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HOME SECURITY SYSTEM BY USING GSM & SECURITY SENSOR

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ABSTRACT:

IoT has been a great area of research for providing excellence in area of designing smart cities and intelligent systems. Fuel theft from standing vehicles is a major problem which can be very easily resolved using this technique. In this paper we have proposed a system for detection of fuel theft from vehicle using the concept of IoT as well as wireless sensor networks. The method has shown very good results as compared to other state of the art methods. Security is a too much important thing to be concerned in our day-to-day life. Everyone wants to be secured as much as possible. Knowing our home or shop is secure provides us peace of mind. We know now a day's theft has become a major issue. In this project we design an advanced electronic security system by using small PIR and IR sensors built around the Node MCU controller. PIR sensor sense the presence of intruder & Controller reads the signal from sensors and if intruder is detected, it compares the detected image with predefined images in the database then it turns on the buzzer as well as making a notification to predefined number. At the same time the video of intruder can also be monitored and make them anesthetic.

Keywords: *PIR, GSM, BUZZER.*



1. INTRODUCTION:

We have designed an interesting and cost effective security alarm for highly authentication places. This Gadget helps you to protect your areas from thieves. In this project we are going to use a Node MCU, P.I.R Sensor module, LCD, DVR device and some other components. This Project can either powered with 9V Battery or with U.S.B of your computer. This is a basic motion-sensing alarm that detects when someone enters the area. When an intruder is detected, it compares the detected image with predefined images in the database then it activates a siren. Our body generates heat energy in the form of infrared which is invisible to human eyes. But it can be detected by electronic sensor. This type of sensor is made up of crystalline material that is Pyroelectric. In this project, we are using P.I.R. Motion Sensor Module as an infrared sensor that generates electric charge when exposed in heat and sends a signal to Node MCU. According to level of the infrared in front of sensor, Node MCU displays the status on L.C.D and starts buzzing speaker and glows the L.E.D. A simple program is running on Arduino IDE which checks sensor if anything is moved or new object has been detected.

2. PREVIOUS STUDY:

Internet of Things (IoT) attracts much attention recently and paints a beautiful picture of future life for us. It is a technology that deals with bringing control of physical devices over the internet. In the upcoming years, IoT-based technology will offer advanced levels of services and practically change the way people lead their daily lives. Advancements in medicine, power, gene therapies, agriculture, smart cities, and smart homes are just a very few of the categorical examples where IoT is strongly established. Here we propose an efficient anti-theft system that



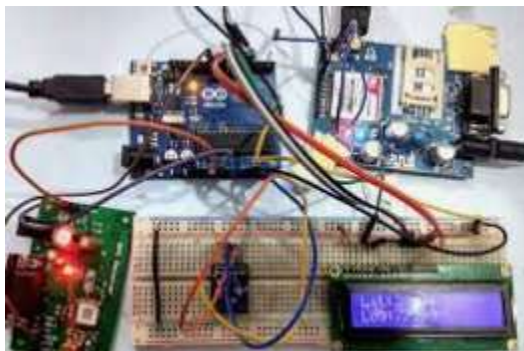
allows users to efficiently monitor the condition of the vehicle over the internet. This technology is the wireless sensor network technology, which mainly uses interconnected intelligent sensors to sense and monitoring. Our system uses a microcontroller Node MCU for processing all user commands. We have used Node MCU because it has an inbuilt Wi-Fi module that is used to connect to the internet and receive user commands. The device will monitor the environment using the different sensors and with the help of the internet, information is sent to the server using Wi-Fi. The Server will accept the information from only one particular IP (internet protocol) address and then represent the data in the form of the JSON (JavaScript Object Notation). JSON (JavaScript Object Notation) data will further used to represent the monitored data in the form of the Google graph. Each sensor is having its unique graph which represents the latest entries that are sent by the device.

3. PROPOSED SYSTEM:

With the growth in wireless technology, the danger of attacks is also increase. For making wireless technology secure cryptographic methods can be used. But cryptographic methods can defense outside attacks. Intrusion detection system monitors traffic of the sensor nodes and detect abnormal behavior of the nodes. The major approaches that an Intrusion Detection System can used to specify attacks are [8]: 1. Anomaly Detection: this approach checks whether the behavior of the nodes can be consider normal or not. The approach first describes the feature of the normal node. After that any activity that is not describe into the feature behavior of node is consider as anomalous. Advantage of this method is that it can detect novel attacks. And the disadvantage of this method is false alarm



rate is high. 2. Misuse Detection: this is rule-based method, rules are define on the basis of the signature of known attacks. The behavior of nodes is compare with known attacks. and if behavior match with predefined rules then attack detected. This method works efficiently if the attack is known, but fails if the attack is novel attack. 3. Specification-based Detection: this method is combination of anomaly detection and misuse detection. This method focus on discovering deviation from normal behaviors. In this mechanism the behavior that can be consider normal is defined manually by human. Drawback of this approach is manually defining the all specification. The methodology used in the proposed model is to develop a prototype model of a house, in the prototype an interface of mercury switches, motion detectors, and WiFi module is being developed with a microcontroller. The communication between the microcontroller and other.



4. CONCLUSION:

In this paper a method for detecting the fuel theft of vehicle has been proposed. The method has been developed using recent IoT and wireless technologies provided by new java bases libraries. It is observed that the method has shown very good results as compare to other state of the art methods. The security system described in this project is capable of detecting intruders. The system informs the



authorized owner of an unauthorized intrusion via SMS no matter where the person is, except if the person is in the region where there is no network coverage at the time of intrusion. The commonly available systems today are one where the intrusion is detected via alarms making out sounds. The system is very beneficial for people who want to safe guard their properties and restrict access. This system is very affordable and easily operated, so that anybody whether rich or comfortable, young or old can make use of this system.

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