



K. J. Somaiya College of Engineering, Mumbai-77

Batch: A2 **Roll No.:** 1911023

Experiment No. Mini Project Report

Grade: AA / AB / BB / BC / CC / CD / DD

Signature of the Staff In-charge with date

TITLE: Python Application Development

AIM: To develop a python application for a real world problem

Expected OUTCOME of Experiment:

Student Management System

Books/ Journals/ Websites referred:

<https://www.tutorialspoint.com/>

<https://docs.python.org/>

<https://www.geeksforgeeks.org/>

Github-Link For Project Files

https://github.com/Srinil-Khandwala/OSTPL_MiniProject.git

Problem Definition

Educational institutions have to handle records for many number of students. Maintaining records manually in a register is quite difficult. A computerized system is required which makes the process simpler ,faster and feasible. Hence there is a need to upgrade the process with a computer based system.

Scope:

1. A good GUI
2. Register – Create a new account for user
3. Login system- Only authorised user has access to the software
4. Reset Password – Change the password if forgotten by the user
5. Add – Add Student Record to the database
6. Delete – Delete Student Record from the database
7. Update – Update Student Records
8. Search – Search for particular Student type

Department of Computer Engineering



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Literature Survey

Various sources were referred during the implementation of this project. Some of them include GeeksForGeeks.com, stack overflow, etc.

Objective of the Project

- The student management system allows only authorized members to access the record of academically registered students. It can be used in various educational institutes across the globe and simplifies working of institutes.
- The Student Management System can handle all the details about a Student. The details include Students Name, Roll no, Email , Gender, Contact, Date of Birth and Address.
- This project helps in maintaining the database of the students in any educational organization. We can easily access any student's information anytime and can be kept safely for long period of time without any damage

Requirements

Hardware - None

Software -

- Pycharm
- MySQL
- XAMPP/ MySQL Workbench

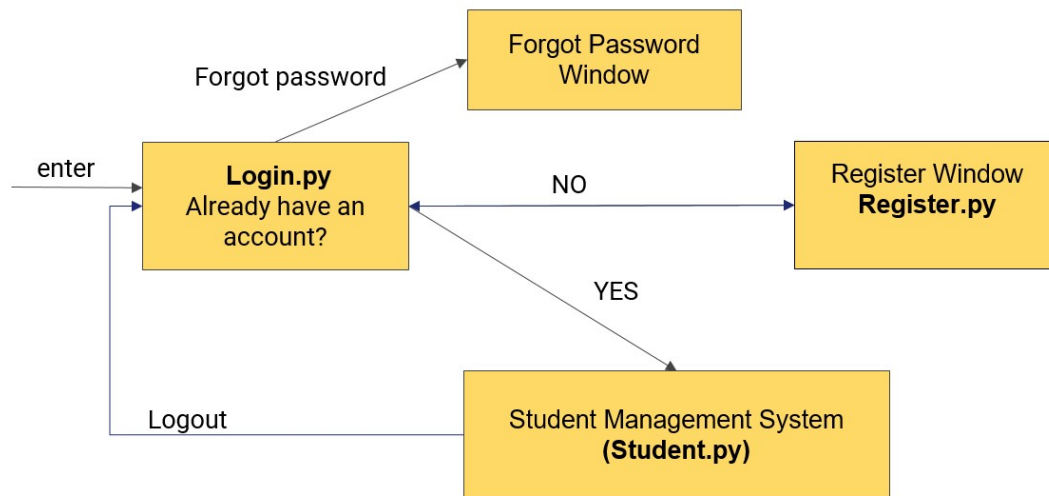
System Architecture

- The initial window will be the login window where the user can enter the correct credentials to login the student management system. If the user doesn't have an account he can register a new account
- After getting redirected to register window user can fill in the required details and create an account
- In-case the user forgets the password, he can Reset the password by clicking on Forgot Password on the login window. User will be asked to answer a security question and then he set to change the password.
- After Logging in the Student Management System, User has 4 buttons ADD, DELETE, UPDATE, CLEAR. SEARCH by applying conditions is also available to the user
- Clicking on the Logout button will redirect the user to the login window



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Flow Diagram

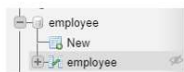


Packages Used

- **Tkinter** - Python offers multiple options for developing GUI . Python with tkinter is the fastest and easiest way to create the GUI applications.
- **pymysql** - It is a mainstream connection library written in pure python

Database Schema:

1.



id	f_name	i_name	contact	email	question	answer	password
1	Srinil	Khandwala	9167210286	srinil.k@somaiya.edu	Your college name	kjsce	helloworld12
2	Rohan	B.	9845123452	rohan@gmail.com	Your favourite subject	Maths	Maths123
5	first	last	8462239861	first@gmail.com	Your friend name	nobody	first12345
6	Yash	Patil	7845656256	yash@gmail.com	Your college name	IIT B	yash123

2.



roll_no	name	email	gender	contact	dob	address
1	Srinil	srinil.k@somaiya.edu	Male	9167210286	24/02/2001	thane
2	Rohan	rohan@gmail.com	Male	9568213457	02/02/2001	mumbai
3	Smeet	smeet@gmail.com	Male	9869845715	03/02/2001	Delhi
4	ayush	ayush@gmail.com	Male	9642216894	10/04/2001	hyderabad
5	tanmay	tanmay@gmail.com	Male	9845612345	05/05/2001	pune
6	nayan	nayan@gmail.com	Male	7894561232	19/06/2001	bangalore
7	Sneha	sneha@gmail.com	Female	7846468431	07/07/2001	mumbai
8	Hussein	hussein@gmail.com	Male	7896123451	08/05/2001	hyderabad
9	Sashank	sashank@gmail.com	Male	7894514756	23/05/2001	Thane



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Functions Implemented

Major-

1. Register – Create a new account for user
2. Login - Only authorised user has access to the software
3. Forgot Password – Change the password if forgotten by the user
4. Add – Add Student Record to the database
5. Delete – Delete Student Record from the database
6. Update – Update Student Records
7. Search – Search for particular Student type
8. Fetch – Fetch data from database and display on the table in GUI

Minor-

1. Clear - Reset Entry fields to Null
2. Checker - Validate data
3. Cursor – Selecting data by clicking a row in the table

User Interface

1. Login window

LOGIN

E-mail

Password

[Register new Account?](#)

[Forgot Password?](#)

Login



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2. Register window

A screenshot of a web browser window titled "Register". The window has a dark blue background. In the center, there is a white rectangular form titled "REGISTER HERE". The form contains several input fields: "First Name", "Last Name", "Contact", "Email", "Security Question" (a dropdown menu with "Choose" selected), "Answer", "Password", and "Confirm Password". Below these fields are two buttons: a green "Register" button and a blue "Login" button. At the bottom of the form, there is a text link: "Please Login, If you already have an account !".

REGISTER HERE

First Name

Last Name

Contact

Email

Security Question

Answer

Password

Confirm Password

[Please Login, If you already have an account !](#)

3. Forgot Password Window

A screenshot of a web browser window titled "Forgot Password". The window has a dark blue background. In the center, there is a white rectangular form titled "FORGOT PASSWORD". The form contains three input fields: "Security Question" (a dropdown menu with "Choose" selected), "Answer", and "New Password". Below these fields is a green "Reset Password" button.

FORGOT PASSWORD

Security Question

Answer

New Password



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4. Student Management System

Student Management System

STUDENT MANAGEMENT SYSTEM

Logout

MANAGE STUDENTS

ROLL NO

NAME

E-MAIL

GENDER

CONTACTS

DOB

ADDRESS

SEARCH BY

Roll no.	Name	Email	Gender	Contact	DOB	Address
1	Srinil	srinil.k@somaiya.	Male	9167210286	24/02/2001	mumbai
3	Smeet	smeet@gmail.com	Male	9869845715	03/02/2001	Delhi
4	ayush	ayush@gmail.com	Male	9642216894	10/04/2001	hyderabad
5	tanmay	tanmay@gmail.c	Male	9845612345	05/05/2001	pune
6	nayan	nayan@gmail.com	Male	7894561232	19/06/2001	bangalore
7	Sneha	sneha@gmail.com	Female	7846468431	07/07/2001	mumbai
8	Hussein	hussein@gmail.c	Male	7896123451	08/05/2001	hyderabad
9	Sashank	sashank@gmail.c	Male	7894514756	23/05/2001	Thane
10	name	name@gmail.com	Female	7894561237	01/01/2002	somewhere

Conclusion

I have successfully created an Application which is a Student Management System for Educational Institutes, Wherein user can use all the CRUD operations . All of this has been created using core python.

Further Work

- I can create Databases according to department
- Pdf of the database
- Maintaining Attendance record of the students as well as their Academic information