Smart vehicle to maintain safe distance

Abstract

The problem of vehicle accident is part of an endless list of disasters that could occur anywhere anytime. Statistically, they are considered the second leading cause of death. To overcome such problems, many vehicle manufacturers and automobile device companies have attempted to develop speed control systems to maintain a vehicle safe distance. The proposed project aim is to design and development of app for car driver. In this project we are presenting an IoT based system which will help drivers to drive the car safely and efficiently. This system consists of tracking and locating the location of accident using GPS and communicates the co-ordinates via SMS using onboard GSM module, smoke detection using a gas sensor, obstacle detection in front and rear of car using ultrasonic sensor and simulation of physically unavailable sensors using logical functions

INTRODUCTION

The problem of vehicle accident is part of an endless list of disasters that could occur anywhere anytime. According to the Association for Safe International Road Travel, about 1.24 million die and 50 million are injured on the roads of the world every year. Statistically, they are considered the second leading cause of death. To overcome such problems[1], many vehicle manufacturers and automobile device companies have attempted to develop speed control systems to maintain a vehicle safe distance. In this direction the attempt is going on designing a safety driving app for automobiles using the new emerging IOT based technology that is used for designing a more efficient solution[2]. The proposed project aim is to design and development of an app for car driver. The Internet of Things (IOT) is the interconnection of uniquely identifiable embedded computing devices within the existing Internet infrastructure. Typically, IOT offers advanced connectivity of devices, systems, and services that goes beyond machine-to-machine communications (M2M) and covers a variety of protocols[3], domains, and applications. The interconnection of these embedded devices (including smart

objects), is implemented in nearly all fields of automation enabling advanced applications like a Smart Grid. The term —things in the IOT refers to a wide variety of devices such as heart monitoring implants, biochip transponders on farm animals, electric clams in coastal waters, automobiles with built-in sensors,

Block Diagram :

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┌──────────┐
│ Obstacle │
└──────────┘
     │
     ├──→ ┌──────────────┐                           ┌──────────┐
     │    │  Ultrasonic  │                      ┌──→ │   LCD    │
     │    │ Transmitter  │ ──→ ┌──────────┐     │    └──────────┘
     │    └──────────────┘     │          │ ←───┘
     │                    ┌──→ │ ARDUINO  │
     │                    │    │          │ ←───┐    ┌──────────┐
     │    ┌──────────────┐│    └──────────┘     └──→ │  Buzzer  │
     └──→ │  Ultrasonic  ││                          └──────────┘
          │   Reciever   │←┘
          └──────────────┘
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