Title:

Employee Attendance System

Submitted By:

Y. Jyothi

Roll No:

224G1A0535

College:

Srinivasa Ramanujan Institute of Technology

Contact No:

+91 7989135591

4. Abstract

The Employee Attendance System is an online platform created to simplify attendance tracking using role-based access. Employees can mark their daily attendance through check-in and check-out, and managers can monitor attendance using dashboards, reports, and performance statistics. The system reduces manual work, improves accuracy, and increases organizational efficiency

---

5. Introduction

An attendance management system is a digital application used by organizations to record, monitor, and manage employee presence in the workplace. In earlier days, attendance was maintained using manual registers, spreadsheets, or basic biometric machines. Although these methods were useful, they required more time, involved human effort, and often resulted in errors and lack of proper tracking.

In present-day organizations, accurate attendance data is very important for managing employees, calculating working hours, monitoring late arrivals and absences, and preparing monthly attendance reports. When this work is done manually, it becomes difficult for both employees and managers to handle large amounts of data and generate reports efficiently.

To solve these problems, automated attendance systems are introduced. A digital attendance system reduces manual effort, avoids calculation mistakes, and provides real-time attendance information. Features such as role-based login, instant check-in and check-out, dashboards, and downloadable reports make the attendance process faster and more accurate.

The Employee Attendance System developed in this project provides a centralized and easy-to-use web platform where employees can mark their daily attendance smoothly, and managers can track and analyze attendance using reports and dashboards. The system improves accuracy, ensures transparency, and increases overall organizational productivity.

---

6. Problem Statement

Traditional attendance tracking methods such as registers, spreadsheets, and manual records are time-consuming and often result in errors. Tracking late arrivals, absences, and preparing monthly attendance reports becomes difficult for organizations. Hence,

there is a need for an automated and centralized attendance management system._____

7. Existing Problems

•Manual attendance entry requires more time and effort
• High chances of errors in attendance records
• Lack of proper transparency in the system
• Difficulty in generating accurate and timely reports

_____

8. Proposed Solution

The proposed Employee Attendance System offers role-based login, real-time check-in and check-out, dashboard-based analysis, monthly attendance summaries, and downloadable attendance reports. This system improves accuracy, ensures transparency, and increases efficiency in monitoring attendance._____

9. Objectives

- To automate the process of attendance management.
- To enable real-time monitoring of employee attendance.
- To maintain a secure and organized employee database.
- To generate accurate monthly attendance reports.

_____

10. Scope

- The system can be used by small, medium, and large organizations.
- It supports different user roles such as employees and managers
- It can be easily scaled in the future to integrate payroll management.

_____

11. System Requirements

- Frontend: React, TypeScript, Zustand

- Backend: Node.js, Express

- Database: MongoDB

- Tools: VS Code, Git, Postman

•   Hardware: Laptop with 4GB RAM

---

12. System Architecture Diagram

Frontend (React) → Backend (Node/Express) → Database (MongoDB)

---

13. Database Tables

Users Table

id	ObjectId
name	String
email	String
Role	employee/manager
Department	String

Attendance Table

id	ObjectId
userId	ObjectId
date	Date
checkInTime	Timestamp
checkOutTime	Timestamp
status	present / absent / late / half-day

14. Module Description

Module	User	Description
Authentication	Employee/Manage	Login/Register using JWT
Mark Attendance	Employee	Check-in and check-out
Dashboard	Employee	Monthly stats and recent attendance
Reports	Manager	Department-wise and employee-wise reports

15. Implementation

Login Page → Employee authenticates and is redirected based on role.

Dashboard Page → Displays today's status and monthly attendance summary.

Attendance Page → Employee marks check-in and check-out.

Reports Page → Manager exports attendance report in CSV format.

17. Testing

Test Case	Input	Expected Output	Result
Login	Valid email & password	Redirect to dashboard	Pass
Check-in	Click Check-in	Status updated	Pass

18. Conclusion

The Employee Attendance System successfully automates organizational attendance management, improves accuracy, and reduces administrative workload.

19. Future Enhancements

- Payroll calculation integration
- QR/Face recognition attendance
- Mobile app support
- Notification reminders