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ATTENDANCE MONITORING SYSTEM USING FACE DETECTION &FACE RECOGNITION

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Abstract - *The attendance system will remain primitive. Where the teacher calls the name of students to mark their attendance. This system can be easily manipulated .in order to overcome the issues biometrics of the students can involved. this method of camera is fixed in the class room and its capture the images then the faces are detected. To stored the dataset and capture the images. Otherwise the faces is recognize and marking the attendance.*

Key words:Face detection, face recognition, camera, attendance system, data base

I.INTRODUCTION

Attendance monitoring system is very important process in almost all the organization and institutions. Now a days there are two types of systems are available first is manual and second is automated. The mostly used method for taking attendance is totally automated based. It have used python high level language and currently advanced level of open CV source to used in this system. the objective this project is to perfom face recognition in order to produce the details name the student. Who attend class and in order to link the attendance to the subject. The data is already to save in the memory. To detect the face and recognition the face and marking the attendance.

II.LITERATURE SURVEY

The students fingerprints area unit scanned by a code. the students impress the fingerprint against the scanner the system compares the new fingerprint patterns and it will be connecting to the various points for the fingerprint to the database. A match is recorded as knock[1].

The finger print module then we are taking the sample of there are four finger print and they are detected along the images when the user that should keep finger on the module and it will be scanning and compared is already stored in the memory the person whose finger print is matched their will be marking present and not matching the sms send to his parents [8],[25].

When the Student images are stored the database. the raspberry pi camera module is placing the student entering in the class room. the USB camera module is capture the student image. the system will automatically update the student presence in the class to the students database and sends message to guardians of absentees and also to head of department[2],[3],[5].

The laptop of web camera is captured the image. Each student faces are stored to the database. The image of the students for further process. then detected face images are compared with the image of students database. And the recognition process. If the image is matched with the database. The student is marked as present. The student attendance report will send to student on mail account[9],[10]

The face recognition is captured the students image. The students entering in the classroom or everybody already occupies in the classroom. The students attendance automatically recognized.[11].

The student data base is collected and store to the pi. The camera will be connected to the raspberry pi module camera will be placed in front of the class. It captures the image of the student. Who are present in the class is used for face detection. Then the detected face is compared with the stored data of every student. Then recognized and mark the attendance[6].

The camera will now capture your image. If the image detected matches to the sample image for the database. The attendance marked as present on the LCD. if the camera fails the fingerprint scanner will be activated and the attendance will be marked present[1].

The system that can be automatically capture students attendance by flashing their student card at the RFID reader to entering the class room. The student ID is instantly capture by the reader after that the data is sent to the online server for recording.

The system help to automatically compute the percentage of attendance of each individual student. The GUI of user list function for adding and removing the students personal details[4],[20],[24].

The student to mark his attendance. After recognizing the faces of the students. The face information of students are updated in to an MySQL database. The data of present student are then sent to server computer and stored the authorised person can see it[7].

Biometric method is used for the eyeball detection. This method eyeball sensor is used. Also senses the iris. The individual of eyeball is stored in the database. The image of eyeball in database. the attendance are marked. This setup is practically not possible[10]. Where the iris of students are scanned. Then stored to the database retrieved for the comparison and attendance is managed automatically in the server[15].

Where the each students voice is recognized from its vocals. The data is stored to the database. The unknown speaker is matched against a database of known speaker is result. The best matching speaker is identified. The computer system which spontaneously identifies and verifies the sample of persons voice. The stored sample voice is matched with the current voice of speaker for voice verification[12]. voice recognition method is used in this system and warning letter is send to the parents[13].

The students faces are pre stored in the databases. Raspberry pi camera capture the student face and compared to the database image. If it is matched the student attendance register with time. The absentees faces will be send to the authorized mail id.[14].

The raspberry pi camera module is placed for student entering in the classroom. Camera module is capture the video form. Which contains the many frames from which any one of the frames can be used for face recognition and marking the attendance[15].

Which obtain the faces images capture by camera. When face recognize operation is started and find out the nearest matched images from SD card. After completion of your time amount a file generated with student details like roll number, date, time, present or absent. someone will absent the message send to the parent mobile numbers using GSM. This system provides accurate attendance information of the students in easy and efficient[16].

The student will carry a phone having GPS system which sends the GPS location of campus latitude & longitude values are sent to the raspberry pi module. The processing the data which received from user mobile. The raspberry pi module the students is seating in classroom and GPS coordinate already stored for classroom database with specific range will match with student. If the marked as present or absent. The students are absent in class the sms sending to the parents[17].

Finger print reader that records persons fingerprint data and the reader is connected to PIC and will convert the data to the XBee module. Which is stored all the datas of students. Students are needed to press switch and scan fingers to mark their attendance. If attendance marked successfully LCD will then show their results[18].

A portable hand held finger print scanner is passed to each students and their finger print is recorded. It is then communicated to the computer via USB interface. Using GUI the faculty can add a student remove a student and also import or export data from the portable scanner.[19].

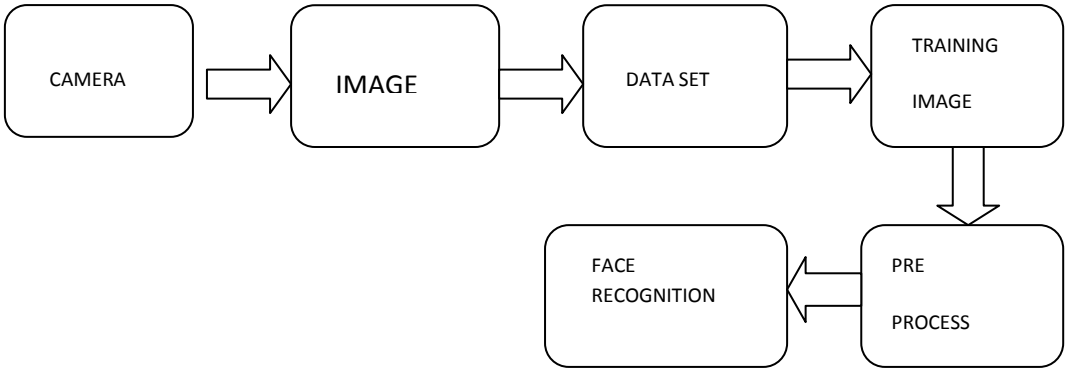
This attendance system for using of employers and students in general. The system make attendance individual in time along with data information thumb impression will be taken as signature for the system entry [21].

The captured the images are stored in jpeg format and then ear part in cropped from the images. The images are include the following operations are edge detection and timing. After this process are completed the whose ear images are matching from the stored images then show the result [22].

This system takes the attendance with the help of fingerprint sensor and all the records are saved the computer server. Fingerprint sensors and LCD screens are placed for entrance on the class room. In order to mark the attendance. The student has to place the finger print sensor on identification students attendance record is updated in the database is notified to the LCD screen[23].

III.PROPOSED METHOD

BLOCK DIAGRAM



WORKING

The proposed automated attendance management system is based on face recognition algorithm. When a person enters the classroom his image is captured by the camera at the entrance. Face region is then extracted and pre-processed for further processing. As not more than two person can entire the class room at a face detection is less work. Face recognition proves to be advantages then other system has discussed to analysis the face recognition and marking the attendance**.**

IV.CONCLUSIONAND FUTURE WORK

Automated attendance system based on face recognition technique proves to be time saving and secure. In future when the student is absent then a message can be automatically sent to their parents and also the same system could used for hostel attendance monitoring.

REFERENCES

1. Gadekar, Dipak, SanyuktaGhorpade, VishakhaShelar, and Ajay Paithane. "IoT BASED ATTENDANCE MONITORING SYSTEM USING FACE AND FINGERPRINT." (2018).
2. Pasumarti, Priya, and P. Purna Sekhar. "Classroom Attendance Using Face Detection and Raspberry-Pi." International Research Journal of Engineering and Technology (IRJET) 5, no. 03 (2018): 167-171.
3. Bhattacharya, Shubhobrata, Gowtham Sandeep Nainala, Prosenjit Das, and AurobindaRoutray. "Smart Attendance Monitoring System (SAMS): A Face Recognition Based Attendance System for Classroom Environment." In 2018 IEEE 18th International Conference on Advanced Learning Technologies (ICALT), pp. 358-360. IEEE, 2018
4. Soniya, V., R. Swetha Sri, K. SwethaTitty, R. Ramakrishnan, and S. Sivakumar. "Attendance automation using face recognition biometric authentication." In Power and Embedded Drive Control (ICPEDC), 2017 International Conference on, pp. 122-127. IEEE, 2017.
5. Uma, K., S. Srilatha, D. Kushal, A. R. Pallavi, and V. Nanda Kumar. "Biometric Attendance Prediction using Face Recognition Method." Indian Journal of Science and Technology 10, no. 17 (2017).
6. Kumar, P. Prudhvi Kiran Ravi. "Image Processing Based Student Attendance System using Raspberry PI." International Journal Of Engineering And Computer Science 6, no. 4 (2017).
7. Katara, Arun, Mr Sudesh V. Kolhe, Mr Amar P. Zilpe, Mr Nikhil D. Bhele, and Mr Chetan J. Bele. "Attendance System Using Face Recognition and Class Monitoring System." International Journal on Recent and Innovation Trends in Computing and Communication 5, no. 2 (2017): 273-276.
8. Chandramohan, J., R. Nagarajan, T. Dineshkumar, G. Kannan, and R. Prakash. "Attendance Monitoring System of Students Based on Biometric and GPS Tracking System." International Journal of Advanced engineering, Management and Science 3, no. 3 (2017).
9. AnusayaTantak,ArchanaSudrik,Archanakale,Rutuja Mehere,Prof.Ms.S.S.Pophale."Face recognition for E-attendance for student and staff(IOSR-JCE)PP 89-94,(mar-apr 2017).
10. Varadharajan, E., R. Dharani, S. Jeevitha, B. Kavinmathi, and S. Hemalatha. "Automatic attendance management system using face detection." In Green Engineering and Technologies (IC-GET), 2016 Online International Conference on, pp. 1-3. IEEE, 2016

11. Lukas, Samuel, Aditya Rama Mitra, RirinIkanaDesanti, and Dion Krisnadi. "Student attendance system in classroom using face recognition technique." In Information and Communication Technology Convergence (ICTC), 2016 International Conference on, pp. 1032-1035. IEEE, 2016.
12. Kaur, Jasneet, and Sukhdeep Kaur. "A Brief Review: Voice Biometric For Speaker Verification in Attendance Systems." Imperial Journal of Interdisciplinary Research 2, no. 10 (2016).
13. Uddin, Md Nasir, M. M. Rashid, and M. G. Mostafa. "Development of Voice Recognition for Student Attendance." Global Journal of Human-Social Science Research (2016).
14. D.Santhipriya,Mr.umasankar,"modern attendance system using raspberry pi".international research journal of engineering and technology(2016)
15. Husain, Imran, Bablu Kumar Choudhary, Shubham Sharma, Sachin Sontakke, and Imran S. Khan. "Attendance system based on face recognition by using raspberry Pi." International Journal of Research 3, no. 3 (2016): 22-26.
16. Gaddam, SarathChandu, N. Ramesh, and H. Dhanekula. "Face Recognition Based Attendance Management System with Raspberry Pi 2 using Eigen Faces Algorithm." ARPN Journal of Engineering and Applied Sciences 11, no. 13 (2016).
17. Prasad, Sanjana, P. Mahalakshmi, A. John Clement Sunder, and R. Swathi. "Smart surveillance monitoring system using Raspberry Pi and PIR sensor." Int. J. Comput. Sci. Inf. Technol5, no. 6 (2014): 7107-7109.
18. Said, MA Meor, M. H. Misran, M. A. Othman, M. M. Ismail, H. A. Sulaiman, A. Salleh, and N. Yusop. "Biometric attendance." In Technology Management and Emerging Technologies (ISTMET), 2014 International Symposium on, pp. 258-263. IEEE, 2014.
19. Basheer, KP Mohamed, and C. V. Raghu. "Fingerprint attendance system for classroom needs." In India Conference (INDICON), 2012 Annual IEEE, pp. 433-438. IEEE, 2012.
20. Kassim, Murizah, Hasbullah Mazlan, NorlizaZaini, and Muhammad KhidhirSalleh. "Web-based student attendance system using RFID technology." In Control and System Graduate Research Colloquium (ICSGRC), 2012 IEEE, pp. 213-218. IEEE, 2012.
21. Ujan, Imran Anwar, and Imdad Ali Ismaili. "Biometric attendance system." In Complex Medical Engineering (CME), 2011 IEEE/ICME International Conference on, pp. 499-501. IEEE, 2011
22. Jawale, Jitendra B., and Anjali S. Bhalchandra. "Ear based attendance monitoring system." In Emerging Trends in Electrical and Computer Technology (ICETECT), 2011 International Conference on, pp. 724-727. IEEE, 2011.
23. Taxila, Punjab. "Development of academic attendance monitoring system using fingerprint identification." IJCSNS 9, no. 5 (2009): 164.
24. Silva, Francisco, Víctor Filipe, and António Pereira. "Automatic control of students' attendance in classrooms using RFID." In Systems and Networks Communications, 2008. ICSNC'08. 3rd International Conference on, pp. 384-389. IEEE, 2008.
25. Kadry, Seifedine, and Khaled Smaili. "A design and implementation of a wireless iris recognition attendance management system." Information Technology and control 36, no. 3 (2007)