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Smart Speed Breaker

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ABSTRACT

The purpose of this paper is to build a smart speed breaker which can adapt according to the environment. Which means if there is no requirement of a speed breaker on the road it automatically disappears which in turns make the road flat again. Which will ensure road safety and will not cause any unnecessary harm to the vehicles. The speed breaker only comes over the road when it is absolutely necessary for the smart speed breaker.it does a great job when it comes to slowing down the vehicles without causing them any harm. This project is made keeping in mind the safety of the vehicle and the person sitting in the vehicle. For the purpose of making the smart speed breaker we are using a hemi-cylindrical speed breaker which is capable of going up a d down according to the condition. Once initiated it will come on the road and stay there till the countdown becomes zero. In the embedded system, we can write code to analyze the speed of the coming vehicle if the vehicle's speed is above the threshold limit, the embedded system then sends a warning to slow down via displaying alert in the display board about 100-200 meters from the smart speed breaker. This project mainly focuses on safety on the highways.
Keywords : Speed Breaker, Raspberry Pi, IR Speed Sensor, Passive IR Sensor, IoT.

I. INTRODUCTION

In a rapidly changing world, speed has become a very important aspect of our lives, everyone wants to be fast and want to do thing faster than others.

The two major aspect of speed are, one to be in speed with control and other to be in speed with keeping in mind the safety of the itself.

For safety purpose, to keep the speed of the vehicles in control there is conventional method which is made of concrete and can also be called bumps on the road.

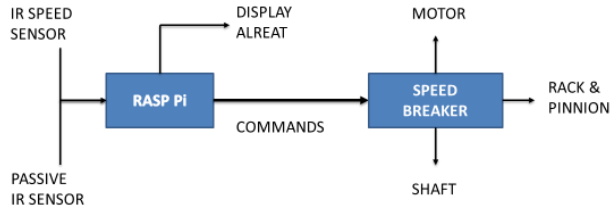
In the case of conventional speed breaker, the speed of the vehicle is not taken into consideration the conventional speed breaker is firm which can even damage a vehicle if the vehicle is at great speed.

We came up with this innovative idea to make a smart speed breaker to keep the safety of the people. This idea can be used in front of organizations, highways, etc. The conventional speed breaker is there hindering the traffic even when there is no need for them. This can be overcome by using the smart speed breaker which flattens when not required.

- This module helps in reducing the chances of preventing accidents.
- At that time, at a certain distance would be a display that tells the driver to slow down for the speed breaker ahead.
- The driver gets the message and slows down, allowing the passerby to pass.
- If the traffic is too high the sensors pick up that and preventing the passerby to pass the road.

With the help of ML, the module is able to monitor the accurate functioning of the system.

BLOCK DIAGRAM OF SMART SPEED BREAKER



II. LITERATURE SURVEY

Automatic speed breaker on Time demand Using Embedded System
Made by Sanchit Vashistha (M. Tech student) and Rekha Agarwal (Asst. Prf., Department of ECE School of Engineering and Technology) [1]
This project focuses on making an automatic speed breaker which is time dependent. Means it is only active relative to time. For example, the speed breaker is active at certain times like at 9:00 am when it is time for the school student to leave.
In the Embedded system clock any time and date can be stored on which the speed breaker is required on the road.

Eco Friendly Power Generation from Speed Breaker
This project was proposed and made by project, amal Abaraham Cibin Geeevarghese Jacob,
Glen martin Thomas, Jobby George, Jose Tom [2]
This project basically focuses on making energy on from the pressure that is applied on the speed breaker created by them.
With the help of the pressure applied on the speed beaker energy is generated to prove electricity to for various uses.

Road power generation by Speed Generation
Created by Ch.Bhanu A.V.Ramana Rao, P.Srinuvas [3]
This project uses mechanical System to convert mechanical energy into electrical energy.
The energy generated is D.C power. The generator is a 12-volt D.C which is enough to light a light bulb.

PAPER NO.	PAPER NAME	AUTHOR	METHOD PROPOSED	LIMITATIONS
1.	**Automatic Speed Breaker on Time Demand Using Embedded Systems.**	Sanchit Vashistha and Rekha Agarwal	It's a very crude model of speed breaker which is heavy on vehicles	Not smart enough
2	**Eco Friendly Power Generation from Speed Breakers.**	Amal Abaraham Cibin Geeevarghese Jacob, Glen martin Thomas , Jobby George , Jose Tom	Uses speed to create energy.	Cannot handle traffiCannot make decisions
3.	**Road Power Generation by Speed Breaker .**	Ch.Bhanu A.V.Ramana Rao, P.Srinuvas	Uses speed breaker to create energy	Cannot make smart decision

III. TAXONOMY CHART

PAPER NO.	PAPER NAME	DISPLAY ALERT	OBJECT DETECTION	HUMAN SAFETY
1.	**Automatic Speed Breaker on Time Demand**	✗	✗	✗

	Using Embedded Systems			
2.	Eco Friendly Power Generation from Speed Breakers	✗	✗	✗
3.	Road Power Generation by Speed Breaker	✗	✗	✗
4.	Proposed project	✓	✓	✓

IV.CONCLUSION

Breaker on using Embedded System tool be seen that can be seen that the idea is very innovative and useful for the requirements of today's fast life. The concept of the mentioned idea is to give the performance to vehicles as well as to make them slow.

This idea to have such a speed breaker in practical life, helps to reduce the speed of vehicles; maintaining the performance as far as possible. So, it becomes a very descriptive research work for the details of the practical one.

This project is made keeping in mind the safety of the people and the vehicle. The real working demo of the research work is very realistic and charming. This can be a very us

V. V.ACKNOWLEDGEMENT

Conclusion to the research work shows that a realistic and practical life research work has been made which can be a milestone in IOT world.

The future scope will be more powerful and smart with the help of such ideas and concepts. The more complicated and more useful speed breaker on time demand can be made in future easily. More will be the useful in respect of the applications, more will be the complications. As the concept is so smart, the complexity can be considered easy in reference of the smartness of the idea.

VI. REFERENCES

[1]. Automatic speed breaker on Time demand Using Embedded System Made by Sanchit Vashistha (M. Tech student) and Rekha Agarwal (Asst. Prf., Department of ECE School of Engineering and Technology).

[2]. Eco Friendly Power Generation from Speed Breaker This project was proposed and made by project, amal Abaraham Cibin Geeevarghese Jacob, Glen martin Thomas, Jobby George , Jose Tom.

[3]. Road power generation by Speed Generation Created by Ch.Bhanu A.V.Ramana Rao, P.Srinuvas.

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