Collage ERP

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ABSTRACT

In this project our main motto is to create the students ERP(Enterprise resource planning) system. Now a days it's very difficult to manage all the record and also difficult to analyse all the record in any department . A manual work is very lengthy and time consuming for entire departments. So for that needs of central system is arising which gives the effective and efficient result within a few time. All departments can access the data with the system and also they can perform a desire task. With that all the data can easily manipulate and get easily whenever anybody wants. The objective of this paper was to propose a design of ERP for college management system which provides a simple interface for maintenance of different student, department, faculties, library and other information. It can manage daily activities of college which include the management of Employees, Students, Books and Library Records, Parents details, Assignments, Admission Process, Results and Reports, Exams, Events, Attendance, Timetable, Fees and Other Report. It uses C4.5 algorithm to analyse student based on their performance and placement prediction of student.

- **Keyword**
- *Student Management (Admissions, Registration, Fees)*
- *Curriculum Management (Course Catalog, Class Scheduling)*
- *Faculty Management (Workload, Performance Evaluation)*
- *Learning Management System (LMS)*
- *Grade Management (Attendance, Assignments, Exams)*

1. 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. 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. In the current system details are entered manually and maintenance of records is a tedious task. There is a chance for more manual errors and loss of data. The current system requires lots of manual work, difficult to generate reports, redundancy of data. The ERP system for college management is to override the problems prevailing in the current system. This reduces paper work, manual work, maintenance of data and records made easy. This system has some features like prediction of student placements based on their scores and also analysis of students' performance. Accessing results from university database. The ERP system is error free, secure, reliable and fast management system. The organization can maintain digital records without redundant entries. The valuable data/information can be stored for a longer period with easy accessing and manipulation of the same.

1.1 Problem Definition

Fragmented Information Management:
Existing systems often rely on disparate tools and databases, leading to fragmentation in information management. This results in inefficiencies, data inconsistencies, and difficulties in accessing unified data for decision-making.

- **Manual and Time-Consuming Processes:**
  Manual handling of administrative tasks, such as student enrollment, attendance tracking, and course scheduling, is time-consuming and prone to errors. Streamlining these processes is essential for operational efficiency.
- **Limited Collaboration and Communication:**
  Inefficient communication channels and limited collaboration tools hinder effective communication among different departments, faculty, and administrative staff. There is a need for a centralized platform to enhance collaboration and information sharing.
- **Data Security and Privacy Concerns:**

Existing systems may lack robust security measures, posing potential risks to sensitive student and staff information. Ensuring data security and compliance with privacy regulations is crucial for maintaining the trust of stakeholders.

2. LITERATURE SURVEY

Paper Title: "E-College: An ERP for Educational Institute"

Paper Information:

Publication Date: March 2014

Conference: International Journal of Computer Science and Engineering

Authors: Shrikant Kokate

Abstract:

The paper titled "E-College: An ERP for Educational Institute," presented in the March 2014 issue of the International Journal of Computer Science and Engineering by Shrikant Kokate, introduces a novel Enterprise Resource Planning (ERP) system tailored specifically for educational institutions. In response to the dynamic needs and challenges faced by modern educational institutes, the E-College ERP system is designed to streamline administrative and academic processes, fostering enhanced efficiency and collaboration within the educational ecosystem.

The abstract provides a succinct overview of the paper's key contributions, methodologies, and outcomes. As the E-College ERP system aims to address the complexities associated with information management, communication, and resource optimization in educational institutions, the abstract outlines the innovative features and solutions presented in the paper. By offering insights into the objectives and findings of the research conducted by Shrikant Kokate, the abstract serves as a valuable synopsis, inviting readers to delve into the detailed exploration of E-College's functionalities and its potential impact on educational institute management.

3. REQUIREMENT ANALYSIS

Requirement analysis is a critical phase in the development of any system, and in the context of educational institute management, it plays a pivotal role in defining the functionalities and features that a system must encompass. This process involves a thorough examination of the needs, expectations, and constraints of the educational institution to formulate comprehensive system requirements. The primary objective is to bridge the gap between the existing

drawbacks of current systems and the envisioned capabilities of an ideal solution. During requirement analysis, stakeholders, including administrators, faculty, staff, and students, are engaged to identify and prioritize the essential features that align with the goals of efficient and cohesive educational institute management. This includes defining modules for admissions, enrollment, attendance tracking, grading, course management, resource allocation, and communication channels. Understanding the unique workflows and intricacies of the educational environment is crucial to developing a system that enhances operational efficiency.

Additionally, requirement analysis delves into technological considerations, ensuring compatibility with existing infrastructure, scalability to accommodate future growth, and adherence to security and compliance standards to safeguard sensitive information. Usability and accessibility are also emphasized, aiming for user-friendly interfaces and accommodating mobility requirements to facilitate access from diverse devices and locations. A well-executed requirement analysis not only serves as the foundation for system development but also contributes to stakeholder buy-in by ensuring that their needs and expectations are comprehensively addressed. It minimizes the risk of misalignment between the developed system and the actual requirements of the educational institute, leading to a more successful and impactful implementation. The outcome of requirement analysis sets the stage for subsequent phases of system design, development, and testing, laying the groundwork for a robust and tailored solution to navigate the complexities of educational institute management.

3.1 Functional Requirements:

Functional requirements for an educational institute management system outline the specific features and capabilities that the system must possess to effectively support administrative and academic processes. These requirements are crucial for defining the functional scope of the system. Here is a list of functional requirements that could be considered:

- **User Authentication and Authorization:**
  The system should provide secure user authentication mechanisms, including roles and permissions to control access levels for administrators, faculty, staff, and students.

- **Student Information Management:**
  Capture and manage student details, including personal information, enrollment status, academic history, and contact details.

- **Admissions and Enrolment:**
  Facilitate the admissions process by allowing the creation and management of admission forms, enrolment records, and admission-related documentation.

- **Course and Curriculum Management**:
  Support the creation and management of academic courses, curriculum details, and associated materials.

- **Attendance Tracking**:
  Implement a system for tracking and recording student attendance for individual classes, with the ability to generate reports.

- **Grading and Examination Management:**
  Manage grading systems, conduct examinations, and store and calculate grades for individual students. Generate transcripts and academic reports.

- **Resource Allocation:**
  Efficiently allocate resources such as classrooms, faculty, and other facilities based on academic schedules and requirements.

3.2 Non- Functional Requirements:

Non-functional requirements for an educational institute management system focus on aspects that are not directly related to specific functionalities but are critical for the system's overall performance, usability, and reliability. Here are non-functional requirements outlined in key points:

1) **Performance**:
The system should respond to user actions promptly, with minimal latency, even during peak usage periods. It should support a scalable architecture to accommodate an increasing number of users and growing data volumes without compromising performance.

2) **Scalability**:
The system must be scalable to handle a growing user base, additional functionalities, and increased data loads as the educational institute expands.

3) **Reliability**:
The system should be highly reliable, minimizing downtime and ensuring consistent availability for users. Backup and recovery mechanisms should be in place to safeguard data and facilitate quick system restoration in case of failures.

4) **Availability**:
The system should have a high availability rate, ensuring that it is accessible to users at all times, with minimal planned downtime for maintenance.

5) **Security**:
Robust security measures should be implemented to protect sensitive student and staff information. The system must comply with data protection regulations and incorporate features like encryption, secure access controls, and audit trails.

6) **Usability**:
The user interface should be intuitive and user-friendly, promoting ease of navigation and minimizing the learning curve for users. Accessibility features should be implemented to ensure that the system is usable by individuals with varying levels of digital literacy and abilities.

7) **Compatibility**:
The system must be compatible with a variety of devices and web browsers to facilitate widespread accessibility. Integration capabilities should allow seamless communication with external systems, databases, and educational tools.

3.3 Design Requirements:

Design requirements for an educational institute management system lay the foundation for creating a robust and user-friendly system architecture. These requirements focus on the design aspects that contribute to the system's functionality, scalability, and overall effectiveness. Here are design requirements outlined in key points:

1) Modular Architecture:
The system should be designed with a modular architecture, allowing for the independent development, testing, and maintenance of different components.

2) Scalable Database Design:

The database should be designed to scale, accommodating the increasing volume of data as the educational institute grows.

3) **Responsive User Interface:**
The user interface must be responsive, providing a consistent and seamless experience across various devices, including desktops, tablets, and smartphones.

4) **Intuitive Navigation:**
The design should prioritize intuitive navigation, ensuring that users can easily find and access the required functionalities without unnecessary complexity.

5) **Role-Based Access Control:**
Implement role-based access control to restrict user permissions based on their roles (e.g., administrator, faculty, staff, student) for security and data privacy

.2 GANTT CHART

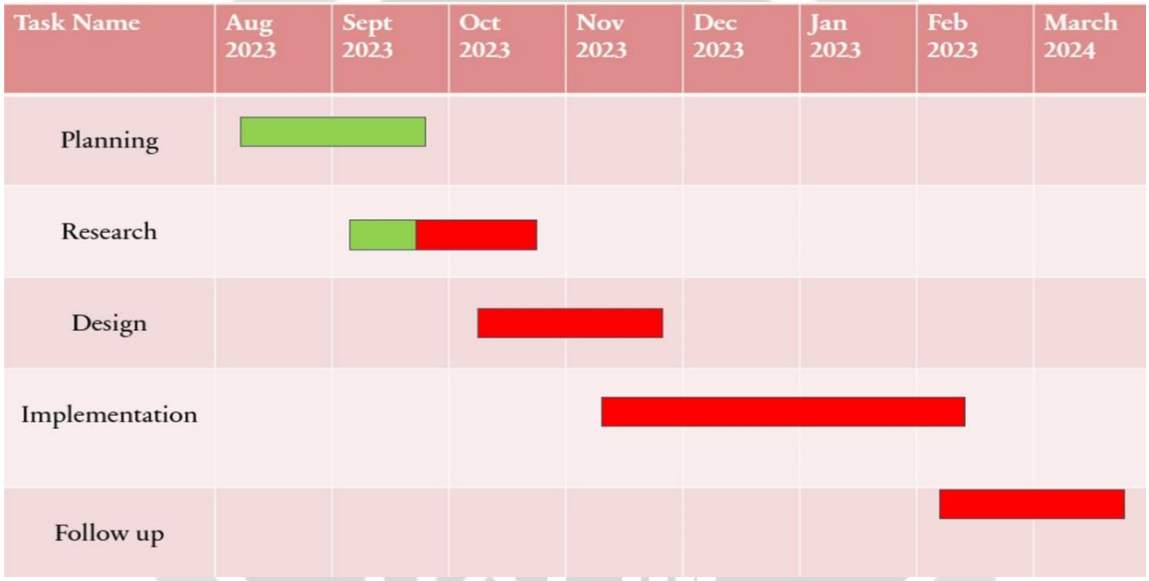

Figure 2.1: Gantt chart (color figure)

3.1 FLOW CHART:

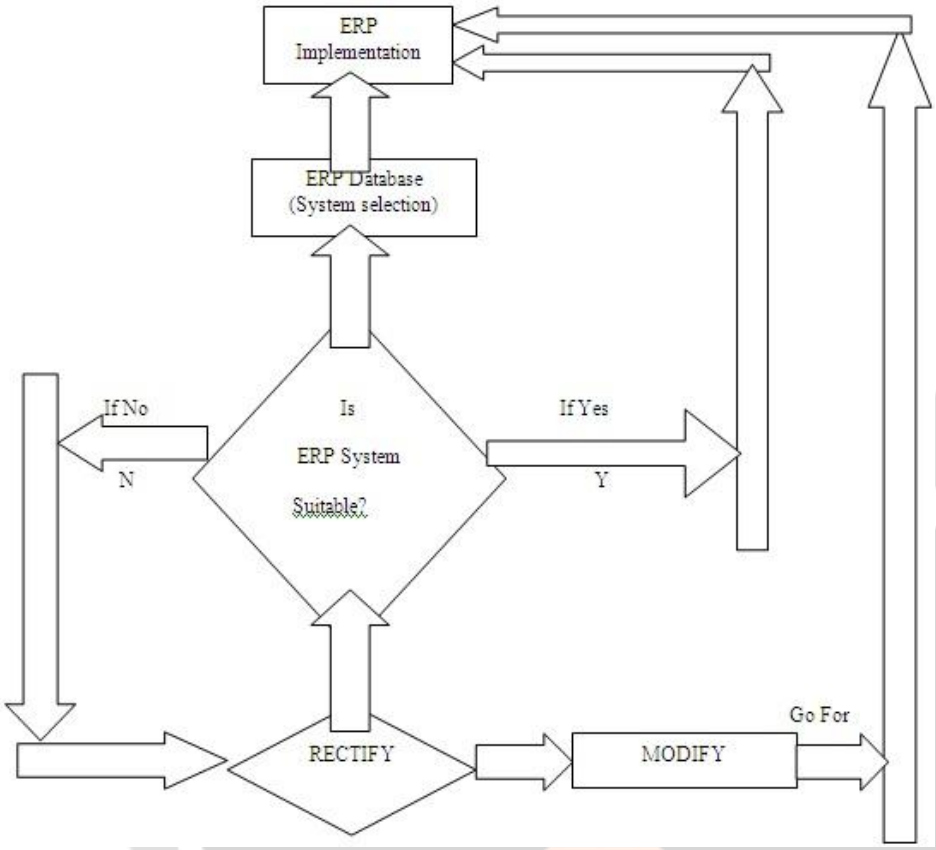

Fig: Flow Chart

4. CONCLUSIONS

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.

5. ACKNOWLEDGEMENT

I express my gratitude to Dr. V. R. Rathi, Principal, Padmashri Dr. Vitthalrao Vikhe Patil Institute of Technology and Engineering (Polytechnic), Pravaranagar, Prof. R.S.Kakade, HOD, Computer Technology Department for their kind help and co-operation.

It is my privilege to acknowledge with deep sense of gratitude to my Project Guide Prof.I.S.Kurkute and Coordinator Prof.V.S.Tamboli, for their valuable suggestions and expert guidance throughout my course of study and timely help given to me in the completion of the project.

I am highly obliged to the entire staff of Computer Department for their kind help and co- operation.

I would also like to express my appreciation and thanks to all my colleagues and family members who knowingly or unknowingly have assisted and encouraged me throughout my journey.

I am glad to express my sentiments of gratitude to all who rendered their valuable help for the successful completion of the Project.

6. REFERENCES

[1] W3School HTML/CSS Tutorials References and

Examples@http://www.w3schools.com/. (W3School is not related to W3C).

[2] PHP Language References @http://php.net/manual/en/langref.php.

[3] Wenjie Yang, Haoxue Liu, Jie Shi," The Design of Printing Enterprise Resources Planning (ERP) Software" IEEE-2010.

[4] PranabGarg, Dr.HimanshuAggarwal "Comparative Analysis OfErp Institute Vs Non Erp Institute; Teacher Perspective,

IJMBS-2011.

[5] Sun, A., A. Yazdani and Overend, J (2005). "Achievement assessment for enterprise resource planning (ERP) system implementations

based on critical success factors." Int. J. Production Economics 98: 189-203.

[6] Briukhanov V M, Kiselev V I, Timchenko N S, Vdovin V M, Monitoring the Opinions of Parents of College Students as a Component of

the Institution'S In-House Education Quality Management System,

[7] Russian Education and Society, 2010, 52(5): 79-88.

[8] Weng Martin M, Chen Yung-Hui, Hang Jason C, Shih Timothy K, Hsu Hui- Huang, An Ims-Qti Compliant Multimedia Assessment

Management System with Spc and Student Response Time to Analyze Learning Activities, Journal Of Internet Technology, 2015, 16(2): 223-244.

[9] Currie Kay, McCallum Jacqueline, Murray John, Scott Janine, Strachan Evelyn, Yates Lynda, Wright Marty, Developing a National

[10] Computerised Absence Monitoring and Management System to Reduce Nursing Student Attrition: Evaluation of Staff and Student Perspectives, 2014,34(5): 738-743.