**PORTABLE BIOMETRIC ATTENDANCE MANAGEMENT SYSTEM**

***Abstract:* This paper deals with biometric, portable, fingerprint attendance system. This project focuses attendance recording system of students. Biometric is anything and everything that can be measured in human beings. Fingerprint is form of biometric identification which is unique and does not change in one’s entire lifetime. This paper presents a portable biometric attendance management system. We have tried to bring together concept of hardware and software engineering to give a prototype project which can further replace current manner of attendance marking. This project utilizes fundamental of internet for data transfer, storage and display. This project consists of two procedures; enrollment and identification. During the enrollment process the fingerprint of the person is captured and its unique identity is extracted and stored in database along with users data. During identification process, the fingerprint of the person is extracted and matched with the enrolled data stored to identify the match before attendance is made. Attendance of the of students will be communicated with respective database using node MCU and Wi-Fi module. The objective of this paper is very simple to go for attendance management system, save paper and environment.**

1. **INTRODUCTION**

The word biometric is come from Greek language and derived from the word bio that specifies life and metric that specifies to measures. It is used to measure and analyze personal characteristics. These characteristics include: fingerprint, voice pattern, hand measurement, eye scanning and other process. These biometric or characters cannot be forgotten, shred, stolen or easily hacked. Fingerprint, face and iris are almost most popular characteristics used for identification process. In portable biometric attendance management system project, there is use of fingerprint identification process.

Presently in most of the education institute attendance of the students in class room is taken in conversational method by circulating sheet of paper for signature of students or there is a roll call taken by professors in class. While this method has being in used for long time, it still faces a number of fundamental problems which can be eliminated with the help of technology.

Thus, we have found a solution for the problem which is a fully automatic system. Portable biometric attendance management system which are widely used for unique identification of a person. The purpose of this system is to make entire process of attendance marking and procedure to be done by a smart device instead of relying on professor, student signature or anything else. This system makes effective use of hardware software principles. The end result is a system which identifies the students, maintains an online attendance register in the form of database and provides the professors with a detailed attendance record on demand.

1. **LITERATURE SURVEY**

A number of system 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.

1. **PROPOSED SYSTEM**

Proposed system consist of fingerprint sensor, OLED display, Node MCU. Fingerprint sensor works as heart of the system. This is a battery-operated device which can b moved very easily in the class room. As all the data will be saved on the database so problem of hardware is solved. Start and end time of the lecture will be allocated for attendance marking.

1. **HARDWARE AND CIRCUIT DIAGRAM DESCRIPTION**

Block Diagram of the system is shown in fig 1. It consists of Node MCU, fingerprint module OLED display.

**OLED**

**Display**

**Fingerprint Sensor**

**R307**

**NODE MCU**

**ESP8266**