

Smart Attendance System
A Project Report Submitted to
Rajiv Gandhi Proudhyogiki Vishwavidyalaya



Towards Partial Fulfillment for the Award of
Bachelor of Engineering in *Computer Science & Engineering*

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EXAMINER APPROVAL

The Project entitled "*Smart Attendance System*" submitted by **Anurag Yadav (0827CS201039)**, **Ayushman Raghuvanshi (0827CS201055)**, **Deepak Patidar (0827CS201063)**, **Deepesh Tolani (0827CS201066)**.

This has been examined and is hereby approved towards partial fulfillment for the award of Bachelor of Engineering degree in Computer Science & Engineering discipline, for which it has been submitted. It understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein, but approve the project only for the purpose for which it has been submitted.

(Internal Examiner)

Date:

(External Examiner)

Date:

GUIDE RECOMMENDATION

This is to certify that the work embodied in this project entitled “*Smart Attendance System*” submitted by **Anurag Yadav(0827CS201039), Ayushman Raghuvanshi(0827CS201055), Deepak Patidar(0827CS201063), Deepesh Tolani (0827CS201066)**. It is a satisfactory account of the bonafide work done under the supervision of **Prof. Ronak Jain** are recommended towards partial fulfillment for the award of the Bachelor of Engineering (Computer Science & Engineering) degree by RajivGandhi Proudhyogiki Vishwavidhyalaya, Bhopal.

(Project Guide)

(Project Coordinator)

STUDENTS UNDERTAKING

This is to certify that project entitled “*Smart Attendance System*” has developed by us under the supervision of **Prof. Ronak Jain**. The whole responsibility of work done in this project is ours. The sole intension of this work is only for practical learning and research.

We further declare that to the best of our knowledge, this report does not contain any part of any work which has been submitted for the award of any degree either in this University or in any other University / Deemed University without proper citation and if the same work found then we are liable for explanation to this.

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Executive Summary

“Smart Attendance System”

This project is submitted to Rajiv Gandhi Proudyogiki Vishwavidhyalaya, Bhopal (MP), and India for partial fulfillment of Bachelor of Engineering in Computer Science & Engineering branch under the sagacious guidance and vigilant supervision of ***Prof. Ronak Jain***.

This technology uses facial video or image for detection. Facial authentication can be used in many fields such as authentication, face recognition-based attendance, government document verification, and many more. Here, we develop a project which can be used to detect the face of an enrolled student and mark the attendance of that student. In this project we used a cascade classifier of OpenCV for face detection, a CSV file for marking the attendance of the detected faces. we use Tkinter for the GUI part of the project. This project can be used for schools and colleges.

Key words : OpenCV, Tkinter, GUI

Table of Contents

EXAMINER APPROVAL	I
GUIDE RECOMMENDATION	II
UNDERTAKING	III
ACKNOWLEDGEMENT	IV
EXECUTIVE SUMMARY	V
CHAPTER 1 INTRODUCTION	1
1.1 Overview	1
1.2 Problem Statement and Objective	1
1.3 Scope Of the Project	2
1.4 Team Organization	2
1.5 Report Structure	3
CHAPTER 2 REVIEW OF LITERATURE	5
2.1 Preliminary Investigation	5
2.2 Current system	5
2.3 Requirement identification and analysis	5
2.4 Conclusion	6
CHAPTER 3 PROPOSED SYSTEM	7
3.1 Proposal	7
3.2 Benefits	7
3.3 Feasibility study	7
3.4 Technical	8
3.4.1 Economical	8
3.5 Deployment	8
3.5.1 Hardware	8
3.5.2 Softaware	8
CHAPTER 4 IMPLEMENTATION	10
Technique	10
4.1 Python	10
4.2 Tkinter	11
4.3 OpenCV	11
4.4 Numpy	12
4.5 Pandas	15
4.6 Tools/pycharm	19
4.7 Screenshots	19
4.8 Test case analysis	19
CHAPTER 5 CONCLUSION	23
5.1 Suggestion and recommendation	23
References	24
Published Research paper	25
Technical Poster	26

List of Figures

Figure 1.1 The Front end of Web App	10
Figure 1.2 Python logo	13
Figure 1.3 Enter details of student	15
Figure 1.4 Take Images	15
Figure 1.5 Captured photos	16
Figure 1.6 Student Detail CSV file	16
Figure 1.7 All project files	17
Figure 1.8 Trained Password file	17
Figure 1.9 Attendance CSV file	18
Figure 1.10 Help window	18
Figure 1.11 Take attendance	20
Figure 1.12 About project	20
Figure 2.1 output for test case 1	21
Figure 2.2 output for test case 1	22
Figure 2.3 output for test case 2	22
Figure 2.4 output for test case 2	22

List of Tables

Table 1.1 Test Case 1	19
Table 1.2 Test case 2	

Chapter 1 .Introduction

Introduction

The traditional method of taking attendance is quite time taking and tedious sometime. The teacher have to call the names of students one by one to mark the attendance, this cause a waste of time for student as well as teacher . In this project we tried to solve that problem by using technology named as facial detection based authentication.

This project consists of two stages:

1. The admin enroll the student by taking facial video and save the profile of the student. The profile is seaved in the CSV file and stored in the student details folder . The photos captured in video are saved in training image folder.
2. After enrollment the admin take the attendance of the student and the details were saved in attendance folder. In this way this face-recognition based attendance system can reduce the time which were being wasted in traditional method of taking attendance.

1.1 Overview

In this era of technology, every day new technology makes its debut in the market. Face recognition-based authentication is one among them. This technology uses facial video or image for detection. Facial authentication can be used in many fields such as authentication, face recognition-based attendance, government document verification, and many more. Here, we develop a project which can be used to detect the face of an enrolled student and mark the attendance of that student. In this project we used a cascade classifier of OpenCV for face detection, a CSV file for marking the attendance of the detected faces . we use Tkinter for the GUI part of the project . This project can be used for schools and colleges . The class coordinator can be the admin and enroll student in the app, after enrollment attendance can be taken which will saved in the CSV file.

1.2 Problem Statement and Objectives

The main intention of this project is to solve the issues encountered in the old attendance system while reproducing a brand new GUI based attendance system that can provide

convenience to the institution. In this project, an application is created which is capable of recognizing the identity of each individuals and eventually record down the data into a database system. Apart from that, an excel sheet is created which shows the students attendance which can be directly mailed to the respected faculty.

Additionally, we seek to:

- Provides a valuable attendance service for both teachers and students.
- Reduce manual process errors by provide automated and a reliable attendance system uses face recognition technology.
- Increase privacy and security which student cannot presenting himself or his friend while they are not.
- Produce monthly reports for lecturers.
- Flexibility, Lectures capability of editing attendance records.
- Calculate absenteeism percentage and send reminder messages to student

1.3 Scope of the Project

We are setting up to design a system comprising of two modules. The first module (face detector) is a mobile component, which is basically, a camera application that captures student faces and stores them in a file using computer vision face detection algorithms and face extraction techniques. The second module is a desktop application that does face recognition of the captured images (faces) in the file, marks the students register and then stores the results in a database for future analysis.

Our project targets the students of different academic levels and faculty members. The main constraint we faced is distinguishing between identical twins. This situation is still a challenge to biometric systems especially facial recognition technology. According to Phillips and his co-researcher paper [2] to get the best results of the algorithms your system employed, they should run under certain conditions for taken pictures (i.e... age, gender, expressions, studio environment |etc.) otherwise, the problem is still ongoing.

They provide application (method) to solve this problem, but in order to use this solution you have to sign a contract with the (NIST) organization and to be a researcher or developer. For us, to solve this issue we suggest to record

1.4 Team Organization

DEEPAK PATIDAR: I am the backend developer in this project by using Python, Numpy and pandas. By using appropriate libraries and creating CSV files to store the attendance and managing it properly on a server and carrying out all testing work for project and removing all the bugs and errors from project.

DEEPESH TOLANI: I am the researcher in this project carrying out all the necessary research and analyzed it properly, according to analyzing the project, listing out all the weak sections in our work and improving them.

ANURAG YADAV: I am the frontend developer in this project, I have done whole frontend of the project using Tkinter GUI and collected all the necessary information from various websites and helped out with creating proper documentation for the project.

AYUSHMAN RAGHUWANSHI: I am the researcher and also helped in the backend of the project. Apart from that I have created project report and and technical poster.

1.5 Report Structure

The project ***Smart Attendance System*** is primarily concerned with **GUI based Web App** and whole project report is categorized into five chapters.

Chapter 1: Introduction- introduces the background of the problem followed by rationale for the project undertaken. The chapter describes the objectives, scope and applications of the project. Further, the chapter gives the details of team members and their contribution in development of project which is then subsequently ended with report outline.

Chapter 2: Review of Literature- explores the work done in the area of Project undertaken and discusses the limitations of existing system and highlights the issues and challenges of project area. The chapter finally ends up with the requirement identification for present project work based on findings drawn from reviewed literature and end user interactions.

Chapter 3: Proposed System - starts with the project proposal based on requirement identified, followed by benefits of the project. The chapter also illustrates software engineering paradigm used along with different design representation. The chapter also includes block diagram and details of major modules of the project. Chapter also gives insights of different type of feasibility study carried out for the project undertaken. Later it gives details of the different deployment requirements for the developed project.

Chapter 4: Implementation - includes the details of different Technology/ Techniques/ Tools/ Programming Languages used in developing the Project. The chapter also includes the different user interface designed in project along with their functionality. Further it discusses the experiment

results along with testing of the project. The chapter ends with evaluation of project on different parameters like accuracy and efficiency.

Chapter 5: Conclusion - Concludes with objective wise analysis of results and limitation of present work which is then followed by suggestions and recommendations for further improvement.

Chapter 2. Review of Literature

Review of Literature

Various systems are currently in use to manage and assess student attendance at universities. Even though these systems are extremely usable, their practicality and constraints pose a problem in the process, as previously stated. The following are a few of the systems in place:

2.1 Preliminary Investigation

2.1.1 Current System

Manual attendance systems are traditional systems in which a teacher or lecturer takes students' attendance by calling names or signing an attendance sheet. Such attendance systems rely entirely on students acting in a fair and consistent manner. Although it is a low-cost system, it is extremely vulnerable to human error or manipulation. A student may be mistakenly marked present by the teacher if another student answers it on a roll-call, or a student can forge signatures on the sheet, resulting in 'proxy attendance'.

2.1.2 Limitation of current system

Poor manual systems of time and attendance management can lead to many problems such as:

1. Inconsistency in data entry and generate errors
2. System is fully dependent on skilled individuals
3. Time consuming and costly to produce reports
4. Entry of false information
5. Lack of security

2.2 Requirement Identification and Analysis for Project

After more thought, it was discovered that every existing attendance management system had flaws that tainted the process. Problems caused by 'proxy attendances' will be eliminated by using facial detection and recognition as a parameter of attendance generation, as only those students present in the lecture will be marked present. Because every classroom has a laptop and a webcam, the components are also inexpensive. The main strategy is to compare the face encodings of the image captured in real-time with those already stored in the database, which can then be used to mark attendance if a match is found. A Real-Time Multiple Face Recognition using Deep Learning on Embedded GPU

2.3 Conclusion

This chapter reviews the literature surveys that have been done during the research work. The related work that has been proposed by many researchers has been discussed. The research papers related to Face recognition based attendance system from 2012 to 2022 have been shown which discussed about different methods and algorithm to identify object

Chapter 3. Proposed System

Proposed System

3.1 The Proposal

The present system of attendance marking i.e., manually calling out the roll call by the faculty have quite satisfactorily served the purpose. With the change in the educational system with the introduction of new technologies in classroom such as virtual classroom, the traditional way of taking attendance may not be viable anymore. Even with rising number of course of study offered by universities, processing of attendance manually could be time consuming. Hence, in our project we aim at creating a system to take attendance using facial recognition technology in classrooms and creating an efficient database to record them.

3.2 Benefits of the Proposed System

- **Foolproof:** Attendance marking becomes foolproof in nature, students can not carry out the previous means of false proxies for their friends as the system needs faces of the student and nothing else
- **Time saving:** Helps save time that at moments can get lost due to students disrupting the normal attendance marking method.
- **Efficient:** Instead of teachers manually updating attendance to the college servers, the system will itself calculate attendance of students beforehand.

3.3 Feasibility Study

A feasibility study is an analysis of how successfully a system can be implemented, accounting for factors that affect it such as economic, technical and operational factors to determine its potential positive and negative outcomes before investing a considerable amount of time and money into it.

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3.4 Technical

The data gets automatically saved in the database, without requiring any manual effort for saving it.

For making the system technically feasible, there is a requirement of GPU built system with high processor for better performance.

3.4.1 Economical

Since the system is completely automated, there is a need of server to be online for it to operate 24X7.

Since the system uses high performance processors continuously, so to save any disaster from occurring due to very high temperatures, there is a requirement of a cooling system in the environment where it is implemented.

3.5 Deployment Requirements

There are various requirements (hardware, software and services) to successfully deploy the system. These are mentioned below :

3.5.1 Hardware

- 32-bit, x86 Processing system
- Windows 7 or later operating system
- High processing computer system without GPU or with GPU (high performance)

3.5.2 Software

- Python , Haar cascade classifier
- Tkinter
- Pycharm IDE

Here fig 1.1 shows the the front end of the GUI

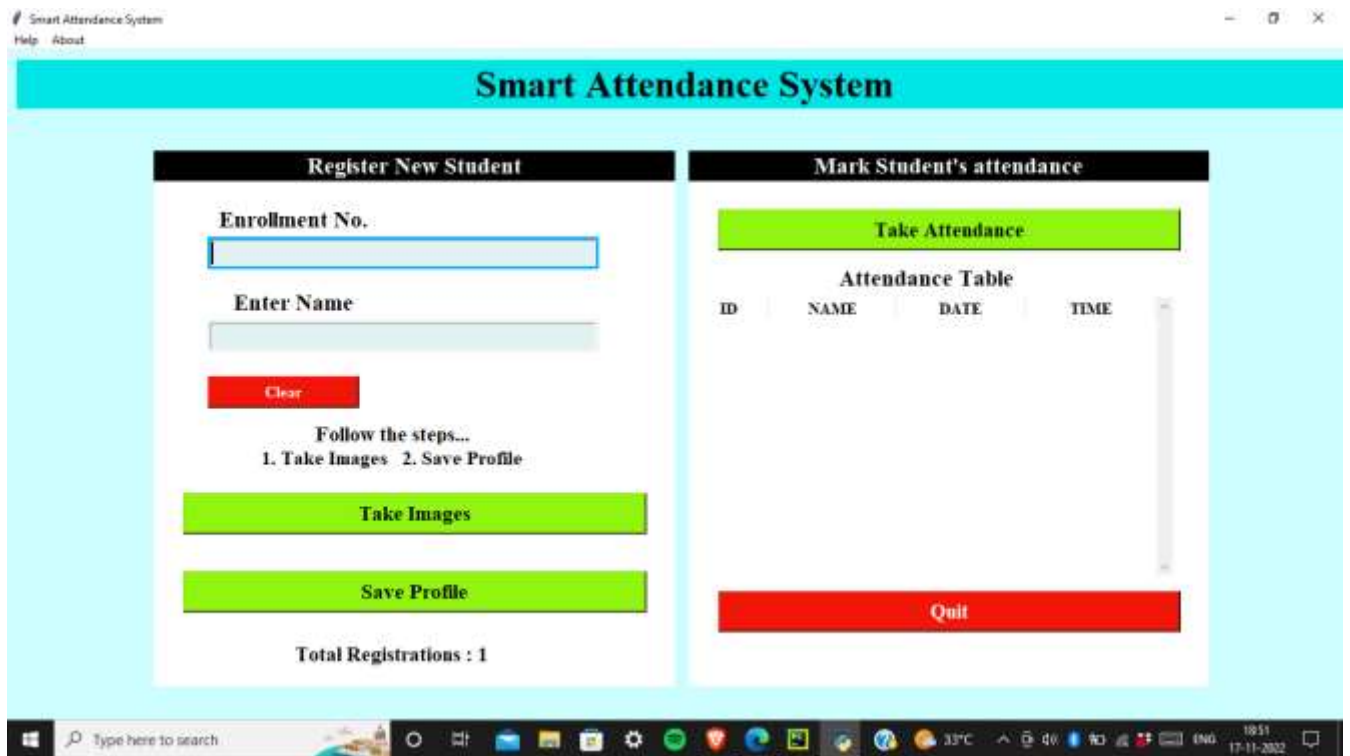


Fig 1.1

Chapter 4 . Implementation

Implementation

For the problem of irregularities occurring in data proper database is created and it will allow us to maintain the proper data management on website

4. Technique Used

In this project GUI is used as a frontend . The GUI is developed using Tkinter framework toolkit. The backend is developed using python programming language and its libraries for face detection and csv file generation.

4.1 Python

Python is a very popular general-purpose interpreted, interactive, object-oriented, and high-level programming language. Python is dynamically-typed and garbage-collected programming language. It was created by Guido van Rossum during 1985- 1990. Like Perl, Python source code is also available under the GNU General Public License (GPL)

4.2 Tkinter

Tkinter tutorial provides basic and advanced concepts of Python Tkinter. Our Tkinter tutorial is designed for beginners and professionals.

Python provides the standard library Tkinter for creating the graphical user interface for desktop based applications.

Developing desktop based applications with python Tkinter is not a complex task.

4.3 OpenCV

OpenCV (Open Source Computer Vision Library) is an open source computer vision and machine learning software library. OpenCV was built to provide a common infrastructure for computer vision applications and to accelerate the use of machine perception in the commercial products. Being an Apache 2 licensed product, OpenCV makes it easy for businesses to utilize and modify the code.

4.4 NumPy

NumPy is a library for the Python programming language, adding support for large, multi-dimensional arrays and matrices, along with a large collection of high-level mathematical functions to operate on these arrays.

4.5 Pandas

Pandas is a software library written for the Python programming language for data manipulation and analysis. In particular, it offers data structures and operations for manipulating numerical tables and time series.

4.6 Tools

Pycharm IDE

PyCharm is a dedicated Python Integrated Development Environment (IDE) providing a wide range of essential tools for Python developers, tightly integrated to create a convenient environment for productive Python, web, and data science development.

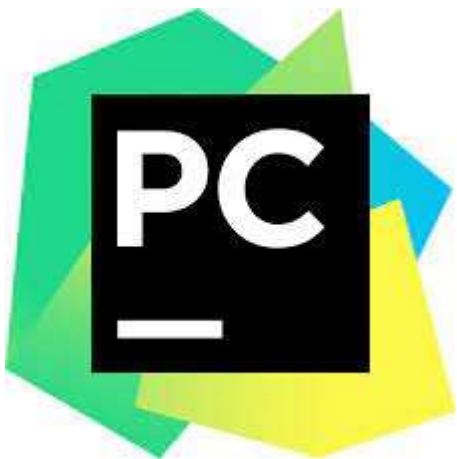


Fig 1.2

4.7 Screenshots

The Following are the screenshots of the result of the project :

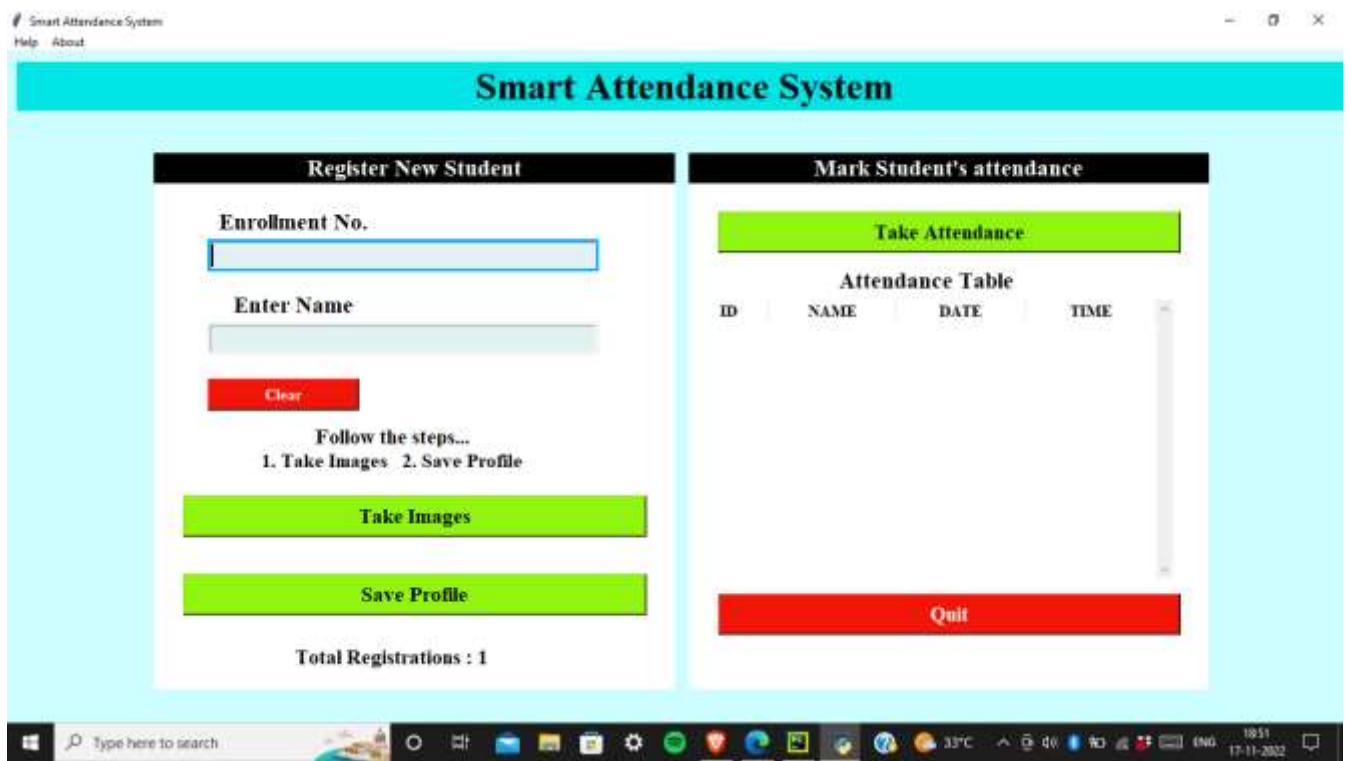


Fig 1.3

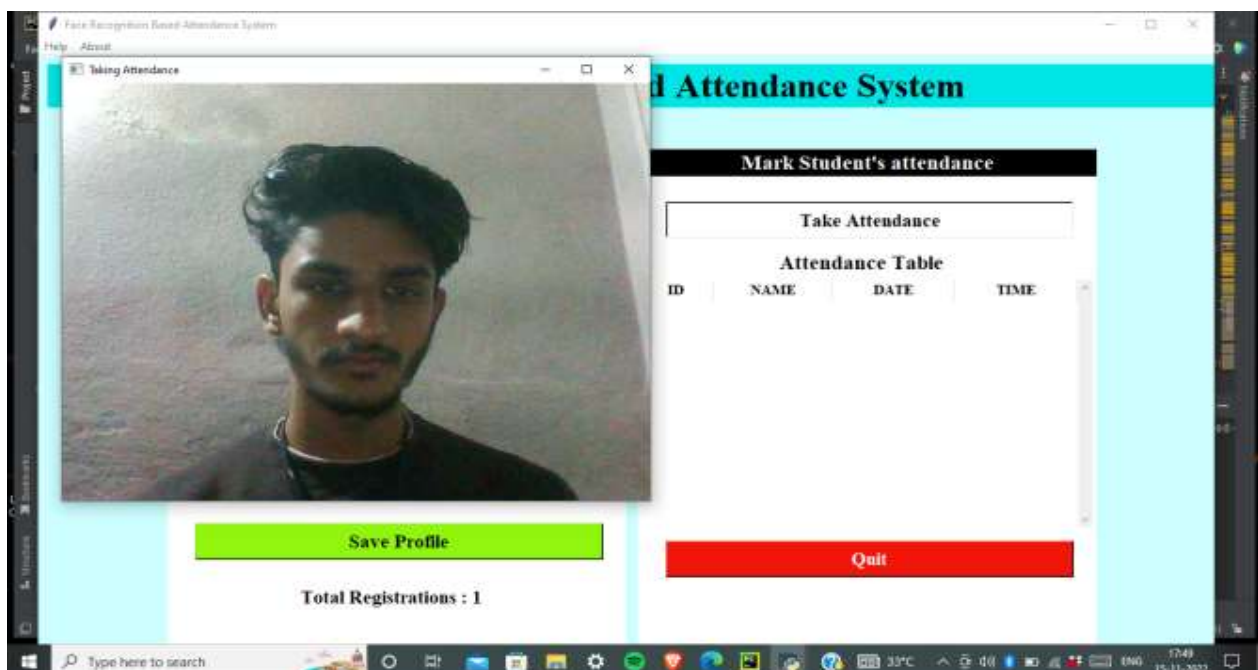


Fig1.4

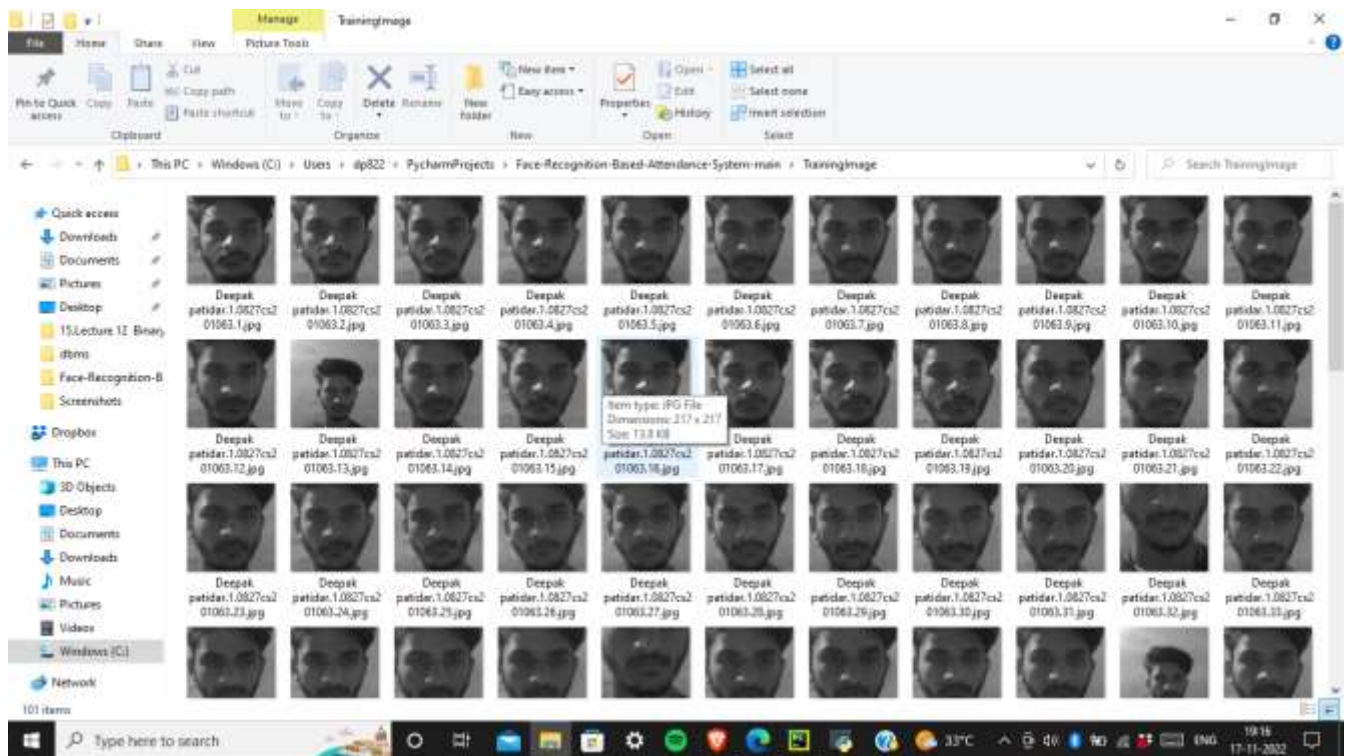


Fig1.5

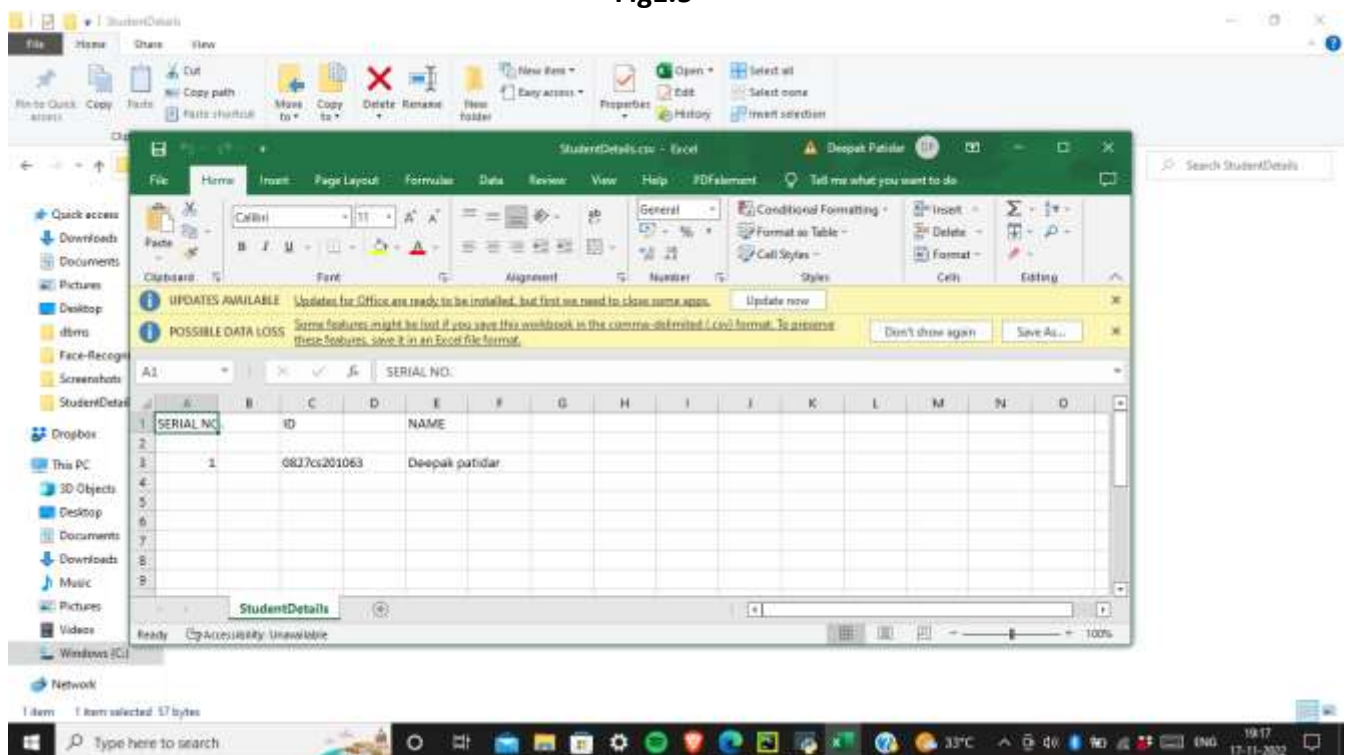


Fig1.6

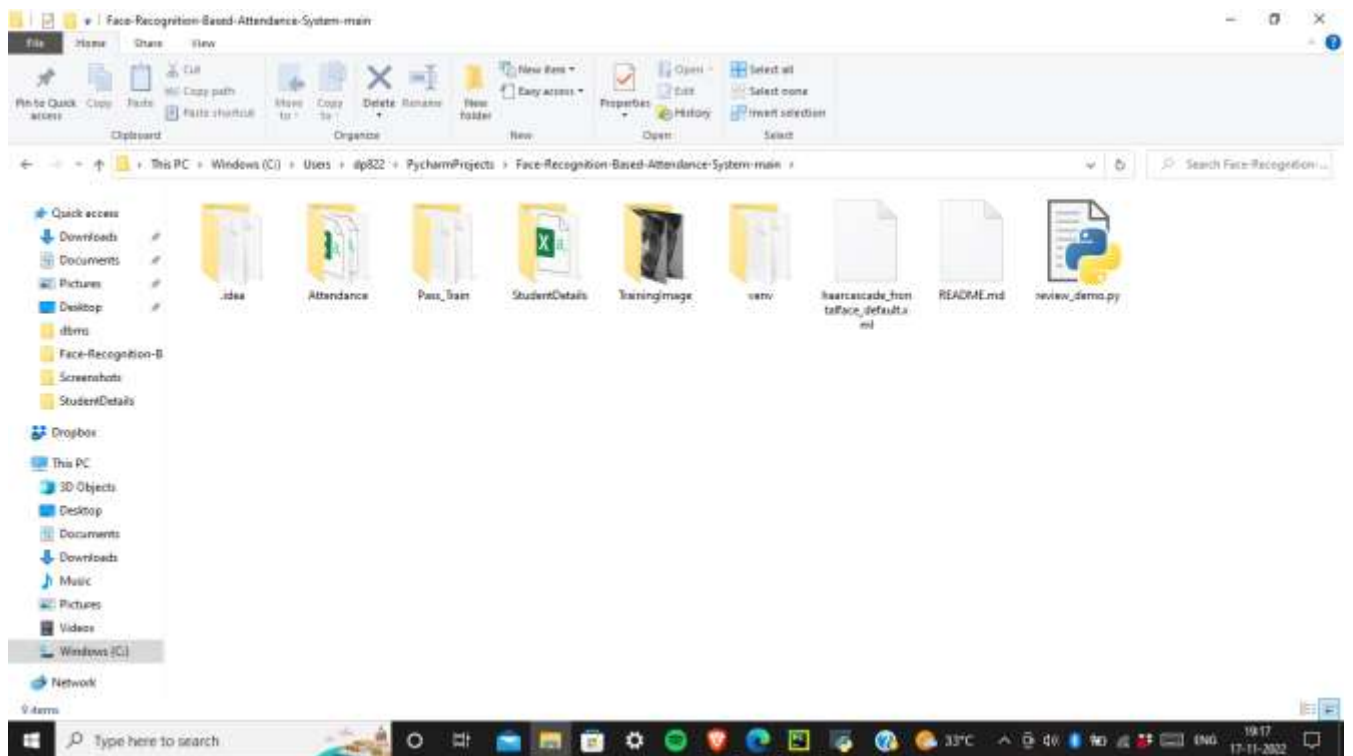


Fig1.7

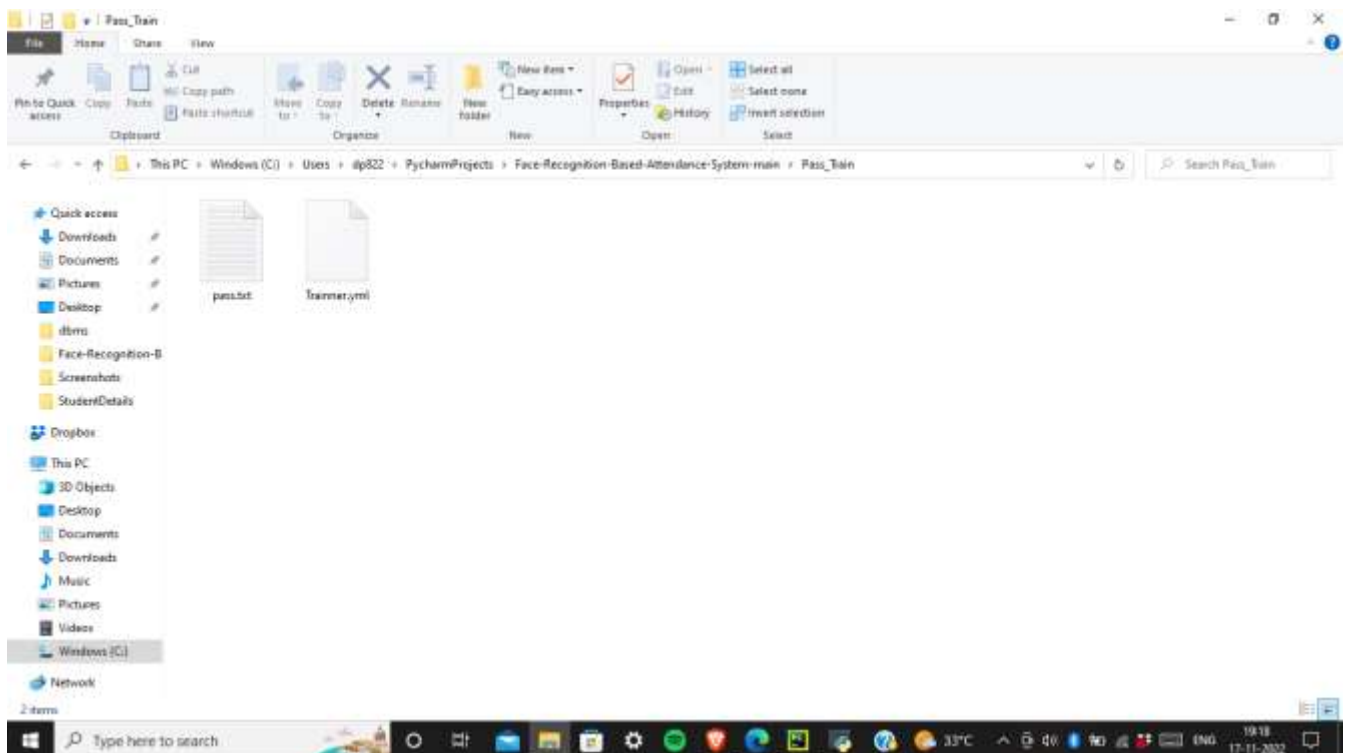


Fig1.8

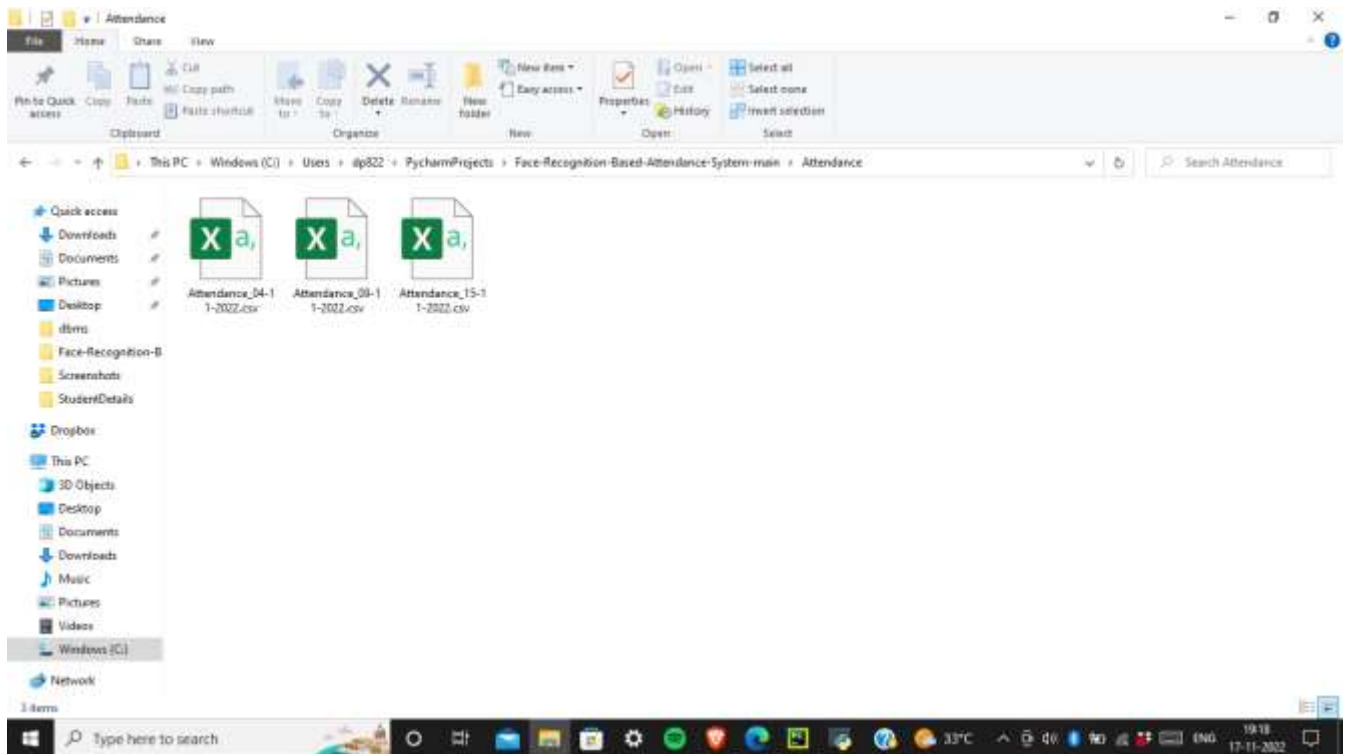


Fig1.9

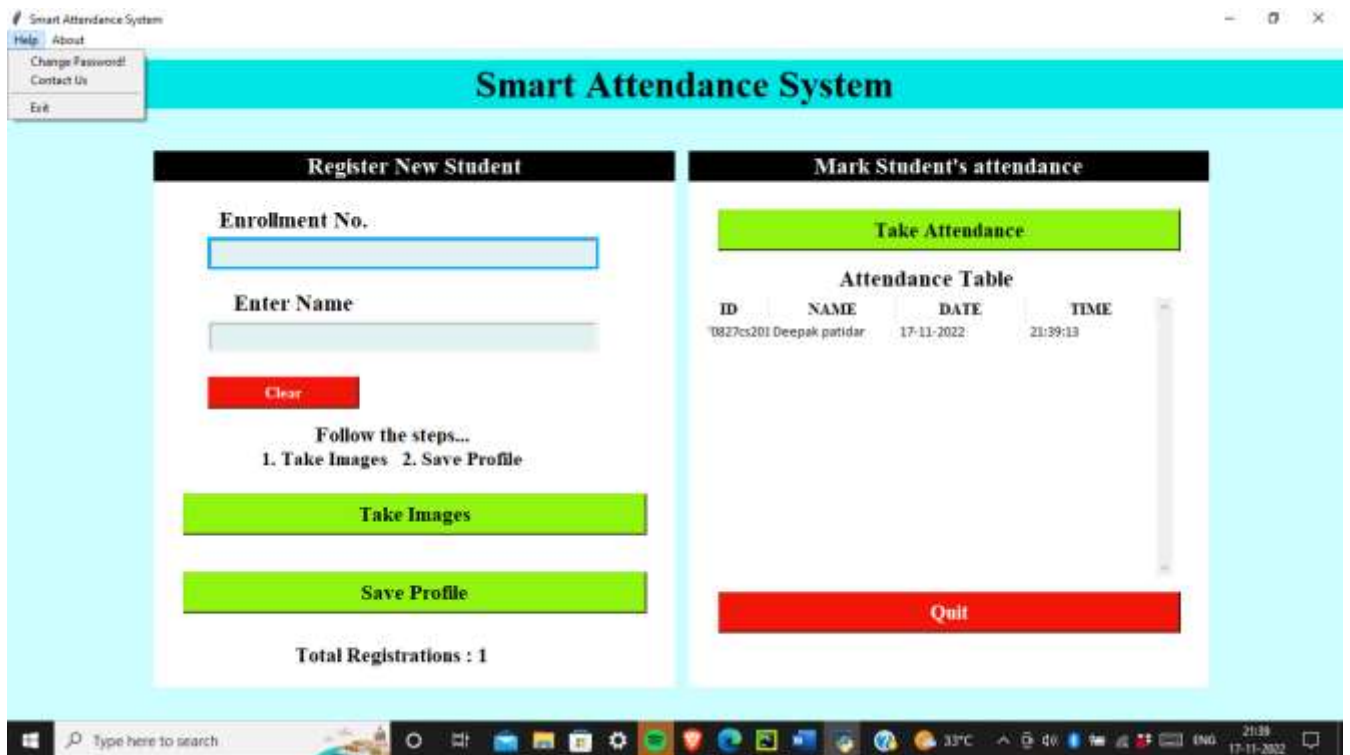


Fig 1.10



Fig 1.11

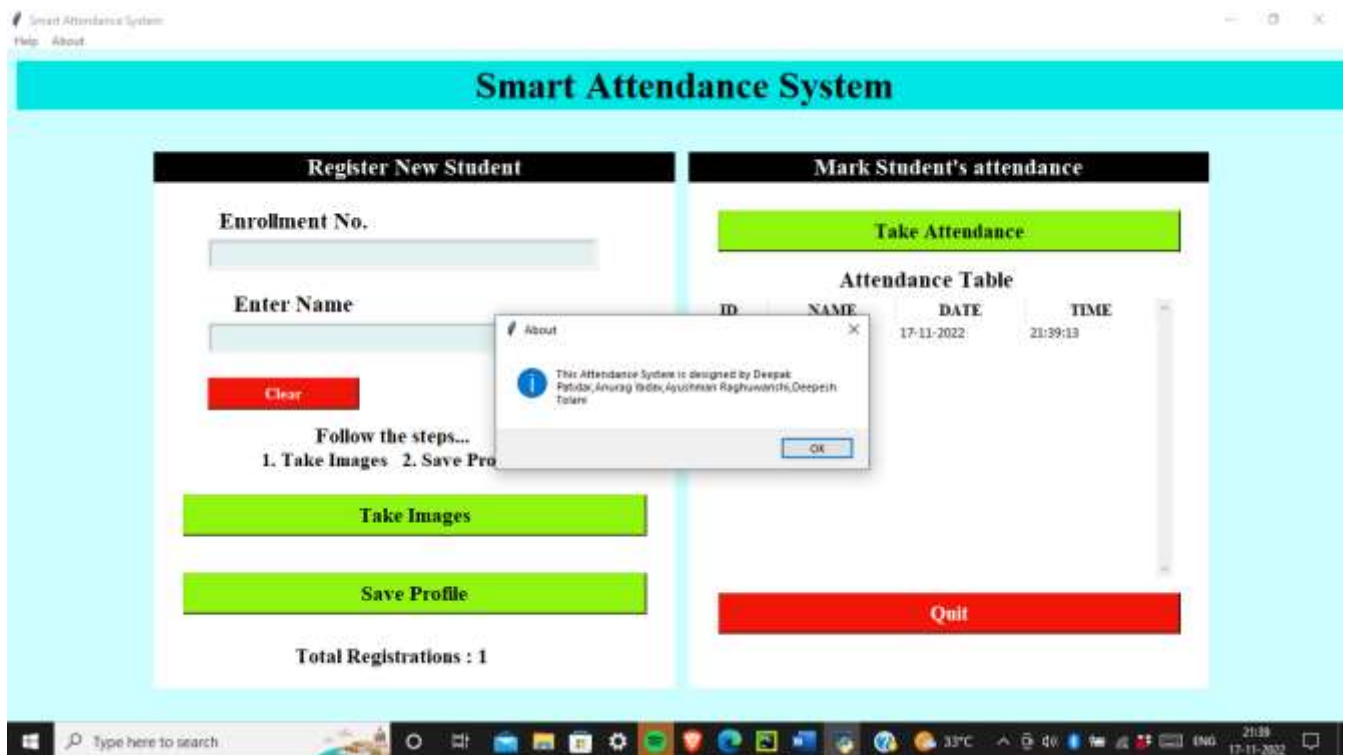


Fig 1.12

4.8 Testing

Testing is the process of evaluation of a system to detect differences between given input and expected output and also to assess the feature of the system. Testing assesses the quality of the product. It is a process that is done during the development process. .

4.8.1 Strategy Used

Tests can be conducted based on two approaches – ☐

Functionality testing

☐ Implementation testing

The testing method used here is Black Box Testing. It is carried out to test functionality of the program. It is also called 'Behavioral' testing. The tester in this case, has a set of input values and respective desired results. On providing input, if the output matches with the desired results, the program is tested 'ok', and problematic otherwise.

4.8.2 Test Case and Analysis

Test Case 1

Test Case ID	TC001
Test Case Summary	It will check whether the system take picture or not
Test Procedure	Enter enrollment no. and name and click on take image option.
Expected Result	The web cam will open and start capturing the photos
Actual Result	Actual results were 100%
Status	Pass

Output

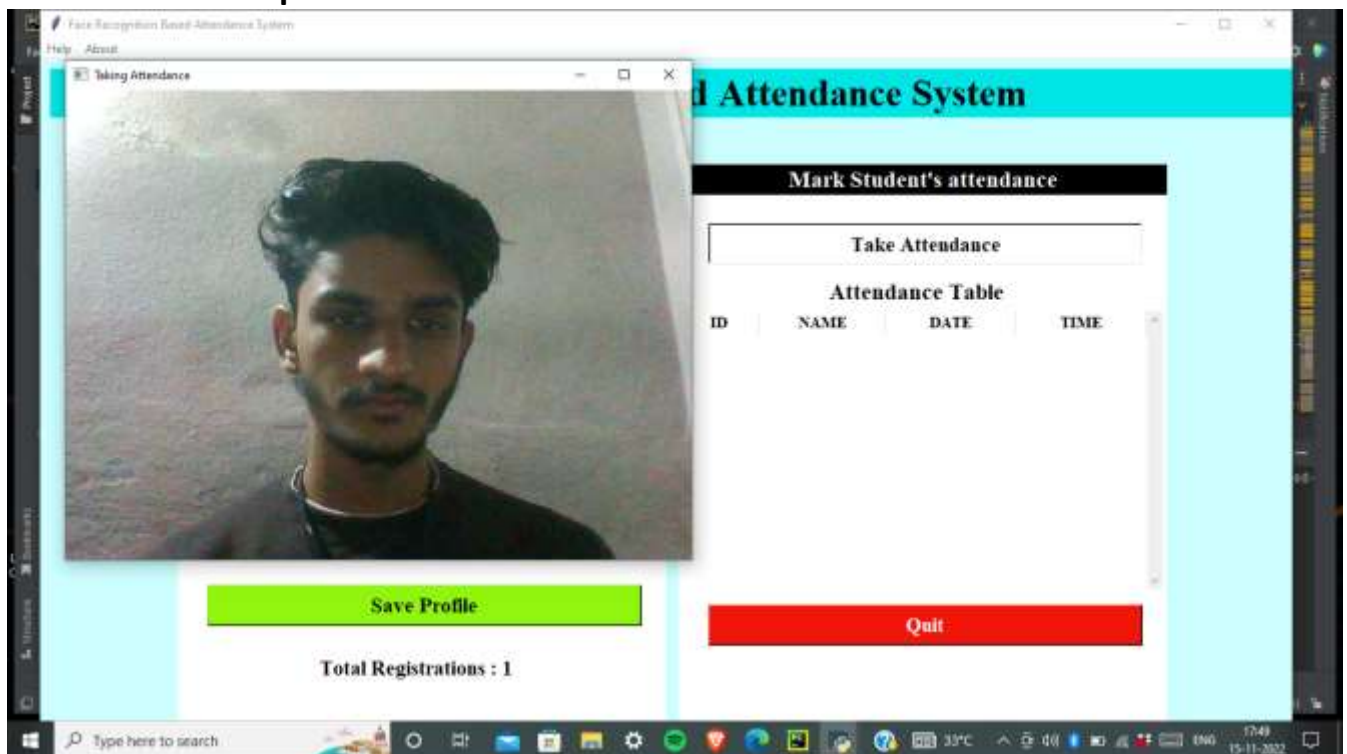


Fig2.1

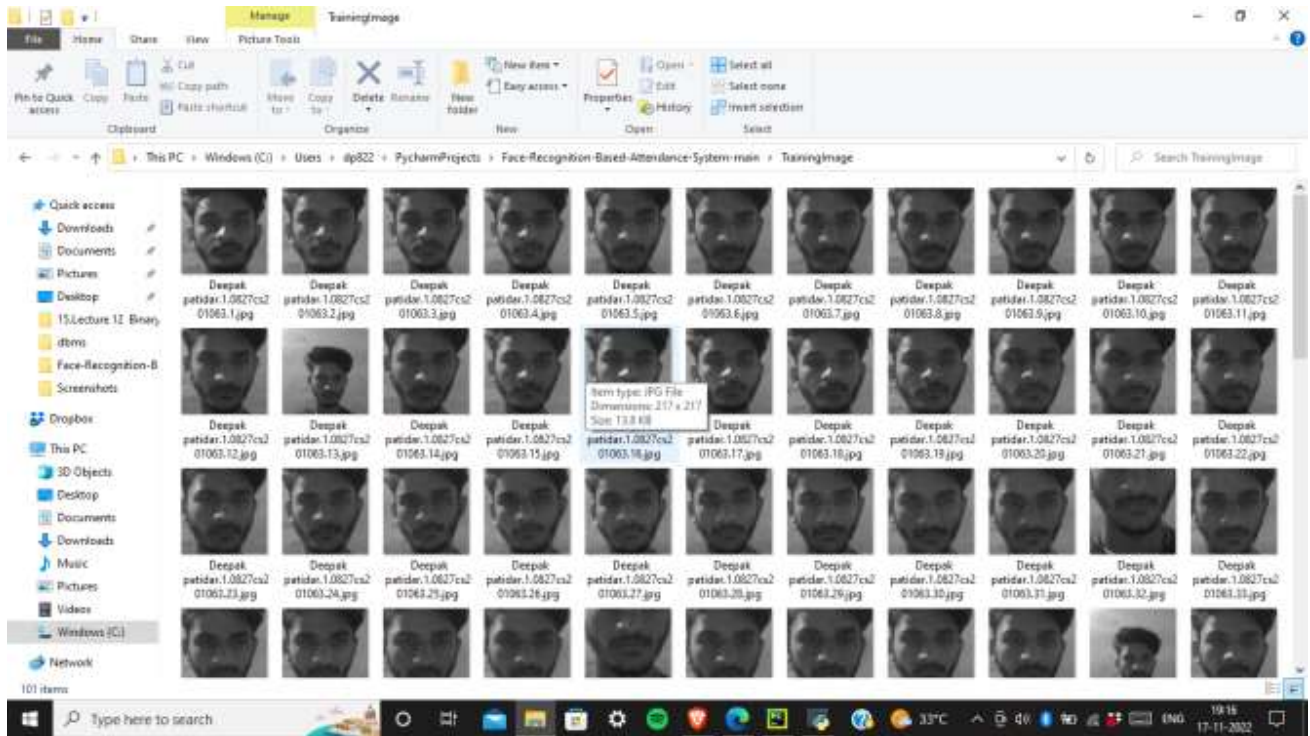


Fig2.2

TEST CASE: 2

Test Case ID	TC002
Test Case Summary	It will check whether the system take attendance and generate CSV file or not
Test Procedure	After saving profile click on take attendance option, the web cam will open and show the name of registered student on photo of it .Then press key 'q' to take attendance .
Expected Result	Results were 100%
Actual Result	Pass



Fig 1.3

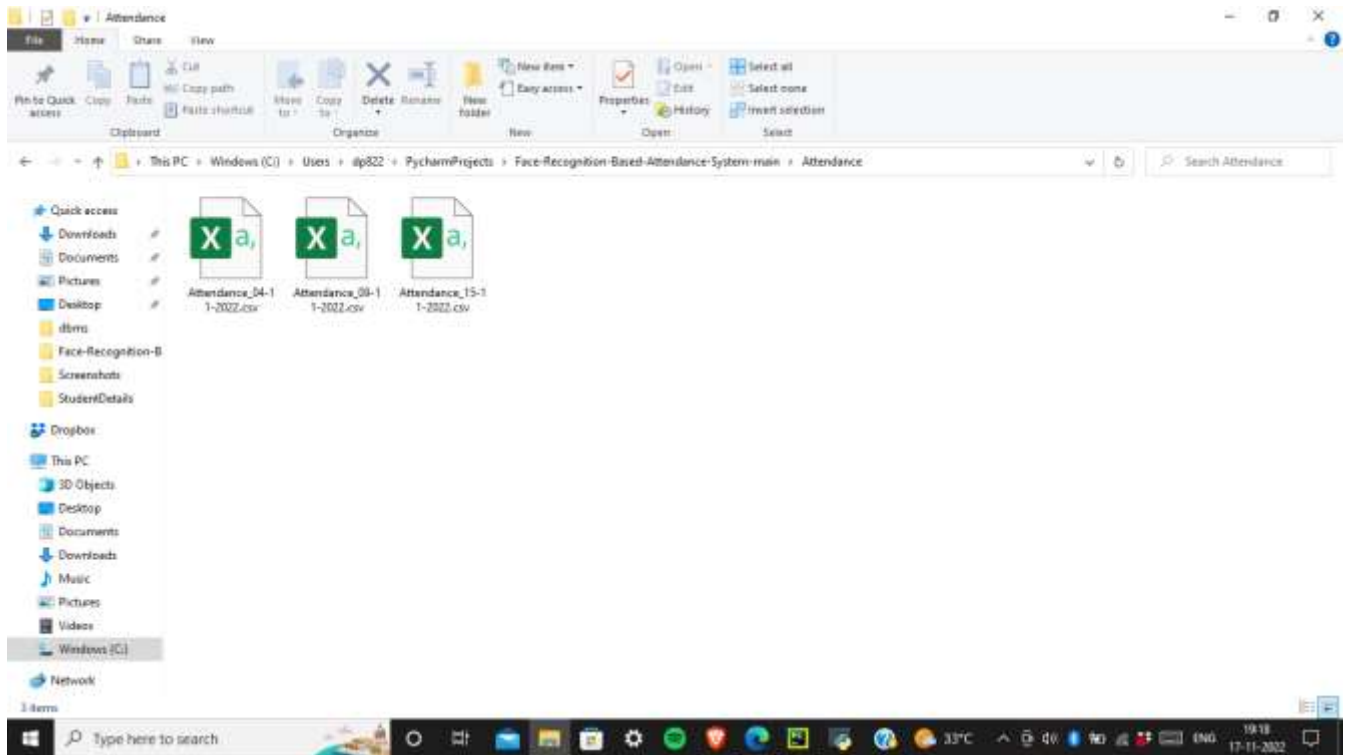


Fig2.4

Chapter 5.Conclusion

Conclusion

5.1 Conclusion

In this system we have implemented an attendance system for a lecture, section or laboratory by which lecturer or teaching assistant can record students' attendance. It saves time and effort, especially if it is a lecture with huge number of students. Automated Attendance System has been envisioned for the purpose of reducing the drawbacks in the traditional (manual) system. This attendance system demonstrates the use of image processing techniques in classroom. This system can not only merely help in the attendance system, but also improve the goodwill of an institution.

5.2 Suggestion and Recommendations for Future Work

To improve the functionality and reliability of the system in the future we can add some of the following enhancements:

1. Add a self generating defaulter list, that is create dafter a certain amount of fixed time has passed for any student whose attendance is below seventy five percent.
2. The System will have to separate between recognised and unrecognised faces, faces that go unrecognised can be stored in a secondary database .

References

Github link-<https://github.com/deepakpatidar2209/face-recognition-based-attendance-system>

- [1] M. T. a. A. Pentland, "Eigenfaces For Recognition," Journal of Cognitive Neuroscience, vol. 3, no. 1, 1991.
- [2] A. V. a. R. Tokas, "Fast Face Recognition Using Eigen Faces," IJRITCC, vol. 2, no. 11, pp. 3615-3618, November 2014.
- [3] Paul Viola and Michael J. Jones, "Robust Real-Time Face Detection," International Journal of Computer Vision, vol. 57, no. 2, pp. 137-154, May 2004.
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- [5] Vinay Hermath, Ashwini Mayakar, "Face Recognition Using Eigen Faces and," IACSIT, vol. 2, no.4pp. 1793-8201, August 2010.

SMART ATTENDANCE SYSTEM

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ABSTRACT

In this era of technology, every day new technology makes its debut in the market. Face recognition-based authentication is one among them. This technology uses facial video or image for detection. Facial authentication can be used in many fields such as authentication, face recognition-based attendance, government document verification, and many more. Here, we develop a project which can be used to detect the face of an enrolled student and mark the attendance of that student. In this project we used a cascade classifier of OpenCV for face detection, a CSV file for marking the attendance of the detected faces. We use Tkinter for the GUI part of the project. This project can be used for schools and colleges. The class coordinator can be the admin and enroll student in the app, after enrollment attendance can be taken which will be saved in the CSV file.

Keywords: GUI, Tkinter, CSV, Cascade Classifier, Opencv, Face Detection, Numpy, Pandas.

I. INTRODUCTION

The traditional method of taking attendance is quite time taking and tedious sometime. The teacher has to call the names of students one by one to mark the attendance, this causes a waste of time for student as well as teacher. In this project we tried to solve that problem by using technology named as facial detection based authentication. This project consists of two stages:

1. The admin enrolls the student by taking facial video and saves the profile of the student. The profile is saved in the CSV file and stored in the student details folder. The photos captured in video are saved in training image folder.
2. After enrollment the admin takes the attendance of the student and the details were saved in attendance folder.

In this way this face-recognition based attendance system can reduce the time which was being wasted in traditional method of taking attendance.

II. METHODOLOGY

The working model of the project is shown below using data flow diagram:

Tools and technology :

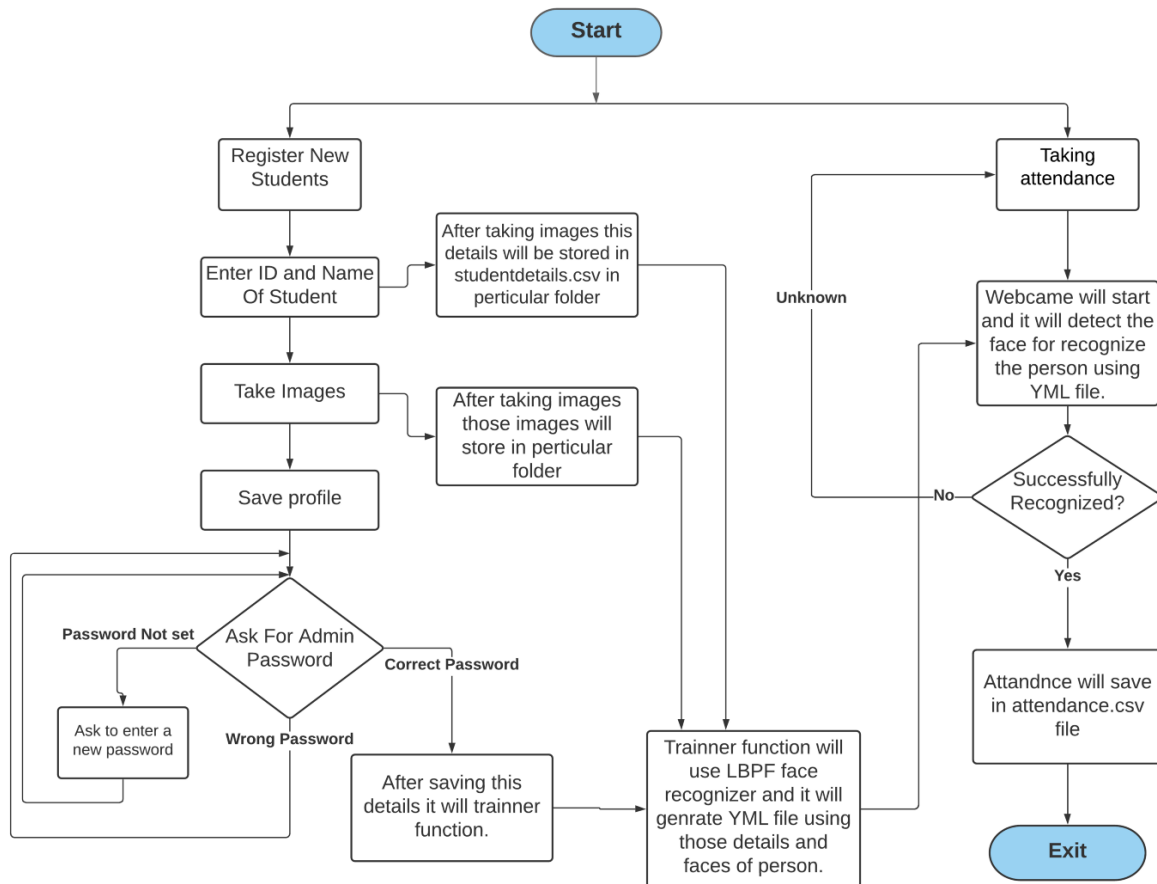
- **Python** : It is used to build the backend of the project.
- **Tkinter** : It is a GUI used to build the frontend of the project.

Libraries used :

- **OpenCV**: OpenCV is a library of programming functions mainly aimed at real-time computer vision.
- **Numpy**: NumPy is a library for the Python programming language, adding support for large, multi-dimensional arrays and matrices, along with a large collection of high-level mathematical functions to operate on these arrays.
- **Pandas**: pandas is a software library written for the Python programming language for data manipulation and analysis.
- **Haarcascade_frontalface_default**: This 'XML' file contains a pretrained model that was created through extensive training.

Tools used :

1. **Pycharm IDE**: JetBrains pycharm is a Python IDE for data science and web development.



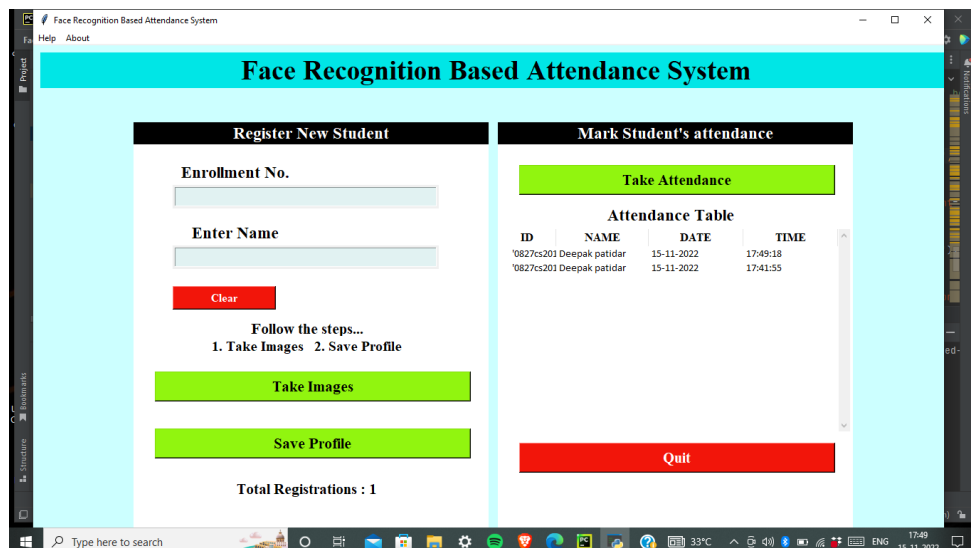
Data flow diagram

III. PROPOSED DESIGN AND OVERVIEW OF THE PROJECT

We have divided this project into four parts :

1. GUI: In this project, We made one simple GUI using the python Tkinter library so that the nontech background person can also use it . Tkinter is the standard GUI library for Python.

For making this GUI we mainly used Tkinter's frames, button, message box , table pack function ,menubar, label, textbox, etc. We divide our GUI main screen into two parts , one is for Registration and the second is for taking attendance.



2. Take Images: We use OpenCV library to capture video and used a cascade classifier of OpenCV for face detection. To use this cascade classifier we need the haarcascade_frontalface_default.xml file which includes all the haar cascade features of a face.

When the admin enter the detail of the student and click on take images button the camera of the system opens and record the video. After taking the video the camera shuts automatically and the photos of the student will be saved in trained image folder.

3. Save profile: After taking the images the admin has to save the profile so that the details of the student get saved in the CSV file. At first, it ask for the password if the password entered is correct then the details of the student get saved in a CSV file. After saving the profile the number of registered students is shown below the save profile button.

4. Take attendance: The admin now can take the attendance of the registered student by clicking on the take attendance button. The camera will open and if the student in the camera frame is registered then his/her attendance is marked in CSV file.

IV. CONCLUSION

The purpose of this project is to make an alternative for the traditional attendance system. It helps the teachers to save time in taking attendance by calling names of student one by one . This face recognition based attendance system helps to increase the accuracy and speed of taking attendance. The attendance record were saved in csv file so there is no need of paperwork ,hence it saves institutes from the burden of storing tons of paper.

V. REFERENCES

- [1] N. Sudhakar Reddy, MVSumanth, S. Suresh Babu, "The Counterpart Approach to Attendance and Feedback System uses Machine Learning Techniques", Journal of Emerging Technologies and Innovative Research (JETIR), Volume 5, Issue 12, Dec 2018.
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- [3] Akshara Jadhav, Akshay Jadhav, Tushar Ladhe, Krishna Yeolekar, "Automatic Travel System Using Face Recognition", International Research Journal of Engineering and Technology (IRJET), Volume 4, Issue 1, Jan 2017.
- [4] B Prabhavathi, V Tanuja, V Madhu Viswanatham and M Rajashekhara Babu, "A clever system of presence to see the face in the same way", IOP Conf. Series: Materials Science and Engineering 263, 2017.
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INTRODUCTION

The traditional method of taking attendance is quite time taking and tedious sometime. The teacher have to call the names of students one by one to mark the attendance, this cause a waste of time for student as well as teacher . In this project we tried to solve that problem by using technology named as facial detection based authentication. This project consists of two stages:

1. The admin enroll the student by taking facial video and save the profile of the student. The profile is saved in the CSV file and stored in the student details folder . The photos captured in video are saved in training image folder.

2. After enrollment the admin take the attendance of the student and the details were saved in attendance folder. In this way this face-recognition based attendance system can reduce the time which were being wasted in traditional method of taking attendance.

OBJECTIVES

The task of the system is to captured attendance of student and store in database. Student need to register first time then system automatically identify student and Captured attendance

1. Reducing time wastage during conventional class attendance.
2. Utilizing the latest trends in machine vision to implement a feasible solution for the class attendance system.
3. Automating the whole process so that we have digital environment.
4. Preventing fake roll calls as one-to-one attendance marking is possible only.
5. Encouraging the use of technology in daily lives

METHOD

The working model of the project is shown below using data flow diagram in fig 1:

Tools and technology :

- Python : It is used to built the backend of the project.
- Tkinter : Is a GUI used to build to build frontend of the project.

Libraries used :

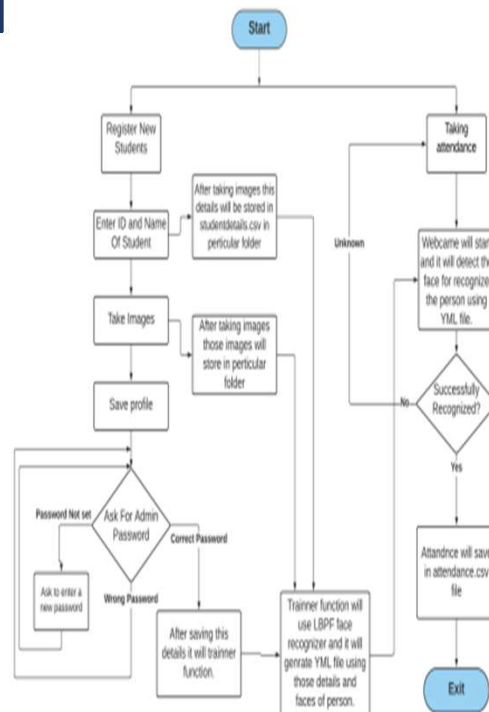
- OpenCV: OpenCV is a library of programming functions mainly aimed at real-time computer vision.

- Numpy: NumPy is a library for the Python programming language, adding support for large, multidimensional arrays and matrices, along with a large collection of high-level mathematical functions to operate on these arrays.

- Pandas: pandas is a software library written for the Python programming language for data manipulation and analysis

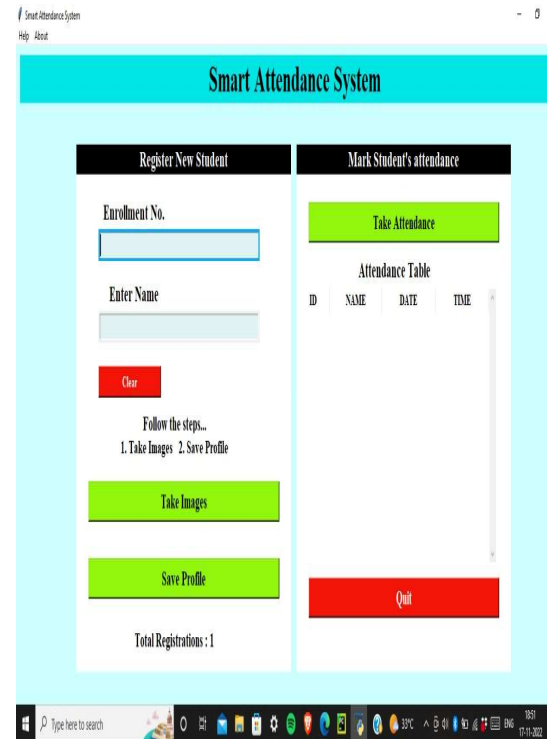
- Haarcascade_frontalface_default: This 'XML' file contain a pretrained model that was created through extensive training..

Tools used : Pycharm IDE, GUI .



RESULT

This is how the frontend looks of the smart attendance system and new user first they have to register to our system after successful registration they have to login to Our system then camera automatically captured attendance of user and user need to captured attendance before time. after capturing attendance of User the attendance store in database and attendance will be marked.



Conclusion

The purpose of this project is to make an alternative for the traditional attendance system. It helps the teachers to save time in taking attendance by calling names of student one by one . This face recognition based attendance system helps to increase the accuracy and speed of taking attendance. The attendance record were saved in csv file so there is no need of paperwork ,hence it saves institutes from the burden of storing tons of paper.

REFERENCE

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Acropolis Institute of Technology and Research, Indore

Computer Science and Engineering Department

PROJECT - LOG BOOK

Project Title: Smart attendance system

Team Name: Team 3

Team Id: B2T3

Coordinator 1 Name: Prof Ronak Jain

Semester: 5th

Coordinator 2 Name: NA

Section: CS1

Technology: Python, tkinter,opencv,numpy,panda

Domain: Software development

S No	Enrollment	Team Member Name	Mobile Number	Email Id	Role
1	0827CS201039	Anurag Yadav	8839603741	anuragyadav20338@acropolis.in	Developer
2	0827CS201055	Ayushman raghuvanshi	8827667997	ayushmanraghuvanshi20223@acropolis.in	Analyst
3	0827CS201063	Deepak Patidar	9644822611	deepakpatidar20692@acropolis.in	Developer
4	0827CS201066	Deepesh Tolani	7470360112	deepeshtolani20765@acropolis.in	Reseacher
5					

S No	Meeting Date	Summary of Work & Discussion	Member Present	Remarks/ Suggestions Given	Guide Sign
1	3/8/2022	Synopsis Building and Requirement analysis	Anurag yadav,Ayusshman raghuvanshi,Deepak patidar,Deepesh tolani	all have contributed to came up with good project idea	
2	3/9/2022	Er Diagram, State chart Diagram and Data flow Diagram	Anurag yadav,Ayusshman raghuvanshi,Deepak patidar,Deepesh tolani	Deepsh tolani created DFD and ER diagram	
3	3/10/2022	Code done using python and Tkinter GUI Demo presentation and elaboration	Anurag yadav,Ayusshman raghuvanshi,Deepak patidar,Deepesh tolani	Deepak Patidar worked on backend and Anurag Yadav worked in frontend	
4	3/11/2022		Anurag yadav,Ayusshman raghuvanshi,Deepak patidar,Deepesh tolani	All together gave presentation	
5	3/12/2022	Dubugging Of Code and Research Paper creation	Anurag yadav,Ayusshman raghuvanshi,Deepak patidar,Deepesh tolani	Deepak patidar tested for bugs	
6	3/13/2022	Removed errors	Anurag yadav,Ayusshman raghuvanshi,Deepak patidar,Deepesh tolani	Backend development successful	
7	3/14/2022	Demo submission and project presentation	Anurag yadav,Ayusshman raghuvanshi,Deepak patidar,Deepesh tolani	All member gave demo submission	
8	3/15/2022	Project report and Poster making	Anurag yadav,Ayusshman raghuvanshi,Deepak patidar,Deepesh tolani	Deepak patidar and Anurag yadav designed poster and created report	

9	3/16/2022	Updation in research paper and project report	Anurag yadav,Ayusshman raghuvanshi,Deepak patidar,Deepesh tolani	All completed	
10	3/17/2022	Final submit	Anurag yadav,Ayusshman raghuvanshi,Deepak patidar,Deepesh tolani	On classroom	
11					
12					

S No	Due Date	Particular	Submission Date	Observations	Guide Sign
1		Team Formation			
2		Project Title			
3		Synopsis			
4		Synopsis Presentation			
5		Design Diagrams			
6		Paper Publication			
7		Presentation-II			
8		Video			
9		Technical Poster			
10		Report			

Coordinator Signature

HOD Signature