

SMART HELMET

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Abstract— Our project is designed for reducing the head injuries occurring during the accidents and also reducing the number of accidents using the ultrasonic RADAR in this system. The purpose of this projects to save lifes of the people who met with an accident. As it is a protective headgear,death rate can be reduced. In this project we are using IR transmitter, IR receiver and also HT12E(Encoder), HT12D(Decoder).

Index Terms—ultrasonic RADAR , IR transmitter, IR receiver,HT12E(Encoder), and HT12D(Decoder).

I. INTRODUCTION

One of the major problem in the two wheeler riders is the carelessness of people and not paying attention to words safety. Most of the people who met accident were the youngsters. Our system can help to reduce the accidents and head injuries. It is an advanced technology. In this system the rider the one who is riding the bike can not start the bike unless and until he is not wearing the helmet. The helmet will be connected to vehicle ignition system which will be electronically controlled having sensors inside it,which will help to start the ignition. i.e. switch ON/OFF ignition. In this system the rider has to compulsorily wear the helmet while driving. Moreover as the rider can neither starts nor run the vehicle without wearing the helmet it check that the rider has to wear the helmet at all times while riding the vehicle. At the same time, each helmet is unique to the receiver on the vehicle system part so there won't be any interference from usage of similar units even at close range. As an added feature, the transmitter used in the helmet comprises of very long range thus can be used to switch on the vehicle from a remote location.

II. LITERATURE REVIEW

The idea of a smart helmet is not new. This project base on various technique. One thing that is consistent among all of them is that they fail to relate to the general public. The closest realization of a public-oriented vision is Skully , a Kick starter funded system that fits technology into a helmet in a neat package. This, however, comes with a huge cost. A traditional helmet on the other hand does not involve cost and omits any form of information availability with it. It contrast to any smart accessory in its category in terms of cost and features.

III. METHODOLOGY

The smart helmet consist of two section of block diagram 1)Helmet section and 2)Vehicle section One part is to be implemented in helmet section and consists of transmitter and the other in the bike which consists of a receiver. The transmitter part interpret the required condition and the micro-controller generates the code sequence continuously which is for the transmitting block .This transmitting block can be a bluetooth device

IV. BLOCK DIAGRAM

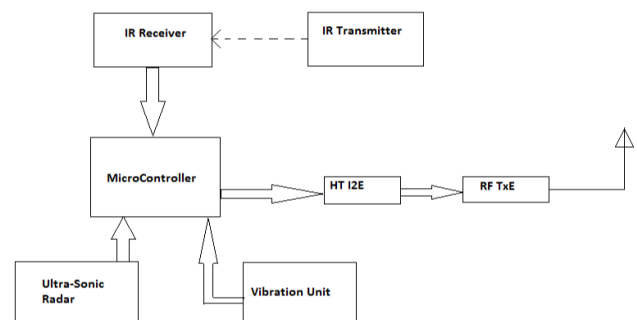
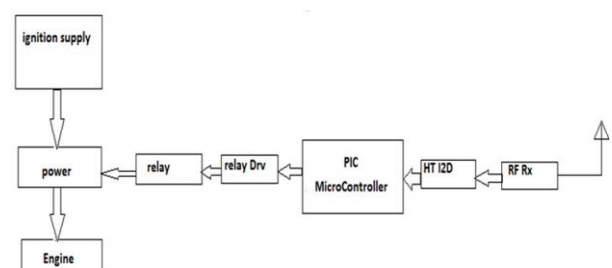


Fig. Helmet Section

2.Vehicle section



The block diagram consist of two section.1)Helmet Section 2)Vehicle Section In the helmet section,IR transmitter,IR receiver are used for transmitting the signal to the pic micro controller 18F452 which is encoded by a special type of encoder (HT12E) ,for maintaining safer distance ultrasonic RADAR is been used along with the vibration unit. In the vehicle section the transmitted signal is received and decoded by using (HT12D). In the vehicle section relay is being used for switching purpose.

V. PROGRAM MODELLING

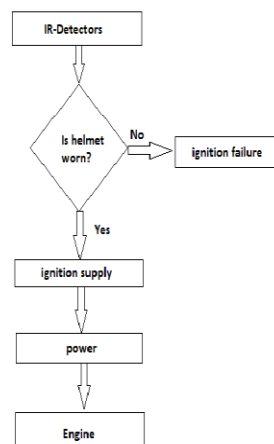


FIG :FLOW CHART OF IGNITION SYSTEM

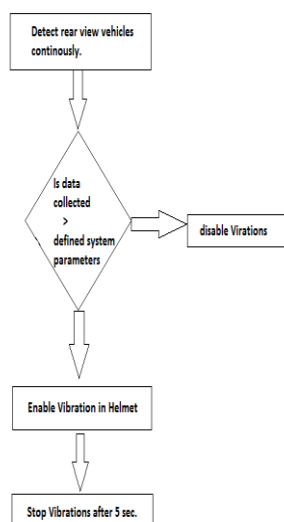


FIG:FLOW CHART OF REAR VIEW SENSING

VI. CONCLUSION AND FUTURE SCOPE

Until and unless the safety measures are not put on the rider cannot start the bike and by this system we can reduce the death rates. Thus by this system we can reduce deaths caused by head injuries in accidents. Implementing this system we can also detect the safer distance between the two vehicles. In future we add the more feature in that system is that detection of alcoholic person, hand glows are wearing or not the LCD display in helmet for map displaying using wireless network system. Also add bluetooth system for receive call during driving without any risk.

VII. REFERENCES

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