PANIMALAR ENGINEERING COLLEGE

An Autonomous Institution, Affiliated to Anna University, Chennai
A Christian Minority Institution
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Approved by All India Council for Technical Education

Department of Computer Science and Engineering

AUTOMATIC SPEED CONTROL IN SCHOOL AND COLLEGE ZONES

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ABSTRACT:

As far as automobiles are concerned, safety is very important to reduce the occurrence of accidents in speed restricted zones. It minimizes the loss of property and life. According to the recent surveys, in the past few years, an accident near the school zones, hospital zones and sharp turnings have increased tremendously, because of their hurry to get the targeted place soon. Therefore controlling vehicle speed has been a crucial issue to be considered. This paper aims to give a practical, compact and simple design to develop an automatic vehicle speed control system, which has to be quickly get implemented in school, college, hospital, sharp turning zones to reduce the number of accidents. This paper paves way for controlling the speed of the vehicles within certain limit in restricted zones without interruption of the drivers. An RFID is used for this purpose. The RFID reader is attached along with the vehicle and the RFID Tag with these Zones. The tags are placed at the beginning and the end of the regions for which the speed should be reduced. This automated speed controlling system is built using the microcontroller-based platform of the Arduino Uno board. Here the Once this technique was implemented the accidents will be reduced on a larger rate, and also reduce the nuisance by some drivers.

Objectives

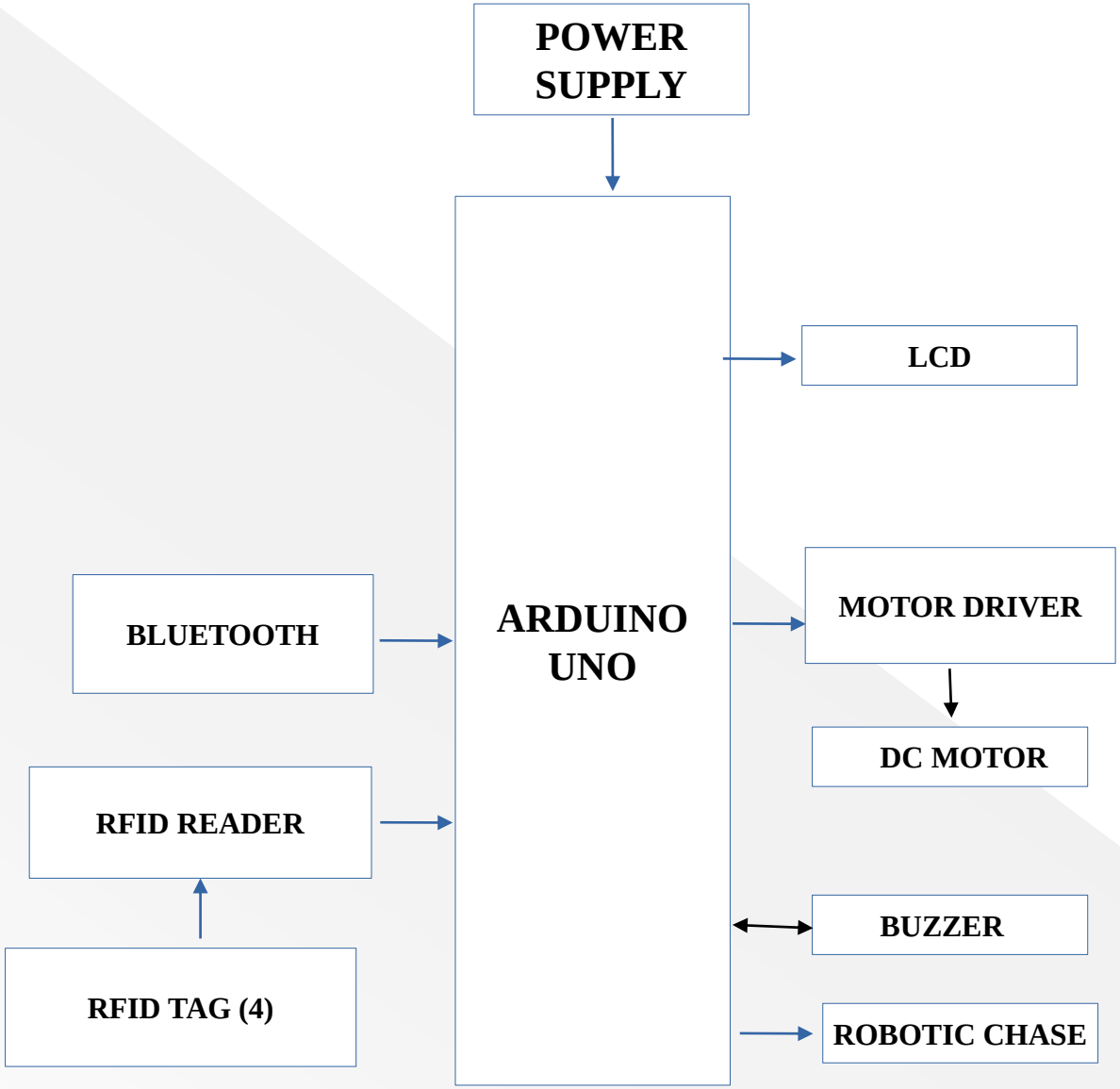
- To develop a system that ensures safe driving within private zones.
- To automatically detect the speed of vehicles using RFID technology.
- To control the speed of vehicles using an automatic speed control system.
- To reduce the number of accidents caused due to over speeding.
- To minimize the risk of pedestrian accidents within private zones.
- To provide an effective and efficient solution for speed control in private zones.
- To reduce the need for manual monitoring and control of vehicle speeds.
- To improve the overall safety and security of private zones.
- To facilitate the smooth and efficient movement of vehicles within private zones.

EXISTING METHOD	PROPOSED METHOD
1. In Existing method, there is no automatic speed control. 2. Zones are not indicated. 3. Lack of Automatic zone recognition system.	1. In proposed method, RFID is used to indicate the zones. 2. The indicated zone through RFID is used to reduce the vehicle speed that passes through the zone.
DRAWBACKS	**ADVANTAGES**
1. Over speeding in school or hospital zone creates accidents. 2. Speed control is essential in vehicles but lacks in the existing system.	1. Over speeding can be minimised and which reduces the accident. 2. The vechicle speed can be controlled using the RFID tags and reader.

WORKING PRINCIPLE

- In this proposed method, Arduino uno microcontroller is used to interface with the sensors and to the communication devices. The LCD is used to update the latest information in the LCD. School zone and hospital zone are identified by RFID tags place between the zones. Motor driver is used to control the speed of the motor. If the vehicle reaches school zone and hospital zone the buzzer which represents the horn is disabled. Here we are using robotic chase for vehicle movement which is controlled by Bluetooth module.

BLOCK DIAGRAM



HARDWARE REQUIREMENT

- ARDUINO UNO
- POWER SUPPLY
- MOTOR DRIVER
- DC MOTOR
- ROBOTIC CHASE
- LCD - (1)
- BLUETOOTH
- RFID READER
- RFID TAG – (4)
- BUZZER

SOFTWARE REQUIREMENT

- ARDUINO IDE
- EMBEDDED C LANGUAGE

APPLICATIONS

- This system is used to preventing from school and hospital accidents

Literature Review

S.NO	TITLE	AUTHOR	YEAR
1.	Embedded Vehicle Speed Control and Over-Speed Violation AlertUsing IoT	Ashok Reddy K, Saakshi Patel	2019
2.	Predictive Speed Control for Automated Vehicles in Urban Areausing Speed Zones	Peter Szilassy, Balazs Nemeth and Peter Gaspar	2020
3.	Real Time Automatic Speed Control Unit for Vehicles	S Arun Prakash, Aravind Mohan R, Rahul M Warrier, R ArunKrishna, Sooraj Bhaskar A, Aswathy K Nair	2018

THANK YOU!