

Facebook_Tkinter_Python

Introduction

The **Facebook_Tkinter_Python** project is a **GUI-based social networking application** built using **Python and Tkinter**. This project mimics essential **Facebook functionalities**, allowing users to:

- Sign up and log in.
- Add, remove, and manage friends.
- Post updates, comment, and like posts.
- Send and receive private messages.
- View notifications and manage privacy settings.

This document explains the **architecture, functionality, and future improvements** of the project.

Technologies Used

- **Python 3.x** - Core programming language.
 - **Tkinter** - GUI framework for creating user interface.
 - **openpyxl** - Handles Excel-based data storage.
 - **OS module** - For file operations.
 - **Datetime module** - Manages timestamps.
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Project Architecture

```
Facebook_Tkinter_Python/  
|— Facebook.py          # Main script with Tkinter GUI  
|— Project2.xlsx        # Stores user data, messages, and posts
```

1. Facebook.py (Main Application)

This script is responsible for the entire **GUI and backend logic**, implementing the following features:

User Authentication

- Allows users to **sign up and log in**.

- Checks for **duplicate usernames**.
- Uses a **basic password authentication system**.

Friend Management

- Sends **friend requests**.
- Accepts and rejects requests.
- Maintains a **friend list**.

Posting System

- Users can **create posts**.
- Friends can **like and comment** on posts.

Messaging System

- Users can **send and receive** messages.
- Messages are stored in **Project2.xlsx**.

Notifications

- Users get notified for **new messages, comments, and friend requests**.

Privacy Management

- Users can **block and unblock** people.
- Manage **post visibility**.



Data Storage - Project2.xlsx

The Excel file **stores user data**, including:

- **Users:** Name, email, username, and password.
- **Friends:** List of friend connections.
- **Posts & Comments:** User posts and interaction history.
- **Messages:** Sent and received messages.
- **Notifications:** Friend requests, post comments, and messages.



Key Functionalities Explained

1. User Signup & Login

- Uses an **Excel sheet** to store user credentials.
- Checks if a **username already exists** before signup.

2. Posting & Interaction

- Posts are stored in an **Excel sheet**.
- Comments and likes are **appended to the post**.

3. Friend Requests & Management

- Users can **send/receive friend requests**.
- Requests can be **accepted or rejected**.

4. Messaging System

- Messages are stored **in Excel** under sender/receiver.
- Users are notified when they **receive a new message**.

5. Privacy & Blocking System

- Users can **block/unblock** specific users.
- Blocked users **cannot send messages or see posts**.

Areas for Improvement

- Use a **database (SQLite, MySQL)** instead of Excel.
- Improve **GUI design** with better UI frameworks.
- Add **encryption for passwords** for better security.
- Implement **real-time notifications**.
- Support **image and video uploads**.

Conclusion

The **Facebook_Tkinter_Python** project is a **great learning exercise** in building **GUI-based applications** with **Tkinter** and **Excel storage**. Future enhancements can transform it into a **fully functional social networking application**.

 **Further improvements and contributions are welcome!**