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Vehicle Parameter Monitoring System

[1]Dr.L.Jubair Ahamed, [2]S.Rameshkumar, [3]S.Sabari Maheswaran S, [4]K.Sreenivasa Perumal and [5]S.Venkataraman

[1]*Associate Professor, Department of Electronics and Communication Engineering, Sri Eshwar College of Engineering, Coimbatore, Tamilnadu, India.*
[2,3,4,5]*UG Student, Department of Electronics and Communication Engineering, Sri Eshwar College of Engineering, Coimbatore, Tamilnadu, India.*

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ABSTRACT

The IOT Enabled Smart vehicle implements an easy way to monitor an individual's vehicle's parameters such as fuel level, Engine oil level, Engine's temperature etc.., using IOT Technology. The fuel level is measured using liquid level sensor which is commonly used nowadays. The sensor will get the level of the fuel present. Digital Documents: This system also contains digital vehicle (PASSWORD PROTECTED) documents such as vehicle registration, Insurance, license etc.., which will allow the user to access documents anywhere anytime seamlessly. SECURITY The major advantage of our invention over the existing system is the level of its security it is robust in the safety. This system also includes a high accuracy GPS tracking system which will allow the user to Track his/her vehicle and to determine vehicles ACCELERATION instant by instant. RFID Keys (Digital Keys) the digital keys in this system will allow high security to the vehicle from unauthorized access, this security system is embedded in the IGNITION SYSTEM of the vehicle. Any unauthorized access of vehicle will be alarmed instantly to the user. The Mobile Application as world goes digital all of above aspects are integrated to mobile application the user can seamlessly view all the parameters as well as track his/her vehicle using this application.

Keywords: CC3200, GPS, RFID tag and reader, fuel level, Digital Key and Documents.

1. INTRODUCTION

The design and development of a vehicle tracking and monitoring system especially useful for mining appliances in real-time has been reported in this paper. The system principally monitors vehicle moving and tracking appliances such as position, and speed and subsequently identifies alcohol detection. The novelty of this system is the implementation of vehicles internal and external parameter in different ways. The developed system is a low-cost and flexible in operation like mines and thus can avoid collision and traffic jam. The prototype has been extensively tested in real-life situations and experimental results are very encouraging for drivers and proprietors.

A lot of vehicle theft occur and accident due to over speed, alcohol drunken by driver. GPS is increasingly being used in vehicle tracking and monitoring services. To resolve the problems like avoid speed and collision, traffic jams ARM processor based vehicle monitoring is implemented as well providing information for the vehicle owner

2. LITERATURE SURVEY

According to the survey, the transportation system in India is enhancing to the Different level. Hence in this case to provide security and enhance features in the Private vehicles like two wheelers, we proposed this solution IOT Enabled smart vehicle. Everyone has proposed different ideas in their perspective and is being used by the public But all the proposed ideas is for a four wheelers only.

In 2014, SeokJu Lee and Girma Tewolde and Jaerock Kwon Proposed a System with popular technologies that combines the smartphone and the microcontroller. They proposed a solution for tracking their vehicle from any location at any time. In this they used GPS and GSM for getting the Location and sending it to Microcontroller.

Using GPS, they fetched the location of the vehicle and sends the fetched data to the Microcontroller using GSM/GPRS. They Got Google API's to showcase the location in mobile Application. In this the Owner can continuously monitor his/her vehicle from anywhere at any time.

S.P.Metkar and Girish L.Deshmukh proposed a similar solution in 2015. They also used GSM and GPS with ARM7 processor and they monitored the vehicle. They provided security for the private vehicles and public transports.

In 2015, Mashood Mukhtar proposed a solution with Security system and Navigators. In his solution, he provided vehicle tracking system with GPS and GSM Modem and he offers some control features. He used GPS unit, GSM modem, two relays, two MCU. In his project, he introduced five features, vehicle's location tracking, Switch ON and OFF the vehicle's ignition by remotely and unlock and lock the doors of the vehicle using Remotely. This controls are done with an SMS from the Mobile.

3. EXISTING SYSTEM

The system has been designed for ARM processor vehicle tracking and monitoring will provide effective and real time vehicle location using GPS and GSM. A GPS based vehicle tracking will inform where you vehicle is and where it has been and how long it has been. The system uses geographic positions and time information from the global Positioning Satellites. The system has on board which resides in the vehicle to be tracked and a Base Station that monitor data from the various vehicles. This project ability is accurately detected the vehicle and monitoring the speed for avoiding collisions. Design provides public many conveniences in life but also bring many problems at the same time, for example traffic congestion, difficulty in monitor dispersive vehicle, theft and other series of problem

4. PROPOSED SYSTEM

The main objective here is to comfort and safe guard the user and to make the task of maintaining and monitoring his/her vehicle easier. This system aims towards intuitive mechanism and will rely on prevention before the worse things occurs.

IOT allows everything to be sensed controlled and monitored remotely using internet enabled devices like computers, mobile phone, Tablets, wearable etc..., it is a technology where all the gadgets and physical devices where operated and monitored using internet. In this project we are implementing an easy way to monitor an individual's vehicle's fuel level, Tyre pressure level, Engine oil level using IOT Technology. The most important thing is security provided.

The system is adaptive to all kinds of vehicles as it works under 12 v power source where the data manipulation and master control is handled by CC3200 the Single-Chip Wireless MCU. The total power requirement of the MCU is only 3.6 v which makes it unique over its competitors. This system Integrates Every aspect of a vehicle where nothing can be hidden from the user the complete control and security is provided by this tool.

5. CONCLUSION

The literature survey on the implementation of various techniques has been reviewed and we have suggested a solution in this paper. By this solution we have provided a security to the vehicle owners by providing location tracking, fuel level monitoring, Engine's health etc. There are various ideas are proposed similar with our idea but all the ideas are only for four wheelers and trucks. The idea we proposed is for two wheelers. The cost will be less when compared with other ideas. By this the location of the vehicle will be seen in the mobile application and fuel level also indicated. This provides a security and easy to access for the vehicle.

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