

A Project Report
On
Student Management System(SMS)

Course Title:

Data Structure

Instructor's Name:

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Table of Contents

Contents	Page No.
1)Acknowledgment.....	3
2) Summary.....	3
3) Introduction.....	3
4) Objectives.....	3
5) Tools and Technologies.....	4
6) Methodology	4
7) Implementation.....	4
8) Results.....	5
9)Screenshots of project	5
• Login interface	5
• Login successful.....	6
• Database connection	6
• Database connectivity successful.....	7
• To add students.....	7
• Students data entry in database	8
• Searching students by id and result.....	8
• Update feature.....	9
10) Challenges.....	10
11)Conclusion.....	10
12) References.....	11

1) Acknowledgment:

In the name of **Allah** ,the most gracious and most merciful ,all praises to **Allah** for the strength and his blessing to us for the completion of this project.

We are deeply Greatful to our project supervisor **Mr.Faisal Hafeez** .Being truly without his guidance , support, suggestions and encouragement we would not have been able to complete this project

2) Summary:

This project, titled "**Student Management System (SMS)**," aims to simplify and digitize student record management. The primary objectives include providing an efficient login mechanism, a user-friendly interface for managing student data, and the ability to export records. Using **Python, tkinter**, and **database tools**, we developed a system that supports adding, viewing, and exporting student records. The results demonstrate functionality and usability. Future improvements can include expanding the feature set.

3) Introduction:

This report documents the development and implementation of the Student Management System (SMS). The project focuses on creating a simple and effective solution for managing student data. It addresses common challenges such as **manual record-keeping** and **lack of centralized access**. The solution integrates a **graphical user interface (GUI)** and **database connectivity** to streamline operations.

4) Objectives:

The primary objectives of this project include:

- Creating a secure and efficient login system.
- Developing a user-friendly interface for managing student records.
- Implementing features for exporting data to external formats.

5) Tools and Technologies

The project was developed using the following tools and technologies:

- **Python** : The core programming language.
- **Tkinter** : For developing the GUI.
- **TTK Themes** : For enhancing the visual appeal of the interface.
- **PyMySQL** : For database connectivity.
- **Pandas** : For data manipulation and export functionality.

6) Methodology

The methodology followed for this project includes the following steps:

- Designing a login system to validate user credentials.
- Developing the core functionality for managing student records, such as adding, viewing, and exporting data.
- Integrating the GUI using **tkinter** and enhancing it with **TTK themes**.
- Connecting the application to a MySQL database using **PyMySQL**
- Testing and debugging the system to ensure reliability.

7) Implementation

The implementation involved:

- Creating a **main.py** script to handle user authentication with a graphical interface.
- Developing **sms.py** to manage student records and implement core functionalities such as data export.
- Using **pandas** to enable seamless **CSV file** creation.
- Designing the application's GUI for ease of use and integration with the database.
- Adding user prompts and confirmations for a better user experience.

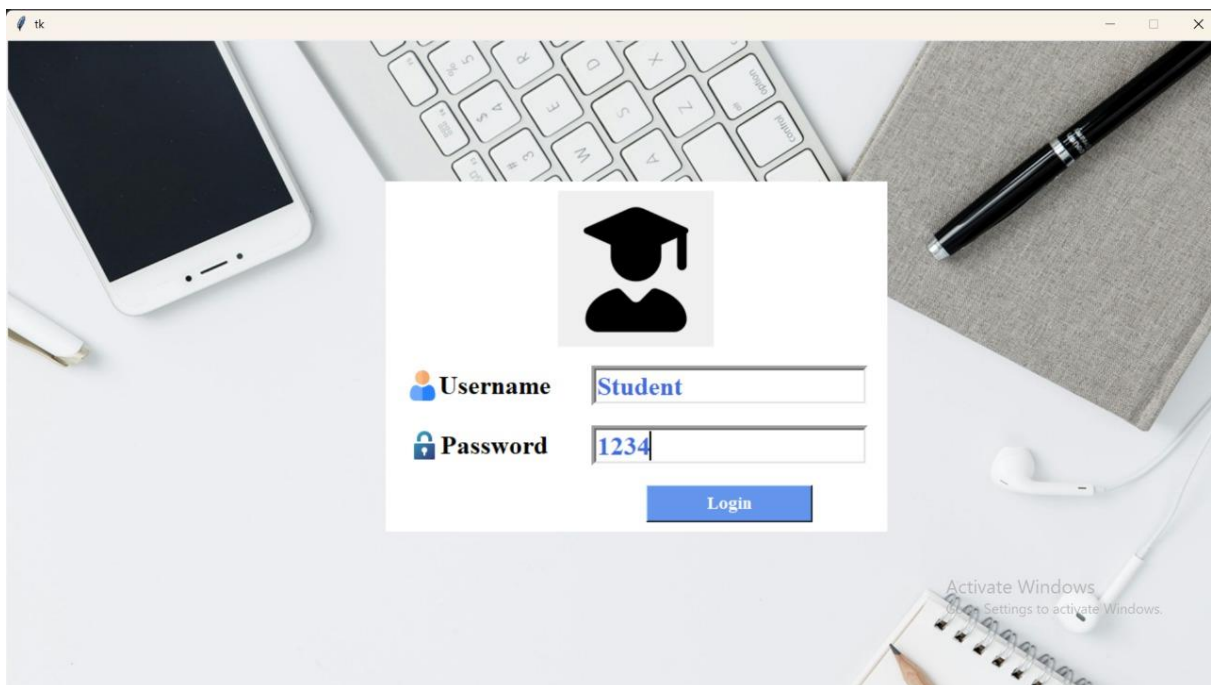
8) Results

The key results obtained from this project include:

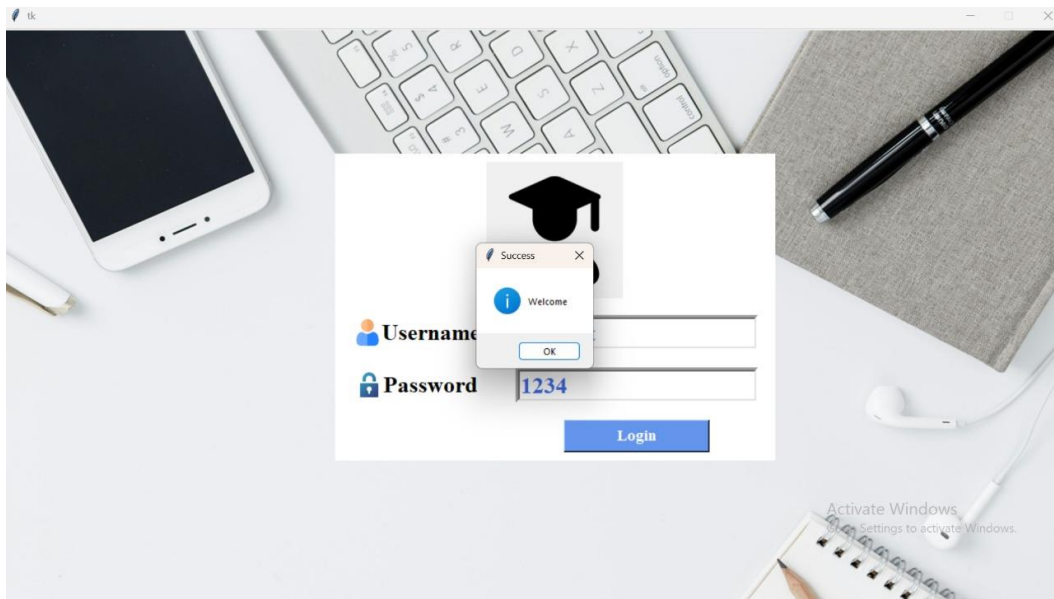
- Successful implementation of a **login system**.
- A fully functional GUI for managing student records.
- Ability to export data to CSV files for external use.
- Robust and user-friendly interface.

9) Screenshots of project

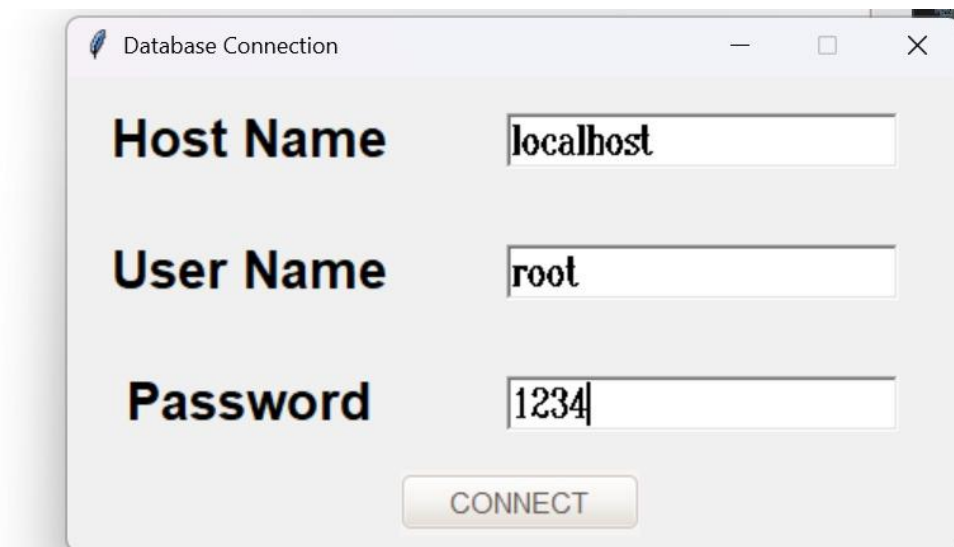
Login Interface



Login successful

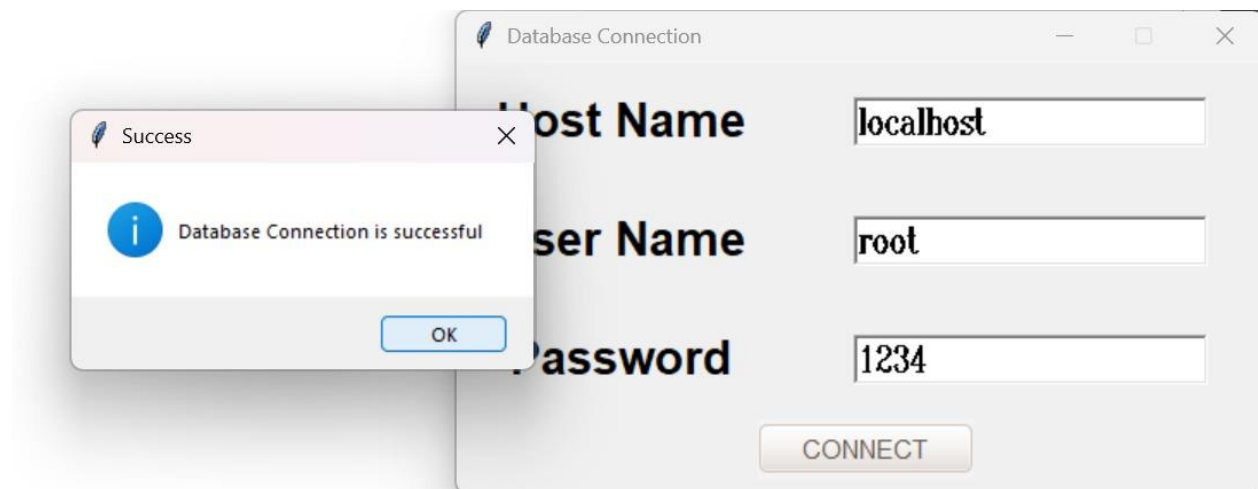


Database connection

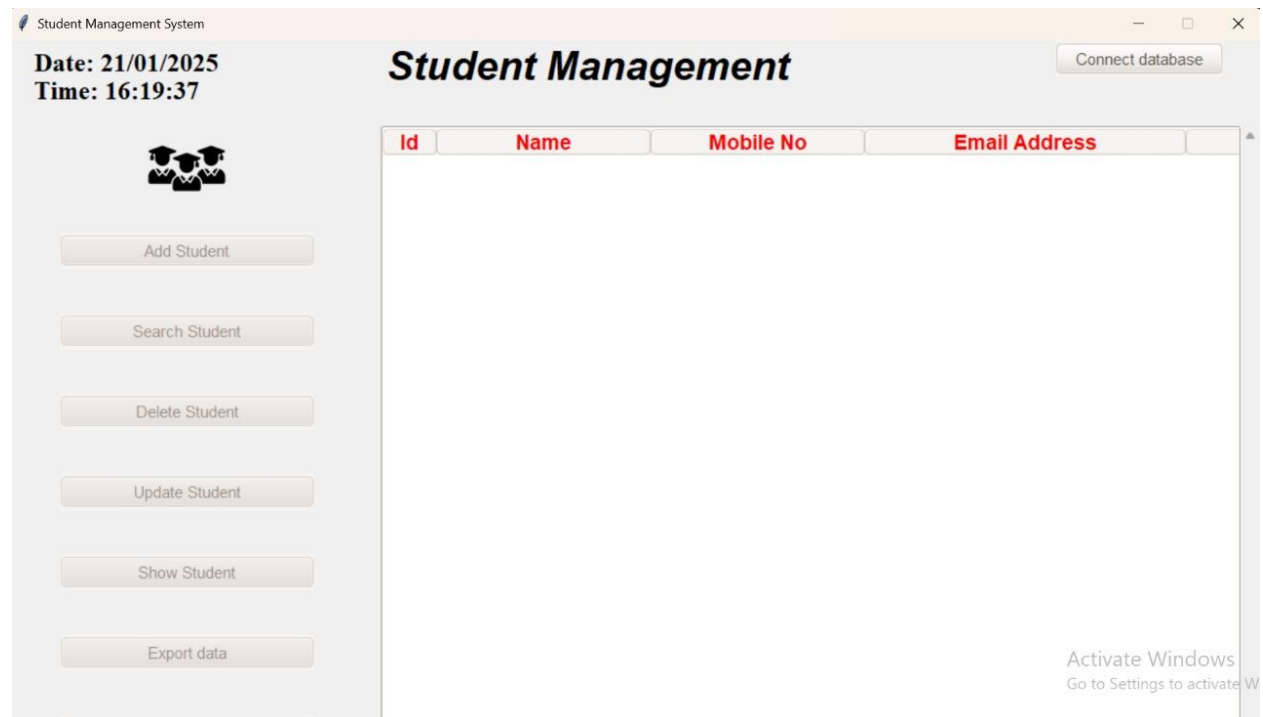


(6)

Database connectivity successful



To add students




Students data entry in database

Student Management System

Date: 21/01/2025
Time: 16:21:21

Student Ma

Connect database



Add Student

Search Student

Delete Student

Update Student

Show Student

Export data

Id	Name	Mobile No	Email Address
1	Maryam khalid	0234567891	khalid@gmail.com
2	Mudassar Raza	0302456794	raza@gmail.com
3	Sana Ullah	0302678941	sana@gmail.com
4	Muhammad Mudassar Iqt	0302412398	iqbal@gmail.com
5	Ali Zain	0304456789	zain@gmail.com
6	Ayesha Noor	0300345799	mirah@gmail.com
7	Bilal Hussain	0301345678	hussain@gmail.com
8	Muhammad Laraib	0303123765	laraib@gmail.com
9	Fasih ud din	0302456789	fasih@gmail.com
10	Muhammad Ramzan	0301987123	ramzan@gmail.com
11	Muhammad Sarfaraz	0311567895	sarfaraz@gmail.com
12	Muneeb Hamza	0301456987	hamza@gmail.com
13	Zeenat shahzadi	0324127893	shahzadi@gmail.com

Searching students by id and result

Search Student

Id

Name

Phone

Email

Address

Gender

D.O.B

Search

Student Manageme

Connect database

Id	Name	Mobile No	Email Address
10	Muhammad Ramzan	0301987123	ramzan@gmail.com

Update feature

Updating id 6

The screenshot shows the 'Student Management System' interface. On the left, an 'Update Student' dialog box is open, displaying the following information for student ID 6:

- Id:** 6
- Name:** Ayesha Noor
- Phone:** 0301456785
- Email:** ayesha@gmail.com
- Address:** 125 chak
- Gender:** Female
- D.O.B:** 20-2-2005

Below the form is an 'Update' button. In the background, the main 'Student Management' window shows a table of students:

Name	Mobile No	Email Address
Maryam khalid	0234567891	khalid@gmail.com
Mudassar Raza	0302456794	raza@gmail.com
Sana Ullah	0302678941	sana@gmail.com
Muhammad Mudassar Iqt	0302412398	iqbal@gmail.com
Ali Zain	0304456789	zain@gmail.com
Ayesha Noor	0300345799	mirah@gmail.com
Bilal Hussain	0301345678	hussain@gmail.com
Muhammad Laraib	0303123765	laraib@gmail.com
Fasih ud din	0302456789	fasih@gmail.com
Muhammad Ramzan	0301987123	ramzan@gmail.com
Muhammad Sarfaraz	0311567895	sarfaraz@gmail.com
Muneeb Hamza	0301456987	hamza@gmail.com
Zeenaat shahzadi	0324127893	shahzadi@gmail.com

This screenshot is similar to the previous one, but it includes a 'Success' dialog box that appears after the update. The 'Update Student' dialog box shows the same information for student ID 6. The 'Success' dialog box contains the message: 'Id 6 is modified successfully' and an 'OK' button. The background table of students remains the same.

12) References

- **tkinter Guide:** <https://tkdocs.com/>
- **pandas Library:** <https://pandas.pydata.org/>
- **MySQL**

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