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THEFT DETECTION AND ENGINE LOCK SYSTEM USING ARDUINO

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Abstract -. In this research paper presented vehicle theft detection and engine lock system using Arduino is discussed. As vehicle based transportation is significant in today life for all emergency, societal, household applications we need to provide a solution for safety of the vehicle by an antitheft detection system and engine lock system. By using Global System for Mobile(GSM) technologies, Global Positioning Satellite (GPS) system and in coordination operation with microcontroller the theft detection system operates and it alerts the vehicle alert system. This is a cost effective system and it forms an efficient antivehicle theft system for benefit of the society which is focusing towards Internet of Things(IoT) technologies related applications.

Key Words: Theft Detection, Arduino, GSM, GPS, IoT

1.INTRODUCTION

Vehicles [1] have become important means of communication as it is essential for transportation of essential commodities from a source location to a destination location. Vehicles in any form need to have proper identification relating safety as vehicle alert and location identification [2] gain importance. Nowadays, vehicle identification, intrusion and theft control system using well known GSM and GPS technologies are being used and it is considered as a possible viable approach[3]. Automated Vehicle based inspection[4] is also becoming significant where Global system for Mobile communications and Global Positioning Tracking System [5] also helped in preventing vehicle theft and location tracking system more efficient and utilized for developing safety systems in addition to radio frequency identification(RFID) [6]systems. Microwave systems [7]-[8] are used for further aiding RFID systems where IoT based systems are also nowadays used for vehicle tracking and location identification helping in vehicle identification and preventing vehicle theft. Arduino based systems and Raspberry pi systems have also gained popularity in this related fields of IoT based applications for vehicular safety. Further wireless systems such as sensors in the form of wireless sensor networks [9] have useful in IoT systems.

2. PROPOSED SYSTEM

Research works of [1]-[6] have given various information on vehicle identification, alert, GSM and GPS based vehicle location tracking systems. The proposed system uses Arduino Uno [10], Accelerometer[11], GSM module, GPS module, LCD display, Relay, Buzzer and DC motor and buzzer.

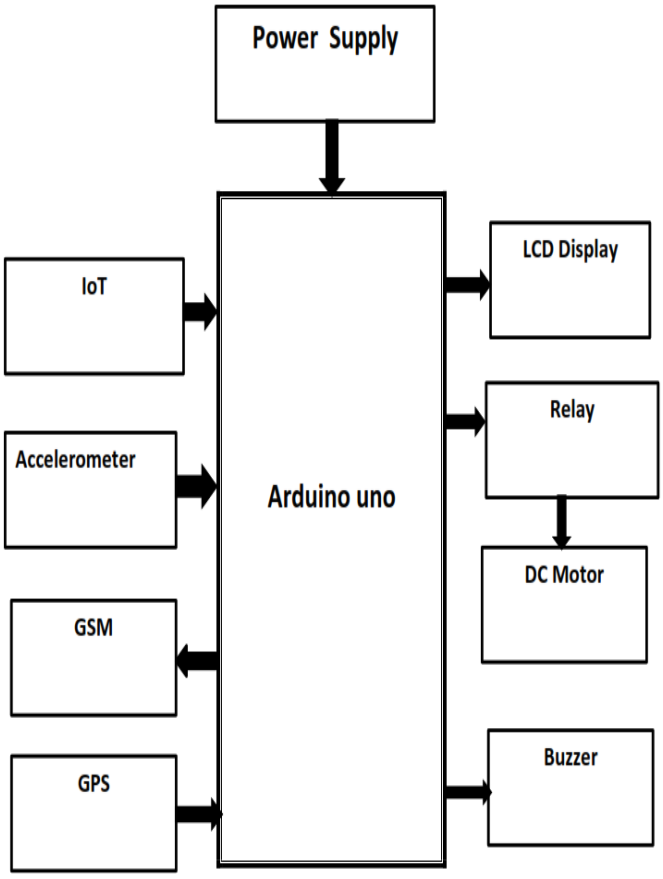

Fig.1Block Diagram- Theft Detection and Engine Lock System

From the proposed system, operation of the Theft Detection can be used for developing safety applications for easy vehicle identification and alert system using the Buzzer.

3. RESULTS AND DISCUSSIONS

The figure 2 shows the system arrangement for vehicle theft detection and the vehicle status are shown in the LCD Display

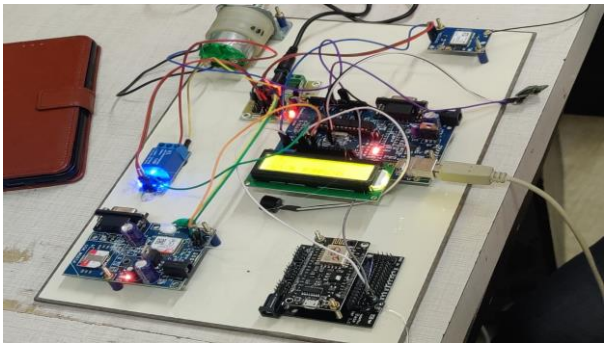

Fig.2 Arrangement for Vehicle Theft Detection

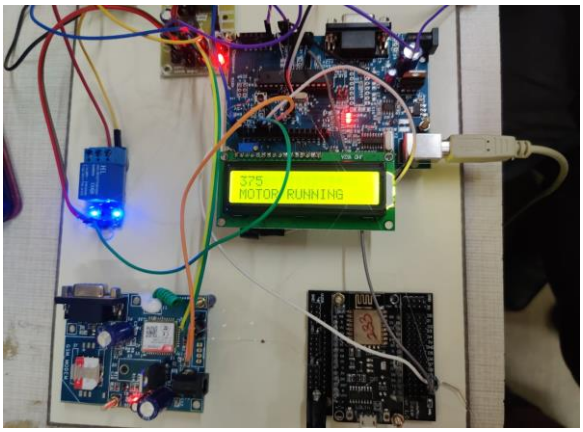

Figure 3 Running Condition DC Motor

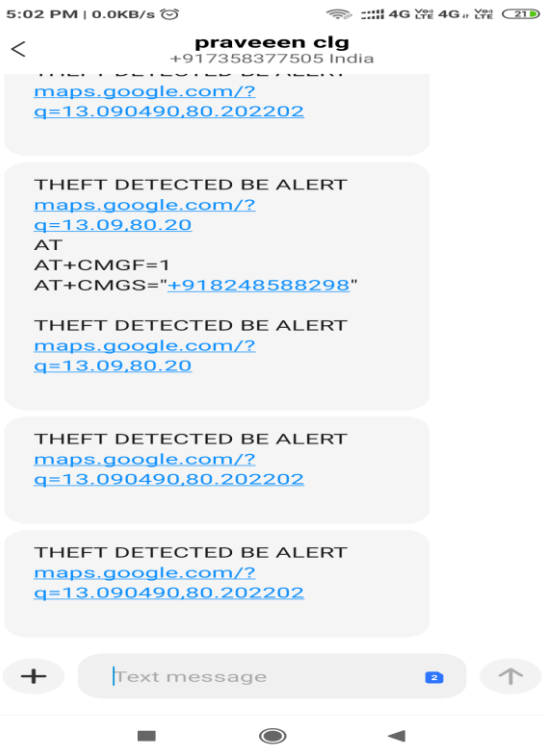

Fig.3. Running condition of the DC motor is given by the vehicle theft detection system where the LCD display shows Motor running. When accelerometer meter sensor is titled, the motor gets stopped and theft message comes to the end user mobile which is the destination location.

CONCLUSION

Vehicle theft detection is very important for the society where transportation is essential. From the given system in this work safety can be achieved and it is also system with very less maintenance cost. Using this system work for theft detection future applications can be developed and it is vita for IoT oriented system applications.

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