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RESEARCH PAPER

Course Management System: Poornima Value Added Education Institute

Shruti Gupta*, Bhupendra Vaishnav, Amay Garg and Aman Sahni**
Deptt. of Computer Engineering, Poornima Inst. of Eng. & Tech., Jaipur, Rajasthan, India
*Main Author: Ms. Shruti Gupta, Email: shruti.gupta@poornima.org
**Corresponding Author: Mr. B. Vaishnav, Email: 2020pietcsbhupendra50@poornima.org

ABSTRACT

The Poornima Value Added Courses Management System is intended to improve and simplify student-related tasks, providing a productive solution that benefits both students and college administration. Three main user categories are served by the system: administrators, faculty, and students. Students may readily examine their attendance records, apply for certain programs, and register as users with ease. Conversely, faculty members have the ability to sign up as users and effectively record students' attendance. One of the main advantages of the system is that it may do away with manual operations, which saves a lot of time and money for everyone.

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INTRODUCTION

The Poornima Value Added Courses Management System was created with the intention of improving the effectiveness of a range of student-related tasks for the mutual benefit of both students and college administration. At the moment, the majority of these tasks are handled manually, which is expensive and time-consuming. The successful resolution of these issues is the goal of this endeavour. Users of this program can register, and they can be divided into two groups: faculty members and students.

LITERATURE REVIEW

Key features of web applications that enable user interaction, such as flexibility, flexible content, and scalable graphics, effects, and content that can be accessed across multiple platforms (Dominador, *et al.*, 2021). The database management system is optimized for particular use cases. The choice must be based on a comprehensive assessment of multiple factors, not limited to scalability and performance (Rahul Chauhan, *et al.*, 2023). The Django and flask web framework with its working at frontend and backend is designed for the development of shorten the URL (Didar Yedilkhan, *et al.*, 2023). The researchers developed a tool that is capable of tracking and recording students' attendance in school for reference purposes using the Waterfall Model (Pooja Thakur and Prashant Jadon 2023). API usability problems by comparing successive file-level changes made by individual software developers (Emerson Murphy-Hill *et al.*, 2018).

PROBLEM IDENTIFICATION

The primary issue that the Poornima Value Added Courses Management System attempts to solve is the academic institutions' ineffective and prone to mistake management of student-related activities.

Administrative Issue: Time-consuming administrative work and data input arise from the manual procedures for module applications and attendances monitoring that are already in place. The manual method is more expensive since it requires more employees, supplies, and documentation. Due to its error-prone nature, manual data entry might result in inaccurate attendance records and module applications.

Problem for Faculty: Students and instructors have limited access to real-time information due to the absence of an automated mechanism. Effective student attendance monitoring is hampered by manual attendance management, which also makes real-time tracking difficult.

Problem for Students: Students found it difficult to apply for certain courses or modules on time due to the old, paper-based application procedure' frequent inefficiencies and delays. Pupils have difficulty quickly obtaining their attendance records, which could make it more difficult for them to adequately track their academic progress. Students found it challenging to understand the availability and distribution of modules due to the lack of an automated system, which resulted in a lack of transparency in the application and distribution process.

APPLICATION OF THE PROJECT

The Poornima Value Added Courses Management System distinguishes itself from other academic management systems by taking a comprehensive and user-centric approach. In contrast to traditional systems, this cutting-edge platform is excellent at simplifying administrative procedures and provides an exceptional degree of optimization for course administration in educational establishments.

The user experience is a crucial differentiation. Beyond only basic features, the Poornima system offers students an engaging and multifunctional platform. It streamlines course registration, adds real-time attendance tracking, and makes critical instructional information easily accessible. Compared to many other current systems, this emphasis on user ease guarantees a more efficient and seamless academic trip.

Accurate data is yet another noteworthy benefit. Unlike systems that still struggle with human data input and the faults that come with it, the Poornima system drastically lowers the possibility of errors through the automation of attendance records and module applications. As a consequence, the data management system is more accurate and dependable, which boosts overall efficiency.

In conclusion, the Poornima Value Added Courses Management System is unique in that it tackles the intricacies of academic administration in a comprehensive manner. It stands out from other systems due to its user-centric features, emphasis on data quality, and real-time monitoring capabilities, which make it an all-around cutting-edge option for educational institutions.

METHODOLOGY

The Poornima Value Added Course Management System offers a range of tools that are specifically developed to improve students' and teachers' educational experiences. Its main goal is to suit the unique demands of both parties. One unique feature is the ability to oversee lessons for several student groups, enabling unhindered individual study. This system addresses important areas of educational institutions including timetable checks, assessments, reviews, and attendance tracking, making the shift to a digital learning environment easier.

Throughout the software development process of the Poornima Value Added Course Management System, an Agile model may be implemented to guarantee adaptability, teamwork, and ongoing enhancement.

This is a summary of possible applications for the Agile model-

Project Initiation: Creating a product backlog by classifying features, functionality, and user stories according to the needs of teachers and students.

Sprint Planning: Specify your sprint goals. Divide the product backlog into manageable chunks, or sprints that should each last a few weeks.
Sprint Backlog: From the product backlog, choose a few user stories that are prioritised for the current sprint.

Development: Convene daily to promote communication among members of the development team.
Continuous Integration: Use techniques for continuous integration to incorporate code updates on a frequent basis.

Review and demonstration: Showcase the finished features to stakeholders, such as students and professors, at the conclusion of each sprint.

Retrospective: Consider the achievements and difficulties of the sprint. Determine what needs to be improved, then make the necessary adjustments to the development process.

Iterative Development: For the next sprint, carry on with the planning, development, review, and retrospective cycle.

By applying an Agile model, the Poornima Value Added Course Management System can evolve iteratively, ensuring that it remains aligned with the dynamic needs of its users while maintaining a focus on delivering a high-quality and user-friendly solution.
First phase begins by conducting a comprehensive needs assessment involving college authorities, faculty, and students to understand their specific requirements for the system.
Collect and document the functional and non-functional requirements, including features, user roles, data storage needs, and security considerations. Second Phase is to create a system design and architecture that outlines the structure of the Poornima Value Added Courses Management System. Define the system components, modules, and their interactions to ensure a clear understanding of how the system will work.
Third Phase is to identify the key data sources required for the system, including student records, course information, attendance data, and faculty details. Establish data integration processes to ensure seamless data flow from various sources into the system.
Fourth Phase is to set up a robust server infrastructure capable of handling the expected system traffic. Configure high-performance servers and implement load balancers to ensure system scalability and reliability. Implement appropriate networking infrastructure to facilitate secure data transmission.

A. Admin: Administrator of course management system acts as a link between students and teachers to run the system smoothly and efficiently. In CMS, admin has the authority to manage all the necessary records and information related to the institution.
Tools provided in admin dashboard:

- Add a new subject or delete an existing subject.
- Add a new class or delete an existing class.
- Add data of the new teacher or delete data of existing teacher.
- Add data of a new student or delete data of an existing student.
- Add a new admin user or delete an admin user.

B. Teacher: Teachers on Course Management System have been provided sufficient tools to manage the learning process in efficient and smooth manner.
Tools provided in teacher dashboard:

- Activate new class into his/her dedicated account.
- Mark the attendance of the students.
- Give assignments to the students.

C. Student: Tools provided in student dashboard:

- Check their attendance.
- Select the specific courses.
- Can upload responses to quizzes and assignments.

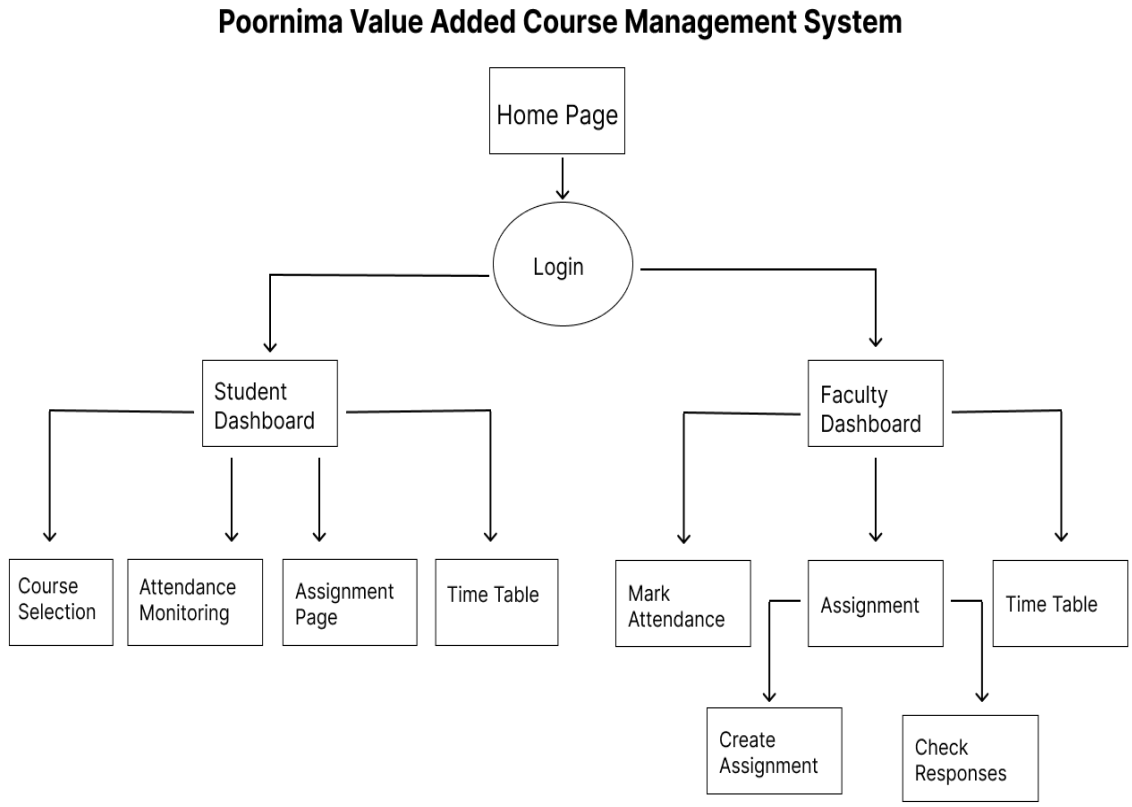
HARDWARE REQUIREMENTS

- 2 GB RAM.
- x86 64-bit CPU (Intel / AMD architecture)
- Input Devices: Mouse, Keyboard
- Output Devices: Monitor
- 10 GB HDD Storage

SOFTWARE FRAMEWORKS AND TOOLS

- Window 10 OS
- Programming Language: language for application development (e.g., Java, Python) Libraries
- Front-end Technologies: HTML, CSS, JavaScript, tailwind, and a front-end framework like React or Angular.
- Back-end Technologies: Frameworks like Django or Node.js
- User Authentication: secure user authentication mechanisms.

PROPOSED MODEL



FUTURE SCOPE

The Poornima Value Added Courses Management System offers a comprehensive answer to the complexity and difficulties involved in academic management. Numerous advantages provided by this cutting-edge technology add up to improve academic operations as a whole. First of all, it optimises course administration for educational institutions by streamlining the administrative procedures. In return, students benefit

from an enhanced and intuitive platform that makes it easier to register for courses, allows for real-time attendance tracking, and provides access to important learning resources, all of which contribute to a seamless and effective academic experience.
Increasing data accuracy is one of the system's noteworthy benefits. Error risk is greatly decreased by automating attendance records and module applications, resulting in more accurate and dependable data management. In conclusion, the Poornima Value Added Courses Management System is a complete and user-focused system that improves the quality of education for all parties involved while streamlining academic administration.

CONCLUSION

Our main goal in creating the Poornima Value Added Courses Management System was to transform academic administration in educational establishments. As we come to the end of this project, we are proud of the revolutionary effect it promises to have by offering a thorough resolution to the complex problems encountered in academic administration.
The project is excellent at automating repetitive manual chores and optimising administrative procedures. In addition to making administrators' jobs easier, this encourages a more targeted and methodical approach to academic administration. Conversely, students have access to an intuitive platform that makes it easier for them to register for courses, check their attendance in real time and guarantee easy access to important learning resources-all of which contribute to the improvement of their academic experience.
In conclusion, the Poornima Value Added Courses Management System is a shining example of academic management innovation, not only a project. Acting as a holistic, user-centric solution, it not only simplifies processes but also creates a more effective and engaging learning experience for all parties involved. As we finish this chapter, we look forward to this initiative continuing to grow and succeed and making a major contribution to the progressive future of education.

REFERENCES

1. Didar Yedilkhan, Assel Mukasheva, Dariya Bissengaliyeva and Yerulan Suynullayev (2023): Performance Analysis of Scaling NoSQL vs SQL: A Comparative Study of MongoDB, Cassandra, and PostgreSQL. 2023 IEEE International Conference on Smart Information Systems and Technologies (SIST).
2. Dominador M. Acasamoso, Ernie C. Avila and Spenzer Vargas (2021): Development and Acceptability of a Student Daily Attendance Monitoring System. 2021 IEEE 13th International Conference on Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment, and Management (HNICEM).
3. Emerson Murphy-Hill, Caitlin Sadowski, Andrew Head, John Daughtry, Andrew Macvean, Ciera Jaspan and Collin Winter (2018): Discovering API Usability Problems at Scale. 2018 IEEE/ACM 2nd International Workshop on API Usage and Evolution (WAPI).
4. Pooja Thakur and Prashant Jadon (2023): Django: Developing web using Python. 2023 3rd International Conference on Advance Computing and Innovative Technologies in Engineering (ICACITE).
5. Rahul Chauhan, Harish Prasad Semwal, J. Bennilo Fernandes, Vinod N. Alone and Ramya Maranan (2023): Website Design and Development Using Advance Technology React-Js. 2023 3rd International Conference on Advancement in Electronics & Communication Engineering (AECE).