CONTROLLING OF SMART MOVABLE ROAD DIVIDER AND CLEARANCE OF AMBULANCE PATH USING IOT

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ABSTRACT

Smart portable avenue divider gadget allows to clearing the visitors on avenue at some stage in top hours of the day and every time any ambulance and clearing the route the usage of this device. This gadget works in which site visitors at the ingoing aspect is greater in comparison to different outgoing aspect or vice-versa due to the fact site visitors on one side is more than the other side then only able to shift the divider is very slowly for safety purposes. Since the assets are restricted and populace in addition to quantity of motors in keeping with own circle of relatives is increasing, there's extensive growth in quantity of motors on roads. This requires higher usage of present sources like quantity of lanes available. For example, in any city, there may be business region or purchasing region in which the visitors usually flows in a single route with inside the morning or evening. The other side of Road divider is mostly either empty or much underutilized. This is proper for height morning and night time hours. This consequences in lack of time for the automobile owners, visitors jams in addition to underutilization to be had resources. Our aim is to formulate a mechanism of automated road divider that could shift lanes, in order that we will have variety of lanes with inside the path of the rush.

Keywords: Road Divider.

I. INTRODUCTION

In current years, with an ever growing fee of improvement in metro towns around The world, there was proportional boom in numbers of cars at the roads. Although the range of automobiles the use of the roads has increased, the static street infrastructure is nearly the equal and is not able to address modifications like congestion, unpredictable traveltime delays and road- injuries which might be taking a critical shape. Traffic congestion has been one of the main issues confronted via way of means of the metropolitan towns these days regardless of measures being taken to mitigate and decrease it. It has emerged as one of the major mission for builders in city regions for making plans of sustainable cities In growing countries, like India, site visitors is inherently chaotic and noisy. Identification of significance of visitors congestion is an crucial requirement for outlining the congestion and

locating suitable measures. The major cognizance of this paper is aimed toward knowledge the ordinary Congestion, its measurement, precautionary degree and shows a remedial degree for the same. The implication of widening current roads or constructing new ones will best outcomes extra visitors that maintains to upward thrust till top congestion returns to the preceding level. The overall to be had area in the metropolis for the development of roads, railways and different transportation is restricted. The paper discusses implementation of movable visitors dividers as congestion launch method for metropolitan regions rather than conventional answer of widening the roads.

II.OJECTIVES

- To increase the efficiency of flowing traffic.
- To reduce the complexity at the junction.
- To reduce the accidents.
- To make the people follow the traffic rules
- It is helpful in making smart arrangements of the roads in the city.

III.METHODOLOGY

The proposed system shows that the module has been developed based on microcontroller that consists of an ultrasonic Sensors which is used for measuring the traffic density in this case and two dividers normal and extended. When the signal turns red, the traffic density is measured and the action should take place before the signals turns into green. If the traffic density is high then the extended divider comes up and the normal divider goes to ground position. Since the traffic density is high a message is delivered that 'Alert PLS traffic density is high, extended divider is up' to the nearest traffic control room If the site visitors density is everyday then no form of movement is taken and the everyday divider is up and the prolonged divider is to floor level. In this case the traffic density is normal then a message is delivered stating that 'Traffic density is normal. Since its is a demo module, we are just showing for the one way of traffic flow.

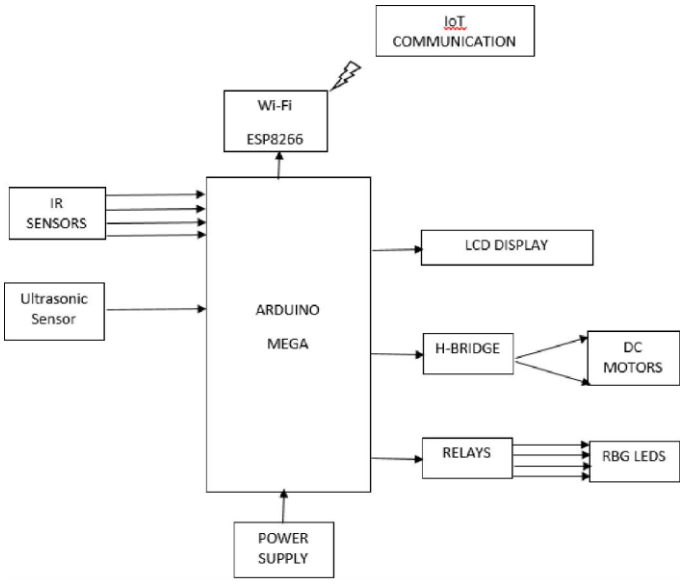

Fig: Block Diagram for the implementation of Road divider movement

IV.MODELING AND ANALYSIS

- Arduino mega: It is used for the controlling actions. It will receive inputs from IR sensors, ultrasonic sensors and RFID reader. The output will be produced by the LCD, LED'S, DC motors, RGB LED'S, buzzer and through IoT communication.

- Ultrasonic Sensors: ultrasonic/level sensors, as the name implies, use ultrasonic waves to measure distance. The sensor head emits an ultrasonic wave and picks up the wave that is reflected from the target. Ultrasonic and level sensors measure the distance of a target's distance by measuring the interval between transmission and reception.

- Buzzer: A buzzer or beeper is a mechanical, electromechanical, or piezoelectric sound signaling device (piezo for short). Buzzers and beepers are commonly used as alarm clocks, timers, train horns, and to confirm human input such as mouse clicks or keyboard input.

- IR sensor: R (InfraRed) sensor used to measure traffic density in this example, and both conventional and extended dividers.

- DC motor: Electric motors are broadly classified mo two different categories Direct Current (DC) motor and Alternating Current (AC) motor in the article we are going to discuss about the DC motor and its working. And also how a gear DC motors works.

- H-Bridge: An H-Bridge is nothing but an electronic circuit. Using such a circuit, you can supply current in two directions. The L293D is an H-Bridge with two possible outputs. Meaning ,you can connect two things to it and you can control the direction of current flow in both.

-Liquid Crystal Display: If the first IR sensor turns red then traffic is low, if second IR sensor also glows then traffic is medium. If third IR sensor also glows then traffic is very high which leads to the movement of the road divider. Traffic density will be shown on the LCD (Liquid Crystal Display).

IV.RESULTS AND DISCUSSION

It will help to reduce the traffic and helpful for the government to apply traffic rules. It is applicable in crossroads and traffic zone. Reduce accidents and create safe travelling. Decrease in the travelling time as traffic reduce. The proposed structure helps to reduce the chances of traffic jams and to provide clearance of road for the emergency vehicles to an extent. In these proposed work we are aimed to clear the traffic in accordance to priority. It will help in to reduce the traffic highway. Also it is helpful for the government to apply traffic rules. And people will follow the rules of traffic. It’s applicable in almost all areas in the Pune city. It will be applicable in the cross road and traffic zone.

V.CONCLUSION

In this venture the street is attached to cloud in which non- stop tracking of the visitors performed and depth of visitors is uploaded to cloud. In short movable divider is capable of handling and solves the problems of traffic jams on one side of the road with other side is free from high traffic congestion. This proposed system provides the free path for an ambulance which ensures the ambulance to reach the destination on time or without any delay and the life of humans is more important. It also reduces the time of journey in peak hours and save time an fuel. It is feasible, secure and fewer requirements of wires which reduces the maintenance cost of this system. When the traffic is HIGH on the one side the road divider is moved to the opposite side and the road divider is moved accordingly.

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