

Real Time Vehicle Monitoring and Tracking

System using Raspberry Pi

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Abstract: The proposed approach can effectively utilize modern technology. The Raspberry Pi and Android apps for smartphones are the system's primary components. The suggested solution utilizes the GPS/GPRS/GSM SIM900A Module, which primarily utilizes all three technologies, particularly GPS GPRS GSM. The precise location of the Vehicle is determined using the GPS (global positioning system). GPRS is used to send alert messages to the owner's smartphone. The suggested is installed inside the car whose location will be tracked in real time via an online website. A comparison between the present vehicle route and a route that has already been chosen is made in the proposed procedure for the raspberry pi file technique. Here, the system will immediately send a message to the car's owner alerting them if

Key Words: Raspberry Pi, Sensors, SIM Module

1. INTRODUCTION

We have observed numerous incidents caused by driving negligence and recklessness in our states during the past few years. Every day, we witness or hear about actions of this nature that raise concerns about our security and safety in both open and private contexts.

As a result, the car needs to be tracked in real time while also having its information stored and updated.

the designated times. This allows for completely automatic tracking and monitoring of the vehicle, which is beneficial for school buses, their homeowners, and the safety of the children. Through the use of temperature and gas leak sensors, the technique also offers pupils a security system. Consequently, in the event of increasing the temperature within the car.

2. PROPOSED SYSTEM

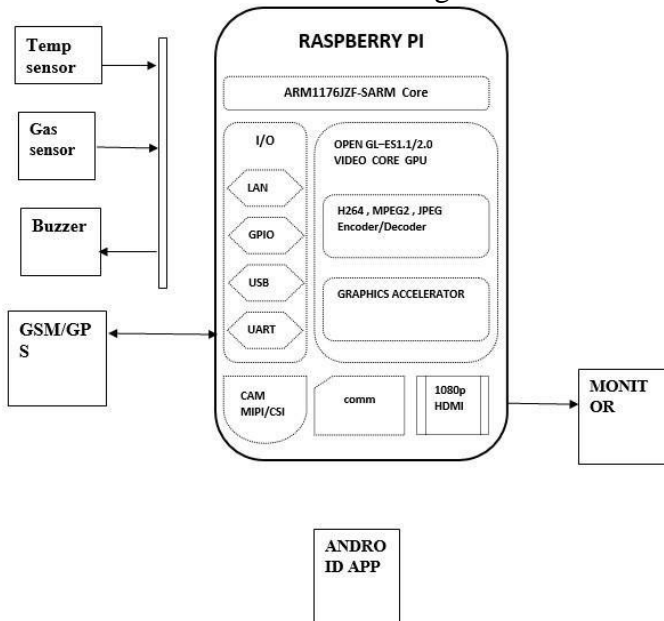
The proposed approach would get controlled with the assistance of Raspberry pi which set all through the vehicle. The GPS/GPRS/GSM SIM900A module are related with Raspberry Pi. The longitudes and extents of the present path got from GPS get differentiated and the set away longitudes and extensions in

the specific record design inside the database of raspberry pi. If that longitudes and degrees are scrambled with the saved one, by then stirred up way revelation prepared back rub will get sent to vehicle's owner propelled cell phone. Also the longitudes and extents of the present

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the specific record position inside the database of raspberry pi. In case that longitudes and degrees are disordered with the saved one, by then stirred up way disclosure prepared back rub will get sent to vehicle's owner propelled cell phone. Furthermore the longitudes and extents of the present course acquired from GPS will get sent to the server with the support of GPRS which helps to monitor the vehicle's present location on the web page utilizing Smartphone. Right here for monitoring the vehicle, the proposed approach provides web page for automobile's owner, student and their parents. Also proposed system provides student's safeguard with the support of DS18B20 temperature sensor and gas leakage sensor MQ6. These sensors get interface with raspberry pi. If the temperature within the vehicle crosses the targeted value or LPG gas get leakage within the

vehicle then the alert message will sent to vehicle's owner.

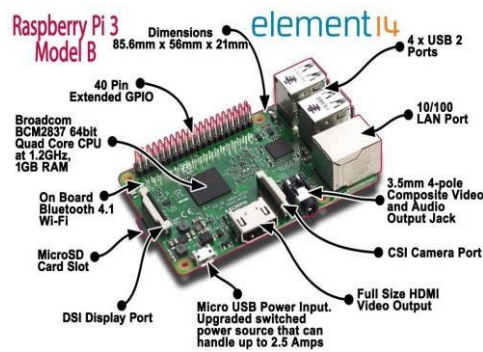


2.1 HARDWARE MODULE

The Real Time Vehicle Monitoring and Tracking System using Raspberry Pi contains following modules they are

Raspberry pi

1) GSM



2) GPRS

General Packet Radio Service (GPRS) is a packet oriented mobile data standard on the 2G and 3G cellular communication network's global system for mobile communications(GSM). GPRS was established by European Telecommunications Standards Institute (ETSI) in response to the earlier CDPD and i-mode packet-switched cellular technologies. It is now maintained by the 3rd Generation Partnership Project (3GPP).



4)GPS

GPS systems are extremely versatile and can be found in almost any industry sector. They can be used to map forests, help farmers harvest their fields, and navigate airplanes on the ground or in the air. GPS systems are used in military applications and by emergency crews to locate people in need of assistance.



3. CONCLUSIONS

The proposed system makes excellent use of Smart phone technology through which we can offer safety and security to the traveler making use of faulty path alert mechanism. The proposed system performs a major role in actual time monitoring and monitoring of vehicle by updating auto actual time expertise on the server part this will make to save time in real time use. Each time driver drives vehicle on the erroneous path or in case of vehicle's accident disaster occurs, the proposed system presents the vehicle's present location, speed to the vehicle owner's mobile. Therefore this benefits to monitor the vehicle as early as possible. Student's defense mechanism also gets supplied making use of temperature and LPG fuel leakage sensors, which makes a complete controlled and convenient way for tracking the monitoring the vehicle.

FUTURE SCOPE

The Future scope of our project is to add the obstruction detector in exit of vehicle, if any person can stand on foot boarding suddenly vehicle can stop at that instant. This helps in avoid person standing on foot board.

Second idea is to detect the obstructions like speed breakers, turning etc. ,can be detected from 1km . This helps in avoiding accidents.

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