

SRINIVASA RAMANUJAN INSTITUTE OF TECHNOLOGY

Employee Attendance System

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3. 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.

4. 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.

The Employee Attendance System An attendance system is a structured method used by organizations to record, monitor, and manage 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.

5. 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.

6.Existing Problems:

- Time-consuming manual entry
- Errors in attendance records
- Lack of transparency
- Difficult report generation

7.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.

8.Objectives:

- Automate attendance management
- Provide real-time attendance monitoring
- Maintain employee database
- Generate monthly reports

9.Scope

- Can be used by small, medium, or large organizations
- Supports employee and manager roles
- Can be scaled to integrate payroll later

10.System Requirements

- Frontend: React, TypeScript, Zustand
- Backend: Node.js, Express
- Database: MongoDB
- Tools: VS Code, Git, Postman
- Hardware: Laptop with 4GB RAM (minimum)

11.System Architecture Diagram

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

12.Database Tables:

Users table

Id	Object Id
name	String
email	String
department	String
role	employee/manager

Attendance Table

Id	Object Id
User id	Object id
date	Date
Check intime	Timestamp
Check outtime	Timestamp
Status	Present/absent/halfday/late

13.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

14.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.

15.Testing

Test Case Input Expected Output Result

Login Valid email & password Redirect to dashboard Pass

Check-in Click Check-in Status updated Pass

16.Conclusion

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

17.Future Enhancements

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

18.References

<https://react.dev>

<https://nodejs.org>

<https://mongodb.com>