

FACE IDENTIFICATION BASED ATTENDANCE

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ABSTRACT:

In this digital world, face recognition system plays an important role in almost every sector. Traditionally, the attendance of scholars has been a serious concern for the universities and therefore the faculty has got to spend tons of your time and may be a tedious job to mark attendance manually. Current biometric attendance system isn't automatic that wastes tons of your time , difficult to take care of and requires a queue for scanning fingerprints to mark their attendance. This model subsume a camera that captures input image, an algorithm to detect a face from the input image, encode it and recognize the face. The system camera captures the image and sends it to the server where faces are recognized from the database and shows their name and mark the attendance in a spreadsheet. Other than just marking attendance, it also marks the time at which the attendance was taken. In another word, the main goal of this project is to build a system that help lecturers take students attendance in a professional way. In this system we can recognise a person's face and record attendance from that person so that attendance activities are more efficient and faster.

KEYWORDS:

Automatic attendance, Face Recognition, Attendance system, Image Blending, Face Detection

INTRODUCTION:

Attendance maintenance may be a significant function altogether the institutions to watch the performance of the scholars . Every institute does this in its individual way. Some of these institutes use the old paper or file based systems and a few have take on strategies of automatic attendance using some biometric techniques. A face recognition system may be a computerized biometric software which is fitted to determining or validating an individual by performing comparison on patterns supported their facial appearances. Face recognition systems have better appreciably in their management over the recent years and this technology is now vastly used for various objectives like security and in commercial operations. Face recognition could also be a strong field of research which can be a computer based digital technology.Face recognition for the intent of marking attendance could also be an

ingenious application of attendance system. It is widely utilized in security systems and it are often compared with other biometrics like fingerprint or eye iris recognition systems. As the number of scholars in an academic institute or employees at a corporation increases, the requirements for lecturers or to the organization also increase the complication of attendance control. This project could also be helpful for the reason of those sorts of problems. The number of scholars present during a lecture hall is observed, everyone is identified then the knowledge about the amount of scholars who are present I maintained.

LITERATURE SURVEY:

Automated Attendance System Using Face Recognition:

Automated Attendance System using Face Recognition proposes that the system is proclaim on face detection and recognition algorithms, which is employed to automatically detects the scholar face when he/she enters the category and thus the system it have the potential to to marks the attendance by recognising him. Viola-Jones Algorithm has been used for face detection which detect face using cascade classifier and PCA algorithm for feature selection and SVM for classification. When it's compared to traditional attendance marking this technique saves the time and also helps to watch the scholars.

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Student Attendance System Using Iris Detection :

In this planned system the scholar is requested to stand in front of the camera to find and recogsize the iris, for the system to mark group action for the scholar. Some algorithms like grey Scale Conversion, Six section Rectangular Filter, Skin picture element Detection is getting used to find the iris. It helps in preventing the proxy problems and it maintains the

attendance of the scholar in an efficient manner, however in one among the long method for a student or a workers to attend till the completion of the previous members.

- Face Recognition-based Lecture Attendance System:

This project suggest that the system takes the event automatically recognition obtained by continuous observation. Continuous observation helps in estimating and improving the performance of the event. to induce the event, positions and face photos of the scholars gift within the category area unit captured. Through continuous observation and recording the system estimates seating position and placement of every student for event marking. The work is targeted on the strategy to induce the numerous weights of every focused seat in line with its location.

The effectiveness of the image is besides being mentioned to vary the quicker recognition of the image.

- PROBLEM STATEMENT:

The classical method is extremely arduous to stay a track of task each|of every day attending could be a real struggle because it frustrates the one UN agency is asking each name in each class that too in every single lecture. This leads in pure wastage of your time, conjointly the manual method results in many miss-placing of the names and therefore the marks of the attending that irritates each students and therefore the various school. the applying isn't ascendable to the foremost. good attending marking needs concentration and even the littlest of lapses will facilitate proxies happen. Concentration lapses area unit natural and conjointly the scholars typically forget to decision out their names. This can be once more irritating for the teacher to return the page when a protracted lecture to mark the attending of the scholars who 'forget'. The new system introduced can solve the matter to a larger extent.

- PROPOSED SYSTEM:

In this project face of a private is employed for the aim of attendance making automatically.

Attendance of the scholar is extremely important for each college, universities and faculty . Conventional methodology for taking attendance is by calling the name or roll number of the scholar and therefore the attendance is recorded. Time consumption for this purpose is a crucial point of concern. For example, the duration for one subject is around 1 hour and to record attendance takes 5 to minutes. For every tutor this is often

consumption of your time . To stay away from these losses, an automatic process is employed in this

project which is based on image processing. during this project face detection and face recognition is employed . Face detection is used to locate the position of face region and face recognition is employed for marking the understudy's attendance. The database of all the students within the class is stored and when the face of the individual student matches with one among the faces stored within the database then the attendance is recorded.

- Attendance Updation:

After face recognition process, the recognized faces will be marked as present in the excel sheet and the rest will be marked as absent, a message sent to parents within the span of 5 minutes after submission and the list of absentees will be mailed to the respective faculties. Faculties will be updated with monthly attendance sheet at the end of every month.

- ADVANTAGES:
 - Automated Time Tracking System
 - Cost-Effective
 - Touchless Sign In System
 - Facial Recognition With developing Changes and Accessories
 - More Accurate and Better Worker Attendance
 - Easy To Manage. 7.Proxy is eliminated.
- SOFTWARE REQUIREMENTS:

The functional requirements or the general description documents include the merchandise perspective and features, OS and operating environment, graphics requirements, design constraints and user documentation.

- Software requirements:
 - Windows
 - Python 3.8
 - Pycharm

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- Packages :

(Pandas, Numpy, Matplotlib, Tkinter)

- Hardware Requirements:

- Intel core i5 processor
- RAM 6GB
- Hard Disk Drive 1 TB

- IMPLEMENTATION:

Step 1: Finding all the Faces.

Step 2: Posing and Projecting Faces. Step 3: Encoding Faces

Step 4: Finding the person's name from encoding

step 5:

Open the final executable code in the sheet format .

Now, the person's name and the time of the attendance are saved in the Spread sheet. It Compare's the names and faces with the database. If they match, mark the attendance otherwise the attendance is not marked.

In this way we can recognize the faces and mark their attendance.

Automatically detect the student when he enters the classroom and marks the attendance by recognizing him.

SYSTEM ARCHITECTURE

Block diagram of the FACE

IDENTIFICATION BASED ATTENDANCE

Image capture:

Camera can capture the image of the scholars at the beginning when capturing the image subsequent methods to detect the image it goes to the face detection.

Face Detection:

The face detection rule can increase the potency of the face recognition. There are a number of the algorithms was planned for face detection as face geometry-based performances.

- **RESULT :**

The users can interact with the system employing a GUI (Graphical User interface). Here users are going to be mainly given three different options like , student registration, faculty registration, and mark attendance. thescholars are alleged to enter all the specified details within the student registration form.

After clicking on register button, the online cam starts automatically and pops up and starts detecting the faces within the frame. Then it computerized starts clicking photos nearly until 40 to 60 samples are collected . These images then are going to be preprocessed and stored in training images folder. the schools are alleged to register with the respective course codes along side their email-id within the faculty registration form provided. this is often important because the list of absentees are going to be ultimately mailed to the respective faculties.

In below figure shows if the person was registered and its displays the person name and marked as present.

In below figure shows if the person was not registered and its displays the person name as unknown.

- **CONCLUSION:**

Before the event of this project, There are many loopholes within the method of taking attendance using the old method which caused many troubles to most of the institutions Therefore, the face recognition feature embedded within the attendance monitoring system can't only ensure attendance to be taken accurately and also eliminated the issues

within the previous system Technology reduces human intervention within the entire process by handling all the complicated task to the machine the only cost to this solution is to possess sufficient space in to store all the faces into the database storage Fortunately, there's such existence of micro SD which can compensate with the number of the data .

In this project, the face database is made ongoing The attendance is stored with theirname, time and date.

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