

# Smart Attendance System

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**Abstract :** In this project, we designed the smart attendance system. The main objective of this project is to develop a wireless system to detect and maintain the attendance of a student. For, this the students ID (Identification) card is tagged with a Radio-Frequency Identification (RFID) Passive tag. This tag will be matched with the database and attendance is finalized only when the fingerprint of the student is verified using the biometric fingerprint scanner. The guardian is intimated by a SMS (Short Message Service) sent using the GSM (Global System for Mobile Communication) Modem. This was useful in the present day, as every guardian is worried whether his child has reached safely or not in school or college. The student can view the status of attendance by contacting respective database in charge.

## **Index Terms - Arduino R3**

### **I. INTRODUCTION**

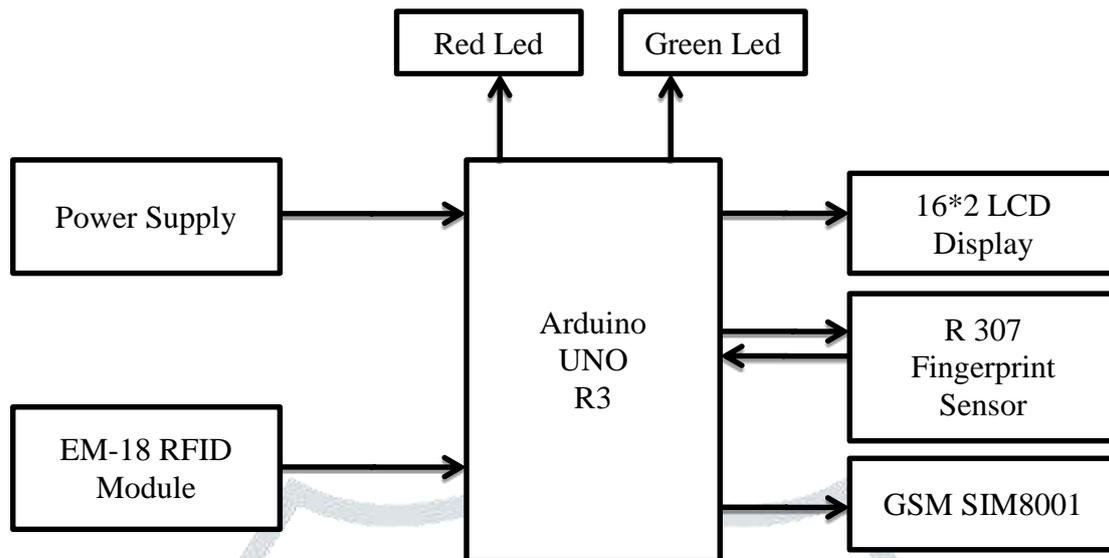
Our task presents a straightforward and compact way to deal with understudy participation as an Internet of Things (IOT) based framework that records the participation utilizing fingerprint and RFID technology and stores them safely over cloud. The possibility of this task was taken to beat every one of the issues in every past technology and make information in digitized way. Participation is an idea that exists in better places like foundations, associations, clinics, and so on Biometric is a strategy for exceptionally ID of the individual dependent on some actual trademark and in this framework we will utilize the fingerprint sensor. In this framework we will record a layout of the understudy fingerprint in the information base and when this fingerprint is checked once in the entire day his participation will be concluded and put away in the Google sheet data set. This is required, in any case an understudy can trick the framework by giving his/her ID card to his companion and showing that he is available through really he is missing and in case the understudy's fingerprint isn't distinguished he will be sent the admonition on the screen. On the off chance that it is coordinated, SMS was sent on enlisted versatile number. Every understudy is given a RFID tag. EM18 is a RFID reader which is utilized to peruse RFID labels at recurrence 125 KHz. Subsequent to perusing labels, it sends novel ID sequentially to the PC or microcontroller utilizing UART correspondence or arrangement on separate pins. EM18 RFID reader peruses the information from RFID labels which contains put away ID which is of 12 bytes. Hence, the information put away in this card is stored as the ID/participation of the individual. When the understudy puts the card before the RFID card reader, it peruses the information and confirms it with the information put away in the Arduino. Assuming the information matches, it shows a message on the LCD affirming the passage of that understudy and get Attendance. A GSM modem Sim800L utilizing this GSM module send message to individual who enrolled on cell phone.

### **II. LITERATURE REVIEW**

Biometric technology that involves the identification and verification of individuals by analysing the human fingerprint characteristics has been widely used in various aspect of life for different purposes, most importantly as regards this study the issue of employee attendance The main aim of this paper is to develop an accurate, fast and very efficient automatic attendance system using fingerprint verification technique. We propose a system in which fingerprint verification is done by using extraction of minutiae technique and the system that automates the whole process of taking attendance, the study was conducted using a quantitative approach by designing a questionnaire as the data collection instrument based on fingerprint matching biometric technologies. They have implemented a system called RFID Based Automatic Attendance systems. This attendance system software has been developed using pushing box and database. Each student has RFID tag attached with their Student ID card. There is a serial connection amid computer and RFID reader also has been maintained for connection between RFID and the computer system. Whenever students enter the institute RFID reader read the RFID tag and it store the all information (Entry time, Date, etc.) of students into database via serial connection and maintain the system. Here admin of this system can

view all documents using the software interface by retrieving information from database without any difficulties not like traditional system.

### III. METHODOLOGY



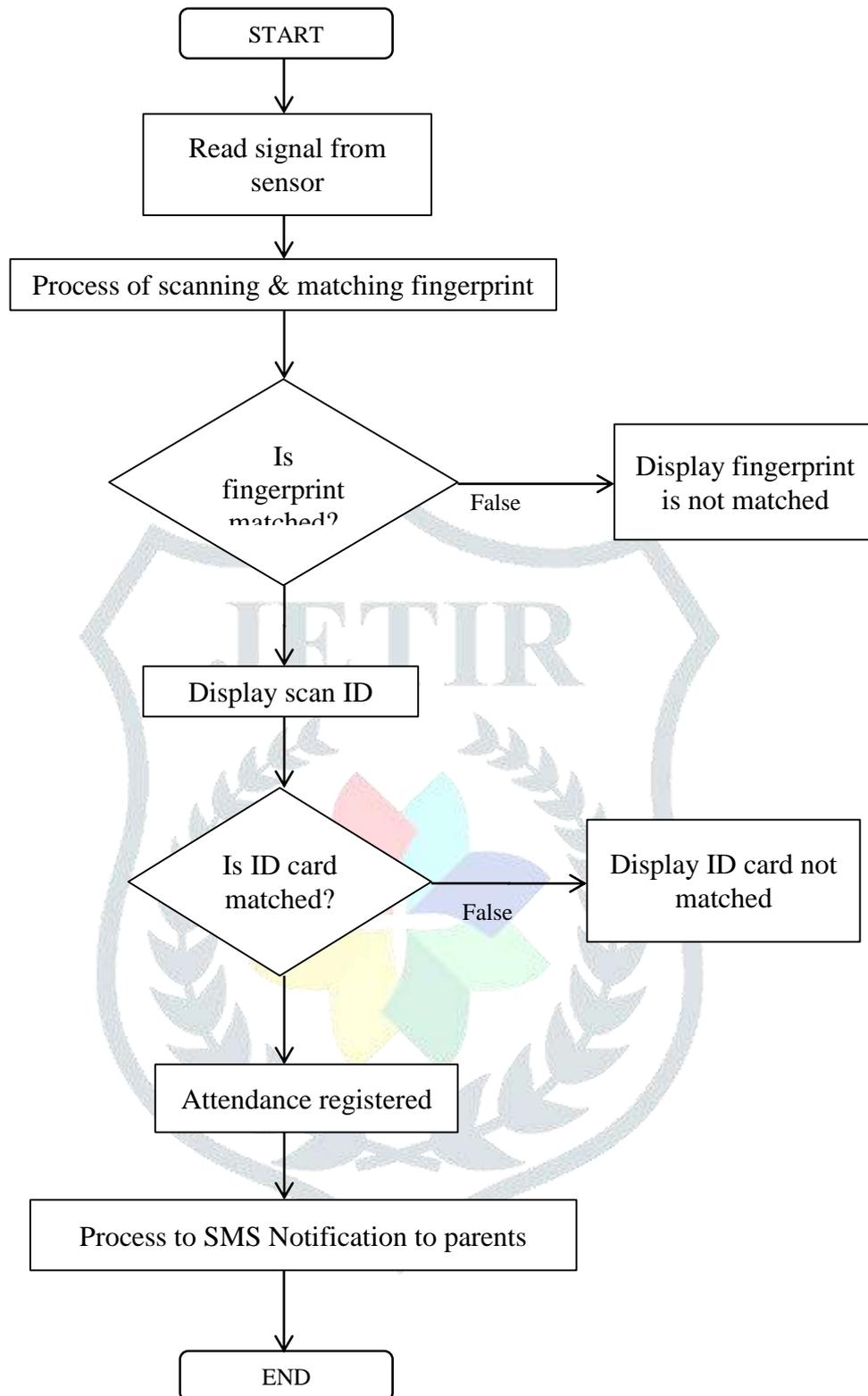
### IV. WORKING PRINCIPLE

First the Arduino and the above system will be empowered utilizing 5V force supply. Then fingerprint sensor which is R307 used for Identification and Verification of humans. Once person scan fingerprint then that data process in inbuilt microcontroller.

RFID used to transfer data threwh radio frequency waves. Scanning items with RFID card with user to automatically and uniquely identify and track. Inventory and asset SIM 800L it is quad brand GSM, it supports quad band 850/ 900/ 1800MHZ. It transmits voice, sms and data in format.

Over a period of data stored in a database are extracted in a sheet for report generation. Admin can add or user edits the data. Message of monthly attendance will send to the person on reregistered mobile NO.

## FLOW CHART

**V. FUTURE SCOPE**

The system can be improved by encasing it in a plastic covering. This would make it more compact and easier to use in a classroom setting. The system can be configured to enable lecture –wise attendance taking. It can further be updated by automatically calculating attendance percentage of students and inform the staff if a student’s attendance is weak.

## VI. CONCLUSION

In this project Demonstrates how an automation of attendance system can be implemented using RFID, Biometrics, and GSM Modem with .Net Framework for an educational institute.

From this analysis we could identified that Radio Frequency Identification (RFID) is a very advanced technology for automatic attendance system and it provide very higher accuracy and speed than a traditional paper-based system. And we bravely say that RFID is a best replacement of traditional method without any doubt. Eventually from this study we got to know that each and every system we discussed has its own advantages and disadvantages. Some characteristics are good for some system and some are not.

It takes the students attendance system automatically by using the RFID and fingerprint sensor. All the students of the institute, present and absent list are generated on the computer system automatically by connecting the wireless attendance system. The students who are present in the organization are marked and the message is sent to the smart devices by GSM technology.

Thus, the wireless student attendance system is made easy with this system. in this project it take only the attendance of the students for the present day with timing in the institute.

## VII. REFERENCE

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