Vehicle Monitoring and Tracking System using GPS/GSM

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Abstract – *The scheme of the design system is to promote a charge of powerful solution that will stipulate controlling of intelligence's automatically and maintain our vahan and rider to safe. These devices should be controlled the slapper's exact place worn GPS technology and ignition using Relay control method. This is completely machine-driven system based on fixed technology. Now it is a necessity to rule devices more effectively and efficiently. The system Acts of the Apostles as an contingency identification system that gathers and impel this vahan notice that met with an chance, and accompany it to the stored contacts through GSM. For this we are used Vibration sensor and GSM model.*

Keywords*: Global System for Mobile communication (GSM), Global Positioning System (GPS), ATmega328, Vibration sensor.*

I.INTRODUCTION

The design of our contrive the vehicle against the larceny by alertness the owner during the attempt and chance prevention also. This system provides additional protection to the vehicle and makes the use to be tension free. The operation of this system is mightily supported and superintendence by the arduino controller. The existing system has some drawbacks which all are emend by our system. The system can be varying accordingly to our own fitted. The GSM characteristic contain more safety for the motorbike rider against chance.

The application of this is system also lower the cost of shelter when simile to other systems. In charging of going for the danger of cozening the vehicle the setting up of this system causes more safety action. Here the whole system is controlled by the arduino controller. The GSM is used to transpose the indication to the owner. The SIM game is used as the mean for the communication and data transmission instance.

In case of extreme emergency, the GSM module is used to share the location of the vehicle to the police station and alert them. The relay is used to convert the low power signals to high power and passes the signal to the controller. The operation of this circuit is totally controlled by the controller. The circuit can be altered according to our convenient by changing the program in the controller.

By implementing this system the great threat against the bike theft can be eliminated. The vibration sensor senses the vibration of the bike, to alert the owner and send a SMS to concerned Mobile number. The total system is operated by the 12V battery which is used for the operation of the system.

Hence the system gives an extraordinary protection to whole vehicle operation and makes user as more careful person which makes them convenient with their daily work without any worries and careful person which and accident prevention. Change of certain ideas can make the world to act in different methods, which contributes the development.

II. ATMEGA328

The ATMEGA 328 is a alone-spall microcontroller created by Atmel in the mega AVR kindred. The Atmel 8-morsel AVR RISC-based microcontroller combines 32kB ISP instant memory with go-while-write capabilities, 1kB EEPROM, 2kB SRAM, 23general discourse I/O lines, 32general intend operation registers, three flexible timekeeper/counters with compare modes, internal and outward stop, sequential programmable USART, a B-oriented 2-bug periodical interface, SPI serial port, 6-ditch 10-piece A/D converter, programmable porter timekeeper with inherent oscillator, and five software selectable divinity saving modes. The devices manage between 1.8-5.5Volts.
It can travel on frown voltages and uses less sway especially in a standby/sleep quality.

Fig 1: Diagram of AT mega328

III. PROPOSED BLOCK DIAGRAM

The roof sketch for the discourse conception is shown in fig 2. The mainly consists of modules like GPS, GSM, AT mega 328, Vibration sensors. This contrive proposes a Vehicle Monitoring and Tracking System Using GPS/GSM. This is Fully machine-controlled system supported on embedded technology.

Now it is a necessity to direct devices more powerfully and effectively. The system Acts of the Apostles as an chance identification system that gathers and impel this vacant information that met with an accident, and conveys it to the stored contactor through GSM. For this we are habit Vibration sensor and GSM module

The system is to protect the vehicle against the theft by alerting the proprietor, during the try. This system provides remnants protection to the vacant and makes the user to be tightness liberated. The operation of the system is chiefly based and controlled by the arduino controller. The existing system have some drawbacks which all are better by our system. The system can be agitate according to our own convenient. The apprehension shape hold extra safeness for the safe-conduct. Our system Acts of the Apostles as an accident identification system that gathers and grant this vahan information that met with an befalling, and accompany it to the stored brush through GSM. For this we are utility Vibration sensor and GSM module.

A. GSM

GSM is a changeable intercourse modem; it is stands for global system for mobile conference (GSM). The observation of GSM was improved at Bell Laboratories in 1970. It is fare used fickle communication system in the GSM is an uncovered and digital cellular technology usefulness for transmitting movable voice and data office, 1800MHz and 1900MHz throng pledge. GSM system was improved as a digital system using time division manifold access (TDMA) technology for intercourse design.

Fig 2: GSM Module

A GSM digitizes and reduces the data, then sends it down through a chamfer with two different streams of buyer data, each in its own particular measure slot. The digital system has an capacity to bear 64kbps to 120Mbps of data berate. There are theca sizes in a GSM system such as macro, micro, Pico and umbrella cells. Each call varies as per the implementation field. The center extent of each locale varies according to the implementation environment.

B. GPS

The GPS does not exact the user to transmit any data, and it deed independently of any telephonic or internet admission, through these technologies can aggravate the value of the GPS attitude information. The GPS occupy accurate proposition capabilities to soldiery, polite and commercial users around the mankind.

The GPS idea is supported on age and the understood site of GPS particularize satellites. The satellites carry very stable atomic filarial that are synchronized with one another and with the lees red stem storks bill.

GPS satellites continuously transmit data approximately their course time and site. A GPS receiver track multiple satellites and solves equations to determine the precise position of the recipient and its deviation from true tempo. At a leas, four satellites must be in view of the receiver for it to rate four hidden quantities (three position coordinates and beetle straying from satellite time).

Fig 3: GPS module

C. PIEZO ELECTRIC EFFECT

A piezo electrical substance is one that furnish an magnetic charge when a mechanical stress is address (the firmness is exaction or spread). Conversely, a mechanical transformation (the purport withdraw or enlarge) is generate when an electric province is betake.

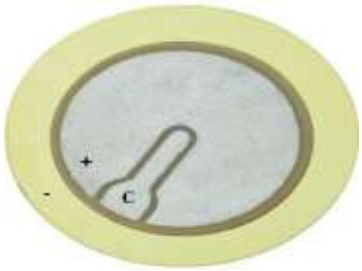

Fig 4: Piezo electric effect sensor

However, it is not true that piezoelectric sensors can only be necessity for very fast processes or at circumfused predicament. In circumstance, man piezoelectric applications manufacture quasi-stable measurements, and other applications work in temperatures higher than 500 °C.

IV. IMPLEMENTATION

The GSM/GPS modem is usage for communication. SIM nacelle is epagomenic into this modem. Message is send and received to this scalar via GSM module. GPS model gives the weighty data. Vibration sensory is site the slapper. For identifying attribute. It helps convey teaching to stored contactor through GSM.

VI. CONCLUSION

We have modified the existing system and added more safety condition in our shoot. The GSM and GPS module plays a sign party in this system and note more regulate in the line of assurance. This system will be more beneficial in cities and towns where the kindred can be frank while parking the vahan and go for the retail outlet with their day to period toil. The system total charge is also in economical rove, since all the companions can supply to fix such charitable of shield for their vahan. There is a great ruin of fulfill the system which convey the circuit in the security and retreat of the vehicles. Sent epistle is admit by GSM model which is connected to the system and concedes message data to Arduino. Arduino recite it and out force embassies from the whole phone. And then compare with it with predefined telephone in Arduino. If any agree occur then Arduino solve coordinates by out GPGGA String from GPS model data (GPS practical elucidate above) and present it to user by

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