



e-ISSN: 2319-8753 | p-ISSN: 2347-6710

# IJRSET

International Journal of Innovative Research in  
**SCIENCE | ENGINEERING | TECHNOLOGY**

# INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

Volume 12, Issue 4, April 2023

**ISSN** INTERNATIONAL  
STANDARD  
SERIAL  
NUMBER  
INDIA

Impact Factor: 8.423

9940 572 462

6381 907 438

[ijirset@gmail.com](mailto:ijirset@gmail.com)

[www.ijirset.com](http://www.ijirset.com)



# Student Attendance System

Mrs. Nazia Mulla<sup>1</sup>, Pragati Gaikwad<sup>2</sup>, Pranali Kadam<sup>2</sup>, Priyanka Maske<sup>2</sup>, Payal Ovhal<sup>2</sup>

<sup>1</sup>Lecturer of Department Computer Engineering, JSPM's Rajarshi Shahu College of Engineering, Polytechnic.,  
Tathawade, India

<sup>2</sup> Student of Department Computer Engineering, JSPM's Rajarshi Shahu College of Engineering, Polytechnic.,  
Tathawade, India

**ABSTRACT:** Fingerprint attendance system aims to automate the attendance procedure of an educational institution using biometric technology. This will save time wasted on calling out names and it gives a fool-proof method of attendance marking. A hand-held device is used to mark the attendance without the intervention of teacher. The device can be passed and students can mark attendance during the lecture time. Students would be made to place their finger over the sensor so as to mark their presence in the class. It can communicate with a host computer using its USB interface. This device operates from a rechargeable battery. GUI application in host computer helps the teacher to manage the device and attendance.

## I. INTRODUCTION

This project uses a biometric concept to facilitate the attendance system in educational institutes. It uses the most reliable way of uniquely identifying students through fingerprint reading. Such type of application is very useful in school as well as in college for daily attendance. Through this application we can keep a systematic track of student's attendance. This project enables the easy way of maintaining class attendance with fewer efforts. It can be later implemented for the teaching staff

## II. LITERATURE SURVEY

### In [1] IOT Based Cloud Integrated Smart Classroom and Sustainable Campus [2021]

This paper proposed an idea of recording attendance using face recognition technique and storing the data using IoT. In this method arduinouno is used as a microcontroller. Cameras are used to detect the face of an individual or group of pupils. Based on the information that is stored in prior, the faces are recognized and the attendance is recorded and the database is obtained. This method provides better results in short span of time but fails to produce most accurate results. There are some chances of some errors.

### In [2] Attendance Management System through Fingerprint [2018]

This paper proposed an idea of recording attendance using biometrics (fingerprint) for tracking attendance and storing the data using LAN. This paper provides a brief description about the usage, accessibility, accuracy, affordability and acceptance of biometric (fingerprint verification) system. In this system the data is fetched from the individual in the form of fingerprint and then it is verified with the data that was stored in prior and marks the attendance of an individual. Finally the database is also obtained. This method provides high accuracy results and consumes less time but it is not cost-effective.

### In [3] Efficient access control system based on aesthetic QR code [2018]

The idea of granting access based on QR code detection is proposed. In this method the QR code will be checked and if it matches with the stored data then the access is provided for the user or else the access will be denied. This method is well suitable for residential purpose and provides better safety and security. In this method the database is not collected and it is less secure than other modern methods.

**In [4] Student attendance system in classroom using face recognition technique [2016]**

Here this paper gives an idea of recording attendance using face recognition technique. Also this paper provides a detailed description about the results and its analysis obtained from this method. Faces are recognized using cameras and the verification is done. Then the attendance is marked. This method is suitable only for moderate number of people and the results obtained are nearly 87% accurate. This method fails to recognize people in bulk quantity and causes error in results.

**In [5] Attendance monitoring and management using QR code based sensing with cloud based Processing [2019]**

In this paper, attendance monitoring and management using QR Code is introduced which is based on sensing with cloud based processing. This proposed technique solves the problem of deceptive attendance and the trouble of faculties in uploading daily attendance on ERP. It can make the users' attendances more easily and effectively without any hassle. Use of this technique gives less accuracy compared to biometric.

**In [6] Student Attendance Management System [2018]**

The system is a Web-based application developed for daily student attendance in departments within the university. It facilitates access to the attendance of a particular student in a particular class. This system will also help in generating reports and evaluating the attendance eligibility of a student. The system is not only improving the work efficiency, students' study and development, but also can save human and material resources.

**In [7] Web-based laboratory attendance system by integrating RFID-ARDUINO technology [2018]**

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, students attendance RFID based systems

**In [8] Biometric Attendance System using Iris Recognition[2016]**

This paper proposes an automated attendance management system. This system is based on iris detection and recognition algorithms. It will detect the student automatically when he enters in the class room and attendance is marked by recognizing the student. It can improve the reliability of the attendance records and avoid fraudulent issues that happen when you using a register manually. This system is cost effective.

**In [9]Bluetooth Based Attendance Management[2013]**

The instructors in universities and colleges take the attendance manually either by calling out individual's name or by passing around an attendance sheet for student's signature to confirm his/her presence. Using these methods is both cumbersome and time-consuming. Therefore a method of taking attendance using instructor's mobile telephone has been presented in this paper which is paperless, quick, and accurate. An application software installed in the instructor's mobile telephone enables it to query students' mobile telephone via Bluetooth connection and, through transfer of students' mobile telephones' Media Access Control (MAC) addresses to the instructor's mobile telephone, presence of the student can be confirmed.

**In[10]Attendance Monitoring System of Students Based on Biometric and GPS Tracking System[2017]**

This paper is a study of a fingerprint recognition system based on minutiae based fingerprint algorithms used in various techniques. This line of track mainly involves extraction of minutiae points from the model fingerprint images and fingerprint matching based on the number of minutiae pairings among to fingerprints. This paper also provides the design method of fingerprint based student attendance with help of GSM. This system ignores the requirement for stationary materials and personnel for keeping of records. The main objective of this project is to develop an embedded system, which is used for security applications.

### III. OBJECTIVE

- 1.Fingerprint attendance system aims to automate the attendance procedure of an educational institution using biometric technology.
- 2.This will save time wasted on calling out names and it gives a fool-proof method of attendance marking.

3. A hand-held device is used to mark the attendance without the intervention of teacher.

4. An attendance management system tracks employee working hours, login time, departures, breaks, and time off in order to prevent employee time theft.

5. Employee attendance is managed in various ways, from punch cards to spreadsheets to biometric devices and automated attendance management systems.

#### IV. METHODOLOGY

Student Attendance Management System has been developed in Institute for computerized attendance submission and its monitoring by Lecturers, Head of Departments, Dean Academic Affairs and Director. Students/Guardians also have access to view their attendance. In this, the Lecturers engaging different classes are required to submit the attendance of the students present in their class regularly. Detailed guidelines for its use are under. Teachers will submit their attendance through this Student Attendance Management System.

#### V. SYSTEM ARCHITECTURE

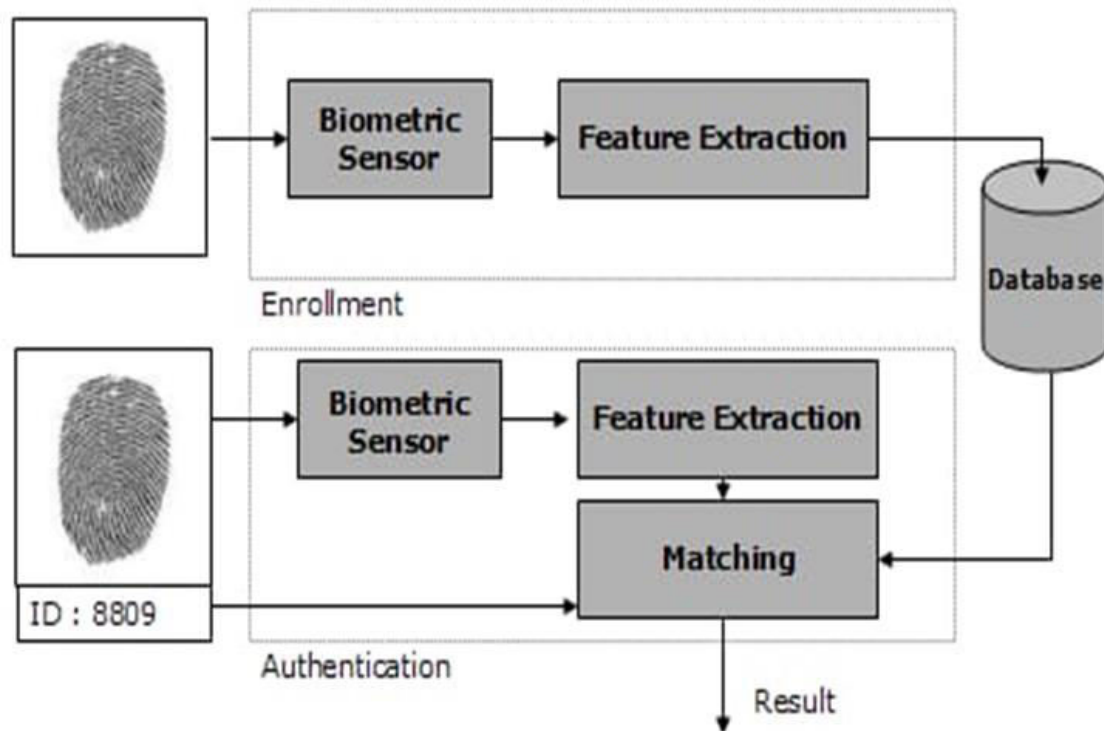


Fig 1. Architecture Diagram

#### VI. CONCLUSION

This project can be used for various applications as listed below:

- It can be implemented in educational institutions like schools, colleges and hostels.
- It can be used in offices and workplaces.
- It can also be used in industrial security purpose.
- It can be implemented in banks and malls.
- It can be used for highly restricted areas.



## REFERENCES

- [1] Sharath Kumar R, Yathish S Dhanajaya, Renukprasada M R, SubramaniGajananMoger, SmithaMallya “IOT Based Cloud Integrated Smart Classroom and Sustainable Campus” Vol. 8, Issue 5; ISSN (Online) 2393-8021; ISSN (Print) 2394-1588; May 2021.<https://iarjset.com/papers/iot-based-cloud-integrated-smart-classroom-and-sustainable-campus/>
- [2] Aniket Bansal, Satyam Kumar, Ashutosh Pandey, KaushalKishor “Attendance Management System through Fingerprint” ISSN: 2321-9653; Volume 6 Issue IV; IC Value, April 2018. [https://www.researchgate.net/publication/325268867\\_Attendance\\_Management\\_System\\_through\\_Fingerprint](https://www.researchgate.net/publication/325268867_Attendance_Management_System_through_Fingerprint)
- [3] Peng-Cheng Huang, Chin-Chen Chang, Yung-Hui Li, Yanjun Liu “Efficient access control system based on aesthetic QR code” DOI:10.1007/s00779-017-1089-y; February 2018 [https://www.researchgate.net/publication/320846430\\_Efficient\\_access\\_control\\_system\\_based\\_on\\_aesthetic\\_QR\\_code](https://www.researchgate.net/publication/320846430_Efficient_access_control_system_based_on_aesthetic_QR_code)
- [4] Samuel Lukas, Aditya Rama Mitra, RirinikanaDesanti, Dion Krisnadi, (2016). “Student attendance system in classroom using face recognition technique” 2016 International Conference on Information and Communication Technology Convergence (ICTC). doi:10.1109/ictc.2016.7763360. <https://ieeexplore.ieee.org/document/7763360>
- [5] Gurlove Singh, RohitDwivedi, AbhineetAnandGalgotias University, Greater Noida, India. “Attendance monitoring and management using QR code based sensing with cloud based Processing” Volume 8, Issue 5 (September 2019) Peng-Cheng Huang 1,2 & ChinChen Chang 2 & Yung-Hui Li 3 & Yanjun Liu Peng-Cheng Huang 1,2 & Chin-hen Chang 2 & Yung-Hui Li 3 & Yanjun Liu
- [6] Jacksi, Karwan& Ibrahim, Falah&Zebari, Shahab. (2018). “Student Attendance Management System”. International Journal of Engineering and Technology. 6. 49-53. 10.21276/sjet.2018.6.2.1.
- [7] NorakmarArbain, NoorFirdusNordisn, S.Saaidin. (2014). “Web-based laboratory attendance system by integrating RFID-ARDUINO technology”. <https://doi.org/10.1109/ICEESE.2014.7154601>
- [8] Mr. Prashik S. Bhagat, Prof. S. Y. Chincholikar, Electronics & Telecommunication, Shreeyash college of Engineering & Technology, Dr. BAMU University Aurangabad, Maharashtra, India. “Biometric Attendance System using Iris Recognition”.
- [9] Vishal Bhalla, TapodhanSingla, Ankit Gahlot, Vijay Gupta, Department of Computer Science And Engineering Dronacharya College of Engineering, Gurgaon, Haryana, India. “ Bluetooth Based Attendance Management System”.
- [10] J.Chandramohan, R.Nagarajan, M. Ashok kumar, T.Dineshkumar, G.Kannan, R.Prakash. “Attendance Monitoring System of Students Based on Biometric and GPS Tracking System”. <https://doi.org/10.24001/IJAEMS.3.3.16>



SJIF Scientific Journal Impact Factor

Impact Factor: 8.423



# INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

 9940 572 462  6381 907 438  [ijirset@gmail.com](mailto:ijirset@gmail.com)



[www.ijirset.com](http://www.ijirset.com)

Scan to save the contact details