

RFID Based Automatic Attendance System with SMS Module

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ABSTRACT

In recent years, there have been rise in the number of applications based on Radio Frequency Identification (RFID) systems and have been successfully applied to different areas as diverse as transportation, health-care, agriculture, and hospitality industry to name a few. RFID technology facilitates automatic wireless identification using electronic passive and active tags with suitable readers.

In this paper, an attempt is made to solve recurrent lecture attendance monitoring problem in developing countries using RFID technology. The application of RFID to student attendance monitoring as developed and deployed in this study is capable of eliminating time wasted during manual collection of attendance and an opportunity for the educational administrators to capture face-to-face classroom statistics for allocation of appropriate attendance scores and for further managerial decisions.

RFID is an automated identification and data collection technology, that ensures More accurate and timely data entry. RFID is not actually a new technology; it only quickly gained more attention recently because of its current low cost and advances in other computing fields that open up more application areas.

RFID combines radio frequency and microchip technologies to create a smart system that can be used to identify, monitor, secure and do object inventory. At their simplest, RFID systems use tiny chips called ?tags that contain and transmit some piece of identifying information to an RFID reader, a device that in turn can interface with computers. The ability of RFID systems to deliver precise and accurate data about tagged items will improve efficiency and bring other benefits to business community and consumers alike in the not distant future.

Keyword: RFID, Students attendance, Web Server, RFID tags, RFID reader, Lecturer, Ethernet, Middleware

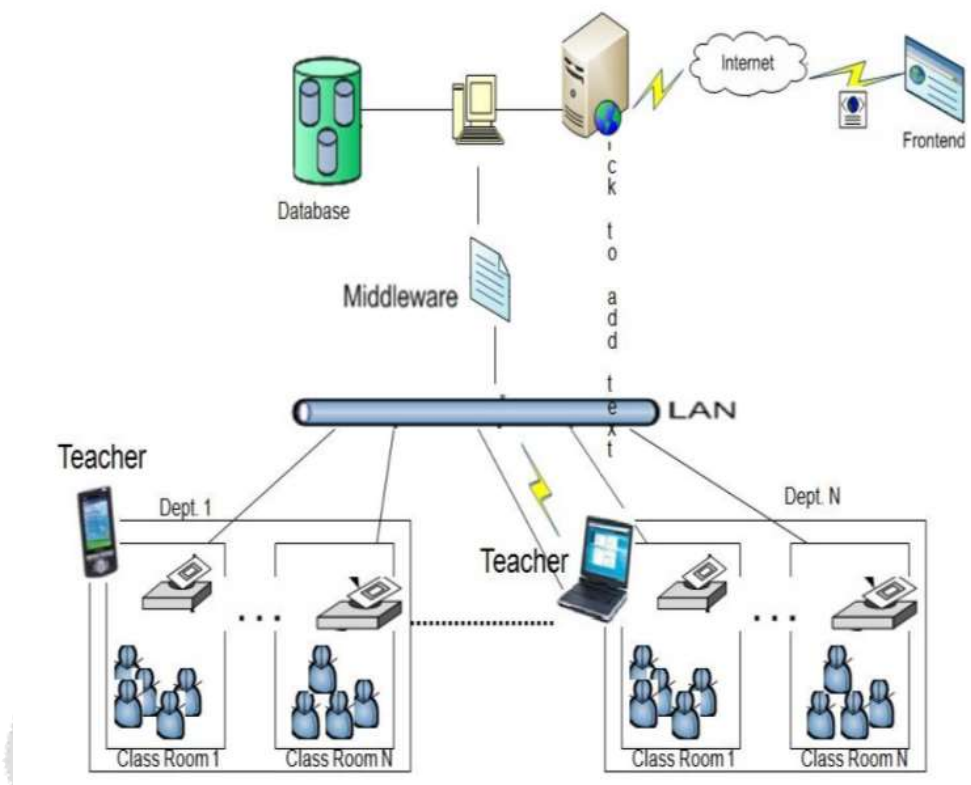
1. INTRODUCTION

RFID Based Attendance Management System (GreenBook) is the easiest way to assist the faculty and the lecturer for this time-consuming process. The most common means of tracking student attendance in the classroom is by enforcing these students to manually sign the attendance sheet, which is normally passed around the classroom while the lecturer is conducting the lecture. For instance, lecturers with a large class may find the hassle of having the attendance sheet being passed around the class and the manual signing of attendance by students are burdensome and most likely distract them from teaching and getting full attention from the students. Besides, as the attendance sheet is passed around the class, some students may accidentally or purposely sign another student's name. The first case leads to a student missing out their name, while the latter leads to a false attendance record. Another issue of having the attendance record in a hardcopy form is that a lecturer may lose the attendance sheet.

2. SYSTEM DESCRIPTION

The following figure shows the system architecture of RFID Based Attendance Management System. Development of the system will be based on problems to be addressed and which can meet the needs of the organization. The proposed system provides solution to problem through coordinated hardware and software design handshaking data communications between RFID tag and RFID reader. This system is based on active RFID tag. All RFID readers are mounted in the central of each class room and connected with the class room computer which is

connected with the existing campus LAN infrastructure. Software running on main server receives events, which having tag id, date, time, and class room location etc. These information pass through middleware (middleware can Online Attendance Management System Using RFID with Object Counter 135 placed in reader itself also, which decrease the LAN transfer speed) which provides the filtering operation.



7

Fig-1 System Architecture

3. OVERVIEW OF SYSTEM

Following use-case diagram shows the overview of the RFID Based Attendance Management System. The staff actor can have the monthly/weekly report of attendance, admin can add, delete, update the details. Principle can monitor this details while student can also view their attendance.

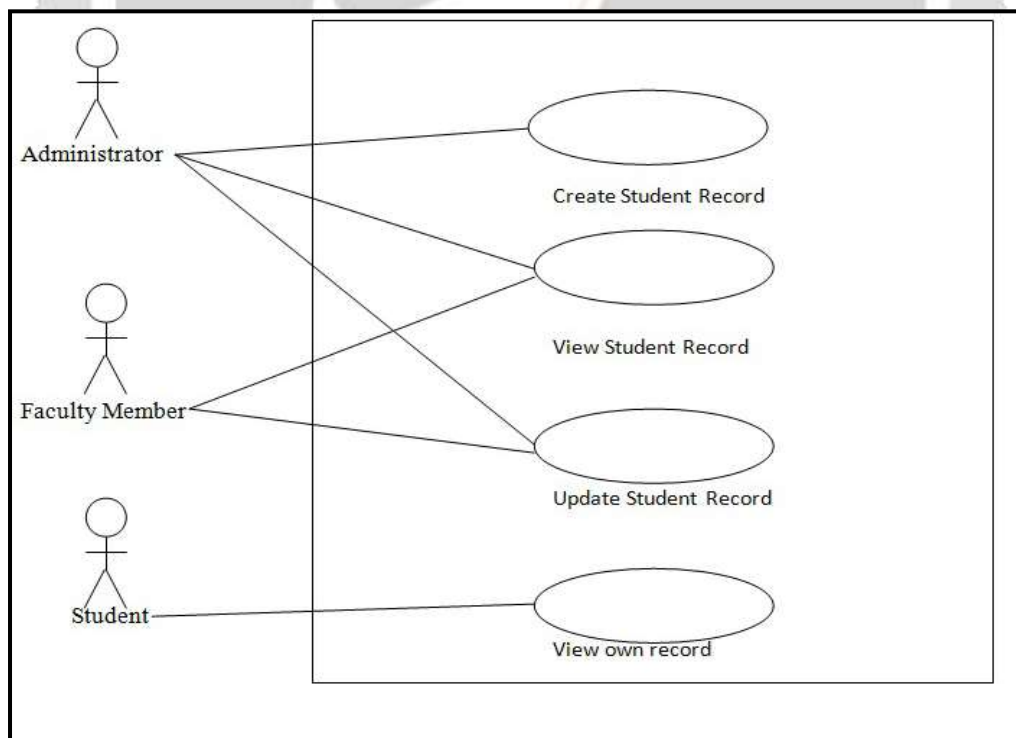
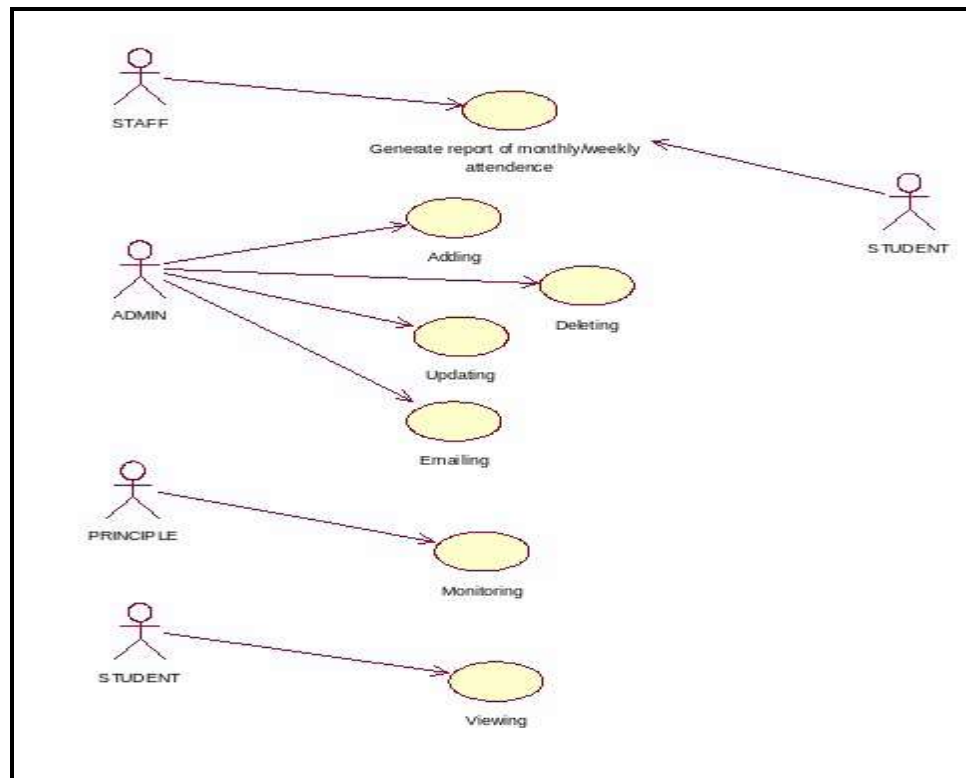


Fig-2 Use case Diagram

4. CONCLUSIONS

As the RFID technology evolves, more sophisticated applications will use the capability Of RFID to receive, store and forward data to a remote sink source. RFID has many Applications as can be imagined.

In this paper, we have utilized the versatility of RFID In implementing functional and automatic student course attendance recording system That allows students to simply 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 classroom and provide a new, accurate, and less cumbersome way of taking student Attendance in Nigerian Higher Institutions.

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6. REFERENCES

- [1].Chitresh, S and Amit K ,”An efficient Automatic Attendance Using Fingerprint Verification Technique ”,International Journal on Computer Science and Engineering (IJCSE),Vol. 2 No. 2,pp 264-269 (2010).
- [2]. Longe O.O.,”Implementation of Student Attendance System using RFID Technol- ogy”, B. Tech Project Report, Ladoke Akintola University of Technology, Ogbomoso, Nigeria(2009).
- [3].K.Srinivasa Ravi, G.H.Varun, T.Vamsi, P.Pratyusha,”RFID Based Security Sys- tem”,International Journal of Innovative Technology and Exploring Engineering (IJI- TEE) ISSN: 2278-3075, Volume-2, Issue-5, April 2013.
- [4].O. Shoewu, O. M. Olaniyi, and A. Lawson. ”Embedded computer-Based lecture at- tendance management system,” African Journal of Computing and ICT, vol. 4, no. 3, pp. 27-36, 2011.
- [5].Rajan Patel,Nimisha Patel,Mona Gajjar,”Online Students? Attendance Monitoring System in Classroom Using Radio Frequency Identification Technology: A Proposed System Framework”,International Journal of Emerging Technology and Advanced Engi- neering Website: www.ijetae.com (ISSN 2250-2459, Volume 2, Issue 2, February 2012).