MICROSOFT ENGAGE 2022

PROJECT- **Attendance Management System using Face Recognition**

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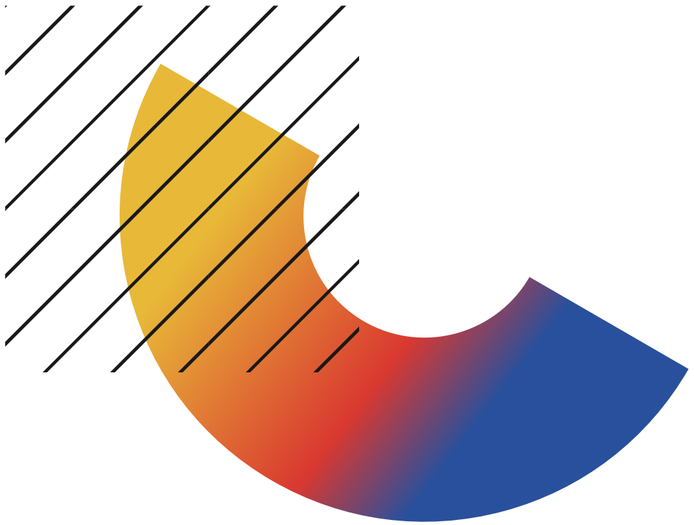


What will we cover

- Problem Statement
- Methodology
- Features
- Working
- Conclusion

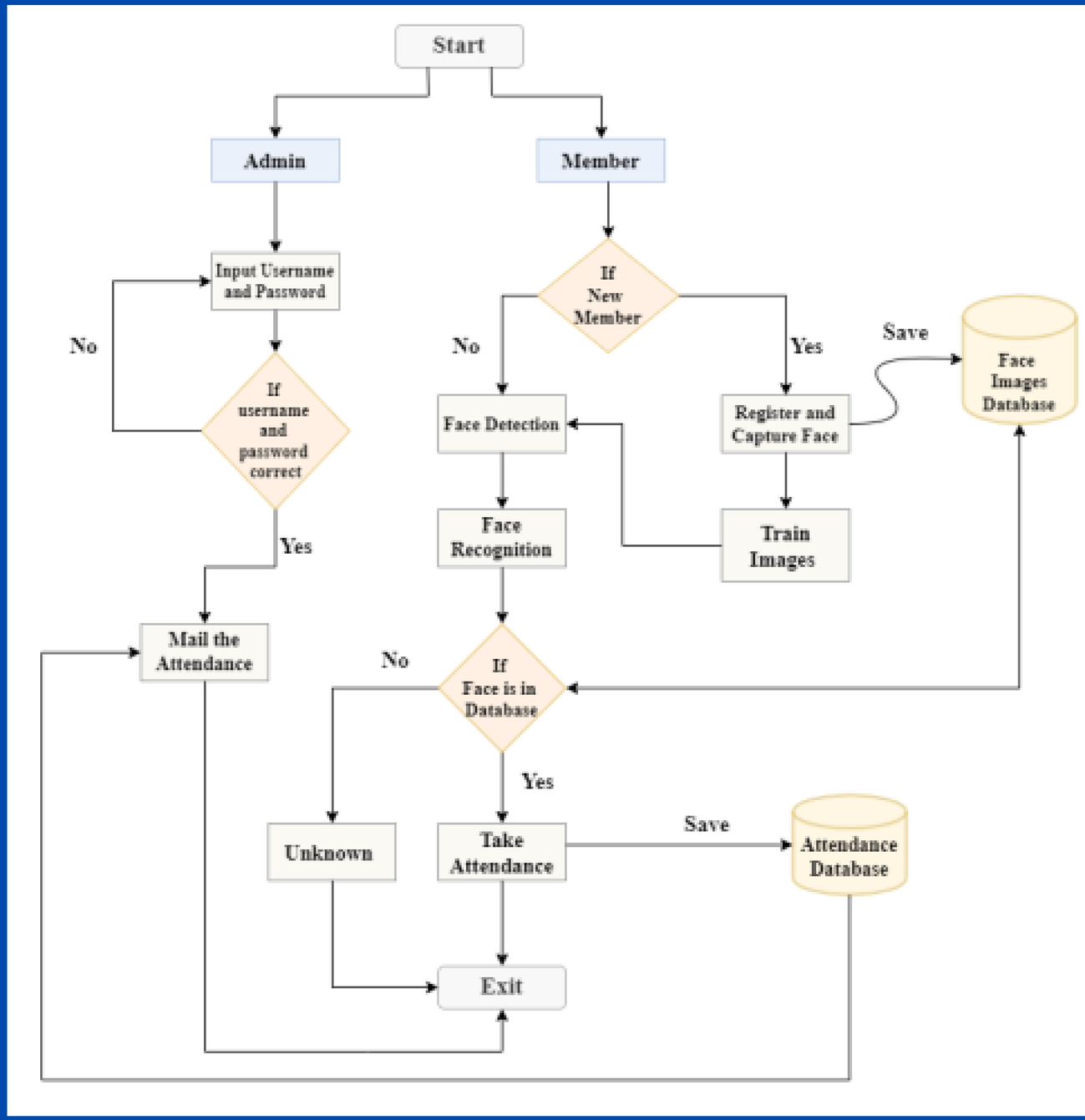
PROBLEM STATEMENT

The importance of attendance in any organization cannot be overstated. Manually taking attendance risks missing someone or taking attendance of the same person more than once. Face recognition□based attendance system is a solution to the problem of recognizing faces for the purpose of collecting attendance by utilizing face recognition technology based on high-definition monitor video and other information technology.

METHODOLOGY

Face detection is the act of recognizing and locating all of the faces contained in a single image or video, independent of their size, scale, orientation, age, or emotion. Face Recognition recognizes an object in the input image as a "face" and locates it. Based on the database of faces it uses to check this input image, it determines whether the identified face is someone recognized or unknown. As can be observed, the output of face detection (the detected face) is the input to the face recognizer, and the output of the face recognizer is the final conclusion, i.e., face known or face unknown

WORKING


Start
Admin
Member
Input Username and Password
No
If username and password correct
Yes
Mail the Attendance
If New Member
No
Yes
Face Detection
Register and Capture Face
Save
Face Images Database
Face Recognition
Train Images
No
If Face is in Database
Yes
Unknown
Take Attendance
Save
Attendance Database
Exit

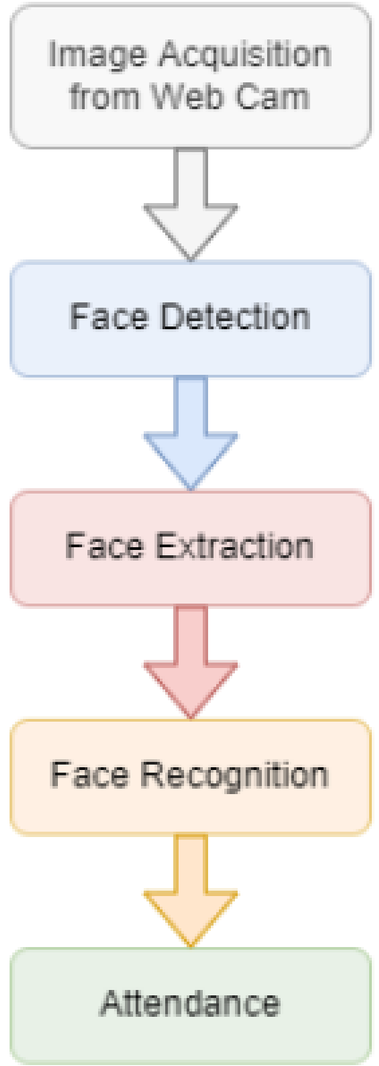


Image Acquisition from Web Cam
Face Detection
Face Extraction
Face Recognition
Attendance

FEATURES

- If a student visits the application for the first time, his/her face is captured and saved.
- The admin can mail and save the attendance record of the whole class.
- Students who are already registered can simply go and mark the attendance of that particular day.
- The admin login is password protected.

CONCLUSION

In this system, we implemented a face recognition-based attendance system for a school, college, or any other organization to track students and employee’s attendance. It will save time and effort, especially if the organization has a significant number of employees or pupils. This method identifies individuals by comparing their input image from a webcam to the train image. This could detect and localize a face from an input facial image received from a video frame being recorded. This proposed technique has an accuracy of around 80%. This technique makes it easier to keep track of attendance.