Smart Helmet and Bike Accident Detection System Using Iot

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ABSTRACT
Dynamic presently a days, mishap is intense issue in an everybody. Mishap are expanding step by step, so we have limited mishap by playing it safe technique, in this review paper, our mean to make a framework using IOT idea to identify the mishap in a bicycle. we are utilizing microcontroller, accelerometer, position sensor, and Android application utilizing in IOT, and furthermore mishap happen send message by clinic, family, companions, utilizing GPS, GSM area,
Keyword: microcontroller, Android Application, Gyrator Accelerometer sensor, and so forth Presentation

I. INTRODUCTION

We definitely realize that youthful age individuals inclines toward 2 wheeler's contrasted with 4 wheelers, A study paper shows over 70% of the 2 wheeler's ,bicycle rider didn't wearing protective cap, drive under the influence , 3ble riding have become normal issues. The report out and about wellbeing reflecting data from million nations shows that its near 1.35 million individuals dead consistently on account of street mishap. And furthermore infringement of any guidelines become significant issues of mishaps. In this venture our fundamental point is to give security to 2 wheeler's rider and forestall wounds. here we use whirligig and Accelerometer sensor and so on this sensor is utilized to identify the mishap to family and closest medical clinic. GSM and GPS innovation are utilized to follow the mishap happened in a current area. Bluetooth beneficiary checks the wearing of helmet. In the event that the individual deliberately eliminates all the activity is screen and constrained by Android application. Here we another idea is burglary identification. Where there is an obscure individual access the vehicle, it advise the proprietors regarding bicycle by round alert, and furthermore the proprietor can remove fuel motor

anyplace from android application. The proprietor can likewise makes geo area limit to vehicle assume in the event that the vehicle leaves the limit, it alert the proprietor

II. LITERATURE SURVEY

In this review we are examining different brilliant head protectors, with different methodologies and procedures Sushma R etc[1], iot is an innovation by utilizing this innovation we are carrying out savvy head protector with shrewd locking system.now a days government has made a standard that its obligatory to wear cap while riding bicycle making progress toward lessen the mishap.

Kishore V and so forth [2] in their work unplanned ID and route framework attempted to foster a framework which was made created taking a gander at numerous days to day some cases will be more . This was an exceptional plans to riders to wear head protectors so they are protected on the streets and do not met with a mishap. Thus, this prototype was made to advance use of head protector at whatever point we go for a ride and passings can likewise be reused out and about.

S.vijaypandi [3] in their work of writing servey ,we discovered part of brilliant protective cap framework with a few advancements and method. In our country an exceptionally huge frenzy for 2 wheelers and furthermore intoxicated and drive was serious issue for accident.in this paper ultrasonic sensor is utilized to recognize limit distance estimation of controlling the speed with breaker is identified.

SunHwaLim,Kang [4] Bok Lee in their work The fundamental point of the head protector was to that it ought to be utilized in a debacle the board which would help the calamity group to discover every one individuals and salvage they as quickly as time permits so fast clinical assistance can given and no if passing can be decreased. They

likewise utilized IoT to get the informationthe worker. Infrared sensor was utilized to recognize every one individual covered in the structure rock. Oxygen remaining sensor was utilized to check the oxygen worth of the patient. In any case, it had not many misfortunes as robot couldn't recognize individuals which were covered somewhere inside the form rocks. Just as in couple of cases they were approached to eliminate the protective cap and it was not helpful by any means.

C. Vidyasagar [5] in their work Helmet worked in savvy bicycle. There are two sorts working hubs which are using (Security lock system) i.e. [SLS] and (Safety motor system)[SES]. the principal hub soles have RFID peruse just as two RFID labels. At the point when a remarkable id labels coordinates with any of the RFID peruse the just handle lock can open and the client will work the bicycle and the second working part was utilizing a power detecting sensor. However, there were a few disadvantages during no web association they sensors couldn't interface with the data set and this would prompt lethargic reaction and additional time wastage of the clients.

U. Vasudevan [6] Now a days helmet is very essential for bike rider because many people can be saved by wearing the Helmet. In the survey we came to know that without wearing the helmet the bike won't start By implementing this concept in the bike and helmet we can reduce the accident.

AnzarashrafKhan[7] The concept of smart helmet is good idea for the bike driving in road , And it is also start and stop the vehicle by wearing and removing the helmet. In addition to the concept it is also detect accident and sends the information to the family by SMS alert and also track the location of the accidebtaccered.

III. METHODOLOGY

The proposed structure containing two square a defensive cap checking section and vehicle introduced dealing with system. Defensive cap checking structure Fig (1) contains Bluetooth transmitter, Microcontroller, sensors. cap on head is recognized by position sensor and a force sensor. Exactly when the cap put on the head and the sensors passes on the message to the microcontroller and a while later it will estimate the data and conveys the data to the gatherer region using Bluetooth.
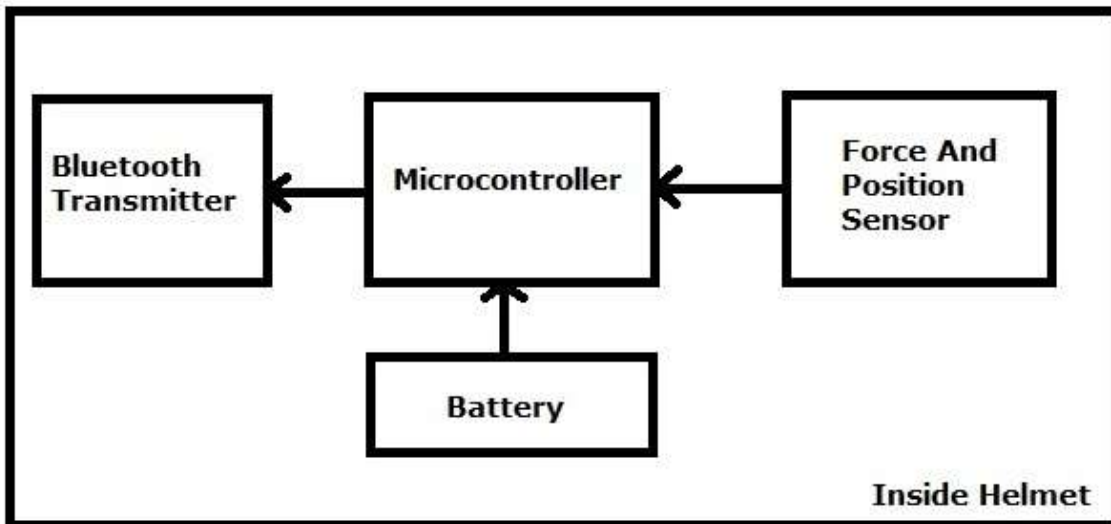

Fig (1). Defensive cap checking structure

Vehicle introduced taking care of system Fig (2) involves crash area, start controller, 4G LTE module, GPS, Bluetooth recipient. The vehicle will move exactly when the Bluetooth beneficiary signs to the rider is wearing the defensive cap. Exactly when the rider dispenses with the defensive cap intentionally the structure alerts the rider by strong alert.
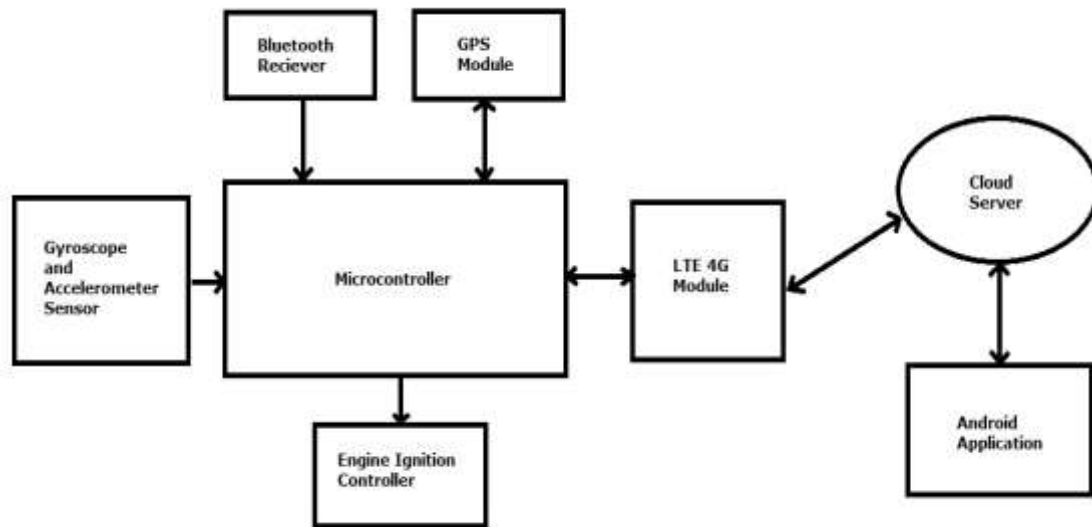
Fig (2). Vehicle locally accessible getting ready system

The rider will get snapshot of time to wear the head defender. If the bike rider wont wear prosperity defensive cap the bike engine turn over will be off after that. Right when bike met with setback the geo region nuances are transported off the guardian and sidekicks through android application, the application uses Google Guide Programming interface to discover and gives the headings on the manual for show up at the spot and to follow the ridercondition. The proposed system moreover contains burglary noticing and controlling. When there is unapproved permission to the vehicle is recognized the system alerts the owner. The owner can eliminate the fuel supply to the engine wherever from the world using the application. The owner similarly can make the geo region cutoff to the vehicle when the vehicle goes out the breaking point geo regions alerts the rider and turns off the vehicle start immediately.

HARDWARE PARTS USED IN THE UNDERTAKING
ARDUINO
Arduino there are two part of the Arduino using I) Arduino Nano and 2) Arduino Uno, we are using project Arduino Nano it will be used and it small and compared with Arduino Uno it freely friendly and breadboard and obliging subject to Atmega328 it will be used it has basically the power of source is sequent to the most critical voltage source.
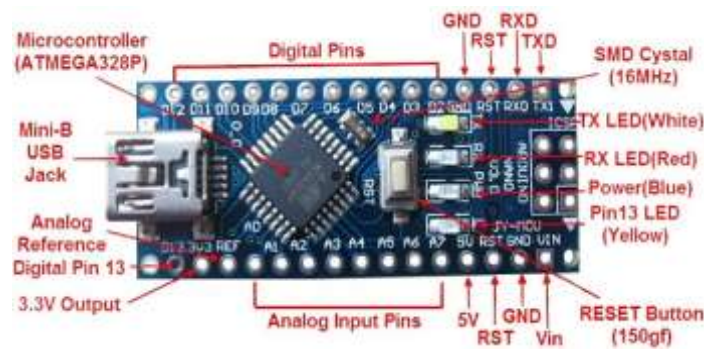

Atmega328
Atmega328 its a low power ,and CMOS using 8cycle and microcontrollers relavent upon the AVR and updated RISC design. And also executing heading its alone clock cycles, it will contraptions achieves PC processor throughout advancing toward 1,000000 rules each second it will be megahertz per second I.e (MIPS) to allow the system designs to further develop and power use rather than taking care of speeds.

Internal square diagram of ATMEGA328
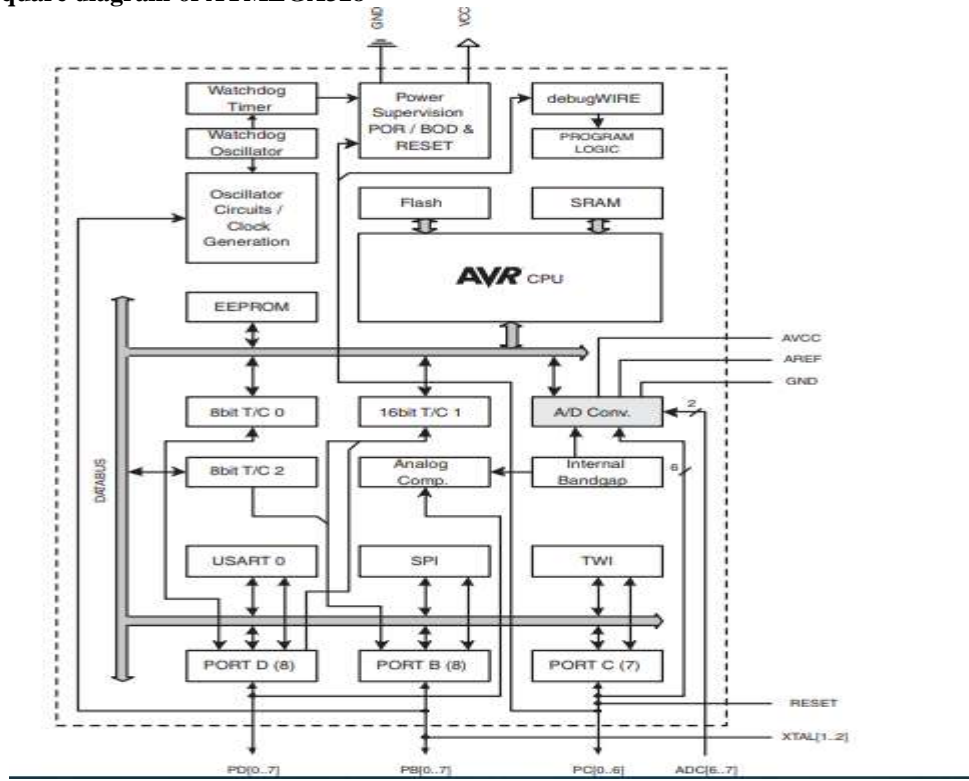
This diagram it will focus on AVR join a rich direction set along with 32 valuable working registers we are using this diagram and all the thirty two(32) register are connected with the calculating Reasoning Unit(ALU),and allowing 2 self-rule registers are be gotten to an one single direction and executed in one clock cycle.

GPS

GPS is a Global Positioning System it will be used mobile are any other we using hand it will when a person where you are and what position it will be there in person it will be searching of the GPS

Checking the GPS modulesBefore Interfacing GPS module with microcontroller, we can check the yield of GPS module. From that string, we can remove information like longitude, scope, time which is valuable to find region and timing information. To do this, partner this GPS module to the PC through USB to Ongoing converter or DB9 connector. Furthermore, keep radio wire of GPS module on proper region.
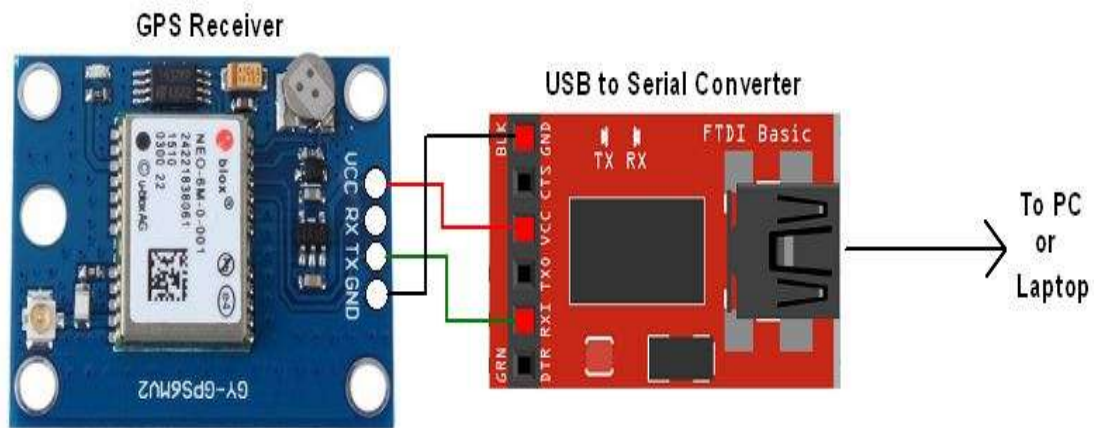
GPS Successive Interface
1. Now open any successive terminal for instance Realterm, Hyper terminal, Earth, etc on PC/PC.
2. Open the PORT with 9600 baud rate.
3. The show data coming from GPS receive module

IV.   RESULTS AND OUTCOMES:

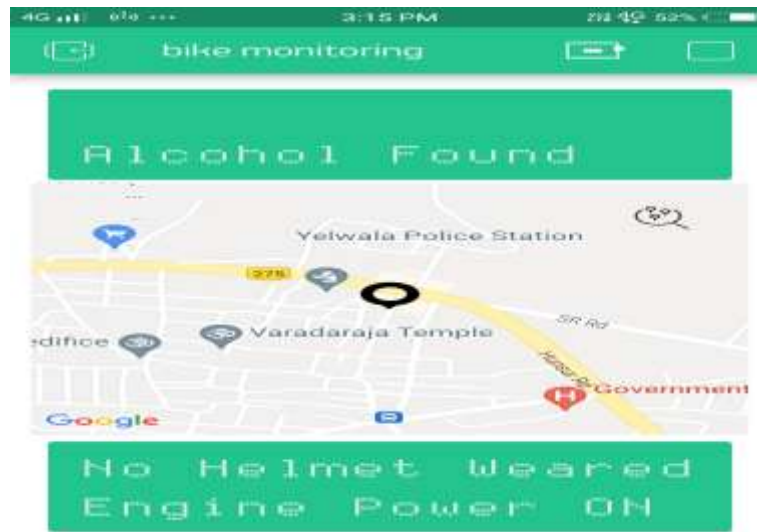
Figr :-We are using component of the project

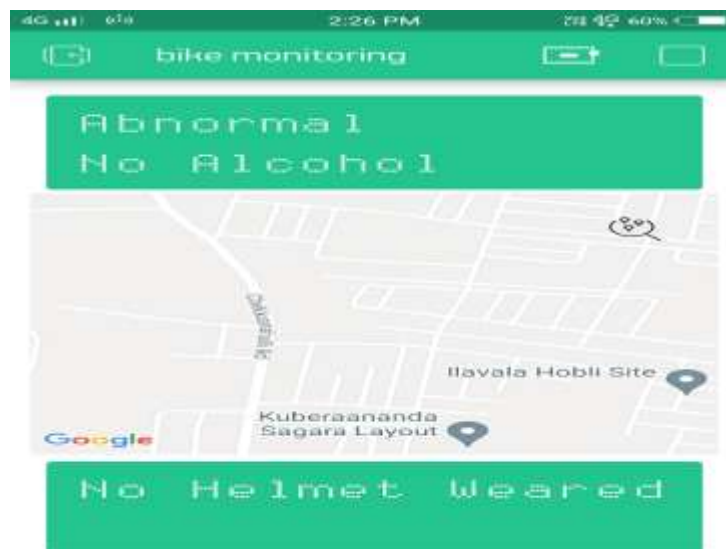**Figr :- wear helmet when person alcohol found or not**

Figr:- Accident detection found

V. CONCLUSION

By assessing all papers, we come to know and derive that wearing cap and ride the bike thought should be particularly amazing and its incredibly crucial segment for offering prosperity to 2wheeler's rider It's easy to plan and screen 2-wheeler bike incident, also insignificant cost to perceive the setback and gives the information about disaster inside minute, works with that to enlighten nearby clinical facility

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