

A Review on Smart Helmet for Accident Detection using IOT

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Abstract

As we know that accidents are increasing day by day, we can also notice that many laws and regulations are posed by government in order to avoid this accidents. Accidents can be defined as the unplanned event or the mistake that may occur resulting in injury and sometimes it also leads to death. The accidents in case of two wheelers are more compared to other vehicles. This may be avoided by wearing helmets and riding vehicles without consuming alcohol. This survey is on smart helmet for accident avoidance and also examining various related techniques. This research also helps us to understand IOT technology which is being emerged now a days. From the literature survey we find that the method proposed using microcontroller RF transmitter and other sensors is cost effective but we find the system proposed using Raspberry pi module, Pi camera, Pressure Sensor, GPS system which uses image processing algorithms is most efficient since the image processing is included so that we can easily detect the use of helmet from the rider. Smart helmet system helps to provide safety and security to the two wheeler riders.

Keywords: Accidents, smart helmet, IOT, Laws and Regulation.

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1. Introduction

Internet of things are currently being used in many fields such as wearable's, home automations, smart appliances, smart agriculture etc where there is a mutual communication between devices and people over a network. The work of the IOT devices is to sense the data and send the data to server by this huge amount of data can be generated. By the generated data we can draw the conclusion by processing and analysing the data obtained. This gives the advantage in real time data reporting from environment. Now a days motorbike accidents are increasing day by day and we can notice numerous loss in lives. We can avoid this by using smart helmet. From the survey we can know that in India 4 people die every hour because they do not wear helmet. In 2017, more than 48,746 two wheeler user died in road accidents, Incidental 78.3% of them did not wear a helmet. To go

through or to solve this, there are two important conditions that should be checked before the bike starts by the smart helmet. First most condition is that we should check whether the rider is using the helmet and not just keeping it. Second to check whether the user has consumed alcoholic substance or not by his breath, this can be verified by using sensors. Third if a person meets with an accident, the sensor check the condition of person and bike and send information of location to nearby hospital. If the person has no major injurious then the button is pressed which is present in the bike this indicate that the person condition is good.

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