

Edu. Manage-A Modern Student Management Platform

Kanchan Narware¹, Vipul Wanode², Satyendra Choudhary³,
Devanshu Rathore⁴

Abstract

This project focuses on creating a modern student management platform using the full stack python. Admins generate login credentials for students and faculty, enabling them to seamlessly access and exchange information within the system. The Front end will be done by using web technologies with popular Django framework. There is a user-friendly interface. SQLite, serves as the backend, promoting efficient data communication whereas Django will help communicate with the database. This initiative aims to enhance administrative processes, providing a modern and integrated solution for college information management.

Keywords: Python, HTML, CSS, JavaScript, Bootstrap, Django, SQLite

1. Introduction

Web-based modern student management platform is designed to manage and store project information that is used in web-based applications. The project is titled “Edu. Manage - A modern student management platform”. This package, once developed, will help the school or institute manage various details about its students. It will also help the management, or we can say, administration, department in maintaining students’ basic details. This package is developed for the authorities of the school or institute to make their tasks easier, or we can say this package automates their tasks like maintaining student’s details, like result, attendance according to subject, leave, feedback. This modern platform will have three interfaces.

This modern platform will have three interfaces- admin, staff and student. It will handle personal details of admin, staff, and student’s personal details like email-id, password as well as their academic details like attendance, result etc. A Modern Student Management Platform will be an automated version of manual student management system because we know that education plays a very important role in our society. With the rising number of admissions and the establishment of new educational institutes, the volume of student records is growing rapidly which is becoming increasingly challenging but using this platform we can easily manage and process growing number of student record in efficient manner. This system can be used as an information management system for the college.

2. Literature Review

Shubham Patil, Saurav Daware, Ameya Bhagat, Prof. Jayant Savarkar²⁰²¹ provides a college ERP using MERN stack. This system may be used to monitor college students and their various activities. This application is being developed for an engineering college to maintain and facilitate ease of access to information[1].

Akansha Pansare, Athang Patil, Nikita Patil, Yatin Patil, Mrs. Aparna Bhonde²⁰²³ provides to solve the drawbacks of traditional event management systems, a new Smart Event Management System that uses web

development to manage various tasks was developed is the primary focus of our project. Keywords: Event Management System, Event Database, Report Generation, Admin User Login [2].

Moin Khan, Mohd. Faizal, Shikha Jaiswal, Prof. Satish Chadokar 2024 this project focuses on creating a Departmental Enterprise Resource Planning (ERP) system using the MERN stack. Admins generate login credentials for students and faculty, access and exchange information within the system. The React-based front end ensures a user-friendly interface, efficient data communication. This initiative aims to enhance administrative processes, providing a modern and integrated solution for college information management [3].

3. Methodology

3.1 Authentication Algorithm

The student authentication algorithm is designed to enroll students by collecting their details such as username and password. Then hashed the password after that comparing the hashed password with stored hash in the database, if password is correct than fetch the user's role (student, staff, admin). Then redirect to the appropriate dashboard based on the role. Finally, access granted to the corresponding panel.

3.2 Attendance Tracking Algorithm

The attendance tracking algorithm records student attendance by marking them as present or absent. It updates their attendance history and calculates the attendance percentage. This helps in monitoring student participation, identifying irregular attendance, and ensuring compliance with attendance requirements for academic performance and institutional policies.

3.3 Leave Management Algorithm

The Leave Management algorithm takes input leave request from student and staff with start date, end date, reason. This algorithm's process and check for overlapping leaves in the database. If there is no conflict, approve or send to admin for approval. Update the leave status in the database and the output is approved / Rejected the leave request.

3.4 Notification System Algorithm

The notification system algorithm alerts students and parents about low attendance or poor grades. It checks attendance percentage and subject performance. It processes recipient email or userid and then send notification via email/SMS/database update. After that it store notification log.

4. Result

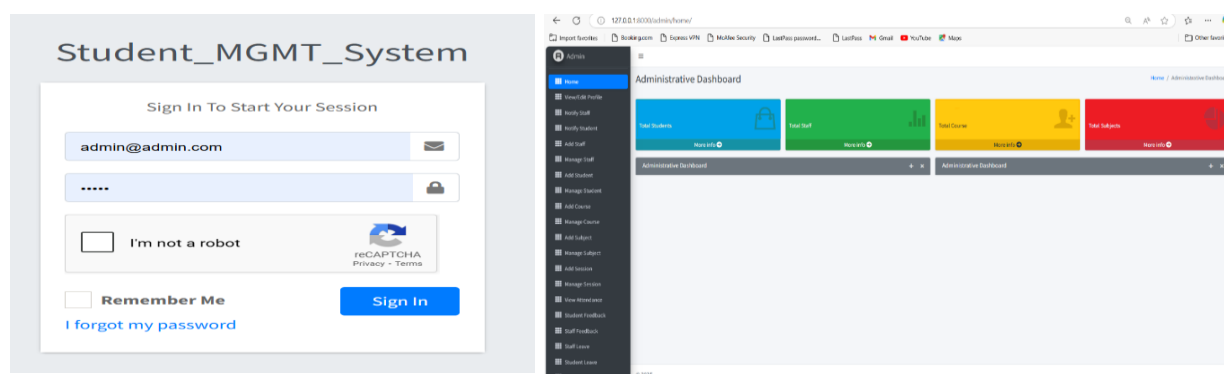


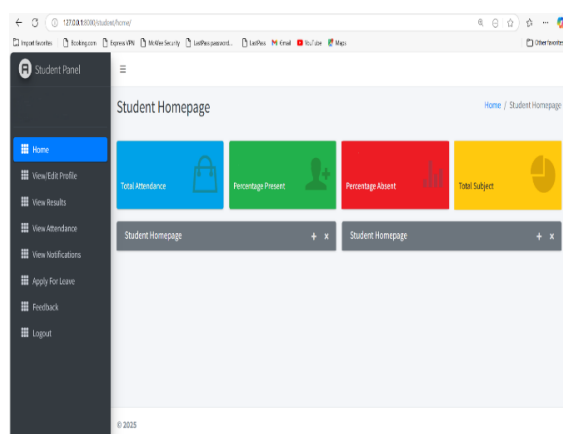
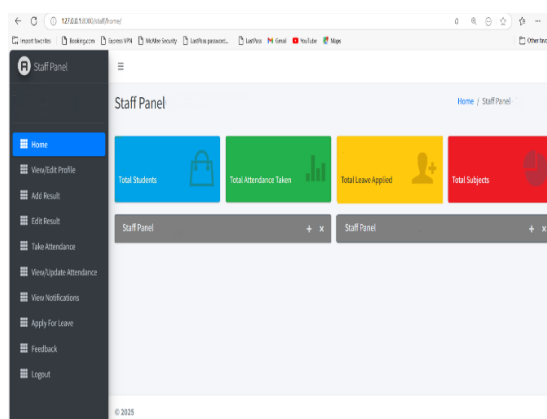
Fig 4.1. Login Page**Fig 4.2. Admin Dashboard**

4.1 User authentication

The system ensures secure access through user authentication. Users, including administrators, students, and staff members, must provide valid login credentials comprising an email-id and password.

4.2 Admin Module

Administrators hold the authority to efficiently manage student and staff information. Admins can perform operations such as adding, viewing, editing, and deleting student and staff records. Access to the admin module is restricted and requires authentication.

**Fig 4.3. Student Dashboard****Fig 4.4. Staff Dashboard**

Students enjoy the convenience of viewing their details within the system. Access to student details is personalized and limited to the respective student's information. Authentication is mandatory for students to access their modules. Staff members can effortlessly access and review their details. Similar to students, access to faculty details is restricted to the respective faculty member's information. Authentication is a prerequisite for faculty members to access their dedicated modules.

5. Conclusion

Modern student management using full stack python provides an easy way to automate the functionalities of the college. It is an integrated platform that connects various departments of an institution, like administration, staff, students. It provides reliability and time savings and is easy to control. Information can be saved and accessed at any time by an authorized user. It includes almost all modules required for seamless college functions. The Intelligent modern student management system offers a practical solution to the Faculty of Computer Engineering's challenges in handling student data and study planning manually. This system promises improved academic management efficiency and a departure from outdated paper-based methods. Its primary aim is to provide students with a dependable tool for managing their academic journey within the faculty effectively. It reduces administrative paperwork and can potentially be extended to a mobile app for parents to monitor their child's progress and attendance conveniently.

References

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