



International Journal of Engineering Researches and Management Studies

SMART ATTENDANCE SYSTEMBASED ON RFID

Tushar Rawate*¹, Atulshirsat², Aniket Phapale³ And Rutuja Sonavane⁴

^{*1,2,3&4}Jaihind Polytechnic, Kuran

ABSTRACT

Nowadays, attendance system in schools and collages is generally based on paper. So sometimes this process causes errors and also takes more time. So this paper use RFID technology to make a note of every students entering into the classroom and also to calculate the time resides in the class in this proposed system, every student is allotted with an RFID card. The process of attendance can be done by placing the card near the RFID reader.

Keywords- RFID, Attendance, Passive tag, RFID Readers etc.

1. INTRODUCTION

Commonly used RFID cards are of the size of credit card and are white in color. However now days RFID cards are also available in small or RFID key cards are available. These key cards can be connected with the key-chain. And normal RFID card can be stick together with the ID-card of employees or students. Or we can even print the ID-card information on the RFID card itself. This means that there are no extra efforts required or no extra trouble is caused for carrying this card since students and employees always carry their I-cards in college and industries respectively. Credit card needs to be swapped or need to be inserted inside the credit card reader machine. But RFID card does not need to be inserted, user just needs to take it near the RFID reader. So student/employee can even keep it in wallet and they can just take wallet near the RFID card reader without removing card from wallet. This way RFID module will read the card information.

2. BLOCK DIAGRAM

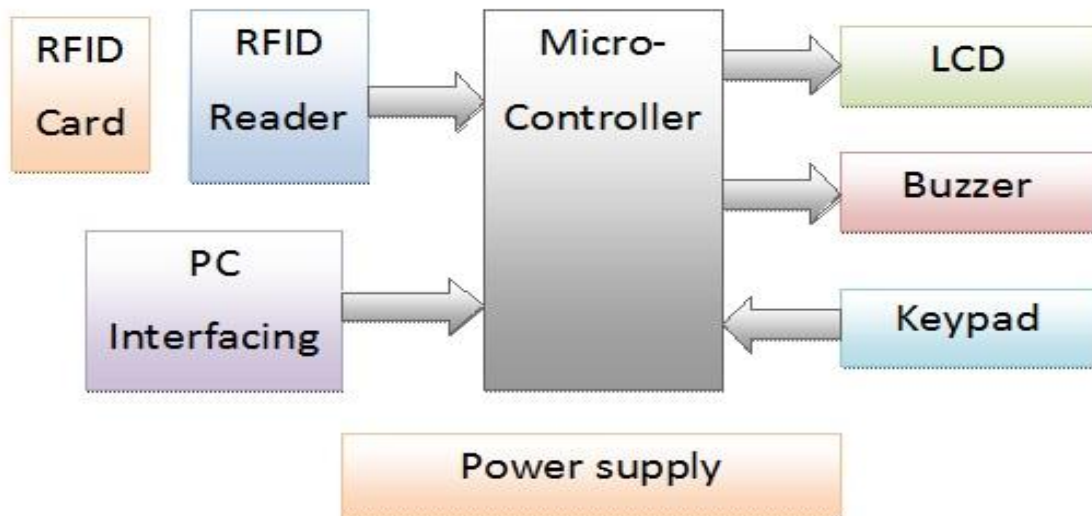


Fig Block Diagram of Smart Attendance SystemBased On RFID



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3. WORKING

The aim of this project is to design an RFID Technology based Attendance System using 8051 microcontroller, in which the attendance of students or employees is automatically recorded with the swipe of a card. The working of the project is explained here.

When this circuit is powered ON, initially the microcontroller will display the message as Swipe the card on the LCD display. When the RFID reader detects the ID card, it will send the unique card no to the microcontroller via serial terminal.

With the help of suitable programming, we need to compare the received card no. with the numbers that are already stored in the microcontroller or any database.

Once, if any of these numbers are match with the received card no., then the corresponding name stored in that no. is displayed on the LCD display and also the attendance for the name stored in the corresponding number is marked.

By pressing the button, the attendance recording will be closed and the details are displayed on the LCD repeatedly until the microcontroller has been reset.

Applications of Smart Attendance System Based On RFID

1. It can be used in colleges, various educational institutes as well as university campus for taking the attendance of students. Education institutes have roll-call muster or teachers take attendance and note it down manually on paper. We can replace it by our automated attendance system using RFID.
2. It can be used in shops, shopping malls for the attendance of employees and workers.
3. We can also use it to note down the in and out time of vehicles. With little bit modification, this project can be used in vehicle/car parking systems. If parking charges are charged on hourly basis, we can use this project to note the exact in and out time of car to find out the total and exact parking charges of that particular vehicle.
4. This project can be used in various software companies, production industries and many other industries to take the attendance of employees. Presently many of these companies have attendance register or muster which is a traditional and old way of maintaining attendance. We can replace it with automated system for taking the attendance of employees.
5. RFID based attendance system can be used in educational institutions, industries, anywhere.
6. RFID is emerging technology and is used in applications where authentication is needed.

Advantages of Smart Attendance System Based On RFID

1. This system is fully automated and it does not require any human interaction except setting the initial time setting.
2. LCD and PC interface both are provided with RFID based attendance system. This gives benefit of viewing attendance on the spot on LCD or remotely from computer.
3. This system is accurate and can avoid proxy or false attendance.

Components Required for Smart Attendance System Based On RFID

1. Microcontroller
2. Buzzer
3. LCD Display
4. RFID Reader
5. RFID card



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4. CONCLUSIONS

In this paper, design of smart attendance system based on RFID for use JAIHIND POLYTECHNIC, KURAN is presented. We have utilized the versatility of RFID in implementing functional and automatic student course attendance recording system that allows students to simply fill their attendance just by swiping or moving their ID cards over the RFID reader which are located at the entrance of lecture halls with a considerable degree of success and acceptability of usage in our faculty. We hope that this system can shift the paradigm of students' lecture attendance monitoring in face-face classroom and provide a new, accurate, and less cumbersome way of taking student attendance in JAIHIND POLYTECHNIC, KURAN

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