International Journal of Advanced Technology in Engineering and Science
Vol. No.4, Issue No. 10, October 2016
www.ijates.com
ijates
ISSN 2348 - 7550

ELECTRONIC LOCKING SYSTEM WITH MONITORING OF FIRE RELATED HAZARDS USING GSM TECHNOLOGY

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ABSTRACT

These project Associate in Nursing electronic circuit we have a tendency to area unit victimization to shield our home/office that an electronic management assembly. The circuit breaker with an access system this system is the user to unlock the device with a positive identification. And this password is victimization of user. Here we are a unit interfacing alphabetic data input device to our small controller, the password is entered by use of a data input device, the user can set positive identification to guarantee higher protection. If the password is incorrect the door or system can doesn't open thus it's provide higher protection of the devices, if the unauthorised person to access the device one/more than at list two times are going to be blocked and therefore the system sends message to owner of the home/ workplace. this project detection of gas, fire devices and with message alert. Remote home security alarm system developed by applying GSM technology is using causing this message.

Key Words: Lpc2148, Gas, Fire, Keypad, Gsm, L293d, Dc Motors

I. INTRODUCTION

In this project representation of indoor air quality (IAQ)it'svery important of issue affecting the health protection of building. IAQ is collection of data including gas; fire its security of keypad. This system user to unlock the device with a passwordthis password is a predefining thing by the user. Here we are interfacing alphanumeric keypad to our micro controller, the password is entered by making use of a keypad, and the user can set his password to ensure better protection of a GSM module with associate advanced package these combined with appropriate power saving methods.

II. LITERATUREREVIEW

The project consists of different sensors like Fire, Gas etc. The system continuously monitors the sensor condition with respect to corresponding buzzer indications or siren indications, if the person is at stayed in remotely no one can forward this information to that particular person or owner of the person, for that we can extend this project as message alerts to owner in proposed system

In proposed system we are providing password security to home/office, this security key can be provided with keypad if this password is matched with system then automatically opens and close the door. Or wrong password entered then the system gives to the user 3 times chance to enter key password again, if he again he fails to enter write password then automatically sends message to owner of the person as an alert. And the system continuously monitors sensors as GAS and Fire sensors if the gas or fire detected then the system automatically sends message to owner of the person.

III. HARDWAREDESIGN

Block Diagram

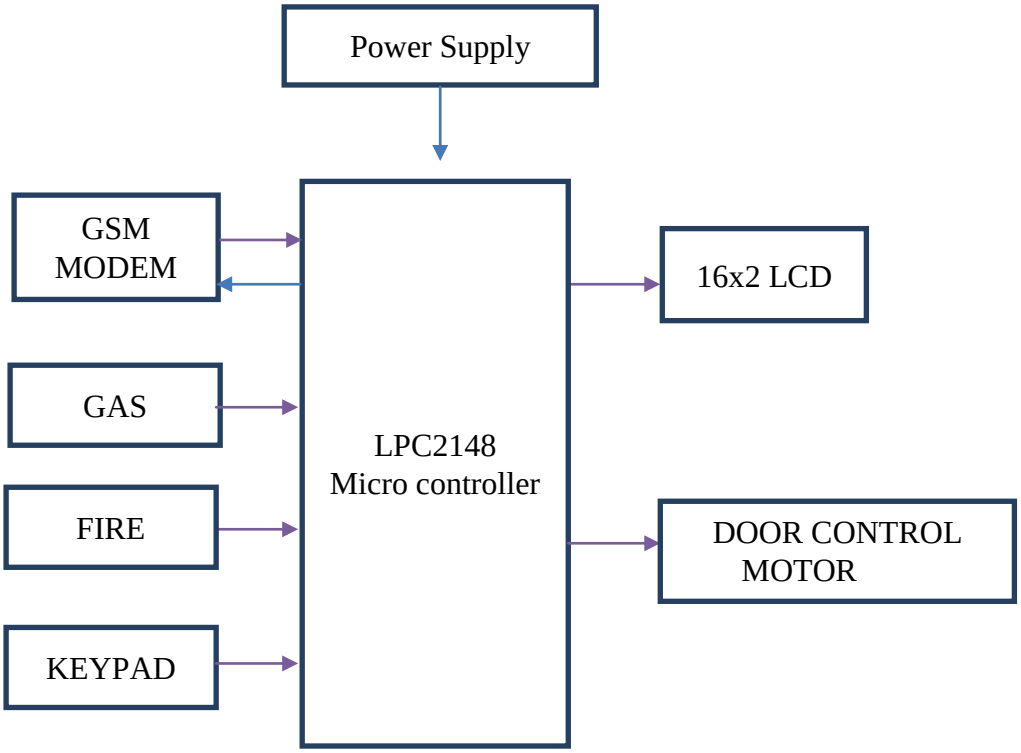


Fig1:Lpc2148 Microcontroller

3.1 LPC2148 microcontroller

The ARM7 (advanced RISC machine) pressers board based totally on a 16/32-bit ARM7 its process of 16/32-bit ARM7TDMI - Semi microcontroller, 8 kB to 40 kB of on – chip static RAM. And 32 kB to 512 kB on- chip flash memory; 128- bit In system Programming (ISP). 32-bit timers/outside event counters, PWM pulse width modulation unit(six outputs) and watch dog, Low strength of actual-Time Clock (RTC), more than one serial interfaces which includes two UARTs , rapid I2C-bus (400kbit/. There are 64 pins of ARM7 processer and two ports (port0,port1) 45 pins are input/output.

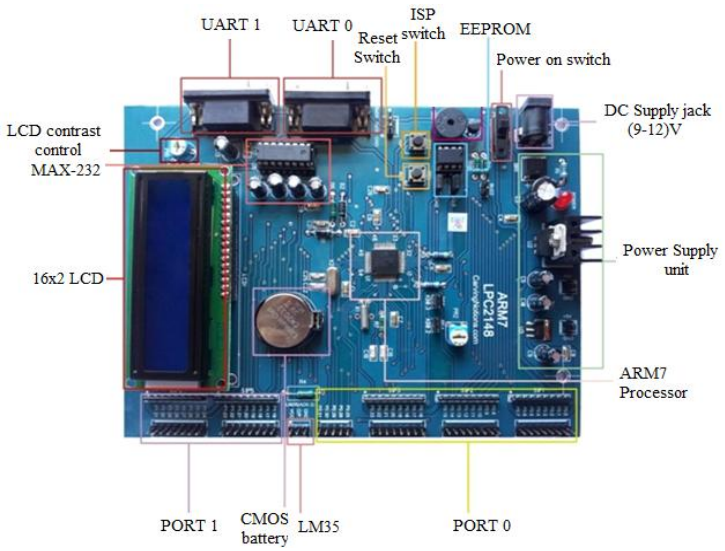


Fig2:-LPC2148 board

3.2 GSM

Global service for mobile communication (GSM) is a cellular network, which means thatis mobile phones connect of searching for cellular mobile communication. GSM networks can operate different ranges frequency. The most GSM we can operate the SIM900MHz to 1800 MHz frequency. Some countries in the Americas use the 850 MHz and 1900 MHz In this project if any gas detected the message automatically sends to the user.

Fig3:GSM module

3.3 L293D

The l293d are using high-current gain and half-H drivers. The l293d gain of currents up to 1A at voltage from 4.5vto 36v.both devices are designed to drive inductive loads such as relays. its connecting dc bipolar stepping motors as well as other high current/voltage loads in positive-supply application.TTL inputs are compatible.

Fig 4:l293d driver IC

3.4 Key Pad

A keypad is a set of buttons organized in numbers and letters, digits and other symbols however not a complete set of alphabetical letters. If it mostly contains numbers then it will conjointly be known as a numeric data input device. Keypad area unit victimization typewriting of security purpose area unit found on several alphabetic keyboards and on alternative devices such as calculators. It's given that an data input device, sometimes half of a typical keypad, consisting of a separate grid of numerical and function keys organized for economical information entry.

Fig 5 : 4X3 keypad

IV. SOFTWAREDESIGN

In this proposed contrivance, as we tend to used LPC2148 we wish to use following software package instrumentation to program for it.

1. Keil4 Vision
2. Flash Magic

The Keil4 Vision an IDE for Embedded c language. in this IDE, we wish to import the utilities and libraries consistent with the controller we are the use of. This IDE is very more easy and in user friendly thanks to apply, assemblers, and debuggers in it. It simplifies the manner of embedded simulation and trying entering conjunction with Hex file technology.The flash magic is a programming utility. The C/C++ software written in IDE could be processed into Hex document i.e. in .hex layout. By using hex file we tend to

merchandise the code into microcontroller and perform application.

V. WORKING DISCRRIPTION

The most objective of the project Is to watch the sensor information and conjointly transmit the data through local area network technology. In this project the microcontroller plays a vital role to perform the desired task. The microcontroller we used in this project is ARM7 (LPC2148) in built features such as inbuilt programming ADC, SPI, I2C, PWM, and RTC. The sensors which are interfacing directly with microcontroller gas and fire sensor in seatrain input of port pins at the same time we are connecting GSM module and we write the code in such manner to communicate with the microcontroller and perform the specific task. The GSM module is interfaced with microcontroller which issued to measure the corresponding sensor data and monitor the information through messages. The system canal so view the data from a mobile phone,

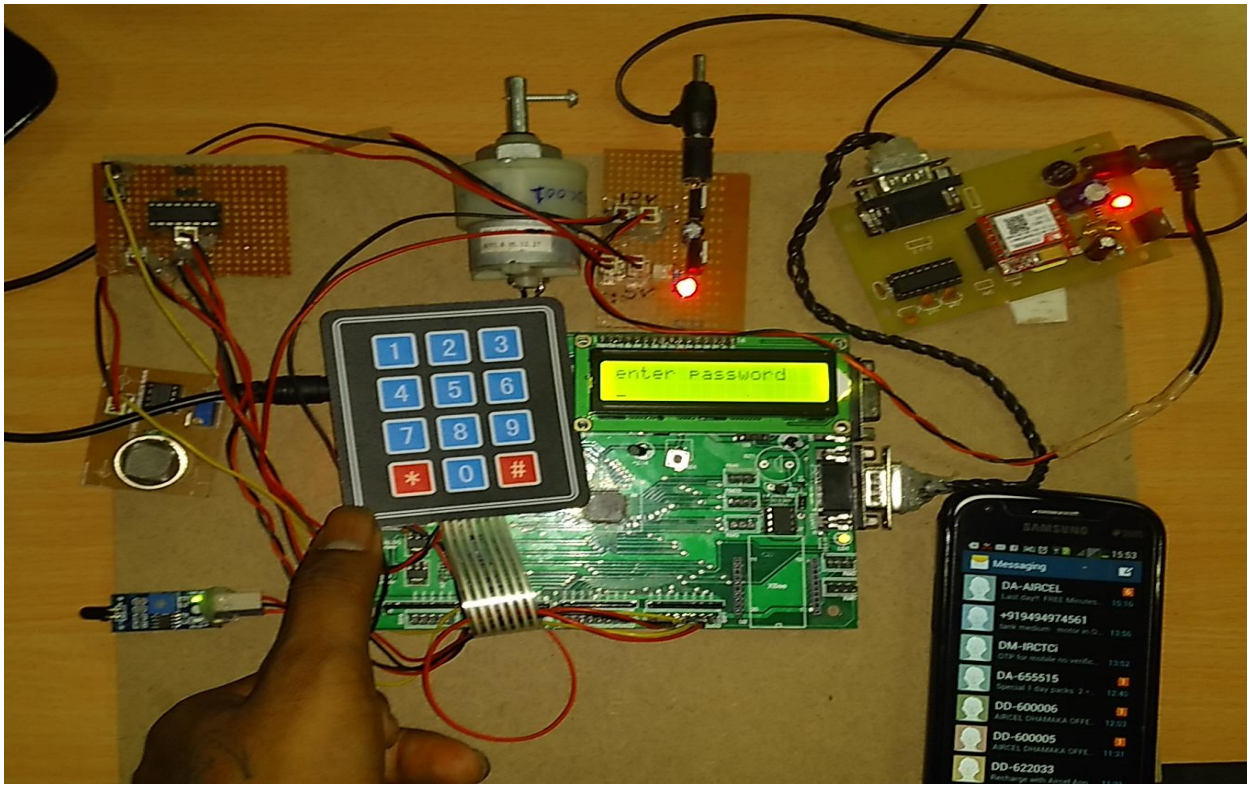
VI. WORKING PROJECT

The project is designing of lpc2148 microcontroller its operational with the user outlined watchword, in this project associate degree electronic circuit we tend to square measure victimization to guard of gas and hearth detection fabric time identification of our home/office that has an electronic management assembly security par pass. The circuit breaker with an access system this method permits the user to unlock the device with a watchword. And the password may be a predefined issue by the user.

Here we square measure interfacing alphanumeric keyboard to our small controller, the password is entered by creating use of a keyboard, and the user can set his watchword to confirm higher protection. If the password is incorrect the door or system can doesn't open thus it's provide higher protection to the devices, if the unauthorised person tries to access the device more than twice that person are blocked and therefore the system sends message to owner of the home/ workplace.

VII. RESULTS

This project we are developed "Electronic Locking system with monitoring of Fire related Hazards using GSM technology" This is a home security based system in this project we are using gsm, gas sensor, fire sensor, keypad, lcd, dc motor. When we are entering in home the security system in enter the password we are entered correct password entering door will be opened and we are entered incorrect password the security alert buzzer will be on and gsm will be send a message through particular owner numbers and any firing or gas leakages in home alerting system is ON and at the same time gsm will be send messages. This system will be reduces home accidents and highly secure to our home.



VIII. CONCLUSION

In this project GSM technology using home/office application has successfully designed and testing. In all hardware components its developed by integrating features are used. presence of every components reasoned placed carefully checkout in outputs. It's as highly advanced lpc2148 microcontroller with help of technology the project has been successfully

IX. FUTURE SCOPE

The system provides only monitoring the sensor values but we can't control the devices with respective sensors. In future scope we can do both i.e. Monitoring as well as controlling the appliances. By implementing this concept we can use in several appliances like agriculture.

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