

POSTER PRESENTATION

3rd year Mini Project

Department: Computer Science and Engineering

G.L. Bajaj Institute of Technology and Management, Gr. Noida

Group ID: 3CSE_A1G3



IEEE
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FIND YOUR SPARK

SMART ATTENDANCE TRACKER

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Objectives:

- 1 It aims to digitize and streamline the traditional attendance process by automating attendance through facial recognition.
- 2 It saves the time , prevents proxy , ensures accuracy making records tamper-proof and enhancing privacy.
- 3 Provide an intuitive interface that is easy for all users (employees, students, administrators) to operate with minimal training.
- 4 Reduce reliance on paper-based records, contributing to more eco-friendly and cost-effective administrative processes.

Solution Environment

Hardware Components

The hardware acts as the foundation for data capture in the smart attendance tracker.

- Facial Recognition Cameras: Ideal for non-contact attendance logging, especially in educational institutions or high-security environments.
- IoT Devices and Sensors: Motion detectors or smart gates can be integrated for touchless attendance tracking and access control.

Software Components

Machine Learning for Behavior Patterns: Predict attendance patterns and suggest interventions (such as reminders for latecomers).

Mobile App Interface: Simple and intuitive, allowing users to mark attendance, view history, and receive notifications.

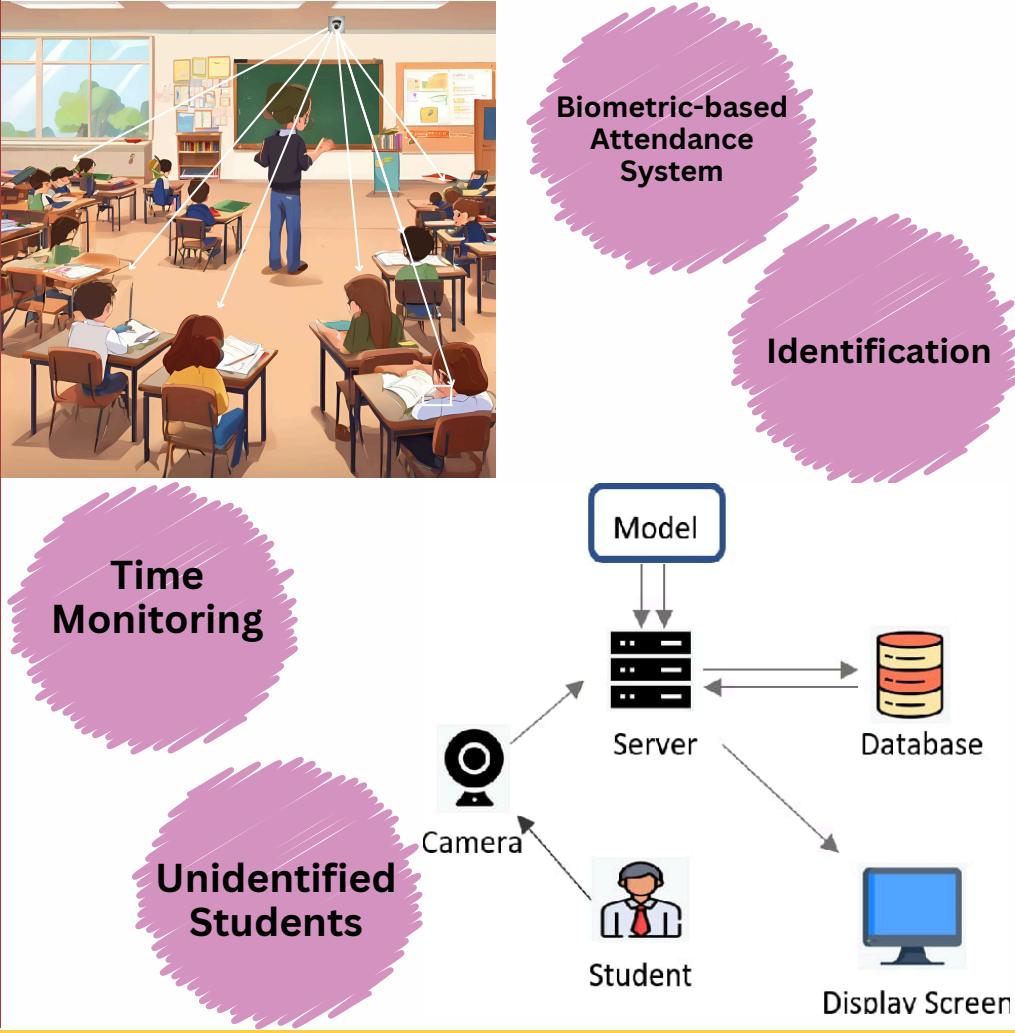
Automatic alerts for absenteeism, overtime, or breaches of attendance policies.

Problem Statement:

Manual attendance is tedious and time consuming and it has very high chance of human error. The Management of the attendance can be a great burden on the teachers, if it is done by hand .The traditional process of making attendance and present Biometrics Systems are vulnerable to proxies.



Proposed Idea/Solution



Impact & Benefits

- 1 Improved visibility to track & manage student's attendance based on their presence time in the class.
- 2 Reduced paperwork and manual data entry with reduced errors.
- 3 Real-Time Tracking with each student's presence is tracked in real-time and displayed visually .
- 4 If a face or identity is not recognized, a pop-up window alerts the system admin or teacher..
- 5 The system can generate detailed reports on student attendance patterns, punctuality, and overall engagement.
- 6 Improved Fairness in attendance records and Environment-friendly.

Motivation:

A smart attendance tracker offers several compelling motivations, making it a valuable tool for various organizations, educational institutions, and businesses.

It can foster a culture of punctuality and responsibility as employees or students are aware that their attendance is being tracked automatically.

Implementing a smart attendance tracker improves efficiency, accuracy, and compliance while offering a clear return on investment through better resource management and accountability.



Technologies Used



Cross-platform mobile app development framework



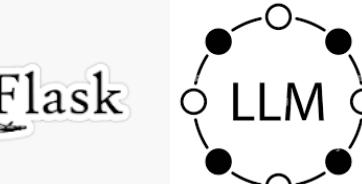
Node.js is designed to build scalable network applications.



the collective network of connected devices and the technology



python™



Sustainability Goals

SUSTAINABILITY GOALS

Reduced Administrative Burden: Faculty can focus more on teaching and less on administrative tasks contributing to job satisfaction reduced burnout.

Long-term Tracking: Monitor and report on the sustainability impacts of the attendance system, such as reduced carbon footprint or improved resource utilization, to drive continuous improvement.

Paperless Operation: The system eliminates the need for paper-based attendance tracking, contributing to the reduction of deforestation and waste.

Roadmap for Design and Implementation

Requirement Gathering & Planning

Designing Interface

Front-End Development & Back-End Development

Testing & Debugging

Final Deployment