CSE-367 (Microprocessor Project)

Assigned Group No: 02

Team Members

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Project Title

Biometric Attendance Monitoring System

(Virtual Attendance App)

Abstract

The Biometric Attendance Monitoring System (BAMS) is designed to revolutionize attendance tracking through a Virtual Attendance App. The system aims to provide a secure, efficient, and convenient solution for monitoring attendance using biometric data. This proposal outlines the development, implementation, and benefits of the BAMS.

Key Terms

- Biometric Attendance
- Monitoring Presence
- Virtual Attendance App
- Security
- Efficiency
- Convenience

Introduction (Background and Statement of the Problem)

Traditional methods of attendance monitoring are often inefficient, prone to errors, and susceptible to proxy attendance. The introduction of a Biometric Attendance Monitoring System addresses these issues by leveraging biometric technology to accurately identify individuals and record their attendance. This system eliminates manual processes and ensures the integrity of attendance data.

Related work

Several biometric attendance systems exist, but they often lack integration with virtual platforms and fail to provide a comprehensive solution for attendance monitoring. Our proposed system builds upon existing technologies while incorporating innovative features to meet the demands of modern educational and corporate environments.

Proposed solution

The Biometric Attendance Monitoring System utilizes fingerprint recognition technology integrated into a Virtual Attendance App. The app allows users to register their biometric data securely and conveniently access attendance records. The system ensures real-time monitoring and generates accurate reports for administrators.

Aim and objectives of the proposed solution

The Biometric Attendance Monitoring System aims to streamline attendance tracking, enhance security, and improve efficiency. The objectives include:

- *Develop a user-friendly Virtual Attendance App*
- *Implement robust biometric identification algorithms*
- *Integrate the system with existing attendance management systems*
- *Ensure data privacy and security measures*

Requirements

Hardware requirements

1) Arduino
2) 16x2 LCD
3) RTC Module
4) Fingerprint Sensor
5) Push Buttons
6) SPST Switch
7) 3V Battery for RTC Module
8) Li-Ion Rechargeable Battery
9) connector wires
10) Buzzer
11) Red LED

Software requirements

- Development environment (e.g., IDEs)
- Database management system
- Biometric identification software

Cost estimation

The estimated cost includes expenses for hardware procurement (10k bdt), software development (3k bdt), infrastructure setup (2k bdt), and maintenance (2.5k bdt).

A detailed breakdown will be provided soon.

Work plan for the proposed study with timeframe :

Phase 1: Research and Requirements Analysis (.5 months)

Phase 2: System Design and Prototyping (3 months)

Phase 3: Implementation and Testing (.5 months)

Phase 4: Deployment and Evaluation (.5 months)

Conclusion

The Biometric Attendance Monitoring System offers a reliable solution for attendance tracking, addressing the limitations of traditional methods. By leveraging biometric technology and virtual platforms, the system enhances accuracy, security, and efficiency in attendance management.

References

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