1. PROJECT TITLE

College Management System

Smart, Centralized Management of Student, Faculty and Academic Records

2. Student & Institute Details

STUDENT NAME	INSTITUTE	TRADE
Janvi Dixit	NSTI Kanpur	Computer Software Application (CSA)

3. Problem Statement

Many colleges still manage student records, attendance, fees, results and notices manually or in separate spreadsheets. This causes data duplication, errors, delays in retrieving information, poor communication and extra workload for administrative staff and teachers. Students also find it difficult to quickly access their own attendance, results and fee status.

4. Objective

- Maintain student, faculty and course records in one central database.
- Automate attendance recording and report generation.
- Manage fee details, payment status and receipts.
- Store and display examination marks and results.
- Provide role-based login for Admin, Faculty and Students.
- Reduce paperwork and manual errors.
- Provide quick search and printable reports.

5. Proposed Solution

A web-based College Management System with a secure login. The **Admin** manages students, faculty, courses and fees. **Faculty** mark attendance and enter marks. **Students** view their profile, attendance, results, timetable and notices. All data is stored in a central database and shown through a simple dashboard. Optionally, AI features can provide attendance trend analysis and a chatbot for common student queries.

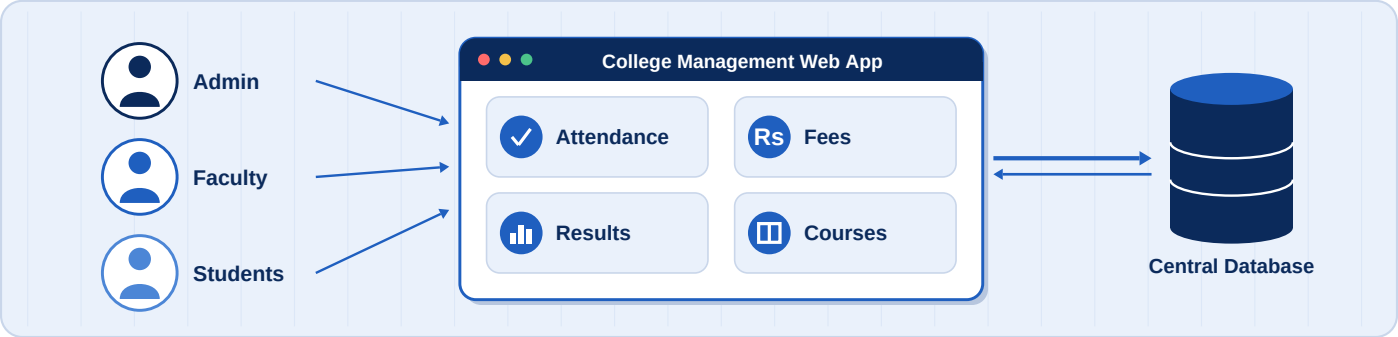


Figure 1: Admin, Faculty and Students connected to a central database through the web application.

6. Technology / AI Tools Used

Solid cards = core technologies | Dashed card = optional AI integration

Python (Flask / Django) — Backend programming and application logic — CORE	**HTML, CSS, Bootstrap** — User interface design — CORE
JavaScript — Form validation and interactivity — CORE	**SQLite / MySQL** — Database for storing records — CORE
Pandas / ReportLab — Report and PDF generation — CORE	**AI / LLM API** — Student-query chatbot and attendance insights — OPTIONAL

7. Input / Required Data

Student details (name, roll no., course, contact, address)	Faculty details and subject assignments	Course and subject information	Daily attendance data
Fee details and payment status	Examination marks	Timetable and notices	Login credentials with user roles

8. Working / Methodology

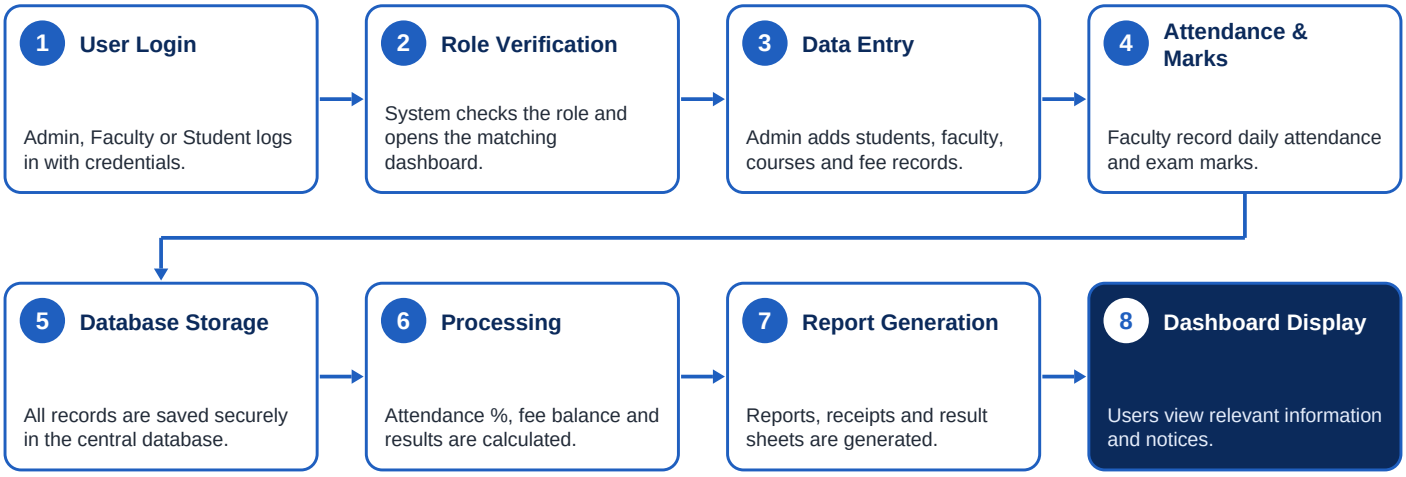


Figure 2: College management workflow

9. AI Prompt Used

EXAMPLE PROMPT

"You are an AI assistant for a College Management System. Using only the student, attendance, fee, and result data provided, answer queries clearly and politely. Summarize attendance trends, identify students with attendance below 75%, list pending fees, and provide a short performance summary. Do not invent or assume any data that is not provided, and do not share one student's information with another user."

10. Output / Result

The system generates the following outputs:

- Student and faculty records.
- Attendance reports with percentage.
- Fee status and payment receipts.
- Examination results and marksheets.
- Timetable and notices.
- Role-based dashboards.

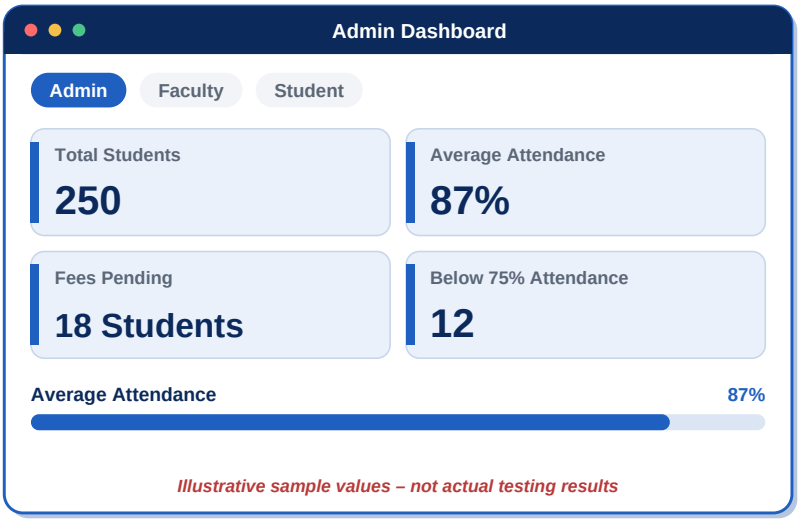


Figure 3: Sample dashboard (illustrative values only)

11. Benefits

- Saves time and reduces paperwork.
- Reduces data errors and duplication.
- Gives quick access to student information.
- Improves attendance and fee tracking.
- Provides transparent results and reports.
- Improves communication between college, faculty and students.

12. Conclusion

The College Management System provides an efficient, organized and reliable way to manage academic and administrative activities. By centralizing data and automating routine tasks, it reduces manual work and improves accuracy and accessibility for administrators, faculty and students.