MOVABLE ROAD DIVIDER FOR TRAFFIC CONTROL WITH MONITORING OVER INTERNET OF THINGS

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Abstract— Road Divider is generically used for dividing the Road for ongoing and incoming traffic. This helps keeping the flow of traffic; generally there is equal number of lanes for both ongoing and incoming traffic. The problem with Static Road Dividers is that the number of lanes on either side of the road is fixed. Our aim is to formulate a mechanism of automated road divider that can shift lanes, so that we can have number of lanes in the direction of the rush.

*Keywords—Automated Road Divider, IOT (internet of things), User Friendly*

Introduction

Due to rapid increase in population , number of vehicles and automobiles on the road has increased in large amount. This leads to traffics jams. This project will help avoid traffic jams at some extent. Under normal conditions, traffic signals control mainly has two defects. The traffic waits until the it signals green. The setting time is almost same and fixed. Usually a road is always crowded with vehicles and go ahead time is short. So entire traffic is unable to flow through given time. For example emergency vehicles like fire engines and ambulance have priority over other vehicles. Because of this the junctions will face traffic jams.

I. LITERATURE REVIEW

We purposed IR based Movable Road divider system. In this system we remove existing systems problem. In first system control only traffic signal if any emergency happen like passing Ambulance ,fire cars etc. In no emergency situation, passenger have to wait for traffic signal. System Maximize time & not giving any reliability if traffic density is more. In second existing system traffic get control using WSN network. WSN provide range of 20-30 meters. We implement IOT system through our project. IOT give more range than WSN. WSN system is costly & very difficult to maintain.

II. BLOCK DIAGRAM
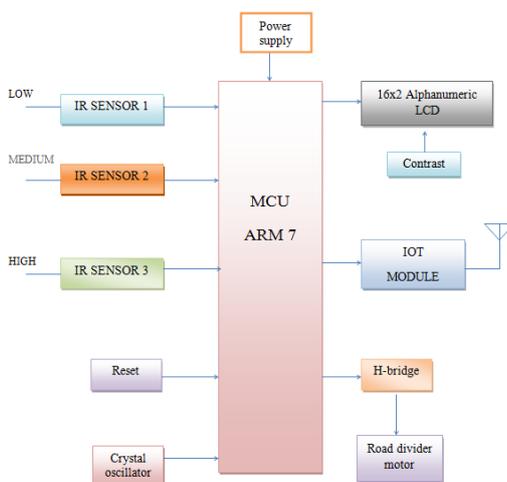
Fig.1 block diagram of Movable Road Divider

III. SYSTEM ARCHITECTURE

Our aim is to formulate a mechanism of automated road divider that can shift lanes, so that we can have number of lanes in the direction of the rush. The cumulative impact of the time and fuel that can be saved by adding even one extra lane to the direction of the rush will be significant. With the smarter planet application proposed below, we will also eliminate the dependency on manual intervention and manual traffic coordination so that we can have a smarter traffic all over the city. An Automated road divider can provide a solution to the above mentioned problem effectively. Here Low, Medium and High density of traffic value will be posted on IOT server as a graph.

IV. METHODOLOGY

Traditional road dividers have a fixed position and are highly inefficient during peak hours. This leads to chaos and confusion among the commuters which leads to delay in travelling time. Often during peak hours the traffic in one direction is way more than that coming from the opposite direction, while the number of lanes available to both sides remains the same. A solution to this problem is to make the road divider movable. To do this, earlier zipper machines were used, which transfer the movable barrier from one lane to the adjacent one. But this prototype mechanism is automatic.

Our Proposed system will move the road divider using DC motor. The dividers will be analogous to the dividers used with zipper machines but instead of these dividers being moved by the machine we will use an embedded system which will control the moment of the dividers. The dividers will shift according to the signals sent to the embedded system by the system administrator. This will be done by using a IOT module, a database will be configured and when updated and the data is sent to the embedded system will change the state of the divider. Along with a database, the cloud will also contain a log which will contain the history of states of the barrier system over time. This cloud can be accessed through any portal that supports cloud computing i.e. any web based platform or application. A User Interface will contain a login form which will authenticate the administrator and grant access to the database that will contain information related to the system.

V. RESULT

In this project we introduced sensor based technology for traffic control. We conclude that it provides powerful solution to improve existing system with the new intelligent traffic light controller.

VI. ADVANTAGES

1) User friendly device.

2) Easy installation process.

3) Fully automatic system.

VII. CONCLUSIONS

This is how we have controlled traffic congestion using automated road divider.

Acknowledgement

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