**Design Of Smart Helmet Using Arduino Uno**

Abstract

A smart helmet is a special idea which makes motorcycle driving safer than before. This is implemented using GSM and GPS technology. Vibration sensors are placed in different places of helmet where the probability of hitting is more which are connected to microcontroller board. So when the rider crashes and the helmet hit the ground, these sensors sense and gives to the microcontroller board, then controller extract GPS data using the GPS module that is interfaced to it. When the data exceeds minimum stress limit then GSM module automatically sends message to ambulance or family members. The Mems sensor used to measure axis .When the accident occurs the axis change so the message will send to family members. The TFT display show caller id and message received.

Existing System

In Existing system Alcohol sensor MQ3 is used here for detecting the alcohol concentration present in the driver’s breath. Sensor provides an analog resistive output based on the alcohol concentration. MCU is the microcontroller unit, which controls all the functions of other blocks in this system. MCU takes or read data from the sensors and controls all the functions of the whole system by manipulating these data. Alcohol sensor is connected to the MCU through an interfacing circuit and the helmet sensing switch is directly connected to the MCU. MCU receives data from these sensors and it gives a digital data corresponding to the output of sensors to the encoder only if the two conditions are satisfied.

Disadvantage of Existing System

* Accident cannot be detected.
* Family members cannot know about accident.
* Location of accident is not given to family members.

Proposed System

A traffic accident is defined as any vehicle accident occurring on public highway roads .The thought of developing this project comes to do some good things towards the society. Two wheeler accidents are increasing day by day and lead to loss of many lives. The main aim of our project is to build a safety system which is integrated with the smart helmet and intelligent bike to reduce the probability of two-wheeler accidents. If any accident occurs no persons at place where to give information to the ambulance or parents. This is a situation we observe our day to day life, a thought of finding some solution to resolve this problem come up with this idea of giving the information about accident as soon as possible and in time. If person met with an accident, no one is there to help him and simply leaving or ignoring the person, In such situation informing to ambulance or family members through Gsm to rescue him for an extent. The caller Id and the message will show in the TFT display. So the person will know who is calling without using mobile.

Block Diagram

Graphical TFT

Mems

Arduino uno

GPS

Vibration

sensor

GSM

Proposed Advantages

* Accident can be detected .
* The location is shared to family and ambulance
* Caller id and message can be seeing without using mobile.
* Mems sensor used to for axis of person to detect accident.

Software Requirement

* Arduino

Hardware Requirement

* Arduino uno
* TFT screen
* GPS
* GSM
* Mems
* Vibration