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GPS SYSTEM FOR CAR ACCIDENT

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Abstract

A car (or automobile) is a wheeled motor vehicle used for transportation these include rear reversing cameras, air conditioning, navigation systems, and in-car entertainment. In these paper we present how can one help himself during accident that occur, with the help of simple GPS device attached inside the car. Despite many efforts taken by different governmental and non-governmental organizations all around the world by various programs to aware against careless driving, yet accidents are taking place every now and then. The objective of this research is to provide essential medical services online to users irrespective of their location. However, many lives could have been saved if the emergency service could get the crash information in time.

Keywords - Car, Accident, Sensor, Medical Services, Iot, GPS

I INTRODUCTION.

Accidents are growing in numbers. Immediate help needs to be provided on the spot. Instant help do not reach to the needy people which might cost loss of many lives also. Since the information does not reach to those people who are willing to provide help, these lives cannot be saved to enter into critical situations.
The solutions are coming from ICT (Information and Communication Technology) and the IoT (Internet of Things), by investing in new generation of meters and sensors. However, many lives could have been saved if the emergency service could get the crash information in time. Despite many efforts taken by different governmental and non-governmental organizations all around the world by various programs to aware against careless driving, yet accidents are taking place every now and then.

GPS & IOT.

The Global Positioning System (GPS), originally Navistar GPS, is a satellite-based radio-navigation system owned by the United States government and operated by the United States Air Force. It is a global navigation satellite system that provides geo-location and time information to a GPS receiver anywhere on or near the Earth where there is an unobstructed line of sight to four or more GPS satellites. Obstacles such as mountains and buildings block the relatively weak GPS signals.

The Internet of things (IoT) is the extension of Internet connectivity into physical devices and everyday objects. Embedded with electronics, Internet connectivity, and other forms of hardware (such as sensors), these devices can communicate and interact with others over the Internet, and they can be remotely monitored and controlled. The following are just a few places where a GPS tracker might be installed:

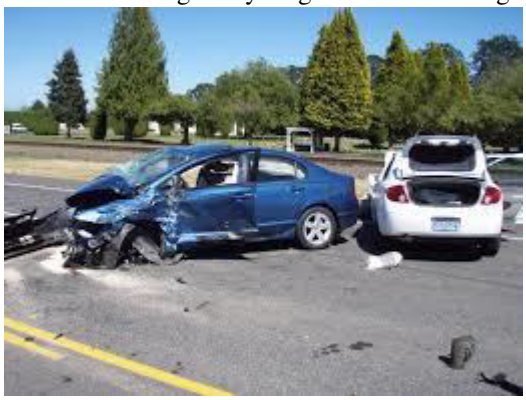
- Behind the dashboard
- In the OBD port
- In the wheel wells
- On the undercarriage
- Behind the bumpers
- Under the hood
- Under the seats
- In the spare tire compartment
- In the glove compartment

The definition of the Internet of things has evolved due to the convergence of multiple technologies, real-time analytic, machine learning, commodity sensors, and embedded systems. Traditional fields of embedded systems, wireless sensor networks, control systems, automation (including

home and building automation), and others all contribute to enabling the Internet of things. In the consumer market, IoT technology is most synonymous with products pertaining to the concept of the "smart home", covering devices and appliances (such as lighting fixtures, thermostats, home security systems and cameras, and other home appliances) that support one or more common ecosystems, and can be controlled via devices associated with that ecosystem, such as smart-phones and smart speakers.

II . PROBLEM DEFINITION.

As we see these days, accidents are growing in numbers. Nearly 1.25 million people die in road crashes each year, on average 3,287 deaths a day. An additional 20-50 million are injured or disabled. More than half of all road traffic deaths occur among young adults ages 15-44.



The Ministry of Road Transport and Highways has taken a number of steps to prevent road accidents and road accident fatalities. These include

1. The Government has approved a National Road Safety Policy. This Policy outlines various policy measures such as promoting awareness, establishing road safety information data base, encouraging safer road infrastructure including application of intelligent transport, enforcement of safety laws etc.

1. The Government has constituted the National Road Safety Council as the apex body to take policy decisions in matters of road safety.
2. The Ministry has requested all States/UTs for setting up of State Road Safety Council and District Road Safety Committees, and to hold their meetings regularly.
3. The Ministry has constituted Group of Ministers of State Transport Minister to examine the best practices of Transport and suggest issues to improve road safety.

Based on the recommendation of Group of Minister, the Ministry

4. introduced Motor Vehicle (Amendment) Bill 2017 covering entire gamut of road safety.
5. The Ministry has formulated a multi-pronged strategy to address the issue of road safety based on 4 ‘E’s viz. Education, Engineering (both of roads and vehicles), Enforcement and Emergency Care.
6. Road safety has been made an integral part of road design at planning stage.
7. Road Safety Audit of selected stretches of National Highways has been taken up.
8. The threshold for four lining of national highway has been reduced from 15,000 Passenger Car Units (PCUs) to 10,000 PCUs. About 52,000 Km of stretches of State Highways has been identified for conversion to national highways.
9. Setting up of model driving training institutes in States and refresher training to drivers of Heavy Motor Vehicle in the unorganized sector.
10. Advocacy/Publicity campaign on road safety through the electronic and print media.
11. Tightening of safety standards for vehicles like Seat Belts, anti-lock braking system etc.
12. High priority has been accorded to identification and rectification of black spots (accident prone spots) on national highways.

In-spite of taking several measures death toll is rising.

So we have opened up with a solution that would prevent deaths during accidents and Online help services will be provided to the victim.

GENERAL IDEA OF THE APPLICATION.

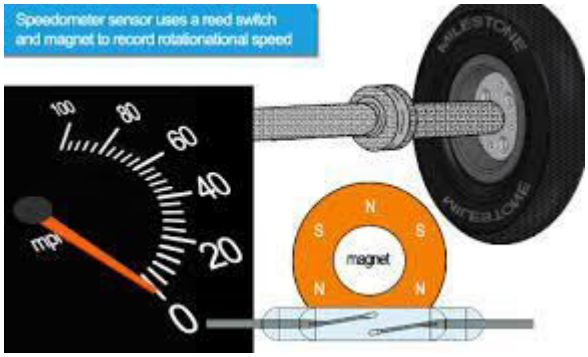
- There will be an application where every Ambulance driver or Emergency Service Provider would first register onto that Application.
- There they will provide their credentials i.e. Username,

password, contact no, etc.

- On the other hand, cars will be having three sensors attached inside or outside.
- Also the person driving the car has to register himself on that website so that during the accident message would be sending in the form of details.

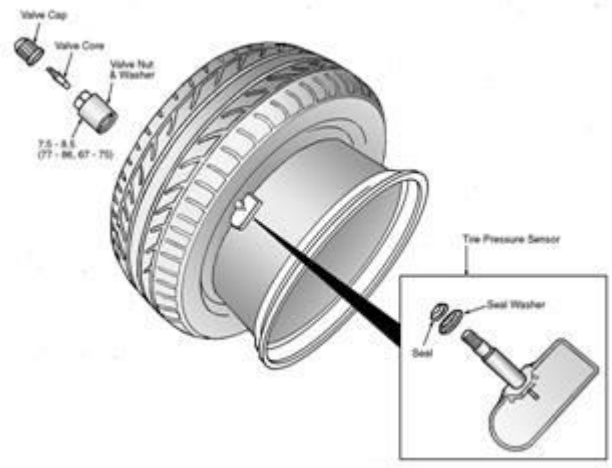
➢ First Sensor.

This would be placed inside the speedometer. So whenever speed goes above 100 km/hr sensor will sense.



➢ Second Sensor.

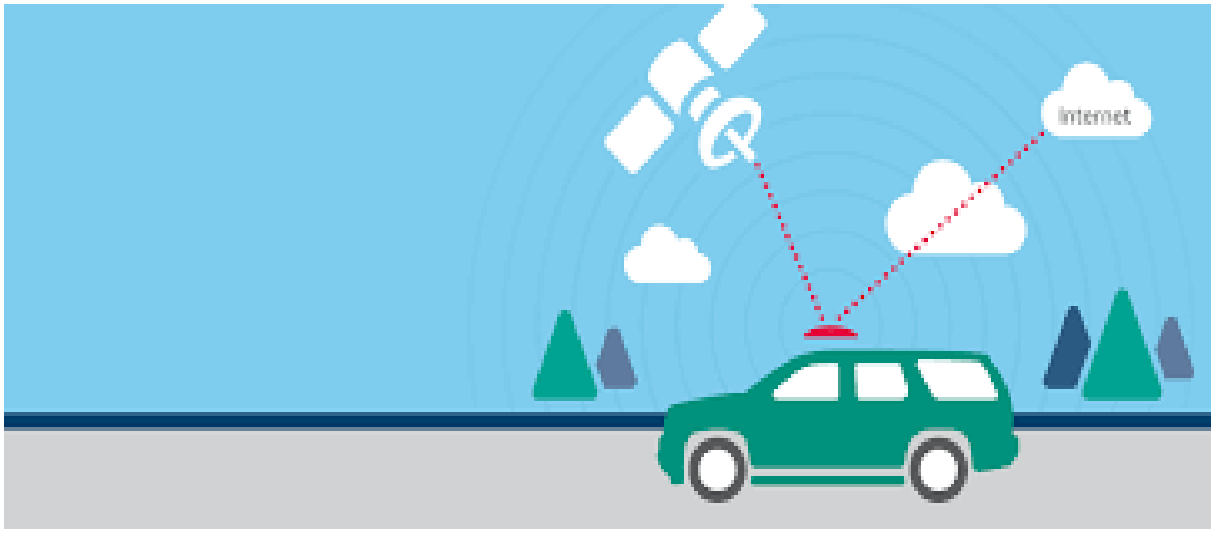
This would be attached inside the mac-wheel of the tire.

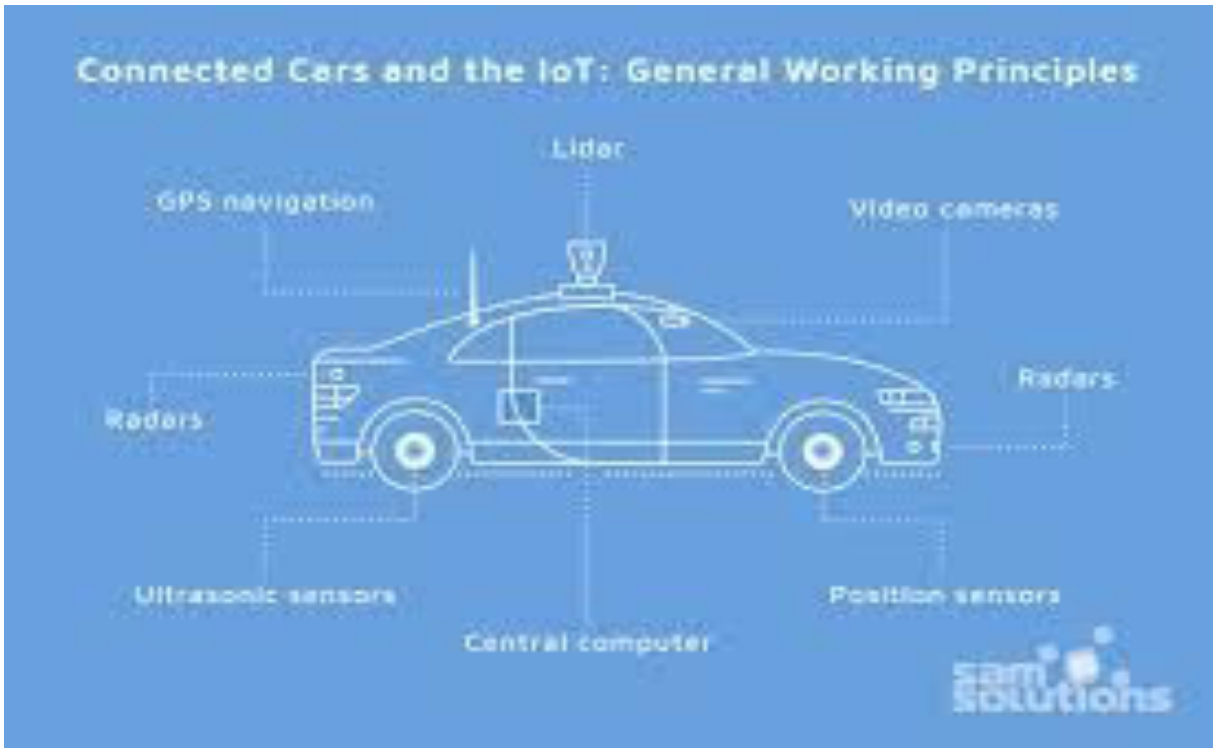


➢ Third Sensor.

Finally, this would get place near the airbag.

- All these sensors would be connected to a **GPS** device.


Internet


Connected Cars and the IoT: General Working Principles
Lidar
GPS navigation
Video cameras
Radars
Radars
Ultrasonic sensors
Position sensors
Central computer
sam solutions

WORKING

When All these three sensors result in positive i.e. (speed <100 km/hr. && Tire causes friction () && Airbag opening), this would invoke GPS System which would be redirected to another GPS inside the mobile of the service provider that is using the application and he would get aware about the accident.

A text notification would be sent to the service provider that so and so person with car details (this will be fetched from RTO Website and returned to the service provider) and his exact location (through GPS) has met with an accident.

After receiving the text message service provider will login into the application and see the spot where accident has occurred and will rush to the spot.

This help would be provided only within a range of 500 meters because there is less time and one needs to rush as soon as possible.

Shortest path will be provided to the service provider via Google maps so that he can reach the spot on time.

CONCLUSION

This paper presents that how one can save his/her life during accidents that occur. How users can connect through their internet or approach any nearby app users which might help the seeker in any way like by providing vehicle, blood, suggestion (if doctor). How Immediate help can be provided on the spot with the help of GPS and Iot.

How Right information at right time to the right people can be provided who are willing to take the risks of getting involved into the situation and save someone's life.

How this system provides medical help to the app seeker within the range of 500m by other app users.

So that in future Many lives could be saved.

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2) About GPS

https://en.wikipedia.org/wiki/Global_Positioning_System

3) IOT Definition

https://en.wikipedia.org/wiki/Internet_Of_Things

4) Measures taken by the government to reduce accidents.

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