

SCHOOL ERP SYSTEM

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ABSTRACT

In a school there are various sections and each section handles all student information and database. These sections are linked with each other. Current System of school is having problems of interlinking and data repetition. In today era many school are still working on the old methods that is based on papers. To overcome these problems, we present School ERP System which is automated and centralized. This system has easy user interface and have powerful management system which makes this system very useful. A simplest and great user interface even add an bonus to the understanding and usability to everyone.

KEYWORDS:

ERP System, Case Study, ERP Survey, Enterprise Resource Planning, modules, Management System.

INTRODUCTION

The main objective of the existing system is to provide a user-friendly interface. The School 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.

- User Roles (Admin, Teacher, Students, Parents)
- Mail/ SMS Support system with messaging
- Global Calendar
- Payment & Invoice
- Dashboard
- Mail/ SMS Support
- Multi Language
- Features like (Assignment, Online Exams, Attendance, Exam & marks, Academic Year)
- Promotions, Vocation, Polls
- Support Like (Book Library, News & Events, Reports, Marksheet, Media Center)
- Class Schedule
- Transportation & hostel (If Available)

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 School 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 School ERP system where a School staff can track a student profile in all aspects of academic course.

School ERP system is an online web-based system which implements a user friendly and attractive interface for School. The aim for deployment and implementation of this system is to replace manual system of Schools with an automated web-based system. This School ERP system also manages data accurately and efficiently which is stored over a long period of time.

School ERP system provides single access point to all administrative system of Schools. 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 School was manually maintained and stored. All this data is maintaining through register or file system in the School.

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.

SYSTEM DESIGN

A. Detailed Problem Statement

The Collage ERP software solution will include the following primary modules/components: User Roles, Administrators, Teachers, Students, Parents, Languages, Themes, Statis Pages, Polls, Messages, Registration, Mail/SMS, Accounting, Academic Years, Promotion, Attendance, Vacation, Exams, Online Exams, Assignments, Books Library, Media Center, Study Material, News & Events, Calendar, Hostel, Transportation, Classes & Sections, Class Schedule, Reports, Marksheet.

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. Core Modules

- Administrator
- Student
- Staff/ Teacher
- Parent/ Guardian
- Accountant



Fig 2. Core Module

b. 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 and every other detail possible. First admin 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 and parents also. 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.

All the manual working of Admin is skipping through this system. Also their can be multiple number of admin also available.

Workflow:

- | | |
|---|--|
| 1. Start | 12. Add/delete/Edit Marksheet |
| 2. Login | 13. Add/delete/Edit News & Events |
| 3. Add/Delete Staff | 14. Add/delete/Edit Updates |
| 4. Add/ Delete / Edit Course | 15. Add/delete/Edit polls |
| 5. Add/delete/Edit Class | 16. Manage Transport |
| 6. Add/delete/Edit Student | 17. Add/delete/Edit Student Accountant |
| 7. Add/Edit Class Routine | 18. Manage Notice Board |
| 8. Add/delete/Edit Payment Gateway | 19. Manage SMS. |
| 9. Add/delete/Edit Study Materials | 20. Manage Dormitory |
| 10. Add/delete/Edit Student Assignments | 21. Logout |
| 11. Add/delete/Edit Online Exams | 22. Stop. |

c. Student Module

Students are admitted by admin only to the system or it can signup at start which is later approved by admin. 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, teacher & accountant. Students also view his respective bus route and bus number through the transportation module. Students also view his respective hostel through the accommodation & dormitory module. Another important facility provided for students is to view the notification of his/her respective department.

Workflow:

- | | |
|------------------------------|-------------------------|
| 1. Start | 10. View messages |
| 2. Login | 11. View online library |
| 3. View personal information | 12. View invoices |
| 4. View subjects | 13. View attendance |
| 5. View teachers | 14. View scholarships |
| 6. View assignment | 15. View class routines |
| 7. View media | 16. View transport |
| 8. View online exams | 17. View notice board |
| 9. View events | 18. Logout |

d. Staff Module

Staff members are registered by admin (or can signup at the starting home page which is later activated by the 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. They can also see their pay scale, can post leave mails etc.

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

Workflow:-

- | | |
|--|------------------------------------|
| 1. Start | 9. Add/ Delete/ Modify online exam |
| 2. Login | 10. View pay scale |
| 3. View student information | 11. Drop leave mail |
| 4. View/Edit student's marks | 12. View transport |
| 5. Manage daily attendance of students | 10. View noticeboard |
| 6. Add notes | 11. Logout |
| 7. View subjects | 12. Stop |
| 8. View personal class routine | |

e. Parent 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, also they can sign up at login page. 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.

Workflow:-

1. Start
2. View Student Information
3. View student Mark sheet
4. View Transportation
5. View Academic performance
6. View Attendance
7. Drop message to respective teacher
8. View due/paid invoice
9. Logout
10. Close

f. Accountant

Admin has given the access rights to the accountant who manage the transport information, dormitory, staff or teacher pay rolls which is accessible to the users, staff, teacher, guardian, students accordingly. 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. Users can seek the fees, dormitory charges etc.

C. Cloud ERP

To examine the relationship between a cloud ERP decision and certain aspects of the cloud, various aspects of the cloud categorised in a set of seven themes. Themes are related to topics that effects the cloud ERP decision process and the represented as moderating variable within our decision support level model. Our model is as follow

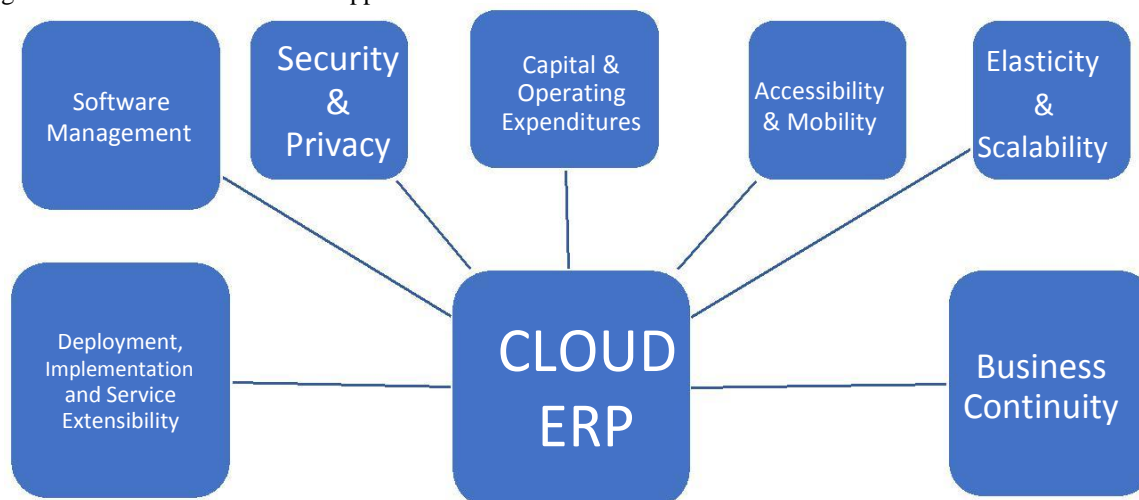
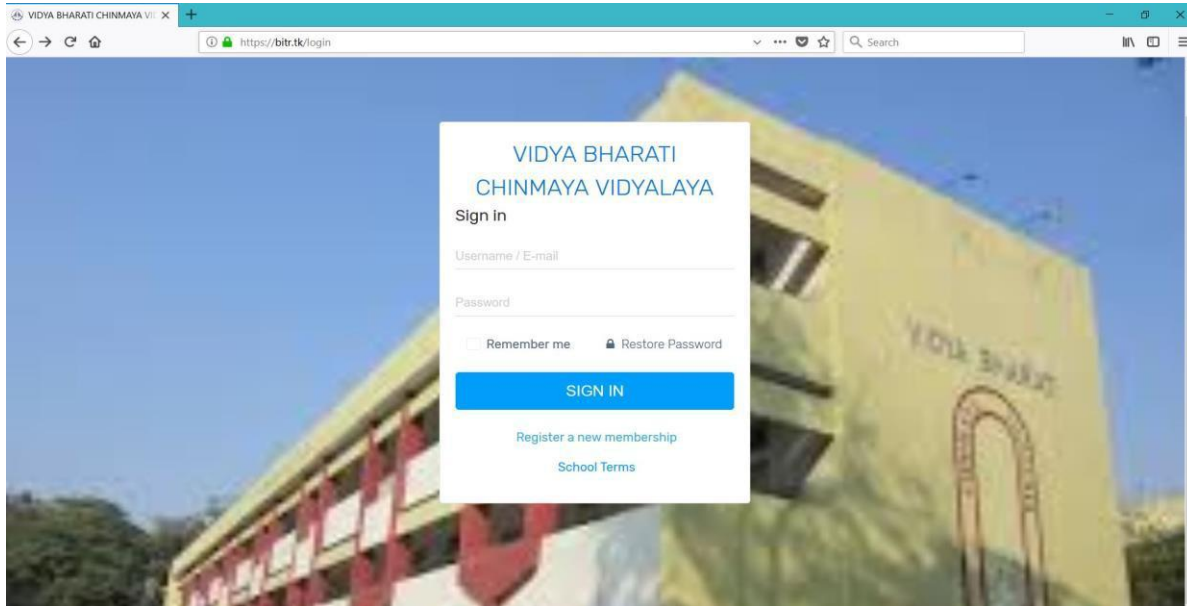


Fig 3. Cloud ERP

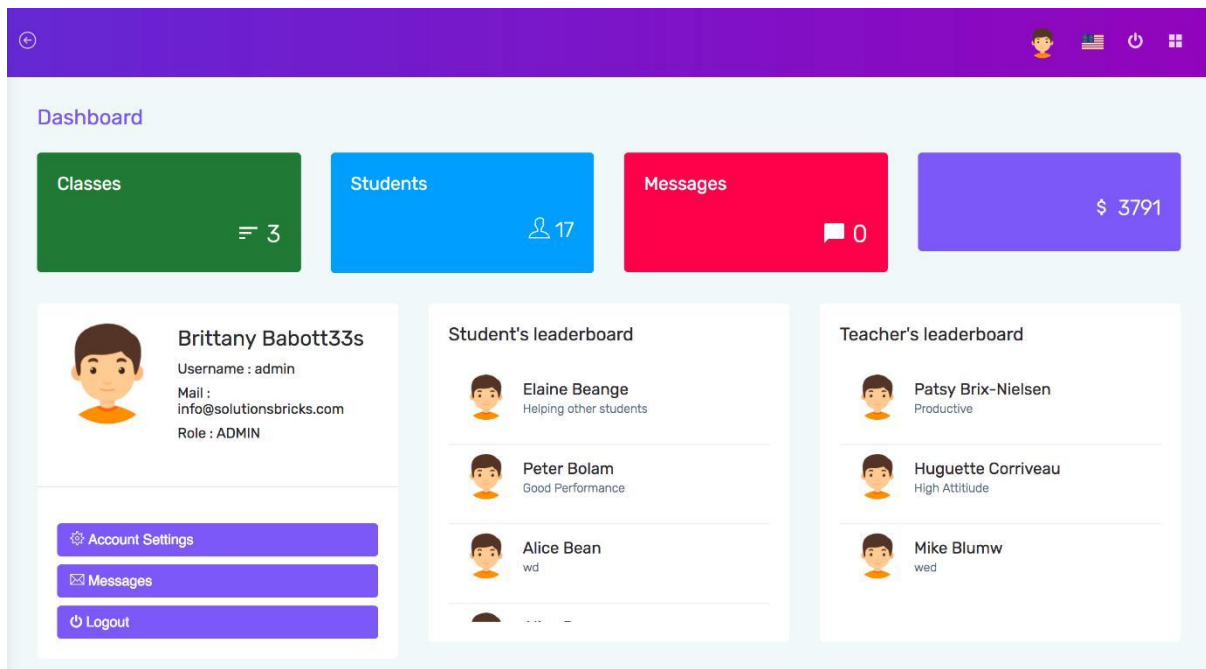
Theme	Statement
Theme 1. Capital & Operating Expenditures	School ERP system to adopt a Cloud based ERP system is positively affected by capital & operating cost reduction.
Theme 2. Accessibility & Mobility	School ERP system to adopt a Cloud based ERP system is positively affected by remote access capabilities.
Theme 3. Elasticity & Scalability	School ERP system to adopt a Cloud based ERP system is positively affected by elasticity and scalability.
Theme 4. Business Continuity (Avail-ability, Connectivity, Redundancy, Backup and Disaster Recovery)	School ERP system to adopt a Cloud based ERP system is positively affected by business continuity capabilities.
Theme 5. Deployment, Implementation and Service Extensibility	School ERP system to adopt a Cloud based ERP system is positively affected by the deployment, implementation and service extensibility aspects.
Theme 6. Software Management	School ERP system to adopt a Cloud based ERP system is positively affected by software licensing, maintenance and update aspects
Theme 7. Security & Privacy	School ERP system to adopt a Cloud based ERP system is negatively affected by security and privacy aspects.

RESULT ANALYSIS

Login Window:



Dashboard:



Daily Attendance:

[Return to students](#)

Student Attendance	
Day	Attendance
12/15/2014	Present
12/16/2014	Present
12/17/2014	Absent
12/18/2014	Absent
12/19/2014	Present
12/20/2014	Absent
12/21/2014	Present
12/22/2014	Present
12/23/2014	Absent

Staff Attendance

Staff Attendance

Staff Attendance - Date : 09/06/2017 [Return](#)

Teacher	Attendance
Select All	Present Absent Late Late with excuse
Patsy Brix-Nielsen	<input checked="" type="radio"/> Present <input type="radio"/> Absent <input type="radio"/> Late <input type="radio"/> Late with excuse
Mike Blumw	<input type="radio"/> Present <input checked="" type="radio"/> Absent <input type="radio"/> Late <input type="radio"/> Late with excuse
Sylvie Bouchard	<input type="radio"/> Present <input type="radio"/> Absent <input checked="" type="radio"/> Late <input type="radio"/> Late with excuse
Patsy Brix-Nielsen	<input type="radio"/> Present <input type="radio"/> Absent <input type="radio"/> Late <input checked="" type="radio"/> Late with excuse
Sheila Cameron	<input type="radio"/> Present <input type="radio"/> Absent <input checked="" type="radio"/> Late <input type="radio"/> Late with excuse
James Chow	<input type="radio"/> Present <input checked="" type="radio"/> Absent <input type="radio"/> Late <input type="radio"/> Late with excuse
Huguette Corriveau	<input checked="" type="radio"/> Present <input type="radio"/> Absent <input type="radio"/> Late <input type="radio"/> Late with excuse
Don Boake	<input type="radio"/> Present <input checked="" type="radio"/> Absent <input type="radio"/> Late <input type="radio"/> Late with excuse
Sylvie Bouchard	<input type="radio"/> Present <input type="radio"/> Absent <input checked="" type="radio"/> Late <input type="radio"/> Late with excuse
Sheila Cameron	<input type="radio"/> Present <input type="radio"/> Absent <input type="radio"/> Late <input checked="" type="radio"/> Late with excuse

Online Exam

Online Exams

List exams Search

ID	Exam Name	Exam Description	Exam Deadline	Operations
6	Online Exam	exam 2 description	05/28/2016	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Library

Library

List Books Search

ID	Book title	Book Author	Book Price / State	Operations
5	I am Enough Journal Affirmations for Girls	Elizabeth D. Gray	Unavailable	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
4	Outliers: The Story of Success	Malcolm Gladwell	Unavailable	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
3	Your Leadership EDGE	Ravinder Tulsiani	26.0 / Unavailable	<input type="checkbox"/> <input type="checkbox"/>
2	How to be Successful in Present Day World	Pradeep Chaswal	20.0 / Available	<input type="checkbox"/> <input type="checkbox"/>
1	The Jetstream of Success	Julian Pencilliah	10.0 / Available	<input type="checkbox"/> <input type="checkbox"/>

Class & Section

sections

List sections Search

Class 1

Section name	Section Title	Teacher	Operations
A	Section 1	Patsy Brix-Nielsen Sheila Cameron Huguette Corriveau	<input type="checkbox"/> <input type="checkbox"/>
B	Section B	Sheila Cameron Huguette Corriveau	<input type="checkbox"/> <input type="checkbox"/>

Class 2

Section name	Section Title	Teacher	Operations
B	Section 2	James Chow	<input type="checkbox"/> <input type="checkbox"/>
rec	erce	Sheila Cameron	<input type="checkbox"/> <input type="checkbox"/>

CONCLUSION

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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