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Vehicle Theft Detection Using IoT

Rajathi N [a], Vikram P [b], Gowthaman A [c], Devanand P S [d]

[a] Professor, Department of Information Technology, Kumaraguru College of Technology, Tamil Nadu, India.
[b] Student, Department of Information Technology, Kumaraguru College of Technology, Tamil Nadu, India.
[c] Student, Department of Information Technology, Kumaraguru College of Technology, Tamil Nadu, India.
[d] Student, Department of Information Technology, Kumaraguru College of Technology, Tamil Nadu, India.

ABSTRACT:

In the current scenario more over 10 million property crimes are occuring in our day to day life. Among them vehicle theft is listed to be in the top because that occurs in all over the world. The technology has been improved in order to overcome these type of issues. For this purpose there are few methods that includes for detecting the vehicle theft which also includes the burglars and then break the system , later they could steal the vehicle. In this paper we used few mechanism to reduce the vehicle thefts. Here we use the alarm system in order to get awareness to the vehicle owner when their vehicle is stolen or moved. This also updates the location to the user that means the registered user via IoT. For this purpose we have used GPS technology in order to share the location of the vehicle. The technology that is used in this paper is GSM for sending the alert message to the owner when the vehicle is moved.

Keywords: GSM, GPS, WiFi, ESP 8266.

1. INTRODUCTION:

The major and crucial role that is played in the human life for enabling the connection among the physical devices and humans via the data monitoring and controlling the device by using remote location hence this becomes intelligent is done by IoT(Internet of Things). This technology is used to bind the wide range along with the various things which may include animals, vehicle, grids, sensing etc. Till now the survey has been increased 31%. This may also help in the business markets.

In our day to day life the vehicle theft tends to be the biggest issue that need to be traced and detected. The major thing that is used in this is safety and security. In the existing system the cost for safety tends to be more. The sensor that is used here is arduino which connects with the DC motor to GPA and GSM. The mobile communication is done via the WiFi module ESP 8266. GPS is used for the navigation to track the vehicle when it is moved. GSM is used to provide the alert to the owner along with the message that holds the latitude and longitude information of the vehicle. This paper is used to prevent the vehicle theft and also used to rescue the device.

2. LITERATURE SURVEY:

2.1 IoT Based Vehicle(Car) Theft Detection:

Rajasekar Kommaraju, Rangachary Kommanduri their research was based on the crimes of vehicle in flat-top and which could be controled by the entire components of earth. Some advances have been proposed with new strategies that are used to overcome the downside. Shields are also used in order to detect the vehicle theft for interference by someone or something. They used RFID card as the authorized key where this provides the keypads for the engine where the authorized person need to provide the passwords. When the password goes wrong this provides the buzzer sound continuosly.

2.2 Vehicle theft identification and license authentication using IoT:

Aryan Verma and others did the research regarding our 21st century where it is more difficult to trace the real time platform devices to overcome from the complex situation. For this purpose they used the technique GPS/GSM for tracking the vehicle. This system provides the location of the vehicle when the third party authorizes it. This sends the SMS to the owner along with the latitude and longitude range. Once the alert message received to the user the owner could able to stop the vehicle motor by using the microcontroller.

2.3 Theft detection and engine lock system using Arduino:

K Praveen and others research based on the vehicle theft along with locking the engine. In the current scenario our daily life needs vehicle for all emergency situation also including our household applications. So we are here to provide the safety precaution for antitheft detection of vehicle and engine lock system. This is done by using GSM and GPS, where this is operated using microcontroller when the unauthorized person moves the vehicle. The cost for this technique is more effective.

2.4 IoT based real time vehicle theft control system:

Sneha K and others did the research on urban vehicle where the growth of them increases and it is shared by most of the citizens. The security and safety is the most important this in the urban population. Moreover, the antitheft system is more important in vehicle theft by keeping track of vehicle movement and monitoring them. For this purpose IoT is the most governing technique with the services provided by the cloud. Here ESP 8266 is used to provide the alert message to the owner of the vehicle then they could lock the engine.

2.5 A personal use vehicle anti-theft tracking system using IoT platform:

Saw Nang Paing and others research based on vehicle theft which is a serious issue in many countries because of the rapid increase of vehicles. This paper plays a important role to safeguard it. Here they introduced conventional VAT system which is more expensive. Sametime IoT became popular to connect people with the things. The module used here is GPS and GSM to share the alert message to the owner of the vehicle.

3. EXISTING SYSTEM:

In the existing system beep, alarm was most widely used in the vehicles which tends to be high-priced. The car buzzer is the easiest way to protect the vehicle from theft. When the vehicle is at the far away from the user the buzzer might not be beneficial. Car alarm system is used to reduce the vehicle theft which helps the various type of sensor such as pressure, tilt etc. This type could provide the buzzer with some limit the it could be disabled. In order to solve this issue the hardware and software technique is binded together with some verification systems. The disadvantage in this system is the accuarcy to overcome this the proposed sytsem has been implemented.

4. METHODOLOGY:

4.1 GPS MODULE:

This tends to be the third generation in POT(Patch Antenna On Top) GPS module.This GPS helps to provide the solution via the position and speed accuracy in order to receive the tracking capabilities in urban conditions. This helps to provide the date, time, longitude, latitude etc. This does not need external components except the supply from the capacitors by using the battery back up.

4.2 GSM MODULE:

This is a device used for mobile in order to provide the data link that is wireless. This communicates using the sensor to the owner by providing the alert message when the vehicle is moved by the third party. This moduke receives the signal from the monitoring radiation using serial data to the host server. For this purpose here we have used the Arduino sensor to receive the message along with the location information.

4.3 ESP 8266:

This is a open source firmware which always gives the user flexibility to update or rebuilt the previous module and always track the changes the entire interface till the module reaches the requirements of the owner. Here the MicroUSB is included for the purpose to connect the programming the power board. This board blinks and stops immediately when it is connected to the computer.

5. PROPOSED SYSTEM:

The proposed system is used to detect the vehicle theft using IoT technique. Therefore in the current scenario the robbed vehicle is increased till the date. Hence the proposed system overcomes the drawbacks of the existing system by using the alert message. The GPS and GSM sends the alert message to the owner of the vehicle along with the longitude and latitude information with the help of the module known WiFi. Also here we have the vibration sensor for detecting the vehicle.

6. CONCLUSION:

In our day to day life there are many violent crimes among them vehicle theft is also tends to be the greater loss in our economic efforts. The proposed system helps to prevent the vehicle theft for the safety purpose. This also detects the vehicle effectively with low cost. When the third party access the vehicle the GSM module provides the alert measage along with the location information in order to reduce the vehicle theft.

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