Visvesvaraya National Institute of Technology, Nagpur

Department of Electronics and Communication Engineering

Mini Project Report

Submitted to: Dr. Praveen Pawar

Course: Object Oriented Programming (ECL 205)

Date: October 20, 2022

Project Title: Attendance Management System

Submitted By:

S. No.	Name of Students	Roll No.
1	Bhumik Hemant Patil	BT21ECE034
2	Abhishek Paithankar	BT21ECE036
3	Meshram Pratik Bandu	BT21ECE039
4	Ashay Anand Atkar	BT21ECE060

Project Summary (max 100 words): This Attendance management system is a complete GUI based application which can act as a virtual assistant for taking attendance

(Using Python package - Tkinter).

1) This Application consist of a Login facility for current users and even a Signup facility for new users. Login and Signup facility uses MySQL database for managing and verifying usernames and corresponding passwords. (python package- mysql.connector)
2) "Take Attendance" allows the user to upload a video from a local camera system to the computer with the date on which it was captured. This video will be converted into a series of frames from which faces will be recognized and accordingly attendance will be marked. (Python package- face_recognition)

3) "Image Register" allows the user to register an image of new student (Preferably of high quality) with which faces in the uploaded video will be compared and attendance will be marked only if face is present in the video for a considerable time.
(Python package – Pillow, OpenCV)
4) "Get Attendance Data" is a user-friendly function of AMS which displays Absentees and Presentees on a specific entered date using a date picker calendar in a systematic way.
(Python package - datetime)

1. **Project Title:** Attendance Management System

2. **Hardware Requirements (if any):**

   System installed with python files related to Attendance management system.

3. **Software Requirements (if any):**

   i.   Latest python compiler.
   ii.   IDE for running python files.
   iii. Installed python packages -: Tkinter, face_recognition, os, Pillow, datetime, sys, Numpy, OpenCV, subprocess, mysql.connector, tkcalander and glob.
   iv.   XAMPP MySQL database.

4. **Project Description:** This Attendance Management System is primarily built to reduce the efforts and time engaged by professors for taking daily attendance. This AMS allows the professors to give their whole time for lecture, which is not possible while taking manual attendance. This AMS not only registers attendance but also accesses those files to display date-wise statistics of attendance using GUI, which makes it quite user-friendly.
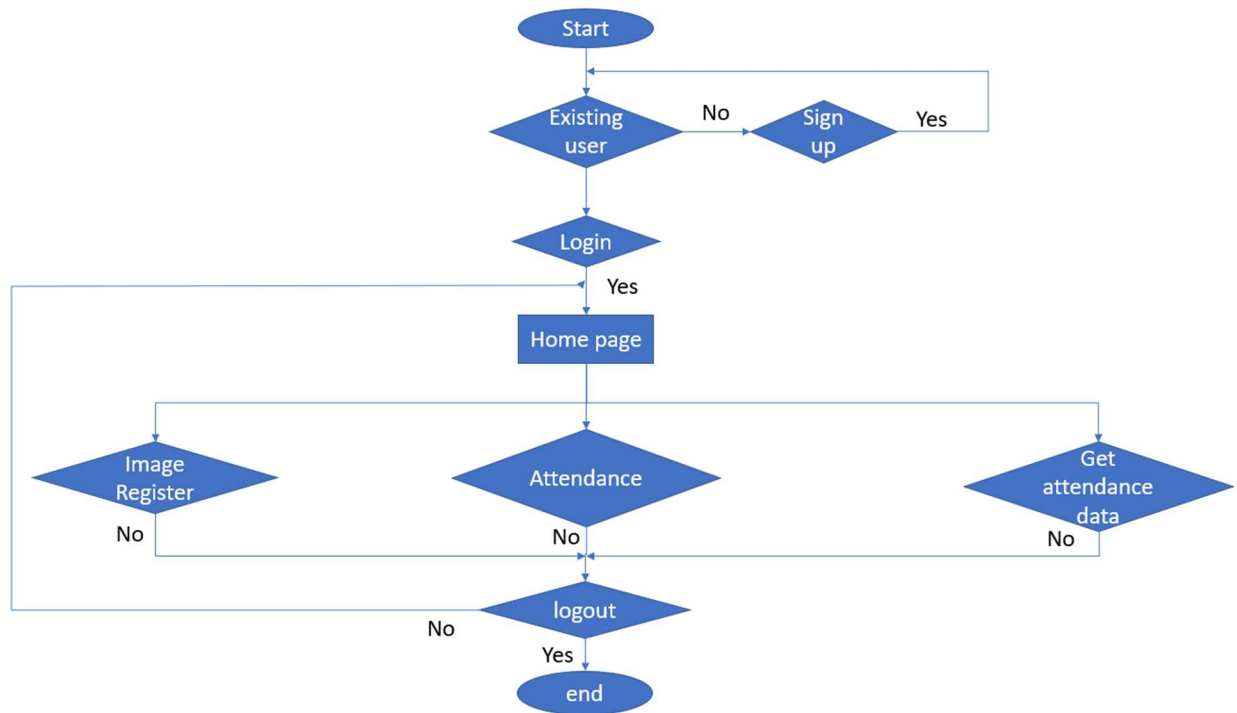
5. Basic flowchart:

Fig. 1 – Basic Flowchart of Application
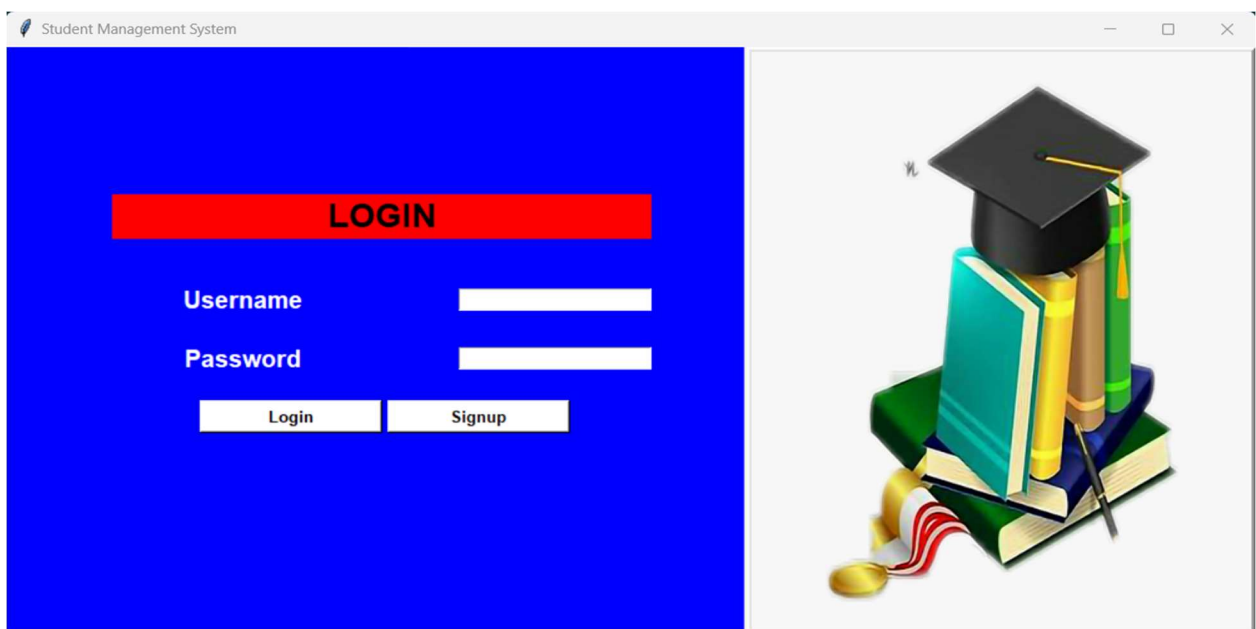
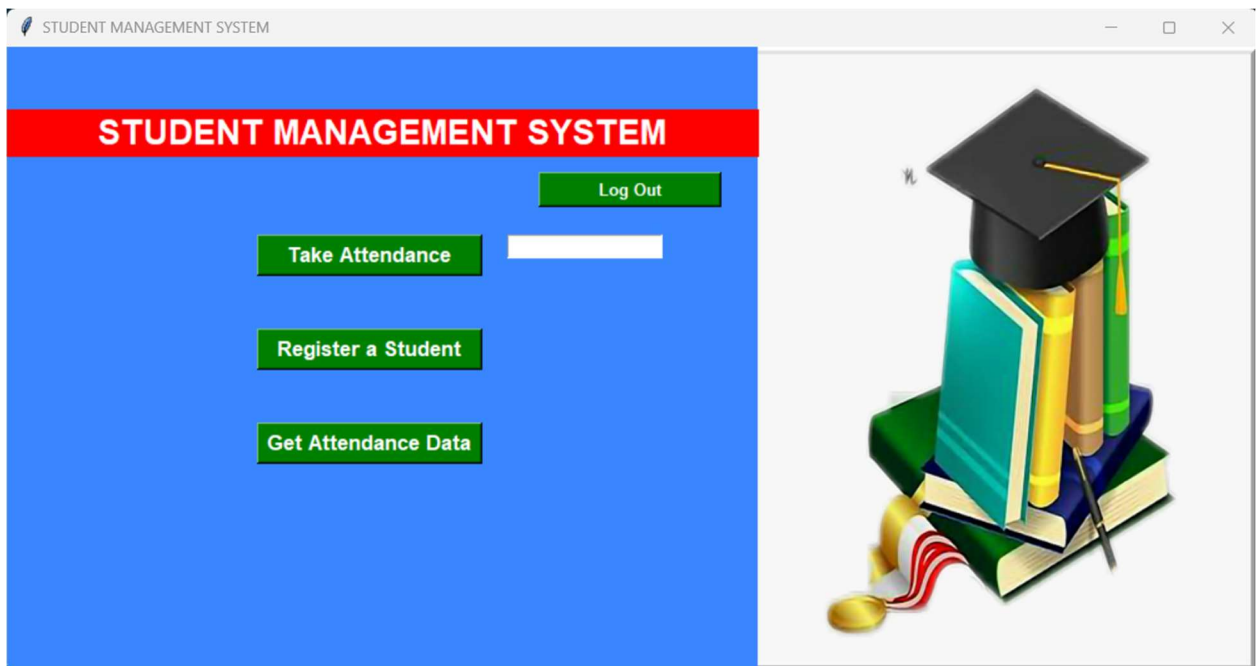**6. Screenshots of application:**

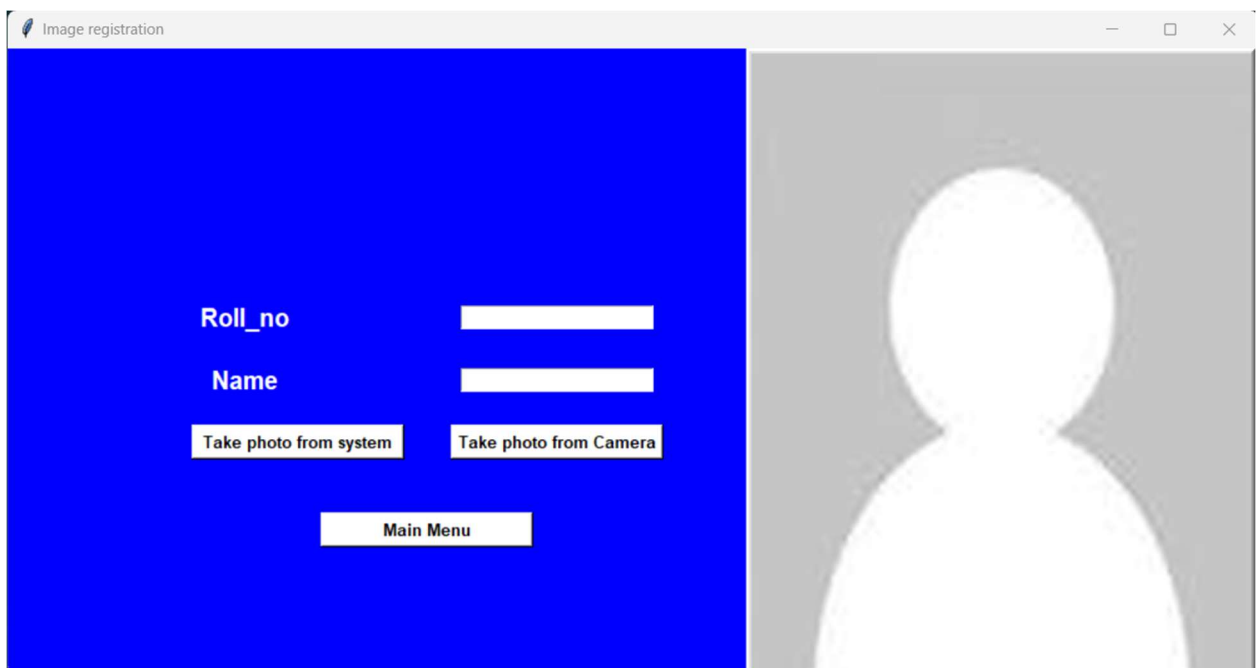Fig. 2 – Login Page

Fig. 3 – Main Menu Page
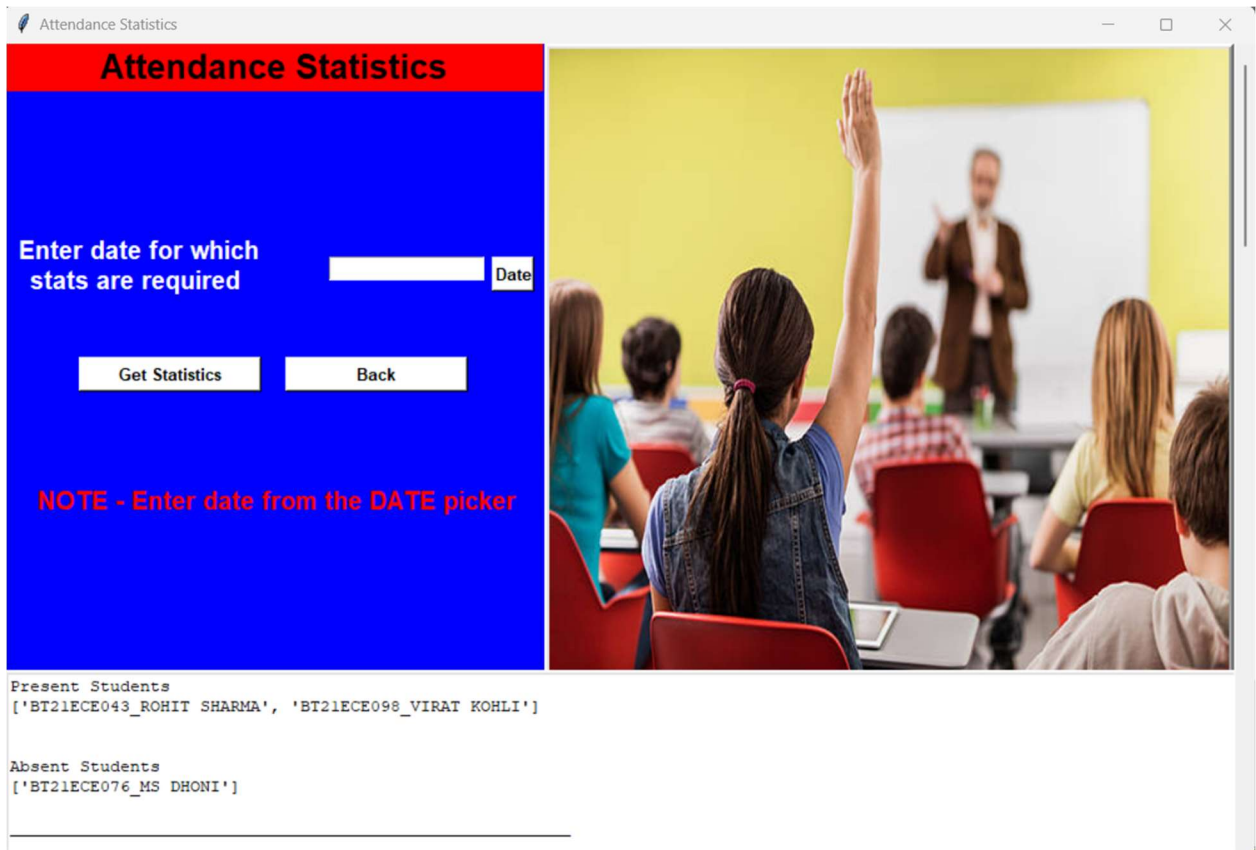

Fig. 4 – Register a student

Fig. 5 – Get Attendance Data

7. **Conclusion and Future Work:** We, as a team want to develop this Python based application to make it more usable and practically applicable. Efforts, to accomplish this that we are going to take are -:

   i.   Developing our own camera system which will take images in a regular interval period-wise and date-wise and store it on MySQL server, which then will be used to mark attendance.

   ii. Allowing user to register images of students Year-wise and Branch-wise.

   iii. Developing this Attendance Management System to a complete Student Management System.

8. References:

1) https://github.com/AshayAtkar/Attendance-Management-System.git

2) https://www.python.org/

3) Code with Harry – Tkinter

https://www.youtube.com/playlist?list=PLu0W_9lII9ajLcqRcj4PoEihkukF_OTzA

4) https://www.geeksforgeeks.org/python-face-recognition-using-gui/