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RFID Based Intimation to the Authority

M.Sirisha¹, Ch.Sireesha², K.Peda Raju³, K.Divya Teja⁴, V. Sita Ramanjineyulu⁵

Asst. Professor, Dept. of ECE, CIET, LAM, Guntur, AP, India ^[1]

Student, Dept. of ECE, CIET, LAM, Guntur, AP, India ^{[2][3][4][5]}

ABSTRACT:Intimating system is mainly the application based on faculty attending system. The faculty attending to the class in time is very much required for the smooth running of an institute. It is the responsibility of higher authorities like HOD at monitoring the faculty attending in time to a class. It is very difficult to observe all the sections and classes of their department. In this project we are proposing a method to solve their problem by RFID and RTC. Thus, we will help active members of faculty attending in time to the class and can adjust the class. By implementing this type of systems discipline in the faculty and students can be maintained for the success of institution.

KEYWORDS: Arduino software, RF Transmitter and Receiver.

I. INTRODUCTION

Arduino is a prototype platform (open-source) based on an easy-to-use hardware and software. It consists of a circuit board, which can be programmed (referred to as a microcontroller) and a ready-made software called Arduino IDE (Integrated Development Environment), which is used to write and upload the computer code to the physical board. The Arduino Nano is a small, complete, and breadboard-friendly board based on the ATmega328. It has more or less the same functionality of the Arduino Uno. The pin diagram of Nano Arduino is shown below fig 1.1

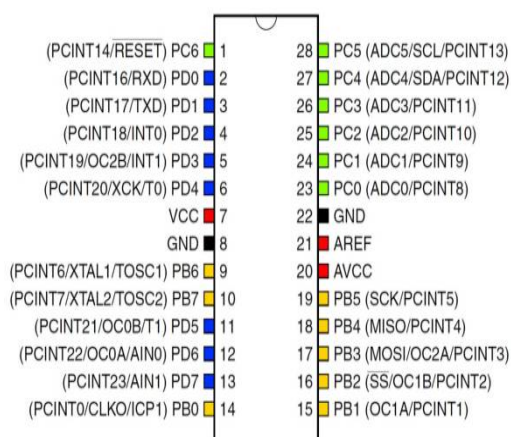


Fig 1.1: pin diagram

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The DS1307 serial real-time clock (RTC) is a low-power, full binary-coded decimal (BCD) clock/calendar plus 56 bytes of NV SRAM is shown in fig 1.2. Address and data are transferred serially through an I2C, bidirectional bus. The clock/calendar provides seconds, minutes, hours, day, date, month, and year information. The end of the month date is automatically adjusted for months with fewer than 31 days, including corrections for leap year. The clock operates in either the 24hour or 12-hour format with AM/PM indicator. The DS1307 has a built-in power-sense circuit that detects power failures and automatically switches to the backup. supply. Timekeeping operation continues while the part operates from the backup supply.

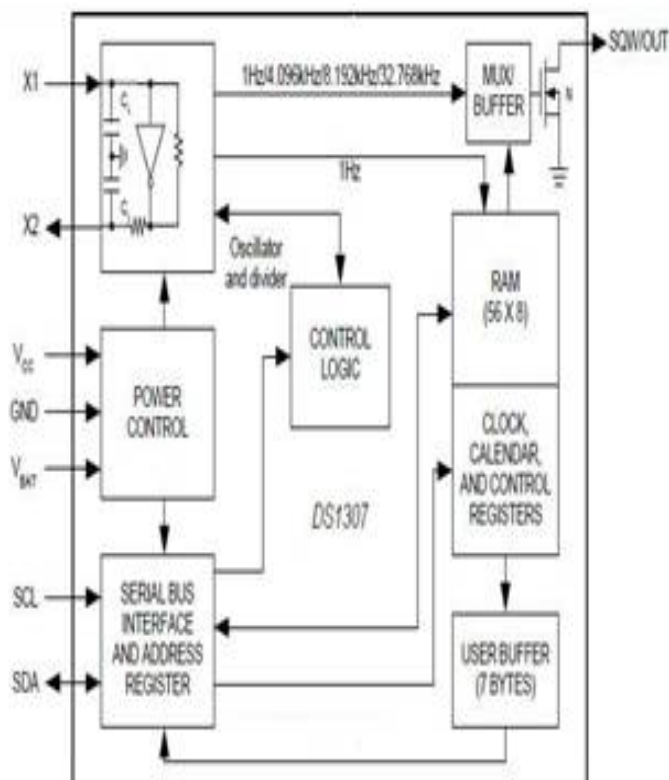


Fig 1.2: Circuit diagram

A buzzer or beeper is a signalling device, usually electronic, typically used in Auto mobiles, household appliances such as a microwave oven or game. It most commonly consists of a number of switches or sensors connected to a control unit that determines if and which button was pushed or a present time has lapsed, and usually illuminates a light on the appropriate button or control panel and sounds a warning in the form of a continuous or intermittent buzzing or beeping sound.

This circuit utilizes the RF module (Tx/Rx) for making a wireless remote, which could be used to drive an output from a distant place. RF module, as the name suggests, uses radio frequency to send signals. These signals are transmitted at a particular frequency and a baud rate. A receiver can receive these signals only if it is configured for that frequency. The Pin diagram of RF transmitter and Receiver is shown in fig 1.3

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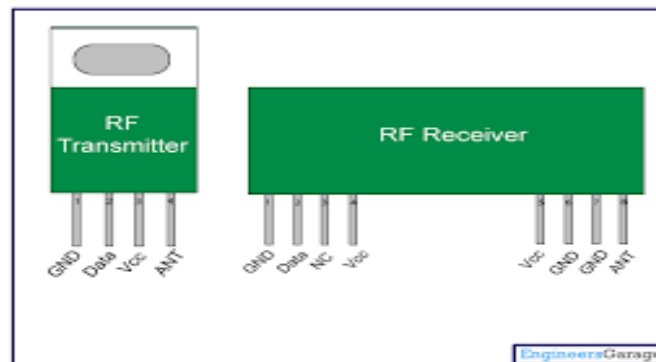


Fig 1.3: pin diagram

In this project we have power supplies with +5V & -5V option normally +5V is enough for total circuit. Another (-5V) supply is used in case of OP amp circuit. Transformer primary side has 230/50HZ AC voltage whereas at the secondary winding the voltage is step downed to 12/50hz and this voltage is rectified using two full wave rectifiers. The rectified output is given to a filter circuit to filter the unwanted ac in the signal. After that the output is again applied to a regulator LM7805 (to provide +5v) regulator. Whereas LM7905 is for providing -5V regulation.

A liquid crystal display (LCD) is a thin, flat display device made up of any number of colour or monochrome pixels arrayed in front of a light source or reflector as shown in above fig 1.4. Each pixel consists of a column of liquid crystal molecules suspended between two transparent electrodes, and two polarizing filters, the axes of polarity of which are perpendicular to each other. Without the liquid crystals between them, light passing through one would be blocked by the other. The liquid crystal twists the polarization of light entering one filter to allow it to pass through the other.

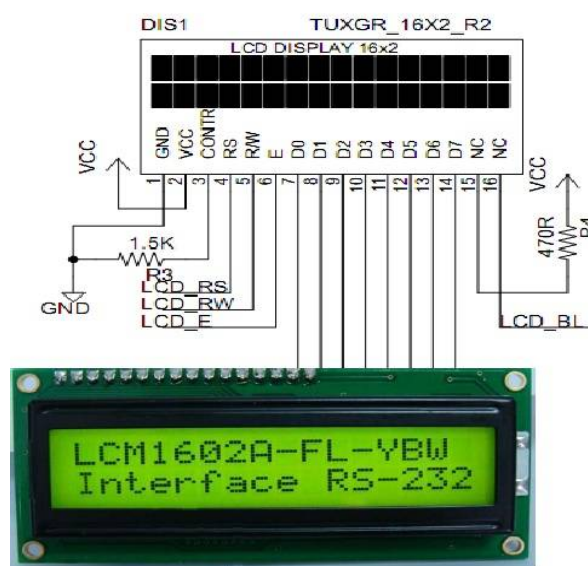


Fig 1.4: pin diagram

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II. EXISTING SYSTEM

In the existing system it is very difficult for every faculty to go and give authentication or give signature as they have attended to the college or school. To overcome this problem, we are implementing faculty intimation to the higher authority using RFID. Thus, we will help active members at faculty attending in time to the class and can take attendance of such easy and adjust the class. by implementing this type at systems discipline in the faculty and students can be maintained for the success of institution. Thus, we will help active members at faculty attending in time to the class and can take attendance [2] and it is easy to adjust the class.

III. PROPOSED SYSTEM

Block diagram

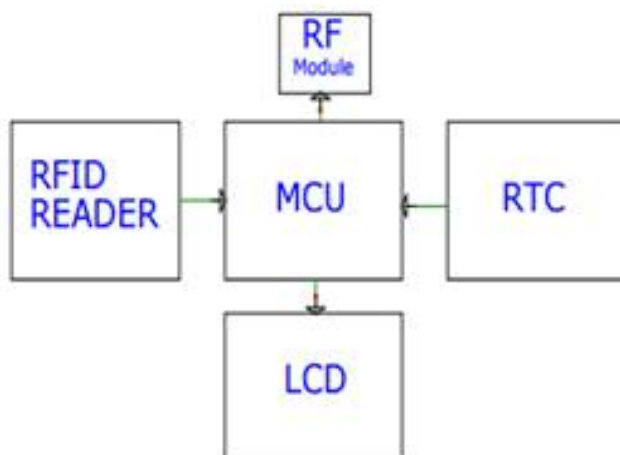


Fig 2: Block diagram

With the improvements and advantages in the technology we can provide solution to the drawbacks of existing system. In the proposed system we are making use of RFID and RTC. In this RF module, RF Reader and RTC are interfaced with micro controller unit. Arduino is interfaced with LCD to display whatever required to be placed on display as shown in block diagram 2.1

IV. WORKING

When RFID Card was placed on the RF reader the flux in the RF id card and RF reader gets combined and mutual induction takes place. That RF information will be transferred to the Arduino receiver. LCD will be connected to the Arduino. Regarding information will be displayed on the LCD based on code dumped in the Arduino. RF transmitter and receiver is used to transfer the data in case the authority is in long distance from the class. With the help of RTC (Real time clock) updated time can be viewed. when it was time to scan the card "scan the card" will be displayed on LCD. When the card was not scanned in time or invalid card is scanned then buzzer will turn on to get noticed by the higher authority. Regarding work is shown in below flow chart 3.1

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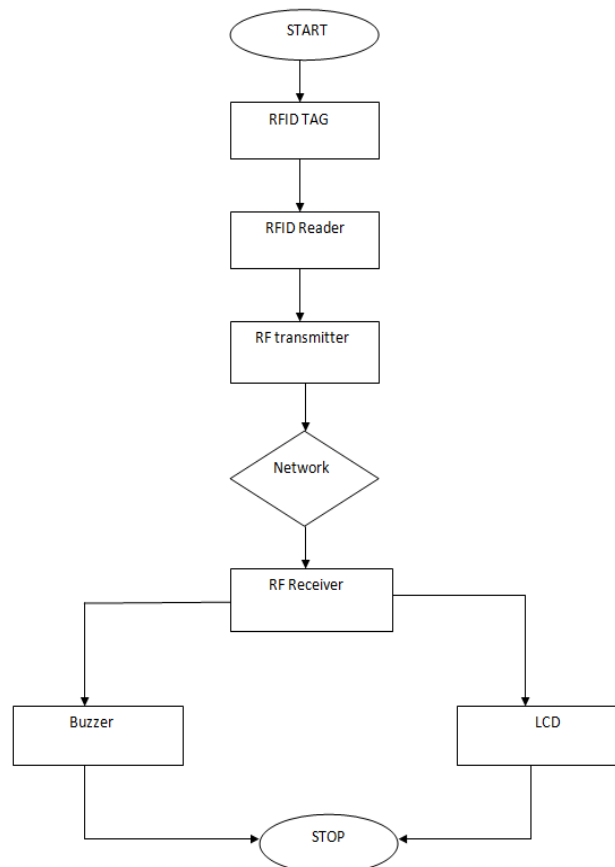


Fig 3: Flow Chart

V.CONCLUSION

This designed RFID based intimation system to the authority is a simple,economic,and produce effective solution to reduce the duplicate data. Thus, we will help active members of faculty attending in time to the class and can adjust the class very easily. By implementing this type of systems discipline in the faculty and students can be maintained for the success of institution.

VI.RESULT

When it was time to scan the card “time to scan card” will be displayed on the LCD as shown in the fig 4 long distance data transmission can also be done through RF Transmitter and Receiver. when it is out of conditions like card was not scanned or card was not scanned in time buzzer will be on.

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Fig 4: Experimental Setup

VII. FUTURE SCOPE

The future scope is to adopt the video visual to the authority and time table of each teacher can be added and even display can be placed in the authority cabin for the easy use.

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