FEU Institute of Technology

Department of Information Technology

IT0011: INTEGRATIVE PROGRAMMING AND TECHNOLOGIES

TB22

Final Project

Submitted by:

Madlang-awa, Sean Timothy

Sayno, Sean

Sumalinog, Neil Kalvin

Valenzuela, John Andrew

Submitted to:

Sir. Joseph Calleja

I. INTRODUCTION

In today's digital world, effective user management systems are essential for organizing and maintaining user data. As organizations increasingly rely on technology to handle large amounts of information, having user-friendly and reliable management solutions becomes crucial. This project introduces a User Management System developed using Python's Tkinter library for the graphical user interface (GUI) and SQLite for database management. The system facilitates the registration, retrieval, and searching of user information, streamlining the process of managing user records.

The application employs various programming techniques to enhance usability and functionality. Conditional statements ensure that all required fields are filled before submission, while functions encapsulate specific tasks for better organization. Additionally, object-oriented programming (OOP) principles are used to structure the code, making it easier to maintain and expand in the future. This approach not only improves code clarity but also supports efficient data handling.

With its intuitive interface, the User Management System allows users to navigate effortlessly. Users can register new individuals, view all existing records, and search for specific entries by last name. This functionality not only enhances user engagement but also speeds up the process of data retrieval. Overall, this project demonstrates how programming concepts can effectively create solutions for managing user data, showcasing the power of Python in building practical applications in a digital age.

II. OBJECTIVES

The primary objective of this project is to create a User Management System that facilitates seamless user registration. The system will allow individuals to input essential personal details, such as first name, middle name, last name, birthday, and gender, while ensuring that all required fields are validated before submission. This focus on user-friendly registration aims to streamline the onboarding process and enhance data accuracy.

Another key objective is to implement a secure and efficient database using SQLite for managing user information. The system will enable effective data storage and retrieval, allowing users to access their records easily. By providing a reliable backend, the application aims to ensure data integrity and support the smooth operation of user management tasks.

Additionally, the project will feature a simple and intuitive graphical user interface developed with Tkinter. This interface will allow users to navigate the application effortlessly, view all registered records, and search for specific entries by last name. By emphasizing usability and accessibility, the system will enhance user engagement and satisfaction, making it a practical tool for managing user data in various contexts.

III. PROGRAM SCREEN SHOTS

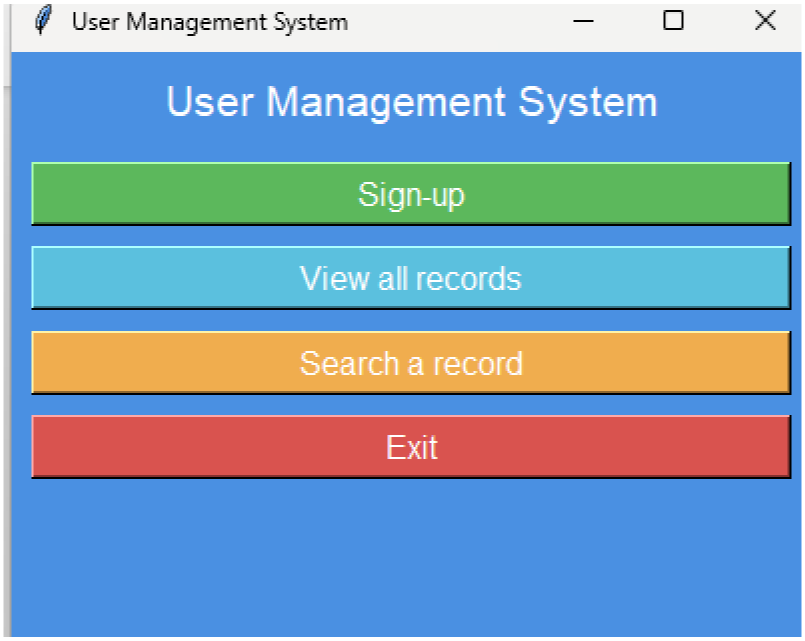
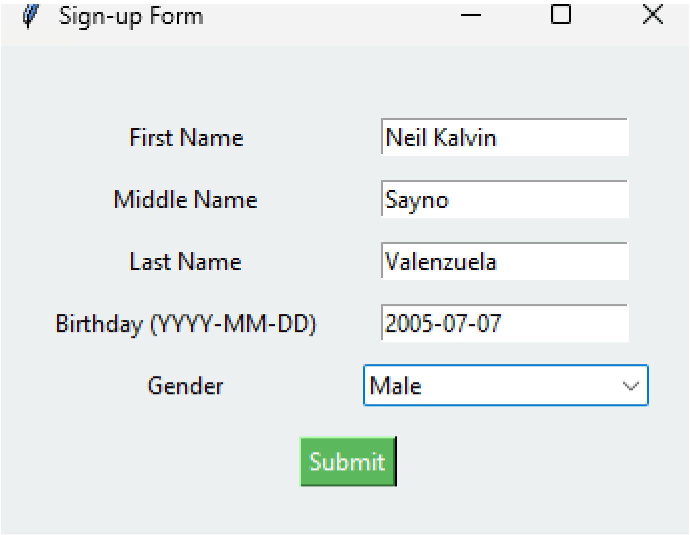


Figure 1. Main Menu

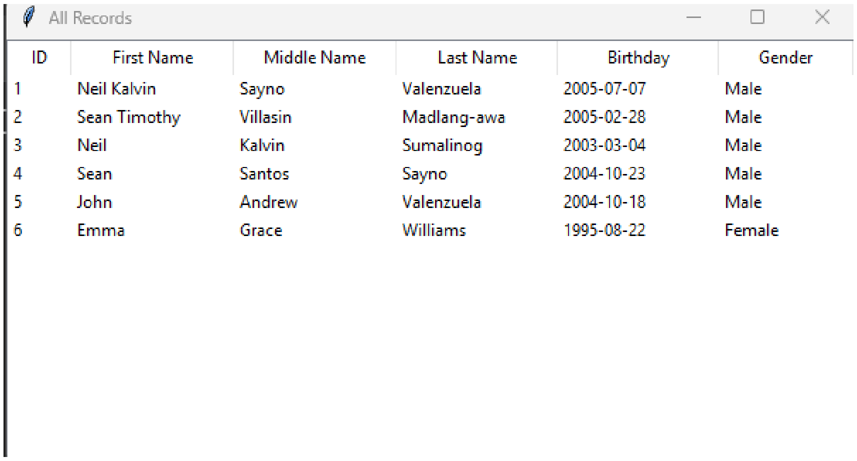
This is a main menu for a user management system, offering options to sign up, view records, search for records, or exit the application.



First Name	Neil Kalvin
Middle Name	Sayno
Last Name	Valenzuela
Birthday (YYYY-MM-DD)	2005-07-07
Gender	Male

Figure 2. Sign-up Form

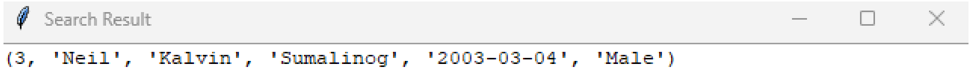
This is a sign-up form where users can enter their personal information, including first name, middle name, last name, birthday (in YYYY-MM-DD format), and gender. The "Submit" button is used to submit the entered data.



ID	First Name	Middle Name	Last Name	Birthday	Gender
1	Neil Kalvin	Sayno	Valenzuela	2005-07-07	Male
2	Sean Timothy	Villasin	Madlang-awa	2005-02-28	Male
3	Neil	Kalvin	Sumalinog	2003-03-04	Male
4	Sean	Santos	Sayno	2004-10-23	Male
5	John	Andrew	Valenzuela	2004-10-18	Male
6	Emma	Grace	Williams	1995-08-22	Female

Figure 3. Records

This is a records display screen presenting all stored user information in a table format. It includes columns for ID, first name, middle name, last name, birthday, and gender, allowing users to view and validate the data.



```
(3, 'Neil', 'Kalvin', 'Sumalinog', '2003-03-04', 'Male')
```

Figure 4. Search Result

This is a search results screen that displays the information of a specific user based on the search criteria. It shows the user's ID, first name, middle name, birthday, and gender in a plain text format.

IV. SUMMARY

In this project, we developed a user management system using Python with Tkinter for the graphical user interface (GUI) and SQLite for database management. The system is designed to allow users to register, view, and search for records stored in a database. To start, we set up an SQLite database called users.db with a table named users, which holds user details like first name, middle name, last name, birthday, and gender.

The user interface provides a straightforward way for users to interact with the system. They can sign up by entering their personal details, view all user records, or search for a specific record by last name. The sign-up form ensures that all required fields, such as first name, last name, birthday, and gender, are filled out before submitting the data to the database. If there are any issues during the process, the program shows an error message. Additionally, we implemented a search feature that allows users to search for records by last name, displaying all matching entries or notifying the user if no results are found.

We used various Tkinter widgets, including frames, labels, entry fields, buttons, and treeviews, to create the interface. Each button is linked to a specific function, such as signing up, viewing records, or searching for users. This project also incorporates error handling to ensure smooth database operations, showing users success or failure messages when needed.

Overall, we built a simple yet effective user management system that combines SQLite for data storage with Tkinter for the user interface, providing an easy-to-use tool for managing user information.