Intercity Path Clearance for Ambulance Using RFID

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Abstract- **A development of AN intelligent traffic signaling (ITS) system required as a result of gift traffic signal controllers are supported previous microcontroller like at89c51 that has terribly less internal memory and no in-built adc. These systems have limitation as a result of they'll use the predefined program that doesn't have the flexibleness of modification on real time application. this traffic system have mounted quantity for inexperienced and red signal that doesn't give the flexibleness to the system. The ITS system accommodates superior, low power Atmega 328p microcontroller with 32kbytes of in-system programmable non-volatile storage and in-built 8-channel, 10-bit adc that is needed to method the ir input from detector network. The ITS system can ready to deal 2 basic drawback of ancient traffic signal system, emergence vehicle detection like car, police etc by victimization wireless detector network embedded at the signal intersection.**

Index Terms- **Traffic control, Arduino UNO, RF ,Xbee, RFID Reader.**

I. INTRODUCTION

These days with the rise within the population and because of luxurious living there's a rise within the traffic on roads. Amidst of these frenzied life, one forgets the importance of human life .This is a really major problem even just in case of road accident one even doesn't care to decision the emergency unit. On road because of high traffic individuals are unable to produce the freeway to the emergency unit that additionally becomes one among the factors currently aid to the patient because of that one will die on the thanks to hospital. thus to beat their negative factors and to produce the primary aid to the victim this method "Intelligent automobile with automatic traffic control" is planned during this paper. This paper describes the operating of accident detection and straight off alerting the emergency automobile unit regarding the accident with the placement co-ordinates, receiving such co-ordinates the automobile unit about known as emergency unit respond straight off and leaves for the accident location. currently whereas moving toward the placement or whereas taking the patient to the hospital there could or might not occur thus me traffic so so as to free or unleash the traffic the intelligent automobile controls the traffic signal itself such the traffic signal converts during a manner so it may receive the highway to the hospital. Intelligent automobile even have some further options like whereas within the thanks to hospital before providing the primary aid to the patient one will discover the patient health standing like watching the fever or rate so the patient will get the right aid treatment and may save his life.

II. LITERATURE SURVEY

1.RFID and GPS based Automatic Lane Clearance System for Ambulance
Authors:RashmiHegde, Rohith R. Sali& M. S. Indira
Review:The exponential growth of the metropolitan cities of the country has generated and magnified urban sprawl into problematic proportions. Lack of efficient traffic control and management has many a times lead to loss of lives due to ambulances getting stuck in traffic jams. To overcome this problem, we propose a RFID and GPS based Automatic Lane Clearance System for Ambulance. The focus of this paper is to reduce the delay in arrival of the ambulance to the hospital by automatically clearing the lane in which ambulance is travelling, before it reaches the traffic signal. This can be achieved by turning the traffic signal, in the path of the ambulance, to green when the ambulance is at a certain distance from the traffic junction. The use of RFID distinguishes between the emergency and non-emergency cases, thus preventing unnecessary traffic

congestion. The communication between the ambulance and the traffic signal post is done through transceivers and GPS. The system is fully automated and thus, requires no human intervention at the traffic junctions.

2.A Survey On Various Traffic Management Schemes For Traffic Clearance, Stolen Vehicle And Emergency Vehicle

Authors:R.Keerthi, S. HariharaGopalan

Review:- Due to growing in number of vehicles on roadways causes heavy traffic congestion on the road. Traffic congestion on roads may cause delay for emergency services (i.e. Ambulance, Fire fighter, Police, etc.).A traffic light plays an essential role in traffic management. Under the normal state traffic light duration for path is almost fixed and same for the entire path and emergency vehicle are not considered. A various survey paper present different schemes that determine traffic volume and set the green light duration for the path. This paper presents a survey on various traffic management schemes for traffic clearance, detection of stolen vehicle and clearance of emergency vehicle.

III. SYSTEM ARCHITECTURE

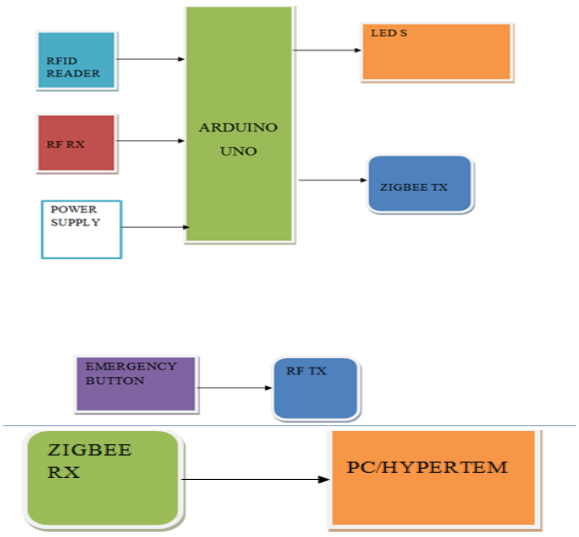


Figure: System Architecture

IV. PROPOSED SYSTEM

- The goal of the proposed system is to find out the ambulance vehicle. Here we use arduino as a controller. Radio-Frequency Identification is the use of radio waves to read and capture information stored on a tag attached to an object. A tag can be read from up to several feet away and does not need to be within direct line-of-sight of the reader to be tracked.
- Main aim is to provide communication between ambulance and various devices at traffic signals and so that the possibility for traffic congestion is reduced.
- RFID is to track the arrival of ambulance at traffic up to some distance.
- RFID reader reads the ambulance tag and identify.
- If tag shows system identify its ambulance, at that time red signal goes green.
- But sometimes RFID reader not detects the tag. At that time we have emergency button.
- If we press this button RF transmitter will transmit the signal to controller.
- Microcontroller receives it. Then ambulance is detected that will be displayed on pc at monitoring station using Zigbee.

V. CIRCUIT DIAGRAM

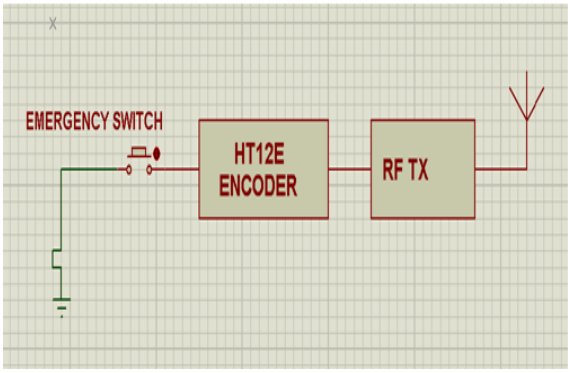
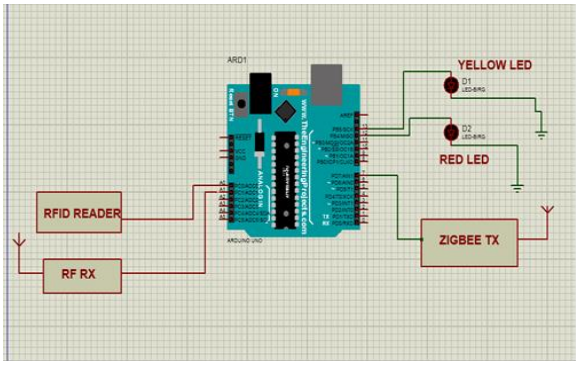


Fig. Transmitter Section



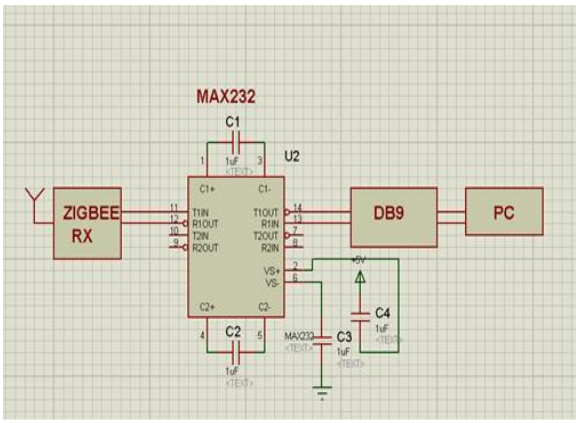


Fig. Receiver Section

VI. MOTIVATION OF THE PROJECT

- For Highway safety.
- Pave the way to emergency vehicle
- Resolve the traffic congestion problem.

VII. ADVANTAGES

- Solve Traffic Issues.
- Reliable.
- Low cost.
- Easily adjustable to external environments.
- Simple to operate.
- Traffic control by traffic police will be eliminated.
- Used for ambulance in serious conditions.
- Low power consumption.
- Easy to install.

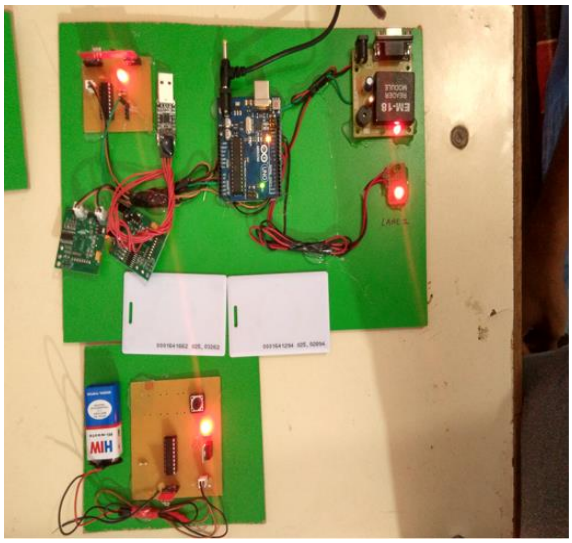
VIII. Goals and Objectives

- To design Intelligent Traffic Signal Control For Ambulance using the arduino system
- To design a system for traffic controlling .
- Interfacing of zigbee(Tx/Rx) with ARDUINO
- To design and build up a prototype for the Intelligent Traffic Signal Control For Ambulance system.
- Also using RF technology use for extra control to the system
- Wirelessly data transmit to the monitoring room.

VI. RESULT AND CONCLUSION

With automatic traffic light control supported the traffic density within the route, the manual effort on the a part of the traffic policeman is saved. because the entire system is automatic, it needs very less human intervention.

With ambulance vehicle detection, the signal mechanically turns to green, so the ways that simply clears for ambulance. In system we have a tendency to uses the RFID AN RF thus there are 2 options available for ambulance detection.



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