A SURVEY PAPER ON, "ADVANCED VEHICLE UTILITIES AND SECURITY".

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ABSTRACT

In todays world there are several systems already designed in automobile industry for convenience and security purpose like antitheft buzzer, speedo meter, fuel level meter, steering lock system. Taking in consideration the real need of the transportation industries as well as the personal vehicles holders, the proposed system will not only provide facilities like GPS tracking , biometric ignition, battery level indicator etc. this system will provide petrol level indication in digit . The point of attraction of this project is notification of the amount of petrol top-up on the cellphone and detailed overview of petrol consumption in the form of graph or data sheet. As Automotive industry is growing very fast and estimation of fuel level and its indication is very much required to make aware the vehicle owner about the distance it can cover. Thus the requirement of fuel level management system and associated algorithms becomes more prominent. The system have to be robust, effective and durable. So as to provide the exact calibrated value to the owner, and will be more effective if it can give you the idea of fuel consumption of the vehicle.

Keywords :- *Arduino UNO, fingerprint Sensor, Ultrasonic Sensor, float sensor , GSM module* .

1. INTRODUCTION

Automobiles and the transportation industry played a major role in the early growth and prosperity of the towns, and in these days public demands the vehicles with full of utilities and security. In advancemet of the automobile industry lots of innovations are done till the date to ensure the security of the vehicle as well as the utilities, keeping in mind the demands in the market. This proposed system provides biometric ignition which will grant the ignition only to the authorized person and oil level indication which may be useful to track the oil level and maintain the same. A float sensor is used which is to be interfaced with the Arduino UNO board to achieve this functionality. The float sensor will act as a closed switch in case of sufficient oil level, where as it will act as a open switch in case of low oil level and the indication is to be shown by using LED.

In these days some of the vehicles are coming along with the digital fuel indication. In todays world it became very important for transportation industries to analyse the fuel consumption. This proposed system will send the notification of the amount of fuel toped up in the vehicle and will be able to show the fuel level in the digits. To ensure the additional functionality the system is to be interfaced with IOT so that user can get detailed overview of fuel consumption in the form of graphs or in the form of sheets.

1.1 Goal

The Goal of this project is to create a system that will be able to ensure the security by using Biomatric Ignition and oil level indication. Primary goal of this system is to show fuel level in digit and send notification of the amount of fuel topped up on the users mobile phone using GSM module and to show the detailed overview of fuel consumption.

2. LITERATURE SURVEY

This section describes various implementations and research done associated with this topic.

Mr.Shaikh, Mr.Sumit D Chambharve, U.V.Gandhewar, Prof Mahesh Gorde describes in their paper presented on "Development and fabrication of Alphanumeric fuel level indicator for two wheeler" that due to irregular shape of tank there were many complexities arrises for the installtaion of electronic equipment so they designed the tank with regular shapes like square, triangular, circular to overcome this problem.

According to the survey some of the most commonly security security systems used for vehicle security are steering wheel lock, antitheft buzzer, alcohol detection system, oil level indication etc. For the ignition security of the vehicle it is found that biometric ignition system can be very effective because of every person has unique fingerprint, eye retina, face cut. By using biometric scanning system authentication of authorized person can be done effectively which makes vehicle very secure.

Some of the vehicles are equipped with the system which can show fuel level and distance that can be covered by consuming available fuel. Such system gives proper idea of the mileage of vehicle. To measure available fuel in the tank mostly ultrasonic and float sensors are used.

3. EXISTING SYSTEM

Presently most of the vehicles has came with many feature in terms of luxury and security. In these days the concept of animation getting popular, following the need in market vehicles equipped with GPS tracker, temperature controller , Low oil level indication, Digital fuel meter are already got launched in the market with some of the security features like antitheft buzzer, alcohol detector, A.B.S, Etc, Almost all the vehicles are coming with fuel level indication system using analog meters as well as in terms of bars.

In most of the vehicles the biometric systems are getting used for unlocking purpose. To enhance the security, automobile industries are working hard to launch vehicles with authorized user authentication by using retinal scanning , face detection and thumb impression

List of components

- **Arduino Uno**
- **Fingerprint sensor**
- **Ultrasonic sensor**
- **Float Sensor**
- **GSM Module**

4. CONCLUSIONS

Presently in automobile industry there is cutthroat competition to launch the vehicle in the market with optimum features keeping in mind real need in the market a system can be developed including various systems which are already got developed .

The proposed system can also be equipped with the fuel level indication in digits and to get the notification of amount of fuel topped up along with other features already existing in market. By using Arduino, also overview of the consumption of fuel can be computed remotely with the help of IOT. The proposed system including with all above features mentioned can be very effective keeping in mind the real need of the industry as well as the vehicle owners. Such well-designed system will fulfill the idea of new approach to the automobile industry.

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