College Management Application Software

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Abstract: *Technology has changed our daily life routine as well as living style. So, student of colleges or university require application Software This paper is aimed at developing an Online Intranet College Management Application Software (CMAS) that is of importance to either an educational institution or a college. The (CMAS) is an Intranet based application that can be accessed throughout the institution or a specific department. This system may be used for monitoring attendance for the college. Students and staff logging in may also access or can search any of the college information. Attendance of the staff and students as well as marks of the students will be updated by the staff. This system is being developed for an engineering college to maintain and facilitate easy access to information. For this, the users must be registered with the system after which they can access as well as modify data as per the permissions given to them. CMAS is an intranet-based application that aims at providing information to all levels of management within an organization. This system can be used as a knowledge/information management system for the college. A given student/staff (technical/ Non-technical) can access the system to either upload or download some information from the database that to get all type of information related to examination, lecture notes, placement regarding question, notification, events, transportation etc. requirement of students or parents or employee based on present scenario of market and latest technology like PHP, etc. to solve the students' problem. A portion of the highlights that it can incorporate into this Application system..*

Keywords: *College Management*, Paperless College, College Management Software, etc.

I. INTRODUCTION

The college management system project is a comprehensive software application that is designed to manage and streamline the various functions of a college. The system is developed using multiple programming languages such as PHP, SQL Server, HTML, and JavaScript. It is a web-based system that stores all the records in a MySQL database. The main objective of the system is to reduce paperwork, reduce operational time, increase accuracy and reliability, increase operational efficiency, and ensure data security. The system also allows students to create an account and apply for job posts, while the placement head can maintain daily updates. The system has several key modules, including the student module, placement module, notices module, registration module, and room allotment module. The student module stores student records and allows users to search the database according to different criteria, such as name, course, and room number.

The placement module includes details regarding the placement of students in different companies, while the notices module provides information about various events. The system also includes a registration module that allows students to check their hostel fees and mess bill by entering their

unique hostel ID. The room allotment module is used to allocate a room to students according to their educational details and section, and an ID is generated for each student.

The module also displays the room fee structure records and student dues or refund status. The college management system project is developed using several technologies and tools such as Java, SQL (MySQL), Visual Studio 2010, and MySQL server. The system is easy to use and has a user-friendly graphical user interface that enables users to access and search for information quickly. The system is designed to automate the placement process of the institute, and it provides placement reports, such as company-wise, branch-wise, and package-wise reports. In conclusion, the college management system project is a valuable tool for colleges and universities as it helps to manage and streamline various functions of the institution. The system is paperless, reduces the manpower required, provides accurate information, and enables stakeholders and staff members to get the desired information without delay. The system is essential for the efficient functioning of colleges and universities.

II. LITERATURE SURVEY

Over the years, CMS has gained significant attention in the field of education, and a considerable amount of research has been conducted to explore its potential benefits. According to the literature, the primary objective of CMAS is to improve the efficiency of college operations and provide better services to students, teachers, and administrative staff. One of the primary benefits of CMAS is that it simplifies complex administrative tasks such as admission, enrolment, attendance, scheduling, and examination management.

A study by Ahmed and Omar (2018) revealed that CMAS significantly reduces the time and effort required for these activities, thereby enabling administrators to focus on more important tasks such as improving the quality of education. CMAS also provides a platform for effective communication between students, teachers, and administrative staff. According to Khan et al. (2019), CMAS facilitates online discussion forums, feedback mechanisms, and messaging systems that improve communication between stakeholders, leading to better collaboration and greater transparency. Another significant benefit of CMAS is its ability to improve the quality of education.

CMAS provides teachers with tools for managing courses, creating and sharing course materials, and monitoring student progress. A study by Al-Dabbagh et al. (2020) found that CMAS enhanced the quality of education by providing teachers with a comprehensive view of student performance, which allowed them to identify areas for improvement and provide targeted feedback to students. However, despite the potential benefits of CMAS, several challenges have been identified in its implementation. One of the primary challenges is the resistance to change from teachers and staff who are accustomed to traditional methods of administration. Another challenge is the cost of implementation, which may be prohibitive for small colleges with limited resources.

III. NEED OF WORK

The College Management System is the version of manual System. The Manual College Management System consist of Consist Following Drawbacks:

Drawbacks of Existing System:
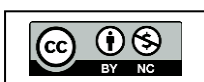
1. **Lack of Security:**

   The manual system consists a lots paper document. The paper document is less secure than advance electronic system. In case of loss of paper document there is some less chance of recovery.

2. **Time Consuming:**

   In the manual college management system handling of the paper document and storing is not easy. Manually managing is very time consuming. Finding the paper documents in manual system takes up long time. It is very time consuming and difficult to handle.

3. **Insufficient Space:**

   In case of increasing the number of documents in manual system its require lots of space to store the documents. Upgradation of the storage in manual system is not easy.

4. **Increasing Cost:**

   One of the biggest problem in manual college management system is management of paper document is associate with cost. Storage of paper documents, recoding leads with increasing cost.

5. **Updating Data:**

   Updating manual paper documents requires lots of time and also difficult to maintain. If you want to make any change you will have to make a copy, so you don't destroy the original with any edits or comments you might add.

IV. PROBLEM DEFINATION

The existing system which we using in our college is traditional process is a complete manual process. To Reduce to override the problems prevailing in the practicing manual system we develop Our College Management System.

V. OBJECTIVE

The main objective of this project is to online platform to student and employee that provide an interface to view activity related college. The main aim of this project is to develop an android application which covers the all the details of college like student profile, teacher profile, student progress, academic events, student attendance, Bus fees, College Fees, library, sports. All the data related to college, staff and student is securely stored on firebase database which is managed by the college administrator.

VI. ARCHITECTURE

There are three functional component of this system i.e the admin, the student and the employee. Both employee and student need to login in order to access the information. In this system admin has
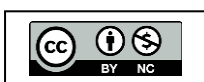
highest priority. Main functionality of admin is to add the employee and manage the database dashboard. Admin gives the login credential to the employee. Main functionality of student is to register the account and login into system. After the login student has the various menu to do the task related their profile like view notification, view assignment, view their progress, office related task and library related task. Employee module has further divided into submodules the main functionality of employee module is login to system and do the task related their profile like teacher profile has task related teaching while hod profile has task related department and so on.
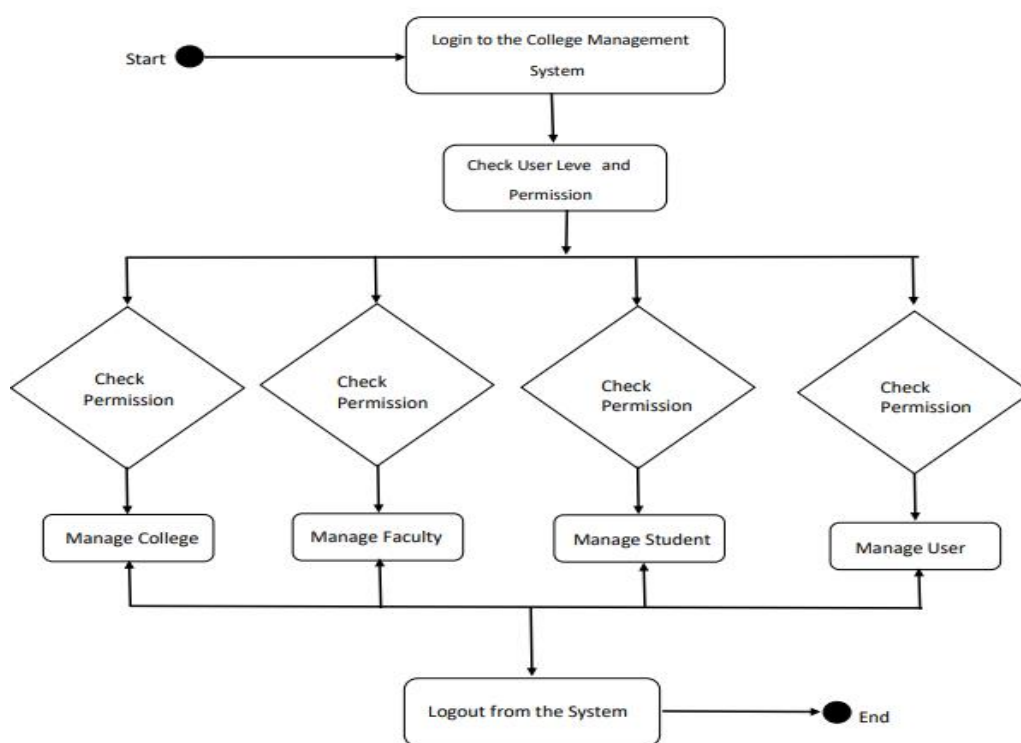
Figure 1: Abstract View of CMAS (College Management Application Software)

The existing system is not user-friendly because the retrieval of data is very slow and data is stored manually. The use of some technology can be complicated and time consuming. These systems need to be handled by a specialist for maintaining and updating the system which can again be very costly. It require more calculations to generate the report like attendance calculation, percentage calculation etc. so it is generated at the end of the session. Hence requires more time to display the report. All calculations to generate reports are done manually so there is a greater chance of errors.Here the faculty has to suffer a lot through the calculation and if there is a loss of some report then it may cause a lot of problems. This is time consuming also due to exaggerating calculation.Even after that there are some miscalculation which is very frustrating for the faculty. These calculations also affect the marks of the student which will finally lead to their percentage.

VII. USER VIEW OF PRODUCT USE

The front view of the system consists of different services provided by the system and a login page with which a user is prompted to login into the system through his username and password. Upon the student's login, his/her details are updated in the system. When all data is entered, the student can not only view their details but also view their exams and report details. When the student's session ends, all data is saved. Staff can also log in to the system with their id and password and has access to the system. There will be a special login name and password (to prevent students from updating their details other than their profile) to allow the teacher to access all student data in a table form. Here, the administrator can add students and staff to the system and change student and staff details.
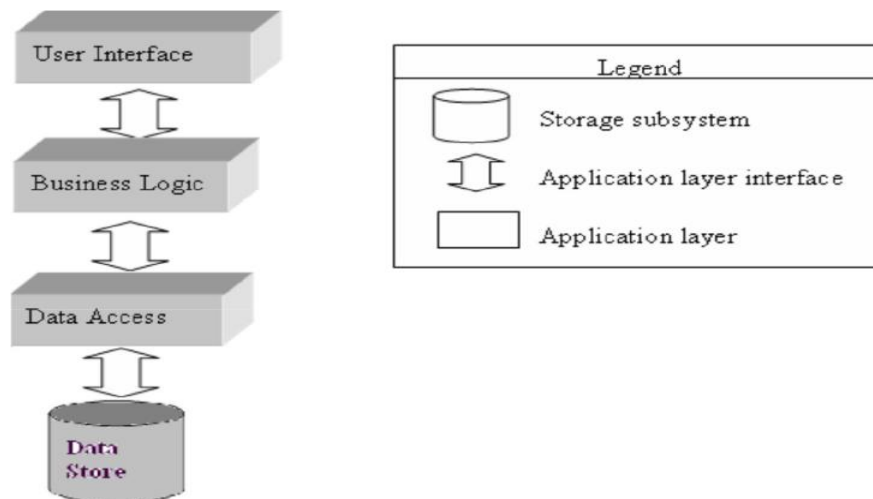
Figure 2: Abstract view of CMAS (College Management System) Data Storing Process.

VIII. MODULES OF THE SYSTEM

1. **Student Module:**
    This module is used to store student records. It contains the following information i.e. Students' Profile details, Contact information, Educational details, etc. The Users can search the students from the database according to different criteria such as name, Course, Roll number, etc.

2. **Admin Module:**
    The first step in this application is to get the staff members and teaching faculty to register. They need to first register then they can provide their id and password for login.

3. **Admin Login:**
    After registering the admin is allowed to log in. He or she can now view the admin homepage where there are options to take attendance, upload results, and send notifications to the student. He can also view the attendance taken and uploaded results.

4. **Faculty and Student Attendance:**

The college management system should have this module to check faculty and student attendance. This will record the everyday attendance and activities of everyone in the college. The attendance data will be stored in the college database. The generated data will be stored for future use.
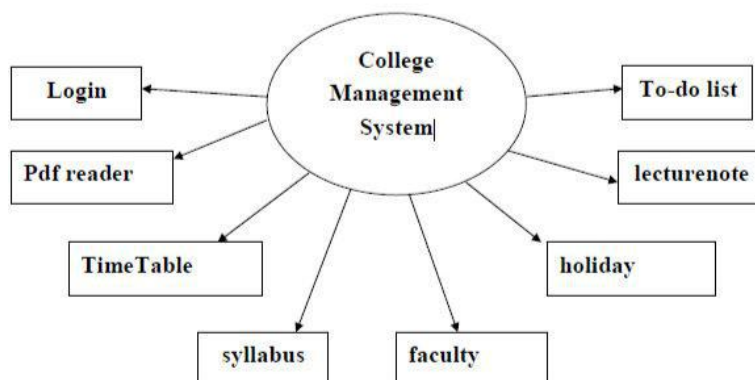

Figure 3: Abstract view of CMAS Flow Diagram for Collage Staff

IX. ER DIAGRAM

The objects are called entities and the set of features that describe the entity is called an 'attribute set. ' For example, in the database of a school, the students are interpreted as entities that have attributes such as Name, Roll Number, Section, Course Enrolled, etc.
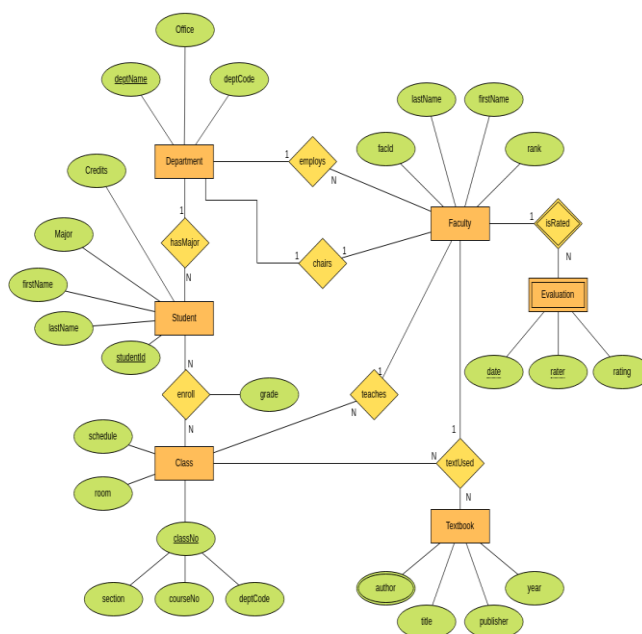
Figure 4: CMAS (College Management System) Flow Diagram Compete Management Application Software
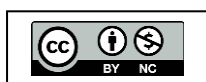
X. PROJECT IMPLEMENTATION

The student module enables you to store all personal, academic, and professional and history data regarding a student, his/her parents. In manual college management system they are facing the problem related maintaining the record of student. Sending assignment and notification to the student and so on. So in this student module they have the facility like registration there account in our college management system with there data.

This data of register student are store according with there department. When the student complete there registration they have facility to login there account with register email address and password. If student doesn't have there password our system have the facility to forgot there password with register email. After the login account student have many options related to section like assignment section, notification section, office section, library section and profile section. The main part in the student section is the complete the profile section is first it is necessary part. When the student done the complete profile part the our college management system create the student account in the various section like in office section.

XI. OUTPUT
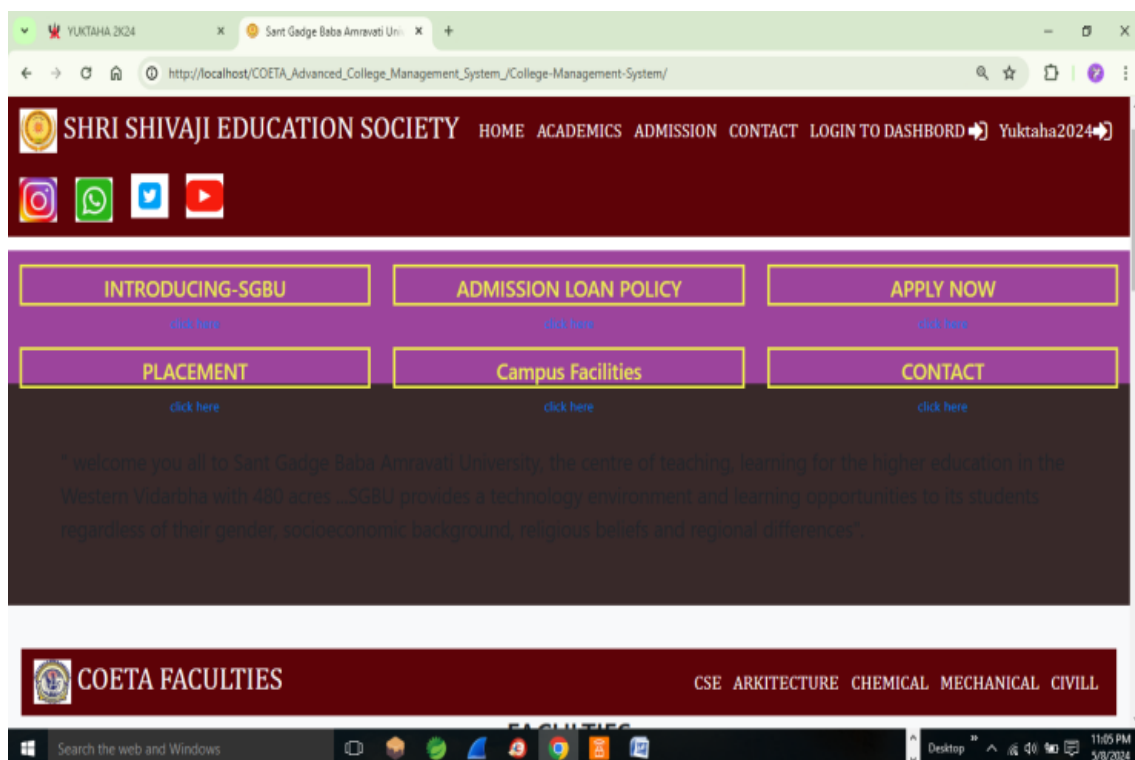
Figure 5: Main Screen OF CMAS
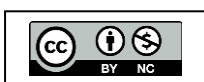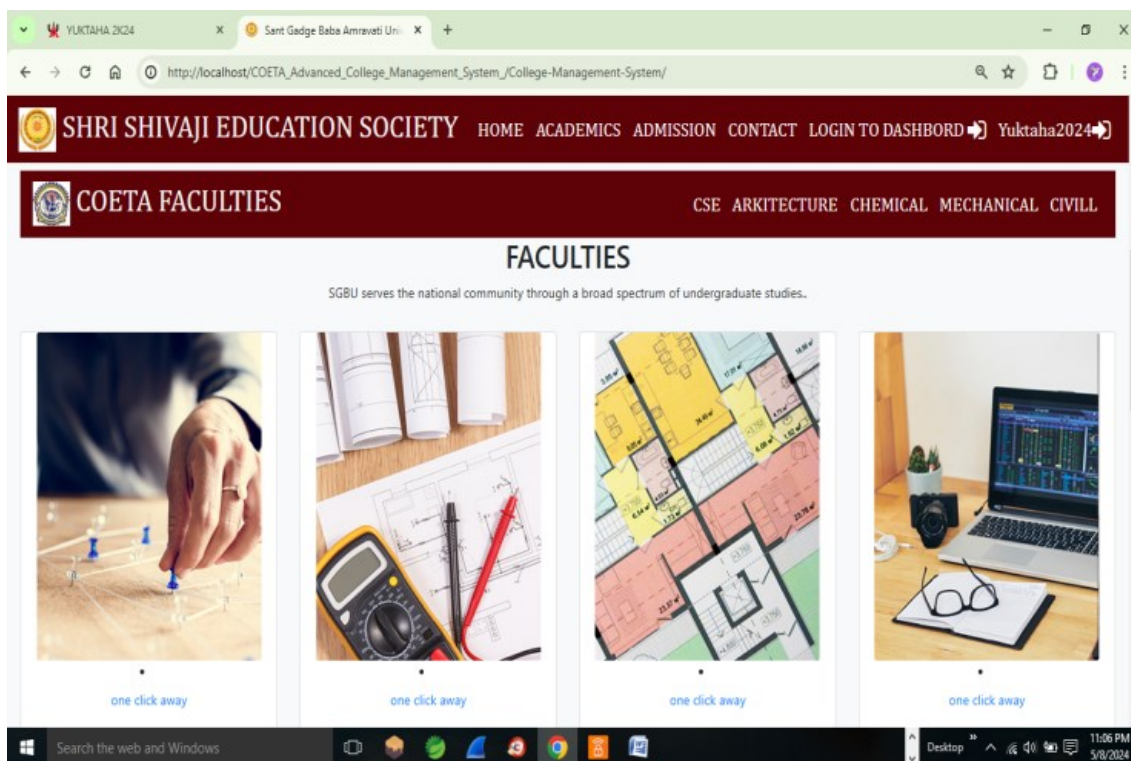
Figure 6: Home Screen
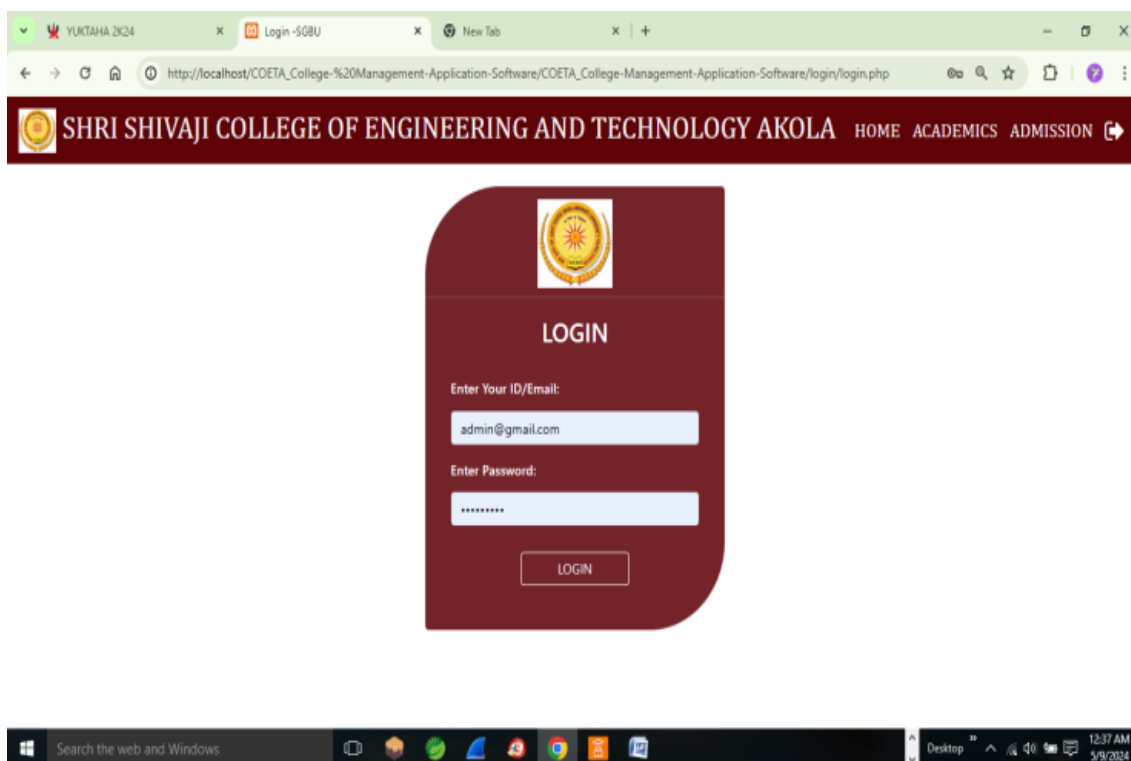
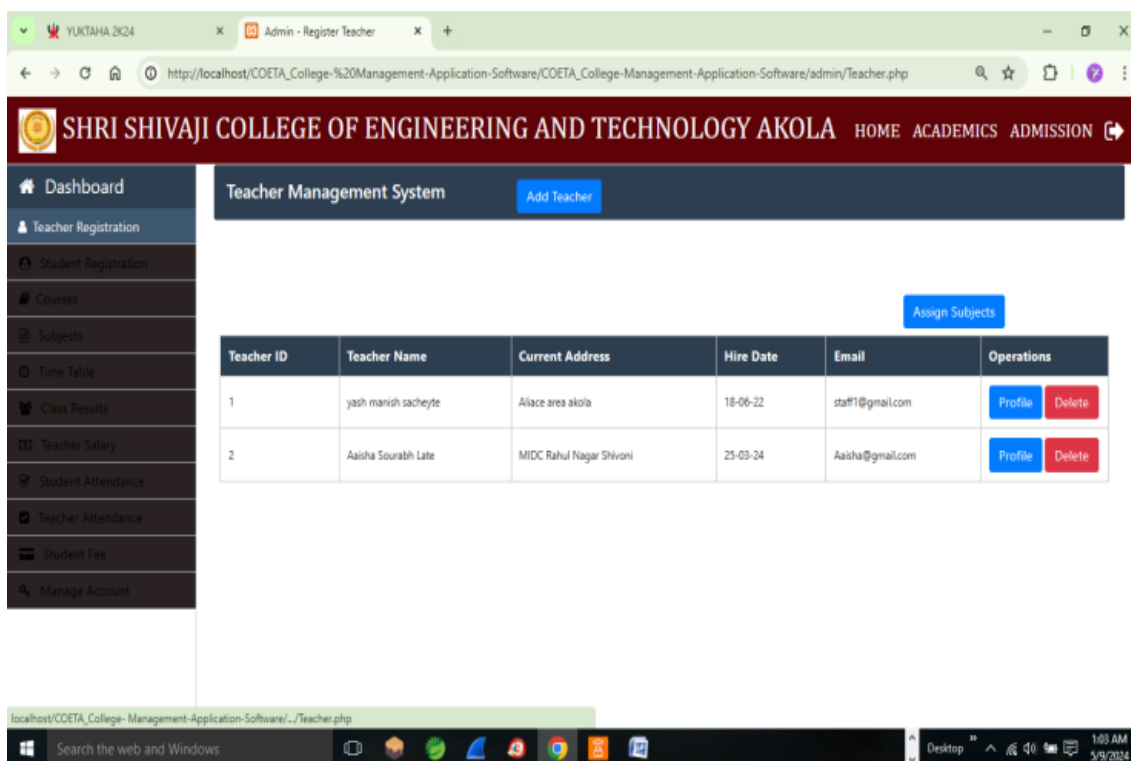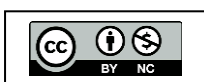
Figure 7: Login Screen
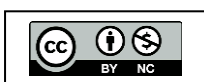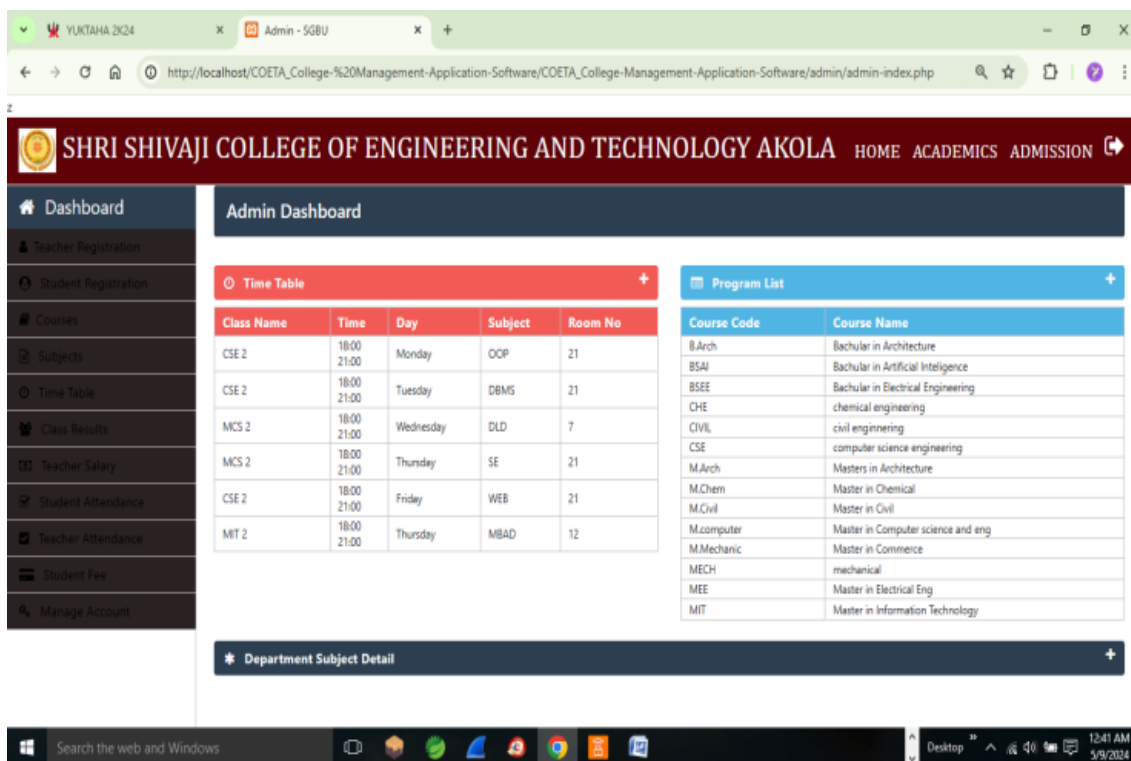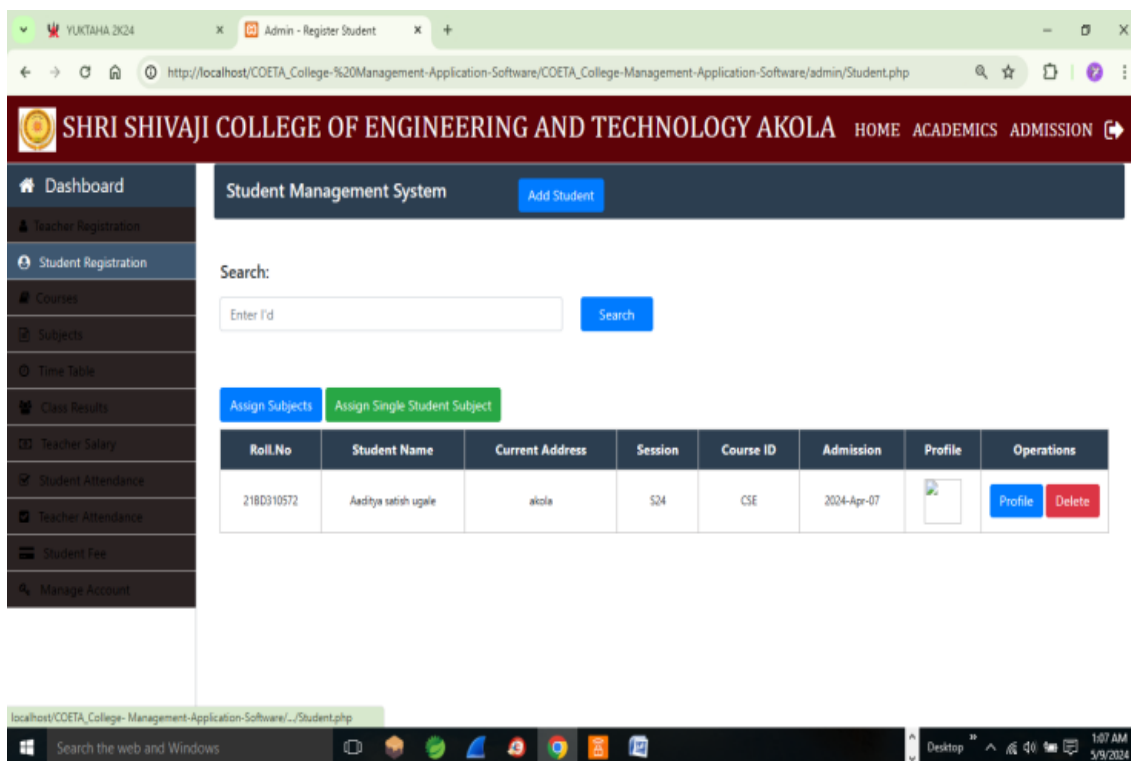
Figure 8: Admin page

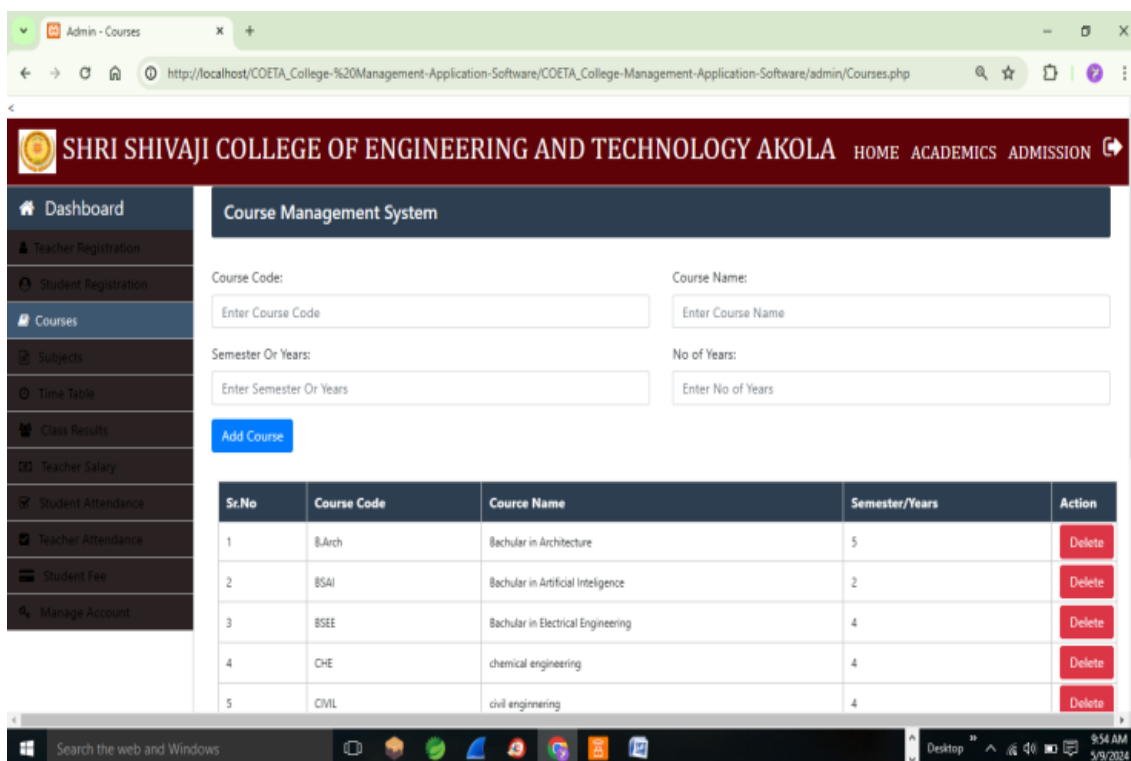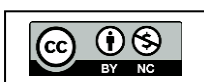**Figure 9:** Teacher Management Page
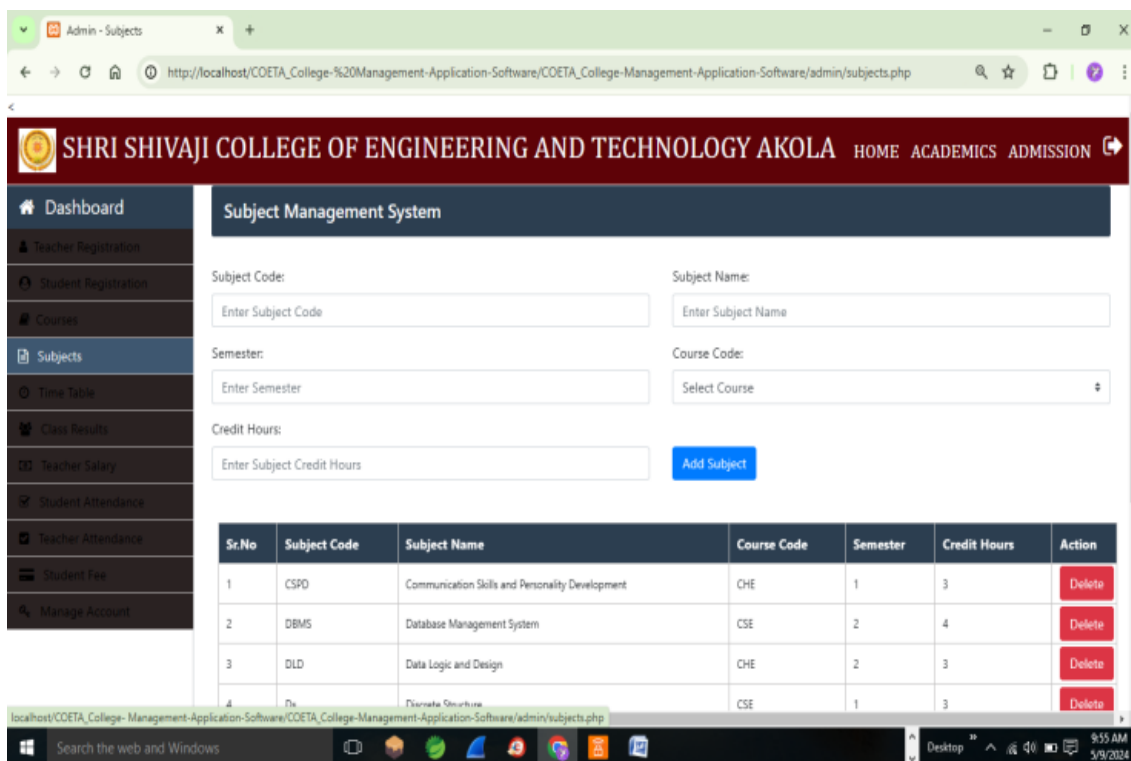
Figure 10: Student Management Page

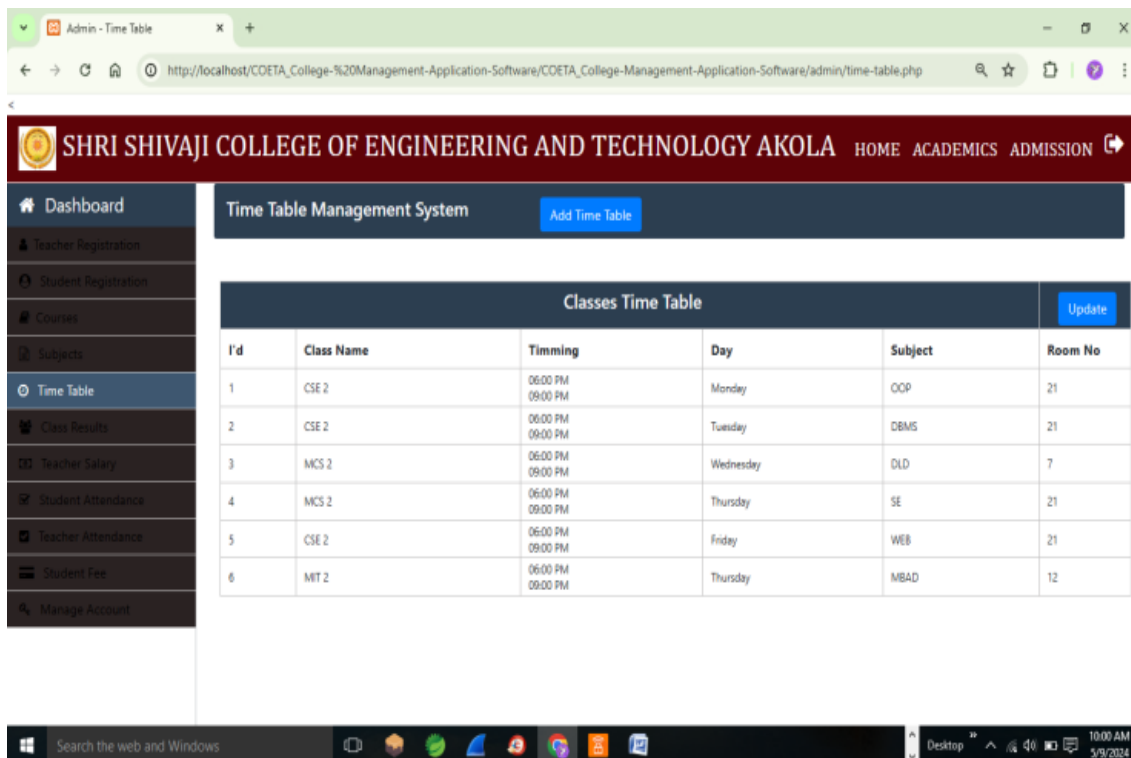**Figure 11:** Course Management Page
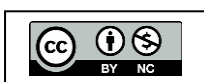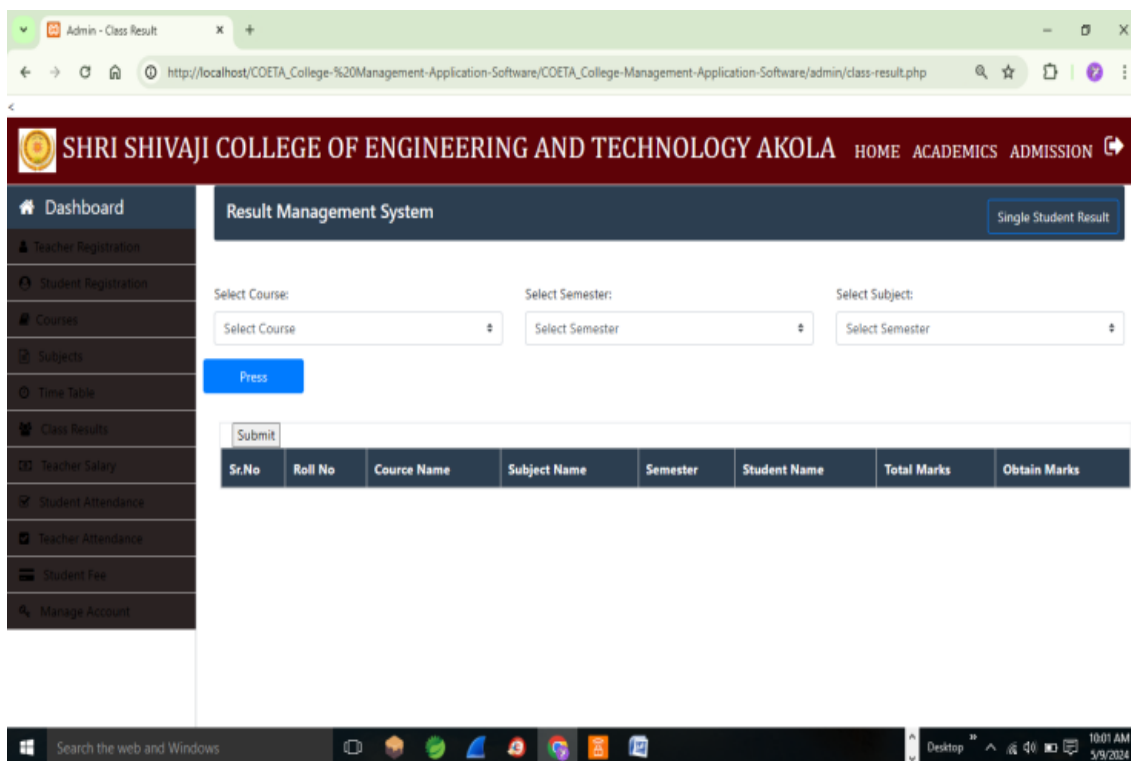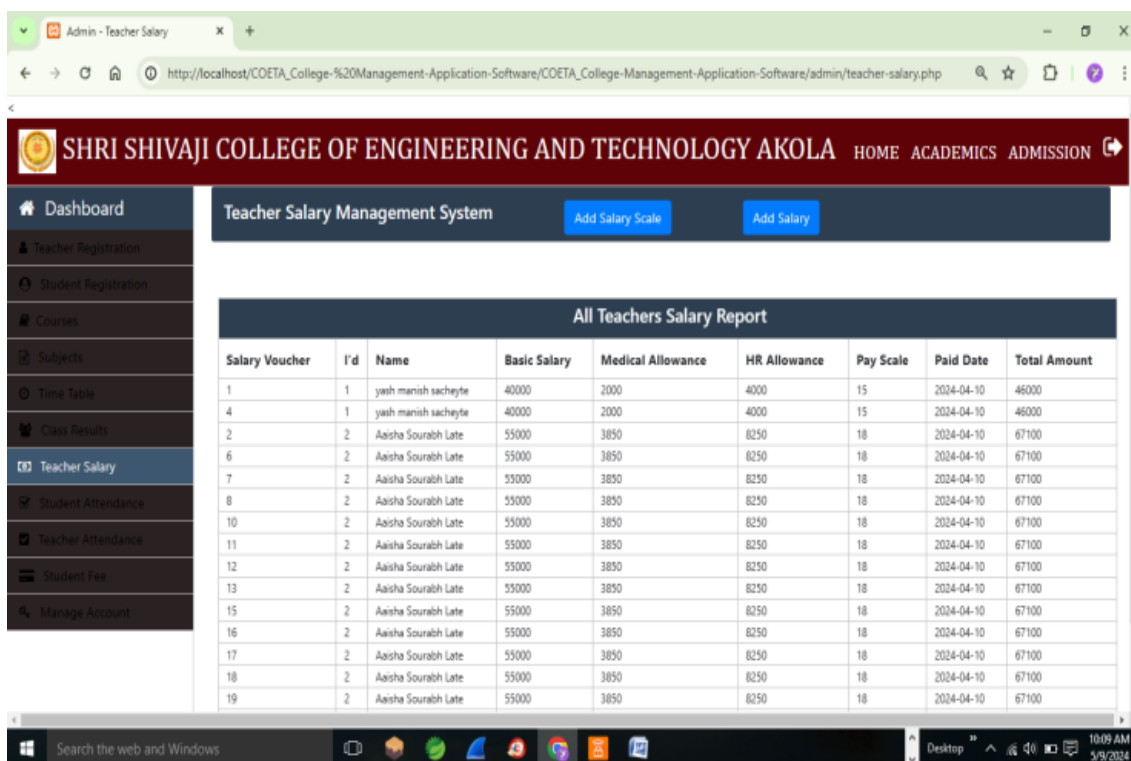
Figure 12: Subject Management Page

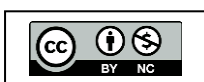**Figure 13:** Time Table Management Page

Figure 14: Result Management Page

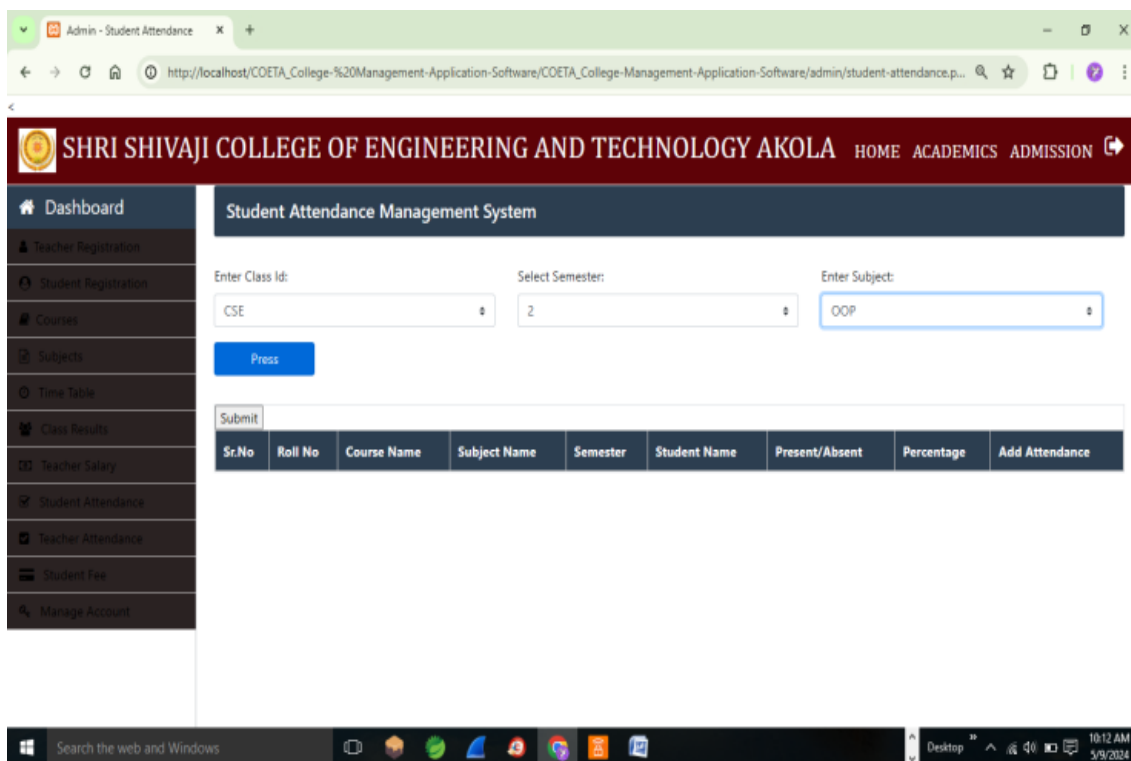**Figure 15:** Staff Salary Management Page

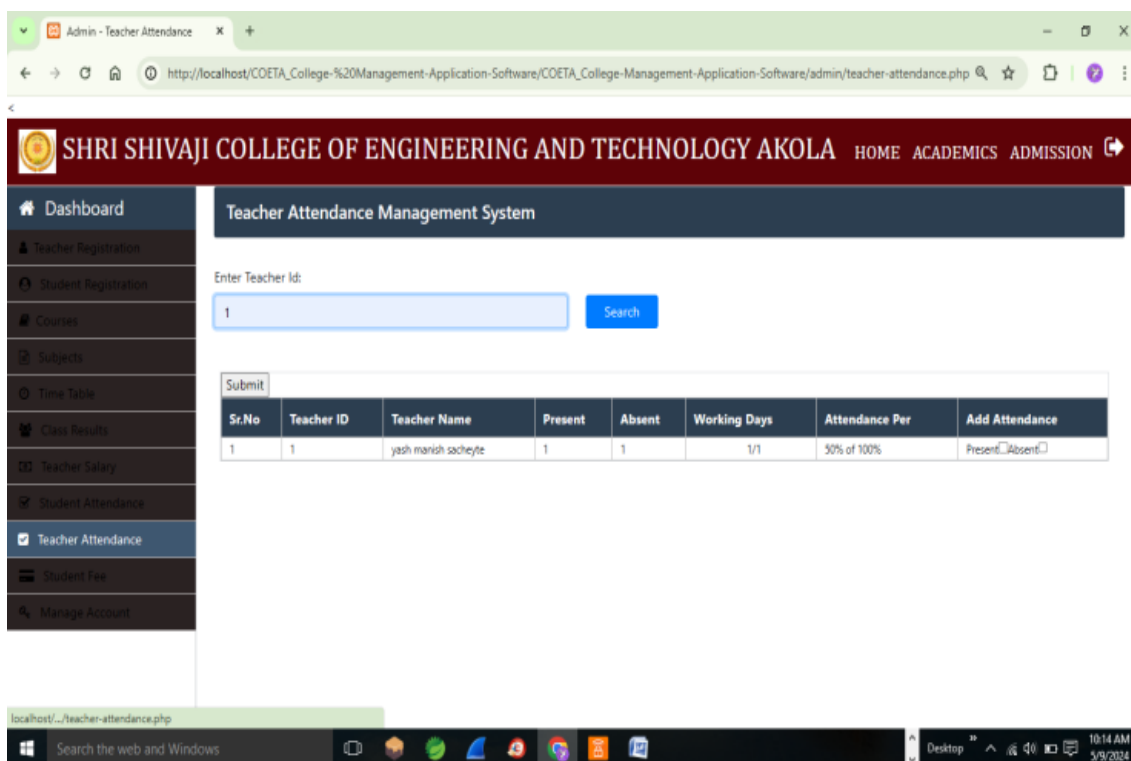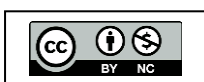**Figure 16:** Student Attendance Management Page

Figure 17: Teacher Attendance Management Page

XII. SCOPE FOR THE PROJECT

The system can be designed to manage student records, including their personal information, academic performance, attendance, and any disciplinary records. Staff management: The system can also be designed to manage the records of teaching and non-teaching staff, including their personal information, employment history, and attendance records. Admission and registration: The system can include an online portal for students to apply for admission, check their application status, and complete the registration process. Course management: The system can manage the course registration process, schedule, and syllabi. Billing and finance: The system can be used to manage student billing and payment records, as well as any financial records related to the college's operations. Communication: The system can include features to facilitate communication between students, staff, and faculty, such as online forums and messaging systems. Reporting and analytics: The system can provide reports and analytics on student and staff performance, attendance, and other metrics to help college administrators make informed decisions. Overall, the scope of a college management system project should be focused on improving the efficiency and effectiveness of the college's operations and enhancing the overall student experience.

The requirement of the user is to Access/ Search for information. Log in to the system through the first page of the application Change the password after logging into the system View/change his/her details. Can get help through the help option to view different features of the system. Students can give feedback on college/staff/any other student. An admin login should be present who can read as well as remove any uploads.

XIII. CONCLUSION

CMAS is a valuable tool for managing and automating various administrative and academic activities in colleges. The literature suggests that CMAS can improve efficiency, communication, and the quality of education. However, challenges such as resistance to change and the cost of implementation must be addressed to ensure the successful adoption and utilization of CMAS in colleges. This project is successfully implemented with all the features mentioned in the system requirements specification. The application provides appropriate information to users according to the chosen service. The project is designed .keeping in view the day-to-day problems faced by a college.

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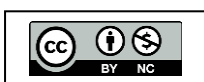
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