VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama" Belagavi – 590 010

PROJECT REPORT ON

"SMART HELMET"

Submitted in partial fulfillment of the requirements for the award of degree

BACHELOR OF ENGINEERING
IN
ELECTRONICS & COMMUNICATION ENGINEERING

Submitted By

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CERTIFICATE

*Certified that the project work entitled "***Smart Helmet***" is a bona fide work carried out by*

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in partial fulfillment for the award of BACHELOR OF ENGINEERING in **ELECTRONICS & COMMUNICATION ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2016–2017. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.

15/05/2017 D.V. 15/05/17

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ABSTRACT

An accident is a specific, unexpected, unusual and unintended external action which occurs in a particular time and place, with no apparent and deliberate cause but with marked effects. Carelessness of the driver is the major factor of such accidents. The traffic authorities give a lot of instructions to the vehicle operators. But many of the riders do not obey the rules. Now a day's most of the countries are forcing the motor riders to wear the helmet and not to use the vehicles when the person is in drunken condition. But still the rules are being violated by the users. As the bikers in our country are increasing, the road mishaps are also increasing day by day, due to which many casualties, most of the riders are caused due to most common negligence of not wearing the helmets, and also many deaths occur due to lack of prompt medical attention needed by the injured person. This motivates us to think about making a system which ensures the safety of biker, by making it necessary to wear helmet, as per government guidelines, also to get proper and prompt medical attention, after meeting with an accident. The proposed system is an intelligent helmet.

Smart Helmet, which automatically checks whether the person is wearing the helmet and has non- alcoholic breath while driving. The system consists of transmitter at the helmet and the receiver at the bike. There is an IR sensor used to make sure the wearing of helmet on the head. The ON condition of the sensor ensures the placing of the helmet in proper manner. An alcohol sensor is placed near to the mouth of the driver in the helmet to detect the presence of alcohol. And also vibration sensors are placed in different places of helmet where the probability of hitting is more which are connected to microcontroller board. 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 system is implemented using GPS and GSM technology and the result of GPS data is given as "Vehicle Accident Detected Latitude: 1222.3822 and Longitude: 7451.077" is sent to ambulance or family members using GSM technology.