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# R2S2 HELMET

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**Abstract**— *As the helmets have made compulsory in many cities then safety of helmet comes into picture. Many of them face problems due to robbery of helmet. Also due to drink and drive case of one person, many fellow drivers get difficult to drive. So in this we have used Fingerprint sensor for validation of user and Alcohol sensor to check whether the user has consumed alcohol or not. In addition detachable mirrors and radium coating on helmet.*

**Keywords**— *Alcohol sensor, Detachable mirrors, Fingerprint sensor, GSM/GPRS module, Radium coating, Rubber coating.*

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### I. INTRODUCTION

Now a day wearing a Helmet while riding bikes is compulsory. So it is necessary for everyone to keep the helmet safe from thieves. So now a days people use manual lock to keep the helmet safe. So a thought just struck to our mind that "Can we use the fingerprint sensor to helmet to keep it secure from robbers and also provide GPS security to helmets similar to mobile phones?". Then we started implementing our idea and successfully completed it.

Also some people don't like to keep mirrors to vehicles, especially bikers. Also there are helmets having camera in front and rear side. But as it is costly many people cannot afforded to buy it. Also there are helmets having mirrors rather than the vehicles, but these are permanent mirrors. If one doesn't like mirrors then he won't be able to detach these mirrors. So we have implemented the same concept in which helmets will have mirrors but they can be detached, such that person riding bike can have option to attach mirrors to either their bike or to their helmets.

These days a major reason for roadside accidents among youths is due to drunken driving. Hence it becomes necessary to devise some way in which this can be reduced. A solution to this could be having inbuilt alcohol detection sensors such that it will warn the both the driver and the authorities that the rider is drunk.

Also another reason for accidents is poor visibility while riding in rains. During heavy rains it becomes difficult for the riders to drive due to poor visibility caused by constant rainwater falling over the glass of the helmet. So we have thought of avoiding this by adding a line of rubber padding above the glass such that it will cause the water to fall off from the sides of the helmet rather than directly fall on the glass flap.

## II. LITERATURE SURVEY

Mugila.g proposed a Smart helmet system which detects that, the person wearing helmet or not and also the system detect the person is drunk, If the driver using cell phone during driving means the bike will be jammed slowly. [1]

Faizan Manzoor implemented a smart helmet includes the integrated electronic system which uses some of the basic components in the world of electronics. The microcontroller coordinates with the GPS, GSM, WIFI and the sensors.[2]

## III. PROPOSED SYSTEM

It consists of the innovative and secured helmet for the bikers. It consists of Fingerprint sensor (1) for security of helmet, Alcohol detecting sensor (5) to detect or indicate the other drivers whether the biker is drunk or not and also Detachable mirrors for innovative style of riding bikes. It also consist of the Water resistant rubber coating which provide comfort for bikers to ride bike during monsoons and radium coating from behind so that it could be easy for riding at night.

Fingerprint sensor (1) is provided for the security purpose of the helmet. Initially when the helmet is removed off then the flap of helmet is closed. If bike rider wants to wear helmet again then he should validate whether he is valid owner of helmet or not. If he is valid then the flap of helmet will open and bike rider will be riding safely. If he is invalid user of helmet then to trying for fingerprint then the owner will be alerted about it through SMS and buzzer will start honking.

Alcohol detecting sensor (2) is provided for the safety purpose. Many times if the bike rider who is drunk is not known by the fellow drivers and traffic policemen which leads to accident cases. In this when the user wears the helmet he is checked whether he is drunk or not. If he is not drunk then he will drive safely. But if the user is drunken then the LED glows so that his fellow drivers could notice about it, moreover a message is sent to police about drunk and drive case.

Generally we use mirrors to see rear view while driving vehicles. Because of mirrors some riders find it uncomfortable to ride bikes in traffic. So, some of the riders don't prefer to use mirrors while riding. Due to this the riders are unable to see rear view. So there are chances of accidents while overtaking or taking U-turn. So we have provided Detachable mirrors (3) in this project. Based on the convenience of the rider he/she can attach the mirrors to the helmet as well as vehicle according to the situation. These mirrors can be adjustable through orientation and height.

Most of reason for accidents is poor visibility while riding in rains. During heavy rains it becomes difficult for the riders to drive due to poor visibility caused by constant rainwater falling over the glass of the helmet. So we have thought of avoiding this by adding a line of rubber padding (4) above the glass such that it will cause the water to fall off from the sides of the helmet rather than directly fall on the glass flap.

As we aware the fact that during night time, riding bike is quite dangerous. As the rider sometimes tend to commit accidents since he/she is unable to see the bike lights of the fellow rider. Radium Coating provides more precaution during night ridings. Radium Coating (5) is provided on the back side of the helmet so that when the light falls on the helmet it glows. Radium coating brings to notice of the fellow riders that there is a biker existing in their front.

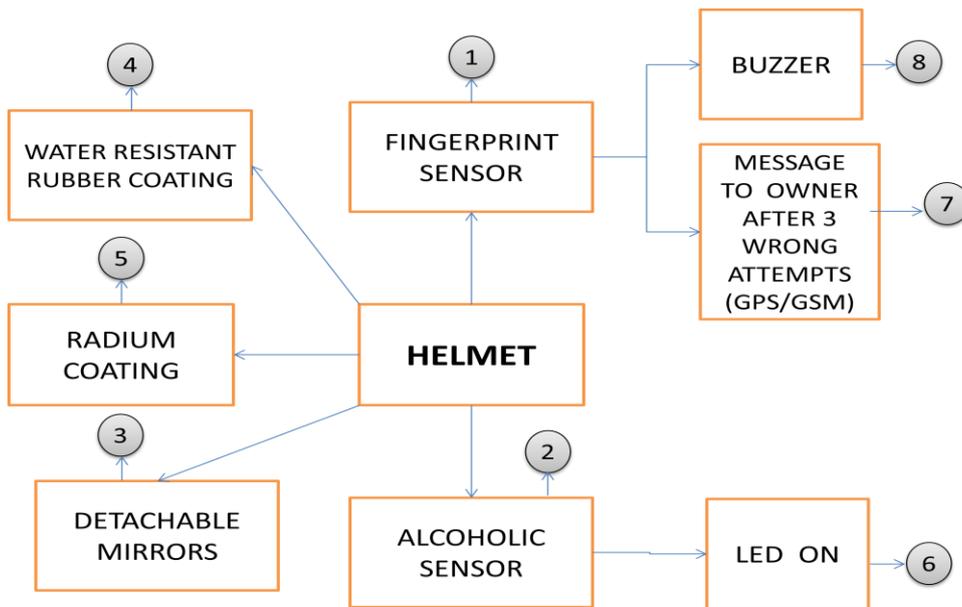
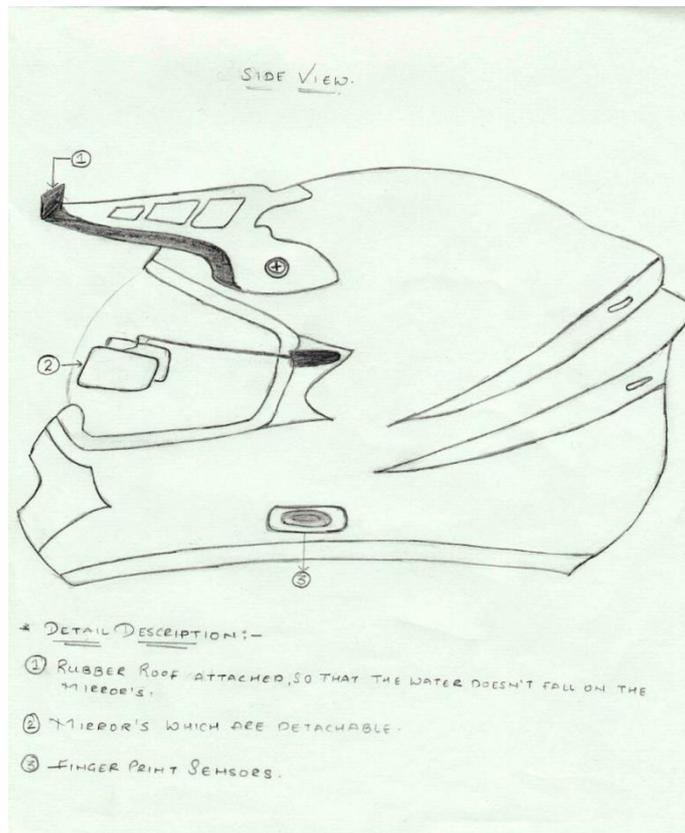


FIG: BLOCK DIAG OF PROPOSED SYSTEM

PICTURE OF MODEL



#### IV. CONCLUSIONS

As wearing a helmet is important while riding bikes these days, it becomes important that a person should be more comfortable while riding bikes without any distraction. Helmets are meant for the person's safety while riding vehicle. This invention presents a helmet with detachable and length adjustable mirrors. As per choice and need user can attach or detach the mirrors and also adjust the length of the mirrors. The mirrors can also be attached to the vehicle as per user choice. To support safe driving during rain, the helmet is provided with water resistant rubber pads. The security of the helmet is ensured through GPS and Fingerprint sensor. While wearing the helmet, finger print of the rider will be taken and will be compared with owner's finger print. If it does not match, buzzer beeps. We have also kept in mind, the security of the rider and his fellow riders by providing an alcohol detection mechanism.

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