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Online Course Registration Management System: A Comprehensive Analysis

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Abstract: Online Course Registration System is a digital way to Register for a course from an organization by a student from anywhere efficiently without any difficulties. This helps organizations to manage their student's data and know what courses are opted by the students solving the traditional form filling methods.
With this system teachers/admin have access to their enrolled students and have an ability to add new courses, stream, semester for their courses.
Students have the option of various subjects which they can opt for their upcoming semester with an ease on registration process. This system helps in streamlining the Registration Process, helps in communicating between students and organization and promotes accessibility.

I. INTRODUCTION

Online course Registration Management system is a registration system of digital age where teacher can add their courses to system and students can register to courses of their choice this management system is different from other registration form as in this system a teachers by themself create a courses and have a ability to delete or add students in their courses traditionally there is a form fill method where a students have to stand in queue for filling the form and have to take sign from different authority and submit it in the concerned office these were the tiring process but now the era is changed due to digitalization now a students can opt their courses at home through internet. Online course registration Management system is an application which helps to manage Courses of an Organization.

This system is created for ease the process of registration of Courses and give a sense of ownership to students to select their courses and a teacher to add their courses. This system is used in Almost All organization for registration of Courses Provided by Organizations. This is an efficient way to manage Real-Time information.

II. LITERATURE SURVEY

In a Recent Survey of OCRMS Outlining Recent Trends of Implementation Of this System Most of This Type of System is Created on Web Development Domain and using A tools Like --- Frontend: HTML5, CSS3, JavaScript (often frameworks like React.js, Angular, or Vue.js)

Backend: Various server-side languages such as Python (Django, Flask), JavaScript (Node.js), Ruby (Ruby on Rails), PHP (Laravel), Java (Spring Boot), etc. Database: SQL databases like MySQL, PostgreSQL, or NoSQL databases like MongoDB. Many institutions opt for cloud-based solutions (e.g., Amazon Web Services, Microsoft Azure, Google Cloud Platform) for scalability, reliability, and ease of maintenance.

With Invesment in machine learning algorithms for predictive analytics, such as predicting course demand or recommending personalized course selections.

Increase The Demands for This System with Natural Language Processing (NLP) for improving user interaction through chatbots or virtual assistants.

Most Of the Institute Adding Payments Methods For their Premium Courses for Registration of Their Courses Making a Proper Educational Platform with The Advancement of Technology A Registration System Becoming a Complete Platform for Education

III. SYSTEM IMPLEMENTATION

In implementation of online course management system, various tools and technologies are required to build the system and choice of tools are necessary for the reliability, scalability and compatibility of the system.

List of tools used in online Course registration management system:

1) Programming language –HTML, PHP
2) DBMS-MySQL

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3) Framework-Bootstrap
4) Server Handle –Xampp (Provides bundle of package that contains MySQL, Apache web Server etc.)

In the development of online course management system Process is distributed in three parts

a) *Development of Fronted Part (web-side):* A frontend Part of this System is developed with HTML, Bootstrap HTML provides the structure to system and bootstrap is used for styling the pages. this system consists of two portal a student's and Admin Portal. These portals interact with each other through databases. Any registration by a student is shown in admin portal and student's data can be managed by admin.
b) *Development of Backend part (Server-side):* In backend development a Php the server-side scripting language is chosen for its flexibility and compatibility with various database it handles user authentication, course management and dynamic content. To handle the Web server a xampp which is an open-source cross platform that bundle Apache web server. Is used to manage server of this management system and give access to MySQL databases that in combination with Apache web server.
c) *Databases:* For this system MySQL database management system is used for storing the information to a system and retrieving information from a system. A connection is made between database and a system through server-side scripting language.

IV. FEATURE AND FUNCTIONALITY

A. Student Section

1) *Student authentication:* Before entering to students' portal a students must authenticate themself with user id and password if their credentials are correct, they can enter students' section where they that have various option example- change password, enroll for courses, profile creation etc.
2) *Change Password:* After Login to Student Portal Students Can Change their Password if they Want. For changing Password a students have to writes its old password and new password to change its password.
3) *Enrolment for Courses:* In This Section students have all the list of Courses created by Admin and can choose courses from the list for course enrollment.
4) *Enroll History:* This Section Shows the name of course, level, department, semester, date and time of the courses enrolled by a student.
5) *My Profile:* This Section provides users with the chance to update their profile. A user can update their image, pin, name etc.
6) *Logout:* A student can end its session by clicking on logout Section.

B. Admin/Teacher Section

1) *Session Management:* A admin Can add Session to whom the courses are created. for registering the student courses for session 2020 and admin can create the session so a student can opt for their session 2020.
2) *Department Management:* This section creates a department from which an eligible students can enroll to courses.

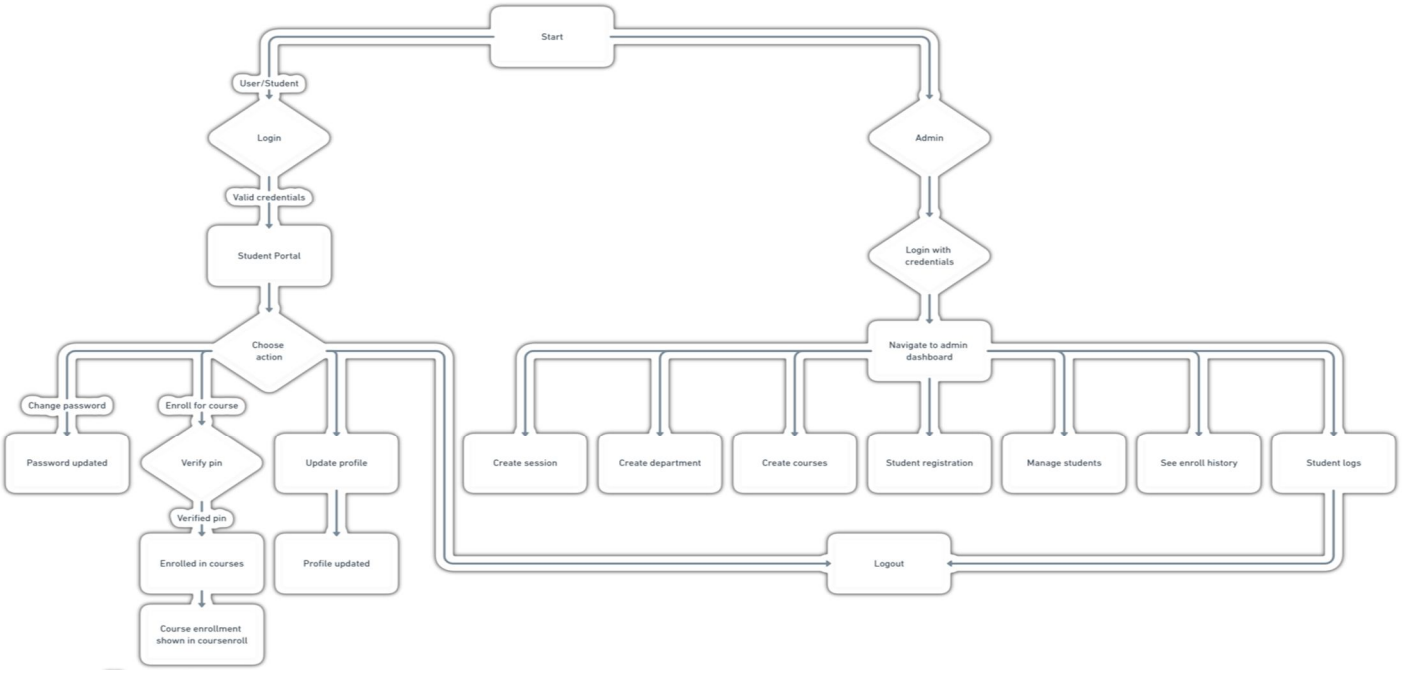
3) *Course Management*
- Course Details: admin can add course details (course code, seat limit) for course registration by students.
- Student Registration: Describe the process of registering students for specific courses.
- Manage Students: admins can view and manage student records and have the power to delete students from the courses.
- Enroll History: admins can track course enrollment history with time and date of enrollment.
- Student Logs: describe logging mechanism of students in student's portal.

4) Logout: to move out from admin page logout functionality is provided.

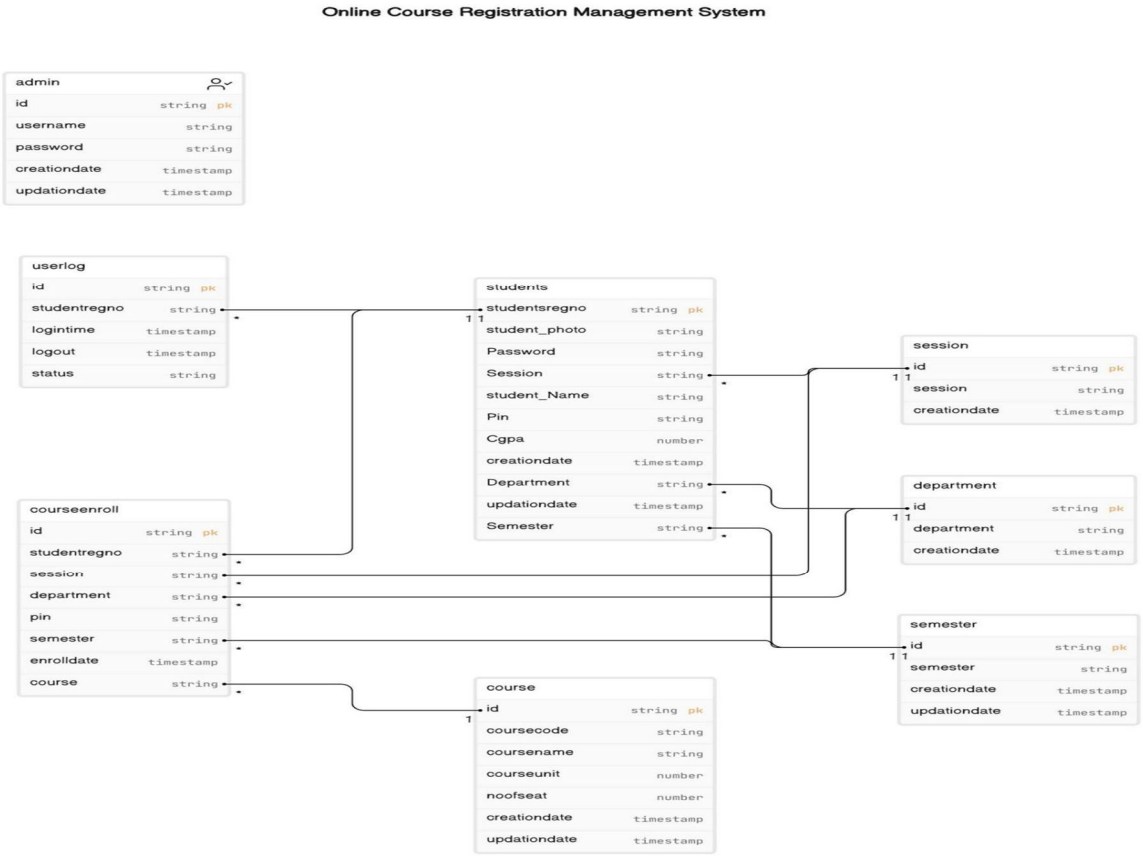
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V. GRAPHICAL REPRESENTATIONS

A. *System Flowchart*



B. *Entity-Relationship Diagram (ERD)*



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VI. FUTURE SCOPE

Online Course Registration system can be seen as a potential advancement with new features and technologies that are:

Admin Independency- Adding a feature such that teacher can manages their students by their own removing dependency with Admin.

Using Technologies of Artificial Intelligence and Machine Learning can benefit student to choose topic that they like the most by using recommendation system

Adding a Feedback mechanism, Students can provide feedback to teachers to improve their course content. Adding student's performance analyzer to Provide the performance report to a student for their courses. And suggest what topic they can improve and the topic they must focus more on this helps students in their weak areas and strong areas and improve overall academics of a students.

Payment Gateway-an organization can use this system for paid registration for their Premium courses by adding Payment Methods.

Mobile accessibility-with increase in a use of mobile most user prefer to work through mobile and this feature of online course registration management system can be accessible with mobile app development allowing students to register and manage their courses within a mobile app.

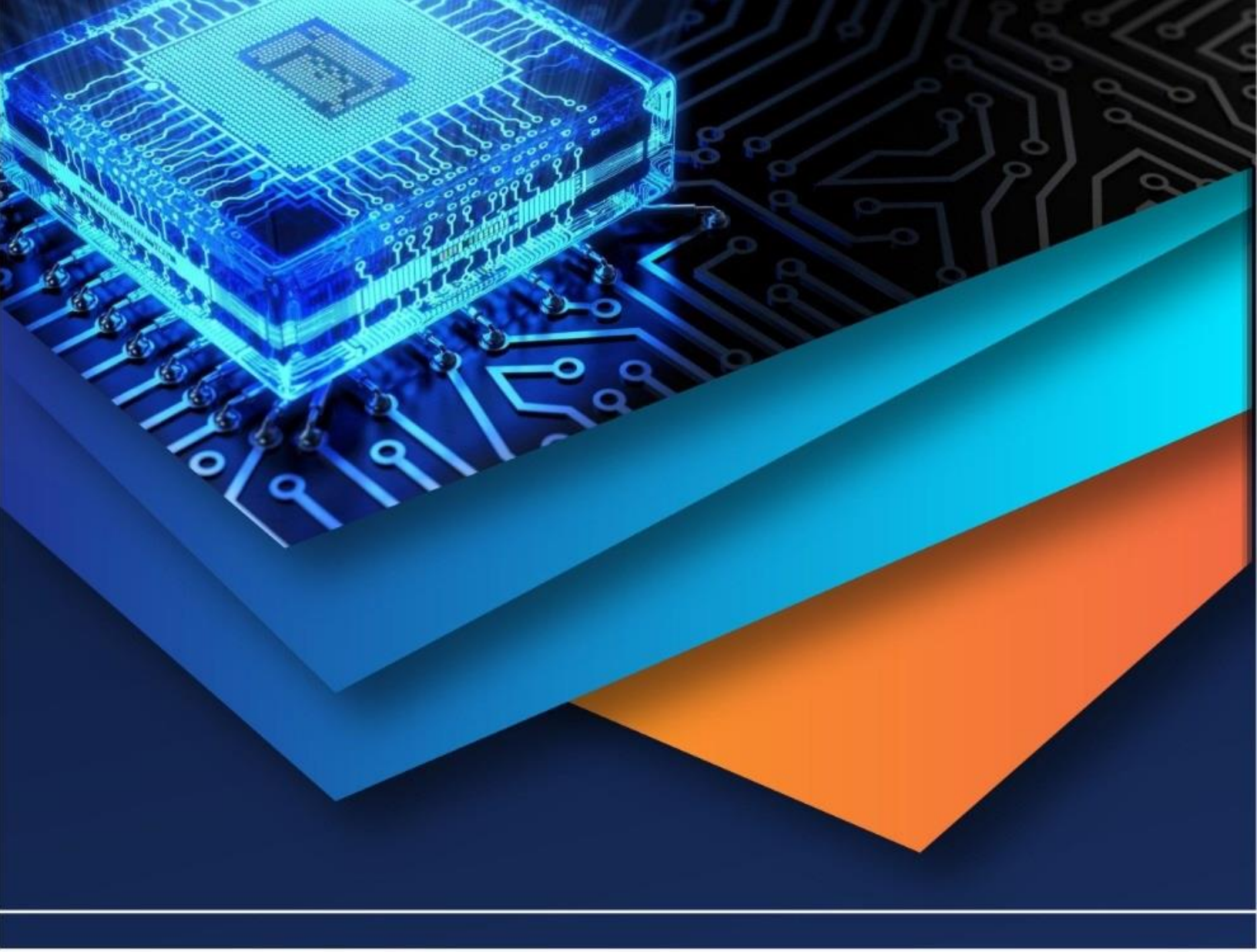
VII. CONCLUSION

In conclusion, the implementation of an online course registration management system offers various benefits for students, educational institutions and administrators. By transient from traditional, paper-based registration processes to a digital & paperless platform, institutions can streamline administrative tasks, reduce paperwork, and enhance efficiency. Students benefit from the convenience of accessing course catalogs, registering for courses, and managing their information online, thereby having a seamless and user-friendly experience. This system provides the sense of reliability to students and administration and makes proper communication between students and admin result in a less chance of Errors. Additionally, administrators can leverage data analytics and reporting features within the system to gain valuable insights into enrollment trends, student preferences, and resource allocation, enabling informed decision-making and strategic planning. Overall, the adoption of an online course registration management system represents a significant step towards modernizing educational processes, promoting accessibility, and improving the overall quality of education delivery.

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