Integrated Campus

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Abstract

This system proposes automation of student's record monitoring. The attendance of each student is marked by using thumb scanner. It reduces the paper work considerably as it is a day to day regular activity.This system is divided into 2 sections-Tranmitter and Receiver section. The attendance record system is designed for a classroom of 100 students. As per the details given by GFM, the regular attendance is taken twice a day and also check for absent student. If student is defaulter, then message is send to their parents. It can make the student's attendances more easily and effectively.

I. INTRODUCTION

Due to the easy availability of almost all information on the internet these days, students are less and less motivated to come to the lecture rooms than ever before. Professors and instructors have to come up with ways to ensure a healthy participation from the students, and make sure that the "classic" student professor interactive relationship is kept intact. This in the some cases may be in simple forms like roll call, while in more interesting cases, can be formats like surprise quizzes, extra credit in class, etc. These things can however be very time-consuming. Valuable in-class time that could have otherwise been used for lectures need to be dedicated to "attendance" taking. In addition to all this, the attendances are entered manually and therefore are error prone. Now, there's a technology that can solve all this and MORE. Using thumb scanner, the task of taking a classroom attendance becomes just a "single click" of the mouse.
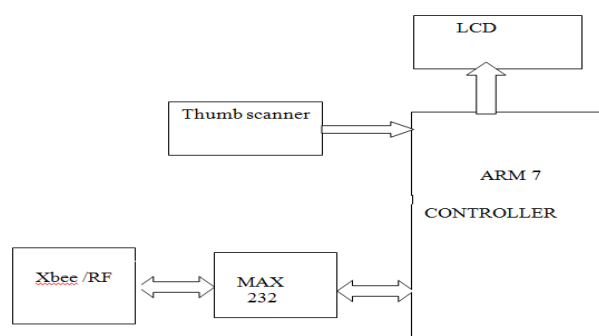
II.BLOCK DIAGRAM
TRANSMITTER SECTION

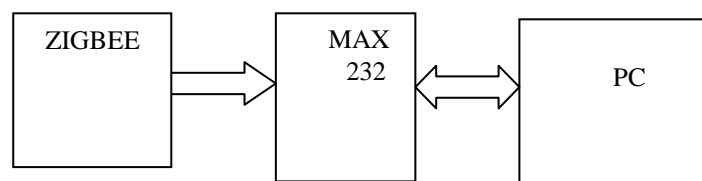**Fig A**

RECEIVER SECTION

Fig B

III. LITERATURE SURVEY

Due to the easy availability of almost all information on the internet these days, students are less and less motivated to come to the lecture rooms than ever before. Professors and instructors have to come up with ways to ensure a healthy participation relationship is kept intact.

"**Zhang Yongqiang, LIU Ji**-" The Design of Wireless Fingerprint Attendance System"-This IEEE paper gives the idea of the hardware part of wireless thumb scanner attendance system. This system mostly consists of thumb scanner module, microcontroller, and wireless communication module. Thumb scanner module communicates with microcontroller module using MAX232 interface in the form of transmitting and receiving data.

"**Gunjan Talaviya, Rahul Ramteke, A.K.Shete**" - Wireless Fingerprint Based College Attendance System Using Zigbee Technology , ISSN: 2249 – 8958, Volume-2, Issue- 3, February 2013, this international conference paper gives information about the software working and the concept of thumb scanner. This thumb scanner will be used to give fingerprint of students to the computer software. LCD display will be displaying rolls and name of those whose attendance is marked. Computer Software will be interfacing thumb scanner and LCD and will be connected to the network. It will input fingerprint, will process it and extract features of fingerprint for matching. After matching, it will update database attendance records of the students.

IV. HARDWARE DESIGN

The hardware is mainly consisting of Thumb scanner, Zegbee module, Controller, 16x2 LCD, and Max 232.

1. *Thumb Scanner*: Thumb scanner module is connected to the system. when any student enter in the classroom his attendance will get mark. Thumb scanner will be used to input thumb scanning of students into the computer software. LCD display will be displaying rolls of those whose attendance is marked. Computer Software will be interfacing thumb scanner and LCD and will be connected to the network. It will input thumb, will process it and extract features for matching. After matching, it will update database attendance records of the students.

2. *16x2 LCD*: It is alphanumeric display which means that it can display two lines containing 16 characters each. Interfacing of LCD and controller is made to know the current status of the system. Various actions done are displayed on the LCD.

3. *Max 232*: Max232 IC is a specialized circuit which makes standard voltages as required by RS232 standards. This IC provides best noise rejection and very reliable against discharges and short circuits. MAX232 IC chips are commonly referred to as line drivers. To ensure data transfer between PC and microcontroller, the baud rate and voltage levels of Microcontroller and PC should be the same. The voltage levels of microcontroller are logic1 and logic 0 i.e., logic 1 is +5V and logic 0 is 0V. But for PC, RS232 voltage levels are considered and they are: logic 1 is taken as -3V to -25V and logic 0 as +3V to +25V. So, in order to equal these voltage levels, MAX232 IC is used. Thus this IC converts RS232 voltage levels to microcontroller voltage levels and vice versa.

4. *.Zigbee*: Zigbee is new wireless technology guided by IEEE 802.15.4 Personal Area Network standard. It is primarily designed for the wide range controlling applications and to replace the existing non-standard technologies. It currently operates in 868 MHz band at a data rate of 20Kbps in Europe, 914MHz band at 40kbps in USA, and the 2.4GHz ISM bands Worldwide at a maximum data-rate of 250kbps. It is used to verify whether user's truncation is possible or not. One of the main advantages of this ZIGBEE communication is that it provides a noise free communication, the amount of noise added in this type of communication is very less compared to the other wireless communications

5. *PC:* The information will be also stored in PC, which will be displayed on LCD at particular exhibit.So that teacher can see the attendance on his PC and can be sending to the PC whenever required. LCD will be used to display different messages. The system develops a student's information database using VB based software. The record of student attendance will appear as per the mentioned subjects. Unique ID will be assigned to each of the student. When the thumb is pressed on the thumb scanner, the attendance will get marked.

V. CONCLUSION

This project mainly comprised of development of attendance management system and Thumb scanner system. Attendance management is very helpful in saving valuable time of students and teachers, paper and generating report at required time. This project presented a framework using which attendance management can be made automated and on-line. A general implementable approach to attendance management was proposed using internet. Further an idea for using portable devices. Along with internet or mobile 3G network was suggested.

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