Preimpletation of College ERP system

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ABSTRACT

College ERP system provides a simple interface for maintenance of different student, department, faculties, library and others information. All the colleges usually have a number of departments and educational modules such as courses, seminar hall, etc. Managing all these departments and other modules manually is a very difficult and hard, ineffective and expensive task. So here we propose an ERP system for college.

Our college ERP system has all the information about the students, teachers, events, library, departments and other respected information. The system allows the admin to add students, faculties and any other events. Our system allows a faculty to enter or input student's attendance into the database which can later be viewed by students and faculties. The students can view his/her attendance through a separate student login. The admin can upload the timetables for various departments for exam preparation. The time table is then available to be viewed by faculties and students on the web portal.

These systems have easy user interface and have powerful data management system which makes this system is very useful.

Key words: Admin, Parents, Faculty, Library, Students, Hostel.

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INTRODUCTION

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. Nowadays applications and uses of information technologies is increased as compared to before, each of these individual departments has its own computer system to do their own functionalities. By having one main system they can interact with each other from their respected system by having valid user id and password. 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 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. 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. 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.

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 makes 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 a 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 maintained 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.

EXISTING SYSTEM

The existing system is not user friendly because the retrieval of data is very slow and data is stored manually. The use of the some technology can be complicated and time consuming. These systems need to handle by specialist for maintaining and update the system which can again be very costly.

It requires 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 report is done manually so there is 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 problem. This is time consuming

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also due to exaggerating calculation. Even after that there are some miscalculations which is very frustrating for the faculty. These calculations also effect the marks of the students which will finally led to their percentage.

In this existing system the papers can miss placed and documents can be loss. This will cause extra work for the admin department stuffs

PROPOSED SYSTEM

The system architecture has a smart phone with android OS, a web services, a database server and the user as its components. The android smart phone or tablet must use 3G, 4G or Wi-Fi network for internet connectivity to ensure better performance The user will login to the application through an android smart phone. The user-type is verified with the database server and access is given to the appropriate user. The web application also can be used to login and perform certain operations such as ensures that internet is on.

This module allows the department Admin to update students about any college related information like exam dates, events, seminar etc. through notification message. The students can view notifications provided by the interface

provided by application. Admin can send message to only available options like all student, all faculty, specific faculty and to all.

Fig. 1 College ERP System

Modules of College ERP
1. **Login:**
   a. Director
   b. Principle
   c. Staff (Individual)
   d. Parents
   e. Students

Above can login in by using user-id and password and access the college ERP.

Fig. 2 Login Page of ERP System

2. **Admin Module:** Admin has all the access rights to the system. Admin is able to manage the student Admission, Staff Registration, Academics, SMS gateway, Transport, Class Routines. First he adds all the staff members of

respective departments. Then the classes are added and the respective staff member Admin has all the access rights to the system. Admin is able to manage the student Admission, Staff Registration, Academics, SMS gateway, Transport, Class Routines. First he adds all the staff members of respective departments. Then the classes are added and the respective staff member.

Fig. 3 Admin Dashboard

3. **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. Students also view his respective bus route and bus number through the transportation module. Another important facility provided for students is to view the notification of his/her respective department.

4. **Faculty/Teacher 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.

5. **Parents Module:** Parents are able to track all information and academic records of their respective child. They are not able to view the information relevant to other students. The parents are added by the admin after the admission of their child. Parents can view result sheets, attendance records, notifications etc. This module gives parents to keep track of its respective child's educational growth. Parents are able to communicate with teachers if they wish. In short this module facilitates to view educational growth of respective child.

6. **HR Management:** HR management software is an advanced automation ERP software designed to simplify & streamline the functions of the HR department. The HR management software for higher education institutions deals with staff recruitment, hiring, administration, and training of faculty. The HR management system manages the payroll of staff members and is responsible for deductions, pay rules, and salary slips associated with it. All-in-all the advanced ERP for the HR department assists the HR personnel to conduct their daily operations seamlessly & save enormous time, boosting their work productivity. The HR module in ERP automates the routine tasks of the HR department & saves a lot of time that could be utilized for preparing better strategies to engage & benefit the employees.

7. **Account Management:** Account management system automates the accounting of multiple schemes and cash books for the end number of financial years. Finance module links fees with other modules like Stores, Hostel, Payroll and entries.
   a. **Fees Management:** The system has the provision to set different fee structures for different category students based on the fees concession and allows online payment for the students.
   b. **Student Accounting:** The system has the provision to set different fee structures for different category students based on the fees concession and allows online payment for the students. Fees collected for academic curriculum, exams, hostels, certificate gets archived within this module of university financial management system. Student Fees' sub-module can generate receipts, challans and reports; likewise.
   c. **Scholarship and Stipends:** Based on the student type/ admission type; finance management software of higher edutcation ERP provides an additional functionality store/edit/manage data related to scholarships and

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stipends. Reports are mostly needed by the management or government. The software defines stipend types and monthly bill preparations.

    d. Budget and Bills: This sub-module defines flexible budget heads, purchases and sanction notes. It is integrated with the core accounting module for payments and cheque printing.

8. **Library:** Most colleges and universities house thousands and thousands of books and have dedicated an entire establishment for it. The library management software is integrated with all modules of higher education ERP and has a multi-user accessibility. The library management system manages the following of the library tasks:

    a. Purchases, Accessioning and payment of books

    b. Unique serial number identification through RFID library

    c. Unique serial number serial identification of books. The details of purchase, indexing, search and circulation is saved in the serial number.

9. **Hostel:** Hostel management system is designed to manage all hostel activities like hostel admissions, fees, room, mess allotment; hostel stores & generates related reports for smooth transactions. It is also used to manage monthly mess bill calculation, hostel staff payroll, student certificates, etc. Designed & developed keeping in mind all the hostel management concerns of staff, MasterSoft's Hostel Management Software is a one-stop-solution for higher education institutions. Right from students' registration to allocating rooms & mess, managing student count records, and ins-and-outs of students, it streamlines & automates all the day-to-day hostel activities.

    a. Hostel infrastructure

    b. Mess creation and management

    c. Registered students

    d. Merit lists

    e. Room and mess allotment

    f. Mess bill calculation

    g. Fines and Payroll

10. **Transports:** Admin has given the access rights to manage the transport information which is accessible to all the users. Users can view all the routes and respective buses of the routes including their pickup points. Timing of respective bus from pickup point is also shown in this module.

11. **Integration:** Integration basically means that modules of higher education management services are inter linked; the data of students, faculty and important departmental information can be used for all modules of college. This avoids total duplication of work.

    a. User security through smart cards and biometric technology

    b. Encrypted login id and password of user

    c. For critical applications optional IP address authentication is given for user login

    d. Database is password protected

    e. Separate web application and data server

    f. User access depends on the department and role of user at college

    g. Automatic monitoring

    h. Log files can be created for user transactions

    i. Backup of data can be done via,

        i. Disk mirroring

        ii. On server

        iii. Other machines and hard disks

12. **Training and Placement:** The training and placement management system creates student and company databases. This module allows students to update parts of bio data and invite companies for placements. Student list can be retrieved from the database of the management software on the basis of the selection criteria of the company. Training and placement management module additionally manages interview schedules, student list announcements, records of various training and placement activities and the like. This module of education ERP solution can assign login rights to the department staff.

RESULT AND ANALYSIS

Fig. 5

Fig. 6

CONCLUSION

With ERP software, every college and university can aim to be transparent to various parties that are genuinely interested in the running of the institution. The list includes names like audit authorities, board of directors, trustees, college unions, student groups and many others. The data, which will be generated on tested and well-designed software, will be more accurate than data that are processed manually. This will also help the management stay regular with their updates and maintain a system that is worth evaluation and appraisal. Cloud Next Vision is a leading provider of education software including ERP consultation and implementation for educational institutions. The ERP system developed by Cloud Next Vision for colleges and universities are characterized by quick access to information, synchronization and completely automated processes which save time.

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