# Modern Vehicle Tracking and Monitoring System using Embedded Technology

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*Abstract: On this age of hovering car thefts, car protection has grow to be a be counted of high import. Investigators owe this add to in thefts to the lack of proper parking areas in built-up region and absence of accessibility of state-of-the-art safety gadgets. This paper makes a specialty of preventing vehicle theft using arduino , GSM, GPS, Piezo sensor, Battery health indicator. A vehicle monitoring machine that works the use of GPS and GSM era, which will be the cheapest supply of vehicle monitoring and it might work as antitheft gadget. It's far an embedded machine that is used for tracking and positioning of any car via using worldwide Positioning gadget (GPS) and worldwide machine for cellular communication (GSM).It's going to constantly screen a transferring car through patron hobby. Accident identification, battery fitness tracking are key features for this mission.*

*Keywords: Global Positioning System, Global system for mobile communication, Arduino, Tracking, Piezo.*

## I. INTRODUCTION

In this present world wherein the technology is growing each day. And lot of studies is going on decorate the existing technology. Now a days safety is high problem at present vehicle usage is essentially essential for every one .Concurrently defensive the automobile from the theft and also different sort of bulgry sports. Formerly security gadget contain some sensor, alarm gadget and cost of sensor is likewise excessive . If automobile is stolen no alternative strategies be to be had to help the owner of the vehicle to discover automobile returned. The principle goal of our paper is to provide the excessive security to the vehicle. And permit simplest authenticated customers. It additionally user friendly, rapid access, fingerprint reorganization generation.In conjunction with GPS and GSM device. The prototype version for automobile security machine is built on embedded platform using ARM microcontroller which manage the all of the operations. Value of that is less and additionally it enhance the safety . If theft try to free up the car using a duplicated key , steel sensor sense it and ship a SMS to owner. Fingerprint popularity device is furnished at the engine ignition.

By way of using the GPS era car tracking is very clean. As a result the our device offer high safety at all the degree. In today's world employee protection has become a major difficulty. Specifically employee's which are operating in call centres who've to do a night shifts and return domestic at late night time hours For such employees their protection is a first-rate worry for all businesses. We read many attacks on such name centre cabs in recent times, moreover there is no efficient way to tell the organization or the police so that any instantaneous motion can be taken to remedy above stated troubles we have provide you with the answer of finger print reputation and GPS based totally employee monitoring and safety here we're monitoring the employee cab in addition to the worker's, also we have an association for emergency button so each time any employee unearths him/her self in any form of trouble an SMS can be despatched to the nearest police station and the agency so that on the spot action may be taken by using the concerned government. Automobile safety is one of the developing issues in India. Safeguarding of vehicle against robbery is one of the major issues confronting developing countries. Various techniques were attempted and examined to defend and comfy the motors. Embedded computing is an rising technology widely utilized in enhancing and enhancing protection towards the theft of cars. In 2013, Radiofrequency identification (RFID) cards have been designed for ignition begin of automobile [1]. But, the probabilities of losing the card or it being stolen caused the failure of the device. Kulkarni et al. Proposed a face detection subsystem with GPS and GSM module [2]. A virtual digicam became used to capture the video which became continuously uploaded into the net server the use of the ARM9 processor. Ada Boost algorithm Face detection was followed in a safety gadget to pick out the person that is making an attempt to begin the automobile. This system, however, proved to be mistakes-inclined in detecting the ones faces, now not in the front of the camera. The usage of the global gadget for cellular (GSM) and GPS era, the car can be diagnosed and positioned very without difficulty [3-8]. But, the primary disadvantage is that the signal can turn out to be degraded and receiver gadget won't provide location because of terrible weather situations. Now an afternoon's automobile housebreaking cases are growing every day, it has gotten to be difficult to provide a car an outstandingsecurity with themain recognition being kept on the housebreaking machine. Automobile locking framework pledges the fine make sure manner to at ease the car from various kinds of robbery instances. It's far a automobile protection machine that gives a better and fancy insurance to one's automobile.

But this framework cannot be mounted to provide whole protection and directness to the vehicle within the occasion of housebreaking. [1]So a more at ease framework makes the utilization of an inserted framework that is being centered around GSM and GPS innovation. This demarcated and created framework is delivered in the vehicle which objectives at providing real time monitoring and energetic notification to consumer and enables prevent the in all likelihood theft

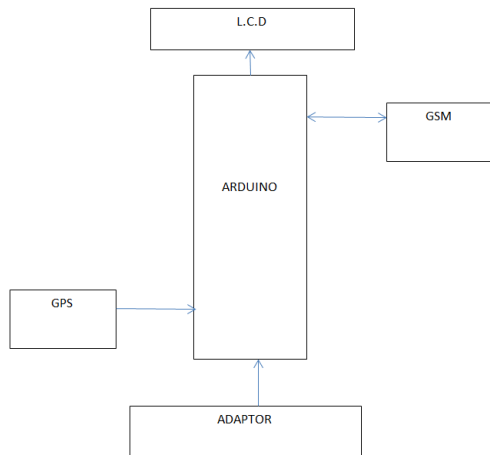## II.  EXISTING TECHNIQUE:



Figure.1. System Block Diagram

Vehicle non-stop monitoring may be carried out by admin thru his mobile. Legal token need to be dispatched via a cell to car aspect SIM.   If automobile facet sim receives authorized token, robotically GPS area will be dispatched back to owner cell quantity.

**DRAWBACKS**: 1. No emergency information like accident etc..

2. No vehicle equipment monitoring like batteries, etc..
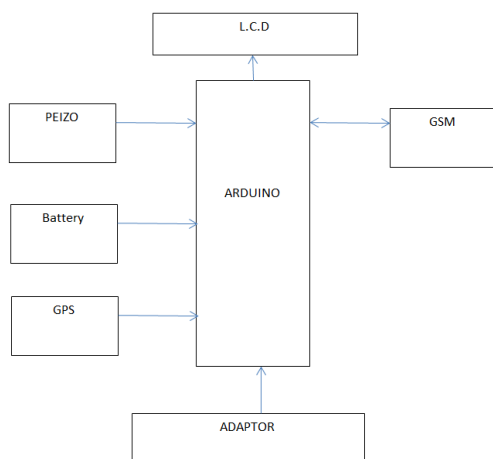
## III.  PROPOSED SYSTEM:



Figure.2. Proposed System

The proposed machine became advanced the use of Arduin, Piezo sensor, GPS, GSM . If any request to GSM got here through SMS; a caution message along with GPS values of the automobile could be sent to corresponding pre-saved cell wide variety. Security, twist of fate identification,

monitoring are main challenges in this idea. Battery voltage, health repute also continuously monitored to convey this facts to proprietor.
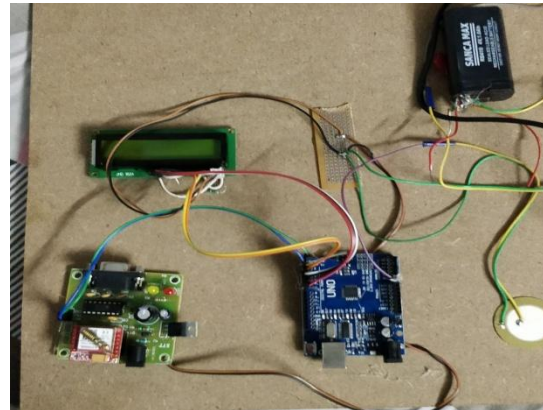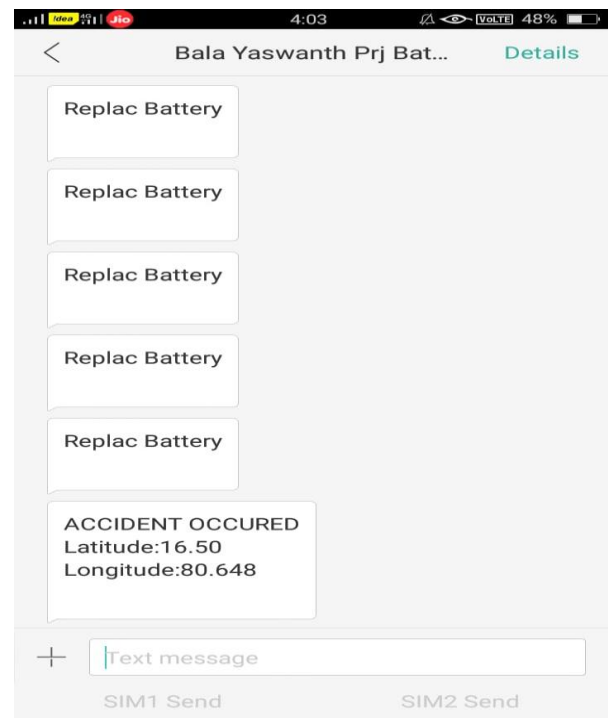
## IV.  RESULT



Figure.3. Hardware model Screenshot of messages when kit worked



## V.  APPLICATIONS

1. Industrial application
2. Home or domestic application
3. Bank Lockers or security safes
4. Vehicle security systems

## VI.  CONCLUSION

This paper provides an efficient actual time a vehicle monitoring gadget that is bendy, customizable and correct using GPS, GSM network, suitable for wide variety of programs all over the global. The aggregate of the GPS and GPRS provides non-stop and actual time monitoring.

It could additionally check each time the coincidence takes place will notify straight away to the numbers furnished in application by means of the cease person and therefore people within the car can get carrier as early as possible by minimizing the casualties.

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