



SMART TECHNOLOGY : A VEHICLE CONTROLLING USING ZIGBEE AND GSM

Mr. Rohit Pardeshi

Computer , AISSMS Institute of Information Technology , Pune (India)

ABSTRACT

Improving the present day safety measures and transport facilities for vehicle driver(like car),for further ensuring their well being by using recent smart technology is the aim of the dissertation. In this paper, Wireless Sensing Network system and networking system is use in it .That can interact and communicate with human sense (i.e. via car steering). It communicate with telecommunication system via GSM & ZigBee module . Also the live location of the vehicle on route can be checked by the signal .It is helpful for saving drivers life.

Keywords:-*Vehicle(like car), GSM , ZigBee , Camera, required communication switches, etc.*

I INTRODUCTION

Today in our day to day lifestyle , we are facing some issues related car accident . Most of the time it may happen by sleepiness of the driver. Accident is being happened by uncontrolled driver. Some car/vehicle driver is uncontrolled due to less amount of sleep or drink also. The intelligent system that would safely and rapidly direct the car controlling, further improving and saving human life. So the intelligence smart technology for over coming the above stated problems is the main aim of this paper.

II HISTORY AND BACKGROUND

The history of this smart technology is, it is used for the human day to day life. We are watching in television news channel many of the people are losing their life because of accident. Before this technology we was facing accident problem because of drinker and sleepy driver. So this smart technology taking this background and it will be helpful for driver or other people for safe driving and without losing their life. Peoples safety is the main intension of this technique.

III. SYSTEM DESIGN

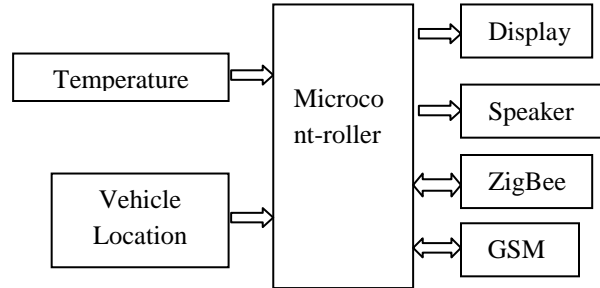


Fig. Block Diagram of Vehicle Units

The main intension of this paper is to transmit drivers location to its colleagues with the he-lp of GSM. ZigBee will be use for checking the car drivers control. To save the vehicle driver life at the time of sleepy moment.

IV. DIAGRAM

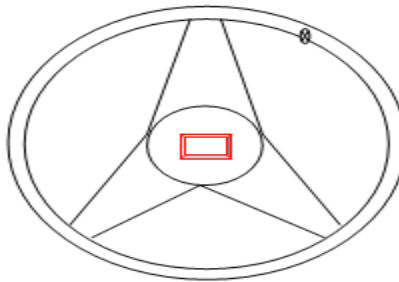


Fig. Vehicle Stearing Diagram



Where  - Camera ,  - Sensor.



Fig .ATLANTA L100 Sensor



Fig RFID

V. SENSOR

It is most important basic unit of this networking system. It consists of temperature measuring sensor that gives output in the terms of voltage, which is linearly proportional to temperature. Zigbee is communication module. Sensor outputs are given to the Microcontroller processor.

We are also using camera for capturing the required images of understanding the system. ATLANTA L100 will be used for fuel calibration fuel tracking. It is helpful for tracking the car in easiest way.

Speaker will be used for giving voice messages. GPS is used here for location tracing.

RFID is used here only for precisely calculating a running status of a car.

VI. VEHICLE UNIT

The use of this unit is for transmitting health parameters of the driver to his/her favorite contacts which is already present in the system in the terms of database. In this unit bio-sensors are placed in the steering of the driver. Signals are being processed by using Micro-controller and transmitted to favorites (like relative and friends) server using GSM, and Zigbee module. These signals are analyzed by favorites and they will be called that particular driver after getting a signal i.e. message. After receiving the signal from favorites, driver will follow their instruction and stop the car when he will feel not well or sleepy.

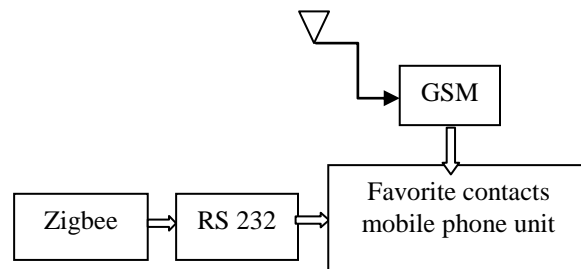


Fig Working Flow of System

VII. VEHICLE LOCATION AREA UNIT

This unit is responsible to provide location to the vehicle. For find out the particular location of the vehicle. This unit coordinates with vehicle unit for monitoring the location with the help of Zigbee and Microcontroller.

Presented Data are as follow:-

Sr No.	Name	Contact No.
1	Mother	7868976578
2	Father	9867545678
3	Wife	8797686896
4	Brother	3478587489
5	Boss	5684974958
6	Friend1	8745739936
7	Friend2	9994558445

Table:-Contact People Data

VIII. PROCESS OF MODULE /ALGORITHM

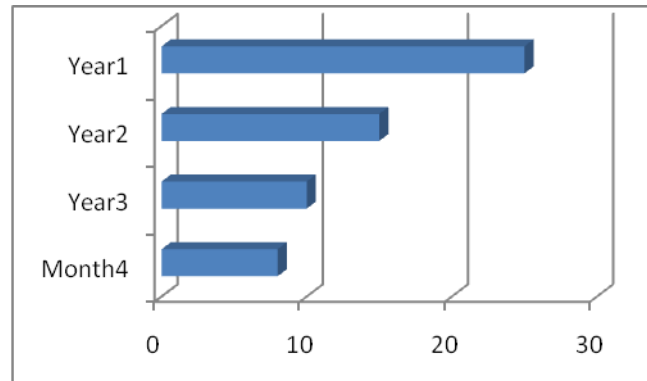
- 1.It checks Human(i.e. Car driver) is feeling sleepy or not with help of sensor.
- 2.It counts humans yawns at the time of driving via camera or sensor.
- 3.Let us Consider as, 10 yawns is limitation of un control or sleepy person.
4. When human started yawning then it will count by sensor and starts to blinking the display in color(like green).
- 5.After 5 yawn and till up to 8 yawn display will blink in yellow color and it will give the message through speaker-
“Sir you are feeling sleepy ,Please Take rest , Maintain your speed , It is Harmful for you , Please avoid to drive car now! Thank you ”
- 6.After 8 yawn , display will blink as red color and it will send the message to your favorite contacts. In Message it sends “Name, Photo, Speed of Vehicle ,Location of Vehicle.

Please call this person and SAY don't drive the car now! Because it is Harmful for him/her.

Thank You!”

IX. RESULT

Using this technology, Accident ratio will be decrease, using GSM or telecommunication technology and ZigBee Module is shown in Graph..



Graph ratio of decreasing a accident ratio through this technique.

X. CONCLUSION

In this dissertation, we proposed a network system for monitoring of Vehicle Driver moment with the help of sensors and Camera .Voice message will also provide using speaker. Output of this proposed system, we will get unique advantage of vehicle monitoring and prevent from an accident.

REFERENCES

- [1.] Design of a multitone firefly time synchronization scheme for responsive vehicle-protection jammers Patrick Loos; Jan Mietzner; Patrick Nickel; Gerhard Bauch; Askold Meusling MILCOM 2012 - 2012 IEEE Military Communications Conference
- [2.] Lightning protection of China railway vehicle running safety monitor system - Internet of Things in lightning protection Ling Chun Lightning Protection (ICLP), 2014 International Conference o Year: 2014
- [3.] Stiffness-based method for improving pedestrian leg protection performance of vehicle front-end Jun Huang; Yong Xia; Qing Zhou Electric Information and Control Engineering (ICEICE), 2011 International Conference on Year: 2011
- [4.] Classified security protection evaluation for vehicle information system Huangmiao Chen; Xiuzhen Chen; Lei Fan; Changsong Chen Cyber Security of Smart Cities, Industrial Control System and Communications (SSIC), 2015 International Conference on Year: 2015
- [5.] Determination of protection system requirements for dc unmanned aerial vehicle electrical power networks for enhanced capability and survivability_S. D. A. Fletcher; P. J. Norman; S. J. Galloway; G. M. Burt IET Electrical Systems in Transportation Year: 2011
- [6.] Vehicle to pedestrian communications for protection of vulnerable road users José Javier Anaya; Pierre erdrignac; Oyunchimeg Shagdar; Fawzi Nashashibi; José E. Naranjo 2014 IEEE Intelligent Vehicles Symposium Proceedings Year: 2014

- [7.] Fault analysis and protection strategy on Contactless Power Transfer system for electric vehicle Wang Li-ye; Wang Li-fang; Liao Cheng-lin; Zhang Zhi-gang; Zhu Qing-wei 2016 Asia-Pacific International Symposium on Electromagnetic Compatibility (APEMC) Year: 2016
- [8.] Threat Analysis and Protection Methods of Personal Information in Vehicle Probing System Masaaki Sato; Michiko Izumi; Hideki Sunahara; Keisuke Uehara; Jun Murai Wireless and Mobile Communications, 2007. ICWMC '07. Third International Conference on