Attendance Management System

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Abstract*: This research paper presents an advanced attendance management system that incorporates visual-based attendance recording, a comprehensive timetable module, a leave request feature, and user-specific login for students, faculty, and administrators. The system leverages image processing techniques to enable visual-based attendance, allowing for efficient and accurate attendance tracking. The timetable module ensures streamlined scheduling and easy access to class timings. Additionally, the system includes a user-friendly leave request feature, enabling students and faculty to submit leave requests, while administrators can track and manage leave statuses. The user-specific login system ensures data security and grants personalized access to the system's functionalities. Overall, this research provides a comprehensive solution for attendance management, improving efficiency, transparency, and user experience*

Keywords: Attendance Management System, facial recognition.

I. INTRODUCTION

The effective management of attendance in educational institutions plays a vital role in ensuring academic success and administrative efficiency. Traditional methods of attendance tracking are often time-consuming and prone to errors. To address these challenges, this research paper introduces an innovative attendance management system that incorporates visual-based attendance, a comprehensive timetable module, a leave request feature, leave status tracking, and individual logins for students, faculty, and administrators. The visual-based attendance feature employs image processing techniques to streamline the attendance recording process, reducing manual effort, and enhancing accuracy. The timetable module facilitates efficient scheduling and provides easy access to class timings for all users. The leave request feature enables students and faculty members to submit leave requests, while administrators can track and manage leave statuses seamlessly. The inclusion of individual logins ensures data security and grants personalized access to the system's functionalities, promoting a user-friendly experience for all stakeholders. By combining these features, this attendance management system aims to improve efficiency, transparency, and convenience in attendance management processes.

II. LITERATURE REVIEW

This research paper encompasses four studies focused on different aspects of attendance management systems. The first study aims to enhance faculty attendance monitoring at City College of Calamba through RFID technology [1]. The system utilizes RFID for daily time in and time out, while also generating reports such as daily time records and overload pay slips. The second study introduces an online attendance system [2] that eliminates traditional identification methods and employs a fixed digital camera to scan and recognize students' faces, streamlining the attendance marking [3] process. The third study proposes a web-based Attendance Management System (AMS) [4] implemented in Pahang religious schools, aiming to automate the manual process of taking daily attendance and analysing attendance data.

III. METHODOLOGY

The research paper employs a modular approach for the Attendance Management System, comprising an Admin Module and a User Module. The Admin Module grants administrative rights to create and delete entries for faculty and student details. The User Module allows users to mark daily attendance, apply for leave, access the timetable, and edit profile information.

492

To ensure system security, only authorized individuals are granted access to specific modules, with administrative rights limited to record modification. The user interface is designed to be consistent, ensuring ease of use and conceptual clarity for users.

The Administrative Module includes sub-modules such as Student Details, Staff Details, Registration, and Leave Status. These sub-modules enable the management of academic and personal details, registration of new staff or students, and monitoring and updating leave status.
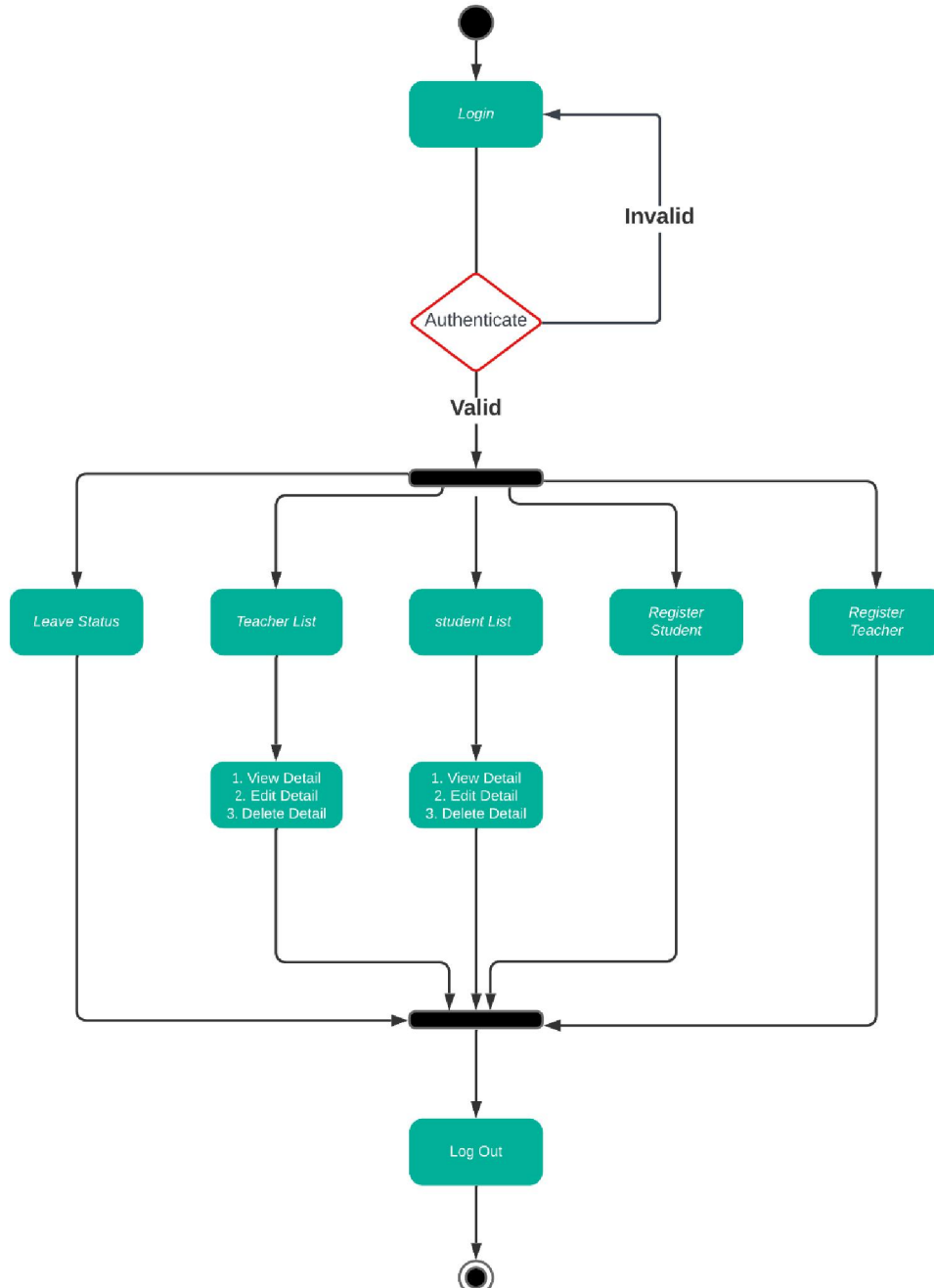

Fig. 1. Admin Activity Diagram

The User Module includes sub-modules for Student Details, Staff Details, Profile View, Leave Status, Take Attendance, and Apply Leave. These sub-modules facilitate the retrieval of academic and personal details, viewing and editing of profiles, monitoring applied leave requests, marking attendance, and applying for leave.
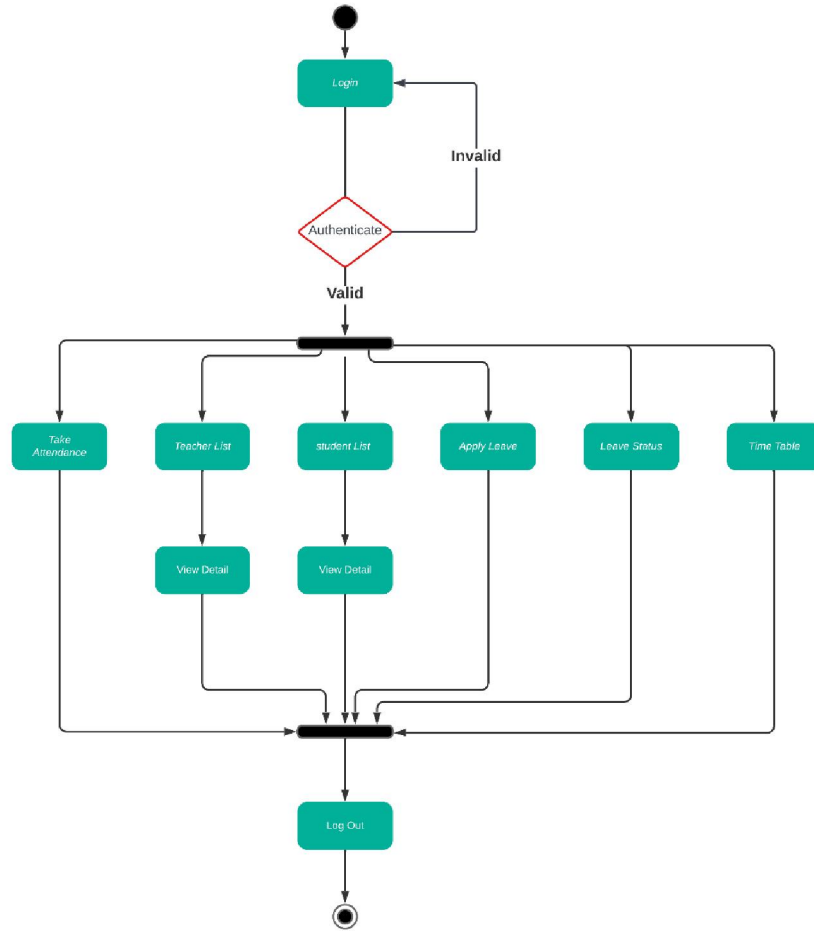
Fig. 2. User Activity Diagram

These methodologies ensure a structured and user-friendly approach to the implementation of the Attendance Management System, providing administrators and users with the necessary tools for effective management and utilization of the system.
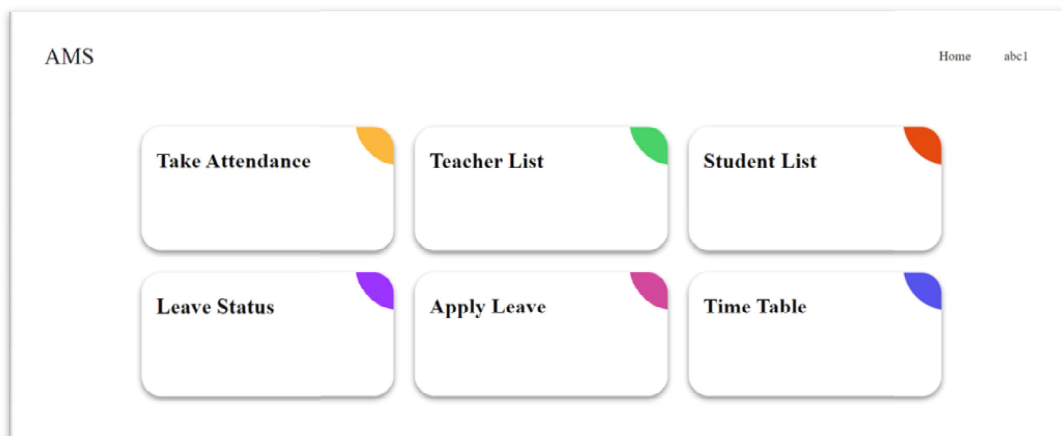

Fig. 3. Home Page

IV. CONCLUSION

In conclusion, the implementation of an attendance management system with visual-based attendance, a comprehensive timetable module, leave request feature, leave status tracking, and individual logins for students, faculty, and administrators offers significant benefits. The visual-based attendance system ensures accuracy and efficiency in recording attendance. The timetable module facilitates effective scheduling and access to class timings. The leave request feature enhances communication and reduces administrative burdens. The user-specific logins ensure data security and personalized access to the system's functionalities, enhancing efficiency, transparency, and user satisfaction. Together, these features contribute to an improved attendance management process in educational institutions.

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