A green corridor for ambulance using Arduino mega 2560

Pratiksha Jagtap[#1],Pratik Kadam[#2],Pooja Kharabi[#3],Aditi shrivastav[#4]

Ms.chavan Pragati

#Computer Engineering, MM Polytechnic

Thergaon pune-33, India

Abstract— Traffic congestion is a major problem in all major cities all over the world. Conventional systems have much limitation. in our project we worked with three major goals that is,

a) Provide variable time slots as per traffic density.
b) Provide green corridor for emergency vehicles.
c) Provide zero waiting time to a car at a junction if all other roads are empty.

We propose to design and develop a green corridor for ambulance is the signal changes automatically on sensing the ambulance. The prototype model was develop using IR sense and Arduino. We use arduino to write programming according to our requirement.

Keywords— Arduino , IR sensor , Traffic light

I. INTRODUCTION:-

A GREEN CORRIDOR is a special route where all the street signals are manually operated and the traffic is controlled to avoid any obstacle to ensure quick medical aid to the patient at the earliest. It takes great deal of coordination between traffic police and the situation is more difficult in peak hours. The concept was introduced in 2007 but came into action for the first time in Tamil Nadu in 2008. Our project also aims to send message to the traffic officers on the path regarding the coordinates of the ambulance for better coordinates in case the traffic signals stops working due to some technical defects

II. .LITERATURE SERVEY:-

Paper	Paper Title	Paper content
		to be observed
Paper 1	Adaptable ANDROID Based Green Corridor Using Lpc 2148 and GSM Module	Provide variable time slots as per traffic density.
Paper 2	Automated Emergency System in Ambulance to Control Traffic Signals using IoT	Tracking the location of the ambulance andcontrolling the traffic signal as related to the speed and distance of the ambulance
Paper 3	SMART AMBULANCE RESCUE SYSTEM	Wireless communication between server and traffic signals, also between server and ambulance
Paper 4	Survey Paper for Intelligent Traffic Control System for Ambulance	Once the ambulance is spotted then it will verify and provide a green corridor.

III. COMPONENTS

ARDUINO MEGA 2560 :-

The **Arduino Mega 2560** is a microcontroller board based on the ATmega2560. It has 54 digital input/output pins (of which 15 can be used as PWM outputs), 16 analog inputs, 4 UARTs (hardware serial ports), a 16 MHz crystal oscillator, a USB connection, a power jack, an ICSP header, and a reset button.

IR SENSOR :-
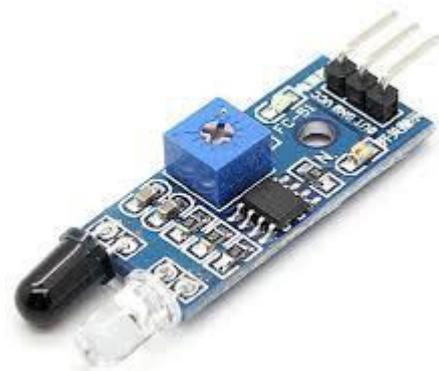
An infrared sensor is an electronic instrument that is used to sense certain characteristics of its surroundings. It does this by either emitting or detecting infrared radiation. Infrared sensors are also capable of measuring the heat being emitted by an object and detecting motion.

220 OHM RESISTOR INFORMATION :-
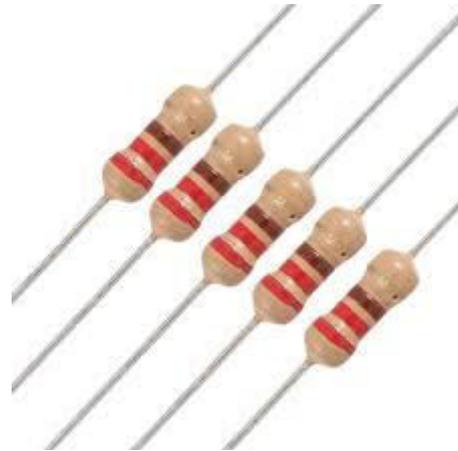
A resistor is a passive two-terminal electrical component that implements electrical resistance as a circuit element. Resistors act to reduce current flow, and, at the same time, act to lower voltage levels within circuits

COPPER WIRE:-
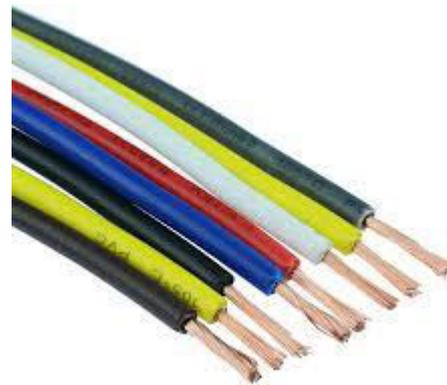
A copper wire is a single electrical conductor made of copper. It can be insulated or uninsulated. ... Copper wire and cable is used in power generation, power transmission, power distribution, telecommunications, electronics circuitry, and countless types of electrical equipment

LIGHT-EMITTING DIODE (**LED**

A light-emitting diode (LED) is a semiconductor light source that emits light when current flows through it. Electrons in the semiconductor recombine with electron holes, releasing energy in the form of photons. ... Modern LEDs are available across the visible, ultraviolet, and infrared wavelengths, with high light output

### IV.   CONSTRUCTION:-
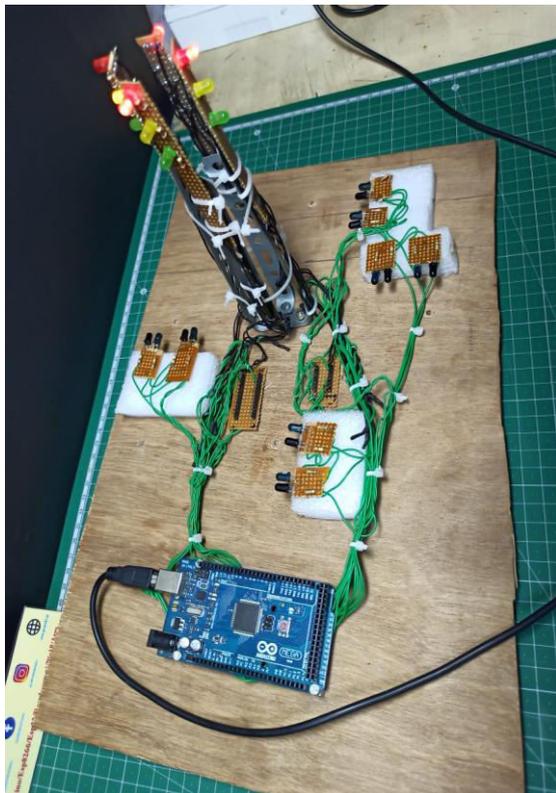

V.   BLOCK DIAGRAM:-
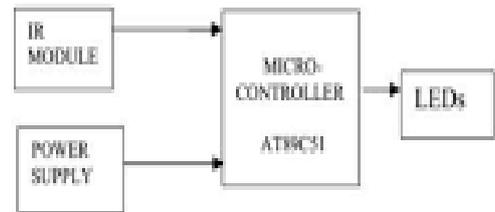
VI.   WORKING

1. when the ambulance is sense by IR sensor then the current way of ambulance is green.
2. when ambulance clear the traffic then the singnal is working normally.

VII.   CIRCUIT DIAGRAM
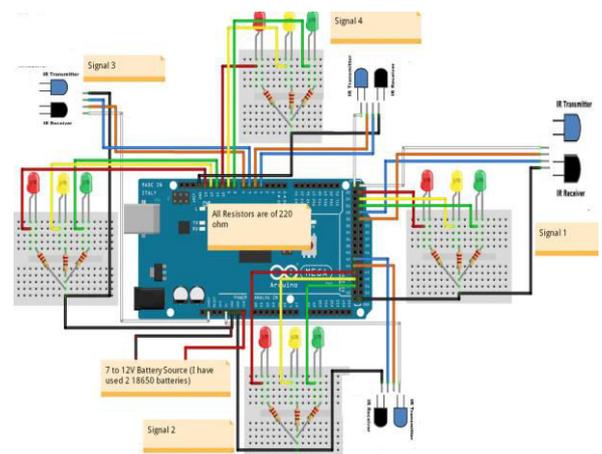
VIII.   FLOWCHART
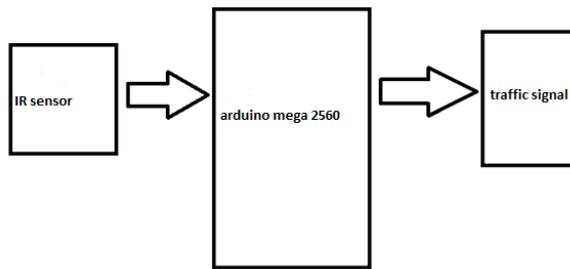
IX.   ADVANTAGE

1. it save the time and efforts of traffic police .
2. it is also used for control the traffic.

X.   CONCLUSION

The proposed framework is capable of providing its customizable best route identification based on multiple possible optimization factors such as travel time and distance. The dynamic time management scheme operates in real time and emulates the judgment made by a traffic policeman on duty. This system aims at saving a large amount of man-hours caused by traffic problems and accidents, where prevention can save lives and property.

XI.   PROBLEM STATEMENT

When IR sensor is sence the ambulance it will provide green corridor at the traffic junction.

XII.   ACKNOWLEDGEMENT:-

I am thankful to all of those with whom I have had the pleasure to work during this and other related projects. Each of the members of my team has supported me as personal guidance and taught me a deal about both scientific research and life in general. I would like to thank Mr.Vikas Solanke, the The Head Of Department. As my mentor, he has taught me more than I could ever give him credit for here.

REFERENCES

1) 1Apurva Bondade, 2Nikita Wasnik, 3Bhairavi Karale, 4Renuka Jawase, 5Mansi Singh and 6Amruta Chopade" Intelligent Traffic Signal Control System for Ambulance"," International Journal of Trend in Research and Development, Volume 5(2), ISSN: 2394-9333 www.ijtrd.com"

2) 1Bhairavi Karale, 2Nikita Wasnik, 3Mansi Singh, 4Renuka Jawase, 5Apurva Bondade and 6Amruta Chopade," Survey Paper for Intelligent Traffic Control System for Ambulance"," International Journal of Trend in Research and Development, Volume 5(1), ISSN: 2394-9333 www.ijtrd.com "

3) Inbalatha.K, Palaniswamy K.M   ," Intellectual Green Corridor for Crisis Wellbeing Transference"," International Journal of Recent Technology and Engineering (IJRTE) ISSN: 2277-3878, Volume-8 Issue-2S10, September 2019"

4) 1Dr.S.T.Gandhe,2Mr. Amol S. Dhatrak,3Prof. P.G.Salunke," Automatic Traffic Signals In Smart Cities for Speedy Clearance of Emergency Vehicles"," 6th International Conference on Recent Trends in Engineering & Technology (ICRTET - 2018)"

5) Bhakti Prabhu, RutaDeshpande, ShraddhaBhavsar, ShailjaJha," Traffic Control System for Smart Ambulance ," International Journal for Research in Engineering Application & Management (IJREAM) ISSN : 2454-9150   Vol-05, Issue-02, May 2019"

6) Sheereen Fatima1, Dr. Rahul Kunkulol2, AmbekarHarshada Gangadhar1,   Shah Megha1, Vatsala Kunwar1, PhalkeRucha Deepak1, Aditya Nair1, PatilRunvi Arun1,

AwatiSiddhivinayak Rajesh1, Mehta Nimish Manoj1, PatilRiddhi Tushar1, MandhaneSaloni Umeshji1, Christina Bansode1," AWARENESS ABOUT THE CONCEPT OF GREEN CORRIDOR AMONG MEDICAL STUDENT AND DOCTORS IN A RURAL MEDICAL COLLEGE OF MAHARASHTRA, INDIA"," Int. j. clin. biomed. res. 2018;4(3):38-43."

7) **Rahul Kunkulol**,"Awareness about the concept of Green Corridor among medical student","","," Int. j. clin. biomed. res. 2018;4(3):38-43."

8) 1Rahul Pundir, 1Vikash Kumar, 1Sunil Parkash, 2Deepak kumar,"Smart Traffic System for Fast Movement of Emergency Vehicle","Deepak Kumar et al. 2018, Volume 6 Issue 2 ISSN (Online): 2348-4098 ISSN (Print): 2395-4752 International Journal of Science, Engineering and Technology An Open Access Journal"

9) RRamapriya*a,PallaviMPa,GouthamAPb, AnushaKamatha,ASrinivasc,RajasekarMd ,"IoT Green Corrido","1st International Workshop on Industrial Applications of Internet of Things (IAIoT- 2019"

10) Biru Rajak1, ShrabaniMallick 2, Dharmender SinghKushwaha3,"An Efficient Emergency Vehicle Clearance Mechanism for Smart Cities","ISSN (Online) : 2454 -7190 Vol.-14, No.-5, September - October (2019) pp 78-97 ISSN (Print) 0973-8975

11) R.SharmikhaSree, S.Meera, K.Valarmathi, J.K.Periasamy,"Integrated Ambulance Service with Advanced Real Time Traffic Control Systems","International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 – 8958, Volume-9 Issue-1, October 2019"

12) House of Commons Committee of Public Accounts,"NHS ambulance services","HC 1035 Published on 27 April 2017 by authority of the House of Common"

13) Abdul Mateen1*, Sabeen Sher1, Amjad Rehman2, Zahid Hanif1, Tooba Akhtar1, Mahmood Ashraf1,"Dynamic Traffic Control and Management System for Smart Cities","Volume 12, Issue 4, December 2018, pages 216–225 https://doi.org/10.12913/22998624/100387 Advances in Science and Technology Research Journal"

14) SaujanyaMukkawar, SurajRathod, ShivshankarGawai, MayuriMagar,"SMART AMBULANCE WITH TRAFFIC CONTROL ABILITY," International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056 Volume: 06 Issue: 03 | Mar 2019 www.irjet.ne p-ISSN: 2395-007"

15) R.SharmikhaSree, S.Meera, K.Valarmathi, J.K.Periasamy,"Integrated Ambulance Service with Advanced Real Time Traffic Control Systems","International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 – 8958, Volume-9 Issue-1, October 2019"