GPS Based Ambulance Tracking & Traffic Control System

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Abstract:-India rank no one within the whole world just in case occurance of road accidents main cause for such accidents is undisplined driving &roads with twists and turns. throughout 1991--2000, the foremost recent year that information were obtainable, three hundred fatal crashes occurred involving occupied ambulances, leading to the deaths of eighty two motorcar occupants and 275 occupants of alternative vehicles and pedestrians. The three hundred crashes concerned a complete of 816 motorcar occupants. Ambulances area unit most likely one in all the foremost essential vehicles individuals have faith in in times of want. Whenever a private is hurt or injured, paramedics area unit referred to as to the scene of the accident, crime, or scenario to produce quality care and facilitate the individual in hassle. On several occasions, the paramedics driving the ambulances will look like angels. What individuals might not recognize is that ambulances area unit hi-tech, mobile, transportation and communication centers able to assist virtually any health connected issue on the spot, and currently with the introduction of GPS tracking systems, ambulances have became even additional technologically refined. If their were ever a vehicle that would take pleasure in employing a GPS tracking system associate degree motorcar would be the one. GPS tracking systems permit hospitals to grasp the precise location of motorcar fleets after they area unit within the field, associate degreed if the hospital receives communication that an motorcar are returning in, doctors will apprehend the precise time the motorcar can show up. This helps hospital employees prepare before the victim inbound.

Keywords-*GPS, GSM module,RF transmitter and receiver, human temperature sensor*

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1.Introduction

In today's world health hazards are major concern. particularly folks within the older age group and what is more the traffic conditions are worsening day by day which ends in traffic jams. several important jobs a get delayed thanks to these traffic jams. automobile service is one among the foremost service that gets affected by a traffic jams. To resolve on top of mentioned issues we've come back up with the answer of GPS based mostly automobile tracking AND control SYSTEM Here we are tracking the automobile also because the health's condition the health parameters such as pulse rate and body temperature are sent to the hospital using the on board GSM unit.

2. System model

2.1 Device in Ambulance

2.1.1 Microcontroller:

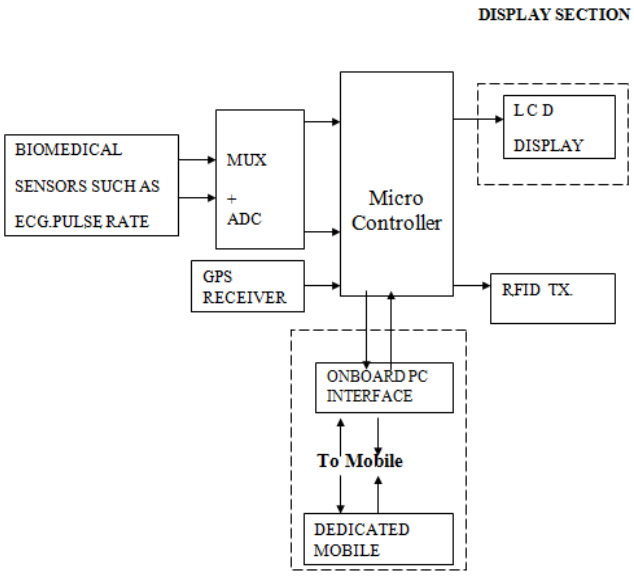
Microcontroller used with 128 x 8-bit Internal RAM and Operating Range is 4.0V to 5.5V.

2.1.2 GPS module:

GPS module is composed of UART transmitter of the module which outputs the GPS information for application.GPS module is used for positioning, navigation and time.

2.1.3 GSM module:

GSM module work on numerous frequency. A GSM equipment is also a specialised kind of electronic equipment that accepts a SIM card, and operates over a subscription to a mobile operator, kind of like a portable. The SIM900 is also an entire quad-band GSM resolution throughout a SMT module which could be embedded among the consumer applications.



2.2 Device for traffic control

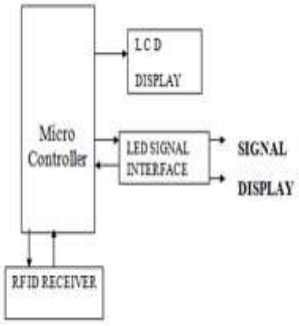
2.2.1 LCD display

Liquid crystal show (LCD) displays temperature of the measured component, which is calculated by the microcontroller. CMOS technology makes the device ideal for application in handheld, moveable and alternative battery instruction with low power consumption.

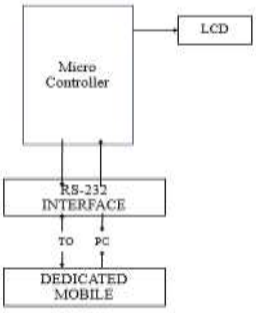
2.2.2. RFmodule:

If the module is employed with microcontroller, the clock frequency should be under

4MHz. Please attempt to keep a distance between generator and also the RF Receiver moduleto avoid the disturbance from generator.



2.3 Device in hospital

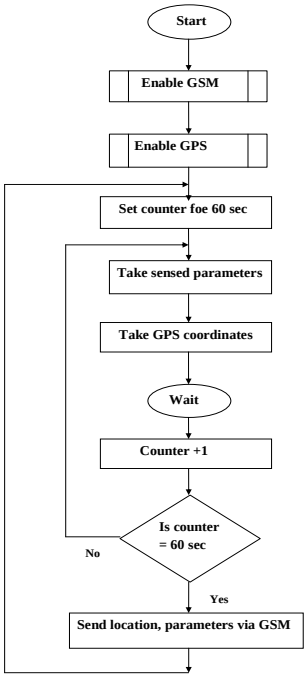


2.3 Mobile unit

The mobile is used to receive the message which send by GSM module, Message contains the patient's parameter.

4:Software Program

The Software programming is done in 'Embedded C' language.After enabling GSM and GPS module by interfacing with microprocessor 8951 and counter is set for 60 seconds.Sensed parameter's values like body temperature, stress, etc.displayed on LCD with the help of software program. Data which is received by GPS from the satellite will be send to Traffic control. The loop between setting the counter and sending the SMS is infinite loop till the power supply is ON and range is available to GPS and GSM module.



5: Conclusion

The system thus designed tracks the current location of an ambulance with the help of GPS module. It senses the patient's parameters like body temperature, pulse rate etc by thermistor sensors, GSR sensors.

It displays the current location of the ambulance and the patient's parameters on the LCD display as well as it sends the same information to the mobile present in the hospital via GSM module. This system also sends the position of the ambulance to the traffic signal to control the traffic.

Traffic signal automatically controls the traffic to clear the path of an ambulance. Traffic signal turns into red for those paths except the path onto which an ambulance is passing. Thus the overall objective of our project has been achieved in successful manner.

6. References

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