IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 2, November 2026
Impact Factor: 8.2

Academic Project Automation Platform

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Abstract : *The Academic Project Automation Platform is designed to simplify and improve the management of final-year academic projects through the integration of Artificial Intelligence (AI). The system provides a centralized web platform for students, project guides and the Head of Department (HOD) to manage group formation, guide allocation, synopsis submission, meetings, remarks, marks and the project diary. It includes features such as AI-based synopsis feedback, similarity analysis of submitted synopses, meeting scheduling and AI-assisted drafting of meeting remarks and diary entries. Artificial Intelligence is utilized to summarize and review the uploaded synopsis, compare it with previously accepted synopses, and help guides and students write clear remarks and diary entries. By reducing manual work, improving communication between students and guides, and providing systematic project tracking, the proposed system aims to enhance productivity, transparency, and the overall quality of final-year project execution in educational institutions.*

Keywords: Artificial Intelligence (AI), Final Year Project Automation, Academic Project Management, Synopsis Management, Similarity Analysis, Duplicate Detection, ASP.NET, SQL Server, Student-Guide Collaboration, Feedback and Evaluation

I. INTRODUCTION

The Academic Project Automation Platform is designed to simplify and streamline the process of managing final-year academic projects in educational institutions. Final-year projects are an important part of higher education, as they help students apply their theoretical knowledge, develop practical skills, and demonstrate their technical abilities. However, students often face challenges in selecting suitable project topics, preparing project plans, managing tasks, maintaining documentation, and completing work within deadlines. Similarly, project guides may find it difficult to monitor multiple projects, track student progress, and provide timely feedback through traditional manual methods[1].

The proposed system uses Artificial Intelligence (AI) to support the key stages of project supervision. It offers features such as group formation, guide allocation, AI-based synopsis feedback, similarity analysis against previously accepted synopses, meeting scheduling, remarks and marks, and a project diary. The system provides a centralized platform where students can manage their projects and guides can review progress, evaluate performance, and suggest improvements[2].

The application is developed using ASP.NET Web Forms with C#, HTML, CSS, Bootstrap and jQuery, while SQL Server is used to store and manage project-related information. AI-based functionalities help students improve their synopsis, check it for similarity with earlier synopses, and help guides and students write clear remarks and diary entries. By automating repetitive administrative tasks and improving communication between students and guides, the system aims to increase efficiency, transparency, and accountability in academic project management[3].

Overall, the Academic Project Automation Platform provides a systematic and user-friendly approach to managing final-year projects, helping students complete their work more effectively while enabling educational institutions to improve project supervision, evaluation, and overall academic outcomes[4].

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DOI: 10.48175/IJARSCT-40732

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II. LITERATURE ANALYSIS

The literature survey explores existing research on Artificial Intelligence (AI) in education, academic project management, intelligent tutoring systems, and student performance evaluation. Aher et al. (2025) investigated the use of AI mentors to identify potential issues in student project proposals, highlighting the importance of intelligent guidance during project selection. Ruark and Biazzin (2025) explored the integration of generative AI into project management education to support planning, scheduling, and decision-making. Duong-Trung et al. (2025) examined a knowledge-scaffolding recommendation system for supervising academic term papers, demonstrating the potential of AI-based recommendations in academic guidance. Zhan et al. (2022) studied product-based pedagogy and its impact on students' project management skills, creativity, and learning outcomes

TABLE I.: LITERATURE WORK

S.NO.	Author(s) / Source	Approach / Model	Contribution	Limitation
1	Gati Aher, Robin Schmucker, Tom Mitchell, Zachary C. Lipton (2025), AI Mentors for Student Projects: Spotting Early Issues in Computer Science Proposals.	AI-supported analysis of student project proposals and aptitude information.	Helps educators identify potential problems in project proposals and determine which students may need additional guidance.	Initial user study involved only 36 participants; broader validation is needed.
2	Terri Iacobucci Ruark and Cristiane Biazzin (2025), Teaching Project Management with Generative AI: A Pedagogical Model for Responsible and Sustainable Practice.	Generative AI integrated into project management education across five MBA courses.	Explores AI support for project planning, scheduling, risk assessment, decision-making, and stakeholder communication.	Focuses on MBA education and teaching practices rather than a complete automated student-project management application.
3	Nghia Duong-Trung, Xia Wang, Rahul Rajkumar Bhoyar, Angelin Mary Jose, Silke Elisabeth Wrede, Lars van Rijn, Theresa Panse, Claudia de Witt, and Niels Pinkwart (2025), Knowledge Scaffolding Recommendation System for Supervising Term Papers.	Generative language models combined with knowledge-based and expert-driven recommendation methods.	Supports students in selecting and refining academic research topics through adaptive guidance and recommendations.	Concentrates on term-paper topic development rather than the entire project lifecycle, task tracking, and final evaluation.
4	Zehui Zhan, Wenyao Shen, and Wenkai Lin (2022), Effect of Product-Based Pedagogy on Students' Project Management Skills, Learning Achievement, Creativity, and Innovative Thinking in a High-School Artificial Intelligence Course.	Seven-step product-based pedagogy model, evaluated with 209 students and a comparison group.	Examines the impact of project-oriented learning on project management skills, creativity, and innovative thinking.	Conducted in a high-school AI course, so results may not directly generalize to college final-year projects or automated project supervision.

III. WORKING METHODOLOGY

The proposed Academic Project Automation Platform follows a structured workflow to manage student registration, group formation, synopsis submission, plagiarism analysis, guide allocation, meeting schedules, and project progress

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monitoring. The system provides separate interfaces for students, guides, and the Head of Department (HOD), ensuring that each user can access the functions according to their role.

Step 1: Student Registration and Authentication

Students register by providing their name, email, username, and password. The system validates the entered information and prevents duplicate names, email addresses, or usernames. After successful registration, students can log in and manage their personal profiles.

Step 2: Group Formation and Member Management

A student creates a project group and automatically becomes its leader. The leader adds other registered students to the group. Each student can belong to only one group, and a group can contain a maximum of four members. The group details, members, and assigned guide are displayed on the student dashboard.

Step 3: Guide Allocation by HOD

The HOD manages staff accounts and activates or deactivates guides. The HOD assigns an active guide to each project group. The assigned guide can then view the group's students, submitted synopses, documents, meeting details, and project diary.

Step 4: Synopsis Upload and Text Extraction

The group leader uploads the project synopsis in Microsoft Word format. The system extracts the text from the uploaded document and processes it for further analysis. An AI component generates a summary of the synopsis and provides feedback on the project idea, objectives, methodology, and overall content.

Step 5: AI-Based Synopsis Feedback

The extracted synopsis text is provided to an AI model for analysis. The model evaluates the content and generates suggestions to improve clarity, organization, objectives, and technical relevance. Students use this feedback to revise their synopsis before proceeding with the acceptance analysis.

Step 6: Similarity and Count Analysis

The system compares the submitted synopsis with previously accepted synopses stored in the database. A text-similarity algorithm calculates the similarity percentage and identifies potentially copied or matching sentences. The system displays the similarity score and the detected matching content.

If the similarity percentage is below 30%, the synopsis is accepted.

If the similarity percentage is 30% or above, the synopsis is rejected and the student must revise and upload it again.

The accepted synopsis is stored in the system along with the selected guide and relevant group details. This threshold is configurable according to institutional requirements. Similarity analysis identifies matching text but does not independently prove plagiarism.

Step 7: Document Management and Project Schedule Students can upload project-related documents and view scheduled meetings through their dashboard. The guide can access and download submitted synopses and documents. The HOD can also schedule meetings for any project group, while guides can create meetings for their assigned groups.

Step 8: Meeting Remarks and Evaluation

During or after a meeting, the guide records remarks, feedback, and marks for the project group. An AI-assisted draft feature generates suggested meeting remarks based on the information provided by the guide. The guide reviews and edits the draft before saving the final remarks and marks.

Step 9: Project Diary Management

The group leader records project diary entries describing completed activities, progress, problems encountered, and future tasks. The assigned guide reviews the diary entries to monitor project progress and provide additional guidance.

Step 10: Database Storage and Progress Monitoring

All registration details, group memberships, guide assignments, synopsis files, similarity reports, uploaded documents, meeting schedules, remarks, marks, and diary entries are stored in the database. Role-based access control ensures that students, guides, and the HOD can access only the features and information permitted for their roles.

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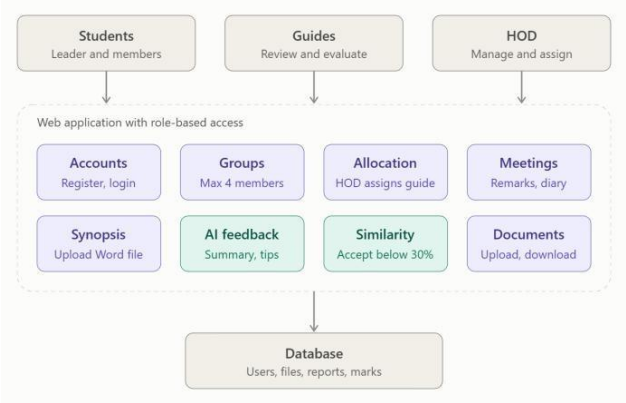


Figure 1. System Diagram

IV. RESULTS AND DISCUSSION

The proposed Academic Project Automation Platform provides an integrated platform for managing student project activities, from group formation and synopsis submission to final project progress monitoring. The system offers separate dashboards for students, guides, and the Head of Department (HOD), ensuring efficient coordination and role-based access to project information.

The student module enables students to register, log in, manage their profiles, create project groups, add members, upload synopses, and view meeting schedules. The AI-based synopsis analysis module extracts text from Word documents, generates feedback, and calculates similarity percentages by comparing submitted content with previously accepted synopses. Based on the configured 30% similarity threshold, the system accepts or rejects the synopsis and provides an opportunity for students to revise rejected submissions.

The guide module helps faculty members monitor assigned groups, download project documents, schedule meetings, record remarks, and assign marks. The AI-assisted remarks feature generates draft feedback, reducing the effort required for documentation. The project diary allows students to record their activities and enables guides to track progress throughout the project lifecycle.

The HOD module supports staff activation and deactivation, guide allocation, and meeting scheduling for project groups. Centralized database storage maintains student details, group information, submitted documents, similarity reports, meeting records, and diary entries.

The following table summarizes the expected outcomes of the system.

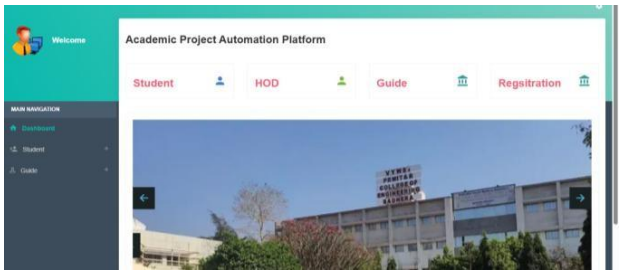
Module	Results and Benefits
Student Management	Simplifies registration, login, and profile management.
Group Management	Enforces one group per student and a maximum of four members per group.
AI Synopsis Analysis	Generates summaries, feedback, and suggestions for improvement.
Similarity Analysis	Identifies matching text and applies the configured 30% acceptance threshold.
Guide Management	Enables faculty to monitor assigned groups and evaluate progress.
Meeting Management	Organizes meetings, remarks, feedback, and marks.
Project Diary	Maintains a record of project activities and progress.
HOD Management	Supports staff status management, guide allocation, and meeting scheduling.

The discussion indicates that integrating AI-based feedback, similarity analysis, and project tracking can improve transparency, reduce manual administrative work, and support timely project completion. However, the accuracy of similarity analysis depends on the comparison algorithm and the available reference documents. AI-generated feedback and remarks also require human review to ensure correctness and relevance.

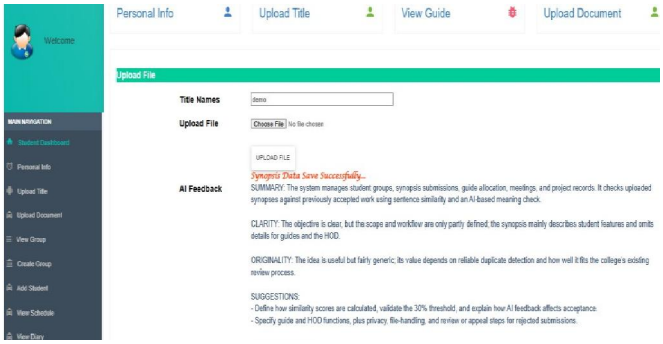
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Overall, the proposed system provides a structured and user-friendly approach to academic project management. It improves coordination among students, guides, and the HOD while maintaining project-related information in a centralized system. Actual performance, accuracy, and time-saving benefits should be validated through implementation testing and evaluation using real project data.

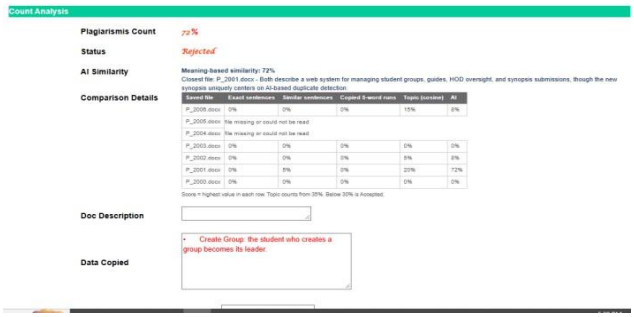
Screenshots:



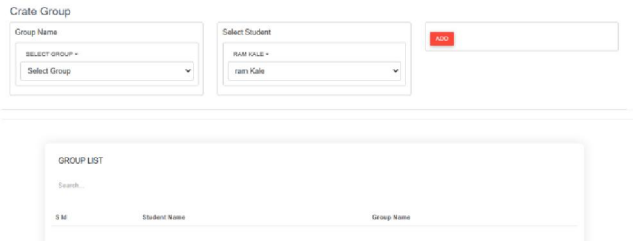
Screenshot 4.1 Home Page



Screenshot 4.2 Student Upload Synopsis

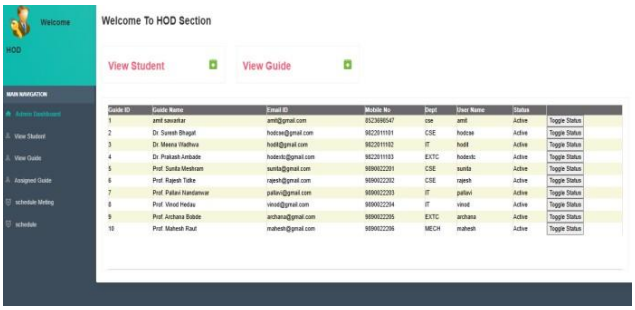


Screenshot 4.3 Student Synopsis Count Analysis

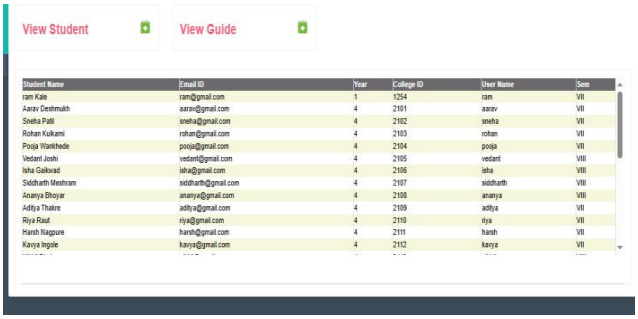


Screenshot 4.4 Student Create Group

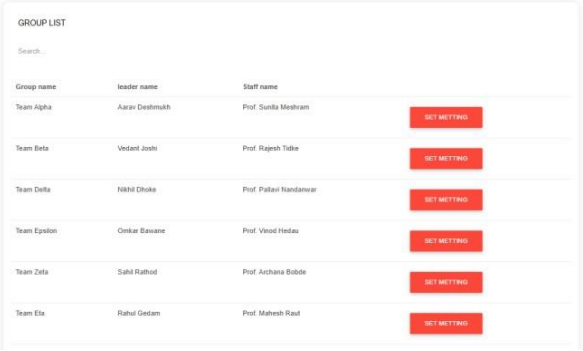
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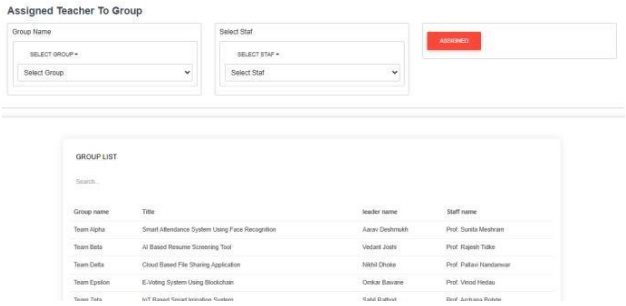
Screenshot 4.5 View Staff



Screenshot 4.6 View Student



Screenshot 4.7 Schedule Meeting



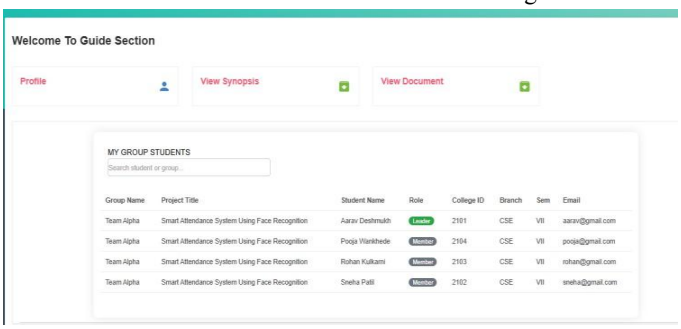
Screenshot 4.8 Assigned Teacher To Group

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Staff name	Schedule Heading	Schedule Date	Group Name
Prof. Archana Bidde	Circuit Design Review	2026-10-09	Team Zeta
Prof. Mahesh Raut	Design Calculation Review	2026-10-10	Team Eta
Prof. Pallavi Nandanwar	Architecture Discussion	2026-10-07	Team Delta
Prof. Rajesh Tidke	Problem Statement Review	2026-10-06	Team Beta
Prof. Sunita Meshram	Literature Review	2026-10-19	Team Alpha
Prof. Sunita Meshram	Synopsis Discussion	2026-10-05	Team Alpha
Prof. Vinod Hedau	Module Design Review	2026-10-08	Team Epsilon

Screenshot 4.9 View Schedule Meeting



Screenshot 4.10 Assign Group Students To Guide

V. CONCLUSION

The Academic Project Automation Platform provides an efficient and centralized solution for managing academic project activities in educational institutions. The system integrates student registration, group formation, guide allocation, synopsis submission, AI-based feedback, similarity analysis, meeting scheduling, project diary management, and document storage into a single platform. The AI-based synopsis analysis feature helps students improve their project proposals by providing suggestions and identifying similarities with previously accepted synopses. The system also simplifies the responsibilities of guides by supporting meeting management, feedback generation, and student progress evaluation. Furthermore, the HOD module enables effective staff management, guide assignment, and project monitoring. By reducing manual paperwork and improving communication among students, guides, and administrators, the proposed system promotes transparency, organization, and timely project completion. In the future, the system can be enhanced by integrating advanced plagiarism detection techniques, progress analytics, automated notifications, and additional AI capabilities to provide more accurate feedback and improve the overall project supervision process.

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