INTELLIGENCE VEHICLE MONITORING SYSYTEM

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Abstract: Nowadays road accidents have become the major problem. Due to limited capacity of road networks road traffic congestions are posing serious problems. Therefore for avoiding such types of accidental problem's intelligence vehicle monitoring system would be of great help. This system is based on wireless communication technology. It is the wireless exchange of critical safety and operational data between vehicles and high way infrastructure primarily to avoid motor vehicle accidents but also to enable a wide range of other safety and environmental benefits. This system applies to all roads, and transforms infrastructure equipment into smart infrastructure.

Keywords: Vehicular Communication, Wireless Sensor Networks, Accidental Prevention, Traffic

1. Introduction

Most of the accidents happen due to lack of communication between driver and environmental infrastructure. According to survey millions of people die each year on the road accidents. Now days the road accidents leads to death and finical losses.

In the vehicle to infrastructure plays an important role by gathering local and global information on traffic and road conditions and then suggesting or imposing certain behaviors on group of vehicles. In a more sophisticated way we can say that the velocity and accelerations of vehicles and inter vehicle distances would be suggested by the infrastructure on the basis of traffic conditions, with goal of optimizing overall emotions and traffic velocities.

In this paper we examine the possibility of to support infrastructure and vehicle developments. Vehicle to infrastructure provides solutions to longer range vehicles networks. It makes use of preexisting network infrastructure such as wireless access.

2. Literature Survey

The concept of vehicle monitoring has been around since last some decades. But with the advancement of technology and services, people's expectations what an intelligence system should do or how the services should be provided and accessed for vehicular safety has changed a lot during the course of time, and so has the idea of intelligence vehicle monitoring system.

The intelligence monitoring system for safety is wireless exchange of critical safety and operational between vehicle and road way infrastructure, primarily to avoid the motor vehicle crashes. Important objective of the system is that to support infrastructure and vehicle developments. It provides solution to longer range networks and makes use of preexisting networks infrastructure such as wireless access points (Road Side Unit).

The working of proposed system will prove to over previous systems. The earliest vehicle monitoring system proposed by Soufiene, Diahel, Nafaaa, Jabeur, Robert Barret, John Murphy. Germany solutions for reducing road traffic .Pooja.O.N, Prof.M.N.Nagraj India for intelligence traffic control system using ADvoc network, the methodology used is that traffic signal control, VANET simulation. [1]

Intelligent traffic signal control system for V2V /V2I communication using Ad-hoc network proposed by Pooja.O.N. ,Prof.M.N.NagrajIndia. Using the methodology of traffic signal control,VANET simulation.[2]

Vehicle to vehicle and roadside sensor communication for enhanced Road safety proposed by Andreas Festag Alban Hessler,Roberto Baldessari. By using methodlogy by vehicular communication, wireless sensor network, Accident prevention Post Accident Investigation.[3].

Driver Alert System for Accident Avoidance proposed by Nidhi Sinha, Prabhat Kumar,M.P.Singh,Joyti Prakash Singh.India. Using V2I,Traffic congestion Methodology.[4]

3. System Implementation

In this section, procedure, design parameters, selection criteria of the components will be discussed. Also block diagram and flowcharts will be made and analyzed. The software used in the project development will be explained. This section will also consider the development procedure of the PCB.

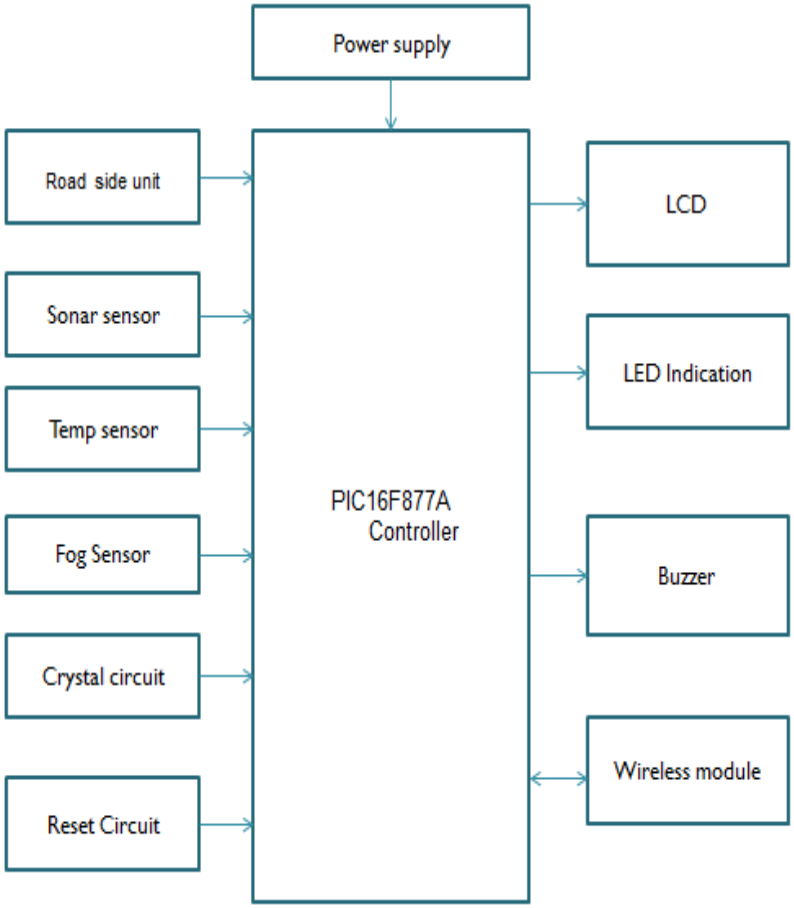

Figure: 1 Block Diagram of Intelligence Vehicle Monitoring System.

In the Intelligence monitoring vehicle system we are controlling parameters related to human comfort and providing sensor based security. The proposed system is going to provide multiple functionalities through single system.

As shown in fig we are using different types of sensors such as Sonar Sensor, Road side Sensor, and Temperature Sensor for providing a secure and reliable system.

Here we are using sonar sensor for obstacle detection so we can get idea about the obstacle and future accident can be avoided. Later on like obstacle detection many other application can be run by proposed system such as tire temperature measurement, Road side edge detection

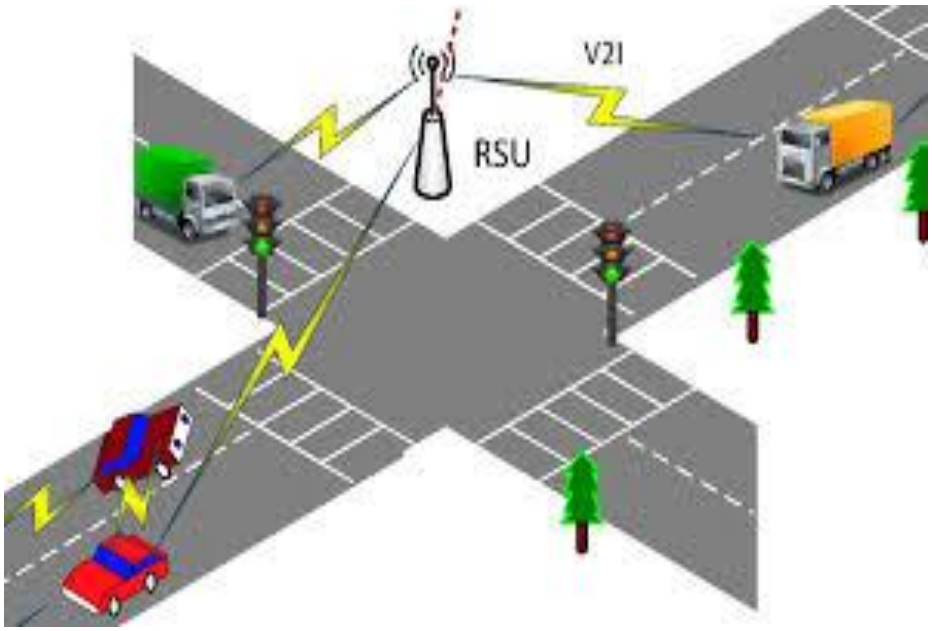

Figure:2 Vehicle to Infrastructure Communication.

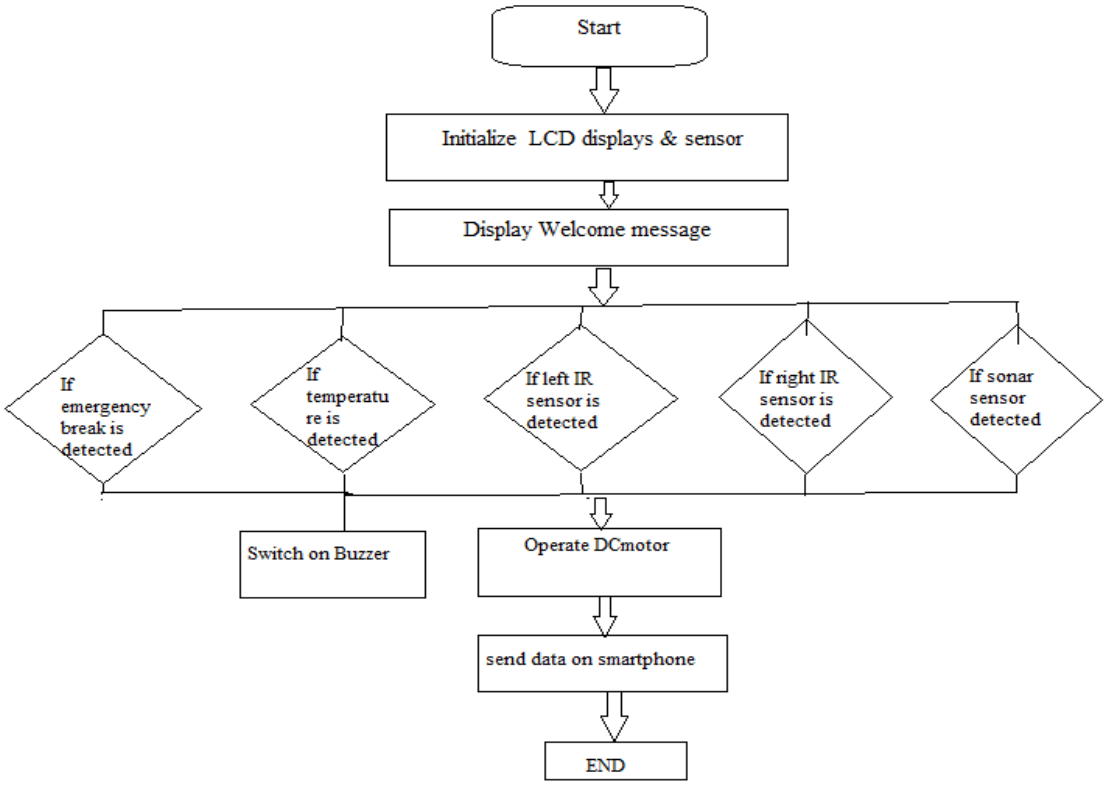

Fig. 3 Flowchart of proposed system

4. Advantages

1. Improving driver behavior.
2. Reducing environmental impact.
3. Consistent & smoother.
4. To increase the security.

5. Applications

1. The safety applications aim to decrease the number of accidents by prediction and notifying by drivers of the information's obtained through the communication and sensors installed on the way.
2. Warning for speed hazardous situation.
3. Speed management.

6. Conclusion and Discussion

In this paper, we studied to avoid accidents that has Benn recognized as one of the major cause of our society increased the depth on road and considerable economics losses in the majority of fast growing cities worldwide. The intelligence vehicle monitoring technology alleviates impact of such a challenging problem.

7. References

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