DESIGN & DEVELOPMENT OF ELECTRONIC NOTICE BOARD

Mrs. K. Sujata, Associate Professor, Dept of ECE, NRI Institute of Technology, Visadala, Guntur, A.P, India

Dr. DolaSanjay.S, Professor & H.O.D, Dept of ECE, NRI Institute of Technology, Visadala, Guntur, A.P, India

N.Keerthi, B. Tech Students, NRI Institute of Technology, Visadala, Guntur, A.P, India

T.Lavanya, B. Tech Students, NRI Institute of Technology, Visadala, Guntur, A.P, India

P.Sindhu Priya, B. Tech Students, NRI Institute of Technology, Visadala, Guntur, A.P, India

V.Trivikram B. Tech Students, NRI Institute of Technology, Visadala, Guntur, A.P, India

ABSTRACT:

In this paper design & development of electronic notice board is implemented. This is an automated system that utilizes GSM technology along with an embedded server. The system is designed to work independently without the need of any human operator.The system has the facility to inform students or employees about any instant update via SMS and it can also be remotely updated with new information. In the same way it gives buzzer indication also

KEYWORDS:*Arduino, Crystal Oscillator, Buzzer, RS232, GSM.*

INTRODUCTION:

With the development of society, people's living standards are increasing and people pay more attention to the safety and reliability of power supply system. Due to the rapid development of Chinese economy, the power system has undergone large-scale transformation and the degree of automation of power systems is getting higher and higher. The power automation system uses modern electronic information technology to monitor the operation data of the power system. Power station operators can monitor the system through real-time control of the operation of the power system, remote control, according to its operating conditions quickly and accurately determine the system failure and data analysis.

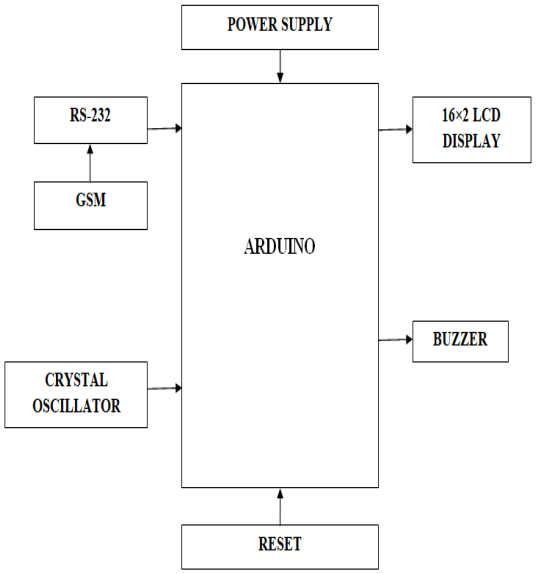
To generate and transmit electricity, an electric power automation system is widely used, involving a wide range of social daily life. Because of the widespread use of power automation systems, the power system established more stringent requirements, making power system development more difficult. A series of automated systems using electronic information technology in power systems, such as relay protection system, on-line monitoring system, and automatic control system, are being studied in order to meet social requirements, improve the working efficiency of power system staff, and reduce the difficulty of the work.

WORKING PRINCIPLE:

Electronic notice board is an automated system that utilizes GSM technology along with an embedded server. The system is designed to work independently without need of any human operator.When a student or employee needs any information, they will need to send an SMS to this system which will respond

with the information required by user. The system also has the facility to inform students or employees about any instant update via SMS and it can also be remotely updated with new information. In the same way it gives buzzer indication also.

BLOCK DIAGRAM:



HARDWARE REQUIREMENTS:

i)Arduino: The The Arduino Uno is an ATmega328-based microcontroller board. There are 14 digital input/output pins (six of which can be used as PWM outputs), six analogue inputs, a 16 MHz ceramic resonator, a USB connection, a power jack, an ICSP header, and a reset button on the board

.**ii)GSM:** GSM modems, like a mobile phone, are specific sorts of modems that operate via subscription-based wireless networks..

iii)Buzzer: A buzzer or beeper is a mechanical, electromechanical, or piezoelectric audio signalling device (piezo for short). Alarm clocks, timers, and confirmation of human input such as a mouse click or keyboard are all common uses for buzzers and beepers.

iv)LCD Display: Operating Voltage is 4.5V to 5.2V .Current consumption is 1mA without backlight

v)Crystal oscillator: An electronic circiut that is used to generate an electrical signal of Precise frequency by utilizing the vibrating crystal's mechanical resonance made of piezoelectric material there are different types of piezoelectric resonators, but typically, Quartz crystal is used in these types of oscillators

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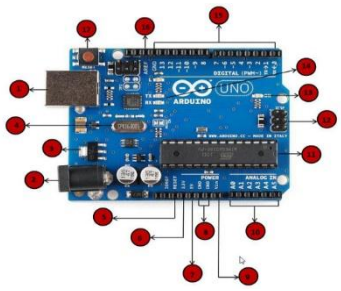
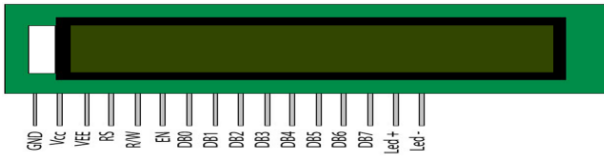


i)Arduino

ii)GSM

iii)Buzzer

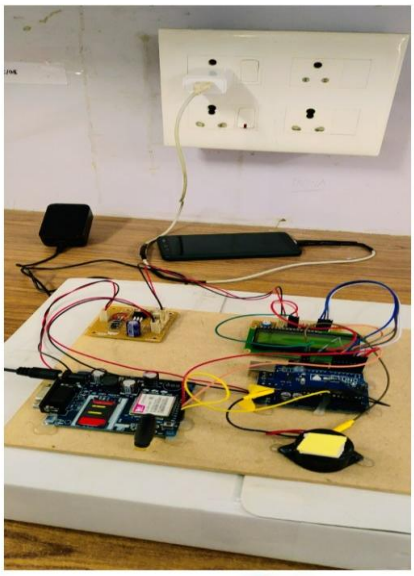


iv)LCD Display

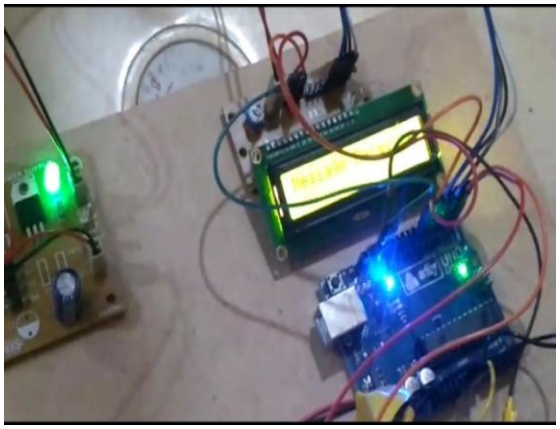
SOFTWARE REQUIREMENTS:

- Arduino Software
- The open-source Arduino Software (IDE) makes it easy to write code and upload it to the board.
- It runs on Windows, Mac OS X, and Linux.
- The environment is written in Java and based on Processing and other open-source software.
- This software can be used with any Arduino board.

RESULT:



DEVELOPED PROJECT



Message displayed on the LCD screen with buzzer indication

OUTPUT:

CONCLUSION:

In this paper design & development of electronic notice board is implemented.In future we can extend this by using raspberry pi and machine learning techniques. This is an automated system that utilizes GSM technology along with an embedded server. The system is designed to work independently without the need of any human operator.

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