TRACKING SYSTEM OF ROBOTIC CAR BASED ON RASPBERRY PI

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ABSTRACT: The proposed framework would put inside the vehicle whose position will be resolved on the web page and regulated at ongoing. The proposed framework will make utilization of ongoing innovation that as per Embedded Linux board to be specific Raspberry Pi and Smartphone android application. The recommended framework makes GPS route/GSM/WI-FI SIM900A Module including the majority of the three things in particular GPS route. In this way, the driver drives the car just around the vehicle proprietor's predetermined way. At the point when the driver drives the car around the wrong way then your alarm message will be sent in the recommended framework towards the vehicle's proprietor portable utilizing Raspberry pi's.

Keywords: Raspberry Pi 3, Ultrasonic sensor, Motor driver, SIM 800A GSM/GPRS, GPS Module.

I. INTRODUCTION

Inside the urban communities, human help is to some degree troublesome in providing the database of checked vehicle. In a decade ago, we pay heed to the drivers weariness driving and vehicle robbery movement which thusly causes social constant issue like mishaps and considerably more dangers conditions [1]. Furthermore, in this manner utilizing exactness after some time, kids can take additional time in considering, dozing, or unwinding rather than sit tight for deferred transport. The proposed framework get observing data from the vehicle like vehicle nssumber (Unique ID), area, speed, Date, Some time and store in to the database of Raspberry pi. That demonstrates the real time vehicle area inside the Smartphone. Along these lines, clients will be able to consistently screen a moving vehicle when required while utilizing Smartphone and see the trusted separation and here we are at the car to achieve affirmed goal.

II. EXISTING SYSTEM

The ebb and flow structure has been arranged and this system has two modules specifically pro and slave which makes required move for the night time driving incidents due to glaring effect of front light luminance, to give clear vision to vehicle driver, hinder line distinguishing proof, Gas spillage acknowledgment cum shirking action and checking the engine zone temperature by a basic and modernized sensor that above communicated in this paper. This proposed system achieved the dynamic prosperity structure effortlessly.

II. PROPOSED SYSTEM

Ceaselessly observing and checking the school vehicle at continuous climate utilizing site in Smartphone and when the car pick wrong way then framework give the mindful of the proprietor's Smartphone and furthermore on raspberry pi's framework. Offer security climate towards the vehicle utilizing ultrasonic sensor by caution. The recommended framework would get controlled with the guide of Raspberry pi which put inside the vehicle. The GPS route/GPRS/GSM SIM900A module get converse with raspberry pi utilizing USB interface. If longitudes and scopes not supplement the put away one at that point wrong way acknowledgment ready back rub can get conveyed to vehicle's proprietor versatile. Indeed, even the longitudes and scopes of the present way caused by GPS route can get conveyed to the server with the guide of GPRS which will follow the vehicle's present area on the web page utilizing. These sensors get interface with raspberry pi [2]. At the point when the ultrasonic inside the vehicle distinguish the specific obstruction on the driving way inside the vehicle then your alarm will conveyed to the vehicle's driver.

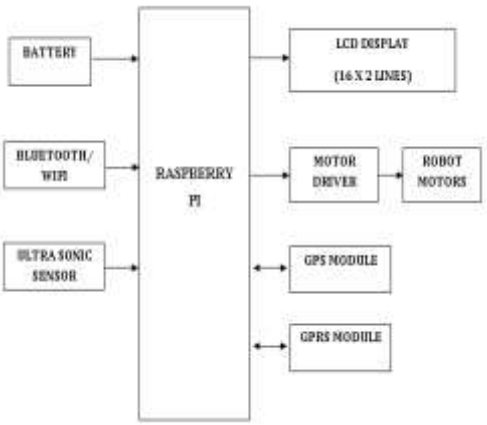


Fig.1. Proposed System Diagram

III. METHODOLOGY

The proposed framework makes GPS route/GPRS/GSM SIM900A Module including the majority of the three things to be specific GPS route GPRS GSM. Continuous vehicle observing on the web page utilizing GPS route/GPRS/GSM SIM900A module and Raspberry pi, SIM900A Module which will get interfaces utilizing the Raspberry pi gives the ongoing checking data from the vehicle for instance longitude, scope, speed, length of the car [3]. Presently at whatever point driver drives the car around the proprietor's settled on the choice way i.e. one place to another, GPS route/GPRS/GSM SIM900 A module inside that vehicle transmits the longitudes and scopes of current place to the raspberry pi through USB interface. Presently utilizing document framework programming, the present longitudes and scopes caused by GPS route of GPS route/GPRS/GSM SIM900A module get looks at utilizing the longitudes and scopes caused by android application [4]. Thusly, the wrong ways acknowledgment issue can get comprehend. Observing a car at ongoing on site utilizing web

program on Smartphone which gives better result of current area [5].

Raspberry Pi: The Raspberry Pi 3 show B has particularly worked with the Broadcom BCM2837System-On-Chip(SoC) incorporates four elite ARM Cortex-A53 process coresrunning at1.2GHz with32Kb Level one and 512Kb Level a couple of store memory, a Video CoreIV designs processor, and is associated with a 1GB LPDDR2 memory module on the back of the board. The framework preparing is huge with 1.2GHz clock speed and 1GB RAM. As per the association savvy, the board ought to be equipped for sending information to and from the board quickly. With the expansion of Gigabit Ethernet over USB 2.0, the wired Ethernet execution is additionally supported, with an extraordinary throughput of around 300Mb.

Fig: Raspberry Pi 3 Model B

GPS: The major explanation behind this endeavor is to track the vehicle zone with a pre-outlined SMS on GSM modem is consolidated into the vehicle and can know the amount of seats on the vehicle and Tickets that recognize the QR Code. In this undertaking, we use this Raspberry Pi 3 processor and mobile phone modem calculator, GPS modem, QR code analyzed USB cameras. The Raspbian working structure used for this endeavor, and the code is made in the Python scripting content and is used to consolidate the code.

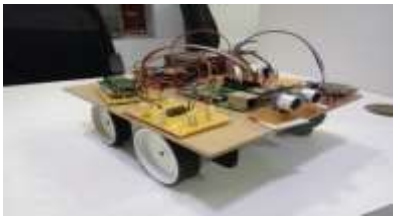
Fig 2: GPS Module

GSM Module: Portable developments use for adaptable automated transmissions and voice data. It is a propelled mobile phone structure extensively use in Europe moreover extra parts of the world. The upside of use this modem is to you can utilize a RS232 port for correspondence and firmware headway. The GSM is an extraordinarily bendy module with quad band modem through and direct mix of RS232. Offers assistance for limits, for instance, SMS, Voice, Data/Fax, GPRS, and in like manner verifiable static TCP/IP.

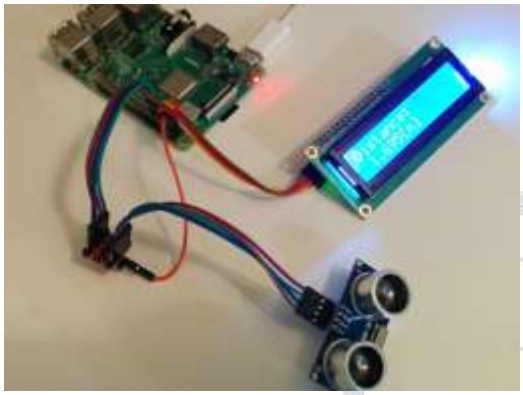
Fig: GSM Module

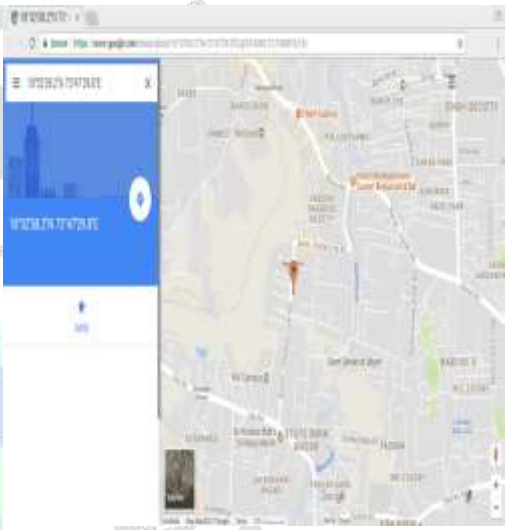
Engine Driver (L293D): An engine driver is a sorted out circuit, which goes about as an interface between raspberry pi and engines. It is used to control the engines, it goes about as a present enhancer since they take a low current control standard and give a higher current control banner, and this present flag is used to drive the motors.

IV. RESULTS:



V. TEST CASES:





VI. CONCLUSION

The essential objective the work is give data towards the driver as he advances into directly into a predetermined zone consequently he can drive the car in view of the parameters from the zone. The recommended framework assumes an enormous job immediately checking and observing of auto by redesigning vehicle ongoing information on the server side after certain interim of your opportunity to have the capacity to managed vehicle ceaselessly. Subsequently this points of interest to track the car as quickly as time permits.

FUTURE WORK: However, the framework has a few confinements. No video reconnaissance framework has been consolidated. The remote range is too little. It very well may be productive if GPRS, zigbee module is utilized for remote medium. Counting object recognition technique is one of the primary future works that should be executed.

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