

SMART DRUNKEN DETECTION HANDHELD DEVICE.

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ABSTRACT: “DRIVE NOT TO DRINK, DRINK NOT TO DRIVE”. Accidents due to Drinking have reached its greater extent and the number of deaths due to drunken accidents has touched the sky. So it is must to design and implement such a handheld device for traffic police to control the Drunken Drive accidents. This can be achieved by designing an handheld device which can sense the alcohol and directly print the fine receipt according to the percentage of alcohol detected by the sensor. An Alcohol will be detected by the alcohol sensor MQ-3 and according to the percentage of alcohol an Fine receipt will be given by that Device Itself and the receipt will consist of the Name of the Suspect driver, Vehicle No, Percentage of alcohol and the Fine awarded to the suspect. All this information will be Directly transmitted to the main Traffic Police Department via GSM module and an GPS will grab its current position. This will reduce the corruption also and it will be a very handy device for the use of our Traffic Police Department.

INTRODUCTION: In Past few decades Drunk and Drive cases have increased at an huge extent . Every year thousands of Driving licences are suspended.

Year	Total no.of Accidents	Driving licence Suspended	Driving licence Cancelled
2010-2011	60409	3691	226
2011-2012	60794	5544	755
2012-2013	64996	7878	1378

Table no.1 Year wise Driving Licence Suspended .

An intensive action against drunken driving is the need of the hour to promote road safety. The number of Suspended driving licences is increasing according to year. And it is becoming difficult for the Road Traffic Police to keep control over the Drunken Accidents. So it is must to design and

implement such a handheld device for traffic police to control the Drunken Drive accidents. This can be achieved by designing an handheld device which will sense the alcohol of the suspect and directly print the fine receipt according to the percentage of alcohol detected by the sensor. An Alcohol will be detected by the alcohol sensor MQ-3 and according to the percentage of alcohol an Fine receipt will be printed by the Device Itself as in-built program having predefined fine as per the percentage of alcohol sensed and the receipt will consist of the Name of the Suspect driver, Vehicle No, Percentage of alcohol and the Fine awarded to the suspect .There is an RFID Reader module used to scan the Suspect Drivers Licence .All this information will be Directly transmitted to the main Traffic Police Department via GSM module and an GPS will grab its current position of the Traffic Police. This will reduce the corruption also and it will be a very handy device for the use of our Traffic Police Department.

LITERATURE REVIEW: Drunken Accidents is a national issue in every country all over the globe. Several efforts are taken to reduce the accidents happening due to drunken driving and various Systems have been designed to reduce it.

Alcohol Breath Analyzer/Alcometer was designed in UK first which is an portable test instrument that reliably conducts breath

analysis to subjects Blood Alcohol Content. They had a wide range of models from the basic model to the highly advanced models(for police use).

Alcometer was introduced in India by *Visakhapatnam Steel Plant* in Vishakhapatnam in June 2007. The Deputy Commissioner of Police(Traffic) P.Viswa Prasad demonstrated the Equipment in the city and requested to make a law for Drunken Drivers liable for imprisonment for six months. The Court can cancel the Drivers Licence. Any motor vehicle driver who has alcohol content exceeding 30 mg per 100ml of blood as detected by a breath analyzer was liable for punishment under the *Motor Vehicle Act,1988*.

The Previous Portable devices had a lot of limitations which were reduced in this project. It consist GSM, RFID reader, GPS, Printer installed inside the Portable Device which increases the applications of the device which make it a very handy device for Road Traffic Police. It will directly print Fine Receipt through the device. The GPS in device will track the current position of the Traffic Police. The GSM in the device will Transmit the Fine Receipt and the current position of the Traffic Police to the Main Traffic Police Department of that area .

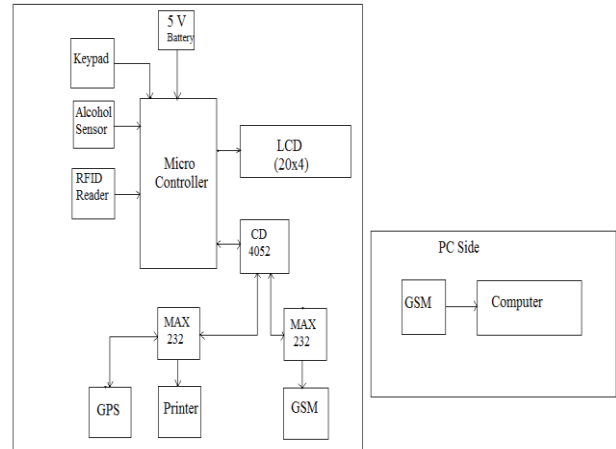
METHODOLOGY: According to our work we are using Microcontroller 8051 where alcohol sensor MQ3 is connected which will sense the alcohol. This data is in

Analog form so it is a must be converted to digital form using ADC0808. An RFID Reader Module is used to Scan the drivers Licence through which we will get the information about the suspect driver's Name and his Licence Number. As the percentage of Alcohol detected by the Alcohol sensor MQ3 the Fine will be Awarded to the Suspect Driver. This all will be displayed over the LCD (20x4) attached which will display four lines:-

- 1) Name:
- 2) Licence Number:
- 3) Percentage of Alcohol:
- 4) Fine:

The Program is burned into the microcontroller through Proteus8 for Software testing. We are using Keil u-vision software for writing the program. The program consists of LCD interfacing, Serial interfacing for MAX 232 and the program for various Printer, GSM and GPS modules. An Switching IC CD 4052 is used for switching between the inputs from the two MAX 232. This switching IC will switch the inputs which is given to the RXD and TXD pin of the Microcontroller as only one pin is available for TXD and RXD for microcontroller. The printer will print the fine receipt directly through the portable device. The RFID reader will scan the License of the suspect which will give his/her name and license number. If the Alcohol Percentage is greater then his/her license can be suspended under the *Motor Vehicle Act, 1988*.

HARDWARE STRUCTURE:



DESCRIPTION

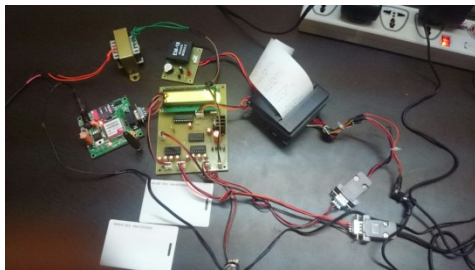
- 1) **Power Supply:** 5V battery is used to supply power to the whole system.
- 2) **Alcohol sensor:** This sensor senses whether the person is drunk or not and also displays the amount of alcohol in his body in the form of percentage on LCD.
- 3) **RFID Reader:** RFID (radio frequency identification) consists of RFID card and a reader. RFID reader reads the information from the card after swapping the card on it. The information consists of name of the person and the vehicle number. This data is displayed on LCD as well recorded in the main control unit (PC).
- 4) **MAX 232:** MAX 232 IC is used for serial interfacing.
- 5) **GSM:** GSM (global system for mobile communication) is used to send the information of the drunken person which includes his name and the vehicle number with the amount of fine he has to pay to the control unit. It also sends the location of the traffic authority in the form of latitude and longitude to the authorized person.

- 6) **GPS:**
GPS (global positioning system) is used to track the location and the information in the form of latitude and longitude
- 7) **LCD:**
20*4 LCD is used so as to display the information in the form name of the person, his vehicle number, percentage of alcohol in the body and amount of fine.
The microcontroller will take the Input from ADC where the alcohol detected by the Alcohol Sensor MQ3 will be converted into digital form by ADC.

- 8) **MICROCONTROLLER**
The Microcontroller will analyze the Percentage of the alcohol and accordingly fine will be awarded to the suspect drunken driver. All the functioning of the device will be controlled by the microcontroller.

RESULT:

Project View:



GPS Searching:



GPS Tracks the location:



Printer Output:



Application:

- 1) Law Enforcement Agencies.
- 2) Security Agencies.
- 3) Transportation Agencies.
- 4) Construction Companies.
- 5) Manufacturing Industries.
- 6) BPO, KPO, Call Centers, IT Companies etc.
- 7) Small Offices, Restaurants, Hotels and Personal Usage etc.

CONCLUSION: This handheld device is Capable of Detecting and punishing the Detected Suspect. Due to Immediate Fine receipt the Corruption in the Traffic Police Department can be reduced. Hence this device can reduce the Road Accidents happening due to Drunk Driving and it also can be an very handy and easy handling device for Traffic Police.

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