

GSM BASED AUTHORIZED ACCESS WITH SEPARATE USER PASSWORD DOOR LOCK AND UNLOCK CONTROL SYSTEM

R. Alagu leela¹, A. Anandhajothi², P. Selvakumari³

^{1,2,3} *U.G Student, Department of Electronics and Communication Engineering,
Raja College of Engineering and Technology, Madurai, Tamilnadu, (India)*

ABSTRACT

Unlock Security logging door by a GSM application using a unique password entered through the GSM Modem. Opening and closing of a security logging door is achieved by using a GSM application. The user can connect and send SMS through GSM Modem. This method is very convenient as one doesn't have to get down of his car to open/close the door physically. The GSM module act as both transmitting and receiving unit employs the use of a mobile phone set serving as the communication device between the user at one end and the object of access (i.e. the door) at the other receiving end.

Keywords: *SIM 300, PIC, Microcontroller*

I. INTRODUCTION

Security is the main concern for everyone. Everybody wants themselves to keep safe or secure from varies incidents like theft. Security is mainly used in bank, document locker, jewellery shop etc. Security describes protection of life and property. There are doors to keep people out, Key locks and chains reinforce the mode of security. Doors are being made of metals not just wood anymore. Influential persons in our society have bullet proof doors to ensure a good measure of security of self and family.

II. RELATED WORK

Basically traditional locks are heavy and are not protective. Opening and closing of security door involves human labor. It is always convenient for thieves and burglars to target them. So we need another one improved security locking system.

III. PROPOSED WORK

SMS application sends data through GSM Modem. Another GSM device connected at the receiving end which is fed to the microcontroller. The sent data (password entered by the user) matches with the password stored in the microcontroller. The microcontroller initiates a mechanism to open the door through a motor driver interface.

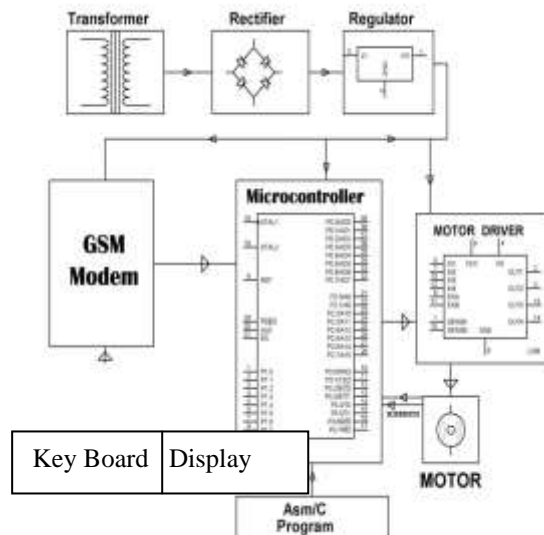


Figure 1: Block Diagram of Proposed Work

3.1 Power Supply Board

Step down transformer is used to supply the circuits in the range of 230/12v AC. Bridge rectifier is used to converter to AC to DC. Voltage regulator is used to range from 12v, 5v. Capacitor is used to purpose of smoothing.

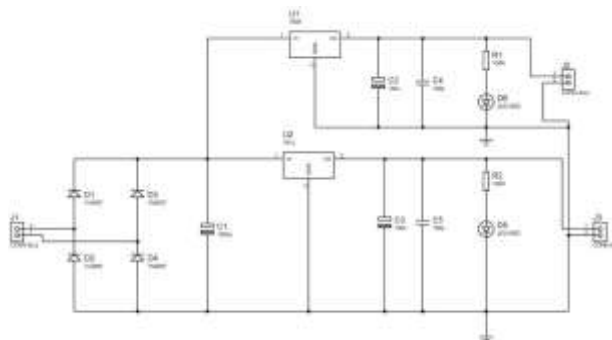


Figure 2: Symnatic Diagram of Proposed Work

3.2 Sim300

- ❖ Single supply voltage 3.2v-4.5v.
- ❖ Typical power consumption in SLEEP mode: 2.5mA.
- ❖ SIM 300 tri-band.
- ❖ MT, MO, CB, text and PDU modems storage: SIM card. Supported SIM card :1.8v ,3v

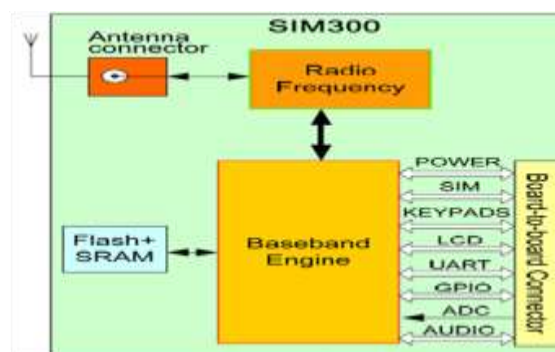


Figure 3: Block Diagram of SIM 300

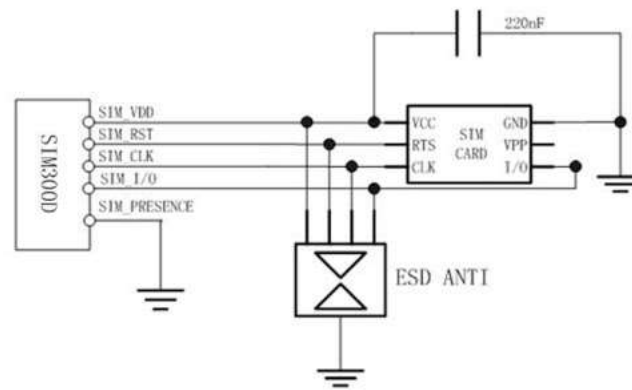


Figure 4: Symnatic Diagram of SIM 300

Antenna is used to divides the transmitting and receiving signal (frq range 800-1900MHz). Radio frequency is used to modulation and demodulation purpose. The demodulation o/p of the RF is connected to microcontroller. SIM 300 can used to send and receive the SMS. Transceiver and Receiver ports are connected to UART ports in micro controller. 12 v powers are used to supply to SIM 300.

3.3 PIC (16f877a)

- ❖ PIC microcontrollers are electronic circuits that can be programmed to carry out a vast range of tasks.
- ❖ The 16f877a IC is low cost, high quality, Ease of availability.
- ❖ Interrupt capability(up to 14 sources)
- ❖ Power on reset.
- ❖ Low power consumption etc.

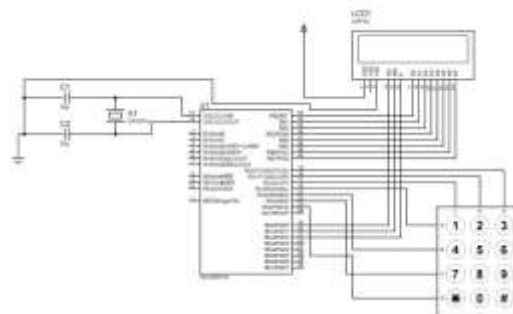
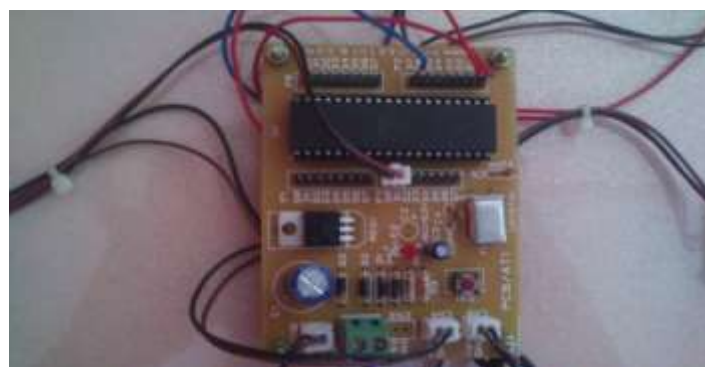


Figure 5: Symnatic Diagram of PIC (16F877A)

It is a 40 pin IC. C1 to c7 pins are connecting with keypad. D1 to d8 pins are connecting with display. UART ports are connecting with GSM Modem. 20 and 40 pins are connected with power supply.

IV. RESULTS AND DISCUSSION



V. CONCLUSION

In this project we have implemented GSM techniques that can provide the high level security in areas such as home, office, bank etc. This project identifies a high level model for the modification of existing security systems using security protocol as PIN strategy. Thus we designed the security terminal based on a GSM application using a unique password entered through the GSM application device.

REFERENCE

1. Anshu Shrivastava, Balkrishna Dwived and Deepak Parashar, "GSM based home security system", International Journal of Emerging Trends in Electronics and Computer Science, volume 2, issue 4, April 2013.
2. R.Ramani, S.Valarmathy, and S. Selvaraju, "Bank Locker Security System Based on RFID and GSM Technology, International Journal of Computer Applications (0975 – 8887) volume 57– no.18, November 2012.
3. Dr.Saylee Gharge Honey Brijwani, Mohit Pugnani, Girish Sukhwani, and Deepak Udherani, "Two way Password verification security system using RFID and GSM ", International Technological Conference-2014 (I-Techcon), Jan. 03 – 04, 2014.
4. Ushie James Ogri, Donatus Enang Bassey Okwong, and Akaiso Etim, " Design and Construction of Door locking Security System using GSM", International Journal of Engineering and Computer Science ISSN:2319-7242, volume 2 issue 7 (July 2013), page no. 2235-2257.
5. Mary Lourde R and Dushyant Khosla, "fingerprint identification in biometric security systems" ,international journal of computer and electrical engineering, vol. 2, no. 5, october, 2010.
6. Pramila D. Kamble, Dr.Bharti, W. Gawali, "fingerprint verification of ATM security system by using biometric and hybridization", international journal of scientific and research publications, volume 2, issue 11, november 2012.
7. Hugh Wimberly, Lorie m. And Liebrock, "using fingerprint authentication to reduce system security: an empirical study", 2011 IEEE symposium on security and privacy.
8. M.Gayathri, P.Selvakumari, R.Brindha, " Fingerprint and GSM based security system, International Journal of Engineering Sciences & Research Technology, April 2014.