

# PHOTOSENSITIVE SECURITY SYSTEM FOR THEFT DETECTION AND CONTROL USING GSM TECHNOLOGY

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## ABSTRACT

GSM primarily based Locker Security System with EEPROM to shield the locker towards robbery or misuse by different man or woman. This mission is managed with the aid of micro controller lpc2148. There is a three×4 matrix keypad to enter the password for function the locker. If some other individual or theft will attempt to enter the password and if he attempts three instances with wrong password then our gadget routinely sends the theft alert message to administrator the usage of GSM modem. There is sixteen×2 person LCD show which displays all the information like password matched or not, sending robbery alert message and many others. There is EEPROM also connected with circuit to shop the password in order that the password can shop permanently now not temporally. It presents boost facility like person can change password anytime without difficulty through grasp password. And at new password era user get facts message for password trade. When person input the password the use of keypad for working locker then controller tests this code with saved password in EEPROM. If the password is matched then micro controller sends signal to ULN2803 to switch ON the relay so that locker may be open and open repute will show at LCD display.

## I. INTRODUCTION

Banking is one of the sectors wherein era and upgrades in technologies have now not been applied to the fullest functionality. Be in security device or get proper of access to systems or maybe in material managing in banks. For example inside the safety systems even these days very antique practices are observed that may be made lot higher the use of generation like GSM it is effortlessly usable and additionally smooth to put into effect at a patron stage.

In this venture we soak up one such section of the banking corporation, this is the protection locker system and advise a fault proof system for reinforcing the protection in banks. In the prevailing device in banks, for the get entry to of a locker all an man or woman calls for is a key, the locker quantity and a signature. All of those are in particular easy to each get entry to or reproduction. If any character has these then they could effects get right of entry to the locker because of the fact there can be no special verification or authentication worried. In this task we propose a GSM based at ease get admission to which combines many information of the man or woman in a totally clean to use device at the customer level. In this mission every locker is supplied with a easy and low

value digital machine that controls the lock to the locker rather than key. This digital device accommodates of a small show moreover mounted on the locker itself. The digital system is hooked up to a pc in the monetary institution that in flip has the database of the customers, with numerous info of the customers.

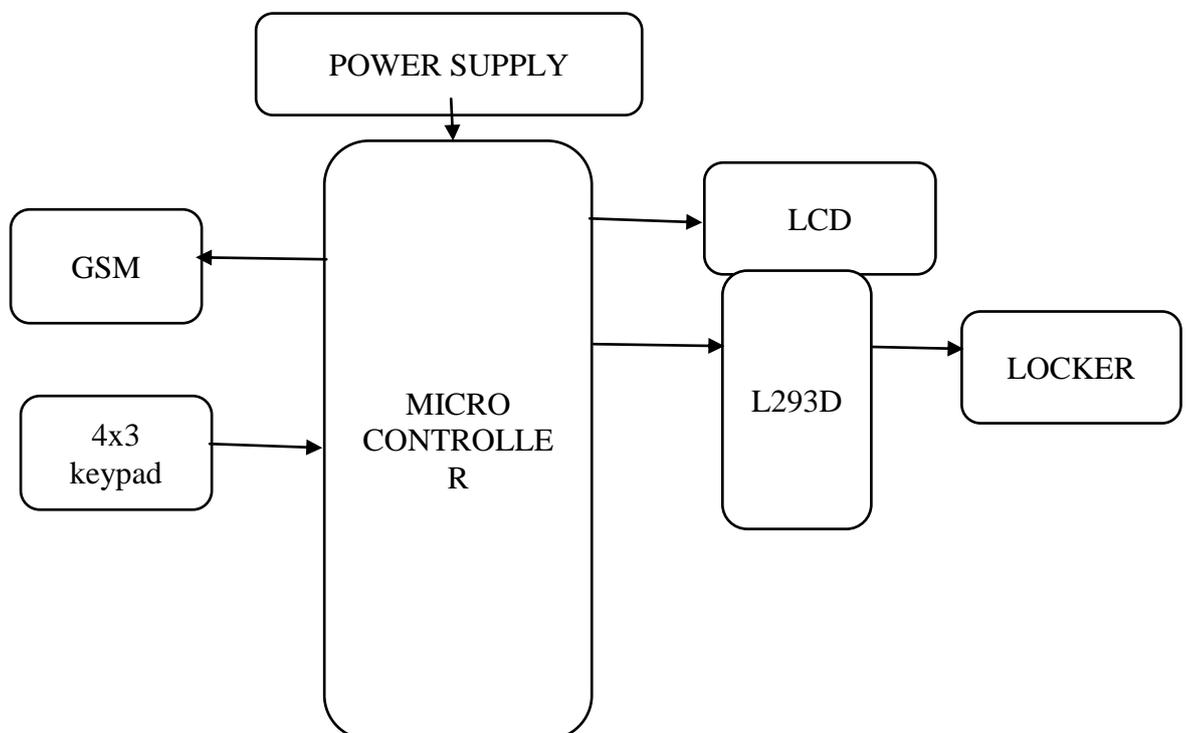
## II. EXISTING SYSTEM

Manual locking device is the one of the current strategies that is widely utilized by the banking tool. It is insecure while the key turn out to be out of place and manual interference. One greater conventional technique is virtual locking machine it is also insecure if everybody hacks the password.

## III. PROPOSED SYSTEM

In this proposed artwork, we need to enter the our password through the keypad, if the password is probably incorrect the message will automatically sends to the use/admin as alert like a person seeking to open your locker. If the password is legitimate then microcontroller show the account holder call at the LCD display. Then the locker could be opened. If the password is invalid then will begin ringing and an SMS is ship to the supervisor using GSM MODEM. When the password is invalid then microcontroller sends an SMS that Someone Entered In Your Bank Locker. If password is inaccurate for 3 instances than it'll offers the buzzer. Here we're the use of the EEPROM for changing the password completely.

### Block Diagram



#### IV. HARDWARE REQUIREMENTS

##### LPC2148 MICROCONTROLLER:

The ARM7 (advanced RISC gadget) processors board primarily based complete on a 16/32-bit ARM7 its method of sixteen/32-bit ARM7 TDMI-S microcontroller, 8 pc reminiscence unit to 40 pc reminiscence unit of on-chip static RAM and 32 pc memory unit to 512computer reminiscence unit on-chip flash reminiscence; 128-bit In-device Programming (ISP). 32-bit timers/out of doors event counters, PWM pulse width modulation unit (six outputs) and watchdog, Low energy of actual-Time Clock (RTC), multiple serial interfaces which has 2 UARTs , speedy I2C-bus (400kbit/. There are sixty four pins of ARM7 processor and multiple ports (port0, port1) 45 pins are input/output.

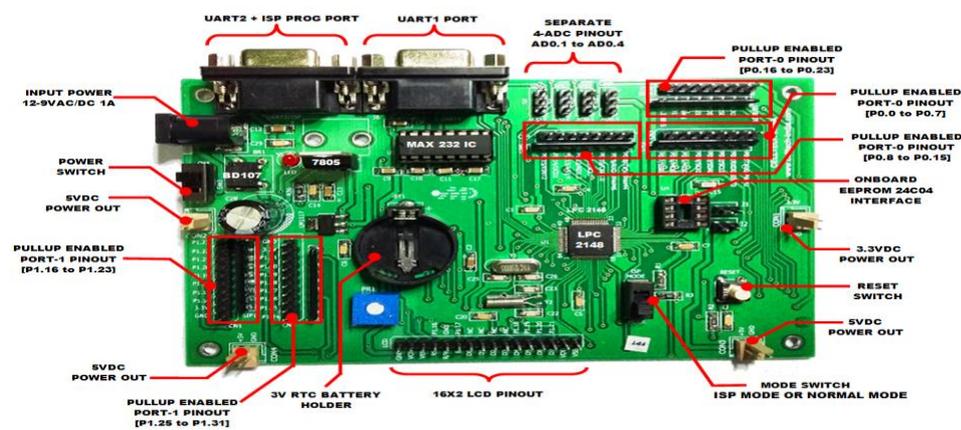


Fig2:-LPC2148 board

##### Liquid Crystal Display

LCD (liquid crystal display) is most important factor for the every undertaking. It contains the 16x2 matrix shape, that it consists of two strains and every line we are able to use the sixteen charectors. In this liquid crystal display each individual is displayed via the 5x7 matrix shape. On this we have the eight records pins, energy deliver pins, one contrast pins, returned light pins, and three manage pins. The statistics will transmits or obtained thru that eight statistics strains only. The information is that the ASCII well worth of the man or woman to be shown on the LCD. In this LCD we've a few instructions like clearing, for subsequent line and for shifting having some distinct instructions for the LCD.

##### Keypad

The keypad modified into used for getting into the numbers and alphabets. The keypads to be had in outstanding sizes here we're the use of the 4\*3 keypad. That way it's going to contain the 4 rows and three columns. The keypads are normally in good judgment high nation every time the key changed into pressed the columns and rows get shorted each than the current-day may be float. The keypad used for the protection cause for entering into the numbers.

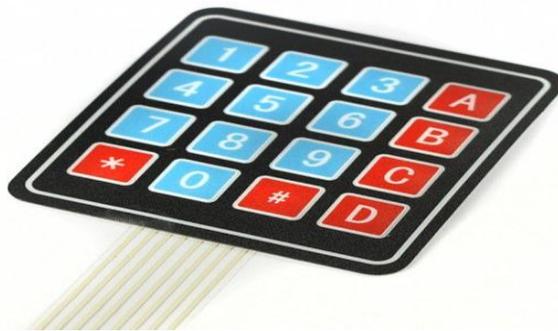


Fig5: keypad

#### GSM-Module:

GSM (global tool for mobile communications) is a cellular network, which means that that cell phones hook up with it via way of attempting to find cells in the immediately area. GSM networks feature in four unique frequency stages. Maximum GSM networks feature in the 900 MHz or 1800 MHz bands. A few global places in the Americas use the 850 MHz and 1900 MHz bands due to the fact the 900 and 1800 MHz frequency bands were already allotted. The rarer four hundred and 450 MHz frequency bands are assigned in some international locations, in which those frequencies have been previously used for first-technology structures.

#### L293D:

The l293d are using high-modern-day advantage and half of-H drivers. The l293d is designed to bidirectional power currents of up to 1A at voltage from 4.5vto 36v.Both devices are designed to drive inductive hundreds such as relays. It's connecting dc bipolar stepping motors as well as other high modern/voltage hundreds in superb-supply software.

#### DC Motors:

Motors are electro mechanical gadgets which may be used for to convert the electrical indicators into mechanical indicators. The all D.C automobiles are having identical inner mechanism, each electromechanically to change the route of modern-day-day float in part of the motor. In mission ship for to move the motor in precise course. We want to connect the motor to controller thru using pressure IC best.



Fig4: DC motor

## **V. SOFTWARE DESIGN**

In this proposed contrivance, as we usually generally tend to used LPC2148 we desire to apply following software package deal instrumentation to application for it.

1. Keil4 imaginative and prescient
2. Flash Magic

The Keil4 imaginative and prescient an IDE for Embedded c program language period. In this IDE, we desire to import the utilitie9s and libraries regular with the controller. This IDE may be very greater without trouble and in purchaser quality way to examine, assemblers, and debuggers in it. It simplifies the manner of embedded simulation and trying getting into conjunction with Hex record technology. The flash magic is a programming software program. The C/C++ software program written in IDE is probably processed into Hex file i.e.In .Hex layout. Through the use of hex record we will be predisposed to products the code into microcontroller and carry out utility.

## **VI. WORKING PROCEDURE**

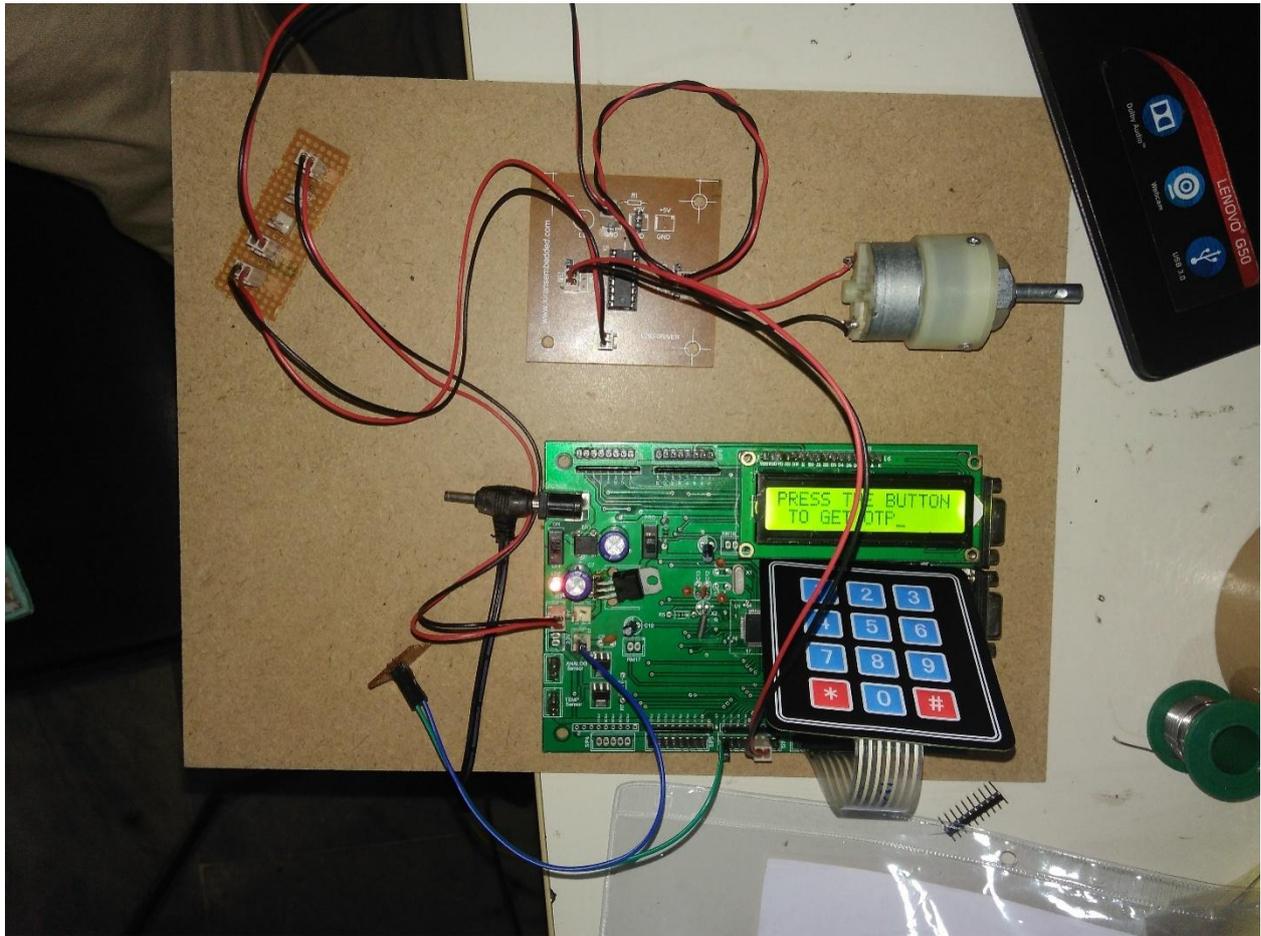
Banking is one of the sectors in which era and upgrades in generation have now not been implemented to the fullest capability. Be in protection machine or access structures or maybe in fabric handling in banks. For instance in the safety systems even nowadays very antique practices are accompanied that may be made lot higher using generation like GSM that is effortlessly usable and additionally smooth to put in force at a customer diploma.

In this challenge we soak up one such section of the banking enterprise, it's the protection locker system and endorse a fault evidence device for boosting the security in banks. In the prevailing machine in banks, for the access of a locker all an person requires is a key, the locker wide variety and a signature. All of those are incredibly smooth to either get entry to or replica. If any person has these then they could without difficulty get entry to the locker due to the fact there's no unique verification or authentication involved.

In this undertaking we recommend a GSM based totally totally relaxed get admission to which mixes many info of the individual in a totally easy to use system on the patron level. In this mission each locker is provided with a simple and coffee price digital tool that controls the lock to the locker in place of key. This digital tool incorporates of a small display additionally set up on the locker itself. The virtual gadget is hooked up to a laptop within the economic institution that in turn has the database of the customers, with severa details of the clients. If the password may be match than simplest the door may be open different it'll be sends a message through GSM to the consumer/admin as someone looking to open your locker. In this we are using EEPROM (electrically erasable programmable examine nice memory) for the changing password.

## **VII. RESULT**

The project “**Photosensitive Security System For Theft Detection And Control Using Gsm Technology**” was successfully implemented and output was verified on the hardware. In this project we have password for opening the door, if password will be wrong the message will be sent to the user/admin and EEPROM was used for to change the password permanently that was successfully implemented.



### VIII. CONCLUSION

Implemented a Bank locker security gadget the use of GSM with EEPROM. It is a low fee, low in power conception, compact in size and standalone device. The microcontroller sends SMS to the supervisor for unauthorized entry and rings if anyone tries to break the based locker. EEPROM changed into used for to change the password permanently. This paper, is planned to a broaden protection gadget primarily based on 3G digital camera for visual identity of the individual.

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