



Automated Student Attendance System by Using Face Reorganization Technique

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Abstract: Students Attendance gadget is smart way of marking attendance. This work describes the methodology where attendance of students is taken with the aid of capturing the photograph of the school room and with the aid of detecting and recognizing the faces of college students and matching it with the database and marking attendance. This approach overcomes some of the drawbacks of the guide attendance system and additionally we can have a view of the file of attendance of students enrolled for that specific class.

Index Terms – Automated, Attendance, System, Student, Technology.

I. INTRODUCTION

Daily attendance marking is the frequent and essential undertaking in faculties and schools for checking the performance of students. Traditionally in each colleges and schools attendance was once taken manually, i.e trainer walks in and takes the attendance via calling out the roll numbers of college students and marking them existing or absent in the paper. Manually recorded attendance can be easily manipulated. Moreover, it is very tough to affirm students one by one in a massive classroom environment with allotted branches that whether or not the authenticated college students are certainly responding or not. All these negative aspects in the traditional attendance administration structures made us to think of making the whole method digital, hence we have come up with an automated device to do the same. There had been some bio metric structures developed recently for taking attendance such as iris attention and fingerprint recognition, we have made use of recent technology i.e face cognizance science to do the same. Facial cognizance or face awareness is often referred to as, evaluation of traits of a person's face image enter thru a camera. One of the strongest positive components of facial attention is that it is non-intrusive. The proposed machine consists of a mobile digicam to reveal the lecture room or workplace room. The data or pics received by the digicam are sent in the back-end to do all the processing such as face detection, segmentation and then comparing them with the facial features already extracted and if the fit is found, attendance is marked present or else it is marked absent, here we can view the document as to for one specific subject how many students were present and how many were absent. We can additionally view document primarily based on the date.

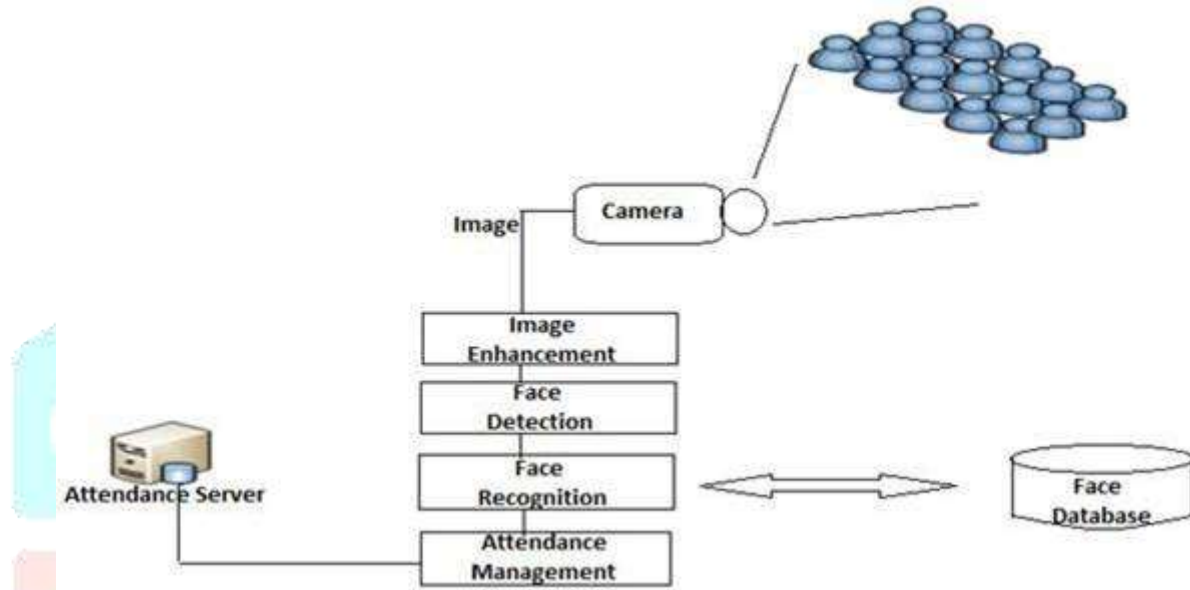
II. BACKGROUND OF PORPOSED STUDY

Daily attendance marking is the widespread and vital project in faculties and faculties for checking the performance of students. Traditionally in each colleges and schools attendance was once taken manually, i.e. trainer walks in and takes the attendance by calling out the roll numbers of university college students and marking them existing or absent in the paper. Manually recorded attendance can be without problems manipulated. Moreover, it is very challenging to confirm students one through one in a massive lecture room surroundings with dispensed branches that whether or now not the authenticated college students are honestly responding or not. All these negative elements in the normal attendance administration buildings made us to think of making the complete method digital, for this reason we have come up with an automatic device to do the same. There had been some bio metric constructions developed currently for taking attendance such as iris

interest and fingerprint recognition, we have made use of recent science i.e. face focus science to do the same. Facial attention or face recognition is often referred to as, evaluation of characteristics of a person's face photograph enter via a camera. One of the strongest high quality elements of facial attention is that it is non-intrusive. The proposed computing device consists of a cellular digicam to divulge the lecture room or administrative center room. The data or photos obtained via the digicam are sent in the back-end to do all the processing such as face detection, segmentation and then evaluating them with the facial elements already extracted and if the in shape is found, attendance is marked present or else it is marked absent, right here we can view the document as to for one specific subject how many students have been current and how many were absent. We can additionally view file particularly based totally on the date.

III. PROPOSED METHODOLOGY

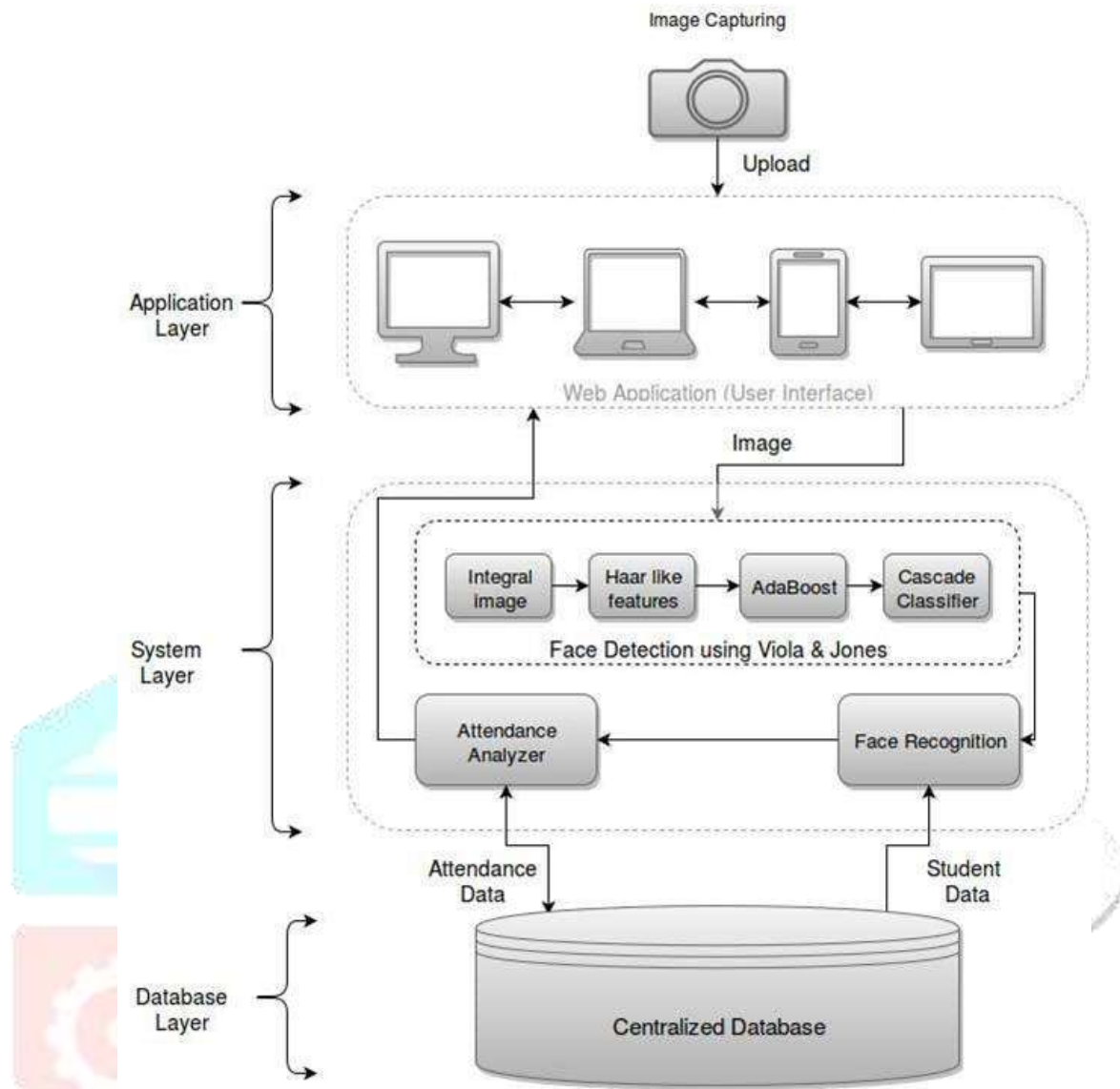
The proposed gadget introduces an computerized attendance device which integrates a web app and face awareness algorithms. Any gadget with a digicam can seize an photograph or a video and add to the server the use of webapp.



(Chart 3.1 Methodologies for Automated Student Attendance by Using Face Recognition)

In the above chart 3.1, the proposed methodology is shown. The received file undergoes face detection and face cognizance so the detected faces are extracted from the image's he extracted faces are compared with he saved faces of the database and on the profitable consciousness the database is up to date with the attendance and a sheet is generated and displayed on the net app. Initially the system is skilled that is the cropped pics are saved to the database and they endure detection and recognition. Further these records will be used to examine the detected pics in all the uploaded archives and mark the attendance. In this the capturing of the video or photo will be performed using a device and the captured file is uploaded to the server the use of internet app. The file uploaded to the server undergoes face detection the use of Viola and Jones algorithm. The frames received are checked for the faces and these are cropped for similarly recognition. The detected images will undergo correlation with the skilled images of the databases. By this the detected pix are now recognized. After their cognition manner the students recognized are searched in the database and their attendance is marked.

IV. LAYERS OF AUTOMATED ATTENDANCE SYSTEM BY USING FACE REORGANIZATION



(Chart 4.1 Layers of Automated Student Attendance by Using Face Recognition)

4.1 Application Layer: There is the taking pictures phase, in this the consumer captures the pics of classification the usage of a android app that two runs on nearly all structures and upload the file to the server. Authentication is supplied to the users. The app is used to upload captured pics as well as to view the attendance.

4.2 System Layer: This is the layer where the processing is done that is the detection and focus phase at the server side. Cascade points are used to detect faces from the images. The extracted points are passed thru a trained classifier which detects the faces from the objects. These detected faces are cropped and exceeded to the consciousness module the place the snap shots in the databases acknowledges the faces.

4.3 Database Layer: This is a layer the place extracted aspects are stored in the pkl documents and in the attention module the crew image is in contrast with the educated snap shots and if suit is observed attendance is marked existing for that unique scholar whose face used to be matched.

III. CONCLUSION

In this device we have implemented an attendance machine for a lecture by means of which lecturer or instructing assistant can record student's attendance. It saves time and effort, especially if it is a lecture with large wide variety of students. Automated Attendance System has been expected two for the purpose of lowering the drawbacks in the normal (manual) system. This attendance gadget demonstrates the use of photo processing techniques in classroom. This system can now not solely purely help in the attendance system; however additionally enhance the goodwill of an institution. Automated Attendance System has been envisioned for the purpose of lowering the blunders that show up in the traditional (manual) attendance taking system. The intention is to automate and make a system that is beneficial to the employer such as an institute. This approach is secure enough, dependable and on hand for use. No want for specialized hardware for putting in the system in the office. It can be built using a digital camera and computer.

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