Smart Heavy Vehicle

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Abstract: Now a day’s, lot of accidents due to drunken driving and overloading. At times truck drivers do over timing and there are chances of them falling asleep which can lead to accidents. Overloading of vehicles is a daily routine amongst the people concerned with the business. This proves to be very dangerous at times and has resulted in many accidents. Apart from accidents, it also has severe effects on roads and other civil infrastructure.

In this project, we are developing an Auto Lock System using Alcohol Breath Sensor, Load sensors, IR sensor and Ultrasonic sensor. If alcohol is detected or over loading is detected or if there is petrol theft or sudden petrol leakage or if the driver falls asleep while driving, in any of the above cases the buzzer will buzz and a message will show on LCD regarding the condition and the breaking of the ignition circuit will take place.

Keywords: Overloading, Alcohol sensor, Load sensor, Ultrasonic sensor, IR sensor, LCD, Buzzer.

1. Introduction

1. In India due to huge population it is difficult to manage the traffic. Thus it is important to curb violation of transport rules set by the government of India. There are many transport companies which overlook the loading limit and overload the vehicles. Many accidents of drunk and driving have been reported. These heavy vehicles generally travel during the night time and thus there are chances that the driver might fall asleep for a second or two. All these conditions not only endanger the life of that driver but also other people and other vehicles on that road.

2. We are developing an auto lock system which takes the input from an Alcohol sensor and checks if alcohol is detected. If the detected Alcohol is above the given limit then the buzzer buzzes and a message of “ALCOHOL DETECTED “ is shown on the LCD and the breaking of ignition circuit takes place. The same process is for Load sensor. The vehicle starts only when no alcohol is detected and the load is under the limit. Once the vehicle is ON the IR sensor continuously monitor the eye lid of the driver and if it detects the eye lid closed for more than 3 seconds then the buzzer starts buzzing. The Ultrasonic sensor also keeps monitoring the fuel tank to check if there is any sudden change in the level of the fuel and thus will detect any fuel leakage or fuel theft and will indicate the driver by buzzing and a message such as “ fuel theft “ will appear on LCD. Thus this smart vehicle will make sure that the driver is not drunk, overloading of vehicle does not take place, the driver does not fall asleep and fuel leakage or fuel theft will be protected.

2.1. Figure and Block diagram

3. Acknowledgements

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4. Conclusions

We hereby, plan to design and implement a circuit which is highly effective and efficient to serve its purpose. The mechanism proposed has impeccable performance and satisfactory throughput. Keeping in mind that this is a multi-disciplinary project, it has a high future scope and employability strength in the industries. Thus, our approach is to have an easy solution for a big problem like this and our proposed idea is tailor-made and one of the easiest designs to implement in real life.

5. References