Survey on Smart Speed Breaker

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ABSTRACT: The traffic related mishaps can have desperate outcomes. Traffic security arrangements of today powers strong vehicles to hinder more than should be expected. Brilliant Speed Breaker is a traffic security framework where speeding vehicles initiate the speed breaker and rises the hindrances over the street surface and giving the physical leftover portion to driver to slow down the vehicle. In the event that the speed of the continuous vehicles is inside as far as possible, at that point the hindrances remain level on street surface and vehicles ignores it easily. It's cutting edge approach to keep control on speeding vehicles as it were also, un-influence the lawful speed vehicles. Further adjustment can be likewise accomplished for crisis vehicles availability.

Energy from advanced speed breaker is a wonderful project for every science student. This is a very new concept to prevent the accidents and control the speed of vehicles. By using this module we show the concept, how we can protect the accidents with the help of the speed breaker.Having an automatic speed breaker on time demand using embedded system tool, is an idea which is very innovative and useful for the requirements of today's speedy life. The concept of the mentioned idea is to give the performance to vehicle as well as to make them slow. The coding used in the completion of the research work is shown in the thesis. The real working demo of the research work is very realistic. This can be a very useful in real life.

KEYWORDS: Speedbreakers, Arduino Sensors

I. INTRODUCTION

India is creating nation with the second biggest street organize on the planet. Out of all out stretch of 5.4 million km of street arrange, right around 97,991 km is secured by national thruways. It's as of now a tremendous test for a the Indian government to give world-class street, because of sheer greatness. On a normal, an individual spends anyplace between 30 minutes to two hours of their day driving. Which implies, in a year, it right around 360 hours. Envision the sort of stressfurthermore, pointless weight the individual is putting on their body. Regardless of such the greatest method of transport in Indiais-Roads. Practically 90% of the traveler and mechanical vehicle is helped out through streets. The quickly expanding populace builds the traffic and great control on traffic is exceptionally vital for security andadditionally diminishes voyaging time.

Traffic arrangement which are accessible now daily and prominently utilizing is acceptable arrangement however not the best one. It hinders all the vehicles without thinking about their speed of vehicles. In short it's system discipline to all vehicles and terrible availability or risky traffic circumstance and a hazardous street. After log jam of substantial vehicles and little vehicles additionally additional time are require to recover their past speed by vehicles in tern it expands traffic. The vehicles with moderate speed additionally get stuns and vibration which the doesn't merit.

A.PROBLEM STATEMENT

Design The traffic safety solution of today force all the vehicles to slow down without considering the speed of ongoing vehicle it increase the traffic problem .In order to avoid that, system needs to be prepared which will operate according to the vehicle speed.

B.NEED OF THE SYSTEM

Safety of people.
Safety for environment

C.OBJECTIVES OF THE SYSTEM

The smarts speed breaker aims towards safe and easy accessibility of on-going vehicle by only affecting the vehicles whose exceeding a speed limit. It creates even traffic flow with less missions. In future modification can be also done to allows full access for emergency vehicles like police van, ambulance etc. It also increases life of automobile components by avoiding unnecessary shocks and vibrations.
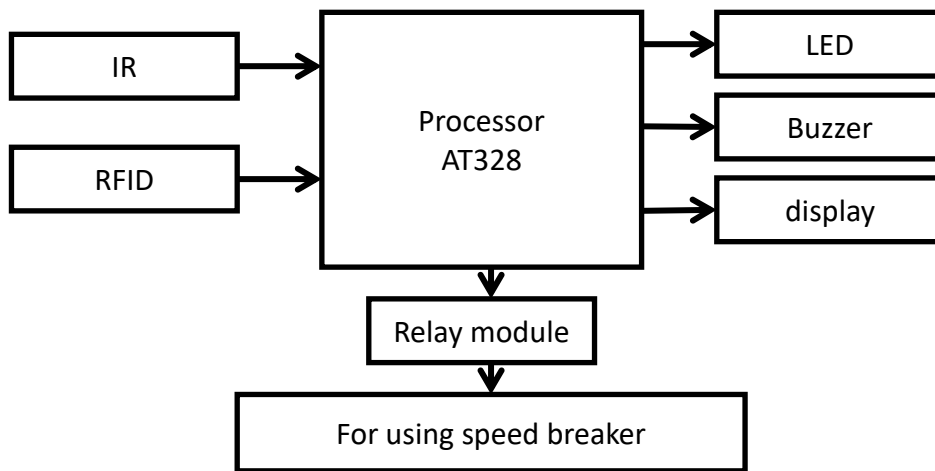
II. SYSTEM DESIGN

A.BLOCK SCHEMATIC

Fig.1 Block diagram of Smart Speed Breaker

B.WORKING PRINCIPLE OF THE SYSTEM

Smart Speed Breaker is a traffic safety system where speeding vehicles activate the speed breaker and rises the speed breakers above the road surface and giving the physical remainder to driver to slow down the vehicle.

There are two IR sensors used in a model they work on simple principle of light and detects the speed of the vehicle which passes by them. When a vehicle passes the 1st IR sensor it detects the time similarly the 2nd sensor works on the same basis and through the further calculations the speed of the vehicle is obtained. A basic command through the sensors is passed as a result if the vehicle speed is greater than the speed limit provided by the government on the specific roads. The bumping part of speed breaker will rise up from the bottom of the road and a continuous beeping and light will be emitted. All the factors will worn the driver that they should be alert of speed breakers. As per the given speed guidelines by government of India, if a vehicle falls into limited speed the speed breaker will simply rest in the bottom of the road. Smart speed breaker implemented on the accidental places will worn the driver that they should go slow with the heavy risk of life on such harsh roads.as per the basic report there are highly increment the accident so the rate of accident in risk zones can be prevented.

The specified RF ID is given to the ambulance so when the RF ID matches den it sent signal controller so controller will control the traffic signal light by blocking all the roads except the ambulance road by giving RED signal to all the road,

and it will give green signal to one road where there is near hospital, the near hospital road must set default so ambulance will go fast without any disturbance.
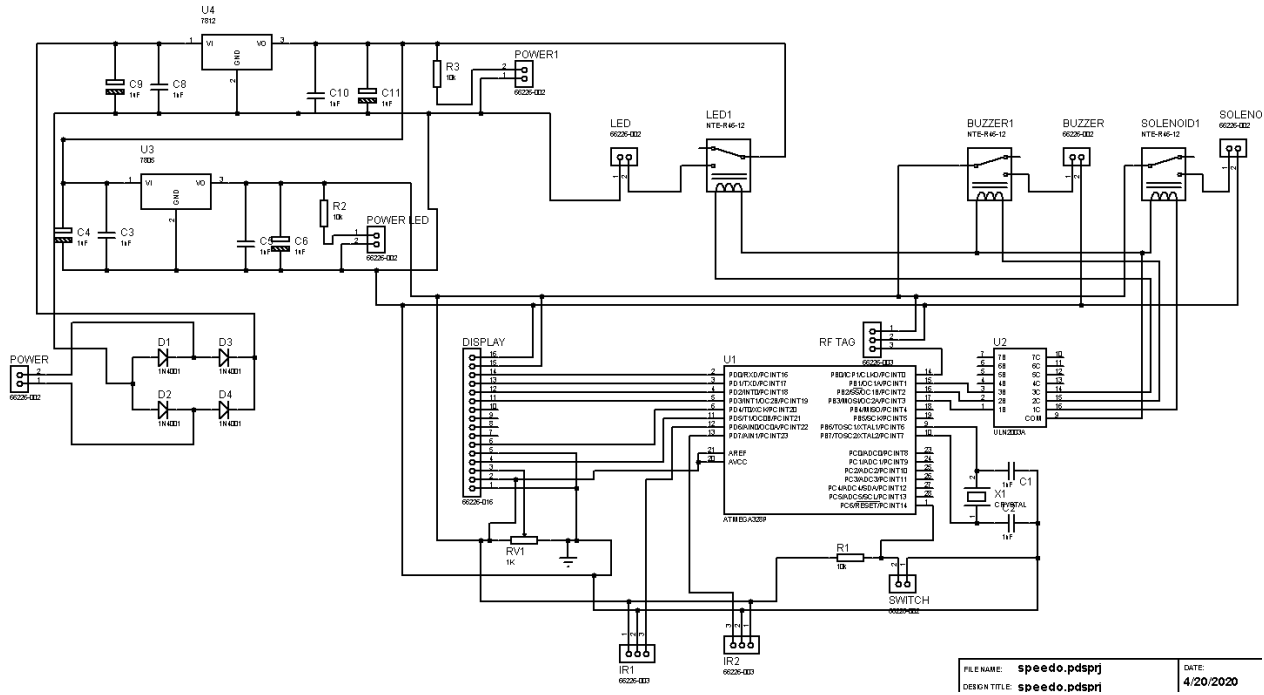
C.CIRCUIT DIAGRAM OF THE SYSTEM

Fig.2 Circuit diagram of Smart Speed Breaker
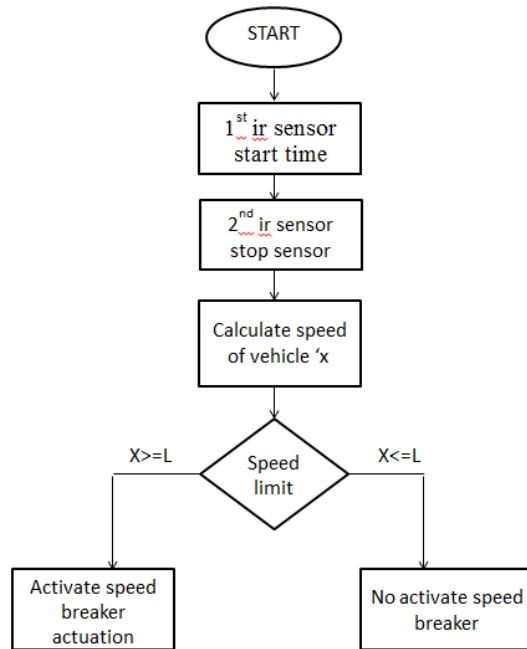
2.4 Flowchart

Fig.3 Flowchart

III. FUTURE SCOPE

It can be used in crowded areas contributing towards high speed of many areas. As we know most of the crowded area having accidents problem. It can be utilize nearby schools, collage etc.For safety purpose, preventing accidents on road, there is a conventional method having concrete speed breaker on road. In case of conventional concrete speed breaker. They are found firm all the time on the road. These cause a great change in performance of the vehicles as well.

the future scope regarding the project is to make it comfortable with the ongoing society and to the livelihood of the people. On the highways having high traffic rate and heavy vehicles on it. The main goal of the project is to make it worldwide and prevent the accidents and the cost which regularly is been passed the government to maintain the road, by this the economy loss can be prevented. A single speed breaker will not cost much and in high production rate the maintenance will be easy.

IV. CONCLUSION

We proposed and implemented a Smart Speed breaker system, Smart speed breakers are the traffic claiming devices where over speeding vehicles will activate the speed breaker and it will raise the speed bumps above the surface of the road and will give the physical remainder to the driver for slowing down the vehicle. If the speed of the vehicle will be in the given allowed speed limit then the speed bumps will remain flat on the surface of the road and the vehicle can pass through it comfortably. In implementation we will be using an iron finished flat speed breaker which is skilled of rising with the help of control circuitry of embedded system.

In this project we used an Arduino board and proximity sensors to detect the speed of vehicle and activate the speed breaker and a warning to shown to the driver using a standard traffic light signal i.e., Red led for slowing down and green to maintain the speed and a buzzer is also used to warn the driver of speed breaker ahead of him. If the speed exceeds the allowed speed an Image is also captured of the vehicle and is sent to the cloud, which can be accessed by RTO for fining the vehicle. We have tested our system on multiple times called as stress testing to see if the model works correctly in stress and the results are good as expected.

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