Online Attendance System using Face Recognition

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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, Andriod, Securit y, Verifiability

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 fields from security, psychology, and image processing, to computer vision.

1. PURPOSE

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. Over past 30 years, many researchers have proposed different face recognition techniques, motivated by the increased number of real world applications requiring the recognition of human faces. There are several problems that make automatic face recognition a very difficult task. However, the face image of a person inputs to the database that is usually acquired under different conditions. The important of automatic face recognition is much be cope with numerous variations of images of the same face

1.   1EXISTING 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.

2.   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.
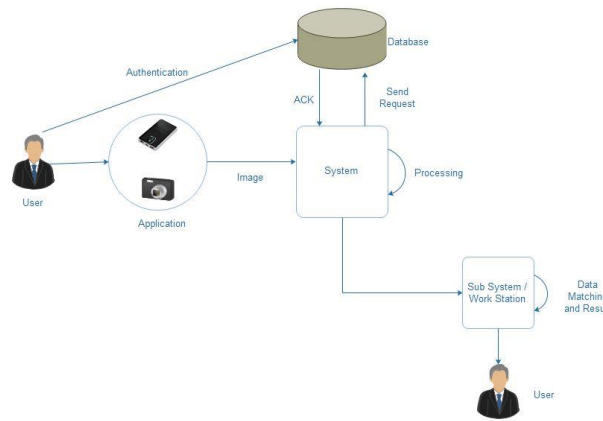
3.   SYSTEM ARCHITECTURE

Fig -1: System Architecture Diagram

ADVANTAGES

1.   Easiest method to keep track of attendance.
2.   Provides accurate attendance of the students.
3.   Proxy attendance is completely eradicated by this system.
4.   There are no physical interactions with the system.
5.   Outsiders can be easily detected.
6.   Very feasible and time saver application.
7.   Manual work can be avoided.
8.   Easy to list out detent students.

SEQUENCE DIAGRAM
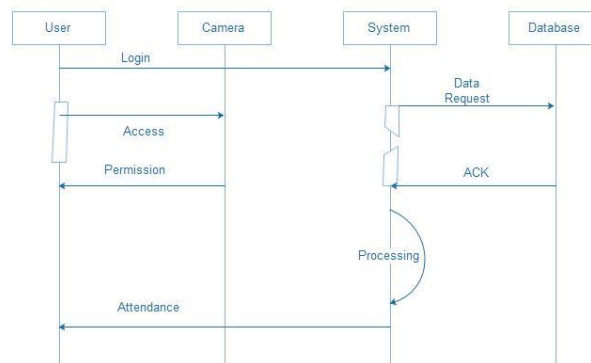
APPLICATIONS

1.   The system can be used in educational institutes, Universities, courses etc.
2.   It can also be used in Government offices.
3.   IT companies.
4.   It can be use all the places where attendance is mandatory like hospital staff, company staff etc.

4. 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 give 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.

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