

RFID Based Student Monitoring and No Due Status Checking

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Abstract: In this paper, Educational institutions' administrators are concerned about student for the NO DUE certificate and Current manual way of taking student attendance is not an efficient way since there will be spent much of time for calling students names and putting marks like "presence" or "absence" if the class is a lecture class, and in this class at least 5 groups a represented. Moreover, some students may call his/her friend as "presence" even though this student is currently absent. After thinking all these issues, author of the following research paper decided to create a system that makes easier to check Students' attendance automatically. Student attendance from the college. Checking Students' attendance and NO DUE is one of the important issues for universities; However, Hence we are implementing this project, so that students can easily collect their no due statement. If any student they have to know the No Due statement (ex: library, hostel fee, mess bill etc.) and student attendance in the particular semester or end of the semester, through RFID. Has, providing valuable Information about the students'. Something has to be done to reduce the time consumption. Every completion of process NO DUES STATUS and Student attendance sms send to the parent.

Keyword: RFID-Radio Frequency Identification; RFID tag; RFID- reader;

I.INTRODUCTION

Now-a-days, there are lots of colleges and Universities around the world and some of them consist of students up to thousands or more. To handle a large number of students may be a problem especially to get the attendance of the students and NO DUE certificate. Student is supposed to get the no dues cleared from each department at the end of the semester. Each Student has to go particular department to get their no dues from signed from respective authorities of the department so that if cleared. Therefore we are focusing on developing NO DUES management system which will generate computerized due status form showing due status. The manual process is that whenever a lecturer comes to class, he came with a Register and manually takes attendance by calling roll numbers. This manual process has some flaws because in a case where students can cheat by saying attendance of their friends, another Problem is that the lecturer

had to take care of the Register and enter the attendance into the log (or) data-base, calculate the attendance percentage.

This would be a big problem in the colleges and Universities. In this project, RFID system is used to record the numbers

Student's attendance and NO DUE status automatically. The ID cards of the students is embedded with RFID tag which is read by a reader This RFID system is interfaced to a database through a computer. This method is more effective to prevent problem Encountered when getting attendance and NO DUE certificate manually. The main components that the RFID technology consists are RFID Reader and RFID Tag. This paper introduces the distinctive components of RFID technology scalability and security. Radio-frequency identification (RFID) is a technology that uses radio waves to transfer data from an electronic tag – called an RFID tag or label, which is attached to an object –through a reader for the purpose of identifying and tracking the object.

II. RFID

A micro-chip in a label used to transmit data when label is exposed to radio waves. It consists of 2 parts: A Reader, and one or more Transponders, also known as Tags. RFID systems evolved from barcode labels as a means to automatically identify and track products and people.

2.1 COMPONENTS OF RFID:

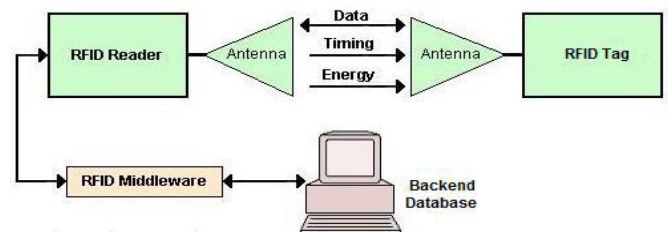


Fig. 1 Components of RFID System

It consists of various components that are connected to one another by a dedicated communication Path (see Fig.1).

The list of components is as follows:

Tags – an object it is attached to product and Uses a unique sequence of characters to define it. It comprises of a chip and the antenna.

Antenna – it is used for the transmission of Information between the reader and tag using radio waves.

RF Transceiver - It is the source of the RF energy used to activate and power the passive RFID tags.

III PREVIOUS WORK

Student Monitoring and No due status checking is very important in any organization or educational institutions because it is used for further reference and institutional purposes but in past years, most of the universities, faculty take attendance by calling out the names and surnames of students, and then marking them, while, in others, faculty pass around a sheet of paper, asking students to sign in attendance sheet just next to their surnames and in some colleges bio metric system is used and in some uses bar code system. After completion of degree every student has to obtain the DUE certificate from the college which is long procedure. Sometimes it may take many days to get the statements. Managing and maintaining records for a period of time is also burdensome task.

IV PROPOSED METHODOLOGY

The primary aim of the research is to uniquely identify individual students based on their unique tag identifiers. The research should shower light on how scalable and efficient the system is. A systematic and serialized approach is required to solve this conundrum. The key characteristics of the application include: Perform automated attendance Generate report of attendees for a particular course Error free tag identifier detection Easy scalability to incorporate more records Integrity and security in data storage When students enter the classroom, the RFID-reader automatically reads their RFID-cards(See and the Web camera takes their photos. These photos and ID's are sent to the PC, where system will compare their information with information stored on the DBMS according to their ID's that we have assigned to them. Eventually, the professor will submit all the information collected, and the DBMS will have a record of who came and who failed to come to class on any given day.

If any student they have to know the Due statement (ex: library, hostel fee, mess bill etc.) in the particular semester, through RFID TAG he can check and pay by the selection inputs, if switch one is press and show ID card to know the Due statement and display in monitor, completion of process DUE STATUS sms send to the parent. RFID based college maintenance system is used where RFID tag provided, when is read by reader, it compares the codes with predefined codes in the machine, based on correctness it sends an acknowledgement to the parents of that student and it also maintains a record of check in and checkout timings of student, which can be further transferred to the

administrator via network systems. RFID readers were placed at different places in college like library, classroom, and canteen. When student enters RFID readers scans the RFID tag is assisted to the RFID readers which sends an SMS to the parent Whenever he/she needs information of students at different places he/she sends an SMS to the parent RFID reader.

As shown in Fig.4.1 Process is initiated by a student through RFID Tag. It is scanned by RFID Reader and it checks whether it is valid or not. After this if it is invalid it shows the message of invalid RFID. If it is valid, it checks the database of administration, library, and hostel and attendance shortage. If is there any due present it generate due status and send it to the parents of student otherwise it generates no due receipt

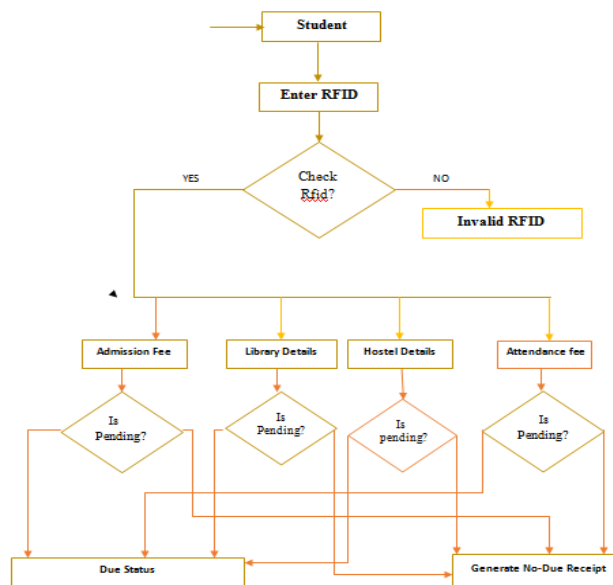


Fig 4.1 flow chart of Student monitoring and no due checking.

4.2 FUNCTION OF STUDENT MONITORING AND NO DUE CERTIFICATE

- **Administration**

-It must make the entries of all the students and respective authorities into the database.

-It must create a login id for all the authorities and must provide them with a user id and a password.

- **Department**

-Every department authorities must note down the details of the student whenever a student takes anything from the department.

-The authorities must keep the details of when and what has been taken from the department.

- **Library**

-This RFID system can also be implementing for Library Management System. When student enters into library it

scans the student ID same as attendance and only allow authenticate students in the library and whenever student leaves the library it checks for the RFID tag. The architecture for library management system using RFID is show

-As shown in the figure for library management, RFID card will be used for entry and exit checking in from library, for book checking (availability) purpose and for book withdrawal and return purpose.



Fig. 4.2 Architecture of Library Management System

4.3 FEATURES

We are implementing this project; so that students can easily collect their due statement and check attendance in this we do the identification With the help of the latest technology (RFID), the implementation of this project is very simplified. RFID technology together with a very secure Database yields into a highly efficient and secure system. Following are the features and advancement of NO DUES and Student moniering over presently existing system:

- RFID tag cannot be cloned, so cannot be cheated.
- Very efficient saving of time.
- Error free tag identifier detection.
- Easy scalability to incorporate more records.
- Comparatively less maintenance cost.
- Accurate student attendance.
- Fast and entry of event information.
- Accurate NO Due Status.

V. IMPLEMENTATION OF SYSTEM

The primary aim of the research is to uniquely identify individual students based on their unique tag identifiers. The research should shower light on how scalable and efficient the system is. A systematic and serialized approach is required to solve this conundrum. The key characteristics of the application include:

- Fast and entry of event information.

- Accurate NO Due Status.
- Less administration work.
- Perform automated attendance
- Generate report of attendees for a particular course
- Error free tag identifier detection
- Easy scalability to incorporate more records
- Integrity and security in data storage

When the professor arrives in class, he/she logs in and submits a password on the PC to our system, after which our system opens his/her page as shown in below figure.

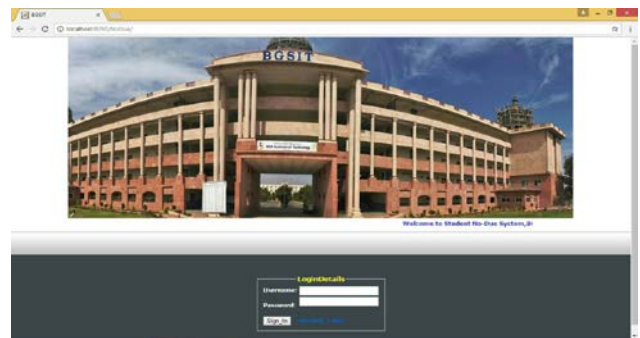


Fig.5.1 Login module For the System

When students enter the classroom, the RFID-reader automatically reads their RFID-cards, where system will compare their information with information stored on the DBMS according to their ID's that we have assigned to them. Eventually, the professor will submit all the

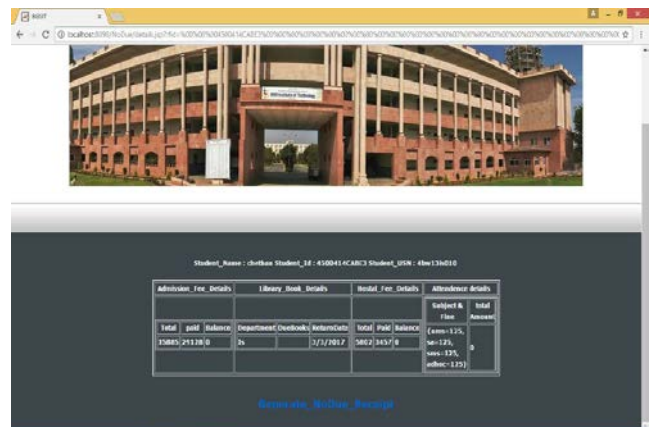


Fig.5.2 Generate NO DUE status

VI CONCLUSION

The main purpose of this project is to monitor the student and the information of the student for every hour is send like an SMS to the coordinator where ever the student present in the college. The other application of the project is due status checking, that an SMS will be send to parent/student whenever student wants to know the fees due for the semester by showing their RFID cards to the reader.It will helpful to students as well to management to check and know the status of the due records of the

students. And it reduces the time consumption while maintaining the records of due management.

VII FUTURE SCOPES

The advantage of this project when compared to previously suggested RFID based Students monitoring and NO DUE status checking is that this stays closer to future monitoring and checking status in system. RFID system and database used here can be useful in IoT formation as object and human information collection is the biggest challenge in IoT. So implementation of such a system can be considered as primary step towards fully operational IoT. Also Raspberry Pi provides a huge room for future improvements. This minicomputer is sure to be replaced by smaller and better performing components in future, but remains the best choice till the date, considering near future. The program can be slightly modified to obtain information of any department such as administration, mess, library, hostel etc.

VIII REFERENCES

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