Face Recognition Based Attendance Management System

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Abstract - In this modern era, the technology plays an important role . Face recognition technology is one of the most widely used . It can be used for either in security, authentication, identification, like in phones also this technology is used very widely to unlock the phone. Aside from having low accuracy compared to the detection of the iris and the recognition of fingerprints, it is widely used due to its transthoracic and transthoracic procedure. In addition, this technology is also used in various places like school, colleges, hospitals and many other places. This technology is generally used for schools and colleges to provide the facility to the teacher like to decrease the burden of the teachers because it is very time consuming to take the attendance with the help of the pen paper based so it is less time consuming. And there may be opportunities for the presence of a representative. Thus, the demand for this program is growing. The program consists of sections consisting of archival construction, facial recognition, facial recognition, attendance development. The software is created by pictures of students in the classroom. Face detection software are performed using the Haar-Cascade algorithm   respectively.

Keywords : *Face Recognition ,Haar-Cascade*

INTRODUCTION

The traditional way to mark school attendance is very hectic and it is very time consuming and hectic for teachers and it is also wasting the time of the teachers like it takes 5 to 10 minutes to take the attendance so due to this time is wasting from both the ends like from student side and teacher side also.. many education institutions use this type of technologies to save the time also like it uses the RFID which means that ratio frequency identification, iris recognition , fingerprint recognition, and . However, these online based. It sets up an important biometric feature, which is easily accessible and unobtrusive. Face-based systems that ignore various face shapes. So it is divided into the two steps like the first one is verification and other one is facial recognition.it is a matching process like it takes the some images of that person and verify it when the person show his face and after matching the face it marks the attendance.

Here the human face will be considered to mark the presence. Today, and if we are using todays era then this technology gain more popular and various places we are using this technology.

LITRETURE SURVEY

Authors have proposed a system of automatic existence. The model focuses on the way face recognition combined with Radio Frequency Identification (RFID) to identify registered students and count as they enter and exit a classroom. The software mantains the very records of the student who has registered in that software. The program just take the name and rollnumber of that student and student have to give some images in that software with the help of the camera and then they record some images of that student.. Initially, in this it asks from the student to enter the details of the student like admission number and name of

the student . the system automatically took to the classroom by taking a pictures of each student, , and looking for the same on the created website., Algorithms such as haarcascade and in this various technologies we are using like if we say that histogram oriented and svm (support vector machine) so these things we are using in this in this system.Various real-time situations such as measurement, brightness, closure and position are considered by the authors. Volume analysis was performed on the of if we are talking about t he psnr first of all let me introduce what is psnr so psnr gives some values and according to that it will give the values to the matlab gui. The authors of conducted research to in theis the algorithm provides the opencv like eigenface and fisherface 2.4.8 by comparing the Receiver Operating Characteristics (ROC) curve and using it on the presence system. If we are talking about the tests like we are doing some tests on it then it proves, then eigenface will gives us the better results and positive results.so if we are talking about the accuracy then the eigenface will gives us the better result like it gives around some 70 to 90percent In , the authors proposed a classroom approach using the facial recognition method by two algorithm like these are two transforms first transform name is discrete wavelet transform and other transform name is DCT means discrete cosine transform these algorithms are generally use for the facial feature extraction in this we are using RBF means that radial basis function so it is very good algorithm because it provides a good accuracy like it provides some 82 percent.

PROPOSED SYSTEM

All students must have to entering the fields like they have to enter the name and admission number all that stuff.and their photos will be recorded.the photos which were taken from the camera is stored in there respective database during the start of the class the video camera will be on and student have to sit in front of the camera and give some images with different face angles .after registering the all students in that software then the image will be compared from the database image and if the matching is found then the attendance will be recorded. In left there is an excel sheet will be generated in which the time and date is also mentioned in that and which students are present in the class and the student which are absent all were mentioned there.Generally this process will be divided into the four steps, 1. Training a data set in this photos are taken from the web cam with different face angles . 2. Then student have to just enter the roll number and name of that student and show some images of that students and it verifies that whether that student is recognized or not if they reecognised then they automatically mark the attendance. And it will occurs with the help of the haarcascade algorithm haarcascade_frontalface_defaultfile. haar features it is use for the feature extraction in this open cv provides the detect multiscale.so in this it just creats a rectiangular shape in the position of the face . it provides three parameter like scalefactor ,min neighbour and one more is min size.is showing how much an image can be reduced . The minneighbourst shows the quality of the faces.. minSize is used to that how small thing u want to detect like if we are showing our image from very far place so this minsize factor will help us.
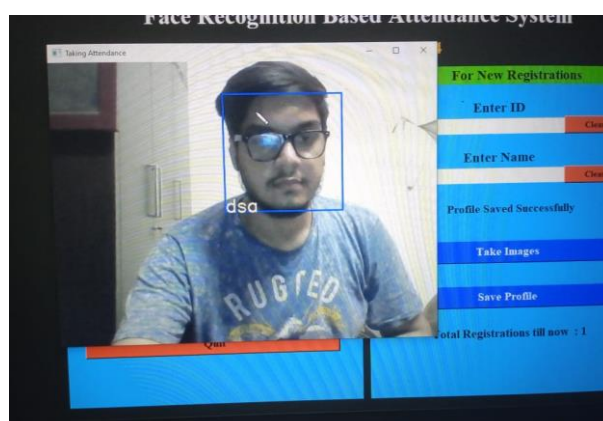
FACE RECOGNITION

It is divided in three parts first it will take images then it will train images then it verify that images. The training images are that images which are stored in our database and if some wrong person will trying to enter then from these images it recognised.so then these images are used to check . The face recognition used in this program is the lbp which is called as local binary pattern it is a type of histogram.in this a kist of various faces

are present in this lbp.in this lbp converting into the decimal digits and for every images there is an creative histogram is created . and when the histogram is created for every images then when the time of face recognising then these histogram will be matched with this new histogram if it matches then well and good otherwise it does not allow student . 4. After this all process if the face matches with the database image of that student then it will be create a excel sheet in which the time will be present there at what time the student will markes attendance at what date the attendance will marked and the name and roll number of that student and excel sheet will be maintained inside the student which are present and absent.
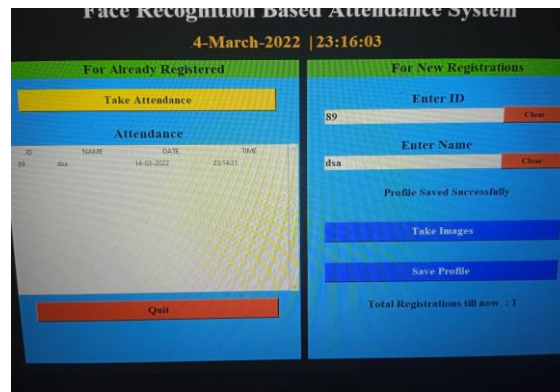
CONCLUSION

This program aims to build a successful classroom plan in this using the technique face recgnition it marks the attendance by using face detectionIt will detect faces with it by using the help of web cam and camera. Upon recognition,it will mark the attendance and update the record before this techonoly many institutions have to face some issues like the older method takes more time in this. Then this technology introduce it will ensure not only attendance it is also covering many loopholes which will occurred in older time. The structure of the proposed system has been developed designed to keep it straight and easy to do understand. Steps to take to achieve this the final step of the system that ensures student presence is updated appropriately and in a timely manner. The system can be easily accessed by anyone , anywhere the presence of students can be easily overlooked as well kept as smart as needed. The Droid Cam app will allow easy use of live video streaming feeds of the class and at the same time make recognition students. OpenCVPython will be used to access Haar Cascade algorithms and their required libraries training, recognition and pairing of photographs versus previously acquired images data sets and also voice system used for confirmation of attendance system.

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