

# Smart Healthcare Traveller

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**Abstract - In the present scenario, there are a lot of injuries and deaths during traveling. So traveling became a threat to human life, especially through roads and it becomes life-threatening when one is not able to get the right medical help on time. So this paper proposes a traffic system that supports IOT based ambulance service to facilitate immediate hospitalization for an injured person. This application makes use of IOT technology with Arduino Nano, Bluetooth-hc05, and buzzer, GSM which make the application more reliable and life savior to use by authorized users such as common people and Ambulance drivers. The application was able to track nearby hospitals with the help of Bluetooth and GSM Devices. The phone device is also connected through the Bluetooth device which can change the traffic signal on the road through which Ambulance is passing, from RED to GREEN in an emergency. The study has initiated based on observation of what common people are facing in the present situation.**

**Keywords:** Automated-Traffic system, hospital management, Bluetooth device, GSM port, Arudino Nano.

## I. INTRODUCTION

The present scenario has lots of difficult services like Ambulance based solutions. Time is a major factor in case of emergencies and also the traffic signals in the path of an ambulance play a crucial role.

The reason the people died due to the ambulance delay has a major impact on the safety of people's lives because of the existing rules followed in the traffic control system.

The system can manually change the traffic signal from green light in the road of an ambulance driver, thus it minimizes the time required to reach the destination, and also in the present scenario, there is no proper mechanism to convey this information to nearby hospitals.

If the patients could reach on time also doctors may not be available, due to this reason there might be a delay in saving the lives of injured people. Since these types of deaths are common, the proposed idea of automated and the improved version of the system in daily life is very essential to save the life of the common man.

## II. LITERATURE REVIEW

This paper is about how to control the Traffic Signals when the vehicle needs to reach particular destination in an emergency situation. The vicinity of the vehicle is a monitoring device the usage of GPS so particular place is ship to the storing software. These particular projects execute some algorithm with the help of this information and Google maps. It maintains the signals on particular path. They also introduced a new blue light to traffic signal to avoid the chaos in the mind of the people waiting at the traffic signal [1].

In this paper, the main objective of the proposed application is to reach the nearest hospital within a short period. It tells users about data before the traffic. The real-time running data access helps the commuters and enhances the survival rate, the app is going to be used by ambulance drivers and traffic inspectors. The ambulance driver builds up by entering his details such as the vehicle number, name. Similarly, the site visitor's inspector could be able to construct his profile via entering the route details wherein he's presently running. In case of emergency, driver needs to select a pathway to travel to the hospital. And the traffic inspectors in the particular route will get an alert message and the traffic inspector will be able to track the ambulance location details and clear the traffic path and make the way for the ambulance accordingly with priority. The application is also able to track nearby hospitals and able to send the information [2].

In this paper, High Priority Vehicles (HPV) are immersed in traffic congestion which limits their service. HPV such as ambulances, firefighters etc. it should provide a variety of causes. It is very important that HPV goes away on time. There is a need for a program that aims to provide a path to HPV so that it can reach as quickly as possible. The proposed project provides a pre-determined approach. The purpose is to build a user-friendly HPV system where it also sends a request to the system when the system responds intelligently.[3].

Those systems allow the Android cellular tool (emergency automobile) to override the ordinary operation of a visitors sign. An efficient and price effective gadget that may remedy this problem is an Android and Cloud based totally site visitors control gadget using the GSM module. The gadget incorporates of 5 levels which are Android cellular device,

GSM module, MQTT (Iot) for Arduino IDE, Arduino Uno microcontroller and traffic alerts. The evolved machine has allowed the Android cell device (emergency automobile) to override the regular operation of a site visitor’s signal [4].

The Pre-arranged, daily signal patterns are employed with standard signal structures. In order to overcome the challenges of managing regular guest facilities, there is a change in the Adaptive site visitors' custom gadget. Adaptive traffic manipulates the system (ATCS) is a visitor management system that changes or synchronizes visitor notifications primarily based on the site's actual visitor call and implemented the management system that integrates both computer and software platforms, where computer systems is a sensor used in real-time measurement of traffic congestion and the software is designed for the use of analytics data for modern city tourist slides. This paper demonstrates a camera based traffic monitoring model and processing system that minimizes cycle time and features a variety of emergency vehicles [5].

### III. METHODOLOGY

IOT technology is applied using led bulbs, Bluetooth hc-05, buzzers, arduino etc.

Bluetooth controller app is used to change the traffic light RED to GREEN when no police were found nearby, driver can change the traffic signal.

Driver is used to collect the detail information about patient and send the detail to the hospital through the SMS using phone.

### IV. BLOCK DIAGRAM

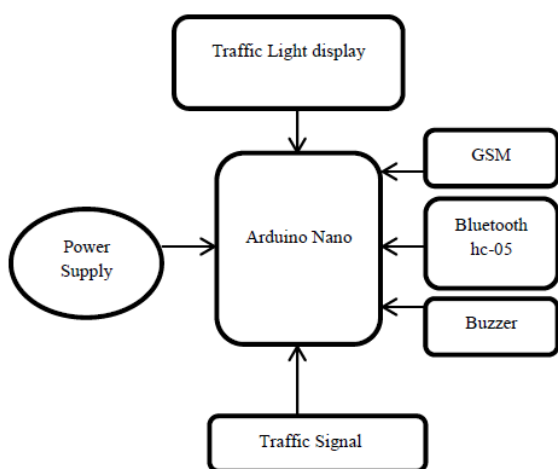


Figure 1: Block Diagram for the System

In this proposed System the driver needs authority to use the application using the mobile application and he can change signal according to the path he chose and he collects data

about the patient and send the information to the nearby hospital to do the required service.

### V. IMPLEMENTATION

In this System, to avoid traffic congestion we are using IoT technologies like Arduino and Bluetooth, GSM some led and buzzer which is shown in fig2,fig3,fig4,fig5,fig6 and all these components are connected to Arduino. In this app, Arduino Nano is used which is shown in the fig3 which has pins namely Arduino pins and ADC pins which perform several tasks. We connect the Bluetooth hc-05 to ao, a1 pin in Arduino and for Arduino, some pins are connected to the ground and VCC this connection is mandatory. With the GSM module, messages can be sent to the particular hospital number which is stored in the SIM. This is the first communication we need to make.



Figure 2: Bluetooth-hc05



Figure 3: GSM



Figure 4: Buzzer



Figure 5: LED



Figure 6: Arduino Nano

All components are connected using jumping wires. Firstly traffic signal will be performing in order. Then we need to connect the Bluetooth device from the smartphone like a normal Bluetooth connection using some pairing device application namely Bluetooth controller then we just set the signals name and while the ambulance comes near to traffic pole with some distance, the driver will turn on one of the signals which he needs to pass out. After he turns on the signal automatically buzzer make a sound to alert people that the signal to go to change. The light refractor from current light to

green for time when needed. If the ambulance passes the signal, an automatic message will be occur showing ambulance is detected then, if an ambulance is detected, the phone message perform by fetching nearby hospital and send the message like “emergency! About the patient issue detail” and the blue light blink to show the indication that message reached if not then led will not blink to blue.

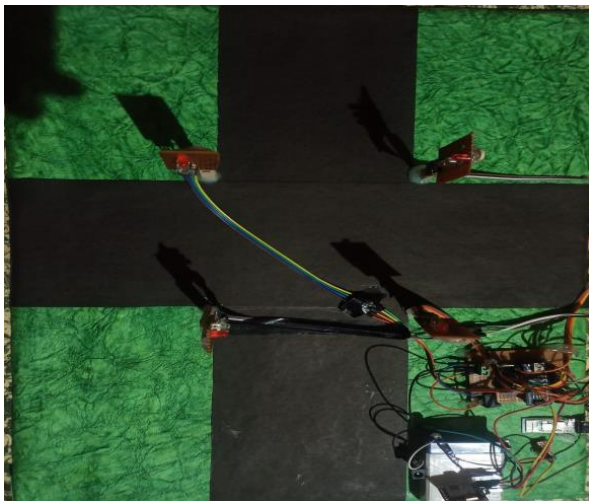


Figure 7: Final output

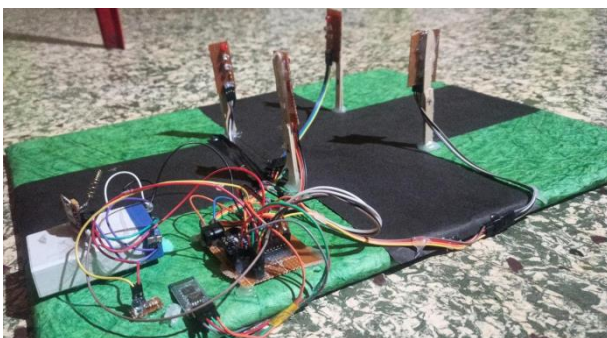


Figure 8: Final output-2

## VI. CONCLUSION

The present system won't support a clear way for emergency vehicles during gridlock. also that Bluetooth traffic control system provides a way to the gridlock (traffic congestion) problem and this can be an efficient method to travel in a clear path for the vehicles, as we also implemented sharing of patient's virtual data with hospital through phone SMS which are already stored manually in the list. When ambulance is near to the traffic signal ambulance driver will manually changes the traffic signal according to the path he need to move after passing from the traffic signal it will be updated to normal so that the system can automatically allow the path which has high density by this technique, so emergency vehicle has low congestion and reach destination faster and many life's were been saved.

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