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A Solar Smart Helmet With Multi Features

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ABSTRACT:Traffic jams in India are very common and are so intense that it would take hours to travel by miles; In addition, the temperature is more than the average temperature inside the helmet, in that particular situation rider it will face discomfort. Mainly, accidents will occur assisting calls while driving. By providing the Bluetooth device inside the helmet, we can avoid practical management and it is also very difficult to find the person where he met with an accident. To resolve this problem, we develop a helmet that gives a better solution to this current problem. This helmet is equipped with refrigeration device modules that will reduce the temperature using external energy as solar energy, this Bluetooth device is incorporated into a helmet so that we can continue the call without the elimination of the helmet and during the case of accident, this helmet Use GSM with GPS help You can send a message to the accident accident location to a pre-established number.

KEYWORDS:GPS and GSM.

I.INTRODUCTION

Safety and security are one of the most spoken topics of almost all aspects. Previously, the greatest compulsion is to use the helmet for the cyclist. Because the inconvenience caused many of them not used the helmet that caused the death of the people. Staying in the discomfort opinion caused by the helmet, we have implemented many features in the helmet that are flexible for the rider. Actually, in the system of existence, if the person met with any accident, we can not obtain information about that accident, so the person can die due to the late medication through the use of this proposed system can send that information as The accident alert and the position of the place of the accident to the particular number of emergency or ambulance so that we can provide the medication to the victim right over time and the main retreat in the hull of existence. We can not attend the call while driving if you want to assist any meaning of the call, so it should be the helmet. Eliminate that we can only talk to the phone.

By avoiding these problems, the proposed systems will be helped. In this proposed system, a built-in Bluetooth will be organized, so that whenever the person gets the call means, we can continue the call without removing the helmet. And another main control of the characteristic feature using helmet. Each time the rider where this helmet will start, only the engine will start unless we can not start the bicycle. Then, using these bicycle applications we can reduce deaths by accidents.

II.OBJECTIVE

- To design circuits that can improve motorcycle rider security
- To develop a Smart safety helmet with multifeatures.
- To learn and understand the concept of RF transmitter and the RF recipient circuit in implementing project.

III.WORKING

The work of this smart helmet is very simple; First, RFID identification is performed using a unique RFID tag to avoid theft of vehicles. Then, the condition for the helmet is verified, that the rider has used the helmet or not, if no warning is given to use the helmet. Alcohol detection is simultaneously done. If all these conditions are satisfied, then only the ignition of the bicycle will light up. Continuous speed detection is performed using the proximity sensor. Whenever an

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accident occurs and the helmet reaches the ground, the vibration sensors make sense and provides data to the controller, then the controller extracts the GPS data using the GPS module that is interconnected. When the data exceeds the minimum stress limit, the GSM module automatically sends the message to ambulance and family members.

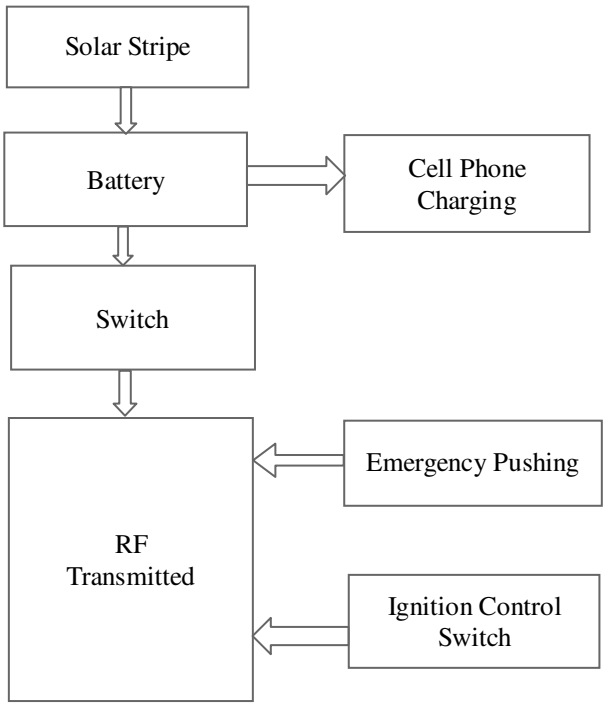

Fig.1 Block diagram of the proposed system in helmet

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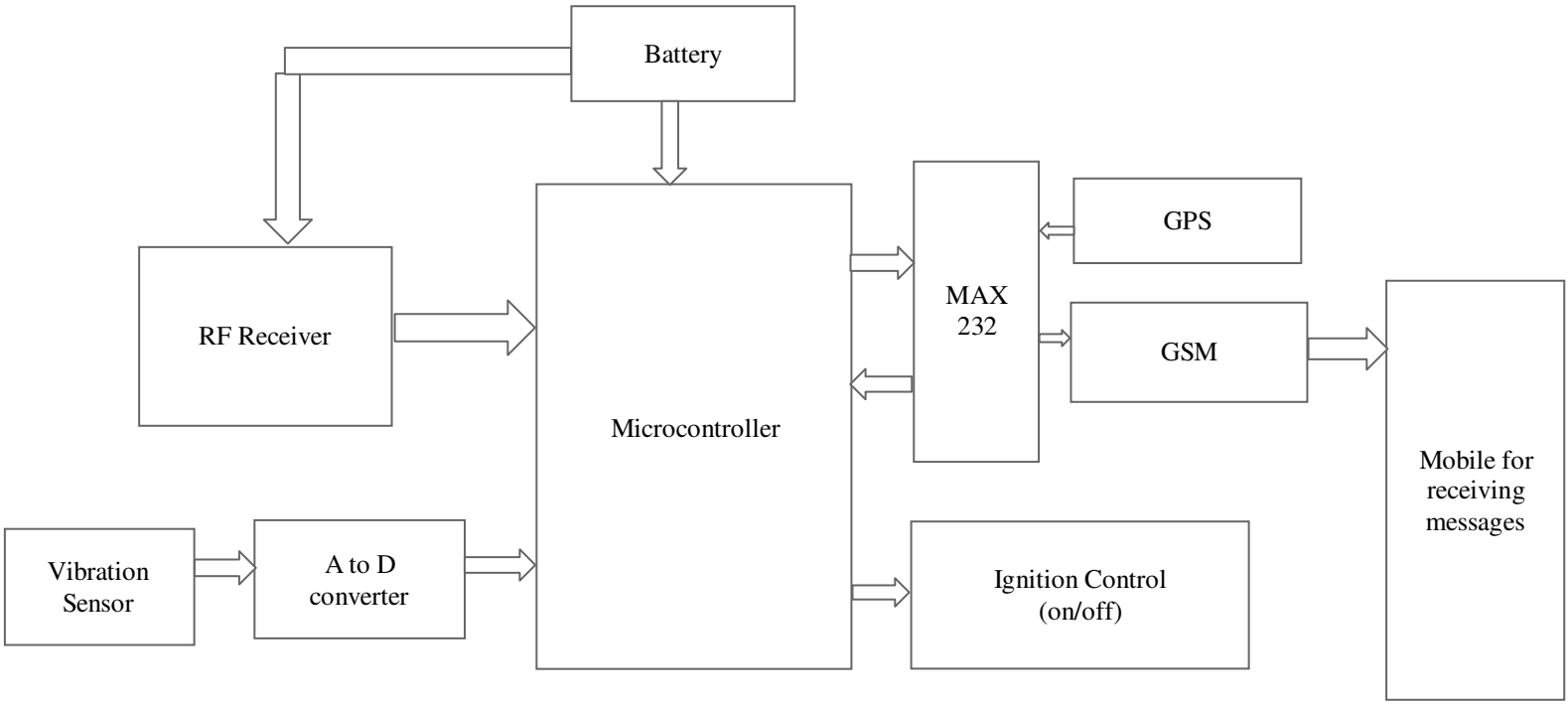

Fig.2 Bike Module system.

IV.COMPONENT

AT89S52:AT89C52 is a low power, high performance 8-bit microcontroller at 8,000 play-only play-only programmable flash kits. The device is manufactured by Atmel and is compatible with the controllers 80C51 and 80C52. The LCD screen is connected to the port 2 while the RF communication connections are performed at Port 3.

GSM Modem: A GSM modem is a network of wireless modules. A GSM modem does not have a keyboard. Accept certain commands and recognitions for those. These commands are known as the commands. The GSM module requires a SIM card to send the message on the registered mobile number. It requires a 12 V adapter for the power supply.

GPS Receiver: Global positioning system (GPS) Satellite space transmission signal, which provides three dimensions of location (latitude, longitude and altitude) plus precise time. It has an antenna to define the location.

Proximity Sensor: An inductive proximity sensor is used to calculate the speed that occurs due to the oscillations of the wheel of the bicycle. This is done for speed detection.

RFIDModule:RFID means radio-frequency identification. It is based on ON RF communication. Includes RFID tag and RFID reader. This can be used for a unique key for each vehicle and also to avoid the problem of bicycle robbery.

RF Transmitter & RF Receiver: The RF transmitter is able to transmit Helmet information to the section of the bicycle section, while the RF receiver is able to receive helmet information to circuit from the bicycle section and this is done through RF communication .

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V.RESULT AND DISCUSSION

Accident Detection and Reporting: The thrust buttons are placed in different places of helmet where the probability of hitting is more than connected to the controller. Each time the driver gathered with an accident, the push buttons will be pressed and interrupted the controller and send an alert message that includes the location of the accident to family members or ambulance.

Alcohol detection: The MQ-3 gas sensor can be placed just below the facial shield and above additional facial protection. Detects alcohol; If the rider is drunk, sends the command to the controller to avoid driving in drunk conditions.

Speed Detection: A proximity sensor is placed to detect the revolutions perminate of the bike wheel, thus counting it's speed. If the speed is about an allowable value, the driver will start getting the warning for the same thing.

VI.CONCLUSION

The scope of this project was to increase driver safety when driving a motorcycle. At the same time, governments implement certain rules and regulations, but many people do not follow it. Thus, by the implementation of this technology, it will become a driver's constraint of carrying a helmet and accidents that occur because of the drink and the driving will be considerably reduced.

VII.FUTURE SCOPE

We can implement several bioelectrical sensors in the helmet to measure various activities. We can use a small camera to record driver activities. It can be used to pass the message from the vehicle to another vehicle using the wireless transmitter.

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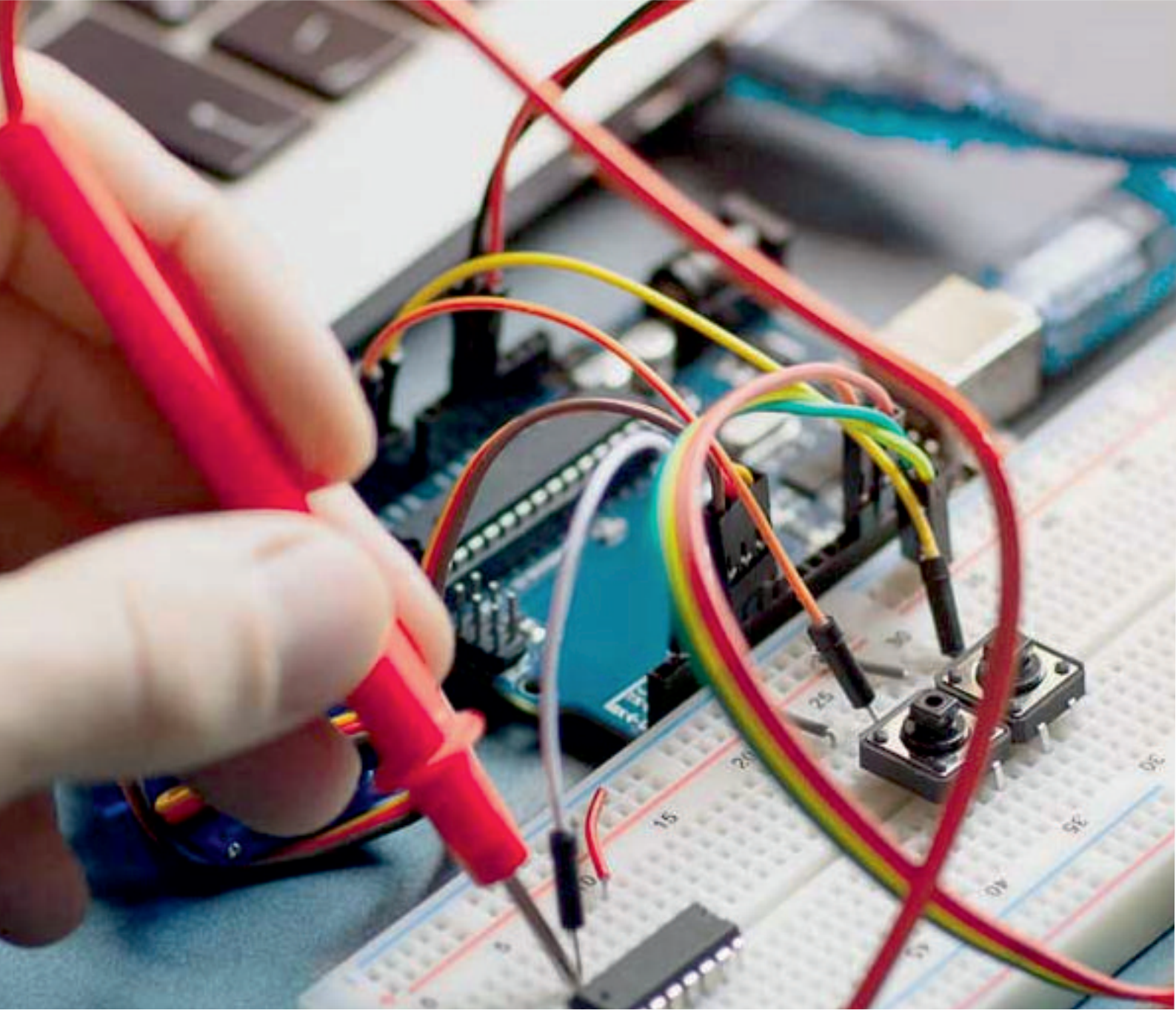

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