Secure and Accident Prevention System for Vehicles

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ABSTRACT

Now-a-days the bike or vehicle is an important source of transportation. The range style of the bike increases day by day likewise the accident rate also increasing day by day. The major accident (Two wheelers) is not wearing the helmet, drunken drive, wrong indication during night travels and finally using the mobile phone while driving. Hence in order to prevent accident rate produced by those reasons, developing smart helmet with sensors for accident prevention. This bike can start only wearing the helmet otherwise it shows warning in the LCD display. It consists of an alcohol sensor to detect drunken drive person, accelerometer sensor for automatic indication system and call detector circuit to detect whether the person attending the incoming call or dialing a call. The setup can be controlled using the Arduino. It consists of transmitter and receiver section. Transmitter section contains helmet, alcohol sensor and accelerometer sensor. Receiver section has a call detector circuit and it is placed in the engine itself. With the implementation of these concepts to commuting safe and reduce the number of motorbike accidents. In future, the helmet can be enhanced by the solar panel for helmet power supply to charge our mobile.

INTRODUCTION

The expansion in urban populace in numerous urban areas, measures of vehicles have likewise been radically expanded. In an ongoing report over-speeding caused the majority of the mishaps, trailed by tipsy driving. Over-speeding of bikes and three wheelers is one of the real reasons of mishaps. So as to help traffic the executives framework in our nation we have to

construct affordable traffic checking frameworks or by and large speed should be administered so we have introduced accelerometer which will detect the speed with which the bicycle is voyaging and furthermore screen it from portable application. This venture additionally parallel spotlights on bicycle security and wellbeing. So as to verify we have a switch which control up or down the whole framework with a single tick. Also, when the framework is on it anticipates that the client should enter stick number from an alphanumeric keypad. On the off chance that the keypad coordinates just, at that point the bicycle begins. And furthermore utilizing the assistance of RFID cards we can likewise detect distinctive parameters of street that is traffic Signal, Valid U turn in earlier and so forth.

In the advanced period, the security of each and everything is the vital job and the security of bike or bicycle is one of the vital parts. Commonly the bicycles are stolen from streets or parking garages. When individuals, comprehend the situation the vehicles are made underground leaving almost no follows. To leave the issue, there is only of execution of a security framework in bicycles. Currently, the security frameworks accessible for bike are very costly. So the bicycle organizations are not ready to implement the security framework as it expands the all out expense of a bike. So it is important to plan the security system for a bicycle which is less expensive and effectively usable for every person. The gadget, we have intended for the security of the bike has microcontroller.

NARATIVE REVIEW:

Commonly we hear the instances of bicycles getting stolen from stopping territory. Or on the other hand some of the time we neglected to expel the keys from bicycle accidentally. In these cases it is extremely hard to recover the bicycle. "Secret word based Lock for Bike security with start key" venture is intended to comprehend this reason. Principle idea driving this venture is of a bicycle security framework utilizing a secret phrase entered through keypad. This framework turns on the Buzzer when wrong secret key is entered for 3 times. Whenever client embeds key in start lock, LCD show demonstrates message as "Enter Password". Client needs to enter secret phrase utilizing Keypad gave this hardware venture. On the off chance that the entered secret key is right, at that point Relay and DC engine is turned on. User can change this secret word whenever he/she wish utilizing a keypad.

This changed secret phrase is put away in outer EEPROM memory IC. Along these lines bicycle security framework undertaking can store the changed secret key regardless of whether there is control cut. Secret word lock for bicycle venture principally comprises of following squares Microcontroller: This is the CPU (focal preparing unit) of electronic lock for bicycle venture. We are going to utilize a microcontroller of 8051 family. The different elements of microcontroller resemble. Perusing the advanced contribution from Keypad. Sending this information to LCD with the goal that the individual working this task should peruse the secret key. Detecting the secret key utilizing keypad and to check whether it is a right secret key or a wrong secret key and pivot the engine if the secret key entered is a right secret word. LCD: We are going to utilize 16×2 alphanumeric Liquid Crystal Display (LCD) which implies it can show letters in order alongside numbers on 2 lines each containing 16 characters. Buzzer: We are going to utilize a bell to demonstrate the wrong secret word to open ignition. Keypad: User will enter the secret word utilizing the keypad. Different keys of keypad are as following. Secret key based Lock for Bike security with start key undertaking can be utilized in different bikes. The secret word finder task can be utilized to robotize the start locking process, so the client need not to convey the start lock keys alongside him, he can simply recall the secret word and use it later to open the start.

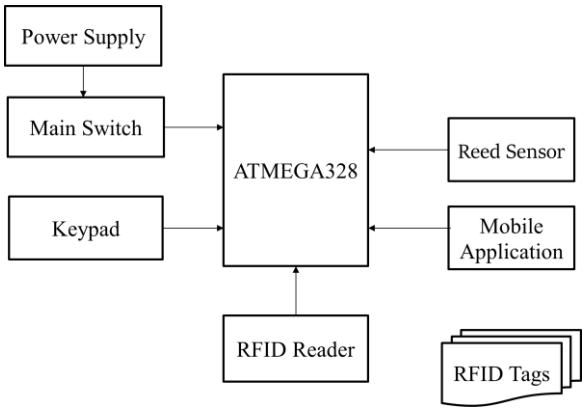
Mishaps happen when suburbanites are occupied by telephone calls at high speeds of vehicle. An Android Application is utilized to check the speed of the vehicle against a limit esteem. In the event that it surpasses the limit esteem call will be naturally expelled and makes an impression on the guest that the individual is driving. Numerous workers don't pay notice to the sign sheets along the street. The motorbike rider is driving the bicycle is not exactly the 40 kilo meter of the speed if any of the individual considering the rider the versatile is ringing. In any case, the rider is driving the bicycle over 40 kilo meter if any individual calling the call won't going just it's comes miss call. The calling individual got just message the rider now he/she is driving so call at some point.

The assistance of RFID the worker can be advised about the diverse sorts of Sign sheets that the suburbanite goes by to enable him to drive securely. These three functionalities ought to give an increasingly

secure method for driving and help in averting future mishaps.

The consequently detecting the zones/zones like "School Zone", "U Turn" or "Traffic Zone". We are building up a framework which will detect such traffic signs naturally and likewise illuminate the driver and furthermore help him in controlling the vehicle. As the structure of this framework goes, the task proposed here comprises of a lot of units: Zone/Area Unit and Vehicle Unit. In tradition, these extraordinary zones or territories are demonstrated at the roadside on a column or street sign posts. For instance, close school zone, the sign board shows "School Zone Ahead ,Drive Slowly", or "Bend Zone Area-Do not go quick". Drivers go at fast as common close school zone, oroperate the unforgiving driving causing mishap in the bend zone. Accordingly, making the whole concept of displaying warning sign and messages on the roadside sheets does not help. To give a superior option, one can build up a framework which will consequently detect such traffic signs naturally and likewise advise the drives and furthermore help him in controlling the vehicle willfully or coercively. With everything taken into account bringing about a successful and fall flat verification framework to give traffic direction, wellbeing and accommodation of the general population. As the entire task not simply restricted for these few capacities, this venture can be made obligatory. That way one can give an increasingly solid security gadget and streamline traffic stream. Hardly any extra highlights which can be coordinated with this framework are, "Hostile to impact", "Auto breaking with bend recognition" and "Auto Speed limit Sensor".

SYSTEM PROSPRECTIVE:



The power supply to the microcontroller is given through a switch instead of direct connection. Used to power on and off the complete system. This is to turn on and off the system easily with one click and once the vehicle starts the user is

asked for an pin to enter . if the user pin which is set matches the system starts if not gives us three trails to enter. If the user fails to enter the correct keypad there is an alarm alert saying unauthorised access.

The vehicles are implemented with embedded systems . We build a system which calculates the speed of the vehicle and sends it to mobile application. The speed can be continuously monitored.

RFID Readers are used to read data from different RFID cards which is signifies different sign boards say U-turn, Signal and etc.

CONCLUSION:

The system once implemented makes a user friendly vehicle system providing ease of use, user friendly, providing safety and security. And the prior notification given to the user can be helpful in terms of slowing down or moving left or right so as to avoid accidents which are mostly due to unawareness and unexpected parameters mostly unknown to the rider.

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