

## **ANTI-THEFT SYSTEM FOR TWO-WHEELERS USING PARKING MODE APP**

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### **ABSTRACT**

The main objective of this entire system is to ameliorate the safety of the vehicles and truncate the thefts at insecure parking places. An efficient automotive security system is implemented for anti-theft using an embedded system integrated with Global Positioning System. This system can be installed on any bike, but the main objective of this system is to prevent the theft of bikes. The main feature which makes it preferable is its low cost and can be used by any leading manufacturer of bikes. There is a paucity of secure parking spaces in many neighbourhoods, so a lot of bikes are usually parked on the side streets and some insecure parking places, which makes it a very easy target for the thieves. This system is designed and developed to reduce the number of vehicle thefts and fuel theft at such places, usually for the bikes which do not come with any theft prevention system. This system is designed and developed to reduce the number of vehicle thefts and fuel theft at such places. This system can be installed in the vehicle and would be helpful in tracking using GPS and IoT. If there is a notification of theft, then subsequently the theft can be averted. The principle point of the present exploration work is to outline and create a shrewd and strong security framework for vehicles that can avert robbery and give data on mischances.

**Keywords:** *GPS, IoT, Security, Tracking*

### **INTRODUCTION**

Vehicle security is of utmost importance in today's world. As unemployment is increasing day by day, even the literate people are involved in theft and robbery. So, the security of our vehicles is the foremost requirement. The system which is designed ensures the security of our vehicle. These day's vehicle robbery cases are higher than any other time, it has gotten to be fundamental to give a vehicle efficient security with the main solid hostile to burglary gadget. The vehicle focal locking framework guarantees the best ensure to secure your vehicle from various types of burglary cases. It is a vehicle security gadget that offers fantastic insurance to your vehicle. However, this framework couldn't demonstrate to give complete security and openness to the vehicle in the event of a burglary. So a more created framework makes utilization of an inserted framework focused around GSM innovation. The outlined and created framework is introduced in the vehicle. Whether one is a holder of a single vehicle or above 1000, Vehicle Tracking System (VTS) is an answer for spot, track and secure your portable resources. It is intended for exact and ongoing following and reporting of your vehicle(s), regardless of where it is placed. A combination of high-affectability GPS units in a vehicle following frameworks has empowered these gadgets to work in different varieties of situations, for example, characteristic ravines, urban gulches and much under substantial foliage, the length of system scope is solid. Right now GPS vehicle following guarantees their wellbeing as voyaging. This vehicle following framework found in clients vehicles as a burglary counteractive action and salvage gadget. Vehicle manager or Police take after the sign emitted by the following framework to place a victimized vehicle in parallel the stolen vehicle motor rate going to diminished and pushed to off. In the wake of exchanging on the motor, the engine can't

restart without the consent of the watchword. This framework introduced for the four-wheelers, Vehicle following generally utilized as a part of naval force administrators for war fleet administration capacities, directing, send off, ready for and security. The applications incorporate observing driving execution of a guardian with a teenage driver. Vehicle following frameworks acknowledged in shopper vehicles as a burglary avoidance and recovery gadget. If the burglary recognized, the framework sends the SMS to the vehicle holder. After that vehicle manager sends the SMS to the IoT modem appended to the controller, issue the important signs to stop the robbery.

### **LITERATURE SURVEY**

[1] Bang Liu, Nianboliuproposed in modern society, vehicle theft has become an increasing problem for the general public. Deploying onboard anti-theft systems could relieve this problem, but it often requires extra investment for vehicle owners. In this paper, we propose the idea of the phone inside, which does not need a special device but leverages an obsolete smartphone to build a low-cost vehicle anti-theft system. With the help of ad hoc authentication, the system can identify vehicle theft and send out timely alarming and tracking messages for rapid recovery. The realistic experiments running on Android smartphones prove that our system can detect vehicle theft effectively and locate a stolen vehicle accurately, with average errors less than the sight range.

[2] BhagyashriBhaskar proposed that the security of vehicles is of prime concern. This system will provide restricted access only to authorized personnel. The first layer of protection in this system is fingerprint matching and alcohol detection. The Alcohol detection system will stricture the drunken person. We have designed a locking or unlocking system using the fingerprint module. This system helps to activate, authenticate and detect the user in real-time for the security of the vehicle. The second layer of security system is fuel theft detection. In this layer by using GSM, the message will send to the owner if fuel theft is detected.

[3] S.Priyadharshinil, N.Anupriya In the automobile field, security and theft prevention are some of the main areas in the current scenario. The security goals are achieved by the GSM, GPS technology. But it is commonly used for the four-wheeler and not in the two-wheeler. Using these technologies, we can only track and monitor the vehicle. Previously, GPS is used to get the current position of the two-wheelers and that data will be sent to the user mobile phone through the GSM. This paper implements for theft prevention in two-wheeler using GSM, GPS, and Android technology. It can track, monitor and stop the stolen two-wheeler too by this system. The two-wheeler position is obtained by the GPS module, which is sent to the microcontroller, which then sends the message to the user smartphone through the GSM module. Here PIC microcontroller, air solenoid, and water solenoid valves are interfaced with GSM modem and GPS module which will be fixed in the two-wheeler. Users can stop the vehicle under theft by an android application.

### **EXISTING SYSTEM**

The existing system to find the vehicle where it is and also you can stop that particular vehicle by sending a message. The entire system is hidden inside the vehicle, until unless authorized one comes and giving security code to that system. 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. This existing system includes a GPS modem which retrieves the location of a vehicle in terms of its longitude and latitude. This data is fed to the microcontroller which is interfaced with a GSM modem. Microcontroller retrieves the location details from the GPS and sends it to the concerned authority in the form of an SMS over GSM modem on periodical intervals so set by the user. An LCD is interfaced to the microcontroller for crossing the data received before being sent over GSM.

## **DISADVANTAGES**

- Fuel theft cannot be done in the existing system.
- Theft done by uplifting bikes cannot be identified.
- No buzzer alerts are present in the system, only SMS is sent over theft.

## **PROPOSED SYSTEM**

In this system, the vehicle owner should enable the parking mode while parking the area street level through IoT is initially updated. Our system sends a distance level between the vehicle and ground with help ultrasonic sensor and fuel level is measured by using a float level sensor through the IoT module. In the parking mode: If someone tries to tamper the vehicle, which is detected with the help of proximity sensor and ultrasonic sensor. The proximity sensor detects the vehicle wheel rotation and the fuel level is decreased and sends the alert information to the vehicle owner through cloud communication with GPS location finally, the message is sent along with vehicle position and fuel level in the tank. This enables in identifying the level of fuel at different times whenever the tank is opened. The main concept in this design is introducing mobile communications into the embedded system. The vehicle thief takes only a few minutes to deactivate the security system. In the proposed system, the owner of the vehicle immediately receive a message when the fuel tank is opened by the operator or by a fuel traded and also the height of the fuel tank when opening and closing of the tank. The poised system uses Wireless based communication for monitoring the vehicle's position. Initially, the process involves measuring the fuel level followed by eliciting the information and sends it to the server for further detection. A GPS tracking unit is a device that uses the Global Positioning System to determine the precise location of a vehicle, person, or another asset to which it is attached and to record the position of the asset at regular intervals. The recorded location data can be stored within the tracking unit, or it may be transmitted to a central location database, or internet-connected pc, using a cellular. A type of relay that can handle the high power required to directly drive an electric motor is called a contactor. Hence the changes are updated in-app.

## **ADVANTAGES**

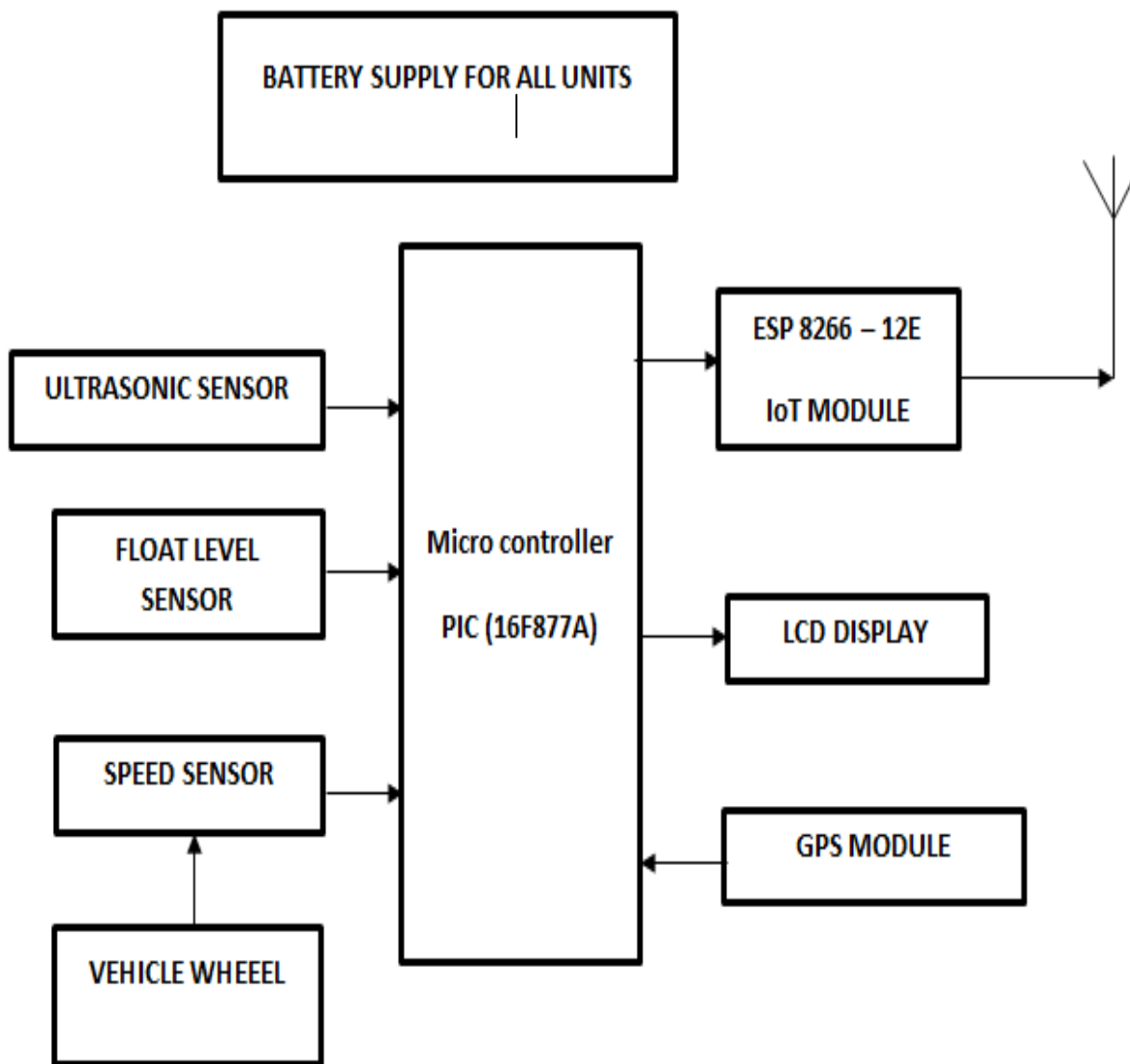
- The fuel theft can be identified in real-time and steps can be taken to. avert theft.
- Theft done by uplifting bikes can be identified.
- A real-time GPS location of the bike can be updated in the app in case of theft.

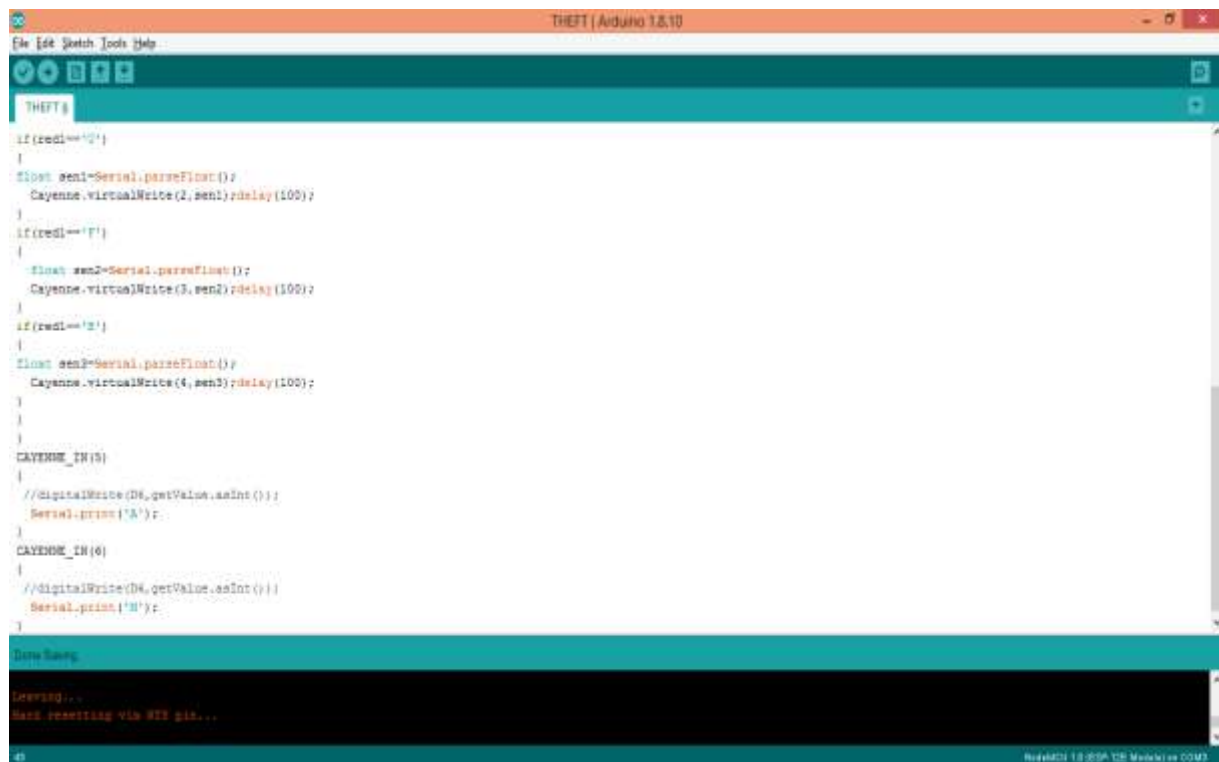
## **CONCLUSION**

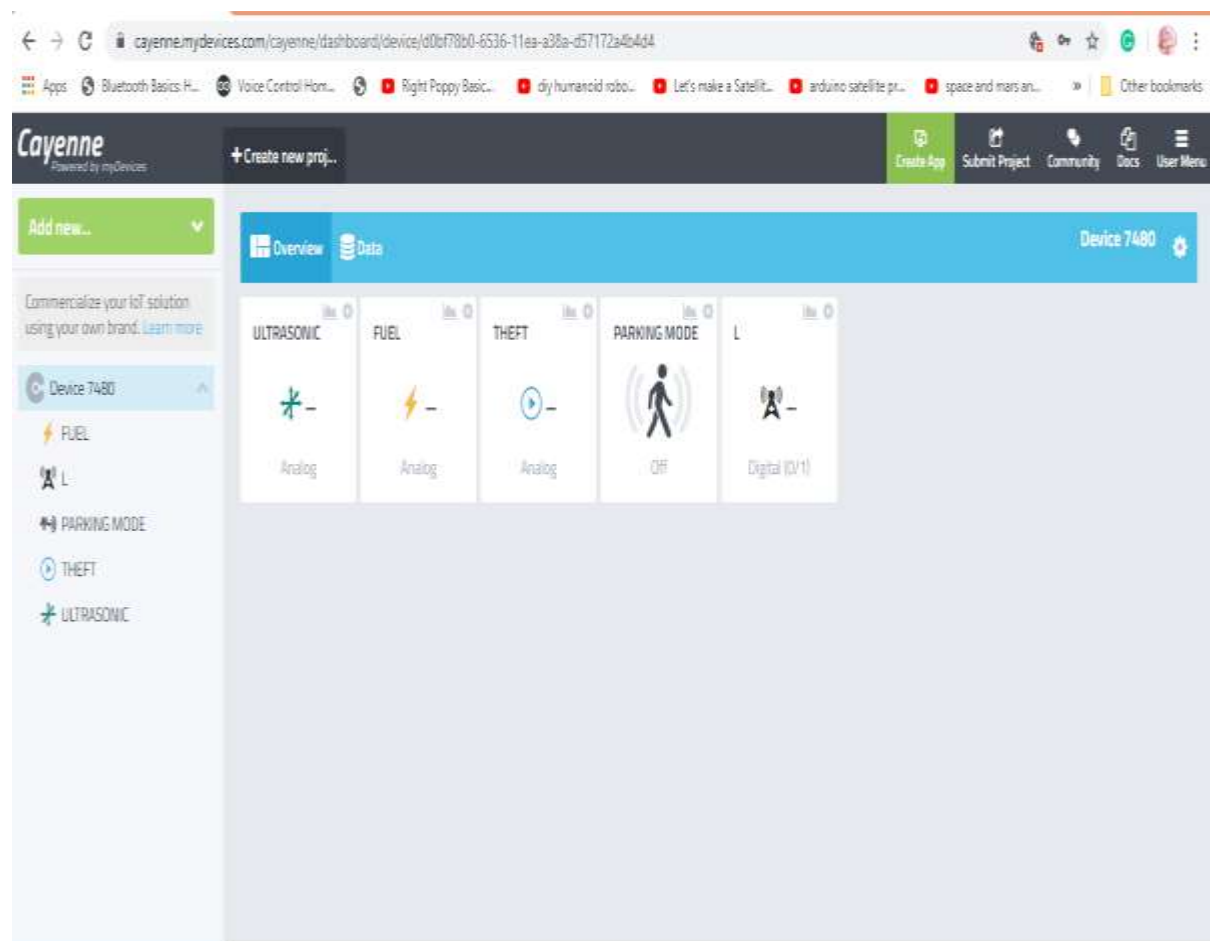
The system developed effectively provides an application of connected devices of the Internet of Things in transportation. This project covers all security functions like proximity sensor when somebody tries to move the vehicle, float sensor to monitor fuel theft as well as ultrasonic sensor in case of uplifting the bike or if WIFI is not connected to the authentic device and somebody tries to ON the ignition the system will sound a buzzer. It is designed and implemented with ESP-12E MCU with embedded Wi-Fi. And it is programmed with the PIC controller. The programming complicated because of HTML web page or app contains required to include. The main objective of bike security system is to prevent the bike from the unauthenticated handling and prevent the bike from getting stolen. This bike security feature will playan

important role in the day to day life in the future. This project is more user-friendly, reliable, cost-efficient.

### ARCHITECTURE DIAGRAM







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