



IJIRCCCE

e-ISSN: 2320-9801 | p-ISSN: 2320-9798



INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

Volume 11, Special Issue 3, November 2023

ISSN INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA

Impact Factor: 8.379



9940 572 462



6381 907 438



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Life Saver – Accident Prevention and Identification Alerting System

Mr.E.Sakthivel¹, Prasanth R², Thangamani S³, Vasanth kumar N⁴, Kavish M⁵

Assistant Professor, Department of Electronics and Communication Engineering, Adhiyamaan College of Engineering,
Krishnagiri District, Tamil Nadu, India¹,

U.G Scholars, Department of Electronics and Communication Engineering, Adhiyamaan College of Engineering,
Krishnagiri District, Tamil Nadu, India.^{2, 3, 4, 5}

ABSTRACT: Nowadays, the death caused by road accidents in urban areas are increasing due to various factors. These death rate can be reduced by providing medical assistance immediately. The major elements that delay the provision of medical help are traffic congestion, lack of ambulance services, no network connectivity and negligence. To resolve these factors, an automated response system is required. Smartphone with their in-built sensors are excellent platforms for building such an automated system. In our project we introduce system accident prevention, Identification Alert System(APIAS). At first it will prevent accident by alerting drivers using sensors and if so accident happened, it will automatically send the alert message to nearby hospital and control rooms that will minimize time gap and ensures medical assistance immediately.

The APIAS system will alert drive by built in sensors used and it will alert by buzzer sound. In spite of these prevention mechanism, accident may happen. At that moment APIAS system will send the message to hospital with location with support of GPS module. This will enable the response team to arrive at the accident site and provide medical support to victim on time. This project will help to decrease the action time and thus reduce the death tolls.

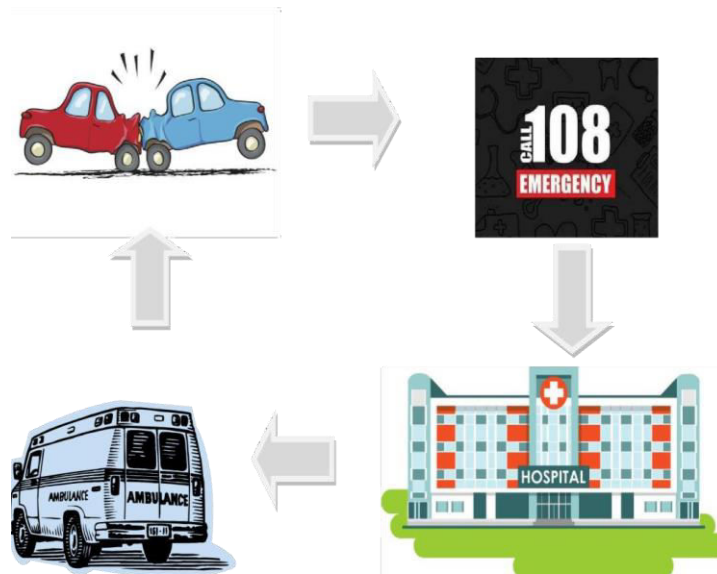
KEYWORDS: Accidents rate, medical provision, GSM, GPS, Sensors, medical rescue.

I.INTRODUCTION

Road accidents in India are a major cause of decreasing life expectancy with road accidents contributing to over 148,000 deaths out of 467,000 deaths in 2022. Indian Economy has a hit of 3 percent of GDP growth due to road accidents as per the United Nations with an estimated loss of \$58,000 in terms of value every year. The metropolitan cities such as Chennai, Mumbai and New Delhi have been increasingly highlighted for lack of road safety and rash driving cases. The recent trends show that there has been an increase in the global number of road accidents even in developed countries. However, underdeveloped and developing countries suffer a more significant impact due to life and economic losses. These accidents occur due to violation of traffic safety rules, careless rash driving, driver drowsiness and lack of good quality roads. The problem becomes more adverse for highways and hilly areas where accidents are unavoidable. Road accidents are characterized by high death rates due to delay in arrival of help and inefficient systems of mitigation to alert the concerned authorities. Road accidents on the highways are typically caused by natural reasons such as extreme weather conditions such as fog and consecutive collision of vehicles are common on India highways due to lack of visibility. The states of Maharashtra, Tamil Nadu and Uttar Pradesh account for the highest number of road accidents in India.

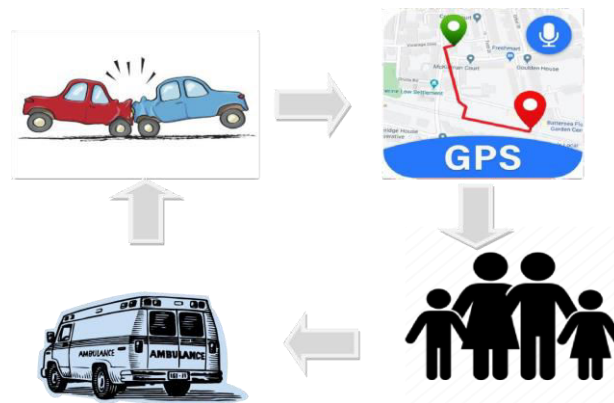
II. EXISTING METHOD

In existing system, there are many project related to accident but they are separate for preventing accident and identifying accident. It will not be useful when they are separate because it will do only one work. In existing system the mostly alerting system will send the message to emergency contacts. It takes time to inform the medical staff, and after they do, the hospital will need some time to receive the information. Therefore, it is a lengthy process.



In smart detection and alert system the alert will send by a message through whatsapp or SMS to emergency contact only not near by hospital. So if they fail to see the message at a time the life of person who met with accident cannot saved at a time.

They using GSM and Wi-fi to detect the location with latitude and longitude. But it is useful to detect location using both module but it make system costlier. We are preparing effective and costless device to detect accident and prevent accident.

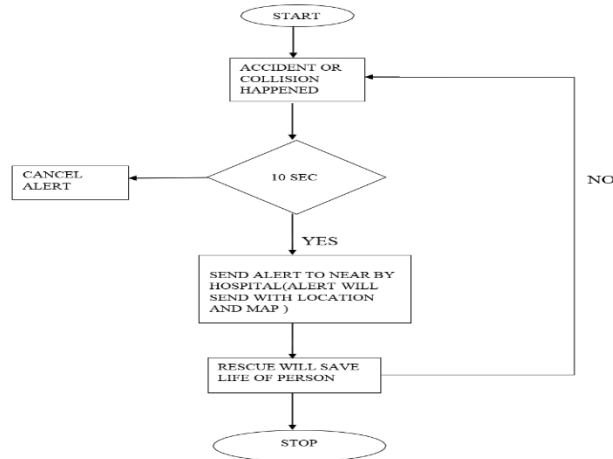


III. PROPOSED SYSTEM

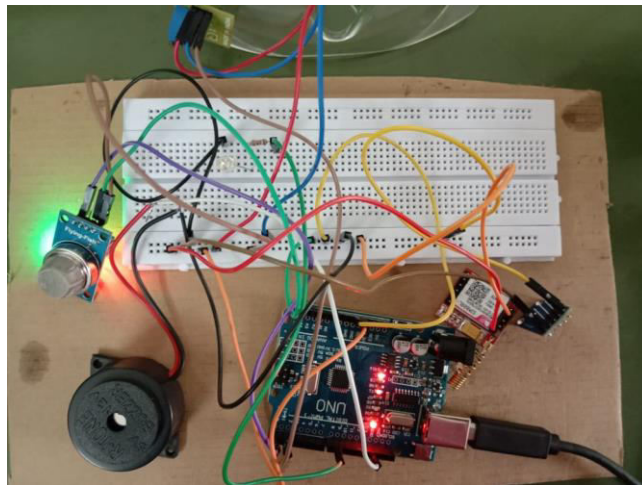
The main idea of this paper is to build an application that prevent from accident happening before it occurs using sensor like alcohol sensor, eye blink sensor, temperature sensor. The Alcohol sensor will check if the person is drunk or not. If the person drunken concentration is higher than 750, the alert will send to microcontroller and it pass the message to control switch which will turn off the vehicle engine. So if person is drunken they can't drive vehicle. Temperature sensor is used to identify the temperature of engine because due to this also accident may occur. If the temperature is high than normal then it will send the message to microcontroller which will send information to control switch. Control switch will turn off the vehicle. Eye

blink sensor is used to identify the person drowsiness. If they are sleepy or tired it detect using eye blinking. If it is not normal it start sound using buzzer and LED light will appear. So they can take rest for few minutes or else they have to stop vehicle driving. The working is showed in Fig.4.1 By using this we can prevent form accident occur.

BLOCK DIAGRAM



IV. EXPERIMENTAL RESULTS



TESTING MODEL

In the preventing accident hardware we check if they are drunken, drowsiness, temperature of engine. If the concentration level are high than normal it will automatically off the engine. So we can prevent accident 40-50%. But for any other reason accident may occur means we identify the accident using vibration sensor and the alert message give 10

seconds time to person who driving because there may be minor accident or not serious to person. If 10 seconds over and person is not responding means the alert message will send tonear hospital and control room with longitude and latitude.

V. RESULT

The proposed system deals with the detection of the accidents. But this can be extended by providing medication to the victims at the accident spot. By increasing the technology we can also avoid accidents by providing alerts systems that can stop the vehicle to overcome the accidents. By using APIAS we can reduce accident by 30 to 40%.

VI. FUTURE SCOPE

In recent days, the occurrence of most of the accidents is by motor bikes. This alarming rise in the motor bike accidents leads to loss of many lives. The lack of treatment in the proper time is the major reason for many deaths. The major causes may be the late arrival of ambulance or no person at the place of accident to give information to the ambulance or family members. The proposed work offers a solution to this problem by introducing accident detection and reporting system aiming to save at least half the lives that are lost due to bike accidents. In future, this system could be implemented for lock protection and for other safety purposes. It could also be implemented to control the speed of the vehicle and to prevent the rider from over speeding by passing the information to the rider's family.

VII. CONCLUSION

The early detection and reporting will account to the responsibility of saving many lives. The proposed system deals with the detection of the accidents. But this can be extended by providing medication to the victims at the accident spot. By increasing the technology we can also avoid accidents by providing alerts systems that can stop the vehicle to overcome the accidents.

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BIOGRAPHY



Mr.E.Sakthivel,
Assistant Professor,
Electronics and Communication
Engineering Department,
Adhiyamaan college of
Engineering,
Hosur



Prasanth.R,
Electronics and Communication
Engineering Department,
Adhiyamaan college of
Engineering,
Hosur



Thangamani.S,
Electronics and Communication
Engineering Department,
Adhiyamaan college of
Engineering,
Hosur



Vasanth kumar.N,
Electronics and Communication
Engineering Department,
Adhiyamaan college of
Engineering,
Hosur



Kavish.M,
Electronics and Communication
Engineering Department,
Adhiyamaan college of
Engineering,
Hosur



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