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Attendance Management System by Image Capture: Review

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1) **Abstract -** In today's world technology took over all the traditional methods changing schedule which are time consuming and more complex. At college levels not only students but also a teaching staff faces some basic critical issues related to maintaining data also managing schedule etc. Attendance management system is a module developed for daily attendance of lectures and Students in school, colleges and institutes. It facilitates to access the attendance information of a particular student in a particular class. This information is added up on the website by the administrator who will have full rights of the database. This websites will also have facility to keep the records of the attendance of the lectures. The world is going digital. Because of this, the web is growing day by day and has become a huge source of information. Looking up for the precise and relevant information and extracting it from the web has now become a time consuming task. This module entitles "Attendance Management" is mainly focused on the use of this website for the students and the staff as both.

1. INTRODUCTION

Maintenance of student attendance is the most difficult task in various institutions. Every institution has its own method of taking attendance such as using attendance sheet or by using some biometric methods. But these methods consumes a lot of time. Mostly student attendance is taken with the help of attendance sheet given to the faculty members. This consumes a lot of work and time. We do not know whether the authenticated student is responding or not. Calculation of consolidated attendance is another major task which may cause manual errors. In some other cases the attendance sheet may become lost or stolen by some of the students. To overcome such troubles we are in need of automated attendance management system. There are many biometric methods available in which the basic concept is same. One of them is the finger print identification. In this method first the finger prints of the individuals are collected and stored in the database of finger print sensor. For this first we have to collect the finger print of each individual. This is done only one time or when a new entry has to be added in the database. Then the obtained finger prints are compared with the images in database. If the two finger prints are same the attendance is marked as present. But this method has some of the disadvantages. They are for this method the students have to wait in queue which ultimately consumes a lot of work. If once the finger is not kept correctly or if the fingerprint is not recognized properly then the attendance will be marked as absent. So this method is not most efficient. The other biometric method available is eye ball detection. In this method eyeball sensor is used. It senses the blinking rate of eye ball and it also senses the location of iris. In this method first the eye ball or iris of each individual is stored in the database. Usually the eye ball is not same for all persons. It has some difference. The obtained image of eye ball is then compared with the eye ball in the database. If it is same then the attendance is marked. But practically it is not possible. As there are large number of students in the class eye ball detection of each individual is not possible. These disadvantages are overcome with the help of automated attendance management which does not consumes time and the data is not lost until we erase the data this method is most efficient in these days.

2. LITERATURE SURVEY

2.1. Iris Based Attendance System

In 2010, Seifedinekadry and Mohamad Smaili Has proposed one system. In this paper, a wireless iris apperception attendance management system is designed and implemented utilizing Daugman's algorithm (Daugman, 2003). This system predicated biometrics and wireless technique solves the quandary of spurious attendance and the trouble of laying the corresponding network. It can make the users

attendances more facilely and efficaciously. In this paper, RF wireless technique is being utilized for employee identification. It is too sumptuous. Main quandary in this system is very short distance as well as for every class student has to stand in long line of iris scanner for marking presence. [2]

2.2 RFID Based Attendance System

BIS presents a commercial system predicated on RFID for attendance management for schools and colleges. The system can send SMS and email alert to parents/ guardians of the students automatically. The student will register at the gate by physically contacting RFID contrivance with their RFID tag and send the data to BISAM server in the school. The server will process the attendance data and send an SMS to the parents/guardians of the absentee student through BISAM SMS gateway server. The system withal has time manager software for managing employee's attendance and HR cognate functionalities. The quandary in this research is there is verification is not done. So proxy attendance may be marked. [3]

2.3. Computerized Attendance system

In 2008, nucleus research proposed the utilization of a computerized attendance system, which can eliminate human involution, human data ingress mistake, perpetual work. This system is going to increment productivity, reduced payroll error, and reduced payroll inflation, reduced overtime, retirement of legacy systems, elimination of paper costs, and which can provide all the reports on demand. In this system, faculty has to take attendance manually, only these records have to be entered into the computerized system. But in this additionally, the quandary of data ingression mistake may occur. [4]

3. PROPOSED PLAN OF WORK

Recognition of a face means to identify that particular face from a record of face Id on a database. The system takes a video in which every frame every subject, and those images are stored in our multimedia database. Same as in face detection, there are many algorithms used to identify a face. Our system implements benefit of Eigen faces to identify a face. However the algorithm is very fast and efficient, and can compare only to images. When a face is captured during the face detection phase, it is converted into its equivalent gray scale. The same conversion is applied to faces on our multimedia image database. Whenever we successfully identify a face, a copy of that face is stored in the database of faces for that subject for any changes or processing. Together with the image we store the time, date and other factors when this image was taken. On each consequent scan for a subject, the recognition module starts comparing images from allotted database, sorted by date in descending order. This approach was chosen since the latest image of a subject on our database is most likely to be more similar to the current captured image. The detected face checked with database on successful comparison the details the attendance is marked and associated information with that record our retrieved and passed to next component.

3.1. System Requirements –

Technology Used –

Language – PHP, HTML, CSS, JavaScript
Front end – HTML, CSS

Backend – PHP Version (7.0), JavaScript Version (ES8/ES2017)

Database – MySQL

System Requirement –

Minimum RAM – 256 MB

Hard Disk – 40 GB

Processor – Intel Pentium 4

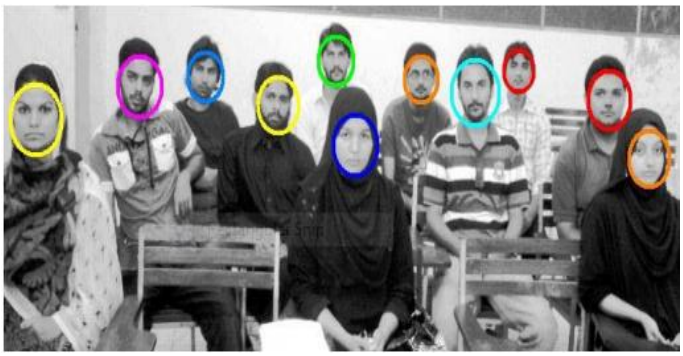
Operating System – Windows XP Service Pack 2

Camera – Web Cam or Portable camera

4. METHODOLOGY

Background Subtraction: Background subtraction is one of the most common method in all detection techniques. Generally the background of a place remains static. Hence the background is subtracted only once in a set of image. For the purpose of accurate face detection we go for background subtraction. Then this is checked for images under different conditions. Then the accuracy of detection under different conditions is tested. Background subtraction is done for both the gray scale image as well as binary image. But most commonly the image is converted to gray scale and then the background is subtracted. This is

done to get good accuracy in detecting faces. Face detection and cropping: The image after background subtraction is used for face detection. In face detection the face of images are marked with the help of rectangle or circle. The face detected after background subtraction is accurate as compared to the face detected from an image which is not background subtracted.



The detected face is then cropped. Finally all the face of individuals are detected and cropped from the image. Each cropped image is taken for the comparison of images in database.

Fig -1: Name of the figure

5. CONCLUSIONS

The Attendance management System is developed using PHP, HTML, CSS, BOOTSTRAP, fully meets the objectives of the system which it has been developed. The system has reached a steady state where all bugs have been eliminated. The system is operated at a high level of efficiency and all the users associated with the system understand its advantage. The system solves the problem. It was intended to solve as requirement specification. While a time and attendance system is not likely to ever guarantee employment law compliance, the data collected and available through your system can help ensure you have the required information to comply with labor regulations regarding proof of attendance. The system can be linked with the school's central database so that the student registration phase can be eliminated and the bio-data can be directly from the database. The university should acquire the fingerprints of all students at admission. The components could be chosen and assembled in a commercialized manner. The unit could have the web camera a small LCD screen and a keypad all attached to the wall of each classroom. The system could be modified into a web based system so that reports could be generated anywhere. The system could be adapted for human resource use i.e. attendance, pension, payroll processing, etc.

6. REFERENCES

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