GSM Based Intelligent Vehicle Data Speed Logger

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Abstract -**The method used presently for measuring the speed and distance is by using speedometer. The speedometer used in vehicles just records the total distance travelled by the vehicle and present speed of the vehicle. There is no provisions like measurement of every minute speed, speed limit violation, total time taken etc in electromagnetic and digital speedometer. Therefore the project developed becomes an innovative idea and an replacement for the present speedometers used. This system is designed to instantly notifies the assigned person if the driver exceeds a speed limit set in the system, informs how many times the vehicle was stopped, data about the miles driven by the drivers each day, informs the total time travelled for the trip. These information send to assigned person after every 10minutes.**

Keywords—GSMModem,Microcontroller

I. INTRODUCTION

It is seen that many people hire the vehicle like car, vans, trucks to people for their purposes like tours, educational programme   transport etc. The appointed drivers on the vehicle will not follow the regulating points told by the owner of the vehicle. The drivers will not be concerned about the fuel consumption, idle time, visibility and control, overall operating cost, time taken by the trip etc.

The method used presently for measuring the speed and distance is by using speedometer. The speedometer used in vehicles just records the total distance travelled by the vehicle and present speed of the vehicle. Three are two types of speedometer

Electromechanical type speedometer

Digital type speedometer

There is no provision like measurement of every minute speed, speed limit violation, total time taken etc in Electromagnetic and Digital speedometer. Therefore the system developed becomes an innovative idea and a replacement for the present speedometers used.

Also the driver on the vehicle will not be concerned about the following important parameters:

Speed limit: For the trip that is travelling for the trip with higher speed may lead to accidents and such cases are seen due to driving at high speeds.

Time taken: This is the important point of concern for the owner of the vehicle. The time taken to reach the destination should not be too long or too short.

Total distance travelled: The drivers will be least concerned about distance the vehicle has travelled because the person in loss will be the customer using the vehicle not the owner. If exact distance of destination is known and recorded then it becomes easy for both the owner and customer.

Vehicle halts: The driver stops the vehicle too many times which becomes inconvenience for the customer in the vehicle and this also affect the efficiency of the vehicle over the trip.

II. DEVELOPED METHOD

It is seen that many people hire the vehicles like car, vans, trucks to people for several purposes like tours, educational programme, transport etc. The appointed drivers on the vehicle do not follow the regulating points conveyed by the owner of the vehicle. The drivers will not be concerned about the fuel consumption, idle time, visibility and control, overall operating cost, time taken by the trip etc. This system:

Instantly notifies the assigned person if the driver exceeds a speed limit set in the system.

Informs how many times the vehicle was stopped.

Data about the miles driven by the drivers each day.

Informs the total time travelled for the trip.

Informs every minute speed after every 10minutes.

The accurate information can be accessed anywhere, anytime after every 10minutes. Limits can be set where the safety of driver is being compromised, for example speed limits. A text message will be sent to assigned mobile phone whenever these limits are violated, this assist in safety of drivers.

Receive SMS notifications after 10min about the vehicle speed, time taken for the trip, total distance travelled over the trip. An active monitoring system can help a business in more ways than one can imagine. The information is always highly accurate, which translates into more accountability. Keeping track of the activities for which company vehicles are being used, eliminate idle time; improve fuel efficiency and theoverallproductivity.Such features are nothing less than a blessing, considering the fact that auto related accidents are the number 1 cause of teenage deaths in the USA. The GSM based vehicle speed tracking system provides the information when one needs it. Proper use ensures more accountability and builds trust. And it may lower the Auto Insurance premiums as well. This solution is beneficial to any industry with tracking and monitoring requirements, be it a car, delivery

vans, truck fleets, bus fleets, motorcycles, trailers, or other mobile assets.

PROJECT OBJECTIVE

The very important parameter in the project that is every minute speed storage leads to lots of applications. This parameters is not only used for checking the speed of the vehicle but its application expands to,

Navigation system

Vehicle's data when accidents occur

Wind mill speed recording system

Ocean waves speed measurement for every minute

So, project looks very interesting and could play in real time operation on applied applications. Also the technology used in the project is standard GSM technology which is one of the best mobile technologies.

ACCIDENT CASES DUE TO EXCEED SPEED LIMIT:

There are many accidental cases which are because of exceeded speed limit especially on the highway, figure 1.1 shows the same. In case Police verification there is need to check the speed of the vehicle before the accident. Hence there is need of storing the speed so that one can get what was the speed?

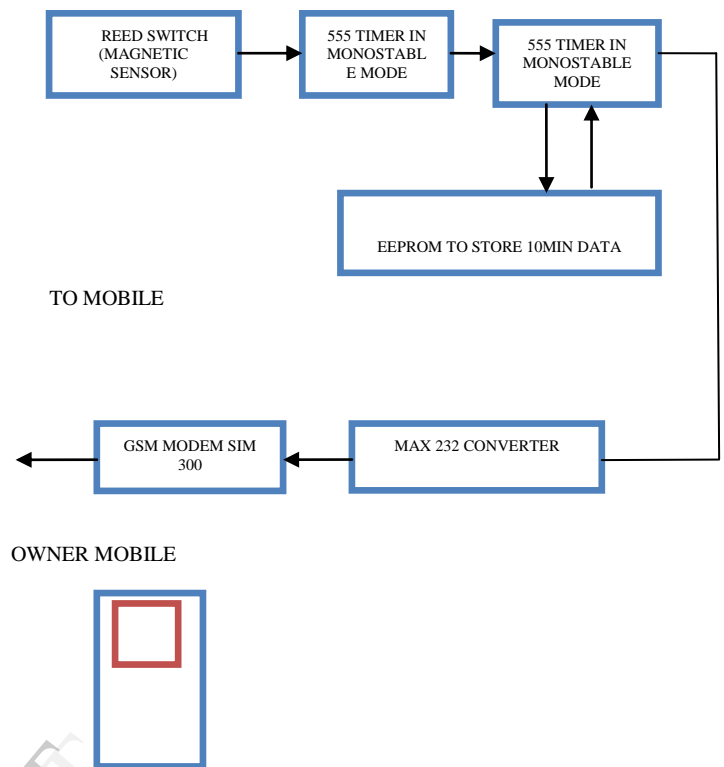Fig1.Accedident due to exceed speed limit

III. BLOCK DIAGRAM

Fig2. Block diagram of the proposed system

IV. BLOCK DIAGRAM EXPLAINATION:

Reed switch: The reed switch is an electrical switch operated by an applied magnetic field. The contacts may be normally open, closing when a magnetic field is present, or normally closed and opening when a magnetic field is applied. The switch may be actuated by a coil, making a reed relay, or by bringing a magnet near to the switch. Once the magnet is pulled away from the switch, the reed switch will go back to its original position.

555 timer: The 555 Timer IC is an integrated circuit (chip) used in a variety of timer, pulse generation and oscillator applications. The 555 has three operating modes:

Monostable mode: in this mode, the 555 functions as a "one-shot" pulse generator. Applications include timers, missing pulse detection, bounce free switches, touch switches, frequency divider, capacitance measurement, pulse-width modulation (PWM) and so on.

Astable – free running mode: the 555 can operate as an oscillator. Uses include LED and lamp flashers, pulse generation, logic clocks, tone generation, security alarms, pulse position modulation and so on.

Bistable mode or Schmitt trigger: the 555 can operate as a flip-flop, if the DIS pin is not connected and no capacitor is used. Uses include bouncefree latched switches.

Microcontroller: A microcontroller (sometimes abbreviated µC, uC or MCU) is a small computer on a single

integrated circuit containing a processor core, memory, and programmable input/output peripherals. Program memory in the form of NOR flash or OTP ROM is also often included on chip, as well as a typically small amount of RAM. Microcontrollers are designed for embedded applications, in contrast to the microprocessors used in personal computers or other general purpose applications.

EEPROM:

EEPROM (also written E2PROM and pronounced "e-e-prom," "double-e prom" or simply "e-squared") stands for Electrically Erasable Programmable Read-Only Memory and is a type of non-volatile memory used in computers and other electronic devices to store small amounts of data that must be saved when power is removed, e.g., calibration tables or device configuration.

MAX232:

The MAX232 is an integrated circuit that converts signals from an RS-232 serial port to signals suitable for use in TTL compatible digital logic circuits. The MAX232 is a dual driver/receiver and typically converts the RX, TX, CTS and RTS signals.

GSM MODEM SIM 300:

A GSM modem is a specialized type of modem which accepts a SIM card, and operates over a subscription to a mobile operator, just like a mobile phone. From the mobile operator perspective, a GSM modem looks just like a mobile phone.

V.   CONCLUSION

Many people hire the vehicles like car, vans, trucks to people for several purposes like tours, educational tasks, transport etc. This project is designed to provide following information instantly notifies the assigned person if the driver exceeds a speed limit set in the system, data about the miles driven by the drivers each day .It also informs the total time travelled for the trip.

The accurate information can be accessed anywhere, anytime after every 10minutes and a text message will be sent to assigned mobile phone whenever these limits are violated, this assist in safety of drivers.

REFERNCE

1. Sawant Supriya C, Dr. Bombale U. L., Patil T.B " An Intelligent Vehicle Control and Monitoring Using Arm" International Journal of Engineering and Innovative Technology (IJEIT) Volume 2, Issue 4, October 2012.
2. Chen Xingu, "Development on ARM9 system-on-chip embedded sensor node for Urban intelligent transportation system," IEEE International Symposium on Industrial Electronics, 2006, 4:3270-3275.
3. Young, Kar-Keung D. "Automated navigation and mobile vehicle control using Wireless sensor network technology," Proceedings of the IEEE International Conference on Industrial Technology, 2008.
4. Li bo, "Intelligent transportation system based on ARM, "Proceedings of the World Congress on Intelligent Control
5. Zhang Jimmie, Li Wending, SA Cao, Wang Deming. The control system remote Control automatic pruning machine [J].Beijing Forestry University, 2007.7:33-36
6. Shan Changing. The design of ultrasonic obstacle avoidance system based on S3C2410 [J].Computer and digital engineering, 2009.2:55-57.
7. Yang Bo, Zhang Xinggan. The design of passive infrared alarm System based on PIC SCM [J]. Electronic measurement technology, 2008, 1:53-57
8. Chen Haiming. The remote wireless monitoring system based on ARM and GPRS [J]. Computer and network, 2007:183-184.Clear the dates of GPG8 Set the GPG8 in high level Clear the dates of GPG8ENDInitiate the GPB81013
9. Liu binfan, "Development of monorail and its application in forestry in china," Forestry engineering, 2008, 124(1):25-27.