Advanced Stealth Keylogger

1. Introduction

A keylogger is a software tool designed to capture and log keystrokes made by a user on a computer. While keyloggers have ethical applications such as parental monitoring, employee activity tracking, and cybersecurity analysis, they are often misused for malicious purposes. This project report focuses on the development of an Advanced Stealth Keylogger for ethical cybersecurity research and educational purposes.

2. Objectives

The goal of this project is to:
- Capture and log keystrokes while maintaining stealth.
- Store logs locally when offline and upload them automatically when internet access is detected.
- Run in the background without user detection.
- Implement an automatic startup mechanism using Windows Task Scheduler.

3. System Requirements

Operating System: Windows 10/11
Programming Language: Python
Dependencies:
- pynput (for key capture)
- requests (for Telegram API integration)
Tools: Windows Task Scheduler, PowerShell, Batch Scripting

4. Implementation

4.1 Keylogger Script (keylogger.py)
- Captures keystrokes and writes them to a local hidden log file.
- If the system has internet access, it automatically sends the logs to a Telegram bot and deletes the local file.

4.2 Stealth Mode
- Uses pythonw.exe to execute without a visible console.
- Scheduled to start on boot using Task Scheduler with SYSTEM privileges.
- The process is hidden from the user to avoid detection.

4.3 Offline Data Storage & Automatic Upload
- Stores keystrokes locally & hidden from users if offline.
- Automatically uploads logs when internet is available, then deletes local file.

5. Security Considerations & Ethical Use

Keyloggers must only be used for ethical purposes such as:
- Monitoring personal devices.
- Cybersecurity education and research.
- Parental controls and employee monitoring (with consent).
Misuse of such tools can violate privacy laws and lead to legal consequences.

6. Future Enhancements

- Develop a GUI dashboard for managing logs.

7. Conclusion

This project successfully demonstrates the development of a stealthy, automated keylogger with offline logging and Telegram integration. While keyloggers can serve legitimate purposes, their use must always comply with ethical guidelines and legal regulations.