SRINIVASA RAMANUJAN INSTITUTE OF TECHNOLOGY

PROJECT TITLE : EMPLOYEE ATTENDANCE SYSTEM

Submitted By:

- Name: **Manichandrika Charugundla**

- Roll Number: *224G1A0549*

- Contact Number: **9390550459**

- Email: *manichandrikacharu@gmail.com*

Department:

- *B.Tech - Computer Science and Engineering*

Date: [30/11/2025]

Table of Contents

4. Abstract

The Employee Attendance System is a web-based platform designed to automate attendance tracking using role-based access. The system allows employees to mark daily check-in and check-out while managers can monitor attendance across the organization with dashboards, reports, and statistics. The system improves accuracy, reduces manual errors, and enhances organizational productivity.

---

5. Introduction

An attendance system is a structured method used by organizations to record, monitor, and manage the presence of employees in the workplace. Traditionally, attendance tracking has been carried out using manual registers, spreadsheets, or biometric logs. Although these methods serve the basic purpose, they are time-consuming, prone to human error, and lack transparency.

In modern organizations, workforce management and productivity analysis depend heavily on accurate attendance information. Manually calculating working hours, late arrivals, absences, and monthly attendance summaries becomes a challenge for both employees and managers. Additionally, generating reports and analyzing patterns for administrative decisions requires significant effort when the data is maintained manually.

To overcome these limitations, automation in attendance tracking has become essential. A digital attendance system minimizes human intervention, eliminates calculation errors, and provides real-time insights into employee presence. With features such as role-based access, instant check-in/check-out, dashboards, and downloadable reports, automated systems streamline the overall workflow and improve operational efficiency.

The **Employee Attendance System** developed in this project focuses on providing a centralized and user-friendly platform where employees can mark their attendance seamlessly and managers can monitor staff attendance through dashboards and reports. The system enhances transparency, accuracy, and productivity across the organization.

---

6. Problem Statement

Traditional attendance tracking methods such as registers, spreadsheets, and manual logs are time-consuming and prone to errors. Monitoring late arrivals, absences, and monthly reports becomes difficult for organizations. Therefore, an automated and centralized attendance system is required.

---

7. Existing Problems

- Time-consuming manual entry
- Errors in attendance records

- Lack of transparency

- Difficult report generation

---

8. Proposed Solution

The proposed Employee Attendance System provides role-based authentication, real-time check-in/check-out, dashboard analytics, monthly attendance summary, and exportable reports. This system ensures high accuracy, transparency, and efficiency in attendance monitoring.

---

9. Objectives

- Automate attendance management

- Provide real-time attendance monitoring

- Maintain employee database

- Generate monthly reports

---

10. Scope

- Can be used by small, medium, or large organizations

- Supports employee and manager roles

- Can be scaled to integrate payroll later

---

11. System Requirements

- **Frontend:** React, TypeScript, Zustand

- **Backend:** Node.js, Express

- **Database:** MongoDB

- **Tools:** VS Code, Git, Postman

- **Hardware:** Laptop with 4GB RAM (minimum)

---

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/Manager	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

- Notification reminders

---

20. References

https://react.dev

https://nodejs.org

https://mongodb.com