



# International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Website: [www.ijareeie.com](http://www.ijareeie.com)

Vol. 9, Issue 2, February 2020

## Intelligent Approach to Track a Vehicle under Drowsy Condition Using IOT

R. Pragadesh Kumar<sup>1</sup>, R.Pugazhenthil<sup>1</sup>, S.Ragavendran<sup>1</sup>, S.Vijayakumar<sup>2</sup> M.E,

Department of Electronics and Communication Engineering, Paavai Engineering College, Namakkal, India<sup>1</sup>

Assistant Professor, Department of Electronics and Communication Engineering, Paavai Engineering College,  
Namakkal, India<sup>2</sup>

**ABSTRACT:** Indian country the vehicle numbers are raising day by day. As most as the driver should not obey the traffic rules, Most of the drivers drink the alcohol and he diver the vehicle. Because of this cause most of the accident happens. For that we are designing project call intelligent approach to track a vehicle beneath drowsy condition using IOT. The major objective of our project is to track a vehicle for avoiding theft and mainly monitor the driver under the drowsy condition or not. Using an alcohol sensor we are testing a driver is drunken or not. Sensor senses the driver is drunken they automatically lock the vehicle using vibration sensor instantaneously message received by traffic police server using to identify the particular vehicle is drunken drive. In this technique we are tracking a vehicle under drowsy condition.

### I. INTRODUCTION

Commonly vehicle tracking system is used for monitoring an individual vehicle and a person having vehicles as Lorry is monitored by owner by via GPS. Our project is regularly used for tracking a drunken vehicle driver to avoid the accident happen by a drunken driver. Most of the accidents is caused by drunken vehicle and hurry driving. For that we are designed IOT based real time tracking system. Via this project the traffic police easily locate drunken drivers and take relevant action. Various sensors are connected and GPS to track the vehicle. In this technique way we track vehicle in real time.

### II. EXISTING SYSTEM

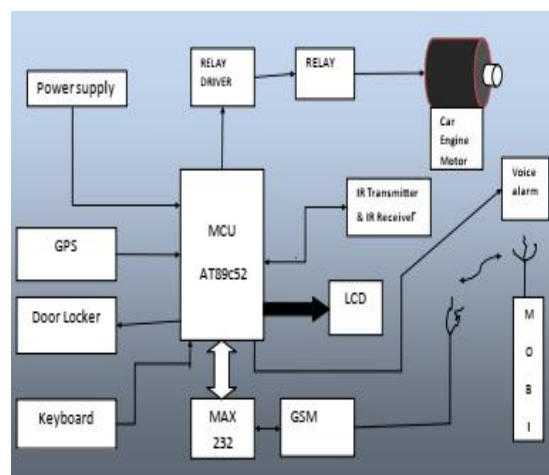


Fig 1: Existing Block Diagram



## International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Website: [www.ijareeie.com](http://www.ijareeie.com)

Vol. 9, Issue 2, February 2020

In this existing system the vehicle, theft is happening on parking and occasionally driving insecurity places. The safe of vehicles is enormously essential for public vehicles. Vehicle tracking and locking system set up in the vehicle, to track the place and locking engine motor. The lay of the vehicle identified using Global Positioning system (GPS) and Global system mobile communication (GSM). This method constantly watch a moving Vehicle and report the condition on require. When the theft identified, in charge person send SMS to the microcontroller, then microcontroller concern the control signals to stop the engine motor. Official person need to send the password to controller to restart the vehicle and open the door.

### Drawbacks

- They will take additional to time to track a vehicle, GSM sometimes the network delay problems arise.
- Higher cost

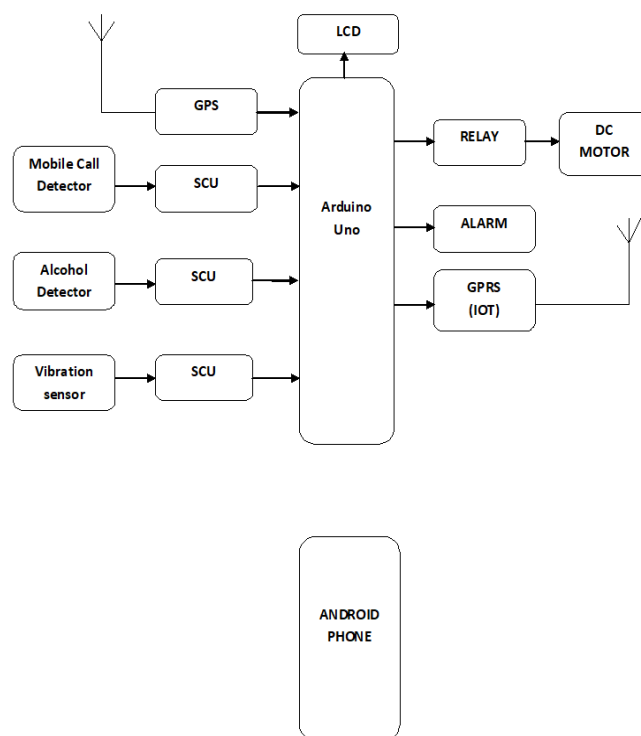


Fig 2: Proposed system Block Diagram

### III. PROPOSED SYSTEM AND BLOCK DIAGRAM

The proposed system is to keep an eye on track a vehicle in real time using IOT. Initial of all tracks a vehicle for avoiding theft and mostly monitor the driver under the drowsy condition or else. Via an alcohol sensor we are testing a driver is drunk or else. Sensor detects the driver is drunken and they automatically lock the vehicle using vibration sensor at oncemessage received by traffic police server using to identify the particular vehicle is drunken drive. In this method we are tracking a vehicle under drowsy condition. Using GPS we can unearth a vehicle and it's sent to traffic police through GPRS (IOT). The police will take firm action against the particular drunken vehicle driver. All these are monitoring using mobile app created and ideals received by IOT server.



# International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering

*(A High Impact Factor, Monthly, Peer Reviewed Journal)*

Website: [www.ijareeie.com](http://www.ijareeie.com)

Vol. 9, Issue 2, February 2020

## IV. HARDWARE REQUIREMENTS

### ARDUINO UNO

Arduino is a vital stage used for building electronics projects. Arduino just as a physical programmable circuit board (often referred to as a microcontroller) and a bit of software, or IDE (Integrated Development Environment) it runs on your lap, use to write and upload computer code to the physical board.

The Arduino raised area has become quite popular with people just starting exposed with electronics, and for good reason. Dissimilar most previous programmable circuit boards, the Arduino does not need a split piece of hardware (called a programmer) in sort to load new code onto the board you can merely use a USB cable. Furthermore, the Arduino IDE uses a simplified version of C++, making it easier to learn to program. Most recent, Arduino provides a standard form factor that breaks out the functions of the micro-controller into a more accessible package.

### LCD DISPLAY:

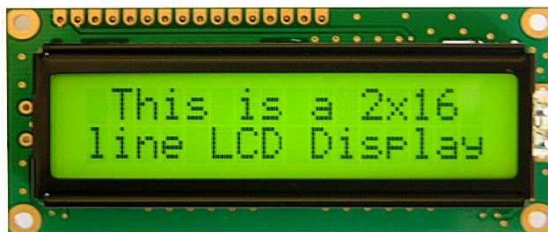


Fig 3: LCD Display

A **liquid crystal display (LCD)** is slight, flat electronic visual displays that make use of the light modulating properties of liquid crystals (LCs). LCs does not emit light in a straight line. They are worn in a wide range of applications together with: computer monitors, television, instrument panels, aircraft cockpit displays, signage, and the rest. They are frequent in consumer devices such as video players, gaming devices, clocks, watches, calculators, and telephones. LCDs have displaced cathode ray tube (CRT) displays used in various applications. They are frequently more compact, lightweight, portable, less expensive, more reliable, and easier on the eyes.

### ALCOHOL SENSOR:

Blood alcohol content (BAC), also called as blood alcohol concentration, blood ethanol concentration, or blood alcohol level is most frequently used as a metric of alcohol intoxication for legal or medical use.

Blood alcohol content is frequently expressed as a percentage of alcohol (generally in the sense of ethanol) in the blood. For case, a BAC of 0.10 means that 0.10% (one tenth of one percent) of a person's blood, by volume (frequently, but in some countries by mass), is alcohol.

### VIBRATION SENSOR

A piezoelectric sensor is devices that develop the piezoelectric effect to measure pressure, acceleration, strain or force by converting them to an electrical signal.

### SIGNAL CONDITIONING UNIT:

The signal conditioning unit accepts input signals from the analog sensors and provides a conditioned output of 0-5V DC consequent to the entire range of each parameter. This unit else accepts the digital sensor inputs and gives outputs in 10 bit binary with a positive logic level of +5V. The calibration voltages\* (0, 2.5 and 5V) and the health bits are also too generated in this unit.

### DC MOTORS

In every electric motor, operation is based on simple electromagnetism. A current-carrying conductor generates a magnetic field; when this is then placed in an external magnetic field, it will occurrences a force proportional to the current in the conductor, and to the power of the external magnetic field. The configuration of a DC



ISSN (Print) : 2320 – 3765  
ISSN (Online): 2278 – 8875

# International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering

*(A High Impact Factor, Monthly, Peer Reviewed Journal)*

Website: [www.ijareeie.com](http://www.ijareeie.com)

Vol. 9, Issue 2, February 2020

motor is designed to control the magnetic interaction between a current-carrying conductor and an external magnetic field to generate rotational motion.

## RELAY:

A relay is an electrically driven switch. Current flowing through the coil of the relay forms a magnetic field which attracts a lever and varies the switch contacts. The coil current can be on or off relays have two switch positions and they are changeover switches. Relays allow one circuit to switch a second circuit which can be entirely separate from the first. For example, a low voltage battery circuit can use a relay to switch a 230V AC mains circuit. No electrical connection inside the relay connects between the magnetic and mechanical.

## GPRS:

General Packet Radio Service (GPRS) is a container-less mobile data service on the 2G and 3G cellular communication system's global system for mobile communications (GSM). (GPRS) is a packet-based wireless data communication examined designed to replace the current circuit-switched services vacated on the second-generation global system for mobile communications (GSM) and time division multiple access (TDMA) IS-136 networks. The GPRS core network is the crucial part of the general packet radio service (GPRS) which allows 2G, 3G and WCDMA mobile networks to transmit IP packets to external networks such as the Internet. The GPRS system is an included part of the GSM network switching subsystem.

## INTERNET OF THING (IoT)

The Internet of things (IoT) is the network of extensive devices, vehicles, home appliances, and other items embedded with electronics, software, sensors, actuators, and connectivity which make possible these things to connect, collect and exchange data. Embedded technology devices can communicate and interact over the Internet, and they can be distant monitored and controlled. With the influx of driverless vehicles, a branch of IoT, i.e. the Internet of Vehicle starts to put on more attention.

## V. CONCLUSION

In this method we are tracking a vehicle to shun chance accidents, even more of number of accidents are because of this drunken drive. In our project is also used for avoiding theft of vehicle. Sensor detects the driver is drunken they usually lock the vehicle using vibration sensor immediately message received by traffic police server using to recognize the particular vehicle is drunken drive. In this method we are tracking a vehicle beneath drowsy condition. For that we are designed IOT based real time tracking system. Via this project the traffic police easily find drunken drivers and take respective action. Various sensors are connected and GPS to track the vehicle. In this effective way we track vehicle in real time.

## REFERENCES

- [1] Chen, H., Chiang, Y., Chang, F., H. Wang, H. (2010). Toward Real-Time Precise Point Positioning: Differential GPS Based on IGS Ultra Rapid Product, SICE Annual Conference, the Grand Hotel, Taipei, Taiwan August 18-21.
- [2] Asaad M. J. Al-Hindawi, Ibraheem Talib, "Experimentally Evaluation of GPS/GSM Based System Design", Journal of Electronic Systems Volume 2 Number 2 June 2012
- [3] Kunal Maurya, Mandeep Singh, Neelu Jain, "Real Time Vehicle Tracking System using GSM and GPS Technology- An Anti-theft Tracking System," International Journal of Electronics and Computer Science Engineering. ISSN 2277- 1956/V1N3-1103-1107
- [4] Vikram Kulkarni & Viswaprakash Babu, "embedded smart car security system on face detection", special issue of IJCCCT, ISSN(Online):2231-0371, ISSN(Print):0975- 7449, volume-3, issue-1
- [5] V.Ramya, B. Palaniappan, K. Karthick, "Embedded Controller for Vehicle In-Front Obstacle Detection and Cabin Safety Alert System", International Journal of Computer Science & Information Technology (IJCSIT) Vol 4, No 2, April 2012. [6] Kai-Tai Song, Chih-Chieh Yang, of National Chiao Tung University, Taiwan, "Front Vehicle Tracking Using Scene Analysis", Proceedings of the IEEE International Conference on Mechatronics & Automation 2005.
- [7] Chen Peijiang, Jiang Xuehua, "Design and Implementation of Remote monitoring system based on GSM," vol.42, pp.167-175. 2008.
- [8] Albert Alexe, R.Ezhilarasie, "Cloud Computing Based Vehicle Tracking Information Systems", ISSN: 2229 - 4333 (Print) | ISSN: 0976 - 8491 (Online) IJCSIT Vol. 2, Issue 1, March 2011



ISSN (Print) : 2320 – 3765  
ISSN (Online): 2278 – 8875

# International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering

*(A High Impact Factor, Monthly, Peer Reviewed Journal)*

**Website:** [www.ijareeie.com](http://www.ijareeie.com)

**Vol. 9, Issue 2, February 2020**

- [9] R.Ramani, S.Selvaraju, S.Valarmathy, R.ThangamB.Rajasekaran, “water-level monitor for bore well and water tank based on GSM”, International Journal of engineering science and technology (IJEST), ISSN: 0975-5462, volume4-N0:10, october2012
- [10]. Asaad M. J. Al-Hindawi, IbraheemTalib, “Experimentally Evaluation of GPS/GSM Based System Design”, Journal of Electronic Systems Volume 2 Number 2 June 2012.