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RFID BASED AUTOMATION FOR AUDITORIUM

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ABSTRACT

automation system with a RFID reader by using RF (Radio Frequency) technology. Nowadays, auditorium are gradually shifting from normal switches to centralized control system, involving a RFID reader. This technology is not only easy to use but also helps to prevent missuses of energy. RFID reader The main object of this project is to develop an auditorium is small and very light weight, which will work from a decent distance. It helps elderly people to RFID reader control from anywhere up to 75 feet. This RFID reader is also very productive for commercial uses in Industrial and medical systems. RFID reader controlled home automation system provides a simpler solution with RF technology. In order to achieve this, a RF reader is interfaced to the microcontroller which sends ON/OFF commands to the receiver where loads are connected. By operating the specified RFID card on the RFID reader, the loads can be turned ON/OFF card through wireless technology. Arduino IDE software has been used to compile some programs related to the microcontroller ATmega328.. Benefit of using this technology is there will not be any range limitation compared to Radio Frequency technology.

INTRODUCTION

Human life. People often forget to turn the lights off when they leave a room and they never enjoy walking into a dark room looking for a light switch, that's just human nature. The RFID based lighting control system living Today we are in 21st century where automation is playing an important role in provides means to eliminate this problem without the use of cumbersome and irritating motion detectors. The RFID

nodes operate at 13.56 MHz and provide a range of 1-3 feet depending on the location of the reader and attenuation in the respected environment.

EXISTING SYSTEM

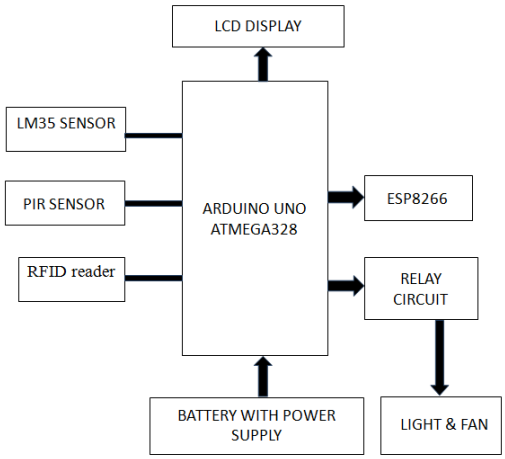
Auditorium automation is the use of one or more computers to control basic home functions and features automatically and sometimes remotely. The existing home automation system relies on proprietary connection mechanisms for automating home appliances. The problem with this approach is that the same automation system cannot be extended to accommodate a growing variety of home appliances. [1] proposed a novel method for secure transportation of railway systems has been proposed in this project. In existing methods, most of the methods are manual resulting in a lot of human errors. This project proposes a system which can be controlled automatically without any outside help. This project has a model concerning two train sections and a gate section.

PROPOSED SYSTEM

The purpose of this project to build a RFID Automated Home control System using RFID technology

which provides a secure and peace environment to the peopl RFID system uses Radio frequency electromagnetic fields to transfer data from a RFID tag to identify and track the object. Our system will apply Radio Frequency technology which consists of RFID Tags, RF Readers with antennas, Arduino, transmitter- receiver, and added networking properties to identify and track object. RFID reader reads the tag ID received by the user and reports the tag ID to system. System verifies RFID tag with its unique identification and performs the expected task. . All communication and controls in this system pass through the microcontroller. Security being the main intent of the project, the most important application of this system is any domestic security.

BLOCK DIAGRAM

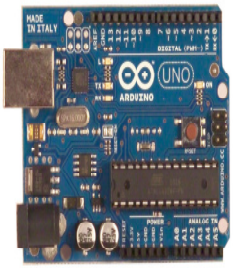


HARDWARE DESCRIPTION

- Arduino UNO ATmega328
- RFID card
- RFID reader
- LCD Display
- Relay Circuit
- Battery with power supply

ARDUINO UNO ATMEGA328

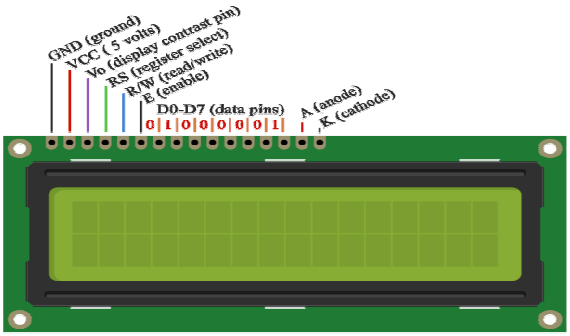
Arduino is an open-source electronics platform based on easy-to-use hardware and software. The Arduino Uno is one kind of microcontroller board based on ATmega328.



[3] discussed about Nanorobots Control Activation For Stenosed Coronary Occlusion, this paper presents the study of nanorobots control activation for stenosed coronary occlusion, with the practical use of chemical and thermal gradients for biomedical problems. The recent developments on nanotechnology new materials allied with electronics device miniaturization may enable nanorobots for the next few years. [4] discussed about a project, in this project an automatic meter reading system is designed using GSM Technology. The embedded micro controller is interfaced with the GSM Module. This setup is fitted in home. The energy meter is attached to the micro controller. This controller reads the data from the meter output and transfers that data to GSM Module through the serial port.

LCD DISPLAY (16x2)

LCD display is a LCD type of plat panel display which uses liquid crystal in its primary from of operation.



RFID reader module

A Radio-Frequency Identification system uses tags, or labels attached to the objects to be identified.

Two-way radio transmitter-receivers called interrogators or readers send a signal to the tag and read its response.

RELAY:

A relay is an electrically operated switch. Many relays use an electromagnet to operate a switching mechanism mechanically, but other operating principles are also used.

Relays are used where it is necessary to control a circuit by a low-power signal or, where several circuits must be controlled by one signal.

RFID CARD

An RFID credit card is equipped with radio frequency identification technology.

This allows your credit card to communicate with a payment terminal using a radio frequency instead of a magnetic strip.

RFID technology allows you to simply tap or wave your credit card near a card reader or ATM.

ADVANTAGE

- It avoids interference from other wireless devices.
- It has range better than Infrared communication.
- It has lower power consumption.
- The Bluetooth is used for voice and data transfer and Bluetooth devices are available at very cheap cost.
- The technology is adopted in many products such as head set, in car system, printer, web cam, GPS system, keyboard and mouse.

APPLICATION

- IOT project
- Access point portable
- Wireless data logging
- Smart home automation
- Portable electronics

CONCLUSION

The objective to build a RFID automated home control system was successfully working for use cases. This project proves that how RFID technology is significant for the objet tracking system, environmental and accessibility system and security system. People can control and secure their houses very easily using RFID technology. In the end, this RFID system offers many convenient applications to the customer, leaving them with peace of mind when they are not able to manually control appliances and other devices

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