

Smart Attendance with Student Authentication and Student Presence Time Calculation

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ABSTRACT:

In the traditional program of attendance, teachers should call the student's name or number to be known to the students, or hand out the attendance card. valid for signature. Over the last two decades, the number of students has greatly increased due to the difficulties of managing attendance. As such, when students submit a membership ticket, some students sign more time and attend memberships. These two systems are used multiple times. To overcome these problems, this article provides an example of a smart attendance program. The biometric microphone and the radio information system are combined to run a fundraising event enhancement program. It is designed to control software in the C # environment, where a software is installed.

Keywords: Rfid; Arduino; Fingerprint Sensor.

INTRODUCTION:

Higher literacy is one of the important aspects of national development. In the past few years, the quality and quality of education in India has increased dramatically. The quality of education depends on the percentage of students in the classroom, student performance, quality education, and so on. In the modern teaching system, teachers have established: a. A percentage of the classes for attendance. As the number of students in the classroom grows, more time is required to participate in the practices. The uses are not good in most cases. Students were not disciplined during the regular

participation process. Membership is also a problem in the current system. This article proposes a three-layer solution. The attendance management program is also involved in the development of a C # application for regular attendance thinking.

LITERATURE REVIEW:

Initially a custom software program was developed that was part of the software and the ability to collect the EEPROM form from EEPROM on the Raspberry Pi server. Some researchers have suggested a digital document and tracking system that does not use machine learning [2]. The use of ASP.net and the web-based RFID protocols are presented in several studies [3]. RFID-based monitoring and monitoring, a SQL-based database, was developed by researchers at the University of Notre Dame [4]. In the literature [6], RFID is associated with Arduino, and data is sent to the laboratory for participation. It is developing a creative coding program based on secret coding, MD5 algorithm, for each child used daily with NFC. This project also developed a computer, web and telephone. Adaptive communication technology is also used in [8] to track student attendance at the Si RaCha campus. Recently, a best practice was developed for the development of an electronic voting machine, with NFC and biometric fingerprint information [5]. Some researchers have suggested an internet-based program that displays warning charts and charts [9]. The main power supply in this system is the arduino mega 2560. The development includes a fingerprint sensor, an

RFD reader with a name, a 4X4 keyboard, a 16X2 LCD screen and a personal computer. A brief description of the image and the validation algorithm is given below.

a) RFID read and tag; RFID stands for Radio Frequency Identification. Modern RFID connectivity is more than just a blockchain and the system works on long-distance communications (NFC). RFID connectivity is widely used for control, product identification, passports, search engines, people and more. RFID generators are of three types, which include actuators, buses, and battery operated devices. The passport does not require external power, and this type of name is used to develop this process. RFID readers are also of three types: transactional transcriptional reader, active transcriptional activator, and active transcriptional reader. The first type of reader is used in this work. The RFID user first sends a radio signal when bringing RFID signals. Because the name is tied to a specific phone, it will respond and send to the RFID reader for a unique signal. The RFID reader and name are connected to the access group via UART connections. Because the reader is related to the unit of process, the unstructured number will be known. Grove - 1251cHz RFID reader used here.

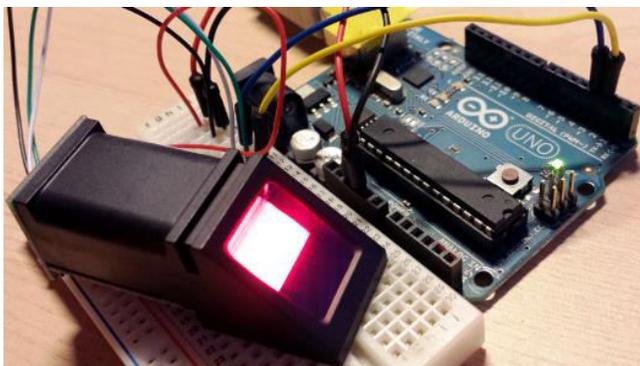


fig. no. 1

b) Fingerprint Sensor: Rs. 800-1000 + Arduino: Rs. 250-300 biometric fingerprint sensor. The way to identify a person's personality or behavior is known as biometrics. Some of the most common human species include acne, iris, sound, facial, and more. The sensor has a kernel of 32-arm Cortex M3: High-resolution detection is less than 1.5 seconds. DSP protection in

the fingerprint sensor using the SmakFinger3.0 algorithm. First, the fingerprints should be recorded on the fmger printer pointer. know this process of registration. The registration of fingerprint identification spaces is done in conjunction with the printer logo. To record two images on the device, the sensor records the first finger and waits for the finger to be removed from the device. After removing Fmger, the device selects another ID that will include the next box.

To verify the fingerprint, the user first sends a check order. After receiving the confirmation code, the fingerprint indicator looks at the finger. After processing, the device sends the identification number, that is, the host host, if a fingerprint has been registered. Otherwise, the power supply will not accept the host behind the host.

A. identity checks; Physical proof requires three proofs. If a validation fails, the other authentication process fails and will no longer work. The three-factor model validation using the algorithm is described in Figure below.

Visual Studio 2012 was used to develop a window in C#. In this application, the teacher or teacher must prepare their own password to access the program. Students cannot use this application because of password protection and avoid using this program. After logging in, the teacher can turn the computer over to the computer. Instructor training name and version number are included in the application. Students are then allowed to provide their access to tools to participate. When a student's identity is verified, the program maintains the student's identity, student's name, and percentage attendance in writing.

An item was then sent to the city to retrieve information from the device. When you press the Connection button, most of the COM files are opened, and the code below this button shows the status of the connection. The data controller is used to retrieve information when the phone cable arrives as a result of the data recording process.

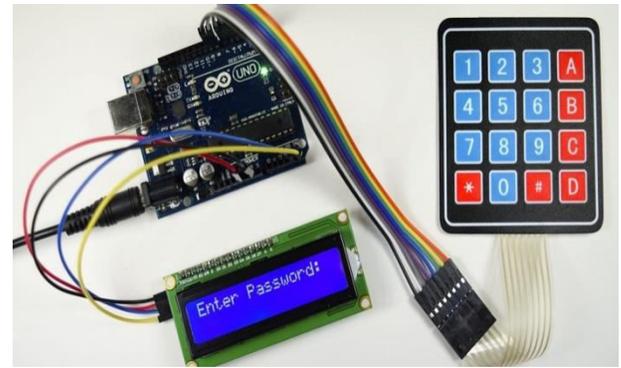
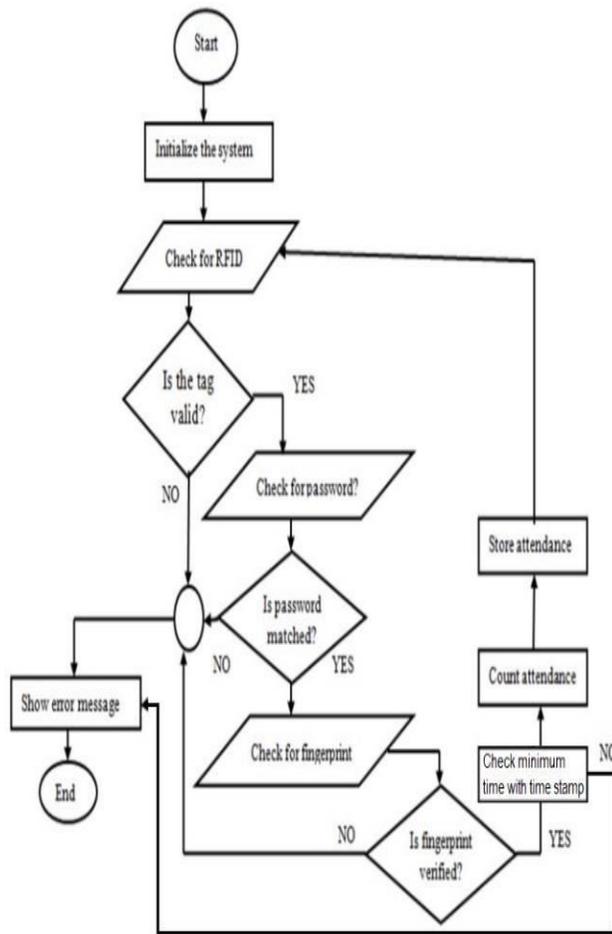


Fig. no.2

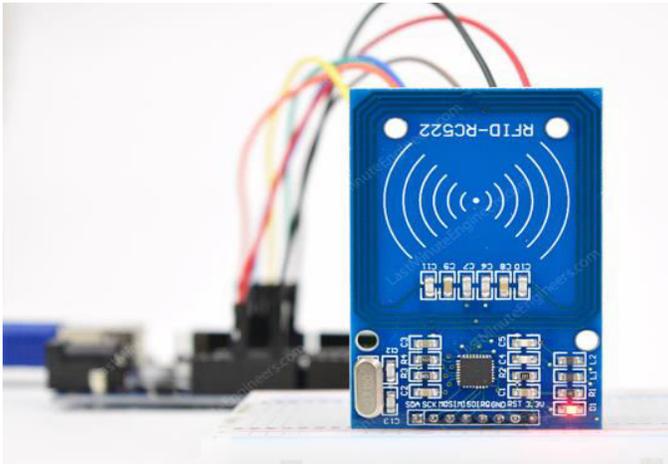
- A. Arduino Display: Rs. 200 + Arduino Keypad: Rs. 200 + Arduino RFID .The Protection of Use. Machines and software are interconnected, and become friends, so the employee is not required to train. Because the design is customizable, the tools are very simple. It also provides the opportunity to replace and take care of any other device. The hardware provides the software with power output, which is better protected against external noise.
- B. Climate analysis. While the importance of the electronic device and RFID mode is, the system is very useful. Because it is a design concept as well as a technical one, the value of this model is much higher. What if the whole system was designed with trade together, and then increase the cost of the system. If the Arduino Mega 2560 is replaced with low cost Atmel or PIC microcontroller, it will reduce the cost.

Time stamp can be sent along with the attendance to the database to store the in and out time of each student and the difference between the in and out time can be calculated to calculate the total presence time of student in the class and hence mark him/her present only if he is present for the minimum time set by the teacher/faculty.

PERFORMANCE ANALYSIS

The implementation process is implemented in a variety of ways. The system is shown in Figure.

Rapid Response Time The response time is relatively fast. If the finger is well positioned, it will usually take less than one second to detect. Since the task of obtaining RFID data is a complex process, the response to RFID authentication is very fast. Arduino RFID: Rs. 150 ,Although the response time of the gas depends on the human transcript, the optimal use of the system saves less response time.

**Fig. no.3**

VI. COMPARATIVE ANALYSIS

The following table shows the comparative analysis of the proposed system and similar systems previously established. The table above shows that one or two steps of assurance are used to participate in a variety of methods. But the proposed method shows three steps that prove to be more reliable.

VII. CONCLUSION

The system described in this article is designed for general purposes. Although there are many ways to participate in the past, many practices have taken place do not disassemble more than two social groups, which is detrimental to them when students attend for their missing friends. With minor modifications, such as facial recognition, this procedure can also be used for safety purposes.

VIII. FUTURE WORK

In the future this work can be improved by integrating IoT applications into the existing system. If the application is included in the IoT, the level of participation can be seen from mobile devices connected to a dedicated server. OST-based global management systems can use GPRS and virtualization. The MQTT is a function of the weight of the data transmitted. Because a small package can be used in this manner, the MQTT protocol here is the best option.

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