GSM BASED SCHOOL CHILDREN SECURITY SYSTEM BASED ON RFID

ABSTRACT

This project is aimed to build a system which can notify the parent about their Child’s status by using RFID and GSM technology.

Radio Frequency Identification (RFID) Card Readers provide a low-cost solution to read passive RFID transponder tags up to 2 inches away. The RFID Card Readers can be used in a wide variety of hobbyist and commercial applications, including access control, automatic identification, robotics navigation, inventory tracking, payment systems, and car immobilization. The RFID card reader read the RFID tag in range and outputs unique identification code of the tag at baud rate of 9600. The data from RFID reader can be interfaced to be read by microcontroller or PC.

This GSM Modem can accept any GSM network operator SIM card and act just like a mobile phone with its own unique phone number. Advantage of using this modem will be that you can use its RS232 port to communicate and develop embedded applications. Applications like SMS Control, data transfer, remote control and logging can be developed easily. The modem can either be connected to PC serial port directly or to any microcontroller.

This project is built on 8051 micro controller which is interfaced with RFID and GSM module. In this system each student is assigned a unique RFID card, this card contains the students information like his/her name and roll number. When the students arrives the school he/she needs to show the card at the school entrance, when the card is shown to the RFID reader, the details inside the card is read and sent to the micro controller, which then sends a status message to the parent of the corresponding student. An LCD is also interfaced in the project which displays the status of the system.

This project uses regulated 5V, 500mA power supply. Unregulated 12V DC is used for relay. 7805 three terminal voltage regulator is used for voltage regulation. Bridge type full wave rectifier is used to rectify the ac output of secondary of 230/12V step down transformer.
APPLICATIONS:

- Tracking systems
- Attendance systems
- Security systems

BLOCK DIAGRAM:

POWER SUPPLY BLOCKDIAGRAM: