

FACE RECOGNITION BASED ATTENDANCE MONITORING SYSTEM

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Abstract In this digital era, face recognition system plays a significant role in nearly each sector. Face recognition is one in all the principally used bioscience. It will used for security, authentication, identification, and has more blessings. Despite of getting low accuracy when put next to iris recognition and fingerprint recognition, it's being wide used because of its contactless and non-invasive method. what is more, face recognition system also can be used for attending marking in colleges, colleges, offices, etc. This method aims to make a category attending system that uses the construct of face recognition as existing manual attending system is time consuming and cumbersome to take care of. And there could also be possibilities of proxy attending. Thus, the requirement for this method will increase. This method consists of 4 phases- info creation, face detection, face recognition, attending change. info is formed by the pictures of the students in school. Face detection and recognition is performed exploitation Haar-Cascade classifier and native Binary Pattern bar chart algorithmic rule severally. Faces square measure detected and recognized from live streaming video of the room. attending are going to be mail-clad to the various college at the top of the session.

keywords—Automatic Attendance, Face Detection, Face Recognition, Image Enhancement, Enrollment,

I. INTRODUCTION

Face recognition is that the accessible possibility obtainable within the current state of affairs for the organizations to form students group action. This Face recognition group action system computer code affords organization a method of following of their students. As this technique conjointly eliminates all the proxies that ar amused within the earlier group action marking manner. As this computer code is incredibly helpful to all or any the organizations such colleges, colleges, Offices & several alternative because the manual group action consume great amount of your time & it becomes burden to schools. As this technique is incredibly helpful in it & provides smart quantity of accuracy.

To monitor the scholars United Nations agency ar attending the {school|the faculty} or school often, thus an ideal computer code ought to be developed. As this Face recognition group action may be enforced. Face recognition

means that it captures the detected image & stores them & then acknowledges the face that is analogous to the keep pictures & then it marks the group action.

A face recognition group action system uses biometric identification technology to spot and verify an individual victimisation the person's facial expression and mechanically mark group action. The computer code may be used for various teams of individuals like workers, students, etc. The system records and stores the info in time period.

Face recognition has set a very important biometric feature, which may be simply available and is non-intrusive. students group action within the room is incredibly vital task and if taken manually wastes loads of your time. There ar several automatic strategies obtainable for this purpose i.e. biometric group action. of these strategies conjointly waste time as a result of students have to be compelled to build a queue to bit their thumb on the scanning device. This work

describes the economical formula that mechanically marks the group action while not human intervention.

This group action is recorded by employing a camera hooked up ahead of room that's endlessly capturing pictures of scholars, find the faces in pictures and compare the detected faces with the info and mark the group action. The paper review the connected add the sphere of group action system then describes the system design, computer code formula and results.

II. Scope of the project

Before the group action management system will work, there are a collection of data needed to be inputted into the system that primarily comprises the individual's basic info that is their ID and their faces. The first procedure of portrait acquisition are often done by victimization the Camera to capture the faces of the individual. In this method the system can 1st find the presence of a face within the captured image, if there pictures as a result of those are the prerequisites of victimization the Eigen Faces Recognizer. are no face detected, the system can prompt the user to capture their face again till it meets bound variety of portraits which is able to be ten needed portraits during this project for every student. The decision of storing solely ten portrait per student is thanks to the thought of the restricted space for storing within the raspberry pi as a result of the whole quantity of scholars within the university is taken into account significant. Then, the photographs can bear many pre-processing procedures to get a grayscale image and cropped faces of equal sized

III. Project illustration

The Face recognition group action system detects the faces and store the captured pictures. The recognized image compares with the keep pictures if it matches marks the group action.

As this can be covid-19 scenario, the contactless system are going to be terribly helpful. To sight & acknowledge the face we've used LBPH algorithm which provides larger accuracy.

The task of the projected system is to capture the face of every student and to store it within the information for his or her group action. The face of the coed must be captured in such a way that each one the feature of the students' face need to be detected, even the seating and also the posture of the coed need to be recognized. There is no would like for the teacher to manually take group action within the category as a result of the system records a video and thru any process steps the face is being recognized and also the group action information is updated.

Advantages :

The information of the group action management system will interruption to 2000 people data. An surpass sheet is made that contains the coed group action and is mail-clad to the revered school. The project should work underneath a Wi-Fi coverage space or under LAN affiliation, because the system got to update the information of the attendance system perpetually. All the scholars of the category should register themselves by coming into the desired details and so their images are going to be captured and keep within the dataset. throughout every session, faces are going to be detected from live streaming video of room. The faces detected are going to be compared with

IV. Architecture / structure

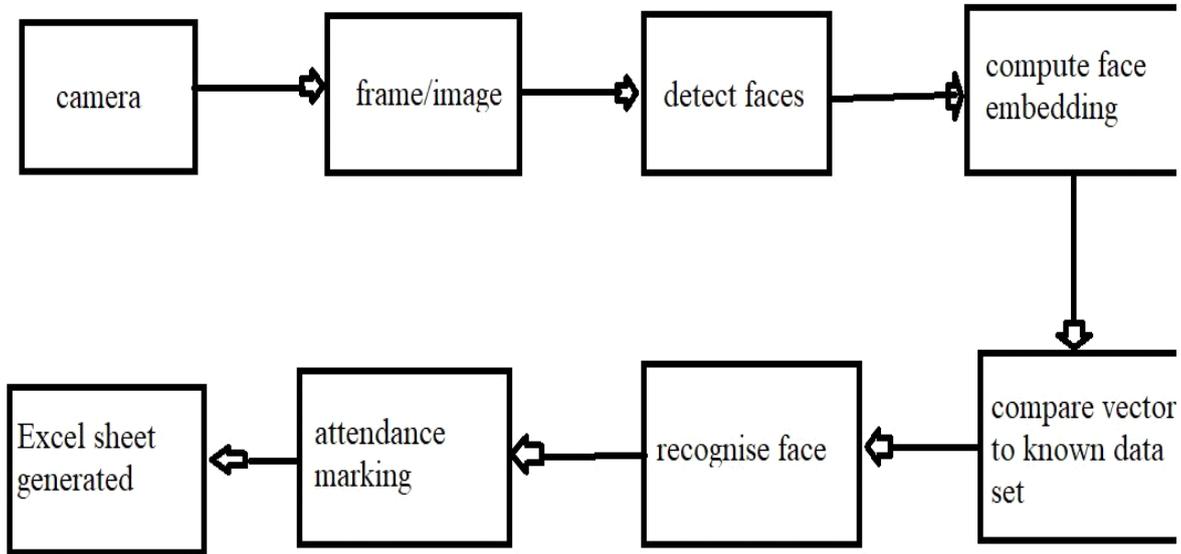


Fig:1 Reference System Design Structure

- Capturing images through a camera
- Capture the reference objects, detect and compare
- Build and train class file
- Get the respective matches from the datasets
- Taking the attendance of the matched training images
- storing the data in excel sheet

V. Implementation

The users will act with the system employing a by user interface. Here users are going to be principally supplied with 3 completely different choices like, student registration, college registration, and mark attending and also the maintainance of the attending.

The students ar alleged to enter all the desired details within the student registration kind and also the alternative details asked by the system. when clicking on register button the online cam starts

mechanically and window as shown in pops up and starts police investigation the faces within the frame by victimization the digital camera set to the system.

Then it mechanically starts clicking photos till sixty samples ar collected or CTRL+Q is ironed. These pictures then are going to be processed and trained and hold on in coaching pictures folder that stores within the information base. This system aims to create a good category attending system victimization face recognition techniques. The projected system are going to be ready to mark the attending via face Id and stores the info in excel sheets. It will notice faces via digital camera and so acknowledge the faces. when recognition, it'll mark the attending of the recognized student and update the attending record and maintain the reacords. This system aims to create a good category attending system victimization face recognition techniques. The projected system are going to be ready to mark the attending via face Id. It will notice faces via digital camera and also the acknowledge the faces. when recognition, it will mark the attending of the recognized student and update the attending the record.

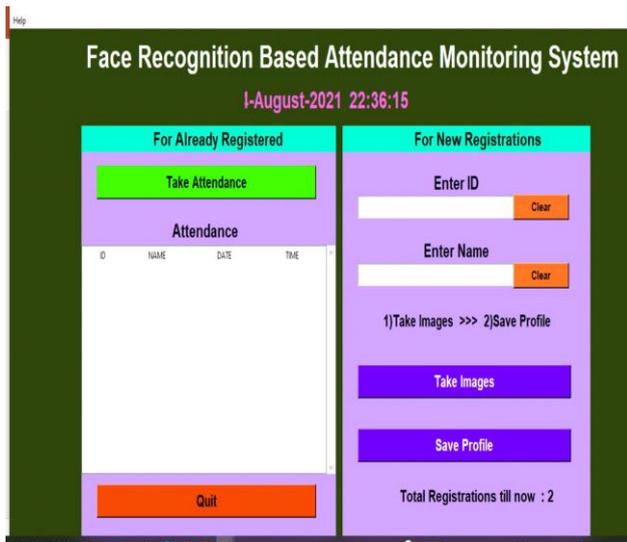


fig 2: image of the working model

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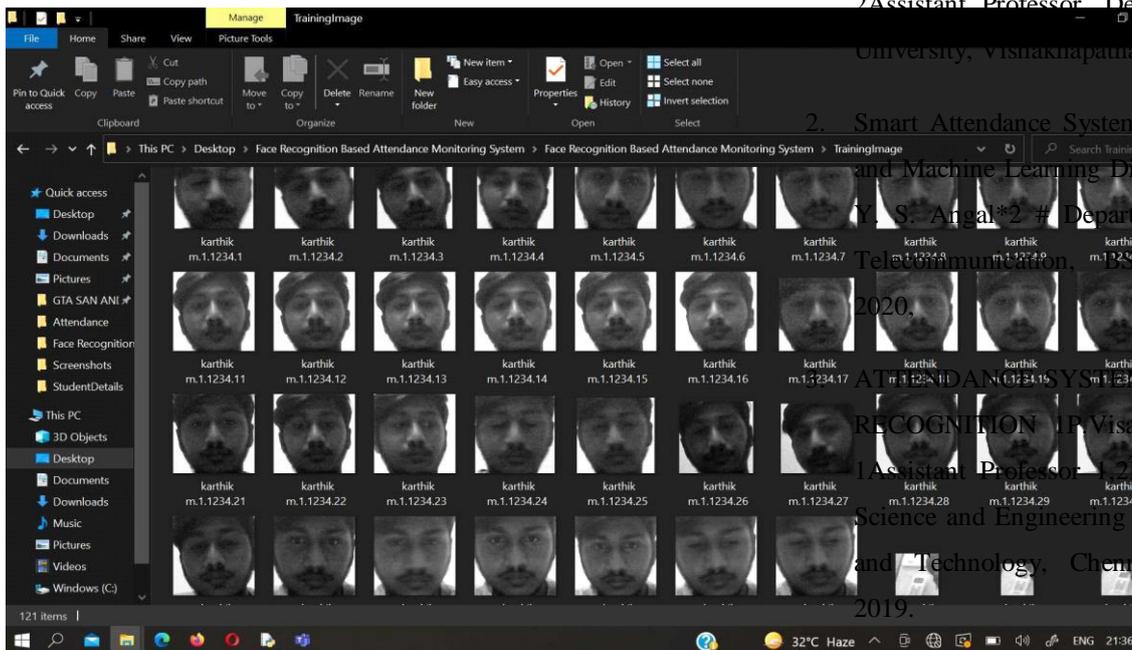


fig 3 : training images

VI. Conclusion

This system aims to make a good category group action system mistreatment face Recognition techniques. The projected system are going to be ready to mark the group action via face Id. It will notice faces via digital camera and so acknowledge the faces. once

VIII. BIOGRAPHIES:

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