

International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Website: www.ijareeie.com

Vol. 9, Issue 3, March 2020

Accident Detection and Ambulance Route Clearance

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ABSTRACT- To automatically detect the accident and sending the accident location to near hospitals/health care centers. By that way to give way for ambulance before 1 KM for easy and fastest way to save patient life in the traffic congestion.

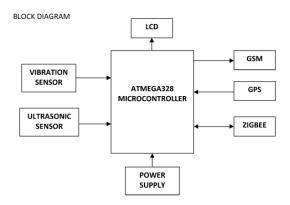
I. INTRODUCTION

Now-a-days, it became very difficult to know that an accident has occurred and to locate the position where it happened and also traffic congestion, tidal flow management were recognized as major problems in modern urban areas, which have caused much threating for the ambulance. Moreover, road accidents in the cities have been increasing and to bear the loss of life due to the accidents is even more crucial. To avoid this, C.Nagarajan et al [6,11,13] proposed an automatic accident deduction and ambulance rescue system.

II. PROPOSED METHOD

In our project we will use vibration sensor to detect accident. This is one possible way to detect accidents. In the first section describes if an accident occur means the location will be send to the rescue team. The second section of the project is to indicate the other vehicles by means of LCD about the ambulance arrival which in turn helps to clear the traffic intensity and provide pathway for the ambulance. In the LCD display it shows the distance and position of the ambulance(before or after the vehicle). This idea is mainly proposed so that it will be easier for the large vehicles with heavy loads to move aside before 1km as it cannot move instantaneously.

III. BLOCK DIAGRAM





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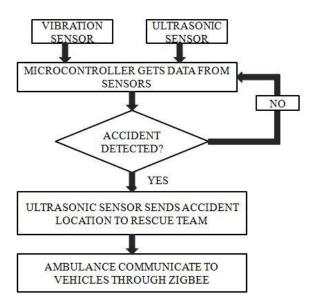
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IV. WORKING

This project contains two sections. The first section detects the accidents using vibration sensor and the appropriate location of accident is shared to the rescue team by using GSM(Global System For Mobile Communication). The second section of this project indicates the other vehicles on the path of ambulance about the presence of it. It provides easy and fast movement of the ambulance to travel through the traffic to save patient life and also it will be useful for the vehicles to avoid interrupt in traffic and give way for ambulance. LCD display which has been implemented in every vehicle will provide information about the distance between the ambulance and the vehicle and also displays the direction of the ambulance (rear or back with respect to vehicles customization) to alert the driver. The alert message contains three modes depending on the emergency of the ambulance. The downward and upward direction of the arrow indicates that the ambulance is at the rear side and the front side of the vehicle respectively. With the help of the direction button the person inside the vehicle will have a clear idea about their response to give way for ambulance

V. FLOW CHART



VI. CONCLUSION

The final outcome helps in paving the path for the ambulance by informing the vehicles to move apart and helps ambulance to reach the hospital before the patients health become critical.



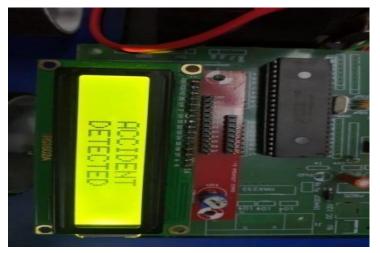
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REFERENCES

- [1] Ashwini Kumbhalkar, Amruta Manukar, Asmita Jadhav, Anup Ingle"Emergency Ambulance Route Clearing System", International Journal Of Electrical, Electronics And Data Communication Jul-2016
- [2]Akshay Surve, Varsha V. Shinde, Shatawari S. Raut, Monika Nawale "Intelligent Network for Traffic Control System", International Journal of Advanced Research in Computer and Communication Engineering November 2016
- [3] Ajmal Khan, Farman Üllah, Zeeshan Kaleem, Shams Ur Rahman, Hafeez Anwar, And You-Ze Cho"Emergency Vehicle Priority and Self Organising Traffic Control at Intersections", IEEE Access-September 12, 2018
- [4] Manuja M, Kowshika S, Narmatha S, Gracy Theresa W "IOT Based Automatic Accident Detection And Rescue Management", International Journal of Computer Science and Engineering Feb 2019
- [5] Syed R. Rizvi, Stephan Olariu, Michele C. Weigle, "A Novel Approach to Reduce Traffic Chaos in Emergency and Evacuation Scenarios" A thesis submitted to the This paper proposes a novel chaos reducing information dissemination approach for spatio-temporal traffic information related to first responders and evacuation scenarios using Vehicular Ad Hoc Networks (VANETs), 2007 IEEE.
- [6] C. Nagarajan, M.Madheswaran and D.Ramasubramanian- 'Development of DSP based Robust Control Method for General Resonant Converter Topologies using Transfer Function Model'- Acta Electrotechnica et Informatica Journal, Vol.13 (2), pp.18-31, April-June. 2013
- [7] ReidarHagtvedt "Cooperative Stratergy to Reduce Ambulance Diversion", Proceedings of the 2009 Winter Simulation Conference.



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Vol. 9, Issue 3, March 2020

- [8] SaruChandrakar,Mrs. Ani Thomas "Combating ManMade Disaster using Remote Sensing", Second International Conference on Emerging Trends in Engineering and Technology, ICETET-09.
- [9] Syed Rashid Ali Rizvi, Stephan Olariu, Mona E. Rizvi, Michele C. Weigle Old Dominion University, Norfolk, VA 23529, Norfolk State University, Norfolk, VA 23504 T "A Traffic Chaos Reduction Approach for Emergency Scenarios", IEEE Communication Magazine, July 2003, pp.142-153.
- [10] Tzu-Hao Hsu, Sok-Ian Sou and Chuan-Sheng Lin Institute of Computer and Communication Engineering, National Cheng Kung University, Taiwan, R.O.C. "Architecture and Recipient Selection of Emergency Messaging for Ambulance Traveling", vol. 14, no. 1, pp. 199-213, March, 2013. [11] E Geetha, C Nagarajan, "Induction Motor Fault Detection and Classification Using Current Signature Analysis Technique", 2018 Conference on Emerging Devices and Smart Systems (ICEDSS), 2nd and 3rd March 2018, organized by mahendra Engineering College, Mallasamudram, PP. 48-22 2018
- [12] G. Derekenaris, J. Garofalakis, C. Makris, J. Prentzas, S. Sioutas, A. Tsakalidis, "An Information System for the Effective Management of Ambulance", A Tutorial, IEEE Communication Magazine, Oct. 2000, pp.42-51.
- [13] C.Nagarajan and M.Madheswaran 'Stability Analysis of Series Parallel Resonant Converter with Fuzzy Logic Controller Using State Space Techniques'- *Electric Power Components and Systems*, Vol.39 (8), pp.780-793, May 2011.