Abstract

A GPS & GSM Based Vehicle Tracking and Employee Security System combine the installation of an electronic device in a vehicle, with purpose-designed computer software to enable the company to track the vehicle's location. In vehicle tracking systems we use Global Positioning System (GPS) technology for locating the vehicle. Vehicle information can be viewed on electronic maps via the Internet or specialized software. Due to recently happened mishaps such as burglary, rape cases etc., the employee safety, esp. for the women employees, has become a number one priority for most of the companies. Even though the companies take good precautions to ensure that its employees are safe, there are some serious loop holes in the existing system. Firstly there is no full proof mechanism to track the outsiders to avoid this kind of problem we are going to implement a system that provides more security to the employee. The car Unit is placed inside the car. When the car picks up the employee; he/she needs to swap the RFID card. The microcontroller matches the RFID card no. with its database records and sends the employee's id, cab id & the cab position co-ordinates to the company unit via GSM module. The GSM Modem will receive the message through GSM in the company unit. If employee finds himself/herself in a problem, he/she will press the button.
Microcontroller will detect the action & sends a signal to the GSM which will coordinate with to the company unit and police. Microcontroller will also send a signal to the relay which will turn off the car ignition & stop the car. The GSM Modem will receive the message. This message will then be transferred to the computer through the serial port. The employee name, employee id & cab position coordinates (longitude and latitude) get displayed on computer. Once the data is obtained on the computer, it can be used for further analysis. In this way the company unit keeps a track of the vehicle. This will be a much simpler and low cost technique compared to others.

References

- Mrs. RamyaKulandaivel1, P. Ponmalar2,B. Geetha3, G. Saranya4 “GPS and GSM based vehicle information system” International Journal of Communications and Engineering Volume 01– No. 1, Issue: 01 March2012
- Ruchika Gupta and BVR Reddy “GPS and GPRS Based Cost Effective Human Tracking System Using Mobile Phones” Volume 2 • No. 1 • January-June 2011
- Francis Enejo Idachaba “Design of a GPS/GSM based tracker for the location of stolen items and kidnapped or missing persons in NIGERIA” ARPN Journal of Engineering and Applied Sciences VOL. 6, NO. 10, OCTOBER 2011

Index Terms

Computer Science
Embedded Systems
Keywords
Global Positioning System (GPS)    Global system for mobile (GSM)
Radio-frequency identification (RFID)