FACE RECOGNITION BASED ATTENDANCE SYSTEM

Abstract

This project aims to revolutionize attendance tracking by replacing manual methods with an automated Face Recognition system. Traditional attendance processes in schools, colleges, and offices involve calling out names or roll numbers, which can be time-consuming and prone to errors.

The Face Recognition system works by capturing students' images using a webcam installed in the classroom. These images are processed using OpenCV software, which identifies faces using a Haarcascade classifier and recognizes them using the LBPH Algorithm. The system then compares these faces with a pre-trained dataset containing student information like name, roll number, class, and section.

When students enter the classroom, the system starts taking pictures and matches them with the database. If a match is found, the system marks the student as present and updates an Excel sheet with the attendance data. This automated process not only saves time but also ensures accurate attendance records, making it a modern and efficient solution for managing attendance.

Aims and Objectives:

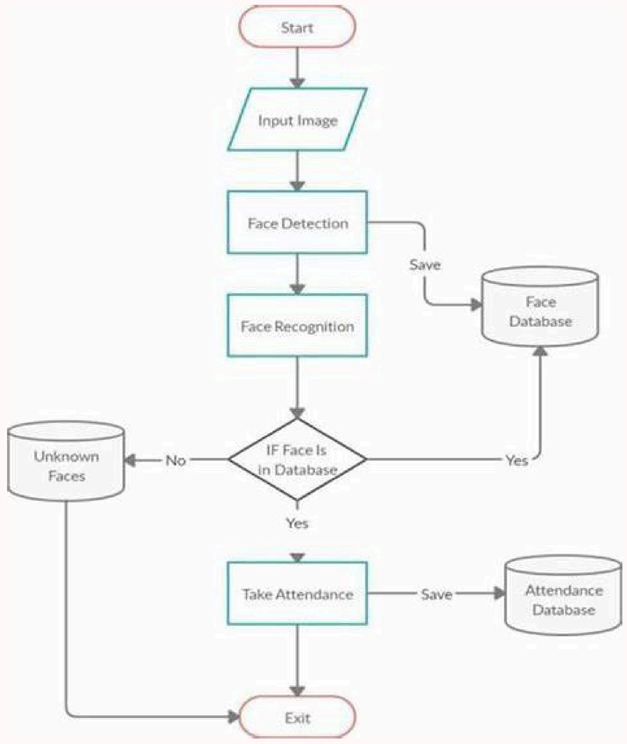
The objective of this project is to develop face recognition attendance system. Expected achievements in order to fulfill the objectives are:

- To detect the face segment from the video frame.
- To extract the useful features from the face detected.
- To classify the features in order to recognize the face detected.
- To record the attendance of the identified student

Methodology

The project utilizes face recognition technology to automate attendance marking. Key steps include face detection using Haarcascade classifier and face recognition using the LBPH algorithm. Images are captured via a web camera and processed to compare against a pre-trained dataset. Attendance is marked automatically and recorded in an Excel sheet.

Flow chart



Conclusion

The face recognition attendance system successfully addresses the limitations of manual methods. It offers a reliable and efficient solution for attendance management in educational institutions. The system reduces classroom disruptions and improves overall attendance tracking accuracy

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