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# ERP System for College Database Management

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**ABSTRACT:** In a college there are various sections and each section handles all student information and college database. These sections are linked with each other. Current System of college is having problems of interlinking and data repetition. To overcome these problems we present College ERP System which is automated and centralized. This system have easy user interface and have powerful data management system which makes this system very useful.

**KEYWORDS:** student management system, ERP, database, college system.

## I. INTRODUCTION

In recent years, institutions of higher education increasingly expand the enrollment, and it is more difficult to manage students in college. In the 21st century, information technology is an important and irreplaceable work currently in the construction of modern universities. Exploiting Digital and informatics in universities has been attracted more and more attentions. In general, with the increasing number of students in college, student management systems design is also important. We propose a design for college student management system, which can play an important role in college management. Firstly, we organize our proposed college student management ERP system. The College ERP system now computerizes all the details that are maintained manually. Once the details are fed into the system or computer there is no need for various persons to deal with separate sections. Only a person is enough to maintain all the reports and records. The security can also be given as per the user requirement.

- High volumes of data can be stored with ease.
- Maintenance of file is efficient and flexible.
- Records are always updated.
- Edition of Stored data and procedures can be easy.
- Reports can be generated with cases.
- Accurate and perfect calculations are made.
- Manpower is reduced.

## II. LITERATURE SURVEY

ERP is 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. ERP provides an integrated view of business processes, often in real-time, using common databases maintained by database management systems. ERP system track business resources— raw materials, cash, production capacity and the status of business commitments like: payroll, purchase orders, and orders. The application that make up the system share data across the various departments (purchasing, accounting, sales, manufacturing etc.) That provides the core data. ERP facilitates information flow between business function, and manages connections to outside stakeholders.

Every college has to maintain a management system for various sections which may include performance analysis, attendance system, test wise result, student information, fee structure, academic information, transport facility, staff information and many more. Managing all these sections manually on paper becomes very time consuming and complex tasks. In such system there is high possibility of misplacement of collected data and data redundancy in the form of paper records in order to overcome these drawbacks there is a need to design and implement College ERP system where a college staff can track a student profile in all aspects of academic course.

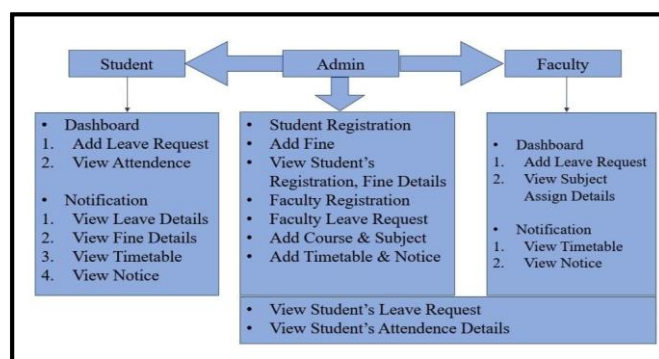
College ERP system is an online web based system which implements an user friendly and attractive interface for college. The aim for deployment and implementation of this system is to replace manual system of colleges with an automated web based system. This College ERP system also manages data accurately and efficiently which is stored over a long period of time. College ERP system provides single access point to all administrative system of colleges.

In previous systems all the departments are worked independently and separately. If anyone want to access that data collectively then it is not possible with such systems.

System study of such system shows that all the booking was done manually on registers, which was very complicated job. Report generation of all records was also not possible in the existing system. Also the work of college was manually maintained and stored. All this data is maintain through register or file system in the college. Current mode of working is based on manual system in which the all the data is first received from respective personnel and then entered in the registers or files. It is very complex job and time consuming also. The existing system is also dependent on students, if the students are absent. Then performance of student will be affected. Due to huge volume of data, a lot of problems are involved in maintaining, updating and retrieving selected information. Since previous system is totally maintained manually, some of the difficulties involved in existing system are as follows:-

1. Redundancy of data.
2. Difficulty in updating the data.
3. Non-centralized data.
4. Delay in retrieving information.
5. Problem for keeping the data.
6. Not proper retrieval of information.

### III. SYSTEM DESIGN



MODULES:

Figure 1: Overview of College Database Management System

#### PROBLEM STATEMENT

The Collage ERP software solution will include the following primary modules/components: student, financial aid, finance, human resources, and advancement, collage data warehouse, reporting and analytics, workflow, document management, and student, faculty, and staff portal. Implementation services will include: technical services, data migration and conversion services, integration services, database management services, and system/enduser training.

#### I. B. SYSTEM ARCHITECTURE

A System Diagram (SD) in software engineering and systems engineering is a diagram that represents the actors outside a system that could interact with that system. This diagram is the high level view of a system. SDs shows a system, often software-based, as a whole and its inputs and outputs from/to external factors. System Diagrams are diagrams used in systems design to represent the more important external factors that interact with the system at hand. This type of diagram according to Kossiakoff (2003) usually "pictures the system at the center, with no details of its internal detail structure, surrounded by all other interacting systems, environment and activities. The objective of a System Diagram is to focus attention on external factors and events that should be considered in developing a complete set of system requirements and constraints".

#### A. ADMIN MODULE

Admin has all the access rights to the system. Admin is able to manage the student Admission, Faculty Registration, Academics, Student Registration, Faculty Leave Request, Add Timetable and Notice, Add course and Subject, Add fine. First he adds all the staff members of respective departments. Then the classes are added and the respective staff member is allocated to the class as a class coordinator. After adding class and subjects the student admission process

starts. This all tasks are managed by admin only. This access is forbidden for the rest of users. Admin can manage the accounts of the all the students' and staff. He is responsible to create and send student reports to their respective children. All the logs of student information can be view and manage by Admin itself.

Workflow:

1. Start
2. Login
3. Add/Delete Staff
4. Add/ Delete / Edit Course
5. Add/delete/Edit fine
6. Add/delete/Edit Student
7. Add/Edit Class Timetable
8. Manage Notice Board
9. Logout
10. Stop

#### **B.STAFF MODULE**

Staff members are registered by admin and login details are generated by admin which can be managed by staff afterwards. Staff has access rights to manage all the data of their subjects of respective class. They can manage daily attendance of all students of respective subjects and classes. Staff members are able to give notifications and can upload some documents related to their respective subjects. Staff can generate the daily, monthly or yearly report of individual student as well as class.

Mark sheet generation and time table generation facility is also available for staff. Instead of manual work this application gives automatic work. Mark sheet generation and approving of leave request by student. Instead of manual work this application gives automatic work.

Workflow:

1. Start
2. Login
3. Add Leave Request
4. Add/ Delete / Edit Course
5. Add/Edit Class Timetable
6. View Notice
7. Logout
8. Stop

#### **C.STUDENT MODULE**

Students are admitted by admin only to the system. When he got admitted the username and passwords are generated by admin and can be managed by student afterwards. Student has access to personal profile, current attendance record, Class Tests records, Daily Class Routines and all the notifications and upcoming events which are managed by admin. Another important facility provided for students is to view the notification of his/her respective department.

Workflow:

1. Start
2. Login
3. View personal information
4. View subjects
5. View teachers
6. View marks
7. View class timetable
8. View notice board
9. Logout

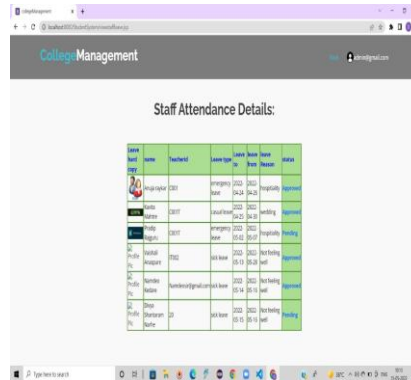
### **IV. RESULTS AND DISCUSSIONS**

The proposed methodology for implementing an ERP for centralized Database College Management System has been developed utilizing the Eclipse IDE and the Java programming language. The proposed methodology has been



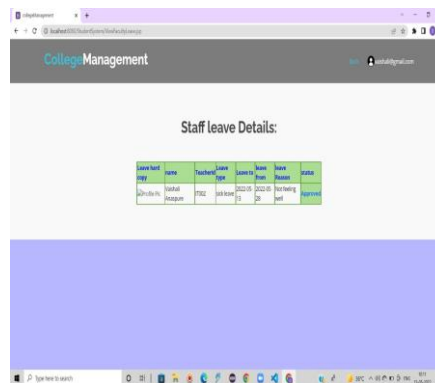
developed on a machine running on an Intel Core i3 processor assisted with the 500GB of hard drive as storage and 4GB of physical memory as RAM. For maintaining the database, the MySQL database server is utilized.

Staff Attendance details:-



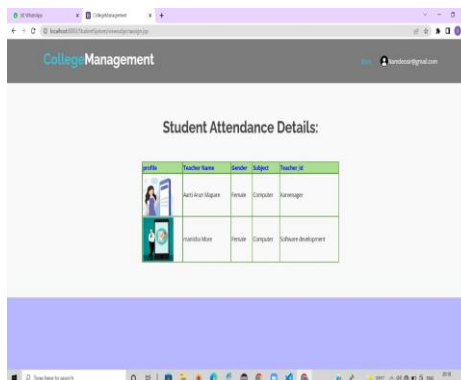
Staff ID	Name	Teacher ID	Join Date	Leave From	Leave To	Status
101	Mr. Anil Kumar	101	2022-01-01	2022-01-01	2022-01-01	Approved
102	Mr. Anil Kumar	101	2022-01-01	2022-01-01	2022-01-01	Approved
103	Mr. Anil Kumar	101	2022-01-01	2022-01-01	2022-01-01	Approved
104	Mr. Anil Kumar	101	2022-01-01	2022-01-01	2022-01-01	Approved
105	Mr. Anil Kumar	101	2022-01-01	2022-01-01	2022-01-01	Approved
106	Mr. Anil Kumar	101	2022-01-01	2022-01-01	2022-01-01	Approved
107	Mr. Anil Kumar	101	2022-01-01	2022-01-01	2022-01-01	Approved
108	Mr. Anil Kumar	101	2022-01-01	2022-01-01	2022-01-01	Approved
109	Mr. Anil Kumar	101	2022-01-01	2022-01-01	2022-01-01	Approved
110	Mr. Anil Kumar	101	2022-01-01	2022-01-01	2022-01-01	Approved

Staff Leave Details:-

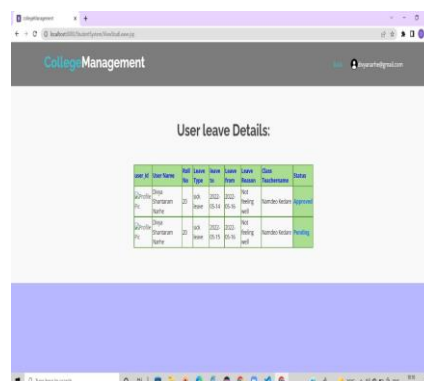


Staff ID	Name	Teacher ID	Join Date	Leave From	Leave To	Status
101	Mr. Anil Kumar	101	2022-01-01	2022-01-01	2022-01-01	Approved

Student Attendance Details:-

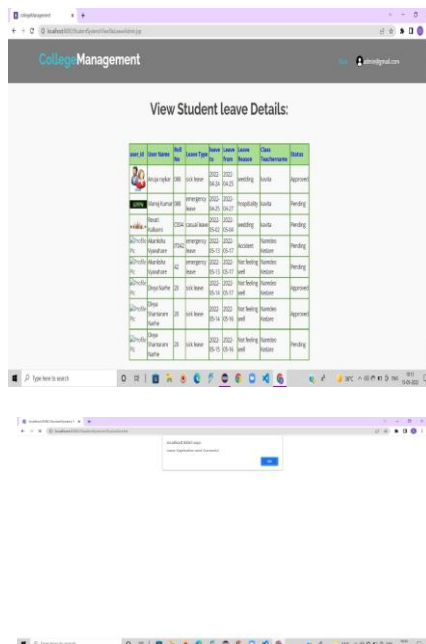


Staff ID	Teacher Name	Student ID	Subject	Teacher ID
101	Mr. Anil Kumar	101	Computer	101
102	Mr. Anil Kumar	102	Computer	102



User ID	User Name	Leave Type	Leave From	Leave To	Leave Reason	Status
101	Mr. Anil Kumar	101	2022-01-01	2022-01-01	2022-01-01	Approved
102	Mr. Anil Kumar	102	2022-01-01	2022-01-01	2022-01-01	Approved
103	Mr. Anil Kumar	103	2022-01-01	2022-01-01	2022-01-01	Approved
104	Mr. Anil Kumar	104	2022-01-01	2022-01-01	2022-01-01	Approved
105	Mr. Anil Kumar	105	2022-01-01	2022-01-01	2022-01-01	Approved
106	Mr. Anil Kumar	106	2022-01-01	2022-01-01	2022-01-01	Approved
107	Mr. Anil Kumar	107	2022-01-01	2022-01-01	2022-01-01	Approved
108	Mr. Anil Kumar	108	2022-01-01	2022-01-01	2022-01-01	Approved
109	Mr. Anil Kumar	109	2022-01-01	2022-01-01	2022-01-01	Approved
110	Mr. Anil Kumar	110	2022-01-01	2022-01-01	2022-01-01	Approved

View Student leave Details:-



The screenshot displays a web application titled 'College Management'. Below the title, it says 'View Student leave Details:'. A table lists student leave records with columns: S.No, Student Name, Roll No, Leave Type, Leave Dates, Leave Reason, Status, and Action. The table contains 10 rows of data, including students like 'Anirudh', 'Anshu', 'Arjun', 'Arushi', 'Arun', 'Asha', 'Amit', 'Asha', 'Amit', and 'Asha'.

Leave Approved:-

## V. CONCLUSION AND FUTURE SCOPE

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. The practise demonstrates that the student information management system is more scientific and institutionalised, reducing the management personnel's labour intensity. It has cheap costs, is simple to maintain, has a low development threshold, and has a fast development cycle, among other benefits. It has a certain amount of promotional value

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