INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

INTERNATIONAL STANDARD SERIAL NUMBER INDIA

Impact Factor: 7.542

Android Application for Attendance using Face Recognition

Shubhangi B. Agale [1], Himangi V. Mahajan [2], Rohini R. Shinde [3], Kajal V. Palde [4], Puja A. Chavan [5]

UG Student, Dept. of Computer., SVIT, Nashik, Maharashtra, India[1,2,3,4]

Assistant Professor, Dept. of Computer, SVIT, Nashik, Maharashtra, India[5]

ABSTRACT: The goal of this project is to create the automated attendance system using face recognition. When a user takes a picture of a human, our application searches related information in a database using image recognition. Since a user of the application can take a picture under different circumstances, the used image recognition algorithm had to be invariant to changes in illumination and view point. The execution of the Algorithm what to run on the mobile phone, so there was need for lightweight image recognition algorithm. A couple of these invariants can be grouped as a feature vector, identifying an image uniquely. By computing the distances between the vectors of an unknown image and known database images, a best match can be selected. Android is flexible and provides many tools for developing applications. This allowed to develop our museum guide application in a limited amount of time. We explored, evaluated and used many of Android's possibilities.

KEYWORDS: Authentication, Efficiency, Attendance, Android, Security, Verifiability

I. INTRODUCTION

In today's networked world, the need to maintain the security of information or physical property is becoming both increasingly important and increasingly difficult. From time to time we hear about the crimes of credit card fraud, computer breakin's by hackers, or security breaches in a company or government building. In most of these crimes, the criminals were taking advantage of a fundamental flaw in the conventional access control systems: the systems do not grant access by "who we are", but by "what we have", such as ID cards, keys, passwords, PIN numbers, or mother's maiden name. None of these means are really define us. Recently, technology became available to allow verification of "true" individual identity. This technology is based in a field called "biometrics". Biometric access control are automated methods of verifying or recognizing the identity of a living person on the basis of some physiological characteristics, such as fingerprints or facial features, or some aspects of the person's behavior, like his/her handwriting style or keystroke patterns. Since biometric systems identify a person by biological characteristics, they are difficult to forge. Face recognition is one of the few biometric methods that possess the merits of both high accuracy and low intrusiveness. It has the accuracy of a physiological approach without being intrusive. For this reason, since the early 70's (Kelly, 1970), face recognition has drawn the attention of researchers in fieldsfrom security, psychology, and image processing, to computer vision.

II. LITERATURE REVIEW

There are many attendance management systems the author have to propose the attendance management system using face recognition. It aims to develop the facing attendant system to be more effective and the mechanic of the system which students can easily verify. The experiment of this research is to find the way to recognize the face by using the technique of Android Face Recognition with Deep Learning which can correctly recognize up to 97%. The database is connected to Attendance Management System web server by using cloud storage. The result on screen in real time on the application so that students can verify and check data. In this research employed Haarcascade for face detection [1] combined with LBP for face recognition. This strategy can avoid the occurrence of queues during attendance process. However, the attendance systems that use this strategy had a low accuracy on face recognition as reported that were 53.33%and 60% using principle component analysis (PCA) and Euclidean distance and linear discriminant analysis (LDA), respectively. The system was applied Google Cloud This research apply android face recognition which face recognition algorithm that is deep learning technique to analyse face of student for that it use the OpenCV method of android. [3]. Khaled Mohammed implemented real-time face recogniton system using the

multi-scale structural similarity index and it compare the all approches like MS-SSIM and heer cascade to show promising result it is very complicated . A multimodal approach for student identification combined the power of both the traditional RFID approach and multiscale structural similarity (MS-SSIM) index. Capturing the authentic face variability from a sequence of video frames has been considered for the recognition of the faces and resulted in system robustness against the variability of facial features, Experimental results indicated an improvement in the performance of the proposed system compared to the state-of-the-art approaches at a rate between 2% and 5.[2]. Mohad H. Wahab gives the review on attendance system and some application of techniques such as biomatric, barcode, smartcard and RFID in which face recognition is best ass a biomatrics. This ongoing research would be applicable in collecting student attendance in classroom using active RFID technology. Active RFID is a technology that uses a radio wave to identify a physical object automatically where an active RFID tags have an on-board power source from battery, solar and electronics to perform specific tasks. It has an on board power supply to transmit it data to a reader. Generally active RFID transponder have specificity greater read range than passive RFID that have less read range due to it does not have an internal power source.[3]. There is a automatic attendance monitoring system which keeps record of student present in the class with in time and out time using webcam it takes extra hardware cost [1] . Puja Chavan implemented the scene text detection and recognition from blurry natural video scene extend an end-to-end text detection and recognition solution to the video domain. By considering the pros and cons of different methods for Video Scene Text DE blurring we can choose the effective one. The existing system fails to deblur blurry videos in dynamic scenes[4].Electroencephalogphy data, the emotional response of terminally ill patient to a music theraphy interventionina randomized controll trial using image processing it conclude the music list for patient[5].

III.EXISTING SYSTEM

Face recognition technology is well advance that can applied for many commercial applications such as personal identification, security system, image- film processing, psychology, computer interaction, entertainment system, smart card, law enforcement, surveillance and so on. Face recognition can be done in both a still image and video sequence which has its origin in still-image face recognition[6] .

A. *Drawbacks of existing system:*

- **Less User Friendly:** The existing system is not user friendly because the retrieval of day-to-day activities data/records is very slow and records are not maintained efficiently and effectively.

- **Lengthy time:** Every work is done manually so we cannot generate report in the middle of the session or as per the requirement because it is very time consuming.
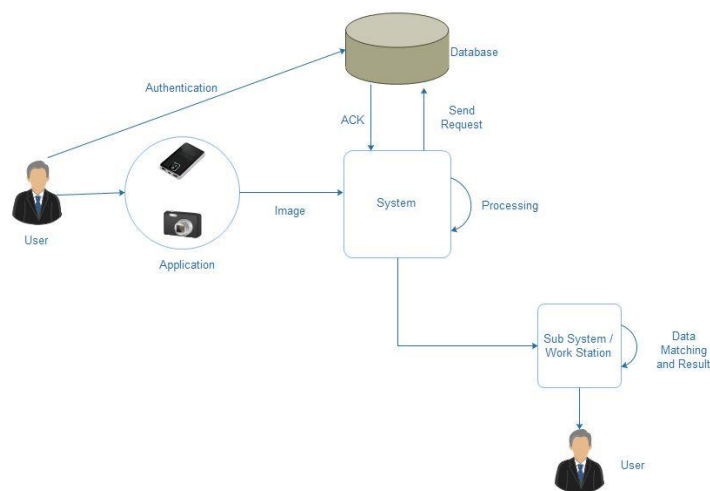
IV. SYSTEM ARCHITECTURE

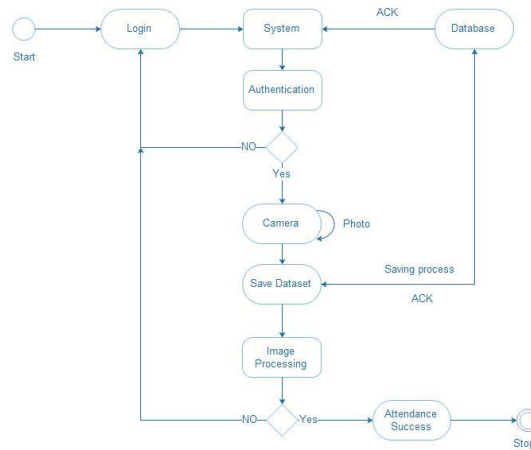Fig.1: System Architecture Diagram

V. ACTIVITY DIAGRAM

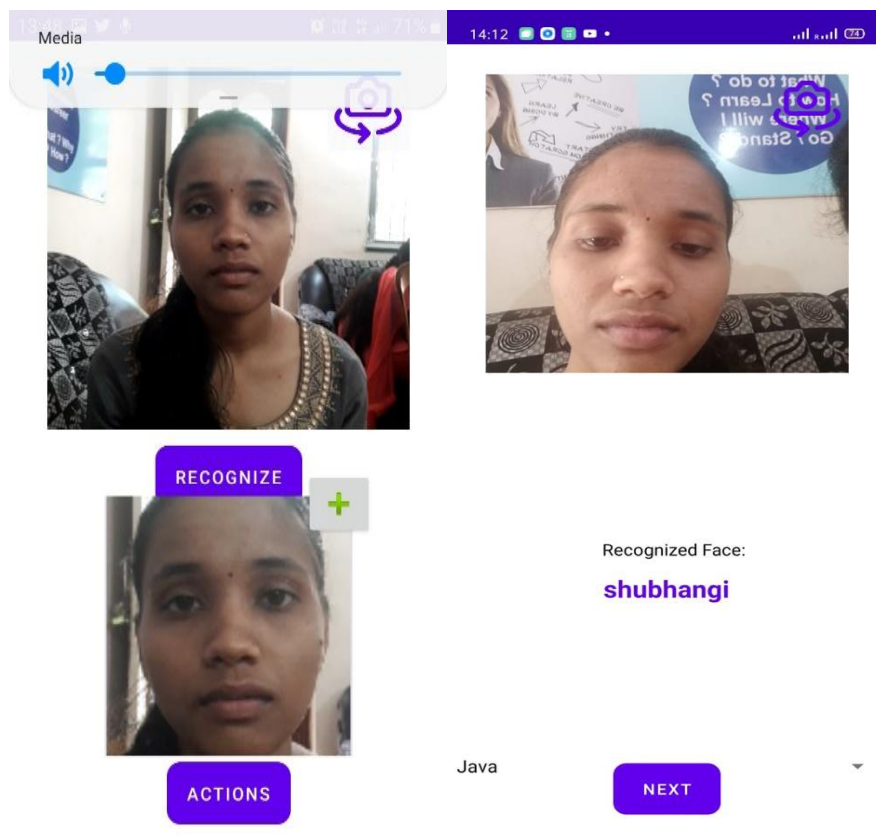Fig. 2: Activity Diagram.
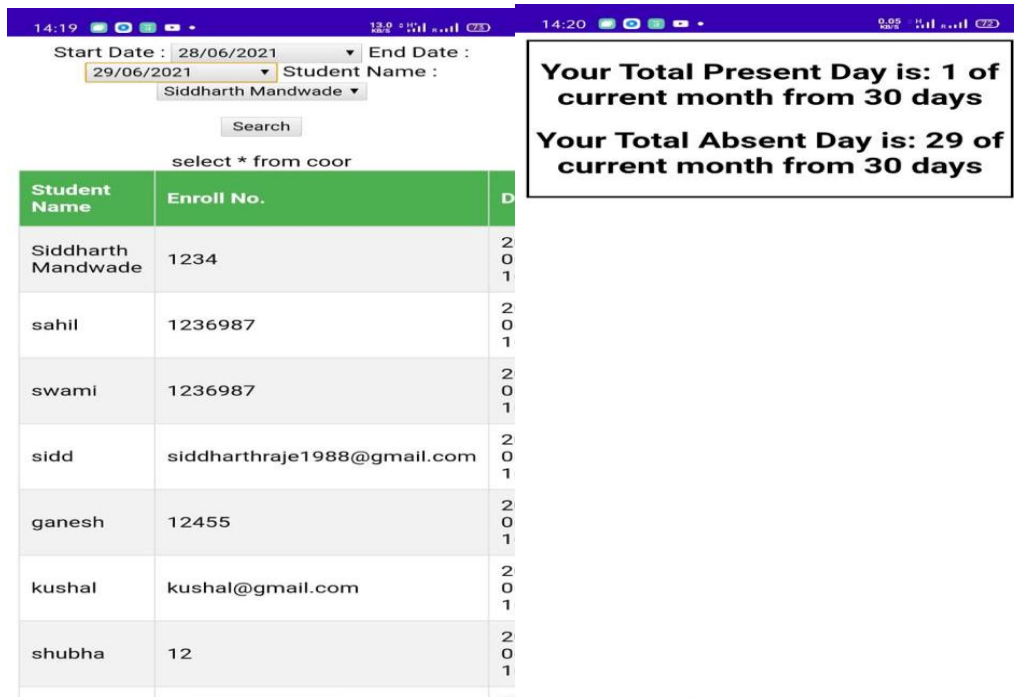
VI. RESULT

Fig. 3: Face Recognization.

Fig. 4: List and Count of present Student.

VII.   CONCLUSION

We conclude image processing based Student Attendance system using Mobile Camera using Android studio as software for image processing and attendance is provided to the teachers through the mobile application. We can track the attendance of the students by using the language python, which is very easy to install and is open source software and can be used in real time application in a quick manner. In this project we have shown the capturing of the students, in the class by using camera of mobile. This proposed system reduces the possibilities of proxy attendance of the students, who were not present in the class and reduces the time. The input image is given to the system for image processing system compare the faces detected by camera with photos stored in thee database. System creates the attendance sheet of present student.

REFERENCES

1.   Puja A. Chavan, "Augmented Reality for Information Kiosk", in International Institute for Science, Technology and Education (IISTE) Computer Engineering and Intelligent systems , ISSN 2222-1719 (Paper) ISSN 2222-2863 (Online) Vol. 5, No.2, 2014.
2.   P.Padma D.Amudhan, V.Narendhiran, N.Pavithra, S.Ramya K.S.Rangasamy"Automatic Attendance Management System".
3.   Mohd H. Wahab, Herdawatie A. Kadir, Muhammad N. M. Y. Rahmat Sanudin and Mohd R. Tomari "Class Attendance System using Active RFID" FKEE Compilation of Papers 2009.
4.   Dulyawit Prangchumpol "Face Recognition for Attendance Management System Using Multiple Sensors" IOP Conf. Series: Journal of Physics: Conf. Series 1335012011 (2019).
5.   Khaled Mohammed, A.S. Tolba, Mohammed Elmogy "Multimodal student attendance management system (MSAMS)" Ain Shams Engineering Journal 9 2917-2929 7 November 2018.
6.   Meet Patel, Sharmishta Desai "Music suggestion according to emotion for paralyzed and bed rest patient using EEG Signals", Journal of SeyBold report, July 2020,1533-9211.
7.   Puja A. Chavan,"Video Scene Text Deblurring Using TMD & ER Text Localization", in International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET) , ISSN No.: 2319-8753, Volume 5, Issue 7, pp. 12732-12737, July 2016.

INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

📱 9940 572 462　 6381 907 438　✉ ijircce@gmail.com

Scan to save the contact details