

# Attendance Tracking System Using Wi-Fi.

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**ABSTRACT:** *The typical approach to attendance tracking is a time-consuming process. Using pen and paper, the individual must keep track of his or her attendance in registers and files. The problem with this strategy is that it necessitates a large amount of paper, which is a nonrenewable natural resource. We are living in an era where we must consider long-term development. Using mobile phones to manage attendance is an alternate option to go in this route. The project focuses on the creation of a stand-alone system that uses Wi-Fi to track students' attendance. Communication between teachers and parents is also an important topic that should be taken into account, because parents can only learn about their children after interacting with teachers. As a result, We attempted to create a system that allows parents to receive regular information on their children on a daily basis*

**Keywords-**Wi-Fi, Communication, Attendance tracking.

## Introduction

Over the years, we've observed that manual attendance has become commonplace in practically all educational institutions. The procedure is not only time intensive, but it is also inefficient at times, resulting in bogus attendance records. We don't need to keep attendance registers on paper anymore. Following this line of thought, we presented a Wi-Fi-based attendance tracking system, which is implemented as an Android mobile application that communicates with a database on a remote server. Wi-Fi technology would be required to connect the mobile application to the database. Our project is an Android mobile application for Attendance Monitoring that is both efficient and user-friendly. The user's smart phone will be loaded with the program. Its goal is to create a user interface for teachers who only need to enter a few details in order to mark attendance for a specific class of pupils. As soon as the teacher enters the classroom, he will open a portal for the students, and if the student's mobile

device has an Android application installed, it will mark the attendance if it is within Wi-Fi range. Aside from that, the application would enable strong user authentication and fast data transmission over Wi-Fi. Lecturers will use the phone application to connect to the server and log in. Even when given with advanced tracking technologies, staff in the same class tracks attendance differently. Many attendance systems only track attendance at the start of class, which can lead to tardy students being classified as absences, which is why this app was created. Students can also register their name, branch, year, and roll number in his mobile application. If a student wants to check their attendance, they can do so using the app after inputting their permitted user id and password. Staff can also send any notices to students by text message, which they can view on their own smart phones.

## BASIC CONCEPTS

The goal is to show a low-cost, dependable independent system that communicates with an Android application and connects to a remote main server using an efficient wireless cum cable networking language. The data transported from the student's mobile device to the access point is first encrypted, and then saved in the database. The administrator has the authority to manipulate the data of both students and teachers. The system is designed to be as clear as possible, allowing students and teachers to view attendance in a sorted manner. The app will also communicate the information to the parent in order to bridge the communication gap.

## II. LITERATURE SURVEY

1]Paper Name - attendance tracking using wi-fi. Author Name -Basu Kumar Swamy,R Vanitha, Deepak Kumar.

For taking attendance, we advise using a Wi-Fi-based system. The suggested system uses a password identification approach to automatically take attendance. This paper's major goal is to keep track of attendance in a quick and efficient manner. Over

the years, it has been seen that the manual attendance procedure has been implemented in practically all locations. The procedure not only takes a long time, but it also leads to the recording of fake attendance.

#### 2] Paper Name - Attendance Tracking System Using Wi-Fi.

Author Name - neil sharma, behara manoj kumar, ajay patil, abhilash kale, nikhil lambe. The typical approach to attendance tracking is a time-consuming process. Using pen and paper, the individual must keep track of his or her attendance in registers and files. The problem with this strategy is that it necessitates a large amount of paper, which is a nonrenewable natural resource. Over the years, we've observed that manual attendance has become commonplace in practically all educational institutions. The procedure is not only time intensive, but it is also inefficient at times, resulting in bogus attendance records. We don't need to keep attendance registers on paper anymore. Following this line of reasoning,

#### 3] Paper Name - The Human Positioning System Based on the WiFi Direct and Precision Time Protocol.

Author Name - Xiaoxiao Liu & Jun Steed Huang, Zujue Chen. Due to the severe environment and unique geological conditions, current technology on the domestic market, when utilized in a coal mine, is unable to adequately meet the need for accurate miner positioning and tracking. RFID technology, for example, is used as an attendance system in the majority of Chinese colliery sector monitoring and positioning systems. When the catastrophe occurs, the technology is unable to pinpoint the miners trapped underneath. As the coal business improves, coal companies are focusing their efforts on speeding informatization construction in order to strengthen their competitiveness. Many companies have now embraced informational platforms, such as a safety in production monitoring system, an underground mobile communication system, a human positioning system, and industrial television, among others.

### PROJECT OBJECTIVE:

In today's world, educational institutions are largely concerned about student attendance irregularities. The traditional attendance system, which involves calling names and taking attendance, is inefficient and inaccurate. As a result, this

approach efficiently automates the traditional attendance method.

### III. IMPLEMENTATION

The proposed system's real stumbling block is the project's implementation phase. This project will be platform agnostic, meaning it will run on any operating system. Because anyone with access to the project can download it and utilize it. Implementation of Modules: It is developed specifically for students to keep track of their attendance levels and receive notifications when attendance falls below a certain threshold. It consists of two modules. They're –

1. Personnel Module: The staff module's primary goal is to ensure security. This module is created specifically for employees who take attendance using a mobile phone. Before entering the attendance list, each employee must first create a login and password. If the username and password are correct, he or she can access the attendance page.

1. Attendance Entry Module: The Attendance Entry Module's aim is to enter attendance using a cell phone. In this module, the lecturer uses a cell phone to take attendance. The branch, semester, and year are chosen by the lecturers. He goes to the attendance page after this session. The absentees are marked here by the staff.

2. Module for Databases: This module's first function is to update the attendance list from a cell phone. When the server receives the attendance list from the mobile phone, it automatically updates its database. If a change from a cell phone occurs, the server updates the database.

3. Email Module: This module is used to remind parents of their children's attendance and curriculum activities via email.

#### 4 Student Modules:

##### 4.1 Include specifics:

Your name, registration number, address, IEMI number, parents' email addresses, login, and password should all be entered. This is a once-and-done procedure.

##### 4.2 The Control Panel

From the dashboard, you can see all of the pages. The dashboard will be displayed every time the app is launched.

##### 4.3 Take a look at the bunks:

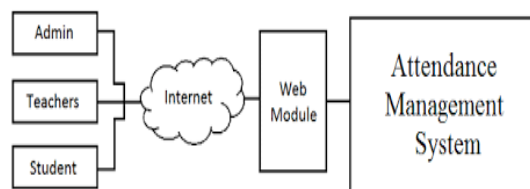
You have the option of viewing all bunks or viewing bunks by subject. View by subject gives you a list of subjects to choose from, and clicking on one of them takes you to the summary. View a list of all of your bunks, organized by date.

Alerts: Click the alerts icon in the dashboard to see the overall attendance. The Alerts page will also notify you if the general percent decreases.

#### 5. Server Module No. :

We just create the database module, which is used to hold all of the data for both the staff and the students. Any authority member can readily access the server's data for their own use.

### III. PROPOSED SYSTEM



We attempted to develop a system that would overcome the constraints of the current technique. Using mobile phones to take attendance instead of the old method is one step closer to an automated system. Doing the same task on a mobile phone not only saves time and money, but it also gives the user more options. To have simple and interactive access to a student's attendance data We're working on an app that will allow teachers to take attendance on their kids using their own mobile device. The issue is that guardians or parents are unable to obtain information on their child's status on a regular basis, such as on a monthly basis. The programmed we're working on will allow teachers to take attendance on their mobile devices, manage records, and update their parents.

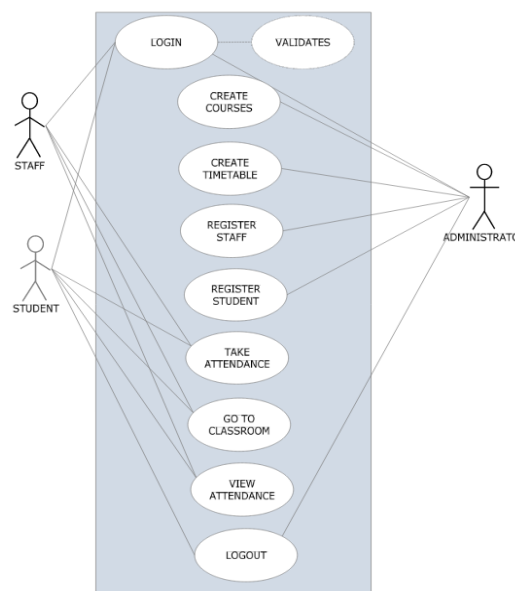
#### Wi-Fi Technology:

There are numerous network topologies, each with its own set of advantages and disadvantages. The most basic network is a point-to-point connection. This is a connection between two nodes on a single network. In practice, except in some important or specific applications, connecting merely two nodes is becoming increasingly rare. Ad-hoc Bluetooth

connections for things like Apple's Airdrop file sharing service or remote operation of model aero planes, for example, are a modern example.

### V. SYSTEM WORKFLOW

Real-time Workflow—As soon as the teacher enters the classroom, he or she will open the portal, and the students will be given a specific time slot to mark their attendance. When a student's mobile interacts with the access point inside the classroom, the attendance is automatically recorded, and the student is restricted from entering the classroom until a certain period has passed. The attendance is recorded using a unique number that is sent to the remote administrator. With the help of the AES encryption technique, the data will be delivered in an encrypted manner. The data will then be saved on a server that is managed by the administrator, who will be able to edit the student's information such as their name, phone number, and parent's information. The administrator is the only one who has access to the information on the employees.



### V. RESULT

We have implemented the Attendance Tracking System using Wifi by using router as an access point for the system. The router enables the system to connect various devices to the system and take attendance using MAC address of android device. The MAC address is a factor used for prevention of

proxy in the Attendance System. The students can view their attendance through the student portal accordingly. By our system it results in faster for taking attendance using device MAC addresses.

### **CONCLUSION:**

The program is dependable, saves time, and is simple to use. It may be used to build comparable programmed for tracking attendance in colleges, offices, and other workplaces. The time and computations required to manually update the attendance will be reduced, allowing lecturers to lessen their workload. The website will also allow students and their parents to view attendance and curriculum information. Students can also view their attendance records at any time. In this article, we examined the issues that arise as a result of using a traditional way to collecting attendance, as well as solutions to these issues using mobile technology and a new strategy. These are some future works which can be implemented further.

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