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RFID Based Attendance System Using Raspberry Pi

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Abstract: Attendance is the key factor of a student or a employee who has been attending the organization. From the previous days, the attendance is been recorded manually. This action may lead to some human errors or any loss of data. In order to avoid such situations, we are introducing this system called RFID based attendance system using raspberry pi. Here all the students will be provided a RFID card which has to be placed before the sensor while entering the classroom. This sensor will detect the unique code from the card, and will mark the attendance to the student based on the student data which was preloaded in the database. And this data is stored in the server. That data can be seen by only the authorized person/ Admin. The attendance data can be sent in an email for the authorized Attendance system is a system that is used to track the attendance of a particular person and is applied in the industries, schools, universities or working places. The attendance rate will be calculated based to the average percentage of students attending school every class of the course. The attendance rate is important because students are more likely to succeed in academics when they attend class consistently.

1. INTRODUCTION

The traditional way for taking attendance has drawbacks which is the data of the attendance list hard to reuse. If the lecturer wants to calculate the percentage of the students that attend to the class, he/she has to calculate manually or input by typing. This also easy lead to human error such as the lecture may wrongly. The technology-based attendance system will reduce the human involvement and decrease the human error. There are various person. A radio-frequency identification system uses tags, or labels attached to the objects to be identified. Two-way radio transmitter-receivers called interrogators or readers send a signal to the tag and read its response. The tag information is stored in a non-volatile memory. The RFID tag includes either fixed or programmable logic for processing the transmission and sensor data, respectively. RFID tags can be either passive, active or battery-assisted passive. An active tag has an on-board battery and periodically transmits its ID signal. A battery-assisted passive tag has a small battery on board and is activated when in the presence of an RFID reader. A passive tag is cheaper and smaller because it has no battery; instead, the tag uses the radio energy transmitted by the reader.

2. LITERATURESURVEY

From the past may years, the process of taking the attendance is manual. This method is very time consuming and it may lead to some human errors. Many organizations lie offices, some colleges are using finger print sensors for marking the attendance of their employees. But the situation in a classroom is totally different. Students cannot come to the device to mark attendance in a class room and time varies. An efficient attendance system helps in maintaining a proper validation of time sheets. And there are some applications that will record the check in time and check out time. Some organizations like IT sector is using some websites to mark the attendance. Manual attendance requires a lot of paper and recapitulation process takes a long time likewise the document storage requires a physical form. 9 After the registration process, the machine able to be used as an attendance with only put a RFID card that is used during registration on the screen scans that available. After that, software of student attendance on the machine will process and store data. Output data can be viewed using a computer by the academic to monitor student attendance. The designed system significantly improves the productivity and reduces wastage of human and material resources. The use of object counters in rfid based systems has also been shown. Such a system significantly improves the current manual process of taking attendance in the university environment. It also promotes a fully automated approach in monitoring the students in the campus. The designed system significantly improves the productivity and reduces wastage of human and material resources. The immense potential of RFID based systems has been identified and explained in earlier. It will open the door to applications which were. The immense potential of RFID based systems has been identified and explained in literature earlier. It will

open the door to applications which were unthought of a few years ago. Also the evolution of the technology and role of individual components has been explained in detail. The use of object counters in RFID based systems has also been shown. Such system significantly improves the current manual process of taking attendance in the University Environment. It also promotes a fully automated approach in monitoring the students in the Campus. The application of GSM has also been studied to send SMS to a guardian when a student enters the campus.

3. PROPOSED SYSTEM

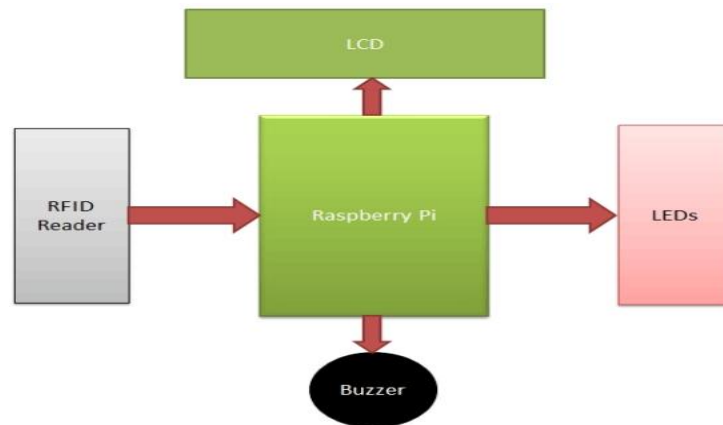


FIGURE 1...Block Diagram of RFID based Attendance system using Raspberry pi

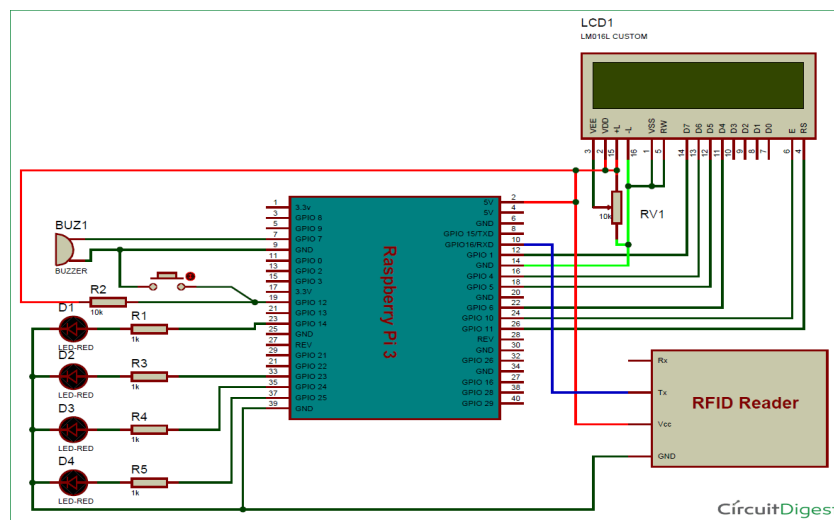


FIGURE 2. Raspberry pi 3

4. RESULT

Here all the students will be provided a RFID card which has to be placed before the sensor while entering the classroom. This sensor will detect the unique code from the card, and will mark the attendance to the student based on the student data which was preloaded in the database. And this data is stored in the server. That data can be seen by only the authorized person/ Admin. The attendance data can be sent in an email for the authorized Attendance system is a system that is used to track the attendance of a particular person and is applied in the industries, schools, universities or working places. The attendance rate will be calculated based to the average percentage of students attending school every class of the course.

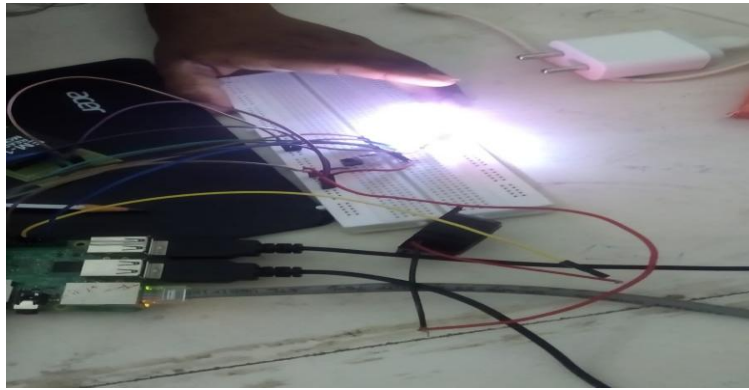


FIGURE 3. RFID card

5. CONCLUSION

The proposed automated attendance system has been developed to reduce the manual process of difficulty. RFID based automated student attendance system has been designed to improve manual process of difficulty. Manual attendance system caused delay process on the entire educational field [5]. When manual roll call registration replaced by automatic attendance system the teachers will be free from roll call registration every student's attendance. It has a great profit on the entire traditional educational process. All teachers will be free from registration every separate student's attendance information that will save their costly time and force. Attendance information is accessible through the graphically user interface for admin when necessity. Student information can access through the user form for admin when they necessity. The system will explore the information of student to the respective teachers, student and parents after the each class completion more over they can see every day, every week and every month from internet front end application. At the times the proposed method will minimize the student absent amount from 40% to 5% that will become better student's work. Therefore, this proposed system will guidance in increase quality of education.

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