

Alcohol detection and Self-locking system and Automatic Headlight Dim/Bright Controller

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PROBLEM STATEMENT

The problems which the headlight and steering system were facing at earlier time, it can be resolved by the technology which we have mentioned in this paper. Our work can be deployed in the upcoming vehicles, which will be added benefit and can reduce the risk factor in driving vehicles in various pathways.

TEAM MEMBERS

INTRODUCTION

The current scenario shows that the most of the road accidents are occurring due to drunk-driving. The drivers who drink alcohol are not in an stable condition and so, rash driving occurs on highway which can be risky to the lives of the people on road, the driver inclusive. The enormity of the dangerous driving transcends boundary. The laws in India are currently prohibiting drivers to drink and drive so that the fine can stop them to drink and drive. Whatsoever, effective observation of inebriated drivers could be a challenge to the policemen and road safety officers, the rationale for this stems from the natural inability of citizenry to be present

additionally as state among identical house and time. This restricted ability of enforcement agents undermines each manual effort geared toward edge drink-driving. There is therefore the need for an alcohol detection system that can function without the restriction of space and time.

The Indian Ministry of Statistics reported thousands of road accidents in 2016. Though the report declared speed violation is the foremost reason for these accidents, it will safely be inferred that almost all of the cases are because of drivers unstable condition caused by drivers becoming drunk before they drive. The investigation done by the Planet Health Organization in 2008 shows that concerning 50%-60% of traffic accidents square measure associated with drink-driving. Moreover, WHO information on road traffic deaths disclosed.

Auto safety is the prevention of car accidents or the minimization of accident-related harmful effects, especially as regards human life and health. Since years,

unique safety devices have been built into automobiles, some for the safety of vehicle occupants only and others for the safety of others. We are glad to launch our building program " Automatic Headlight Dim/Bright Controller" which is completely fitted with circuit sensors,

dim / bright light circuit and gear

rack and pinion system. This is a genuine initiative planned and professionally built for automotive vehicle. It is an integral part of high output. This system has undergone strenuous testing in our automotive vehicles and it is excellent. The most typical steering arrangement is to turn the front wheels using a hand-operated

steering wheel that is situated in front of the driver, through the steering column that may include universal joints to enable it to deviate from a straight line somewhat. Other arrangements, for example a tiller or rear-wheel steering, are often found on various types of vehicles. Army vehicles such as tanks, armoured lorry deploy differential steering and that is, the tracks are designed to run at different speeds, or sometimes in opposite directions to change course. As for the Indian road transport scenario, accidents are becoming a day-to-day incident as an effort has been made to eliminate these accidents.

During pitch black conditions where there are no other sources of light, high beam is used.

In all other cases, low beam is preferred. But in a two-way traffic, there are vehicles plying

on both sides of the road. So when the bright light from the headlight of a vehicle coming

from the opposite direction falls on a person, it glares him for a certain amount of time.

This causes disorientation to that driver. This discomfort will result in involuntary closing

of the driver's eyes momentarily. This fraction of distraction is the prime cause of many

road accidents [3]. The prototype that has been designed to reduce this problem by

actually dimming down the bright headlight of our vehicle to low beam automatically

when it senses a vehicle at close proximity approaching from the other direction. The

entire working of the dimmer is a simple electronic circuitry arrangement which senses

and switches the headlight according to the conditions required

Ideation

This mechanism works by sensing the light intensity in the atmosphere around it.

An LDR is the sensor, which can be used to detect light. It's inexpensive, and can be purchased from any local electronics store or online. When connected to VCC (5V), the LDR releases an analog voltage which varies in magnitude in direct proportion to the intensity of the input light on it. This is the higher the light intensity, the greater the equivalent LDR voltage would be. As the LDR produces

an analog voltage it is attached to the Arduino analog input board. With its built-in ADC (analog-to-digital converter), the Arduino then converts the analog voltage

(from 0-5V) in the range of (0-1023) to a digital value. The converted digital values read from the LDR via the Arduino should be in the range of 800-1023, whether there is enough light in its atmosphere or on its surface. We then program the

Arduino to turn a relay on. Accordingly, when the light intensity is small (this can be achieved by covering the LDR surface with some object), switch on an appliance (Headlight), that is, when the read digital values are in a higher range than normal.

Arduino Uno is micro-controller development board that works on Atmega-328P.

The Arduino results to numerous various functions like Microcontroller area unit, computer circuit unit, primarily little computers that will run tiny easy software package programs, the area unit are enough low steam-powered which can steam powered by various batteries for years however area unit ready to measure information much quicker than a person's brain can method/suppose.

The Board is an organization in the Italy which structures and sell-circuit sheets which make micro-controller simple to utilize, they coined those circuit sheets

Arduino and there will be a variety kinds of Arduino, those can be utilized through variety of ways and has diverse usefulness of unique applications of instance we had straightforward Arduino's sheets which seems like Arduino-uno which can be conservative/very useful for each task.

The MQ-3 sensor is made of Tin Dioxide (SnO_2) delicate layer. It is sorted out in such a structure to give high affectability to liquor and low affectability to Benzene. It has an immediate drive circuit to give lively reaction, quality, and longer lifetime. It is having a clear interface type. On the sensor, port pins 1, 2 and 3 tends to the yield, GND and VCC independently. The particular of the sensor is depicted in table underneath.

PROTOTYPE IMAGES

