

Education ERP System

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ABSTRACT

All school and college are various sections & each section handles to all students' information and college and school database. These sections are linked with each other. The System of school & college is having problems of interlinking and data repetition. To overcome these problems we present Education Enterprise resource planning (ERP) System which is automated and centralized. This system have easy user interface and have powerful data management system (DMS) which makes this system very useful.

This paper identifies opportunities for incorporating the Enterprise resource planning (ERP) body of knowledge into an information system (IS) program. The best Education ERP you need for totally automating & digitalize the entire campus. Our proposed software recognizes good e-governance through efficient system and transparency. ERP is easiest to use, fastest to implement with the best results. Education ERP has a product that makes the complete digital E-Education System. The general of the paper is that experiential learning ,i.e., this paper focuses on curriculum that is enriched through the hands-on experience gained by students working on a real Enterprise resource planning (ERP) system

KEYWORDS: ERP System, ERP Survey, Enterprise Resource Planning, System Design, Modules.

Date of Submission: 12-05-2021

Date of acceptance: 25-05-2021

I. INTRODUCTION

Enterprise Resources Planning (ERP) system can include software of the manufacturing ,general ledger, purchasing, warehousing, transportation ,order entry, accounts receivable & payable and human resources .The manufacturing industry, ERP implies the use of the packaged software and rather than the proprietary software written by or for the one customer. Enterprise Resources Planning (ERP) modules may be able to interface with an organization's own software with varying degrees of effort, and, depending on the software, ERP. The Enterprise Resource Planning (ERP) system is a generic term for the integrated enterprise computing system. It is a customized packaged software based system that handles the majority of an enterprise's information systems requirements. The software architecture that the facilitates of information flow to among all functions within an enterprise. It is sits on the common database and, it is supported by a single development environment .The ERP systems are customized to the supporting and organization business processes.

Education is a big sector in our economy, its a major foundation for any society the best Education ERP you need for totally automating & digitalize the entire campus. Our proposed software recognizes good e-governance through efficient system and transparency. ERP is easiest to use, fastest to implement with the best results. Education ERP has a product that makes the complete digital E-Education System. As school, college and universities must do more with less in this below modules

The Enterprise Resource Planning (ERP) concepts can be taught in a School environment without having access to a real system. The authors' experience indicates that hands-on exposure for the students strengthens and the student's learning experience (it is, after all, experiential learning); that is, their ability to understand business and business computing concepts and principles. Students are able to develop Enterprise Resource Planning (ERP) skills that are highly valued by recruiters.

The Enterprise Resource Planning(ERP) system to the computerizes all the details that are maintained manually .The details are fed into the system or computer there is no need for the various persons to deal with separate sections .The one person is enough to maintain all the reports and records. The security can be given as per the user requirements.

1. The High volumes of data can be stored within case.
2. It Maintenance of file is flexible and efficient.
3. It's records and updated.
4. It's stored data and procedures can be easy.
5. The Reports can be generated with cases.
6. Accurate and perfect calculations are made.
7. The manpower is reduced.

II. LITERATURE SURVEY

ERP is stands for Enterprise Resource Planning. The enterprise resource planning (ERP) is business management software or the system which is typically used to the manage core departmental data of respective business. The enterprise resource planning(ERP) system track business resources:— raw materials, production capacity, cash and the status of business commitments like: purchase orders, payroll and orders .The application that make up the system share the data across the various departments (manufacturing purchasing, accounting, sales etc.) That is provides the core data. The ERP facilitates information flow between the business function and manages connections to outside the stakeholders.

The ERP System is an online web based system which implements an user friendly and attractive interface System. The aim for the deployment and implementation of this system is to replace the manual system of schools with an automated web based system. This School ERP system also the manages data accurately and efficiently which is stored over a long period of the time. The ERP System provides single access point to all teacheristrative system of schools. In the previous systems of all the departments are worked independently and separately. If anyone want to the access that data collectively then it's not possible with such the systems.

The existing system is also dependent on students, if the students are absent. Then performance of student will be affected. Due to the huge volume of the data, a lot of the problems are involved in maintaining, updating and retrieving selected information. Since previous system is totally maintained manually, some of the difficulties involved in the existing system are as follows:-

1. It is redundancy of the data.
2. It's difficulty in updating the data.
3. It is non-centralized data.
4. The delay in retrieving information.
5. The problem for keeping the data.
6. It is not proper retrieval of information.

III. SYSTEM DESIGN

A. Detailed Problem Statement

The Education ERP System 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. The implementation services will includes:- technical services, data migration and conversion services, integration services, database management services, and the system/end-user training.

B. System Architecture

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

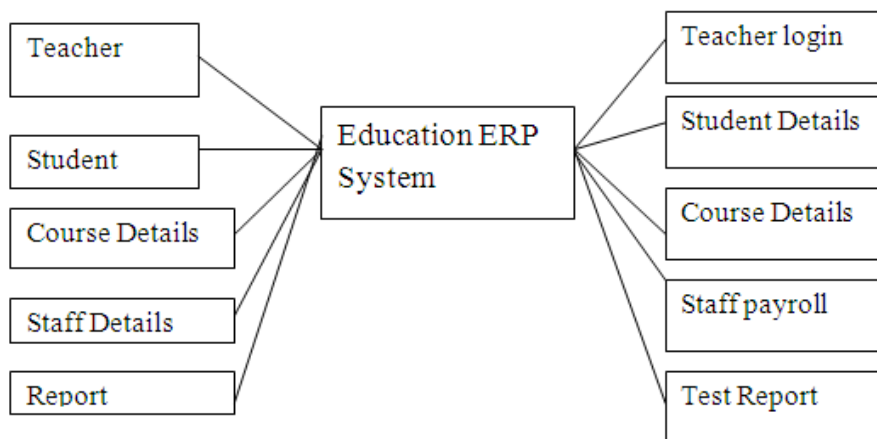


Figure 1. System Design

Core Module:-

- ✓ Teacher
- ✓ Staff
- ✓ Student
- ✓ Database model

a. Teacher Module

The teacher has all the access rights to the system. The teacher is able to manage the student Admission, Staff Registration, Academics and Class Routines. He adds all the staff members of the respective departments. Then the classes are added and respective staff members allocated to the class as a class coordinator. After adding the classes and subjects the student admission process starts. This all tasks are managed by Teacher only. The access is forbidden for the rest of the users. Teacher can manage the accounts of the all the students' and staff and parents also. He is responsible to the create and send the student reports to theirrespective children. All the logs of student information can be view and manage by Teacher itself. All the manual working ofTeacher is skipping through this system.

Workflow:

1. Start
2. Login
3. Add/Delete Staff
4. Add/ Delete / Edit Course
5. Add/delete/Edit Class
6. Add/delete/Edit Student
7. Add/Edit Class Routine
8. Logout
9. Stop.

b. Student Module

The students are admitted by the admin only to the system. When he got admitted the username and passwords are generated by the admin and can be managed by the student afterwards. The student has access to the personal profile, current attendance record, class tests records, Daily Class Routines and all the notifications and upcoming events which are managed by the admin. The students also view his respective bus route and bus number through the transportation module, and another important facility provided for the students is to view the notification of his/her respective departments.

Workflow:

1. Start
2. Login
3. View personal information
4. View subjects
5. View teachers
6. View marks
7. Logout

c. Staff Module

The staff members are registered by the admin and login details are generated by the admin which can be managed by the staff afterwards. The staff has access rights to the manage all the data of their subjects of the respective class. They can be manage daily attendance of all the students of respective subjects and classes. The staff members are able to give the notifications and can be upload some documents related to their respective subjects. The staff can be the generate daily, monthly or yearly report of individual student as well as class. Mark sheet generation and time table generation facility is also available for the staff. Instead of the manual work this application gives the automatic work.

Workflow:

1. 1.Start
2. Login
3. View student information
4. View/Edit student's marks
5. Manage daily attendance of students
6. Add notes
7. View subjects
8. Logout
9. Stop

d. Database Model

Database has many modules such as:

1. Student Data Management
2. Staff Management (Teaching and Non-teaching)
3. Courses & Subject management
4. Student Attendance & Leave tracking
5. Staff Attendance & Leave tracking
6. Exam and Result management

1. Student Data Management

Student data management contain student_main table.

This table has following columns:

stu_ID, stu_name, stu_address, stu_contact_no, stu_standard_ID, stu_div, parent_name, p_contact_no, p_office_add, p_mobile_no, p_email_id.

2. Staff Data Management

Staff data management contain staff_main table.

This table has following columns:

emp_ID, emp_name, emp_addres, emp_contact_no, emp_email, emp_designation, emp_basic_sal, emp_type, emp_qualification, emp_mgr_id.

3. Courses and Subject Management

Courses and Subject management contain three tables course_tbl, subject_tbl, course_sub_tbl. Course_tbl contain following columns:

course_ID, course_name, course_type, course_div, course_fees.

Subject_tbl contain following columns:

subject_id, sub_name, sub_max_marks, sub_attendance, sub_passing_marks, pract_marks, pract_pass_marks.

course_sub_tbl contain following columns(Many to Many relation): course_ID, subject_ID, eff_start_date, eff_end_date.

4. Student Attendance & Leave Tracking

Student Attendance & Leave Tracking contain two tables stu_attendance_details, stu_leave_details. stu_attendance_details contain following columns:

stu_ID, stu_standard, stu_div, stu_attendance, attendance_date. Stu_leave_details contain following columns:

stu_id, stu_standard_id, stu_div, leave_st_details, leave_end_date, no_of_days, reason.

5. Staff Attendance & Leave Tracking

Staff Attendance & Leave Tracking contains four tables emp_attendance_details, emp_leave_master, emp_leave_allotment, emp_leave_detail. emp_attendance_details contain following columns:

emp_id, emp_attend, attend_date, entry_time, exit_time. emp_leave_master contain following columns:

leave_id, leave_type. emp_leave_allotment contain following column: emp_id, leave_id, leave_balance, total_leaves. emp_leave_details contain following column: emp_id, leave_id, start_date, end_date, no_of_days,

leave_app_date, approve_flag.

6. Exam & Result Management

Exam & Result Management contain two table exam_master, stud_exam_details. exam_master contain following columns:

exam_ID, exam_type. stu_exam_details contain following columns:

stu_ID, stu_course_id, stu_div, stu_sub_id, stu_sub_marks, stu_total_marks, exam_id, exam_year, exam_date.

Education ERP Features:-

- ✚ Campus Recruitment
- ✚ Staff Management
- ✚ Student management
- ✚ Admission Management
- ✚ Accounts Management
- ✚ Laboratory Management
- ✚ Attendance Management
- ✚ Examination Management
- ✚ Transport Management

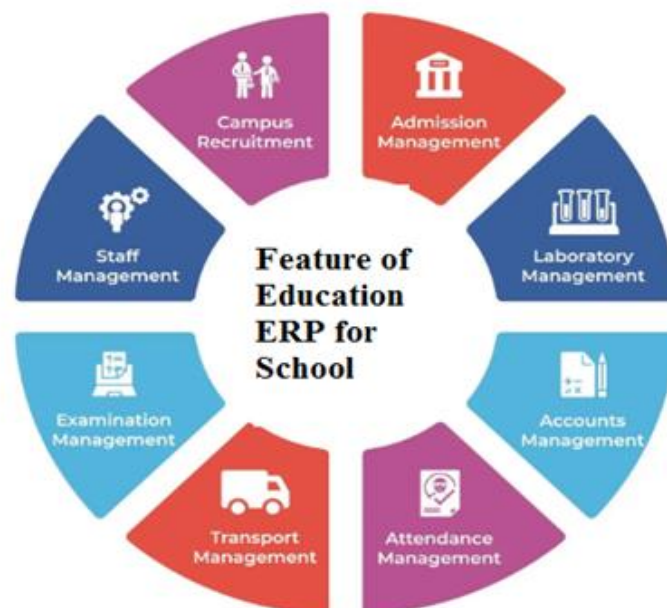


Figure 2. Features of Education ERP

TECHNOLOGY

The developer should decide which the technology will be perfectly suitable for their on-demand application infrastructure. Since the ERP we are implementing is web enabled thus the technology to be used has to be optimistic and efficient. Today the world relies mostly on PHP for building the web and that's why it is the choice of language for our ERP. The database requirement is obviously fulfilled by MySQL and for the Web Server we are opting for the most trusting Apache Server ,HTML CSS node.js java script .

A. Advantages of PHP:

- The platform independent can be run on Windows & Linux servers.
- It run faster on the internet and the easily integrate AJAX, etc.
- Interfaces very easily with the Apache/MySQL.

B. Advantages of MySql:

- MySQL are includes the solid data security layers and that protect sensitive data from intruders.
- MySQL can handle all most any amount of the data, up to as much as 50 million rows or more.
- MySQL server has been thoroughly tested to the prevent memory leaks.

IV. CONCLUSION

The outcome of the project is to make a robust platform that enables educational institutions to manage their workflows from students teachers and management to all notices efficiently and effortlessly. It will allow for more security and stable working even in virtual mode. This can be especially helpful during the pandemic .If done with advanced intelligence, it may even help the institutions identify weak areas in terms of management and send the analysis back to the top level board for improvement and overall well being of the organizational helping it achieve their true purpose. The fundamental problem in the maintaining and managing the work by the administrator is hence overcomes. The prior to this it was a bit cumbersome for maintaining the time table and also keeping track of the daily schedule. But by the developing this web-based application and the administrator can enjoy the task, doing it ease and also by saving the valuable time. The amount of the time consumption is reduced and also manual calculation are omitted, the reports can be obtained regularly and also whenever on demand by the user .The effective utilization of work, by the proper sharing and by providing the accurate results. The storage facility will ease of the operator. Thus the system developed will be helpful to the administrator by the easing his/her tasks. The benefits of a properly to selected and implemented enterprise resource planning (ERP) system can be significant. The future of successful enterprise resource planning(ERP) implementation does not rely on the further improvements of technology, but on bringing people and business up to the speed on the appropriate use of enterprise resource planning(ERP) technology to fit their defined business needs and objectives.

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Akash Giri, et. al. "Education ERP System." *International Journal of Computational Engineering Research (IJCER)*, vol. 11, no.5, 2021, pp 09-14.