VISVESVARAYA TECHNOLOGICAL UNIVERSITY
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SYNOPSIS

"Attendance Management System Using Mobile Biometric Technology "
*Submitted in the partial fulfillment of the requirements for the
award of*

BACHELOR OF ENGINEERING DEGREE
In COMPUTER SCIENCE & ENGINEERING

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ABSTRACT

The Attendance Management System utilizing mobile biometric technology via local Wi-Fi offers a streamlined solution for organizations to efficiently track attendance. Leveraging the ubiquity of smartphones, this system enables employees to clock in and out using biometric authentication, enhancing accuracy and security. Through local Wi-Fi connectivity, data transmission is swift and reliable, ensuring real-time updates to the centralized cloud storage. By storing data in the cloud, accessibility is enhanced, enabling administrators to monitor attendance remotely and generate insightful reports. This integrated approach not only simplifies the attendance tracking process but also facilitates seamless integration into existing infrastructures, fostering enhanced organizational efficiency and productivity.

INTRODUCTION

Integrating mobile biometric technology into attendance management systems revolutionizes traditional methods, offering unparalleled efficiency and security. Leveraging local WiFi connectivity ensures seamless data transmission, facilitating real-time updates and accessibility. By employing biometric authentication through mobile devices, such as fingerprint, the system ensures accurate identification of individuals, minimizing errors and fraud. Furthermore, storing data in the cloud enhances scalability and accessibility, enabling administrators to manage attendance records from anywhere with internet connectivity. This innovative approach not only streamlines attendance tracking but also enhances data security and convenience, marking a significant advancement in workforce management solutions.

OBJECTIVE

The objective of implementing an attendance management system utilizing mobile biometric technology via local WiFi with cloud storage integration is to streamline and modernize the process of recording attendance in various settings. By leveraging mobile devices equipped with biometric sensors, such as fingerprint scanners or facial recognition cameras, individuals can conveniently clock in and out using their unique biological markers. Utilizing local WiFi ensures seamless connectivity within the organization's premises, enhancing efficiency and reliability. Storing attendance data in the cloud offers numerous advantages, including accessibility from anywhere with an internet connection, real-time updates, and enhanced security measures to safeguard sensitive information. Overall, this system aims to optimize attendance tracking, reduce administrative burdens, and improve overall organizational productivity.

PROBLEM STATEMENT

The problem statement for the attendance management system utilizing mobile biometric technology via local WiFi and storing data in the cloud revolves around the need for an efficient, secure, and

accessible method of tracking attendance in various settings, such as schools, offices, or events. Traditional methods are often cumbersome, prone to errors, and lack real-time insights. By leveraging mobile biometric technology, users can conveniently mark attendance using their smartphones, ensuring accuracy and reducing the likelihood of proxy attendance. Utilizing local WiFi enables seamless connectivity, while storing data in the cloud ensures accessibility from anywhere, anytime, and facilitates comprehensive data analysis and management. This system aims to streamline the attendance process, enhance security, and provide valuable insights for better decision-making.

EXISTING SYSTEM

An existing attendance management system leveraging mobile biometric technology operates seamlessly through local Wi-Fi connections, allowing employees to clock in and out conveniently using their smartphones. This innovative solution enhances efficiency and accuracy while eliminating the need for traditional timekeeping methods. Biometric data, such as fingerprints or facial recognition, ensures secure authentication, preventing fraudulent practices. Moreover, the system stores attendance records securely in the cloud, facilitating easy access and management for administrators. By harnessing the power of mobile biometrics and cloud storage, this system offers a robust and reliable solution for organizations seeking streamlined attendance tracking.

PROPOSED SYSTEM

A proposed attendance management system leveraging mobile biometric technology via local WIFI presents a seamless solution for efficient tracking. Through the utilization of biometric authentication on mobile devices, such as fingerprint or facial recognition, employees can conveniently clock in and out with accuracy and security. This system operates within the local Wi-Fi network, ensuring stable connectivity and real-time data transmission. Moreover, by storing attendance records in the cloud, accessibility and scalability are enhanced, enabling administrators to manage attendance data effortlessly from anywhere. This integrated approach optimizes attendance tracking, enhances accountability, and streamlines administrative processes for organizations of varying sizes.

LITERATURE SURVEY

1. **"Fingerprint Recognition Based Attendance Management System"**
   Fingerprint recognition-based attendance management systems have garnered significant attention due to their efficiency and reliability in accurately tracking attendance. In recent literature, numerous studies have explored various aspects of these systems, including algorithm development, hardware implementation, security considerations, and user experience. Researchers have focused on enhancing the accuracy and speed of fingerprint recognition algorithms, integrating them with user-friendly interfaces, and addressing potential security

vulnerabilities. Additionally, studies have investigated the adoption and implementation challenges of such systems in diverse settings, ranging from educational institutions to corporate environments. Overall, the literature highlights the growing interest in leveraging fingerprint recognition technology for efficient and secure attendance management across different sectors.

2. **"QR Code Based Attendance Management System"**

   QR code-based attendance management systems reveal a growing interest in leveraging QR technology for efficient and streamlined attendance tracking in various fields such as education, corporate, and events. Studies highlight the advantages of QR codes in providing a cost-effective, time-saving, and user-friendly solution compared to traditional methods. Researchers have explored different aspects including system design, implementation challenges, user acceptance, security considerations, and integration with existing systems. Findings suggest that QR code-based systems offer flexibility, scalability, and real-time data access, contributing to improved attendance accuracy and management efficiency. However, the literature also identifies areas for further research such as enhancing system reliability, addressing privacy concerns, and evaluating long-term usability and effectiveness in diverse settings.

3. **"Face Recognition Based Attendance Management System"**

   Face recognition-based attendance management systems have gained considerable attention due to their accuracy and efficiency in monitoring attendance. This technology utilizes facial features to identify individuals, eliminating the need for manual attendance tracking. Through a literature survey, various studies have explored the implementation and effectiveness of such systems in different settings, including educational institutions and workplaces. Researchers have investigated factors such as accuracy, reliability, security, and user acceptance. Additionally, studies have addressed challenges such as scalability, robustness to varying environmental conditions, and privacy concerns. Overall, the literature highlights the potential of face recognition-based attendance management systems as a viable solution for automating attendance tracking processes while improving accuracy and convenience.

SOFTWARE & HARDWARE REQUIREMENTS:

The software, hardware required in development is listed below

- Html
- CSS
- Bootstrap
- JavaScript
- Minimum i3 processor
- 8GB Ram
- 80GB HDD
- MIT app inventor

REFERENCES

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2. How Ultrasonic Fingerprint Sensors Work | iFixit News

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4. Smart mobile attendance system using voice recognition and fingerprint on smartphone | IEEE Conference Publication | IEEE Xplore

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