Portable Biometric Attendance System

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***Abstract - In this paper, we propose a portable biometric attendance system using a fingerprint sensor, Node MCU, OLED display, and an attendance system website. The proposed system is designed to overcome the limitations of traditional attendance systems such as manual attendance marking and time-consuming processes. The system employs a fingerprint sensor to identify students or employees, Node MCU to store attendance records, and an OLED display to provide real-time feedback. The attendance records are stored in an attendance system website, where the administrator can view the records and generate reports.***

***The proposed system is designed to be portable, making it easy to set up and move between different locations. The system is also cost-effective and easy to maintain, making it suitable for use in small to medium-sized organizations. The use of biometric authentication ensures that the attendance records are accurate and reliable, minimizing the risk of fraud or errors. The real-time feedback provided by the OLED display encourages students or employees to attend classes or work regularly, improving attendance rates.***

**1. INTRODUCTION**

Attendance management is an essential task in every educational institution or organization. Traditionally, attendance was taken manually using paper and pen, which is time-consuming and error-prone. To overcome this issue, biometric attendance systems have been introduced, which are more efficient and accurate.

In recent years, there has been an increasing demand for portable biometric attendance systems that can be used in remote locations or outdoor events. The proposed system aims to address this need by using a fingerprint sensor, Node MCU, OLED display, and attendance system website to create a portable and efficient attendance management system.

The fingerprint sensor will be used to identify the students or employees, and their attendance will be recorded using the Node MCU, which is a low-cost, open-source microcontroller with Wi-Fi capabilities. The OLED display will provide real-time feedback to the user and display the attendance status.

Furthermore, the attendance data will be stored on an attendance system website, which can be accessed by authorized personal to view and manage attendance records. This will ensure that the attendance data is secure and can be accessed from anywhere with an internet connection.

This paper aims to describe the design, implementation, and evaluation of the proposed portable biometric attendance system using fingerprint sensor, Node MCU, OLED display, and attendance system website. The system's effectiveness and efficiency will be evaluated through various experiments, and the results will be presented in this paper.

**2. LITERATURE REVIEW**

A number of systems have been introduced to reduce the burden of attendance monitoring and storage. However, every paper has their own advantage and disadvantage of the systems. Here are few of the papers similar to the project from where we gathered information.

**3. METHODLOGY**

I. Flow chart

II. System development

TECHNOLOGIES TO BE USED:

**Frontend:** HTML, CSS, JavaScript

**Backend:** PHP

**Database:** MYSQL

**Server:** XAMPP

**IDE:** Arduino IDE, XAMPP MYSQL.

III. Block diagram

A. Hardware

B. Software

C. Security Enhancement

**4. RESULT AND DISCUSSION**

Image of system

**5. CONCLUSION**

The proposed portable biometric attendance system offers an efficient and reliable solution for attendance management in educational institutions and organizations. It is expected that the proposed system will contribute to the automation of attendance marking, reduce time and cost, and improve attendance rates.

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