SMART RIDER SAFETY SYSTEM (RSS) FOR TWO WHEELER'S – A REVIEW

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ABSTRACT

This paper reviews the existing technology related to two wheeler rider safety. Several research paper and work were studied and it was observed that there exists a gap of technology or there is a need to innovate the earlier technologies to improve the safety of rider's. As the increasing number of population, number of riders also increases which results in greater number of accidents. Sometimes it was not the fault of rider but the surrounding atmosphere and other reasons causes accident. To resolve these current issues we developed a system which will gives best solution. This system will find out the solution of all the gap of technologies that exists in the rider safety and make a best version out of it, which is more effective, affordable, and environment suited. Also this system is an eco-friendly system as it uses a pollution detector which will help to keep an eye at the pollution.

KEYWORDS: *Conventional system, two wheeler rider system, intelligent embedded sensors, unconscious speed driving, road crashes.*

1. Introduction

Security and safety is the most talked of topics in every aspect of our life. In present day scenario we encounter numerous cases of death due to many possible reasons which includes overtaking, unconscious speed driving, attending calls etc.

Fig.1:- Death Rate Analysis [18]

According to a survey there is one's death for every 4 minutes in India and the reason is road accident. Therefore, a system is needed for every two wheeler rider to avoid the cause of death. But the inconvenience or discomfort caused by the conventional system lead to avoid the use of safety system. Many safety systems are available everywhere, still people are not using them, the reason behind not using the system showed the uncomfortable aspects of it.

First section is introduction which includes a brief description about the proposed technology. This gives us the idea about the advantages of using this technology and also it tells us that how it is useful in keeping us safe while driving. Second section includes statics which gives us the fact after survey and calculated figures about the increasing number of two wheeler's accident on roads. Third is the background section which describe about the previous innovation and shows how there lies a gap of technology which results in improper security of rider. Fourth and fifth section is Outcome of the Review and conclusion respectively. These two sections conclude the whole proposed technology in a summarised manner.

2. Statics

According to the survey 1, 50,785 people were killed, another 4, 94,620 were injured in road crashes in the year 2016 in India. Also the death rate increases by 31% from the year 2007 to 2017 in which two -wheeler accounted for the highest share in the total road crashes. According to the survey in 2014, drunk driving has become the greatest cause as Speeding is listed as the second highest cause of vehicle deaths after alcohol. To find the solution for all difficulties mentioned above, we are proposing a system which will help the rider in best possible way.

3. Background

Marco Pieve, et al, "Mitigation accident risk in powered two Wheelers domain", its main aim is to evaluate the information provided and to make contact with family [1]. Prakhar Bhatt, et al, "Accident and road quality assessment using android google maps API". The device proposed in this paper is to check the cause of accident due to quality of roads and to provide an additional layer or travel ease and security [2]. Evangelos D. Bekiaris , et al, "Saferider Project: New safety and comfort in Powered Two Wheelers", the safe rider project, lies with the fact about the total safety or full protection of rider [3]. Yadu Prabhakar, et al, "A new method for the detection of motorbikes by laser ragefinder", detects the two wheeler in less time with its laser ranging[4]. C.V. Suresh Babu ,et al, "An Integrated smart system for accident- avoidance in four wheelers by using GSM and GPS Module". This paper is aimed at avoiding accidents with the help of many small integrated system on a single system[5]. Amit Meena, et al, "Automatic Accident Detection and reporting framework for two wheelers". This paper presents an inexpensive but intelligent framework that can identify and report an accident for two-wheelers. [6]. Rui Jiang, et al, "Enhancing speed estimation accuracy of electric bike riders through training" .This work described an on-road study to examine the effects of speedometer and thus warn about the high speed to avoid accident[8]. Prachi R. Rajarapollu, et al, "A novel two wheeler security system based on embedded system" in 2016 which provide smart bike monitoring system that will help in human safety and also anti theft causes. [13].

4. Outcome of the Review

Even after so much technology, it was observed that there exists a gap of technology or there is a need to innovate the earlier technologies to improve the safety of two wheeler riders. Improving the technology reduces the number of accidents. Thus, to solve all these problems we designed a RSS system i.e. Smart Rider Safety System that not only help the rider to travel safely but also help him/her to be in touch with their family if in case feels uncomfortable.

5. Conclusion

After studying about so many technologies that are available for the safety of riders, we found that there is a gap of technology. Although there are so many technologies for the safety of riders still it lacks 100% security. Thus keeping in mind all the ratio of accidents and crashes, here we proposed a work entitled Rider Safety System (RSS) which will provide comfort to the rider, and also informs family if any mis-happening occurs. The project, if industrialized will help the riders to travel safely and to be in touch with their family. So this paper helps the previous technologies to improve which will reduce the increasing number of accidents all over India.

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