

GSM Based Biometric Attendance System

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Abstract:- The GSM-based biometric attendance system is an innovative solution that leverages Arduino technology to efficiently manage attendance in various organizations. This research paper presents the design, implementation, and evaluation of a cost-effective, reliable, and scalable attendance system. The proposed system combines biometric authentication and GSM communication to enable real-time tracking and reporting of attendance data. The study aims to demonstrate the feasibility and practicality of this solution in enhancing attendance management processes.

Keywords:- Real-Time Tracking, Security, Integration, Scalability, Data acquisition.

I. INTRODUCTION

Attendance management is crucial for any organization to ensure productivity and accountability. Traditional manual attendance systems are prone to errors and time-consuming.

The integration of biometric technology with GSM communication offers a seamless and efficient approach to address these challenges. This paper proposes a novel GSM-based biometric attendance system using Arduino, enabling automated and secure attendance tracking.

II. LITERATURE REVIEW

Traditionally student's attendance includes all the roll-calling issues and takes a lot of time for students and teachers to conduct departmental sessions. The policies are lengthy and take many instructors' and students' time and bring down the length of the complete attendance verification by designing an online system. Exchanging the conventional procedure, teachers had to call each student's name in class and note the attendance when the student answered. It provides a simpler and quick approach to monitoring attendance. Instructors will no longer need a paper sheet to mark student attendance in their system. They can make attendance records by obtaining the necessary information from the database, making the entire plan of action paperless. Another Research used mobile devices in the attendance management system were developed and put into practice.

III. METHODOLOGY

Outline the steps involved in designing and implementing the GSM-based biometric attendance system using Arduino as shown in Fig 1.

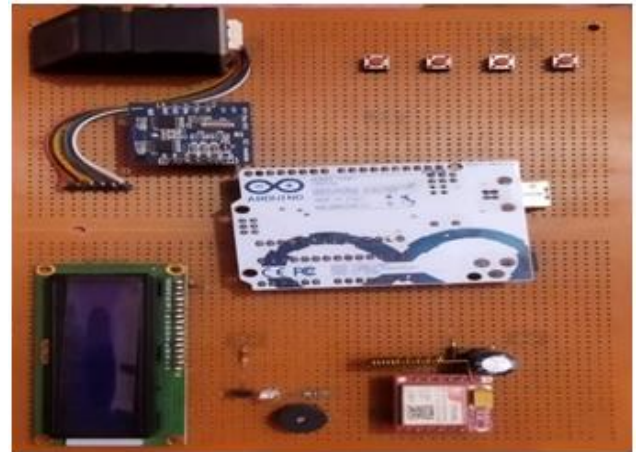


Fig 1 GSM-Based Biometric Attendance System

This section should cover the hardware components, such as Arduino board, biometric sensor, GSM module, and any other peripherals used. Explain the software development process, including the programming language and libraries utilized. Present the results of real-world implementation and testing of the GSM-based biometric attendance system. Evaluate the system's accuracy, reliability, and response time. Compare the results with traditional attendance methods to highlight the advantages of the proposed system.

IV. RESULT

The GSM-based biometric attendance system using Arduino demonstrated improved accuracy in attendance tracking with real-time data transmission, providing a cost-effective and secure solution for organizations.

V. CONCLUSION

Summarize the research findings and emphasize the benefits of the GSM-based biometric attendance system using Arduino. Discuss the potential impact on attendance management in various sectors and propose avenues for future research.

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