Department of Information Technology

Vidyalankar Institute of Technology
Accredited A+ by NAAC

TE Minor Project-1

Semester: V

(IT 19– INFT DEPARTMENT MANAGEMENT SYSTEM)

GROUP MEMBERS:

PRADYUMNA KALE 22101B0031

SAHIL THALE 22101B0032

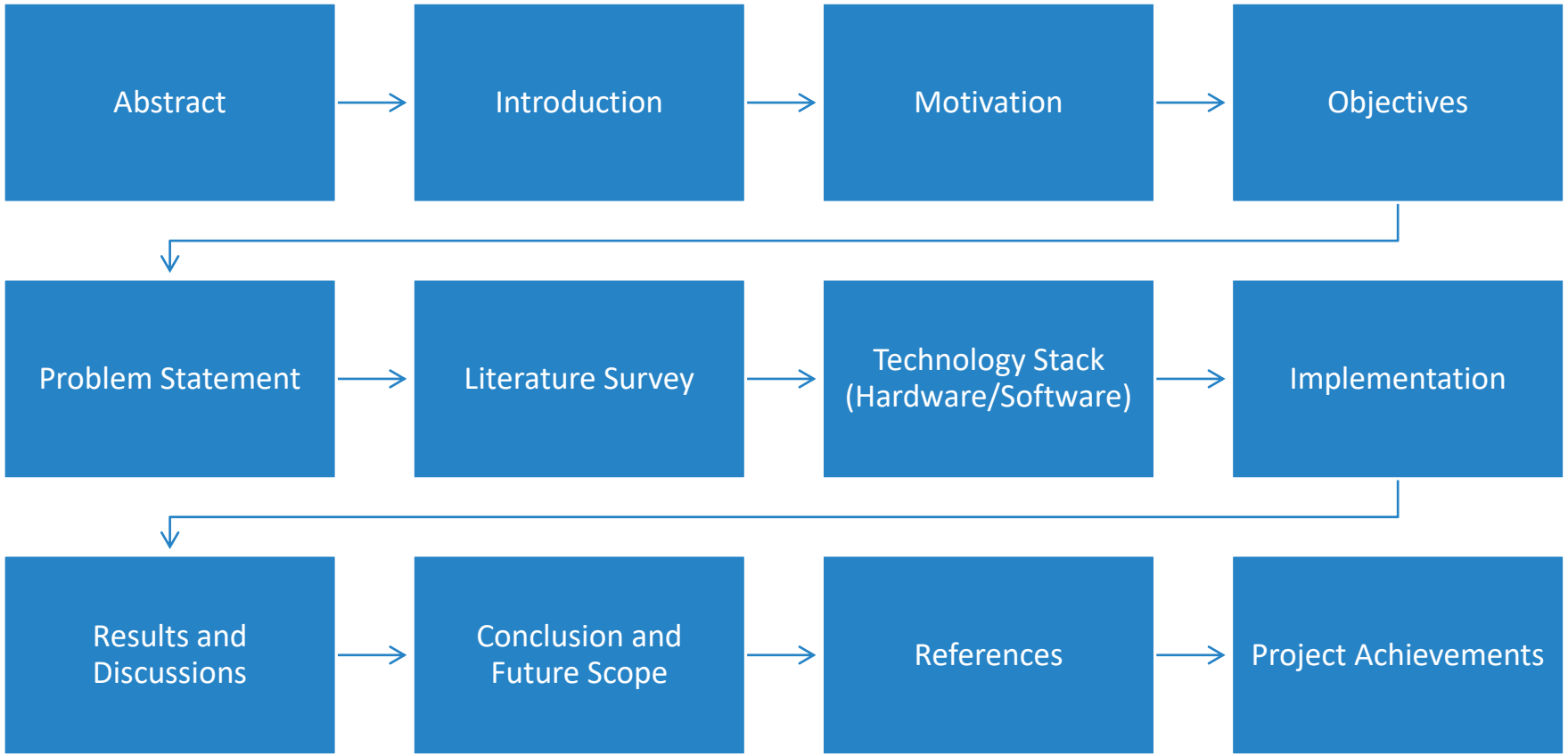
SIDDHESH GHARAT 22101B0029

UNDER THE GUIDANCE OF

(PROF. SANTOSH TAMBOLI)

AY 2024-2025

Outline of Project



Abstract

The IT Department Management System streamlines interactions among students, teachers, and staff. Using web technologies like HTML, CSS, JavaScript, Flask, and SQLite3, it offers tailored login portals for attendance, course management, and communication. A centralized database ensures secure, real-time updates. This system boosts efficiency, enhances user satisfaction, and supports modern educational management.

Introduction

The IT Department Management System is designed to streamline administrative tasks within a college setting by providing a centralized platform that efficiently manages interactions among students, teachers, and administrators.

Traditional educational environments often face challenges such as time-consuming attendance tracking, inefficient communication, and fragmented data management.

This system addresses these issues by leveraging modern web technologies to offer an integrated, user-friendly solution.

Motivation

The motivation behind developing a website for the IT Department Management System stems from the need to address several key challenges faced by educational institutions, particularly in managing day-to-day administrative tasks. The motivation for the IT Department Management System is to streamline educational administration by:

1. **Automating Tasks**.
2. **Centralizing Data**
3. **Enhancing Communication**
4. **Ensuring Scalability**
5. **Strengthening Data Security**
6. **Modernizing Management**

Objectives

- Focuses on creating a user-friendly interface that simplifies key administrative tasks within educational institutions.
- It aims to automate attendance tracking, reducing the time and effort required for teachers to record and manage student attendance.
- Additionally, the system facilitates efficient notice distribution, ensuring that important announcements reach students, teachers, and administrators promptly.
- By integrating these functions into a centralized, easy-to-use platform, the project seeks to enhance communication, streamline daily operations, and improve the overall management experience for all users.

Problem Statement

Traditional management methods in educational institutions often suffer from inefficiencies in data handling and communication.

Manual processes for attendance tracking, notice distribution, and record-keeping are time-consuming, error-prone, and difficult to manage at scale.

Information is often scattered across various systems or stored on paper, leading to data inconsistencies and accessibility issues.

Additionally, communication between students, teachers, and administrators is often delayed or unreliable, resulting in missed updates and coordination problems.

Literature Survey

Survey of Similar/Existing Systems

Academic management systems fall into two main categories: Enterprise Resource Planning (ERP) systems and Learning Management Systems (LMS). ERP systems, such as SAP S/4HANA and Oracle PeopleSoft, manage administrative tasks like enrollment, financial aid, and attendance. Their main strength is data integration, which enhances decision-making. However, their complexity and high costs can be significant barriers for smaller institutions.

Limitations and Research Gap

- Poor User Experience
- Lack of Real-Time Updates
- Insufficient Communication Tools
- Fragmentation of Features
- Inadequate Reporting and Analytics

Tech Stack

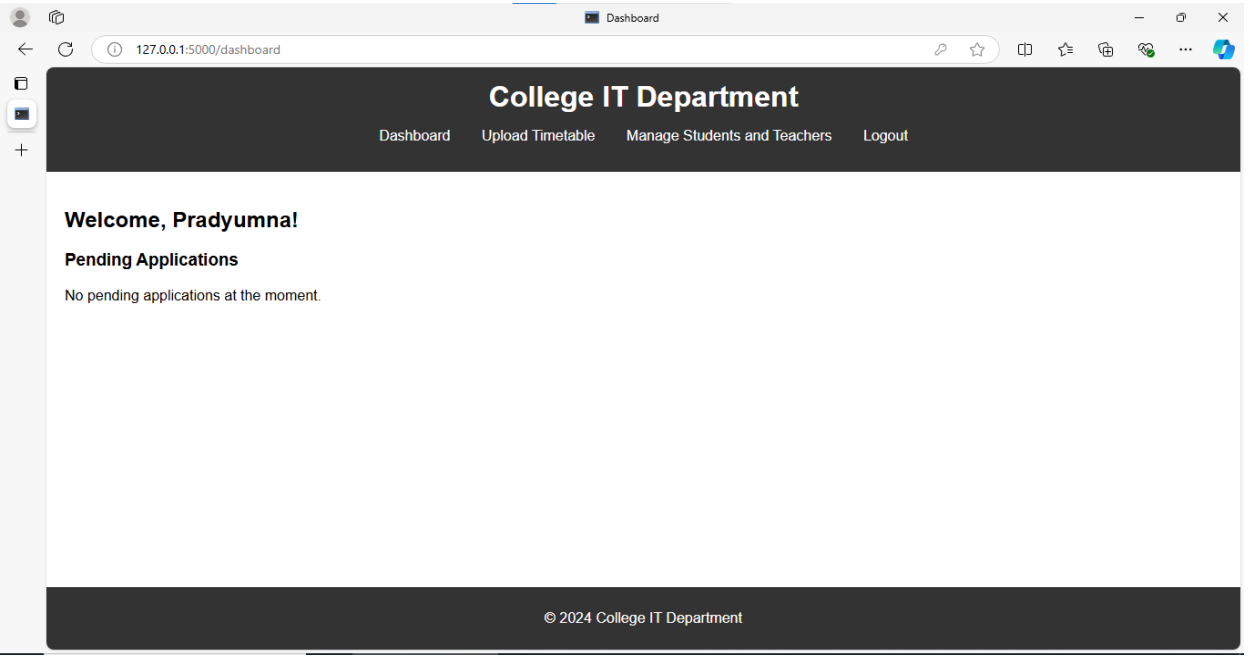
Hardware Specifications Server Requirements: Processor:
RAM: Minimum 4 GB
Storage: At least 10 GB of free disk space

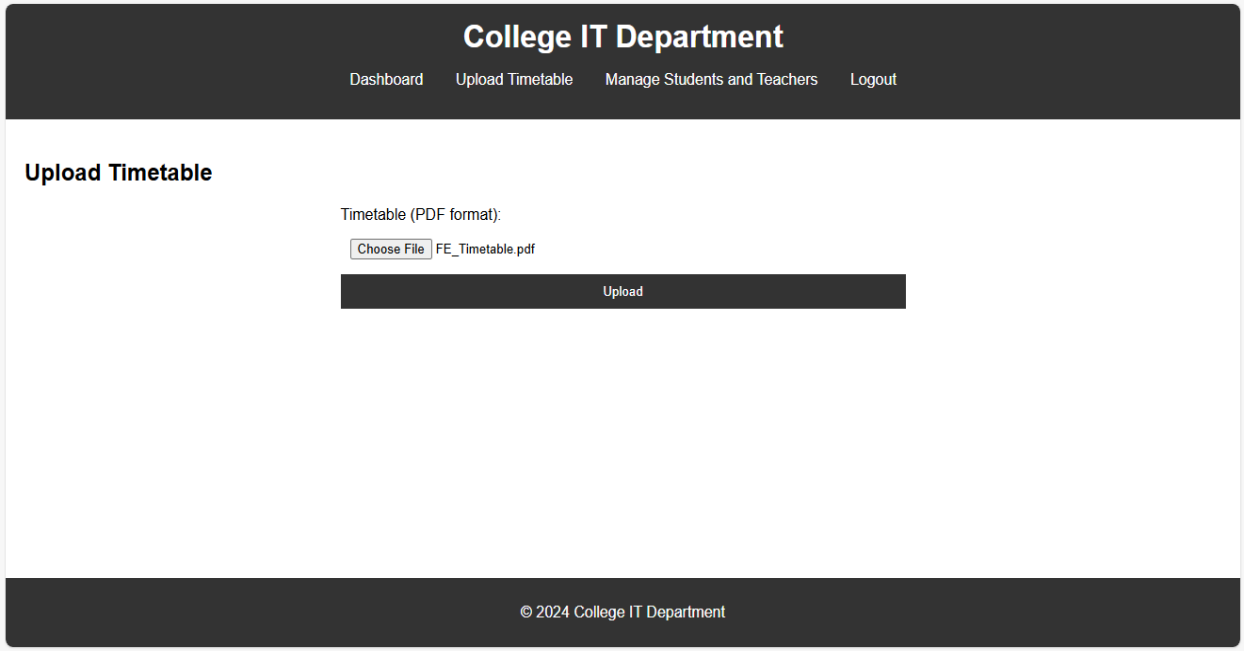
Software Tools Programming Languages:
HTML: For structuring the front-end web pages
CSS: For styling the web pages
JavaScript: For client-side interactivity and functionality
Flask: Python web framework for back-end development
SQLite3: Lightweight database for data storage and management
Code Editor/IDE: Visual Studio Code, PyCharm,etc

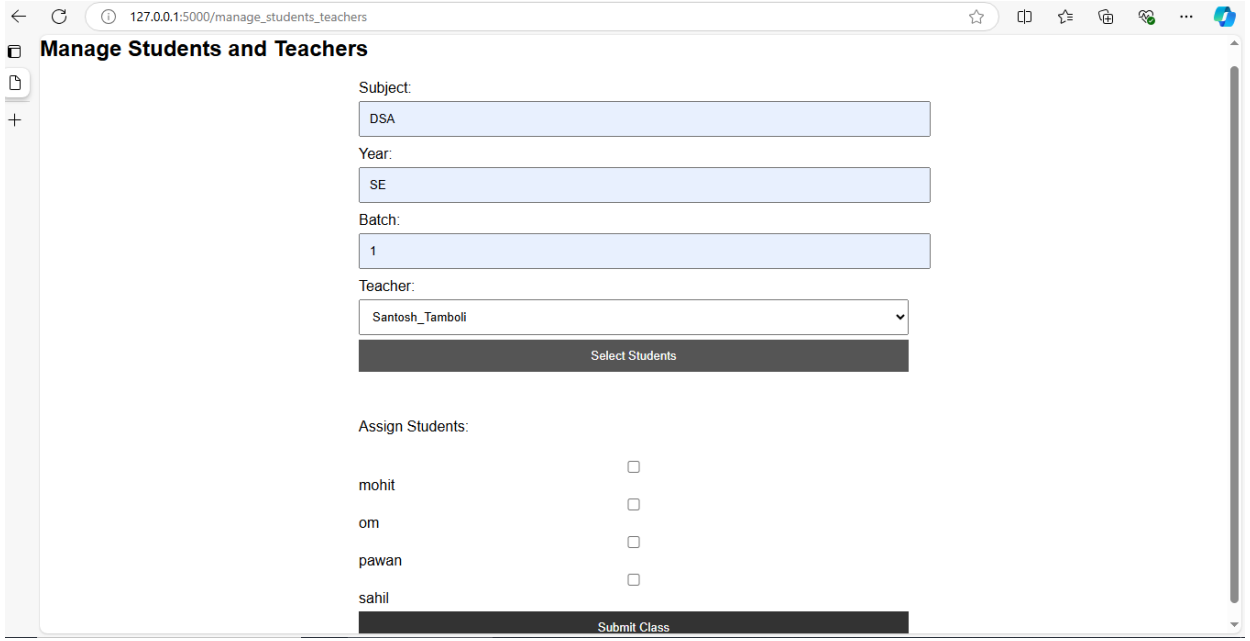
Implementation

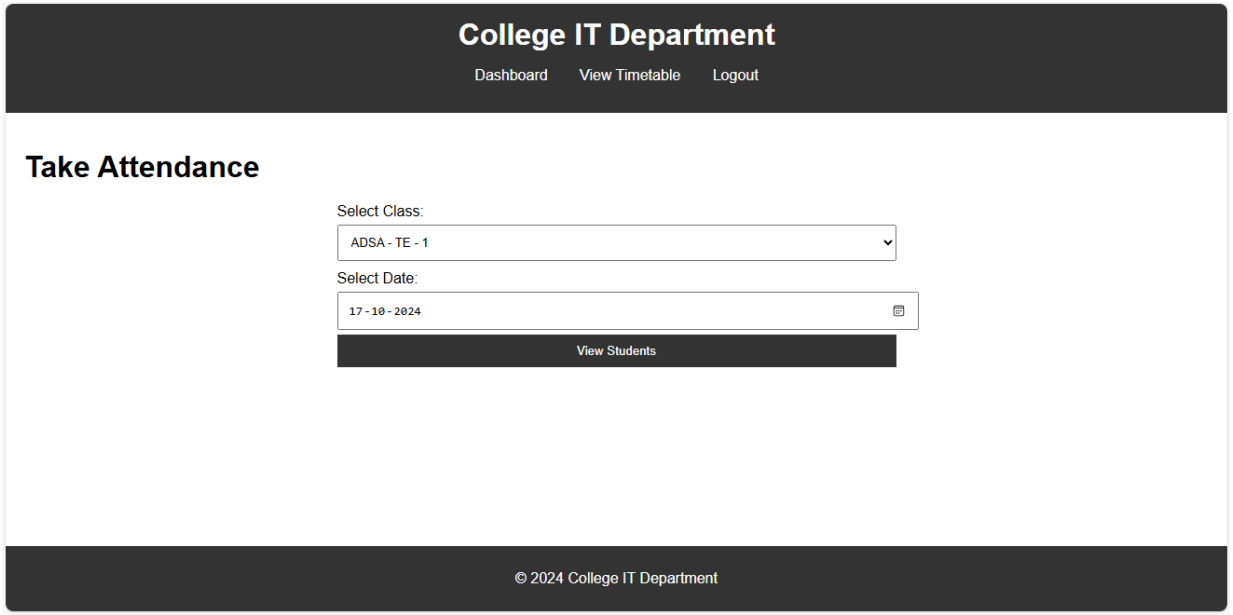
Attendance Tracking: Teachers mark attendance, system validates, stores data, and generates reports. It streamlines tracking, reduces errors, and allows real-time updates.
Notice Management: Users create, categorize, and approve notices. Disseminated via email or dashboard, with engagement tracking for effective communication.

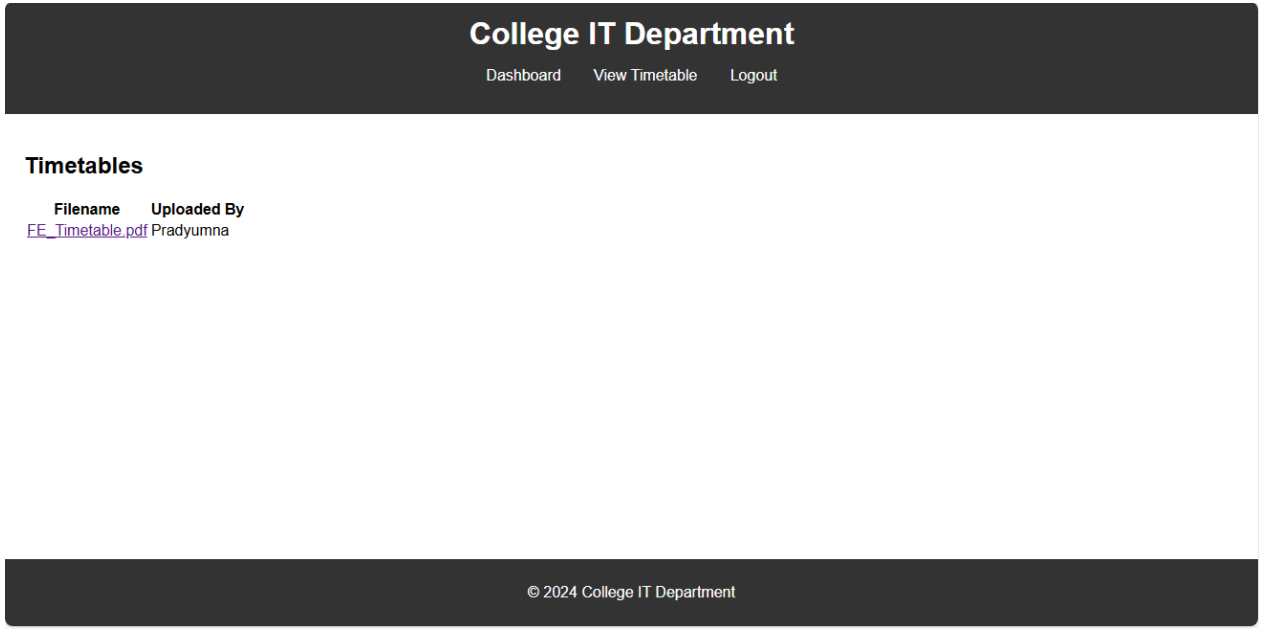
Results

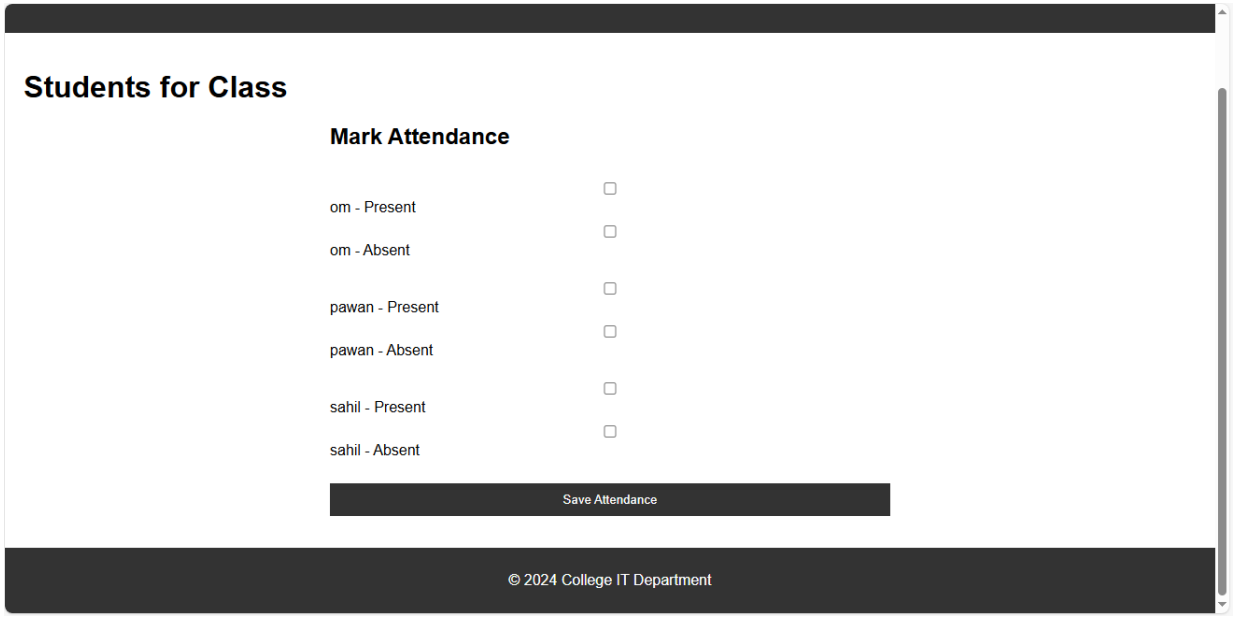

Dashboard
127.0.0.1:5000/dashboard
College IT Department
Dashboard
Upload Timetable
Manage Students and Teachers
Logout
Welcome, Pradyumna!
Pending Applications
No pending applications at the moment.
© 2024 College IT Department


College IT Department
Dashboard
Upload Timetable
Manage Students and Teachers
Logout
Upload Timetable
Timetable (PDF format):
Choose File
FE_Timetable.pdf
Upload
© 2024 College IT Department


127.0.0.1:5000/manage_students_teachers
Manage Students and Teachers
Subject:
DSA
Year:
SE
Batch:
1
Teacher:
Santosh_Tamboli
Select Students
Assign Students:
mohit
om
pawan
sahil
Submit Class


College IT Department
Dashboard
View Timetable
Logout
Take Attendance
Select Class:
ADSA - TE - 1
Select Date:
17-10-2024
View Students
© 2024 College IT Department


College IT Department
Dashboard
View Timetable
Logout
Timetables
Filename
Uploaded By
FE_Timetable.pdf
Pradyumna
© 2024 College IT Department


Students for Class
Mark Attendance
om - Present
om - Absent
pawan - Present
pawan - Absent
sahil - Present
sahil - Absent
Save Attendance
© 2024 College IT Department

Results

Conclusions and Future Scope

The IT Department Management System streamlines academic management by integrating attendance tracking, notice dissemination, and user-friendly features for students, teachers, and administrators. User feedback has driven adjustments, ensuring functionality and ease of use. Future plans include a mobile app for on-the-go access, enhanced analytics for deeper insights, and additional features like advanced communication tools and personalized dashboards, keeping the system adaptable to evolving needs.

References

- **Flask Documentation. (n.d.).** Flask: A Python Microframework. Retrieved from https://flask.palletsprojects.com/
- **SQLite. (n.d.).** SQLite Home Page. Retrieved from https://www.sqlite.org/
- **Python Software Foundation.** (n.d.). Python Documentation. Retrieved from https://docs.python.org/3