

# Shop Supervisory Locking and Watch Guard Alert System

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**Abstract-** The proposed idea is all about system Locking and alerting the watchguard to optimize the better control of the total system using electronic devices. The supervisory central battery backup locking system to lock the important door with a single master key is provided. It can be unlocked with master key with a code generated and RFID cards at the time of locking. In case of any of the locked doors are opened it alerts the watchman, the watchman has to press the alert switch otherwise the buzzer will be on to alert the neighbours.

**Keywords – AVR Controller, RFID System, CCTV, LCD Display.**

## I. INTRODUCTION

Since the beginning of our existence, humankind has sought safety and security our natural instinct was to survive as long and healthily as possible so that we could create new generations of people and continue to exist and flourish as a species. And the security industry of today is a highly evolved version of this basic human need to protect each other from harm. Over the years, the role of the security guard has evolved to take into personal safety and the safety of one's surroundings. Home security systems date back farther than you imagine. In 1853, the first patent on electro-magnetic alarms meant that business and wealthy residents could secure valuables. Magnetic contacts were installed on the windows and doors that, when tripped, would send a signal through the electromagnetic wiring and sound an alarm. Tokenization & Encryption are processes used to protect information in transit and at rest. It involves either replacing or transforming the original text into a form that is unreadable to unauthorized people. These techniques are used to safeguard sensitive information stored and processed in the cloud/internet, and on mobile and wireless devices. Security Automation Systems also provides complete solutions for commercial customers including card access, CCTV, perimeter security and other solutions. The rest of the paper is organized as follows. Proposed system and system architecture are explained in section II. Experimental results are presented in section III. Concluding remarks are given in section IV.

## II. PROPOSED SYSTEM

### A. System architecture –

In this proposed system, the ATmega16 is a low-power CMOS 8-bit microcontroller based on the AVR enhanced RISC architecture. By executing powerful instructions in a single clock cycle, the ATmega16 achieves throughputs approaching 1 MIPS per MHz allowing the system designed to optimize power consumption versus processing speed. The ATmega16 microcontroller is interfaced with keypad, LCD and RFID system for switching lock and unlocks user password and authentication of password through RFID tags. Micro-controller is interfaced with relays to drive motors as motorized switches and linear switches and buzzer as shown in figure 1.

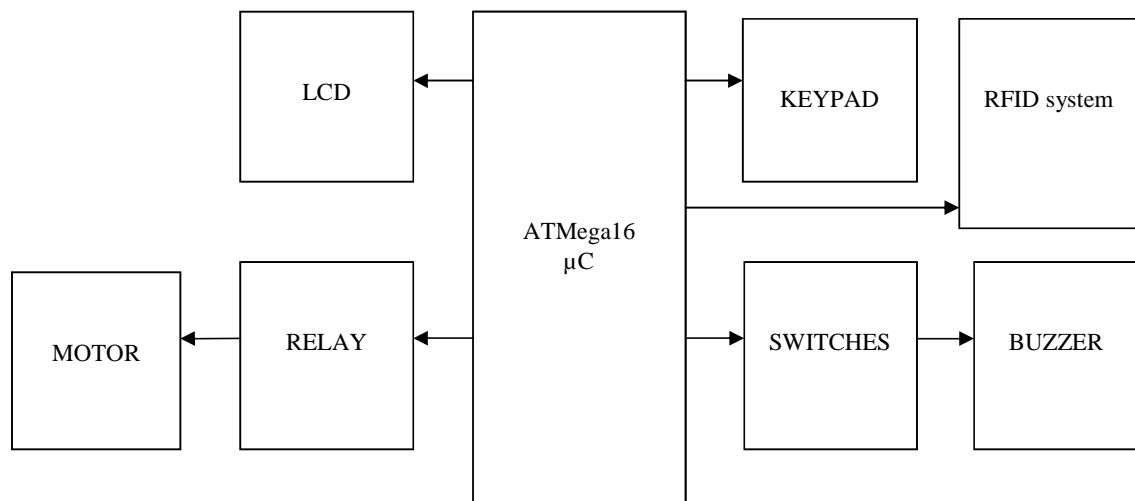


Figure 1. Block diagram of the system

#### B. System Implementation –

The working of the system is shown below-

1. Initially consider the system is in UNLOCK mode.
2. To lock the system, master needs a master key, user password and master RFID cards. This can be done as switch master key and enter user password known only to master and swipe RFID cards then the system checks whether all the doors are closed and the system is locked if not alarm will ON.
3. Now the timer starts to alert the watchguard, within some time buzzer rings and he needs to swipe guard cards which are provided.
4. In case if someone try to enter inside, the alarm will ring and it will go on ringing increasing its volume and neighbors will alert. To stop the buzzer ringing master needs to unlock the system the process is same as locking.

On the basis of this consideration, the flowchart is shown in figure 2.

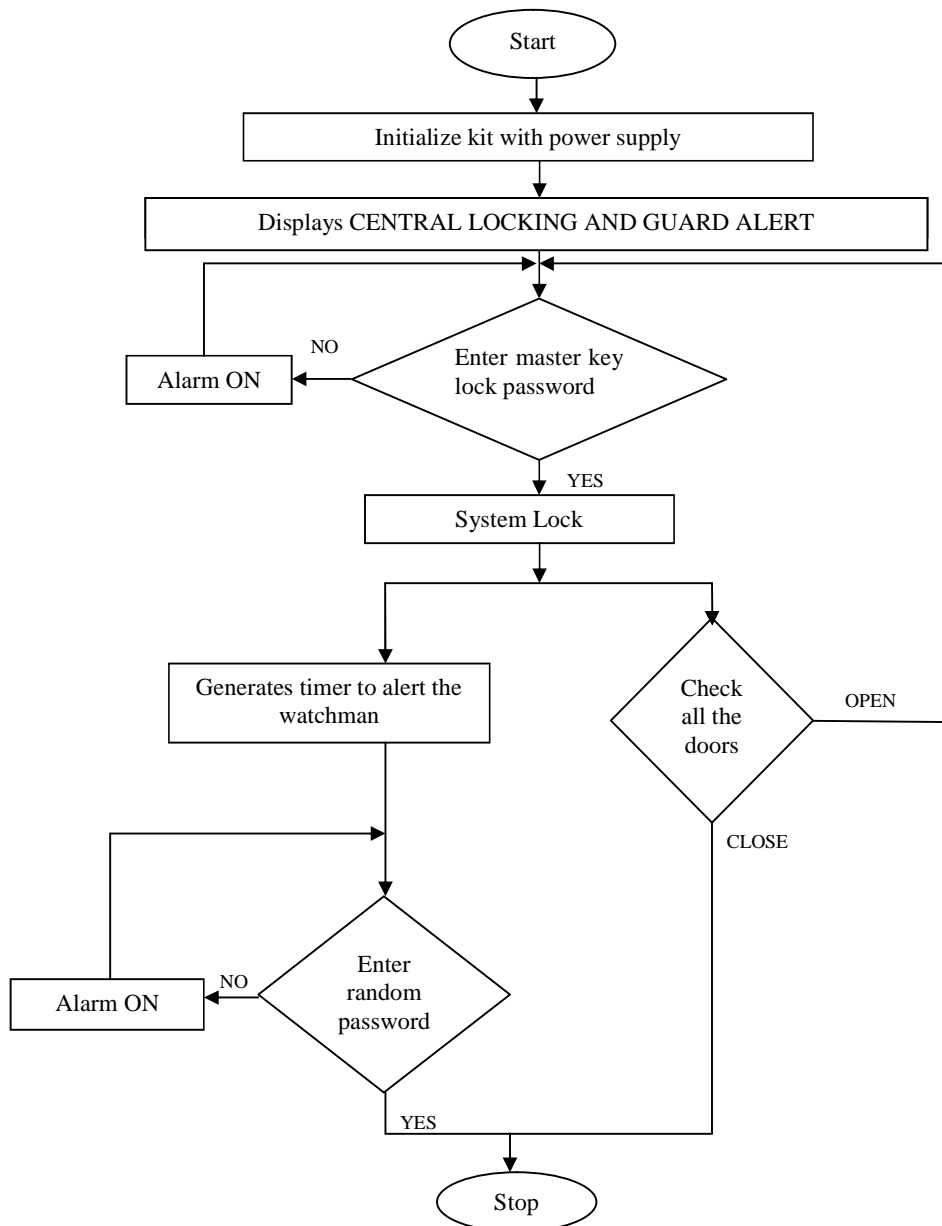


Figure 2. Flowchart of the system

### III. EXPERIMENT AND RESULT

The test set for this evaluation shop supervisory locking and watchguard alert system experiment. The practical implementation for experiment is shown in figure 3 equipped with an ATmega16, RFID system and interfacing system like LCD, keypad and relay motor drive board.

The proposed scheme is tested using 5V of adapter supplied to RFID system and relay motor drive. From the execution of the experiment results, we can lock the system automatically and alert the watchguard for the duration provided with the buzzer ringing. In case when thief enters in shop, the buzzer will go on ringing.

The proposed system consists of softwares such as proteus and code vision AVR. Proteus was designed to be practical, readable and consistent and using embedded C the system code has been implemented in code vision AVR.

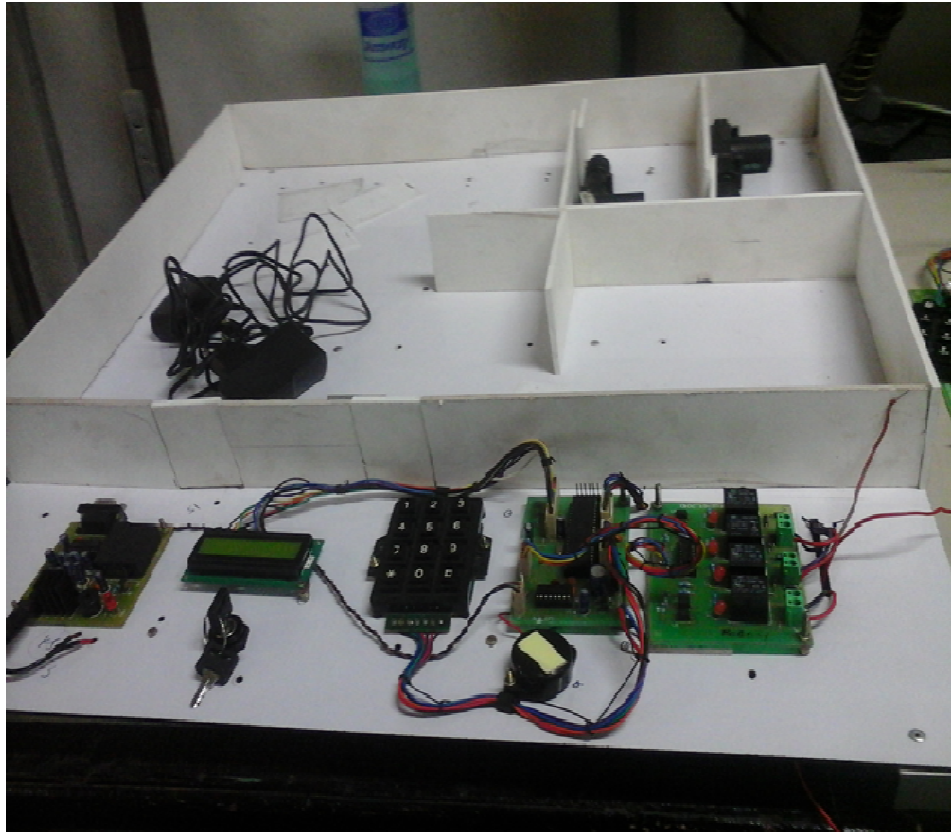


Figure 3. System setup

#### IV.CONCLUSION

The presented system “SHOP SUPERVISORY LOCKING AND WATCHGUARD ALERT SYSTEM” has been successfully implemented and tested. It has been developed using all the integrated features of all the hardware components used. Presence of every module has its own purpose in the system. Several design techniques are used by designers today to increase the security of the high end shops. This is one of the trials to achieve the goal. Finally we conclude that multi-level security system provides a huge level of effective secure to many industries and home appliances.

#### V. ACKNOWLEDGMENT

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