Project Title	AI face recognition attendance system		
Track	Engineering and Applied Science (Computer Engineering)		
Supervisor	Eng.Salma Alaa	Mentor Name	Dr.Abdullah Mohamed
Team Name	ZomerZ		
Team Members	Mostafa Hossam Ibrahim	Amr Khaled Abdelgaber	Zeyad Abdelhalem Allam
	Salah Abdelrahman	Text.	Text.
Problem Summary	Traditional attendance tracking methods like roll calls and swipe cards are inefficient and unreliable. Manual processes waste valuable time in classrooms and workplaces, while card systems can be tricked through buddy punching. These outdated methods don't work well for large groups and often lead to messy, inaccurate records that are hard to analyze.Our solution is an automated system that uses face recognition technology to quickly and accurately track attendance. The system instantly recognizes registered people through a camera, removing the need for manual check-ins. It stores all attendance data securely in an organized database that's easy to access.This modern approach solves all the problems of old methods. It's fast, can't be fooled by cheating, works for any group size, and keeps perfect records automatically. Schools and businesses can use it to save time while getting completely accurate attendance information. The simple interface makes it easy for anyone to use, finally replacing those outdated paper lists and swipe cards with a smarter solution.		
Methodology	This automated attendance system uses face recognition to quickly track who's present. The system has three main parts: a user interface, a face-matching program, and a database. The interface includes simple screens (made with Tkinter) and a website (built with HTML/JavaScript) for managing logins. The face recognition part works by capturing images from a camera, analyzing facial features, and comparing them to stored data. If there’s a match, the system records attendance automatically. The database (MySQL) securely stores student and teacher profiles, facial data, and attendance records. Setting up the system requires installing Python and necessary tools like OpenCV for camera access and face detection. Teachers and students can enroll by filling out a form and having their picture taken—the system checks for duplicates before saving new entries. When taking attendance, the camera scans faces, matches them to the database, and marks students as present or absent. The system is fast, reduces errors, and works for both small classes and large groups. It replaces outdated methods like roll calls or ID cards, saving time while keeping accurate records. The whole process is secure, user-friendly, and designed for schools or workplaces needing reliable attendance tracking.		
Achievements and Skills Gained	1. Programming Languages: Python (OpenCV, Tkinter, FastAPI), JavaScript 2.Web Development: Built a user-friendly GUI with Tkinter and a login portal 3.Team Work 4. Database Management: Designed and maintained MySQL databases for secure data storage		

** Filling all fields in the forms are mandatory. Leaving empty fields may affect in reviewing/ shortlisting your project.
** Supervisor/Mentor could be your course professor/teaching assistant/tutor or parent.

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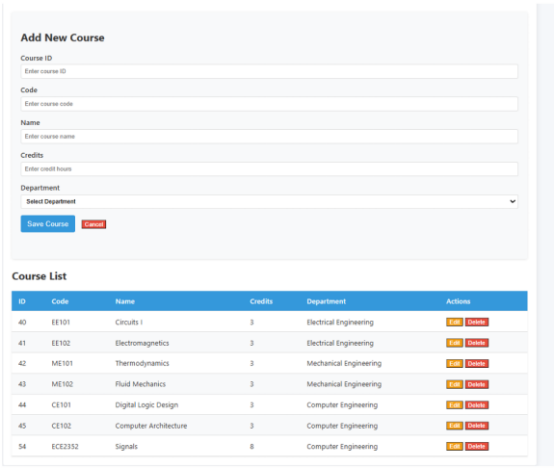
Main Results	High Quality Figures 
Discussion and Conclusion	This project demonstrates a cost-effective, automated attendance system leveraging face recognition and database management. It reduces human error, saves time, and provides auditable records.
References	https://youtu.be/fmDf11ynmZw?feature=shared https://youtu.be/A0fm26PKlwk?feature=shared https://www.geeksforgeeks.org/computer-vision/a-complete-guide-to-face-detection-and-face-recognition-in-2024/
Future Work and Suggestions	Future work could integrate AI for better adaptability and security. Combine face recognition with RFID cards or PINs for higher security, reducing false positives/negatives.
Group Photo