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AUTOMATIC HELP GAINING NOTIFICATION SYSTEM USING GPS & GSM WITH BLE TECHNOLOGY

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ABSTRACT

In recent survey, mortality rate is becoming higher due to murder, accidents, kidnapping, etc. Many people get injured and some of them even die due to unavailability of emergency facilities. So to reduce this scenario there is need to decrease the time between the accidents occurred and the emergency facility provided to them. With the help of wearable sensors like Heart Rate sensor, Blood Volume Pressure (BVP)/ Blood Leakage sensor and Voice Recognition sensor which will detect the murder, accident and kidnapping respectively and notification will be sent to the hospital system using GSM and if kidnapped alert message to police station/Known person along with the Longitude and Latitude (which will address the exact place of accident), Age, Blood Group (Which checks the availability of blood if needed) and the address for further information of the victim.

RELATED WORK

This project's motive was to reduce life burden in protecting the human from illness and for the first step, we have proposed the system which is used to detect the accident spot/murder/kidnapping using the heart rate, pulse rate and voice recognition respectively. We are different from others in a way of accuracy, mobility and low power source used in PIC MCU and Bluetooth low energy source for communication. Since it is handy, User can wear it at any circumstances and so accuracy comes in turn with AND combination of heart rate sensor and pulse oximeter sensor. It helps to reduce false detection occurs during jogging, etc. With the help of wearable sensors like Heart Rate sensor, Blood Volume Pressure (BVP)/Blood Leakage sensor and Voice Recognition sensor which will detect the murder, accident and kidnapping respectively and notification will be sent to the hospital system using GSM service inbuilt in mobile devices.

LITERATURE SURVEY

S.NO	TITLE	AUTHOR	CONCEPT	YEAR	ADVANTAGE	DISADVANTAGE
1	Intelligent system for vehicular accident detection and notification	Bankar Sanket Anil ; Kale Aniket Vilas ; S. R. Jagtap	Accident can be detected using flex sensor and accelerometer, while location of accident will be informed to desired persons such as nearest hospital, police and owner of vehicle through sms sent using GSM	2014	It uses Flex sensor which is a patented technology which is based on resistive carbon elements. When substrate is bent, the sensor produces resistance output correlated to	Acuuracy is lesser since it lacks mobility and it is fixed with an vehicle. So, we cannot predict accurately that the accident is happened or not

			modem containing co-ordinates obtained from GPS along with time of accident and vehicle number. Camera located inside vehicle will transmit real time video to see current situation of passengers inside vehicle.		the bend radius, smaller the radius, higher the resistance value. Its flat resistance is 40-45K, while bend resistance range is 45-125K depending on bend radius.	since its is not in touch with user.
2	Car Accident Detection and Notification System Using Smartphone	Hamid M. Ali, Zainab S. Alwan	This paper concentrated on low speed car accident detection. The main obstacle that encounters the low speed accident is how to differentiate whether the user is inside the vehicle or outside the vehicle, walking or slowly running. The effect of this obstacle is minimized, in this work, by a proposed mechanism that distinguishes between the speed variation of low speed vehicle and walking or slowly running person. The proposed system consists of two phases; the detection phase which is used to detect car accident in low and high speeds. The notification phase, and immediately after an accident is indicated, is used to send detailed information such as images, video, accident location, etc. to the emergency responder for fast recovery. The system was practically tested in real simulated environment and achieved quite very good performance results.	2015	Concentrated on low speed car accident detection and it it is used to send video and images to the hospital for rescue system.	Accuracy in detection is less since it is not attached with human body

3	Automatic accident detection and ambulance rescue system	Mr. Sahil Gadroo , Mr. Pinkesh Jodhwani , Mr. Gunveer Singh , Mr. A. D. Londhe	A GPS module in the vehicle will send the location of the accident to main server which will notify and send an ambulance from a nearest hospital in the vicinity to the accident spot. Also with this system there would be control of traffic lights which can come in the path of the ambulance using RF communication by the ambulance driver. This will reduce time of ambulance to reach the hospital. This system is fully automated, as it finds the accident spot, controls the traffic lights, helping by saving life of patients to reach the hospital in time. This system can help in reducing the loss of lives of human which happen by the accidents.	2014	Control of traffic lights which can come in the path of the ambulance using RF communication by the ambulance driver. This will reduce time of ambulance to reach the hospital.	It is been attached to a vehicle and it need more energy source for its sensors and GSM modules
4	Automatic Vehicle accident detection system using GPS and Zigbee	Yuvaraj , Srinivasan and Vivek	When the accident was stuck between two vehicles in a particular location, the vibration sensor which is attached with the vehicles will detect the signals and sends it to PIC microcontroller. Microcontroller sends the alert message simultaneously to the police control room and ambulance support server via zigbee communication where zigbee module is placed to all the mobile towers. We are added up another Proof to identify the reason of the Accident through the driver's profile using magnetic	2016	Hit and run misbehavior drivers can be easily tracked. Victims can be saved instantly. Recovery of stolen vehicle	Zigbee interface is little expensive and cannot be make it available in all mobile devices

			striped license. Using our tracking system we can keep track of the vehicle by periodically using GPS. So after receiving the alert, the police can easily track the accident makers and the victims can be saved instantly.			
5	Accident Notification System by using Two Modems GSM and GPS	Hajer Salim Humaid Malathi B.	When an accident occurs the vibration sensor gives the signal to the microcontroller, which sends the information to the control room through GSM network. In this system we use Mikrobasic software, and use GSM technology to send a text message to the police in the place of the accident, which is determined by GPS. This system is applied in navigation systems to keep track of children and animals.	2015	Vibration sensor gives the signal to the microcontroller, which sends the information to the control room through GSM network.	Less Accuracy and High Power Consumption
6	Introduction to the Special Section on M-Health: Beyond Seamless Mobility and Global Wireless Health-Care Connectivity	R.S.H. Istepanian ; E. Jovanov ; Y.T. Zhang	Current and emerging developments in wireless communications integrated with developments in pervasive and wearable technologies will have a radical impact on future health-care delivery systems. This editorial paper presents a snapshot of recent developments in these areas and addresses some of the challenges and future implementation issues from the m-Health perspective.	2004	The evolution of e-health systems from traditional desktop "telemedicine" platforms to wireless and mobile configurations. Current and emerging developments in wireless communications integrated with developments in pervasive and wearable technologies will have a radical impact on future health-care delivery systems.	---

7	Automatic Accident Notification System using GPS & GSM with 3G Technology for Video Monitoring	A.Sriram and P.Ramya	As number of vehicle increases mean while the accident also increases. The government has taken number of actions and so many awareness program also contacted even though the accident increases as population increases. In this paper the accident can be notified automatically using sensors and the health condition of the passengers also send as video via GSM to the nearest police station and hospital to bring the ambulance to the spot to rescue the passengers. The Microcontroller is used for pool proof testing.	2015	It consists of in-vehicle GPS receiver, GSM modems (stationary and in-vehicle), microcontroller. The users of this application can monitor the location graphically on Google Earth	Accuracy is less and GSM module needs more power.
8	Smart vehicle accident detection and alarming system using a smartphone	Adnan Bin Faiz ; Ahmed Imteaj ; Mahfuzulhoq Chowdhury	They developed an Android based application that detects an accidental situation and sends emergency alert message to the nearest police station and health care center. This application is integrated with an external pressure sensor to extract the outward force of the vehicle body. It measures speed and change of tilt angle with GPS and accelerometer sensors respectively on Android phone	2015	Since it doesnot have any sensors on human	Since it doesnot have any sensors on human, it lacks in detection accuracy.
9	Prototype of Automatic Accident Detection and Management in Vehicular Environment Using VANET	Kishwer Abdul Khaliq, Amir Qayyum, Jurgen Pannek	a prototype is designed for an automatic accident detection using Vehicular Adhoc Network (VANET) and Internet of Things (IoT). The application is able to detect accident and severity of the	2016	When an accident occurs, the sensors deployed inside the car detects an accident and situation of the driver. On detecting emergency level, the car generated an	It is mainly depend upon the vehicle and if any damage happens to it, it may seend false alarm

	and IoT		emergency level with the help of mechanical and medical sensors deployed in the vehicle. In case of emergency, the message is sent to a hospital using VANET, where our central server is able to find out the location of the accident and nearest medical center. It sends a message for an ambulance after detecting basic information. In order to clear the path on the way to accident's location, the client application on the ambulance generates alert messages.		alert message for the server to get medical help. In addition to it, the vehicle also generated warning messages to the neighboring nodes for the accident and possibility of a road block.	
10	Vehicle positioning system with accident detection using accelerometer sensor and Android technology	Bannaravuri Amrutha Valli ; Prathiba Jonnala	For this, the paper adopted two different technologies namely embedded and android. Embedded technology is used to detect the accident using accelerometer sensor and android technology is used to determine the name of that location instead of latitude and longitude values so that even a layman can understand these values and can know about the vehicle location. An android app that specifies the location name when the mobile receives GPS data plays a major role in the paper. Thus, with this the user could be knowing about his vehicle location and condition through which positioning and locating a vehicle can be done in an easy and simple manner with less cost	2016	The user could be knowing about his vehicle location and condition through which positioning and locating a vehicle can be done in an easy and simple manner with less cost and more effectiveness. Embedded C programming and android app development are employed to perform the application	Accuracy fails due to immobility.

			and more effectiveness. Embedded C programming and android app development are employed to perform the application.			

CONCLUSION

In this paper, we have shown that road accident can be detected efficiently by using wearable sensors as particular parameters. Our proposed approach capable of deciding whether a situation is an accident or not and if so, then immediately sends SMS to the nearest hospital with registered user details.It also used for kidnapped victim to contact the Parents/Police station since it sends the location via auto SMS.Besides, we have increased accuracy by using wearable sensors in a greater extent compared to other previous works. Though the system requires a SMS carrier in phone, but this it is very much cost effective and can be applied significantly in the practical world.

FUTURE WORK

In the future, we have a plan to consider more parameters for detecting accident and developing the application in a single device. Hence, the application would play a crucial role in post-accident services and could mitigate the effect due to accident remarkably.

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