**Abstract**

student’s attendance has been considered as one of the crucial elements or issues that reflects the academic achievements and the performance contributed to any university compared to the traditional methods that impose time-consuming and inefficiency. Diverse automatic identification technologies have been more in vogue such as Radio Frequency Identification (RFID). An extensive research and several applications are produced to take maximum advantage of this technology and bring about some concerns. RFID is a wireless technology which uses to a purpose of identifying and tracking an object via radio waves to transfer data from an electronic tag, called RFID tag or label to send data to RFID reader. The current study focuses on proposing an RFID based Attendance Management System (AMS) and also information service system for an academic domain by using RFID technology in addition to the programmable Logic Circuit (such as Arduino), and web-based application. The proposed system aims to manage student’s attendance recording and provides the capabilities of tracking student absentee as well, supporting information services include students grading marks, daily timetable, lectures time and classroom numbers, and other student-related instructions provided by faculty department staff. Based on the results, the proposed attendance and information system is time-effective and it reduces the documentation efforts as well as, it does not have any power consumption. Besides, student’s attendance RFID based systems that have been proposed are also analyzed and criticized respect to systems functionalities and main findings. Future directions for further researchers are focused and identified.

**Introduction**

Radio-frequency identification (RFID) is a technology that uses radio waves to transfer data from an electronic tag, called RFID tag or label, attached to an object, through a reader for the purpose of identifying and tracking the object. RFID technology is a matured technology that has been widely deployed by various organizations as a part of their automation systems. In this project, an RFID based system has been built in order to produce an attendance management system. An automated attendance management software will not only make the entire process simple, but will also provide a well-structured and analyzed report of the pattern of student attendance and time management, which can further help in allocating and using the human resources in an organization to the maximum possible benefit. This system consists of two main parts which include: the hardware and the software. The hardware consists of a Aurdino and RFID reader. The RFID reader, which is a low-frequency reader (125 kHz), is connected to the host computer via a serial to USB converter cable. The Time-Attendance System GUI is developed using SQL and PHP. The Attendance Management System provides the functionalities of the overall system such as displaying live ID tags transactions, registering ID, deleting ID, recording attendance and other minor functions. This interface was installed in the host computer.

**SYSTEM IMPLEMENTATION**

There are Two Phase in System Implementation

1. Phase One

In this stage, all steps and procedures for conducting the student attendance management part of the current system are described. The student scans (RFID Tag) into (RFID Reader) where (RFID Reader) reads the (ID) for the student in particularly via student ID (Reading Process) and then transfer information via Arduino board (Microcontroller Process) and Ethernet shield (Transmission Process) to send data to the Wamp server (MySQL and PHP) by wired (Server Process) to record, manage, and display student attendance records by a web based application.

1. Phase Two

In this phase, the RFID reader reads the student’s ID (Reading Process), Arduino UNO (Microcontroller process) is used to transfer student’s information to the Wamp server through the cable via Ethernet shield card (Transmission Process). Server (MySQL and PHP) is used to identify student ID and to send student’s information to the screen. The student scans the (RFID Tag) to the (RFID Reader) where (RFID Reader) reads (ID) for the student and then send it through Arduino board and to the server side (MySQL and PHP) where it searches for the ID of the particular student and fetches his data from database then the information can be presented on the screen or LCD. These data contain information regarding the student such as student name, class, and status as well as daily timetable that encompasses classroom number, lecture time, subject name, and lecturer name. As well, the system presents all instructions and roles which are sent by the administrator to a particular student.

**CONCLUSION & SCOPE FOR FUTURE WORK**

In conclusion, the objective to build an RFID based attendance system was successfully achieved. In terms of performance and efficiency, this project has provided a convenient method of attendance marking compared to the traditional method of attendance system. By using databases, the data is more organized. This system is also a user friendly system as data manipulation and retrieval can be done via the interface, making it a universal attendance system. Thus, it can be implemented in either an academic institution or in organizations. However, some further improvements can be made on this RFID in order to increase its reliability and effectiveness. An indicator or an LCD screen can be incorporated into the system to indicate when any unregistered card is scanned. An IP camera can be integrated into this system to monitor the actions like buddy-punching wherein a person cheats by scanning for another person. Finally, this attendance system can be improved by adding a feature where the attendance system indicates when a student is late for work or classes as the case maybe.