Enhanced Accident Prevention System in India
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Abstract:
India is a developing country, there are many changes held in the path of development so there is also change in the roads style of India we are know in this city the conditions of roads and highway are not so good in comparison to other countries which cause a huge amount of accident held. In this paper we disused the method of for preventing the accidents by virtue we also save the life of human being. The major causes of accidents are as follows: alcohol consumption, over-speed, mechanical failure, wrong perception of distances b/w the cars and night vision etc are the some main reasons of accidents in India. Accidents can be prevented with installation of sensor of different kind is used to detect, indicate and prevents the accident.

Keywords: Night vision camera, Ultra-sonic sensor, Alcohol sensor, Side camera, Oxygen sensor Piezoelectric Infrared Sensors, The detonation sensor, the throttle position sensor, The manifold pressure sensor, the coolant temperature sensor

I. INTRODUCTION:

Road accidents are unwanted things to happen to a driver though they often quite often. In countries like India roads accidents occurs more frequently. The major reasons behind the road accidents are alcohol consumptions, over speeding, mechanical failure, wrong perceptions of distance b/w the cars and other automobile and. In this paper we have described an accident prevention and informer system using night vision camera, alcohol sensor, ultrasonic sensor, mechanical default, drivers health, road conditions, use of camera inspite of side mirrors, anti clear front, use of Bluetooth device on driving any type of automobile.

II. NIGHT VISION

An automotive night vision system uses a thermal graphic camera to increase a driver's perception and seeing distance in darkness or poor weather beyond the reach of the vehicle's headlights. Such systems are offered as optional equipment on certain premium vehicles. The first introduction was in 2000 on Cadillac Deville.

Night View Assist prototype was shown in 2003 on the Mercedes-Benz F500 concept. Series production Night View Assist system introduced in 2005 on the redesigned Mercedes-Benz S-Class (W221). It was the first system to use the instrument cluster's LCD as a display.

2009: Night View Assist Plus added a pedestrian detection function calling the revised system on the redesigned Mercedes-Benz E-Class (W212) and refreshed S-class however, the E-class uses the navigation screen's display.

2011: Night View Assist Plus with Spotlight Function premiere; the Mercedes-Benz CL-Class (C216) became the first series production car with night vision-guided pedestrian spotlighting.
(HID version) can flash at any pedestrians it detects in order to warn both the driver and the pedestrians. The flashing light is directed in such a way that vehicles in front and oncoming traffic are not dazzled.

2013: Night View Assist Plus with animal detection on the W222 S-Class. Many of giants of this field start to installed the night vision camera in cars like Audi, BMW, Toyota etc use night vision camera

III. OXYGEN SENSORS:

All cars that were manufactured post 1980 feature an oxygen sensor. It is located within the emissions control system. When functioning, the O2 sensor sends data to the management computer located within the engine. In your car, a functioning O2 sensor ensures that your engine is running at top performance. Additionally, this sensor keeps your emissions in check and alerts you to when emissions are too excessive. For states that have vehicle inspection programs to regulate emissions, the use of the CEL and O2 light will alert officials to any excessive emissions. As a result, if one or more of your oxygen sensors is faulty during an emissions inspection for your car, you will most likely not pass the inspection.

IV. THE DETONATION SENSOR:

A knock happens when the mixture of gas and air burns too fast or fails to burn smoothly. The knob sensor regulates the knock by sending a signal to the Electric Control Module, or ECM, which then delays the engine spark timing at certain intervals until the problem is resolved. The sensor monitors the engine’s performance and protects car parts such as the pistons, plugs, valves, rods and gaskets from the damaging effects of an engine knock.

VI. THROTTLE POSITION SENSOR

A throttle position sensor (TPS) is a sensor used to monitor the throttle position of a vehicle. The sensor is usually located on the butterfly spindle/shaft so that it can directly monitor the position of the throttle. More advanced forms of the sensor are also used, for example an extra closed throttle position sensor (CTPS) may be employed to indicate that the throttle is completely closed. Some engine control units (ECUs) also control the throttle position electronic throttle control (ETC) or “drive by wire” systems and if that is done the position sensor is used in a feedback loop to enable that control.
VII. MANIFOLD ABSOLUTE PRESSURE SENSOR

The manifold absolute pressure sensor (MAP sensor) is one of the sensors used in an internal combustion engines electronic control system. Engines that use a MAP sensor are typically fuel injected. The manifold absolute pressure sensor provides instantaneous manifold pressure information to the engine’s electronic control unit (ECU). The data is used to calculate air density and determine the engine’s air mass flow rate, which in turn determines the required fuel metering for optimum combustion (see stoichiometry) and influence the advance or retard of ignition timing. A fuel-injected engine may alternatively use a mass airflow sensor (MAF sensor) to detect the intake airflow. A typical naturally aspirated engine configuration employs one or the other, whereas forced induction engines typically use both; a MAF sensor on the intake tract pre-turbo and a MAP sensor on the charge pipe leading to the throttle body. MAP sensor data can be converted to air mass data using the speed-density method. Engine speed (RPM) and air temperature are also necessary to complete the speed-density calculation. The MAP sensor can also be used in OBD II (on-board diagnostics) applications to test the EGR (exhaust gas recirculation) valve for functionality; an application typical in OBD II equipped General Motors engines.

VIII. CONCLUSION:

The main purpose of our project is to develop an advanced system for vehicle diagnosis that can be installed into any vehicle. This system and sensor can be designed with minimum number of circuits which can be controlled by a smart operating system with the quality that its can easily available to one. This can contribute to construct safer vehicles, can monitor the driving skills of the driver, improving treatment for crash victims, helping insurance companies with their vehicle crash investigations, and enhancing road status in order to decrease the death rate. Driver is not able to control his vehicle when he is asleep and by the time he realizes it, there is an accident. Many companies are trying to research on how an accident which occurs due to driver fatigue can be prevented. This paper attempts to contribute to the body of knowledge of road safety.

IX. REFERENCES