

Erp for College Management System

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Abstract — In this project, our main motto is to create the student's ERP (Enterprise resource planning) system. The objective of this paper was to propose a design of ERP for a college management system that provides a simple interface for the maintenance of different students, departments, faculties, libraries, and other information. It can manage the daily activities of the college which include the management of Employees, Students, Books and Library Records, Parents' details, Assignments, Admission Processes, Results and Reports, Exams, Events, Attendance, timetables, Fees, and other reports.

Keywords: Enterprise Resource Planning, Result Analysis, Academic Schedule, Statistics, Ai Chatbot, Attendance management, Student management, Faculty Management.

I. Introduction

ERP stands for Enterprise Resource Planning. Enterprise resource planning (ERP) is business management software or a system which is typically used to manage core departmental data of respective business.[10] ERP provides an integrated view of business processes, often in real-time, using common databases maintained by database management systems [1][3].Enterprise Resource Planning (ERP) college web application is the one kind of web application which integrates all the modules and functionalities of college system on a single system that can be handled by the administrative head and access by the students and faculties with valid user id and password. As we know that, a college consists of different departments,such as course departments,fees management, library, event management etc. The main goal of the entire system is to provide a user-friendly interface and powerful data system which make this system more useful. The College ERP system[10] computerizes all the details of the college system which are updated by admin only can access by the students and faculties. ERP on college management system reduces the most of the human work that are done earlier to managing the college system.[15] Once the details are entered into the system by the authorized person then there is no need for other users to deal with separate section. Only a person that is having an administrative authorization is enough to maintain all the reports and records of the system. The security can also be provided as per the requirements. The main thing is that our system reduces the human works at a great effort.[5]

It uses the AI (using openAI algorithms to analyze students based on their performance and placement prediction of the student) and students can use our advanced language mode for any queries.[8]

It can be helpful such that

- Records are always updated.
- Manpower is decreased or reduced.
- Large amount of data regarding college and their modules can be stored.
- Accurate and perfect calculations are made.
- Maintenance of file is efficient and flexible.

Problem Statement:

In Existing System for managing various modules such as Student module, administrative module and Exam cell etc. takes lot of paper work as well as time.

In Student module at present there are various things which includes paper work such as admission form, Notice Board, Revaluation form, Exam time table, Feedback etc. In Administrative module Exam Form, Concession Form, Accounts and updation details, Profile views, Fees details, ID card generation all are very difficult to manage using manual processes and it takes lot of time and paper work.

II. Literature Survey

Over the last 10-15 years, organizations have been in growing numbers, turning to ERP (Enterprise Resource Planning) systems to consolidate their information technology infrastructure, streamline business processes, and help them become more efficient and effective. The ERP software market has been very lucrative for both software developers as well as consultant firms. These systems are very large and complex, and as such, often require expert assistance for successful implementation.[7]

Half of the educational institutions in developing countries following the traditional method of managing information system with standalone computer machines and store data in different departmental system due to lack of infrastructure. On these systems, the software implemented does not integrate processes and cannot interact to each other. In these kinds of system implementation, no concept of service architecture being used.[4]

This system is aimed at developing an Online Intranet College Management System (CMS) that is of importance to either an educational institution or a college.[5]

As this uses database it can store large amount of data. Maintaining of data in database is easy and retrieving it also is very easy. Data can also be updated like addition of fields or deletion of field etc. Reports of required format can be generated. All this reduces manual work and errors.

College Enterprise Resource Planning System using RFID tags and to host the same on cloud. The main motive of the project is to provide full automation to the user.[6]

College ERP where the faculty can get all information about a particular student considering the academic studies. It is a software which is user friendly as well as eye catching interface system. The main purpose behind this proposed system is to change the hand operated system of the college with an automatic software system. This system also maintains the data properly and up to date which is conserved for a long period of time.

College ERP system provides It gives a single approach point to all the handler of the institute. Therefore, the departments used to work separately and independently. If anyone wanted to use that information, then it wasn't that accessible with such system. Study of these systems showcases that all the registrations used to be done manually on paper, which was a very complex task. Creation of the report was also impossible with this system.[6]

In this each student's results can be accessed from university result database. From this student performance can be analyzed. The probability of student getting placed in a company can also be predicted.

III. System Architecture

This system reduces paperwork and manual work, It also helps in the maintenance of data and records made easy, it can also access the result database of the university for complete comparative result analysis.

Uploading academic project reports for reference to students. Student performance analysis for placement prediction. Thus, it will reduce the time and preserves the workload and each student can able to see their report by just login profile.

As this uses a database it can store large numbers of data. Maintaining data in the database is easy and retrieving it also is very easy. Data can also be updated with the addition of fields or deletion of fields etc. Reports of the required format can be generated. All this reduces manual work and errors.

In this, each student's results can be accessed from the university result database. From this student performance can be analyzed.

The probability of a student getting placed in a company can also be predicted, this is done by using the Open AI algorithm

The purpose is to design software for college database which contains up to date or accurate information of the college. That should improve efficiency and flexibility of college record management and to provide a common and or simple platform for everyone to access the student's information.

Architecture diagrams:

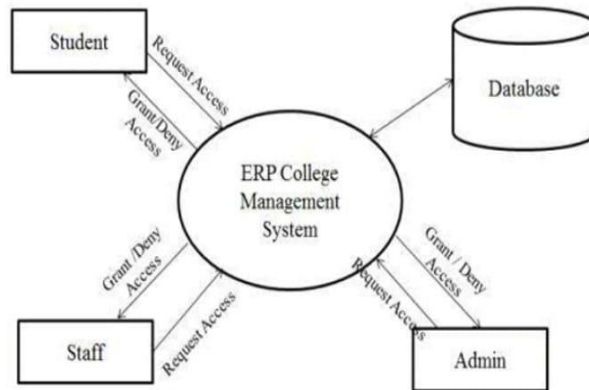


Fig. 1: ERP for College Management

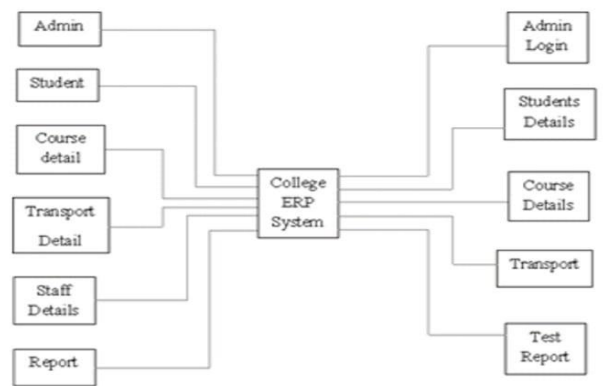


Fig. 2: System Design

A. CORE MODULES

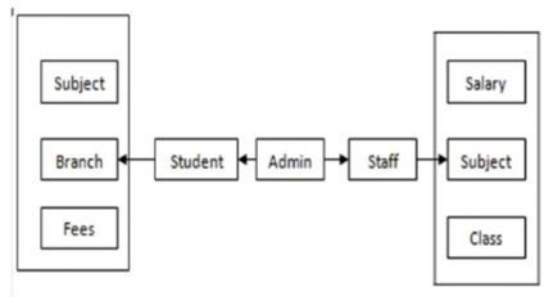


Fig. 3: Core Module

B. ADMIN MODULE

he admin server has entire rights to the working system. Admin is the one who handles the admission, Employee registrations, Academics flow. At the start he enters the appointed staff of the assigned department. Then the classes are installed and the staff is assigned to the installed class as a class teacher. Once the class and the class teachers are allotted then the student registration process begins. All these functions are handled by the admin server only. This access is not allowed for the other users. Adm responsible for the accountability of the college. He is the one who maintains all the accounts of the assigned staff and registered students.

Workflow:

1. Start
2. Sign in
3. Insert/ Remove Faculty
4. Insert/ Remove/ Edit Program
5. Insert/Remove/Edit Class
6. Insert/ Remove/Edit Learners
7. Sign Out
8. Stop

C. STUDENT MODULE

The newly admitted students are entered in the system by the server only. When the student gets admitted the user made by the admin which can be further changed by the student as per his/her requirements. The appointed in is id and password is students get access to his/her profile, college events, college routine and other information's which are handled by the system admin. One more facility which is allocated to the student, is that he/she can view the information of its respective department

Workflow:

1. Start
2. Sign in
3. View profile
4. View study material
5. View Staff
6. Sign out

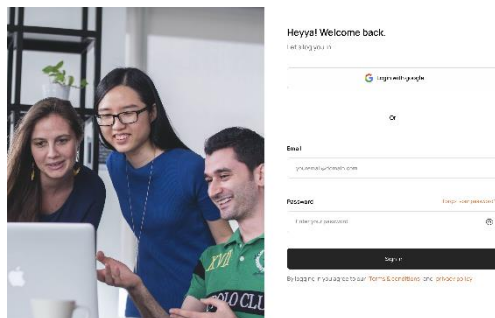
D. STAFF MODULE

The Faculty members are installed by the admin and the login information is generated by the admin which is further handled by faculty. The faculty who has the entire rights to handle the data of their subjects for their respective classes. Faculty members are given entire rights to give the information and can also upload the note and assignments for their specific subject. Faculty can create daily, monthly and annual report of the student based on his/her progress and also of the class.

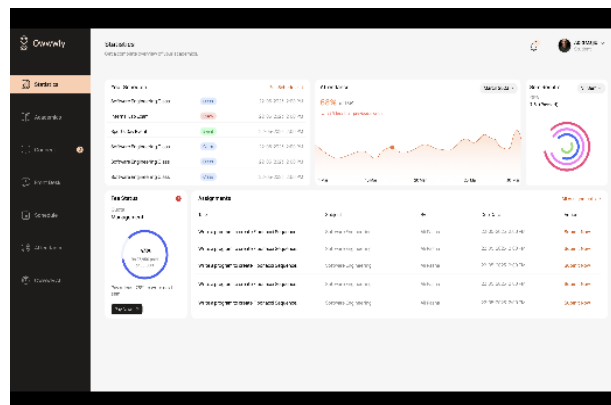
Workflow:

1. Start
2. Sign in
3. View Student data
4. View Study material
5. Sign out
6. Stop

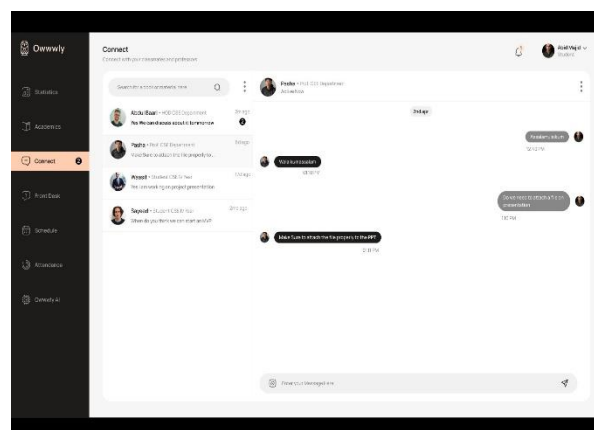
IV. IMPLEMENTATION



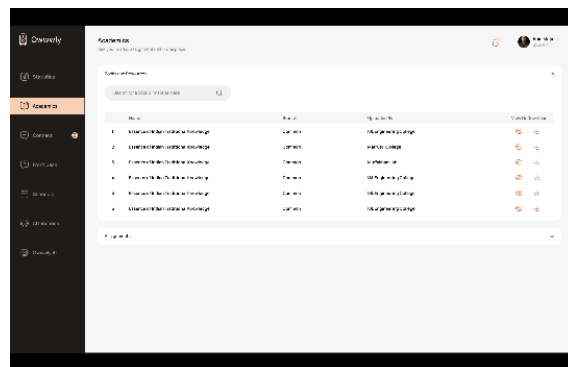
1. Login Page



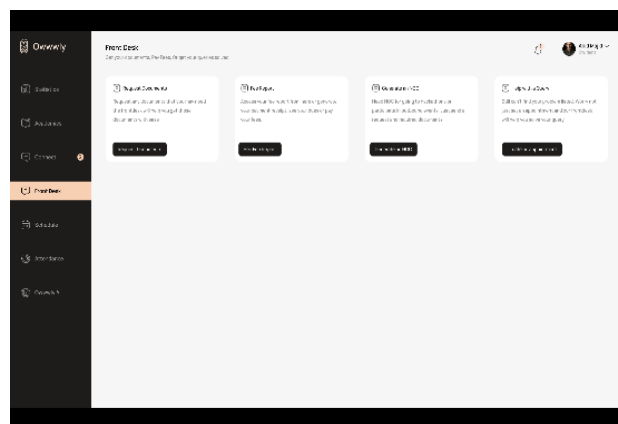
2. Statistics



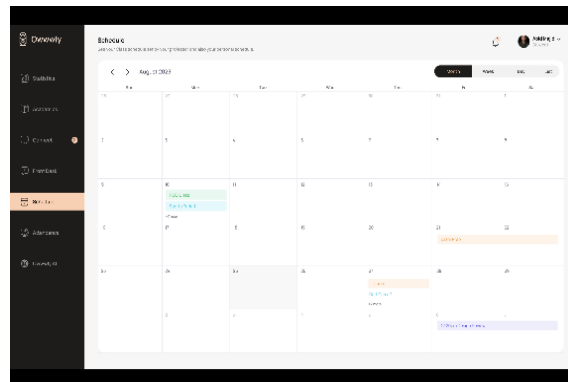
3. Connect



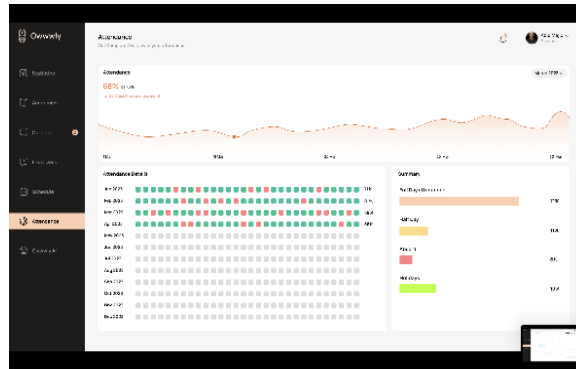
4. Academics



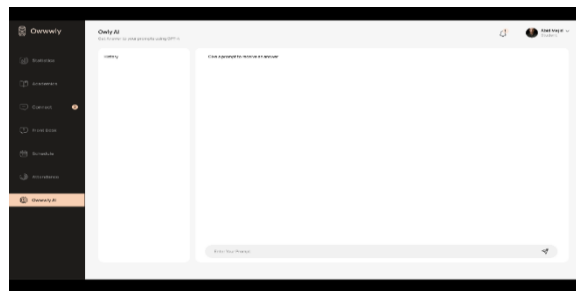
5. Front Desk



6. Academic Schedule



7. Attendance



8. Ai Chatbot(owwwly)

VI. Future Enhancement and Conclusion

Future enhancement for an ERP system for college management could be the integration of artificial intelligence (AI) and machine learning (ML) technologies. This could involve the use of predictive analytics to forecast student enrollment and identify patterns in student behavior and performance. The system could also use natural language processing (NLP) to enable voice-activated commands and conversational interfaces for users. Additionally, the ERP system could incorporate blockchain technology to improve security and transparency in record-keeping, such as student transcripts and financial aid disbursement. This could also enable the creation of smart contracts to automate processes and reduce administrative workload.

The fundamental problem in maintaining and managing the work by the administrator is hence overcome. Prior to this it was a bit cumbersome for maintaining the time table and also keeping track of the daily schedule. But by developing this web- based application the administrator can enjoy the task, doing it ease and also by saving the valuable time. The amount of time consumption is reduced and also the manual calculations are omitted, the reports can be obtained regularly and also whenever on demand by the user. The effective utilization of the work, by proper sharing it and by providing the accurate results. The storage facility will ease the job of the operator. Thus, the system developed will be helpful to the administrator by easing his/her task.

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