

Mini Project Synopsis on
Attendance Maintenance Face Detection

S.E. - I.T Engineering

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CERTIFICATE

This to certify that the Mini Project report on **Attendance Maintenance Face Detection** has been submitted by Aagya Singh (20104076), Bhushan Patil (20104094), Muskan Rao (20104096) and Mayur Shinde (20104062) who are a Bonafide students of A. P. Shah Institute of Technology, Thane, Mumbai, as a partial fulfilment of the requirement for the degree in **Information Technology**, during the academic year **2021-2022** in the satisfactory manner as per the curriculum laid down by University of Mumbai.

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Chapter 1

Introduction

We might be very familiar with the technology of Face Detection. Almost every smart phone has an unlock with face feature. This technology has been around for quite a while now and it's been put to good use for various purposes.

There are many aspects that come into consideration when it comes to Face Detection i.e., Detection of a Face, detecting that it's a real face and not an image, and then recognizing the face according to the trained data.

Attendance in schools and colleges or even corporate offices have always been an unsystematic, time-consuming and with cheat codes to apply proxy attendance. The use of Face Recognition can be very useful for marking attendance as it'll be easier, faster, more convenient, efficient and proxy-free.

1.1 Purpose:

The purpose of Attendance Maintenance Face Detection is to make attendance a very simple and fast process. This system will allow its users to mark their attendance by simply scanning their face in front of the screen and get going towards their daily work without wasting any further time.

The administrators of this system will be able to check the users' attendance in its history. This will replace the traditional method of taking attendance and save time and energy of everyone.

1.2 Objectives:

- The main Objective of this project is to use the face detection and recognition technology for attendance purposes.
- To manage attendance records.
- To build a system which saves time and energy.
- To eradicate fake attendances.

1.3 Scope:

As we know, Face detection technology has been getting better and better throughout time. With the development of Webcams, the videography of Computers and Laptops have reached heights. As most Webcams, they are left unused except for online meetings and Video calls. With the proposed system, Webcams can be well used for a good purpose.

Attendance Maintenance Face Detection System will help students mark their attendance on daily basis without having to physically wait for the teacher to ask if they're present or not. The traditional system of marking attendance will be replaced.

This system will be very helpful in school, colleges, corporate offices which will save a lot of paperwork and human effort and time. The use of such technology will keep getting better with time.

Chapter 2

Problem Definition:

The Traditional Attendance system wants the teachers to be present in the class, make the class calm down, and then ask for each student's name one by one. If a class has more than 60 students, it takes approximately 5-10 minutes for a teacher to mark their attendances. By wasting such valuable time, the teacher cannot devote time in the lecture.

Even if the college or school provides an online attendance marking system, the students might mark the attendance even if they're absent. Such acts make the attendance records false and this might be a very big problem if some enquiry is placed for unfortunate events.

Chapter 3

Proposed System:

The aim of proposed system is to develop a system of improved facilities. The proposed system can overcome all the limitations of the existing system. The system provides proper security and reduces the manual work. The following are the things which we have included in our system:

- Security of data.
- Ensure data accuracies.
- Minimize manual data entry.
- Minimum time needed for the various processing.
- Greater efficiency.
- Better service.
- User friendliness and interactive.
- Minimum time required.

3.1 Features and Functionality:

Modules:

- User can enter the details in the student details section in the system.
- User can take picture sample.
- User gets his data trained
- User is recognized by the system and his attendance is marked
- Admin can access the attendance of students through excel sheet.

Input Data and Validation of Attendance maintenance (face detection) application

All the fields such as User Credentials, Login Details are validated and does not take invalid values.

- Avoiding errors in data.
- Actual testing done manually.
- Modifications done for the errors founded.
- Validations for user input.
- Checking of the Coding standards to be maintained during testing the module with all the possible test data.

Chapter 4

Project Outcome:

- User can register in the system.
- User can take picture sample.
- User can train data for Face Detection and Face Recognition.
- User can mark their attendance.
- Users can keep records of their attendance.

Chapter 5

Software Requirements:

- Frontend – Python (Tkinter)
- Backend – MySQL Workbench
- Integrated development environment (IDE) – VS Code

Chapter 6

Project Design:

In this phase, a logical system is built which fulfils the given requirements. Design phase of software development deals with transforming the client's requirements into a logically working system. Normally, design is performed in the following in the following two steps:

1. Primary Design Phase:

In this phase, the system is designed at block level. The blocks are created on the basis of analysis done in the problem identification phase. Different blocks are created for different functions emphasis is put on minimizing the information flow between blocks. Thus, all activities which require more interaction are kept in one block.

2. Secondary Design Phase:

In the secondary phase the detailed design of every block is performed.

The general tasks involved in the design process are the following:

1. Design various blocks for overall system processes.
2. Design smaller, compact and workable modules in each block.
3. Design various database structures.
4. Specify details of programs to achieve desired functionality.
5. Design the form of inputs, and outputs of the system.
6. Perform documentation of the design.
7. System reviews.

STUDENT DETAILS SECTION

Student Details

Department: Courses:

Year: Semester:

Student Information

Student Id: Student Name:

Division: Roll No:

Gender: DOB:

Email: Phone No:

☐ Take Photo Sample ☐ No Photo Sample

Department	Course	Year	Semester	Student ID	Name	Division
Information Technology	SE	2021-2022	SEM-IV	1	aagya	B
Information Technology	TE	2021-2022	SEM-IV	2	Mayur Shinde	B

Fig. 1: Student Details Section



Fig. 2: Main Page

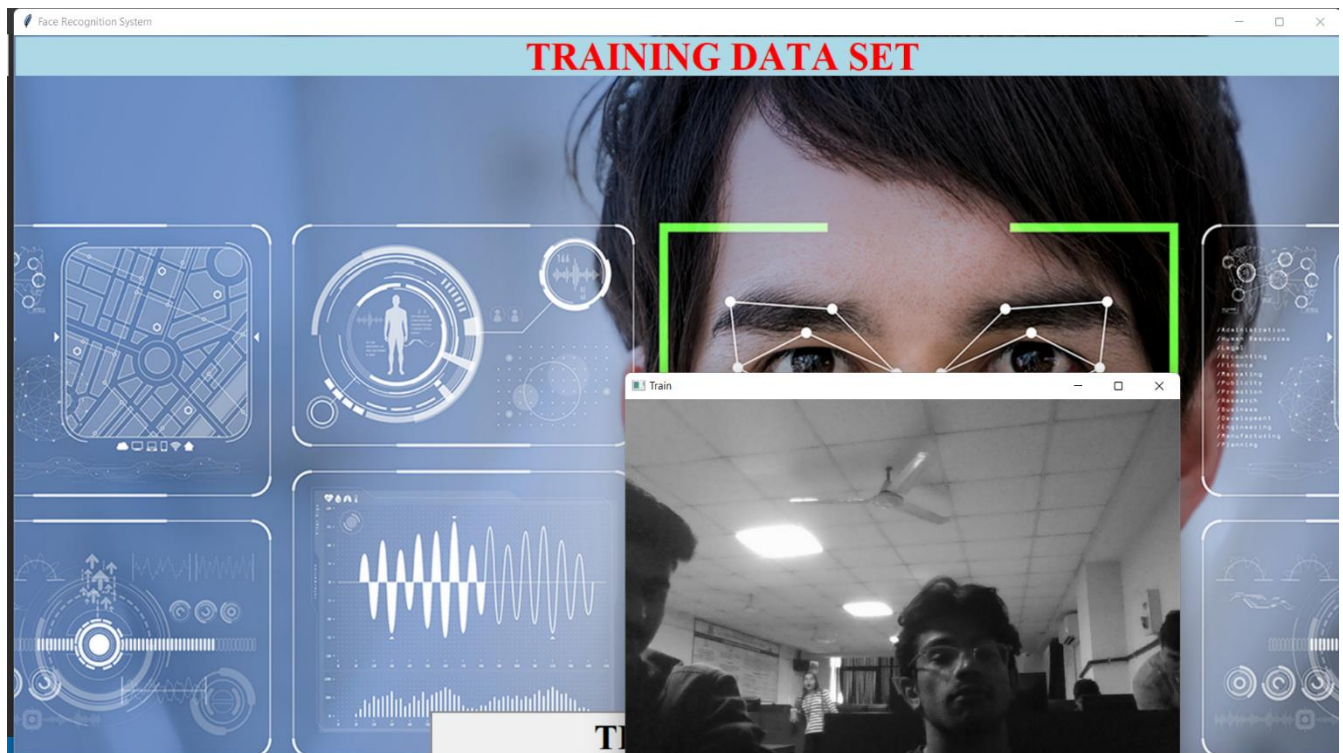


Fig. 3: Training Data Set

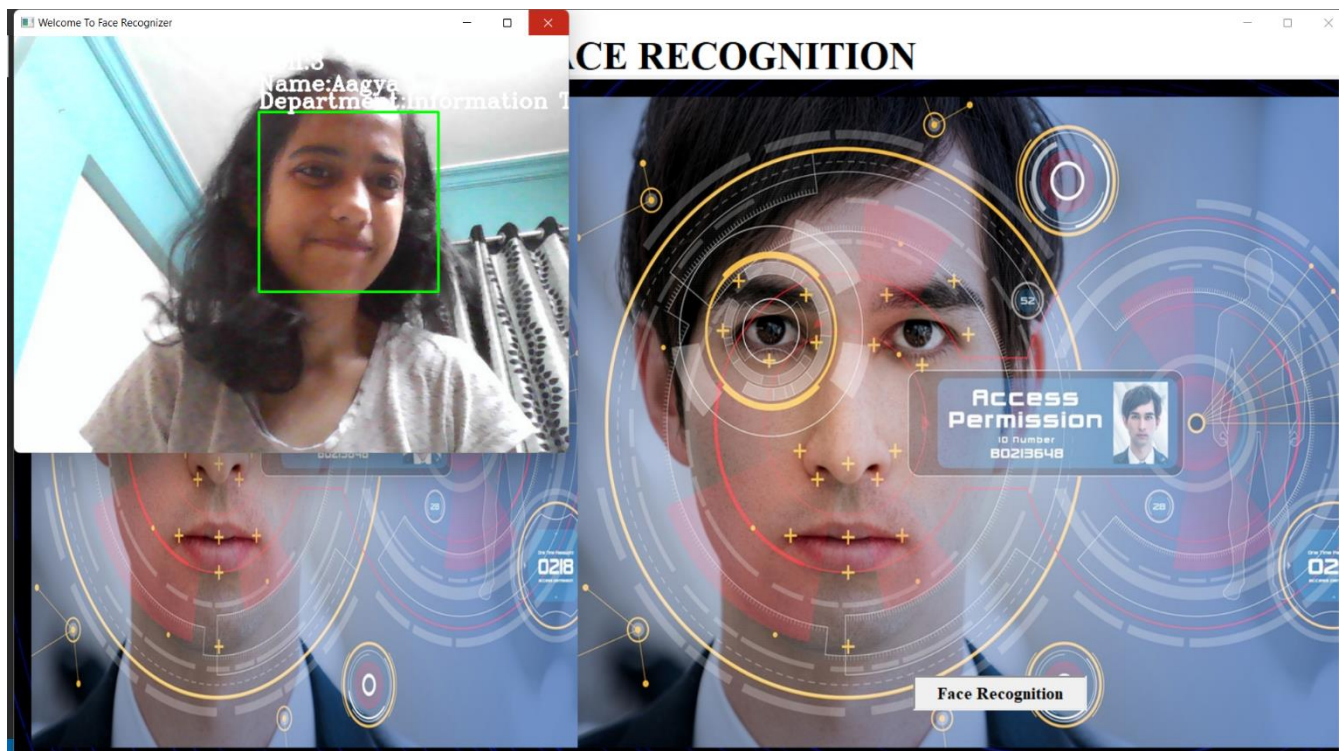


Fig. 4: Face Recognition

Chapter 7

Project Scheduling Template

Sr. No	Group Member	Time duration	Work to be done
1	All Members	1 st week of January	Implementing 1 st module Homepage (<i>Designing the main page/admin will login with security verification and will enter to the main menu</i>)
2	All Members	3 rd week of January	Testing 1 st module Student Details <i>Designing next page/ This will consist of the page where admin will have to enter their detailed information to take photo sample to get their data trained.</i>
3	All Members	2 nd week of February	Implementing 2nd module Train data (Designing next page) <i>functionality: Training of all the photo samples has been done in this module.</i>

4	All Members	2 nd week of March	<p>Implementing 3rd module Connection</p> <p><i>(Transfer page/ functionality: Connecting database with the pages. Lastly testing the system and its functions by providing inputs and getting desired outputs)</i></p>
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Table 1: Project Scheduling

Chapter 8

Conclusion:

Our project is only a humble venture to satisfy the needs to manage their project work. Several user-friendly coding has also adopted. This package shall prove to be a powerful package in satisfying all the requirements of the user. The objective of software planning is to provide a frame work that enables the manger to make reasonable estimates made within a limited time frame at the beginning of the software project and should be updated regularly as the project progresses.

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3. <http://www.wordpress.org/>
4. <http://www.academia.edu/>
5. <http://www.stackoverflow.com/>
6. <http://www.iproject.com>

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