International Journal For Advanced Research In Science & Technology
A peer reviewed international journal
www.ijarst.in
ISSN: 2457-0362

IMPLEMENTATION OF ATM SECURITY SYSTEM USING GSM

Ms M. SWATHI PRIYANKA[1], Ms P. VYJAYANTHI[2], Mr P. NAGA SRI SIVA ADITYA[3], Mr P. SIVA RAMA GANESH[4], Mr S. RAJA[5]

[12345]UG Students, Dept. of ECE, PRAGATI ENGINEERING COLLEGE

ABSTRACT

Automated Teller Machine (ATM)'s now-a-days are extensively used all over the world for the withdrawal of cash. A unique card is issued for each user along with the unique code provided to him so as to the person may do all his transactions personally without anyone getting known. Since transactions are extensively secure there is no much more security required but in countries like India its very necessary to have a physical security to the machine. A provision to give physical security to the machine is being discussed in our project.

The idea of designing the ATM based security system project is born with the observation of real-life incidents happening around us. This GSM based project deals with the avoidance of ATM theft from robbery. So, we can overcome the deficiency found in existing technology in our society. We used implementation of the new proposed system. In this system, we provide GSM based security. In case when there is any attack on the ATM machine for any sake of theft and breakdown on the ATM machine, then with the help of the vibration sensor used in this project gets vibrated and alerts the security system bye sending messages to the nearby authorized persons like police, detectives, etc. through the GSM module used. Thus the project helps in providing double security to the ATM machine.

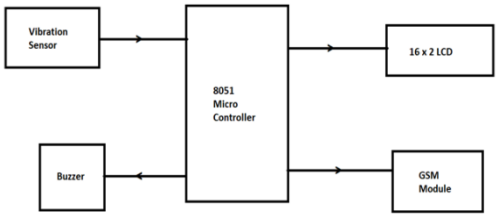
INTRODUCTION

Automated Teller Machine (ATM)'s now days are extensively used all over the world for the withdrawal of cash. It's very necessary to have a physical security to the machine. The aim of the project is to implement the ATM security system using GSM to safeguard the ATMs.

Since ATM's have been getting theft these recent days, it has become very much necessary to increase the security of the ATM machines. A single CCTV camera situated at the corner of the ATM isn't enough to provide much security. Whenever a robbery occurs, a message is sent to the police station and the authorized person Security is prime concern in our day-to-day life. Everyone wants to be as much as secure as to be possible. An access control systems forms a vital link in a security chain. The

International Journal For Advanced Research In Science & Technology
A peer reviewed international journal
www.ijarst.in
IJARST
ISSN: 2457-0362

microcontroller based digital lock presented here is an access control system that allows only authorized persons to access a restricted area. This system is best suitable for corporate offices, ATMs and home security. Here we are using GSM modem for security purpose. The microcontroller processes this information and this processed information is sent to the user/owner using GSM modem. Vibration sensor which identifies the tilt by the machine and activates the microcontroller to start the following sequence in which shutting the door using stepper motor and sending SMS to vigilance system using GSM is involve.



An embedded system is a special-purpose computer system designed to perform one or a few dedicated functions, sometimes with real-time computing constraints. It is usually embedded as part of a complete device including hardware and mechanical parts. In contrast, a general-purpose computer, such as a personal computer, can do many different tasks depending on programming. Embedded systems have become very important today as they control many of the common devices we use.

Since the embedded system is dedicated to specific tasks, design engineers can optimize it, reducing the size and cost of the product, or increasing the reliability and performance. Some embedded systems are mass-produced, benefiting from economies of scale.

Physically embedded systems range from portable devices such as digital watches and MP3 players, to large stationary installations like traffic lights, factory controllers, or the systems controlling nuclear power plants. Complexity varies from low, with a single microcontroller chip, to very high with multiple units, peripherals and networks mounted inside a large chassis or enclosure.

In general, "embedded system" is not an exactly defined term, as many systems have some element of programmability. For example, Handheld computers share some elements with embedded systems — such as the operating systems and microprocessors which power them — but are not truly embedded systems, because they allow different applications to be load and peripherals to be connected.

International Journal For Advanced Research In Science & Technology
A peer reviewed international journal
www.ijarst.in
ISSN: 2457-0362

8051 MICRO CONTROLLER

- Microcontroller (MC) may be called computer on chip since it has basic features of microprocessor with internal ROM, RAM, Parallel and serial ports within single chip. Or we can say microprocessor with memory and ports is called as microcontroller. This is widely used in washing machines, vcd player, microwave oven, robotics or in industries.
- Microcontroller can be classified on the basis of their bits processed like 8bit MC, 16bit MC.
- 8 bit microcontroller, means it can read, write and process 8 bit data. Ex. 8051 microcontroller. Basically 8 bit specifies the size of data bus. 8 bit microcontroller means 8 bit data can travel on the data bus or we can read, write process 8 bit data.

It is very clear from figure that in microprocessor we have to interface additional circuitry for providing the function of memory and ports, for example we have to interface external RAM for data storage, ROM for program storage, programmable peripheral interface (PPI) 8255 for the Input Output ports, 8253 for timers, USART for serial port.

While in the microcontroller RAM, ROM, I/O ports, timers and serial communication ports are in built. Because of this it is called as “system on chip”. So in micro-controller there is no necessity of additional circuitry which is interfaced in the microprocessor because memory and input output ports are inbuilt in the microcontroller.

Microcontroller gives the satisfactory performance for small applications. But for large applications the memory requirement is limited because only 64 KB memory is available for program storage. So for large applications we prefer microprocessor than microcontroller due to its high processing speed.

Timer means which can give the delay of particular time between some events.For example on or off the lights after every 2 sec. This delay can be provided through some assembly program but in microcontroller two hardware pins are available for delay generation. These hardware pins can be also used for counting some external events. How much times a number is repeated in the given table is calculated by the counter.

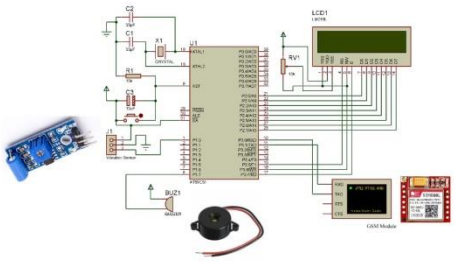
- In MC8051, two timer pins are available T0 and T1, by these timers we

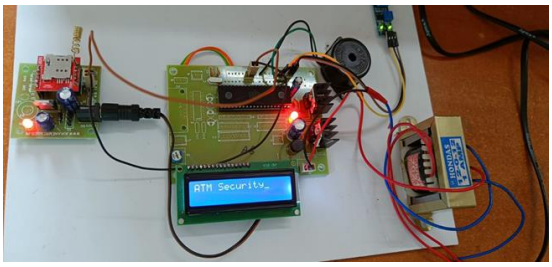
International Journal For Advanced Research In Science & Technology
A peer reviewed international journal
www.ijarst.in
IJARST
ISSN: 2457-0362

cangive the delay of particular time if we use these in timer mode.

- We can count external pulses at these pins if we use these pins in countermode.
- 16 bits timers are available. Means we can generate delay between 0000Hto FFFFH.
- Two special function registers are available.

RESULTS





CONCLUSION

We have designed an effective implementation of security system that can monitor an ATM centers, with Accelerometer sensors, to implement the system which is more secure by using GSM module. It sends the alert message to the authenticated person. At present there are various techniques which are being successfully used for security of ATM Machine. But such simple security methods weren't enough to provide much security. Thus GSM technology intervened. The whole system was build on the technology of embedded system which makes the system more safe, reliable and easy to use.

REFERENCES

[1] Armenian Luther George Simjian(. 17 April in 1920) “Automatic Teller Machine The history of computing Project”. Thocp.net.

[2] John Adrian Shepherd-Barron, British inventor(1960), “Development the cash machine Automated Teller Machine or ATM ”.

[3] Robert Morris(1961) invented “password system with privacy".

[4] A. Juels(28 September 2005), "RFID Security and Privacy: A Reasearch Survey," RSA Laboratories.

[5] The X. Liu and L. A. Bailey(2009), is developed “Enhancing Security and Privacy in Biometrics-based Authentication Systems, IBM Systems Journal, vol. 40, no. 3, pp. 614-634.

[6] The Ankit Anil Agarwal, Saurabh Kumar Sultania, GouravJaiswal,

PrateekJain(2011), "RFID Based ATM security is developed" .

[7] P.K. Amurthy and M.S. Redddy(2012), "Implementation of ATM Security by Using Fingerprint recognition and GSM", 4 | Page International Journal of Electronics Communication and Computer Engineering vol.3, no. 1, pp. 83-86,.

[8] M.Gayathri, P.Selvakumari, R.Brindha "Fingerprint and GSM based Security System" pp. 342–351.