A

Project Synopsis on

"Live Attendance System using Face Recognition "

Submitted to

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Abstract

In this project face of an individual is used for the purpose of attendance making automatically. Attendance of the student is very important for every college, universities and school. Conventional methodology for taking attendance is by calling the name or roll number of the student and the attendance is recorded. Time consumption for this purpose is an important point of concern.To stay away from these losses, an automatic process is used in this project which is based on image processing. In this project face detection and face recognition is used. Face detection is used to locate the position of face region and face recognition is used for marking the understudy's attendance. The database of all the students in the class is stored and when the face of the individual student matches with one of the faces stored in the database then the attendance is recorded.

Introduction

Today in the fast growing world, on one hand the data is increasing in an exponential rate and on the other hand the margin of error as well as time is decreasing drastically. In this situation a task to be accomplished in a manual way is bit riskier. Instead the common man or any organization per say tends to prefer the automatic way in order to complete the task in time and with much more accuracy. Following the trend comes the Live Attendance System, which is an enhancement in traditional manual way of marking the attendance.

The manual way of marking the attendance is a time consuming process and its performance degrades with the enormous amount of data. The Live Attendance System is much preferable as it saves the time and reduces the complexity of the system. In our model we are using the biometric based attendance system to mark the attendance of the students automatically by detecting and recognizing their faces. The system consists of creating the dataset of images, followed by training the dataset and finally detecting the person next time he comes across the camera module of the system. Further the system is linked with the database consisting of the database of the students. The system has the capability to automatically update the attendance of a student once he gets recognized.

Existing System

The problem with this approach in which manually taking and maintains the attendance record is that it is very inconvenient task. Traditionally, student attendances are taken manually by using attendance sheet given by the faculty members in class, which is a time consuming event. Moreover, it is very difficult to verify one by one student in a large classroom environment with distributed branches whether the authenticated students are actually responding or not. The ability to compute the attendance percentage becomes a major task as manual computation produces errors, and also wastes a lot of time. This method could easily allow for impersonation and the attendance sheet could be stolen or lost.

Drawbacks in existing system

- These attendance systems are manual .
- There is always a chance of forgery (one person signing the presence of the other one) Since these are manual so there is great risk of error.
- More man-power is required (some person to take attendance).
- Calculations related to attendance are done manually (total classes attended in month) which is prone to error.
- It is difficult to maintain database or register in manual systems.
- It is difficult to search for particular data from this system.

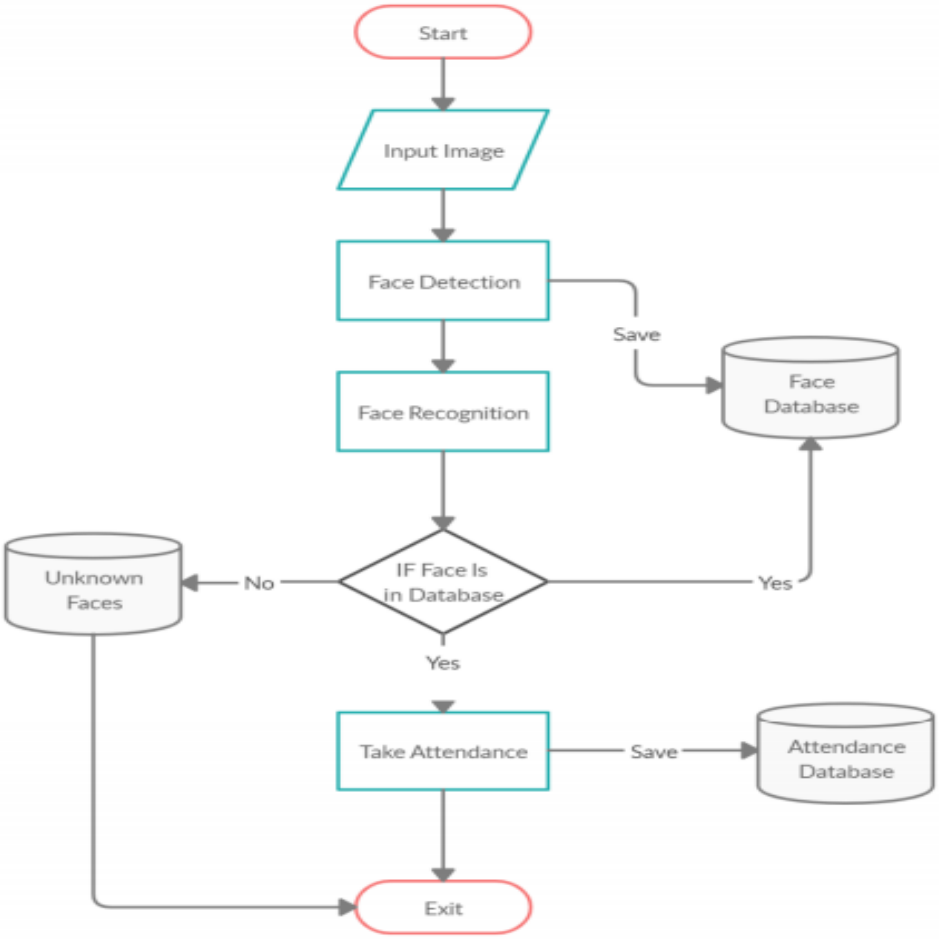
Proposed System :

The proposed model is based on face recognition mechanism. The basic methodology is Whenever a student enters the class and comes across the camera module of the system his image is captured in the system and is recognized and validated if he is a student of the class. If recognized then his attendance is automatically marked in the system.

Proposed System Outcome

- System will only allow authenticated user to login to the system and/or make changes to it.
- It will allow user to mark attendance of the students via face recognition technique.
- It will detect faces via webcam and then recognize the faces.
- After recognition it will mark the attendance of the recognized student and update the attendance record.
- The user will be able to print these record details afterward.

Flow Chart


Start
Input Image
Face Detection
Save
Face Database
Face Recognition
Unknown Faces
No
IF Face Is in Database
Yes
Yes
Take Attendance
Save
Attendance Database
Exit

Plan of Work

Sr.No	Task to be planned	Expected Duration(in weeks)
1	Problem Statement Identification	2 Week
2	Requirement Gathering	2 Week
3	Requirement Analysis	2 Week
4	GUI Designing.	4 Week
5	Coding	8 Week
6	Testing	3 Week
7	Bug fixes	2 Week
8	Final testing	1 Week
9	Deployment	1 Week

Advantages

- The software can be used for security purposes in organizations and in secured zones.

- The software stores the faces that are detected and automatically marks attendance.
- The system is convenient and secure for the users.
- It saves their time and efforts

Conclusion

This system helps to avoid the fail proof of attendance system and this system works as the substitute for the all existing systems. It saves the time and energy in the aspect of taking attendance. Automated Attendance Systems based on face recognition techniques thus proved to be time saving and secured. This system can also be used to identify an unknown person whether he is related to the organization or not**.**

References:

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[3] M. Turk and A. Pentland, "Eigenfaces for recognition," J. Cognitive Neuroscience, vol. 3, pp. 71-86, 1991.