AUTOMATIC VEHICLE DETECTION USING GPS AND CHALLENGES IN IMAGE PROCESSING

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ABSTRACT:

Technology necessity for modern world and develop the technique help reaches a people. The automobile technology increasing their technique advanced. The vehicle industries has obtained latest upward with respect to safety and comfort. In the developing countries and most population countries like India and china, the latest transport technology and rise total number vehicle. If accident occurs, the sufferer rate increases when you give emergency medical assistance you want to know exact location of the place. This paper presents an intelligent framework that can find and report an accident place. This paper targets all vehicle, because highest vehicle accident in India. These frameworks focus on automatic accident detection sensor (AADS) that contains a GPS and GSM modem to use locate the particular location. AADS keep information according to the current date. The accident emergency notifications go the hospitals, police station and family members.

1. INTRODUCTION

The generally number of deaths reason due to street accidents. India faces the majority number of accidents and unintentional dead in the world. In India, here are several kind of places like undulating area plateaus, and appropriate to indecent road services accidents are additional and death rate due to this accidents are added . The majority figures of accidents are reported in the vehicle transportation sector. Some estimate says that Indian roads only

accounted for around 105,000 unintended losses in 2010[5]. This is nearly 18 percent of the overall road losses once India has just 1% of the total large-scale vehicles. The incidents of unintentional deaths have showing increasing style through the year 2005-2016 with an raise of 50 percent in the year 2010 as compared to the year 2000. Single serious street mistake in the nation happen each tiny minute and 16 pass away on Indian roads each hour. The overall number of losses in India in 2013 is 239,565 and reported figure of road traffic deaths is 136,552 with the estimated road traffic death rate per 100,000 populations human being 19.9. The leading cause of death is street traffic injuries particularly along with little and youth people. Provide a analysis on the current technology that aspires to spot accidents routinely and aware the critical situation centers with no late [6][9].

2. LITERATURE REVIEW

These days, cellular phone is used a mostly by all people .among internet habit are also at every one. So these cell phone also provide contact stage as they are set with 2G, 3G, 4G networks .There are heaps of source of accident of car, two-wheelers and they are drunkenness of driver, tiredness of driver, unconsciousness of driver, and countless time what occur driver is not guilty for mistake but their (car, two-wheelers) neighboring car activities also have ended role to put in force accident. There are also various method have been implement to stay away from accident but that do not give proper clarification to apply in car to avoid a mixture of accidents that they are usually being turn out. For example when driver at speed suppose 60 km/h unexpectedly stop explosion system may front to odd of hazardous accident [3][11].

[1] Deals with an automatic accident detection sensor system connecting vehicles which sends information regarding the accident include the spot, the time and position of the accident to aid center, the police station and family members. This information is sending in the form of an aware message.

[2] But in the cases where there are no losses a button is provided which can be twisted off by the driver to prevent sending the aware message. A GSM part is used to send the aware message and a GPS part is used to identify the spot of the accident.

[3] The GPS and GSM part are interfaced to the power unit using sequential communication .The accident itself is detected using two sensor and vibration sensor. A 32-bit ARM controller is used as the main high speed data-processing unit.

[4] The vibrations are send from the vibrating sensor to the controller after temporary through an amplify circuit. Correspondingly the roll over angle is sent from the MEMS sensor to the checker.

[5] The accident spot can be detected as divergent to only one in the additional approach. There is also a method to stop sending the alert message and hence save time of the rescue time. The use of GPS adds to the advantage of the system being gainful, convenient and detecting the exact spot and the time taken for the whole detection method and sending of the message is deeply reduced as compare to other methods. General the system is manageable, has a tiny size, and is of low cost and resilient.

[6] Describes a real-time online sample driver-fatigue check. It uses distantly positioned charge-coupled-device cameras which was ready with dynamic infrared illuminators to obtain video images of the driver. Different visual cues that typically describe the level of attentiveness of a human being are extracting in real time and analytically joint to infer the fatigue plane of the driver. The image cues employed describe eyelid progress, gaze progress, head progress, and facial look. If the eyeball of driver is being constantly closing it mean eye-blink frequency is clear of the standard state and it is in resting condition then ignition system would be off instantly.

3. PROPOSED SYSTEM

In our proposed system our efforts to identify accident spot of driver and notifying this recognition of driver accident spot to near police station that are suffer for identifying driver and give information for police records. Beside with this scheme we are also going to monitor performance of vehicle indoor and external of vehicle. Beside provide help to driver when in case accident happened by transfer message to ambulance, police station and family member of driver [7][12].

In structure construction, it primarily consists of software component. Software component include for interfacing of special software component like LCD display, GSM, GPS, automatic accident detection sensor, complication Sensor, Heart rhythm Sensor [8].

3A. LCD Display:

The LCD display is fixed indoor the vehicle and this LCD display is act as display to driver and additional people they are sitting inside the vehicle. This display gives warning of speed detected by speed sensor, this also provide warning message to driver to stop car or slow the car vehicle within exacting time after that car force mechanically stop, signal detected in car.[14]

3B. GSM MODEM:

GSM Modem can allow any SIM card as like a cell phone handset with its have important phone number. Applications like location power, data convey, remote direct and sorting can be developed simply. The modem can also be connected to PC series port straight. Heartbeat strange circumstance while detected then this communication is send to relation as well as ambulance, monitor station with spot using GPS method [4][9].
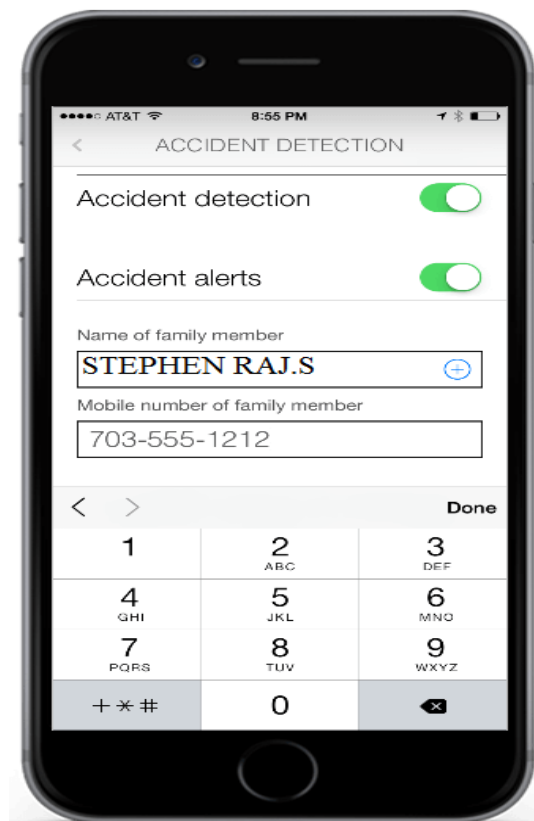

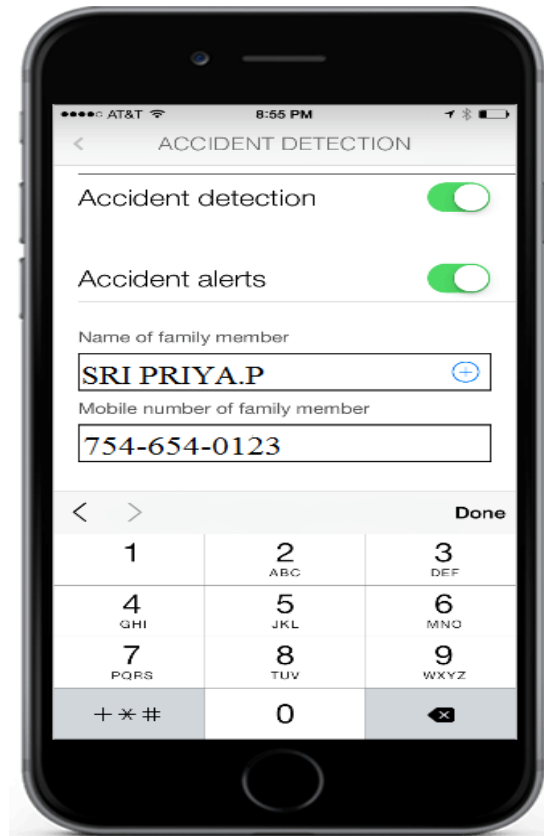**Figure 1** accident detection sender

Figure 2 accident detection receiver

3C.GLOBAL POSITIONING SYSTEMS

GPS is used to get the location of exacting aim in latitude and longitude. we are going to apply GPS system to send spot in order to police, ambulance and relative of driver when accident occur at that moment spot, Vehicle details information send to police, family member and ambulance for providing conduct right away or as before critical (GPS) is a satellite-based routing system consists of a system 24 hours satellites sited into track. GPS working anywhere in the world A GPS recipient must be safe on to the signal of at slightest three satellites to estimated 2D, 3D position (latitude and longitude) and follow location. The receiver can decide the user spot. Once the vehicle spot has been planned, the GPS unit can verify other in order like, speed, distance to target, time and other. GPS recipient is used for this research work to detect the vehicle location and give information to dependable person through GSM equipment [12][14].

3D. Heart rhythm Sensor

In a lot of case, industrial accident due to rising heartbeat and due to which driver are regularly troubled from driving. Inside health position of driver. Heart rate sensor consist of gadget that sense or receive the signal in the form of rhythm rate and this determine the heart beat indicate in beat per minute [12][11].

If heart beat sensor detects abnormal condition satisfied, it means high rhythm rate so this indicate is passed to checker and related message show on LCD with panic and warning also send to family member of driver and to ambulance [15].
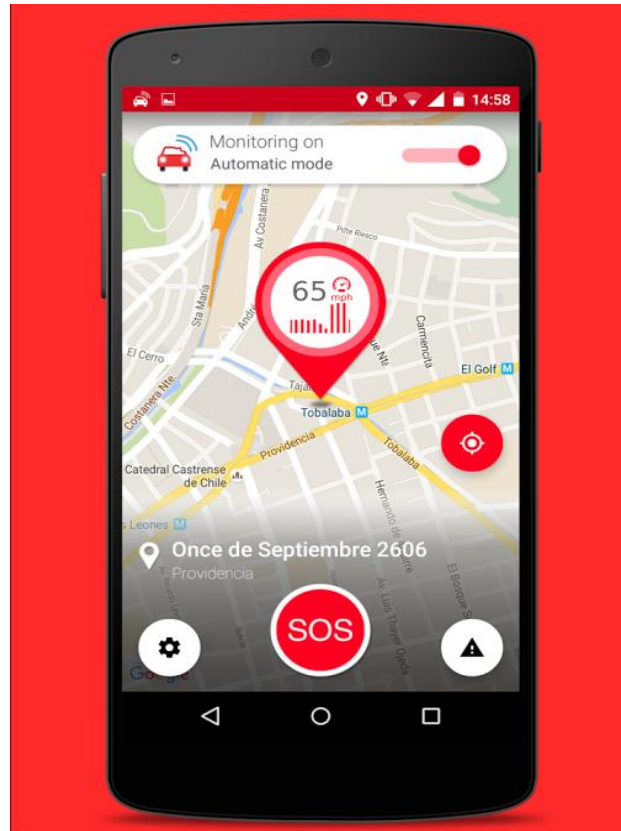
Figure 3 saves our souls (SOS)

It stands for save our souls and is use mostly by the services. Anyone around the universe understands [16].

4. ALGORITHM STRATEGY FOR PROPOSED SYSTEM

1. Initial vehicle by driver.
2. Vehicle accident detection sensor.
3. If it's zero then start sensing by various sensor & notify detection .In this case heart rhythm rate checked if it detected ignition.
4. If speed is greater than 60 km/ph then again sensing ongoing. Detection of different parameters will be sense by sensor and will be inform.

Figure 4 accident detecting sensor

5. CONCLUSION

Planned system will efficiently detect accident during driver heart rate and stop the vehicle by ignition the spot, instead of straight stopping the vehicle. Proposed system can alert relations of driver, police station. This system is it can also check whenever the accident happens will notify instantly to the information provided in appliance by the relative user and therefore people in the car can get check as early as probable by minimizing the wounded. To apply this approach GSM system can be used, it will also help police to identify theft vehicle and give punishment them by tracking its motor vehicle via GPS system.

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