Academic Project Tracking and Collaboration Platform

TITLE

    Academic Project Tracking and Collaboration Platform

PROBLEM DEFINITION

In many colleges, project monitoring and communication between students, guides, and the Head of Department (HOD) are still handled manually. Students submit reports directly to staff, guide approvals are tracked through paper-based methods or scattered spreadsheets, and there is no centralized system to oversee overall project progress. As a result, institutions face several challenges, such as difficulty in tracking project titles, approvals, and document submissions, lack of transparency in project progress, delays in receiving feedback and meeting deadlines, and the burden of manually managing documents like SRS, weekly reports, and presentations. Staff members also experience increased workload when handling multiple teams, and collaboration between students and guides remains limited. To overcome these issues, the *Project Tracking and Collaboration System in College* offers an automated, centralized digital platform designed to streamline project workflows, simplify document submission, enhance progress tracking, and improve communication among all stakeholders.

PLATFORM / TECHNOLOGY USED

Frontend: React

Backend: ExpressJS , NodeJS

Database: MongoDB

The system follows a web-based architecture accessible on desktop and mobile browsers.

MODULE LIST

1. **HOD Module**
2. **Project Guide (Staff) Module**
3. **Student Module**
4. **Team & Project Management Module**
5. **Communication & Notification Module**

Module Definitions

1. HOD Module

The HOD has complete control over department-level project monitoring.
Features:

- View all project titles submitted by students
- Approve or reject project titles forwarded by guides
- Assign project guides to students or teams
- Monitor progress status of all projects
- View analytical reports (pending work, completion %, guide-wise performance)
- Send circulars, deadlines, and announcements

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2. Project Guide (Staff) Module

Guides manage student or team projects and provide continuous evaluation.
Features:

- Create and manage student teams
- Approve or reject project titles submitted by students
- Assign weekly tasks or milestones
- Review uploaded documents (SRS, PPT, reports)
- Provide corrections, remarks, and progress updates
- Track each student's submission timeline
- Update project status (Not Started / In Progress / Completed)

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3. Student Module

Students interact with the system for project submission and communication.
Features:

- Submit project title and abstract for approval
- Upload documents like SRS, weekly reports, PPT, screenshots
- Update weekly progress and milestone completion
- View feedback and correct mistakes
- Check real-time project status
- Receive alerts for deadlines and pending tasks

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4. Team & Project Management Module

Used mainly by guides to structure and maintain project batches.
Features:

- Create teams and add students
- CRUD operations on project details
- Assign guide and project title to each team
- Track each team's progress dashboard
- Maintain all documents in organized format

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5. Communication & Notification Module

This module ensures smooth communication across all users.
Features:

- HOD → Staff → Student communication channel
- In-system messaging for feedback and corrections
- Automated notifications for:
  - Title approvals
  - Deadline reminders
  - Missing submissions
  - New feedback or remarks
- Alerts for meetings, final reviews, and presentations

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6. Highlights

- Centralized system to track all student projects in a structured way

- Role-based access for HOD, staff, and students

- Real-time progress monitoring for better academic evaluation

- Document management eliminates physical file submissions

- Faster communication through messages and automated alerts

- Reduces manual workload for HOD and staff

- Ensures transparency in project evaluations

- Improves student accountability through milestone tracking

- Easy monitoring of multiple teams at once

- Provides digital record of all project-related activities

- Auto-reminders for deadlines

- Auto-status update when documents are approved

FORMS USED IN THE PROJECT

Student Forms

- Project Title Submission Form
- Document Upload Form (SRS, PPT, Reports)
- Weekly Progress Update Form

Guide (Staff) Forms

- Create Team Form
- Assign Task / Milestone Form
- Project Title Approval Form
- Document Review & Remarks Form

HOD Forms

- Guide Assignment Form
- Project Approval Form
- Announcement / Deadline Form

Communication Form

- Message / Feedback Form

CALCULATIONS USED IN THE SYSTEM

1. Project Progress Calculation

Calculates percentage based on completed tasks.

2. Deadline & Reminder Calculation

Checks remaining days and sends alerts.

3. Auto Status Update

Updates project status based on approvals and submissions.

4. Document Submission Count

Calculates submitted, approved, and pending documents.

5. Guide Workload Calculation

Calculates number of teams and pending tasks per guide.