, S. Verma, and M. Sharma (2014) "IoT-Based Theft Vehicle Detection System with Remote Monitoring and Control."
9. S. Sharma, N. Jain, and R. Singh (2013) "Smart Theft Vehicle Detection System Using IoT for Enhanced Security Measures."
10. R. Gupta, A. Sharma, and S. Yadav (2012) "IoT-Integrated Theft Vehicle Detection and Tracking System for Efficient Security Management."