iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 14 **Issue:** IV **Month of publication:** April 2026

DOI: https://doi.org/10.22214/ijraset.2026.80555

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 14 Issue IV Apr 2026- Available at www.ijraset.com

A Centralized Web Platform for Academic Project Supervision and Evaluation

Prathamesh Lohit[1], Aditya Nimje[2], Ayush Bhoyar[3], Himanshu Kamde[4], Prof. Chetan Tembhurkar[5]
[1, 2, 3, 4]*Bachelor of Technology in Robotics and Artificial Intelligence Final Year Student , Department of Robotics and Artificial Intelligence , Priyadarshini College of Engineering, Nagpur, Maharashtra, India*
[5]*Assistant Professor, Department of Robotics and Artificial Intelligence, Priyadarshini College of Engineering, Nagpur, Maharashtra, India*

Abstract: ***The Project Management System is a web-based application aimed at improving how academic projects are managed in higher education institutions. Traditional methods rely on emails, manual submissions, and disorganized storage systems. These can cause inefficiencies, a lack of transparency, and poor document tracking. This system offers a centralized platform that allows for organized project lifecycle management. It includes creating groups, submitting documents, reviewing by faculty, and sharing approved work publicly. The system uses a role-based access model with Admin, Faculty Guide, and Student Group roles. The Admin sets up project groups and assigns faculty guides, while students submit project documents through a single interface. Faculty members review the submissions, give feedback, and approve the final outputs. Only approved documents are published in a public repository, which helps maintain quality and academic integrity. The system also has features like version control, timestamp tracking, notifications, and secure document storage. By automating workflows and ensuring clear communication, it reduces administrative workload and improves efficiency. Overall, it serves as a scalable solution for managing academic projects while enhancing transparency, collaboration, and sharing knowledge within institutions.***
Keywords: Project Management System, Faculty-Controlled Workflow, Role-Based Access Control, Document Management, Version Control, Web-Based Application, MIS Reporting, Data Integrity.

I. INTRODUCTION

The Project Management System aims to simplify project-based learning in schools, where handling multiple stages like topic selection, documentation, and evaluation can be complicated and inefficient. Traditional methods such as emails, manual submissions, and scattered storage often lead to poor communication, data loss, and a lack of transparency. To tackle these issues, the system offers a centralized platform for Admins, Faculty Guides, and Student Groups. It supports structured workflows for creating projects, submitting documents, reviewing, and approving. Important features like version control, activity tracking, and automated notifications help improve coordination and accountability. By keeping a secure repository of approved projects, the system fosters knowledge sharing and academic honesty. Overall, it boosts efficiency, lowers administrative burden, and improves collaboration among educational institutions.

II. LITERATURE REVIEW

The development of digital academic systems has led to various project management platforms aimed at boosting efficiency and transparency. Tambe et al. proposed a web-based system that replaces manual project handling methods with a centralized platform. Their system focuses on role-based access and structured workflows, which significantly lessen administrative overhead. However, it does not include advanced analytics or public repository features. Emmanuel and Daniel introduced a cloud-based supervision system that allows real-time collaboration between students and supervisors. Their method highlights the significance of accessibility and scalability but does not fully address version control and structured approval workflows. Sahare et al. developed Thesis IT, which focuses on evaluating and improving project quality through structured repositories and feedback systems. Their system includes innovative modules like Project Hub but lacks integration with public dissemination features. Isa et al. proposed a dashboard-driven system to monitor student performance using progress tracking tools. While effective for monitoring, it does not focus on document lifecycle management or version control. Abu Bakar et al. emphasized the need for digital supervision systems to enhance project completion rates. Their study focuses on scheduling and monitoring but lacks document management capabilities. Recent studies like those by Satheesh et al. and Kallepalli et al. concentrate on integrating modern technologies like AI and real-time communication tools.

©IJRASET: All Rights are Reserved

These systems promote collaboration but often introduce complexity and consume substantial computational resources. The literature shows that existing systems tackle specific aspects such as supervision, collaboration, or storage but do not provide a comprehensive solution integrating all functionalities. The major gaps identified include a lack of centralized control, absence of structured approval workflows, and limited public access to approved projects. The proposed Project Management System fills these gaps by combining document submission, faculty review, version control, and public repository features into a single platform. It offers a balanced approach that meets usability, scalability, and academic needs.

III. METHODOLOGY

The proposed Project Management System adopts a centralized, role-based structure to streamline the management of academic project lifecycles. Unlike traditional systems that rely on student-driven submissions, this approach follows a faculty-controlled workflow, ensuring data consistency and improved supervision. The system uses a three-tier architecture with a presentation layer, application layer, and data layer. The presentation layer offers user interfaces for Admin and Faculty, while the public interface allows read-only access to approved project documents. The application layer implements business logic, including project management, document handling, and approval workflows. The data layer manages persistent storage through a relational database. The methodology begins with requirement analysis, identifying limitations of existing manual and semi-digital systems, including poor version management and ineffective communication. Based on these insights, the system's requirements include secure access control, structured document management, and centralized data storage.

The workflow model starts with the Admin, who creates project entries and assigns faculty guides. Faculty then oversee all project-related operations, including uploading, updating, and approving documents. A version control mechanism tracks multiple document iterations to ensure traceability and prevent data loss.The system uses role-based access control (RBAC) to limit operations based on user roles. Only Admin and Faculty can make system changes, while public users can only view approved content. This method improves security and reduces unauthorized changes. For data handling, all transactions are logged with timestamps for auditability and activity tracking. The system also includes a Management Information System (MIS) module for generating reports related to project distribution and system usage. Overall, the methodology provides a structured, secure, and efficient way to manage academic projects, addressing the shortcomings of traditional systems while enhancing transparency and control .The proposed Project Management System adopts a centralized, role-based structure to streamline the management of academic project lifecycles. Unlike traditional systems that rely on student-driven submissions, this approach follows a faculty-controlled workflow, ensuring data consistency and improved supervision.

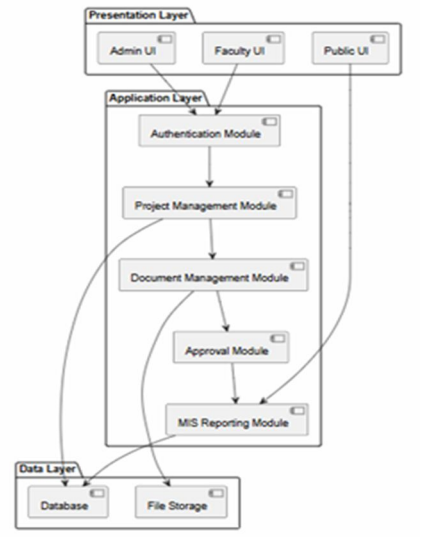


Figure 1 System Architecture Diagram

The system uses a three-tier architecture with a presentation layer, application layer, and data layer. The presentation layer offers user interfaces for Admin and Faculty, while the public interface allows read-only access to approved project documents. The application layer implements business logic, including project management, document handling, and approval workflows.

The data layer manages persistent storage through a relational database. The methodology begins with requirement analysis, identifying limitations of existing manual and semi-digital systems, including poor version management and ineffective communication. Based on these insights, the system's requirements include secure access control, structured document management, and centralized data storage.

The workflow model starts with the Admin, who creates project entries and assigns faculty guides. Faculty then oversee all project-related operations, including uploading, updating, and approving documents. A version control mechanism tracks multiple document iterations to ensure traceability and prevent data loss. The system uses role-based access control (RBAC) to limit operations based on user roles. Only Admin and Faculty can make system changes, while public users can only view approved content. This method improves security and reduces unauthorized changes. For data handling, all transactions are logged with timestamps for auditability and activity tracking. The system also includes a Management Information System (MIS) module for generating reports related to project distribution and system usage. Overall, the methodology provides a structured, secure, and efficient way to manage academic projects, addressing the shortcomings of traditional systems while enhancing transparency and control.

IV. IMPLEMENTATION

The Project Management System is a web application built with modern software technologies to ensure it can grow, perform well, and be easy to use. The system combines frontend, backend, and database parts in a modular format. The frontend uses HTML, CSS, and JavaScript to create an interactive and friendly interface. The backend is built using ASP.NET Core, which supports the Model-View-Controller (MVC) approach to keep tasks separate. C# manages the business logic, which includes authentication, project management, and document handling. The database operates on Microsoft SQL Server, which allows for organized storage and quick data access. The implementation begins with developing a role-based authentication module. This module allows secure login for Admin and Faculty users. The Admin module creates project records and assigns faculty guides. After the assignment, the Faculty module oversees all project tasks, including document uploads, changes, and approvals.

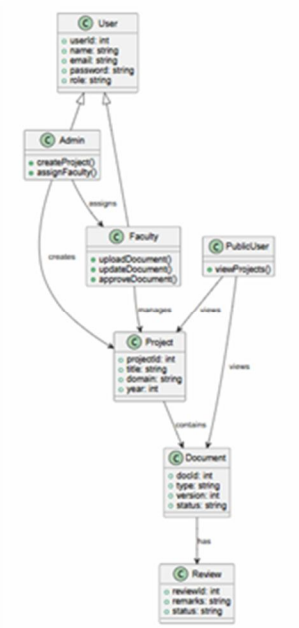


Figure 2: Class Diagram

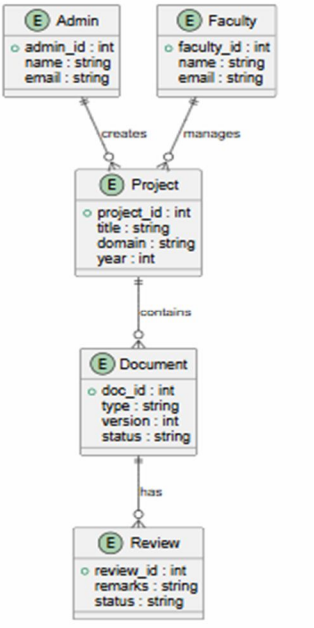


Figure 3: ER Diagram

A document management system is set up to store and control project files. Documents are kept in server storage, while the database holds metadata like file type, version, and approval status. Each update creates a new version, ensuring proper version tracking. The system includes a public repository module, which provides read-only access to approved documents. Only documents that have been verified and approved by faculty are made public, ensuring quality and reliability. The MIS reporting module generates analytical reports based on project data. These reports offer insights into project distribution, faculty workload, and system usage, aiding administrative decisions. Security is maintained through role-based access, input validation, and secure file handling.

©IJRASET: All Rights are Reserved | SJ Impact Factor 7.538 | ISRA Journal Impact Factor 7.894 |

Testing occurs at multiple levels, including unit tests, integration tests, and system tests, to confirm the reliability and accuracy of system functions. The final system is deployed on a web server, allowing access through standard web browsers. The implementation showcases a scalable and effective solution for managing academic projects, with improved workflow, data integrity, and user experience.

V. RESULTS AND DISCUSSION

The Project Management System shows successful execution of all key functional modules, including user authentication, role-based access control, project management, document handling, and evaluation workflows. The system serves as a central platform that efficiently manages academic project tasks for Admin, Faculty, and Student users. The authentication and authorization module provides secure access and stops unauthorized entry, protecting data confidentiality. The role-based setup clearly separates user privileges, enabling each type of user to access relevant functions. Faculty can define project details, assign supervisors, and track progress in an organized way.

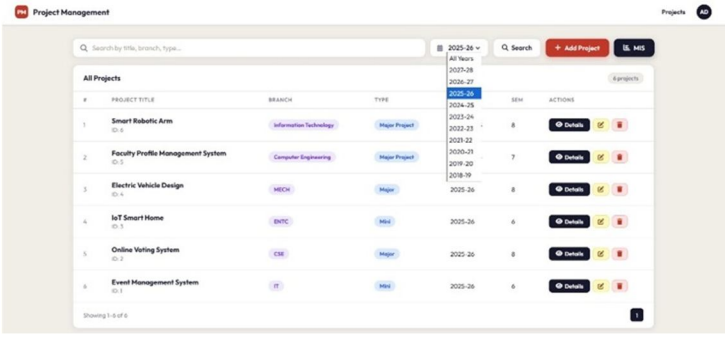


Image 1

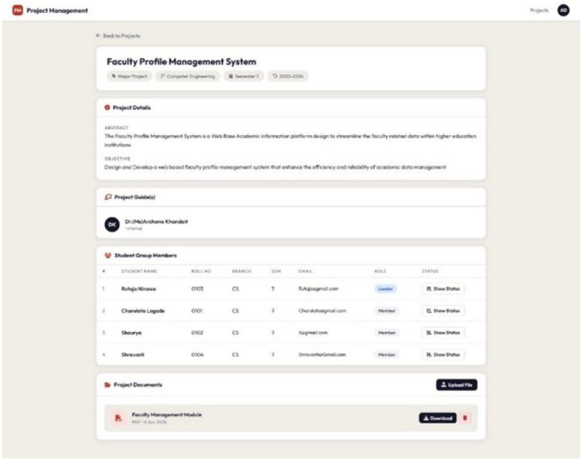


Image 2

VI. CONCLUSION

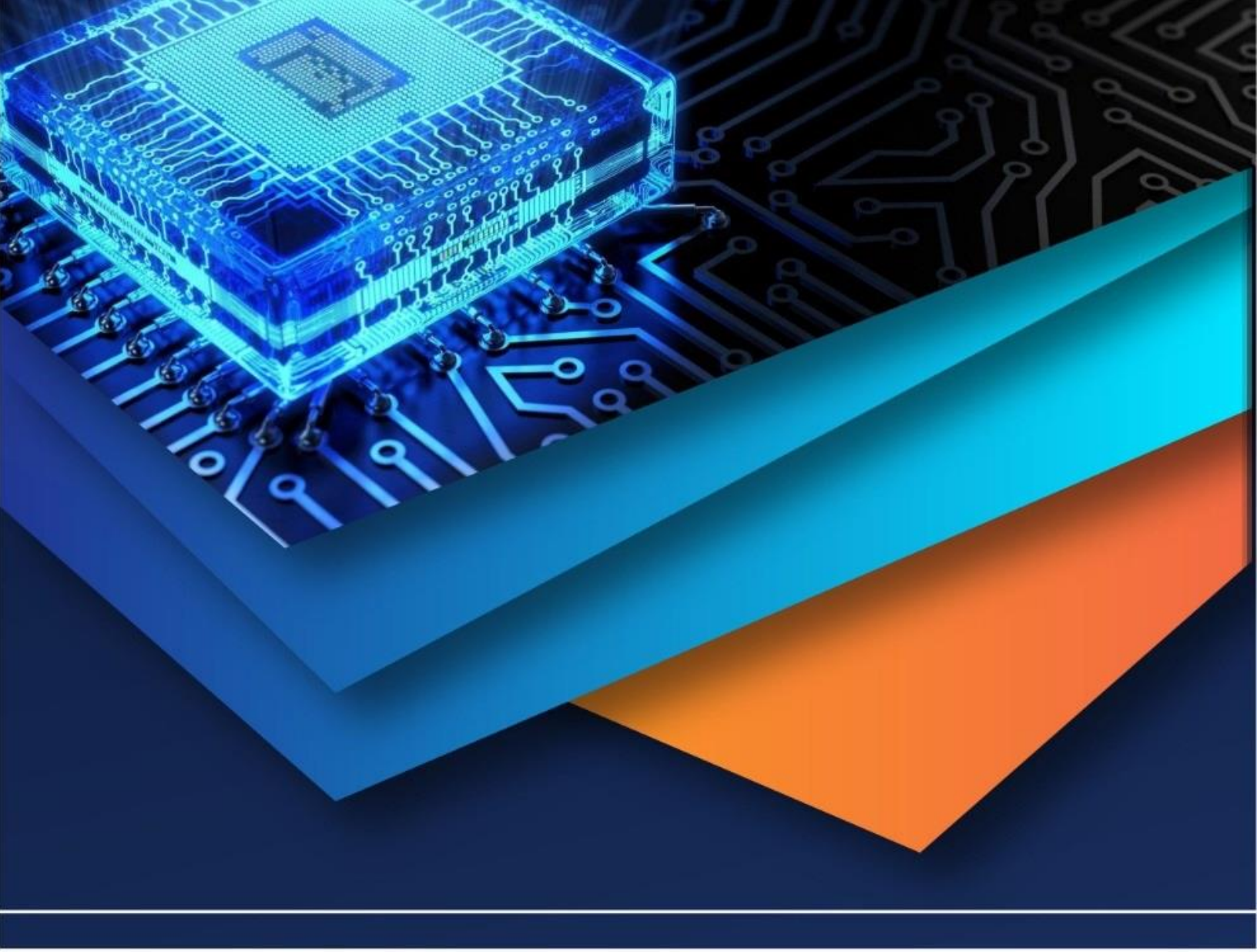
The proposed system meets its goal of creating a centralized and effective academic project management platform. It boosts workflow automation, improves data organization, and guarantees secure handling of academic information. Utilizing ASP.NET Core, SQL Server, and modern web technologies results in a scalable and maintainable system suitable for institutional use. The system effectively replaces outdated manual processes with a streamlined digital solution. In conclusion, the Project Management System lays a solid foundation for efficiently managing academic projects while leaving room for future upgrades like cloud deployment, mobile integration, and advanced analytics.

REFERENCES

[1] P. Tambe, S. Bhavsar, S. Pawar, and P. Pawar, “Web-based project management system,” IJARCCE, vol 11, no. 3, pp. 55–60, 2022.
[2] Emmanuel and C. Daniel, “A cloud-based student project supervision and allocation system for Nigeria tertiary institutions,” Int. J. Comput. Appl., vol. 177, no. 6, pp. 42–49, 2019.

[3] S. Sahare, M. Shelar, P. Patil, and K. Joshi, "A web-based academic project management and evaluation system (ThesisIT)," IJARSET, vol. 12, no. 1, pp. 164–173, 2025.
[4] N. A. Isa, N. Zulkifli, and A. Rahman, "Prototype development of final year project management system to monitor student's performance," ARASET, vol. 40, no. 1, pp. 164–173, 2024.
[5] N. Abu Bakar, A. Deraman, and F. Sidi, "Final year supervision management system as a tool for monitoring computer science projects," Procedia Soc. Behav. Sci., vol. 15, pp. 373–377, 2011.
[6] U. C. Ugboaja, F. Okoye, and C. Okafor, "Web-based student project management system," TetFund Institution-Based Research Report, 2021.
[7] J. Kallepalli, A. Reddy, and M. Shaik, "Web-based project management system: Manage your academic projects efficiently," IJCRT, vol. 13, no.
[8] R. Bhatt, V. Patel, and H. Desai, "Student project management system (SPMS)," IRJET, vol. 5, no. 1, pp. 306, 309, 2018.
[9] S. Ram, "Survey on student project management system," Asian Acad. Res. J., vol. 5, no. 10, pp. 1, 8, 2018.
[10] Anonymous, "Web-based student project management system," Internal Department Report, 2021.
[11] J. Smith and L. Brown, "AI-Powered Student Portals: Improving Project Management in Higher Education," J. Educ. Technol., vol. 18, no. 3, pp. 112, 126, 2022.
[12] [Y. Chen and L. Wang, "Artificial Intelligence in Higher Education: Applications, Challenges, and Future Directions," Comput. Appl. Educ., vol. 25, p. 107842, 2020.
[13] S. Gupta and A. Sharma, "Smart Portals for Student Collaboration: A Case Study on AI-Driven Platforms," Educ. Innov. Technol. Rev., vol. 11, no. 1, pp. 45, 62, 2023.
[14] M. Johnson and A. White, "The Role of Chatbots in Academic Project Assistance," J. Smart Learning, vol. 29, no. 2, pp. 215, 230, 2021.
[15] S. Kumar and P. Singh, "AI and Chatbots in Education: A Combined Approach for Student Project Management," J. EduTech Advancements, vol. 21, no. 4, pp. 367, 382, 2022.
[16] Q. Li and Y. Zhang, "AI-Driven Collaboration: Improving Student Productivity Through Intelligent Portals," Comput. Sci. Educ. Trends, vol. 30, p. 101114, 2023.
[17] [H. Patel and P. Mishra, "AI-Powered Platforms for Academic Research: Challenges and Future Prospects," J. Higher Ed. Tech. Trends, vol. 69, no. 2, pp. 1843, 1869, 2021.

©IJRASET: All Rights are Reserved | SJ Impact Factor 7.538 | ISRA Journal Impact Factor 7.894 |



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 (24*7 Support on Whatsapp)