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- Domain – Smart Education
- Topic Name – “Smart Attendance: Automate & Analyze”
- Category – Software
- Team no – T086
- Team Name – MARKS

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Problem Statement: Many educational institutions still depend on manual attendance systems, which are time consuming and error-prone. Teachers spend a significant portion of class time marking attendance, reducing valuable instructional hours. Additionally, students often waste free periods with unproductive activities due to a lack of structured guidance. This leads to poor time management and reduced alignment with long-term academic or career goals. There is also a gap in personalized learning support during idle classroom hours. Institutions currently lack tools that integrate daily schedules with individual student planning and automated tracking.

Why this Problem__?

- Manual attendance takes time and interrupts lectures.
- Hard to manage large classes.
- Face recognition automates attendance and avoids fake entries.
- Saves faculty time and increases accuracy.

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- **INTRODUCTION TO SMART ATTENDENCE AUTOMATE AND ANALYZE:**
- We developed a smart attendance system using facial recognition with Flask to automate and speed up attendance tracking.
- The attendance data is managed securely with a Django database.
- Our website includes separate teacher and student login interfaces with access to study notes.
- Additionally, it features an AI-powered automated quiz and a student chatbot to enhance learning and engagement.
- This integrated platform simplifies attendance, supports learning, and improves student-teacher interaction.

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Technology Used

- **Frontend**

HTML

CSS

Javascript

- **Backend**

Django(python framework)

- **Database**

SQLite/PostgreSQL

- **AI Module**

Groq API





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Objective of the problem :

1. To automate student attendance using face recognition for speed and accuracy.
2. To eliminate proxy attendance and reduce manual errors.
3. To save class time and allow faculty to focus more on teaching.
4. To provide a tech-driven, contactless solution that works for both offline and online classes.

Features of the problem :

1. Simple and user-friendly interface Automated face recognition for quick attendance marking.
2. Real-time attendance updates and dashboard.
3. Secure storage of attendance data using Django database.
4. Separate teacher and student login portals

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Proof of the concept



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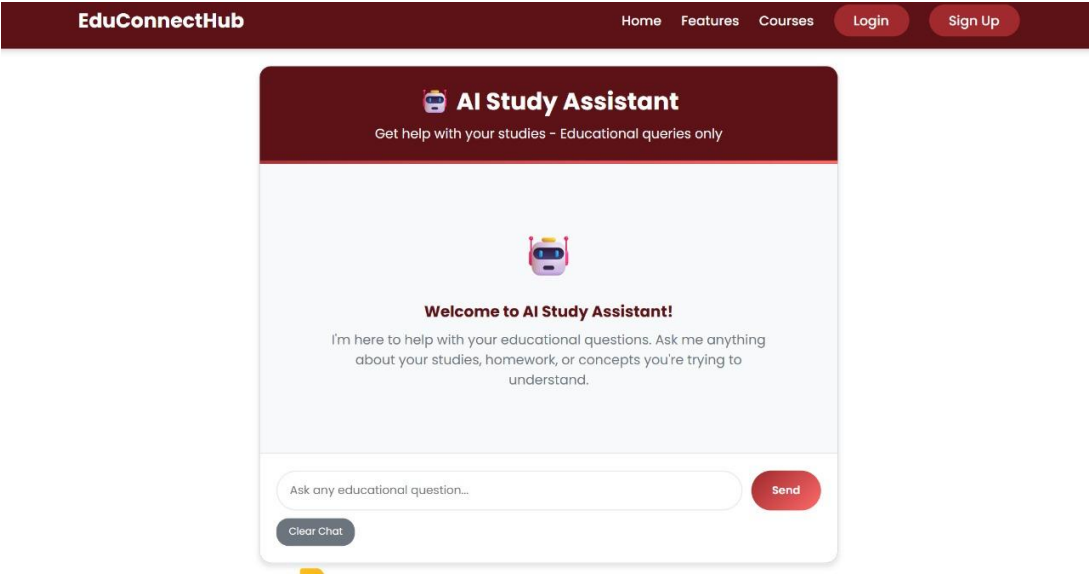
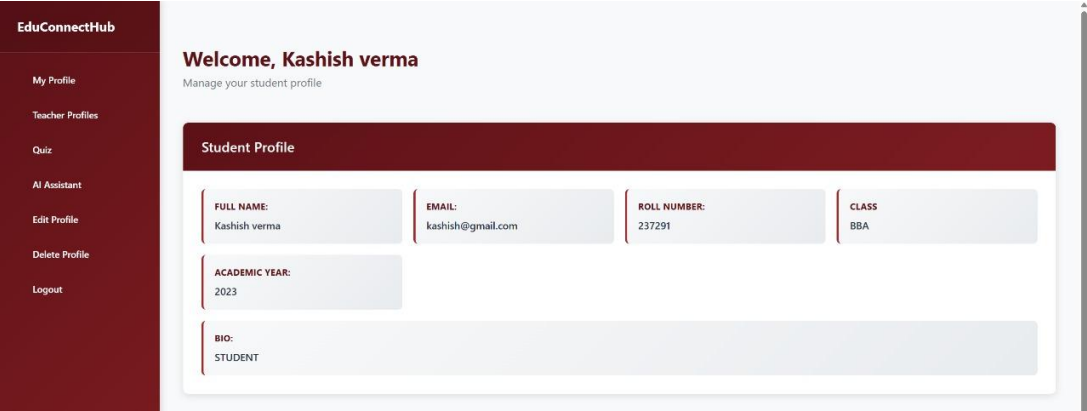


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Usecases of the Problem

1. Automated attendance in classrooms,
2. Student verification during exams.
3. Monitoring library entry/exit.
4. Recording event and workshop participation.
5. Sending alerts for low attendance.

Limitations of the Problem.


Privacy concerns related to storing and processing facial data.



Requires good-quality cameras and internet connection for smooth operation.



May struggle with identical twins or similar-looking individuals.



Students need to cooperate by facing the camera properly.



Technical glitches or system failures can disrupt attendance marking.



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- **Conclusion.**

Automating attendance with face recognition technology offers a faster, more accurate, and fair way to track student presence in colleges. It saves valuable teaching time, reduces errors, and prevents proxy attendance. Combined with AI tools like quizzes and chatbots, this system not only improves attendance management but also supports better learning and student engagement. While there are challenges like privacy and technical limitations, this modern solution aligns perfectly with the digital transformation of education, making it an essential step forward for smarter, more efficient campuses.