Unique Attendance Tracker Using Heart Beat Detector Based On RF Technology

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Abstract—**General educational system procedure of taking attendance is by calling each student names or making each student to signing on paper is very time consuming, and it's not secure procedure, hence inefficient system. Radio Frequency Identification (RFID) based attendance system is one of the solutions to address this problem but this system can be misplayed by student. In RFID technology the student presence is sensed by ID card or TAG automatically. So if any one student carries more than one ID/TAG then the RFID device detects the presence of more than one students whereas actually only one student will be present in the class. Hence to overcome this problem in RFID technology we have come up with advance technique where we are using RFID WATCH and RFID READER. In RFID WATCH heartbeat detector is used to differentiate each student from one another by avoiding proxy attendance of more than one student. RFID reader receives the signal sent by the RFID WATCH and simultaneously records the timing of entry/exit of student and keeps the track of student ATTENDENCE in the school/college.**

Keywords— *microcontroller, RF transmitter and receiver, heart beat detector, wrist watch and computer database.*

I. INTRODUCTION

Now a day's students are becoming smarter in doing all possible mischiefs not only in their house also in schools/college. Student usually bunk the class by making his/her friend to give proxy attendance while teacher is calling the names of each student to know their presence. The same procedure of doing proxy thing is followed by student even though the automatic attendance tracker system based on RFID technology is implemented.

In this RFID technology, it detects the presence of each student with the help of ID/TAG automatically using RF sensors in it.as the student are smarter they do proxy in this technology too. If any student wants to bunk the class give his/her ID card with his/her friend who is attending the class so that they would get the attendance even though they did not attend the class.as the friend who is having two id cards with him he may wear one id card and keep another in the pocket so when he crosses RF sensor it detect that two student are attended the class.
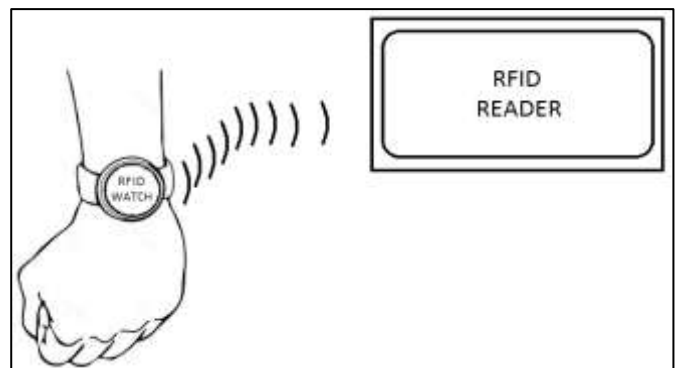
Hence to avoid such proxy attendance of student our techniques implementation uses heart beat detector and RF sensor which get activated only if the student wear it on wrist otherwise by keeping the device in pocket or somewhere which not lead to particular student attendance.
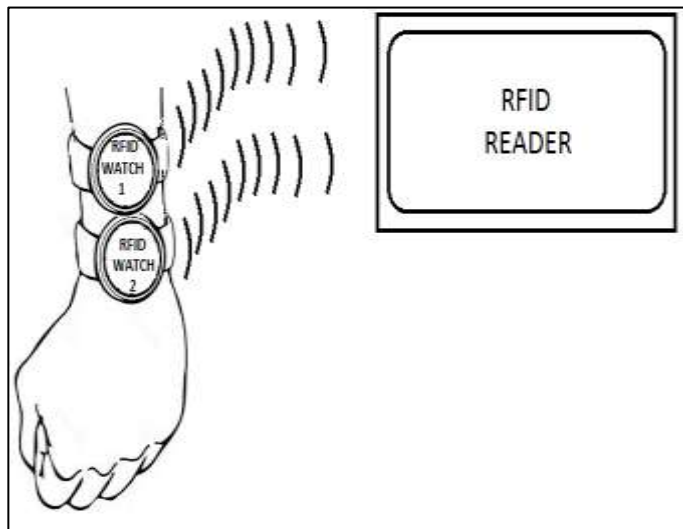
II. HOW DO THEY WORK?

[1] RFID WATCH working

Case (1)-normal operation (student wearing only one RFID watch)

By main feature used in this concept known as heart beat detector used in the watch gets activated when it is tied to the wrist of the student. Once the heart beat detector is activated it send signal to the RF transmitter. Then the RF transmitter is powered which transmit the unique id of a particular student to the RFID READER. Then the RFID reader stores the entry/exit timing along with date of that particular student.

Case (2)-extreme operation (student wearing more than one RFID watch)

If the student wear more than one RFID watch that is student wearing his/her own RFID watch in one hand and wearing another RFID watch of his friend in another hand and try to make proxy of attendance for his friend than in such case the RFID reader sense both the RF watch signal at same time than result in alarming an error voice message stating that "please make re-entry or re-exit individually".
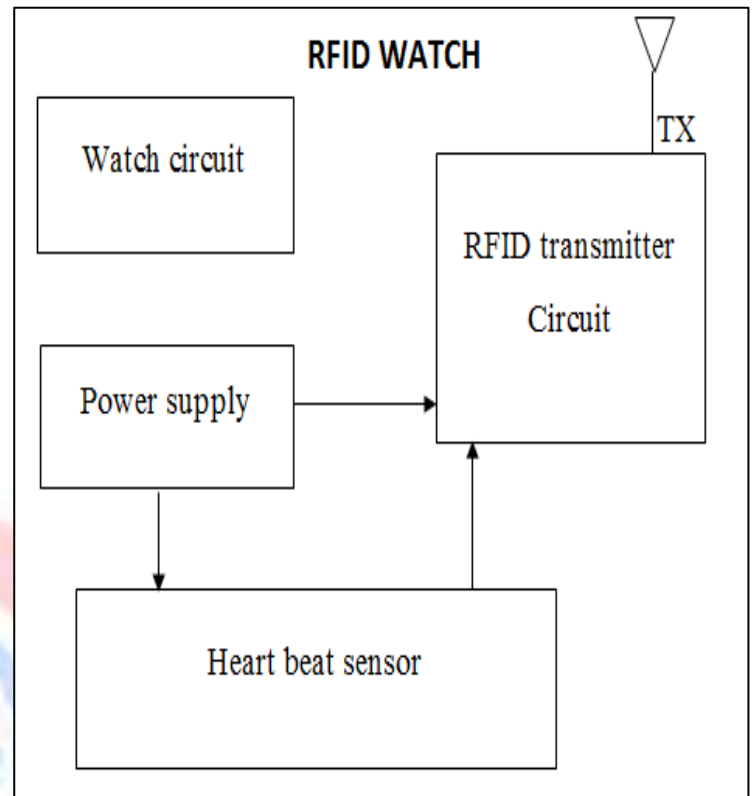

[2] RFID READER working

The signal from the RFID watch of the particular student is received by RF sensor used in the RFID reader. This signal is sent to microcontroller which mainly performs the function of maintaining the track of student attendance record. When once the microcontroller receive the signal from RF sensor it check for the unique identification code of a particular student received by the RF receiver with the identification codes stored in the pre-programmed memory. If it matched than it stores the particular student entry/exit timing with date as in the form of attendance in computer database. If it won't match then it doesn't store anything in the database.
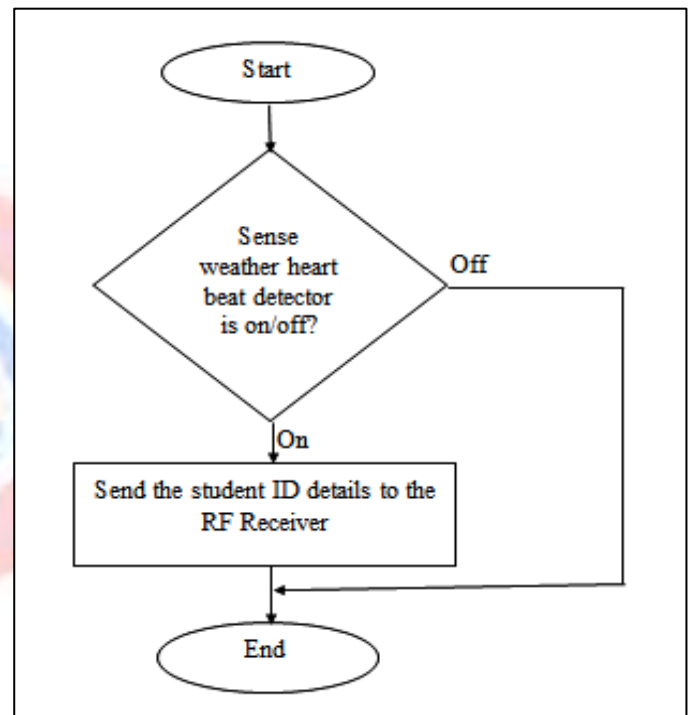
III. BLOCK DIAGRAM

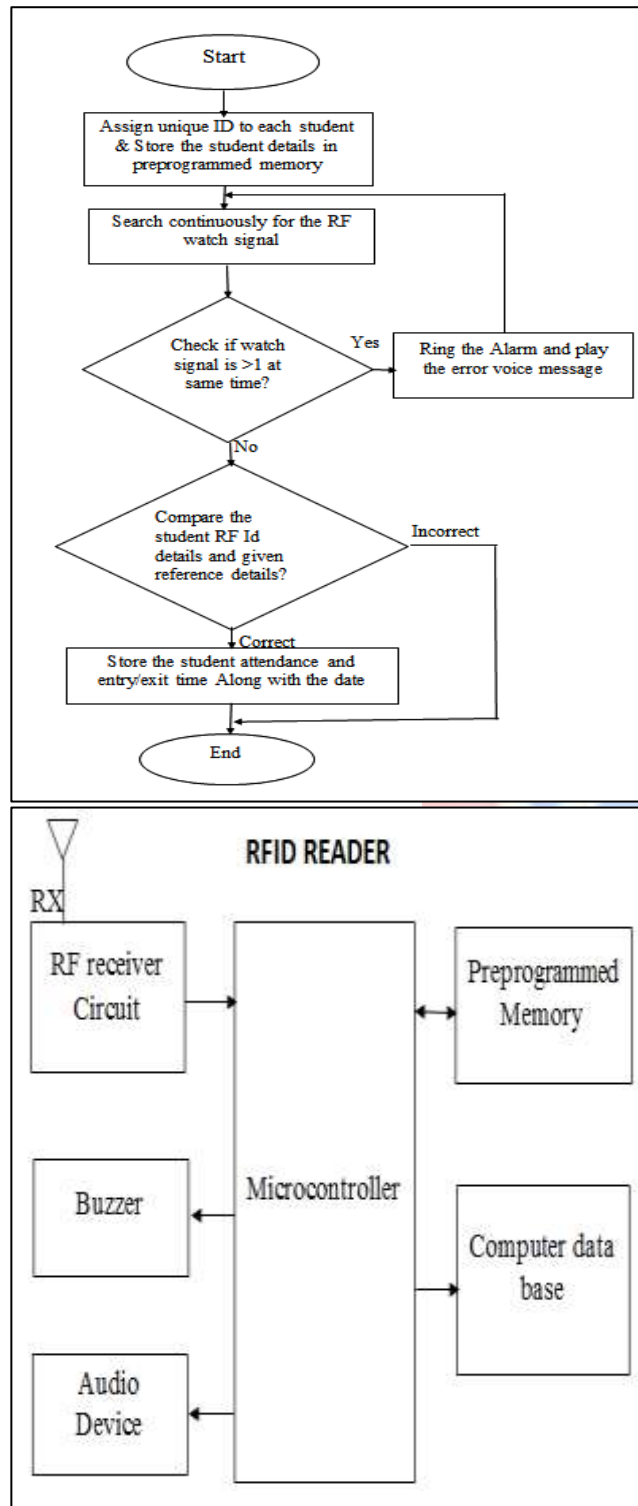In this block diagram the details of component used for system working illustrated in the form of block diagram.

IV. FLOW CHART

The flowchart is sequential diagram that shows an algorithm, process flow and steps as boxes of different kinds, and their sequence by connecting them with arrows. This pictorial representation illustrates a solution model to a problem discussed in our paper.

1. Flowchart of RFID WATCH

2. Flowchart of RFID READER

V. CONCLUSION

As the RFID technology develops gradually, more revealing applications will use the capability of RFID to receive the incoming data and store data to desired destination. RFID has many applications which may lead to development of technology. The functionality of RFID can be used in implementing system UNIQUE ATTENDANCE TRACKER USING HEART BEAT DETECTOR that allows students to undergo automatic attendance detecting process by wearing the RFID watch and crossing over the RFID reader. RFID

technology developed by using a feature of heartbeat detector from which we can avoid the student giving proxy in attendance for his/her friend. By doing such thing student not only he/she cheats their future life also they cheat their parents.so to avoid the parents getting cheated by their son/daughter and to make sure that their children's are attending the college this type of system can be implemented which is economical in cost and also provide several type of benefits over the common method of taking attendance.

ACKNOWLEDGMENT

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