SIGNS WITH SMART CONNECTIVITY FOR BETTER ROAD SAFETY

LITERATURE SURVEY

DOMAIN   :IOT

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ABSTRACT

In present systems the road signs and the speed limits are static. But the road signs can be changed in some cases. We can consider some cases when there are some road diversions due to heavy traffic or due to accidents then we can change the road signs accordingly if they are digitalized. Intelligent transportation systems (ITS) offer significant opportunities to save life.

A road safety international task force, comprising leading international experts in road safety and connected mobility, has focused on the relation between interconnected mobility and road safety.

This project proposes a system which has digital sign boards on which the signs can be changed dynamically. If there is rainfall then the roads will be slippery and the speed limit would be decreased. There is a web app through which you can enter the data of the road diversions, accident prone areas and the information sign boards can be entered through web app. This data is retrieved and displayed on the sign boards according.

SCOPE OF WORK

The main objective of the proposed system is to operate the vehicles in a safe speed at critical zones minimizing the possible risk of unwitting accidents and casualties.

- Monitoring the speed limit in vehicle
- Vehicle safety
- Efficiency

- Convenience
- Overall customer experience
- Operational performance

LITERATURE SURVEY

Assistant Prof. Ankita Gandhi, Recent studies have shown us that the higher rate of major accidents on road is occurred due to high ungovernable speed rather than speed restricted in the zone and also due to ignorant obstacles. The priority for the driver while driving should be conscious of the particular area so they are aware of the obstacles in front of the road. In most instances, the driver is a fault. In some of the areas, speed bumps are made to create hindrance to the speed of vehicles, but the drivers do not lower their speeds. Several times due to the driver's fault speed is not controlled. The whole system is being controlled by an Arduino Uno R3 as a microcontroller.
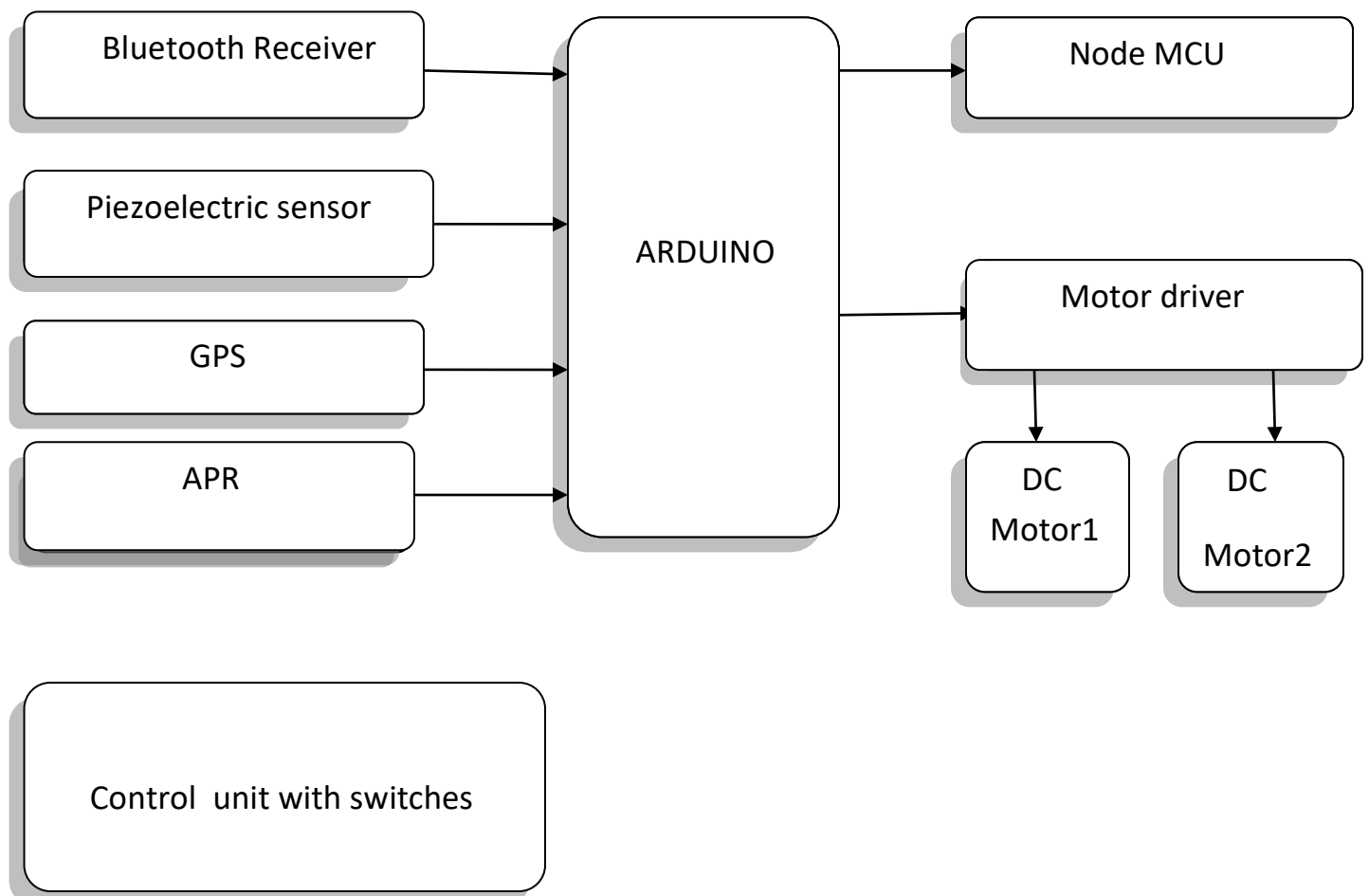
Ashok Kumar K, Karunakar Reddy Vanga, The major advantage of proposed system is to avoid accidents at rush areas and also provide reliable communication to authorized society incase of emergency. Whenever vehicle enters secured zone, the transmitter of vehicle sends a signal to receiver.

Vaishnavi Laxmanrao Gadewar, Several road safety articles and literature databases were searched but very few information was available regarding speed control system. As much till now, not lot of work is carried out in this area. Numerous articles were found related to the present road conditions and urgent need of safety measures. Various studies are being carried out but the documentation

is not yet done. Also the implementation of various proposed methods is not feasible.

Ankita Mishra, worked on speed control system by the use of RF design. The main purpose is to design the controller for smart display which is meant for the vehicle's speed control and to monitor the speed zones which have speed limits and which can operate on an associated embedded system. Smart Display & Control (SDC) can be custom designed so that they can fit into dashboard of the vehicle, and display the information available on the vehicle.

ARCHITECTURE DESIGN

Bluetooth Receiver		Node MCU
Piezoelectric sensor	ARDUINO	Motor driver
GPS		DC Motor1
APR		DC Motor2

Control unit with switches

CONCLUSION

We have presented a system, to alert the another driver about the speed limits in specific areas and reduce the speed of the vehicles in sensitive public zones without any interference of the drivers where controls are taken automatically by the use of a wireless local area network. In the initial phase, we designed the basics block diagram for the system. In the implementation phase, we executed the hardware with the help of IOT connecting technologies such as Blynk app. Extensive experiments conducted on IOT and other connecting technologies. We can be enhanced this system by implementing camera using Raspberry pi, GSM module in case of network unavailability and low RAM module/zigbee module for long range communication.