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Advanced Bike Security System

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ABSTRACT

Nowadays, Securing bikes from robbers and preventing unlicensed people from riding bike is an immense problem for all. Therefore, we established a sheltered solution for this problematic task. To avoid these tribulations, we proposed a groundbreaking concept in our project. This system covenant with the design development of a theft control system for an automobile, which is being used to prevent the thievery of a vehicle. Our project makes use of an embedded system based on Global System for Mobile communication (GSM) technology. The designed & developed system is mounted in the vehicle. An interfacing GSM Module is also connected to the microcontroller (MSP430), which is connected to the engine. RF reader senses the License (RFID) information. This information is passed to the central processing system, RFID tag which contains the details of the driver, can be used as a security information and then the microcontroller unit sends SMS to the Vehicle owner. The microcontroller receives the signals from the RFID and it controls the ignition of the engine. Further, Alcoholic Sensor deducts whether the person has intoxicated, if the person is found inebriated, sensor deducts and makes microcontroller unit to limit the ignition system and the engine is locked. The designed system is very simple & cost is low.

Keywords : Thievery, Embedded Aystem, GSM, RFID, Alcoholsensor, Ignitionsystem.

I. INTRODUCTION

These days vehicle thievery cases are higher than any other time; it has got to be fundamental to give a vehicle a sheltered security with the RFID and GSM. It is a vehicle security gadget that offers secured access to the vehicle. However, this framework could not demonstrate to give complete security to the vehicle in the event of burglary. So a more created framework makes utilization of an inserted framework focused around GSM innovation. A vehicle is stolen every six minutes in India. It is known that millions of people lose their vehicles due to theft and accidents.

In addition to that there are many people lose their lives due to accidents on the roads. Most cases of theft have been caused by the lack of remote control system. It is known that, traditional systems used to monitor the vehicles, which depends mainly on alarm signal. Using GSM technology whereas this system also enhances personal safety of individuals. The main aim of the present research is to design and develop an advance and robust security system for vehicle that can prevent theft and provides information on robberies. The system being developed through the present work uses GSM system and can be made affordable. Major bike accidents occur due to unlicensed and drunken people who misuse driving laws.

Therefore, To overcome this we found a secure solution to this problem. We provide bike access only to those people who own a license provided with RFID tag and who has not drunk. We also help the vehicle owner to get the details of the person who gets access to bike, by giving a text message to the registered mobile number through GSM technology. The output is also obtained from the LCD display, which is interfaced to the embedded kit.

II. METHODS AND MATERIAL

Hardware Required:

- MSP430
- GSM Module
- RFID Reader and RFID Tag
- Relay

- DC Motor(Vehicle)
- Ignition Key
- Sensors
- Power Supply

MSP430 MICROCONTROLLER : The definition of a microcontroller is somewhat difficult due to the constantly changing nature of the silicon industry. What we today consider a microcontroller with medium capabilities is several orders of magnitude more powerful, than the computer used on the first space missions. Nevertheless, some generalizations can be made as to what characterizes a microcontroller. Typically, microcontrollers are selected for embedded systems projects, i.e., control systems with a limited number of inputs and outputs where the controller is *embedded* into the system.

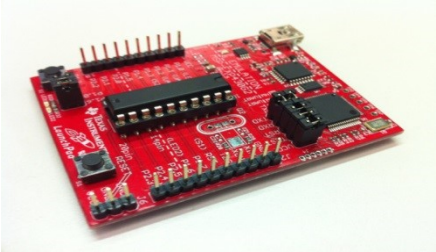


Figure 1. *MSP 430*

RFID READER:

Radio frequency identification (RFID) is a general term that is used to describe a system that transmits the identity (in the form of a unique serial number) of an object wirelessly, using radio waves. RFID technologies are grouped under the more generic Automatic Identification (Auto ID) technologies.The barcode labels that triggered a revolution in identification systems long time ago, are inadequate in an increasing number of cases. They are cheap but the stumbling block is their low storage capacity and the fact that they cannot be reprogrammed.

Thus, an RFID System can be visualized as the sum of the following three components:

- RFID tag or transponder
- RFID reader or transceiver

Figure 2. *RFID READER & TAG*

RFID TAG: An RFID tag is composed of an antenna, a wireless transducer and an encapsulating material. These tags can be either active or passive. While the active tags have on-chip power, passive tags use the power induced by the magnetic field of the RFID reader. Thus passive tags are cheaper but with lower range (<10mts) and more sensitive to regulatory and environmental constraints, as compared to active tags.

GSM : GSM (Global System for Mobile communications: originally from *Group Special Mobile*) is the most popular standard for mobile phones in the world. Its promoter, the GSM Association, estimates that 80% of the global mobile market uses the standard GSM is used by over 3 billion people across more than 212 countries and territories. Its ubiquity makes international roaming very common between mobile phone operators, enabling subscribers to use their phones in many parts of the world. GSM differs from its predecessors in that both signaling and speech channels are digital, and thus is considered a *second-generation* (2G) mobile phone system. This has also meant that data communication was easy to build into the system.

Figure 3. *GSM*

III. BLOCK DIAGRAM

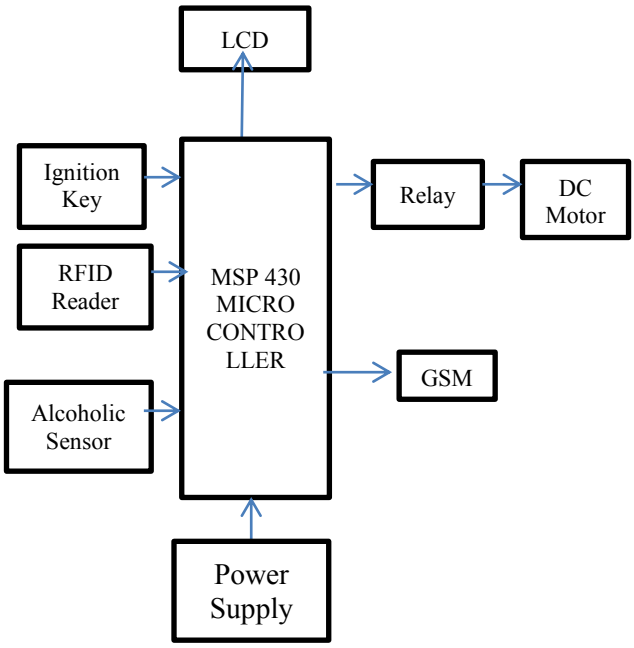


Figure 4. System Diagram

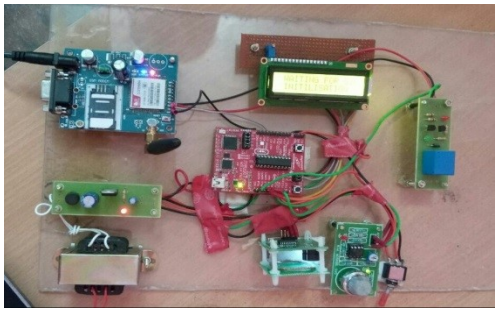
IV. OBJECTIVES

* The Objective is to design and develop an advanced vehicle security and locking system in the real time environment.
* This system is made for security using RFID and also we can lock the vehicle.
* To design and develop a simple and low cost bike security system.

V. RESULTS AND DISCUSSION

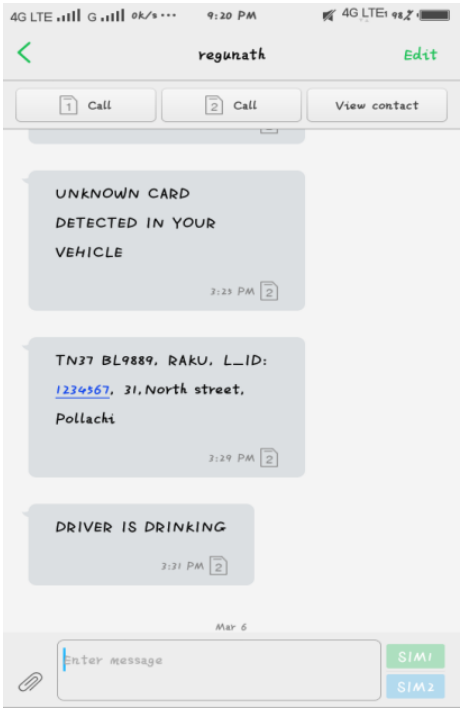
This paper serves to provide best bike security and authorized access. This paper abides by the traffic rules.

WORKING MODEL:



VI. CONCLUSION

- We have implemented a simple system using RFID & GSM.
- It is a low cost & design efficient system.
- Low in power consumption.
- The secured & limited access to bikes is implemented.
- The information about the persons who are accessing the bike is got as SMS through GSM Technology.



VII. ACKNOWLEDGEMENTS

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VIII. CONCLUSION

AddIn general, An IoT-based intelligent home-centric healthcare platform (iHome system), which seamlessly connects the smart sensors attached to human body for monitoring for daily medication management. The idea

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