



EAST WEST UNIVERSITY

Course Title: Communication and Network Security

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Topic: Project Report

Project Title: Advanced Keylogger

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A. GENERAL INFORMATION

Project Overview

- An application system based on the Windows Platform.
System name or title: Advanced Keylogger.
- System code: Python 3
- System category:
 - **Major application:** performs clearly defined functions for which there is a keylogger with keystroke whenever a key is pressed on the keyboard it should take that key and store it in a text file and in addition also store the clipboard, system information, microphone sound and recent screenshot in a text, wav and png file and send to the email.
 - **General support system:** provides general email support for receive these system information and applications.

Project References

- ✓ [Send mail with attachment from your Gmail account using Python - GeeksforGeeks](#)
- ✓ [Black Hat Python — Windows Key logger | by Ismail Akkila | Medium](#)
- ✓ [\(194\) Capture Image Screenshots with Python - YouTube](#)
- ✓ [\(194\) Create a Keylogger with Python - Tutorial - YouTube](#)

Points of Application

- **Information**

The points of application function information that may be needed by the document user for troubleshooting purposes are currently not available.

- **Coordination**

The list of applications that require coordination between the project and its specific support function (e.g., executable coordination, security, etc.) are currently not available.

- **Encryption feature**

Encryption feature including responsible for fool the victim for collect victim information is currently not available.

B. APPLICATION SUMMARY

Application Configuration

This is windows monitor network application that whenever a key is pressed on the keyboard it should take that key and store it in a keystrokesFile.text file so for example if the letter K is pressed it would take that letter and store it in a keystrokesFile.text file. Also store the clipboard, system information, microphone sound and recent screenshot in a text, wav and png file. Also, in this application Email address also implemented which is hacker can get that store information through the email.

Store data Flows

Users input text by using a system keyboard, which has a dedicated key for inserting valuable information. Spell remove, and clipboard pasted information, conversation record in front of system are supported, and users may change a word after it has been typed by tapping the word; similar windows screen that may have been the screen the user was trying to type will then be automatically capture the recent screenshot.

User Access Levels

The Primary user and other user not be able to modify keylogger application data and information.

C. MODULE REQUIREMENT

For this project, install all of the following modules which name is exactly the name of the package:

- pywin32
- pynput
- scipy
- cryptography

- requests
- pillow
- sounddevice

D. GETTING STARTED

This section provides a general walkthrough of the system application. The logical arrangement of the information shall enable the functional personnel to understand the sequence and flow of the system application.

Logging Keys

This feature describes in general terms the system application first captures the user key input, as well as when the application running in the background it will store the user input in the text file. When user going to type in his personal information and password on specific system then automatic store in keystrokesFile.txt file which means keylogger that records keystrokes. After store the keystrokes information then hacker get these information via email.

EMAIL

Provide an email address here for get the data or information in the remainder of the subsection. Describe the function and pathway of the information item. To add an email functionality, we will be using the email module. Provide an average response time to use the email for getting information.

Computer Information

To gather computer information, we will use socket and platform modules. Use the `get('https://api.ipify.org').text` to get external ip. After application running in the background then this feature receives the processor information, system and version information, machine information, internal IP address and hostname. So, this feature provides all information of victim system.

Clipboard

To get the clipboard information, we will be using the win32clipboard module, which is a submodule of pywin32. In this feature the person may not have any writeable data for the clipboard (could have copied an image), so use a try – except block just in case information could not be copied. When the application running in the background automatically store all pasted information in the txt file and then these store data automatically send to the email address.

Microphone

Content of the microphone so that we can record maybe what's going on if someone you know is talking to another person on the phone. To record with microphone, we will be using the sounddevice module and writing to a .wav file using the scipy.io.wavfile module. When the application running in the background automatically store microphone record in the .wav file and then these store data automatically send to the email address.

Screenshot

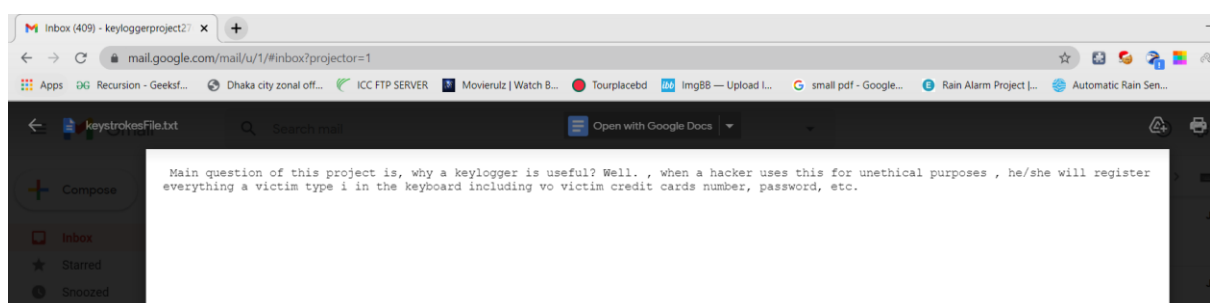
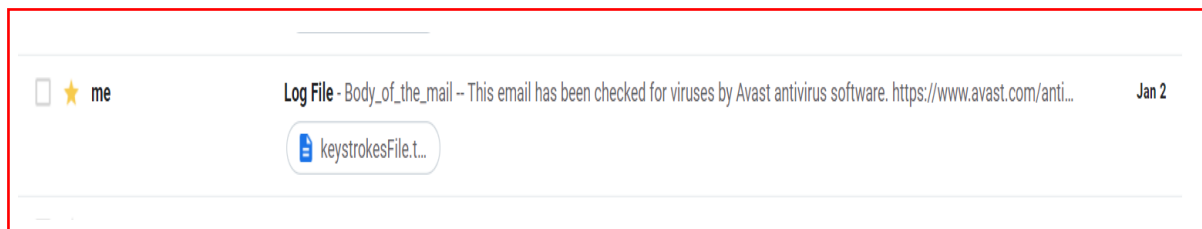
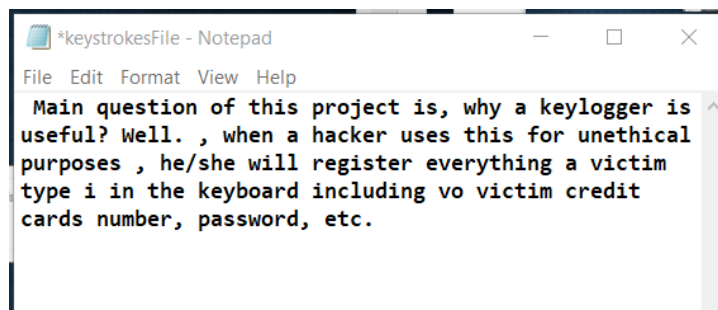
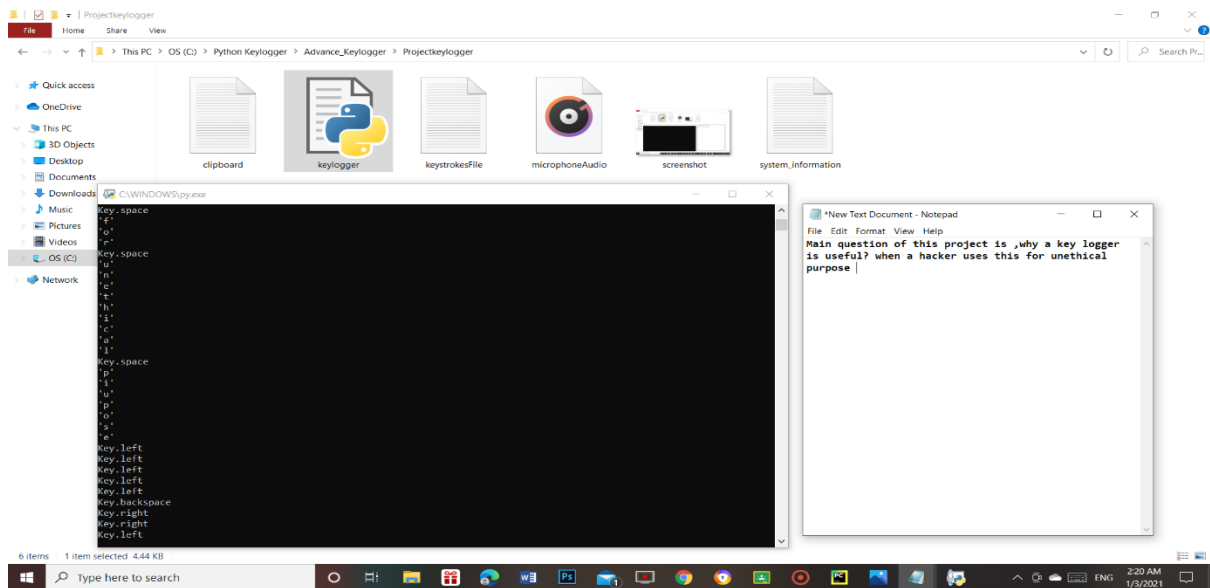
To take a screenshot, we will use the ImageGrab from the Pillow Module. In this application only one screenshot is taken at a time. And this is the method to take the recent screenshot of the system. In this feature screenshot which is capture when execute the program and get this screenshot through the email.

Special Instructions for Error Correction

As a condition of your use of the application, you will not use the other server for email services for any purpose that is prohibited. You may not use the other services in any manner that could damage, disable, overburden, or impair any windows system.

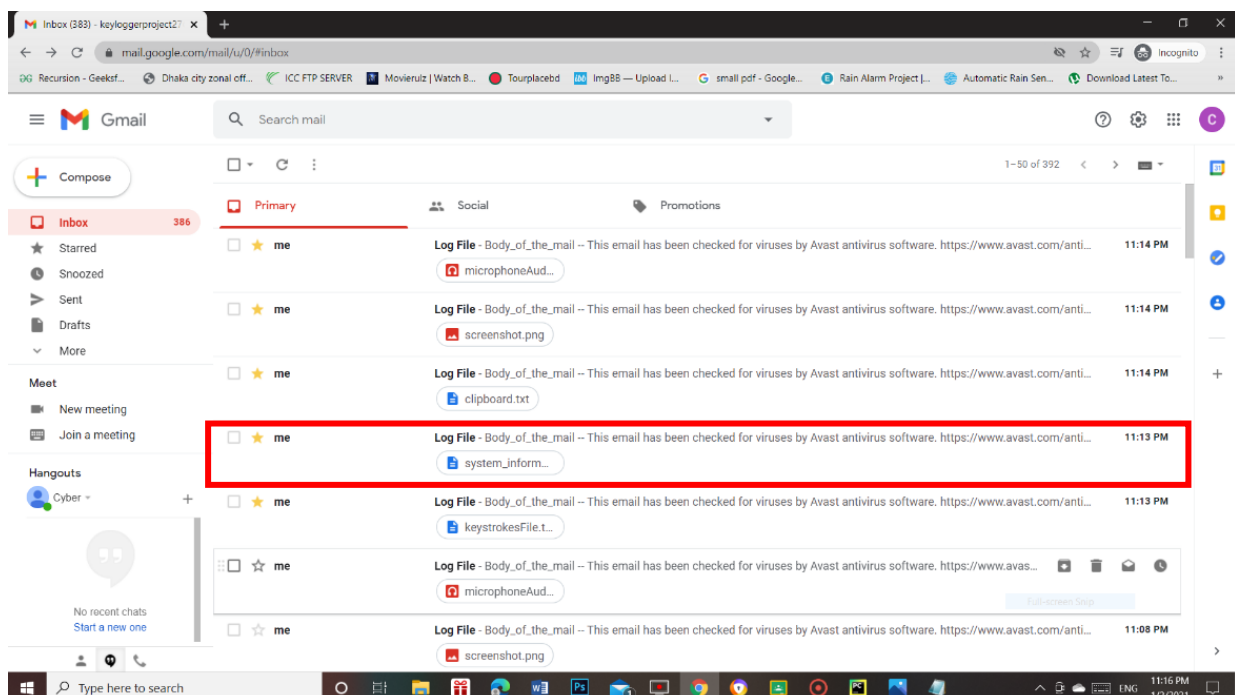
E. PROCESS OF RECORD KEY AND OTHER FEATURE

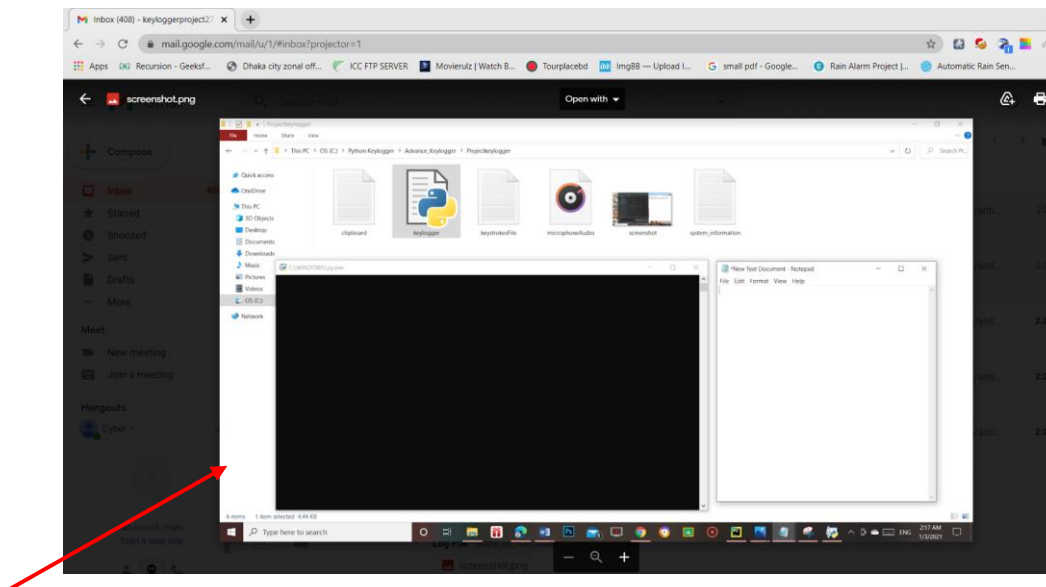
Screen Shots Logging keys



Screen Shots Computer information

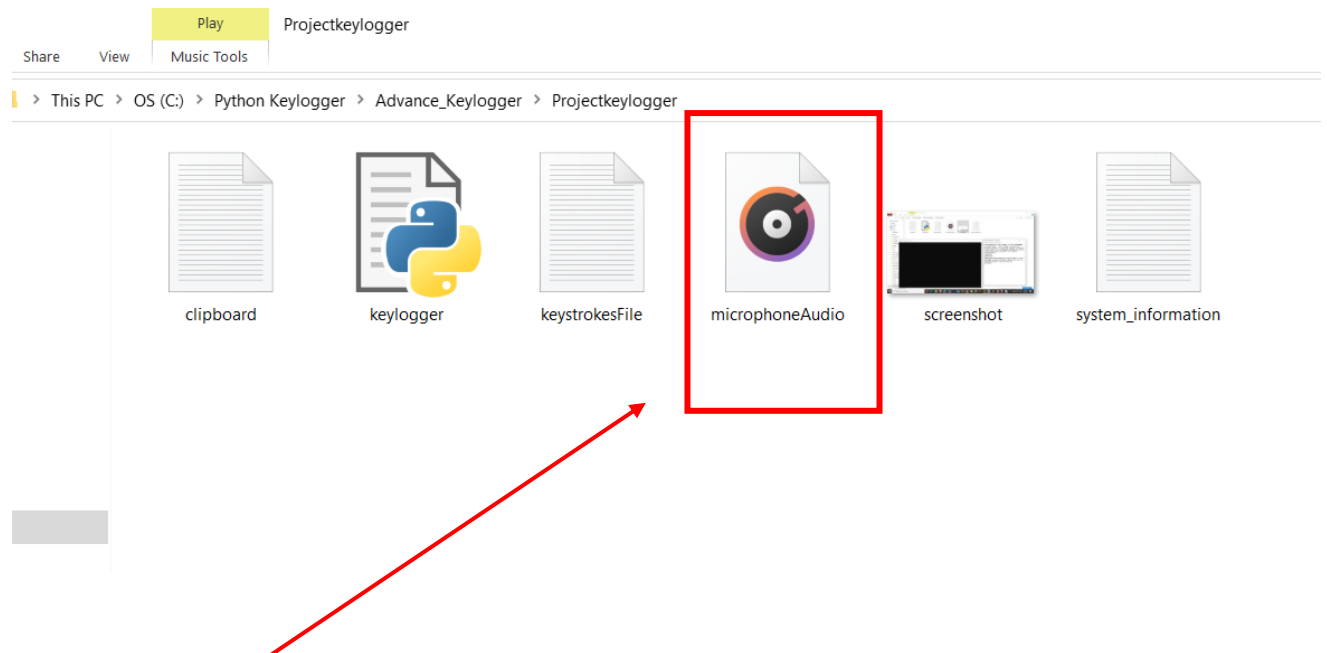
```
system_information - Notepad
File Edit Format View Help
Public IP Address: 103.25.123.132
Processor: Intel64 Family 6 Model 142 Stepping 9,
GenuineIntel
System: Windows 10.0.18362
Machine: DESKTOP-6930JE6
Hostname: DESKTOP-6930JE6
Private IP Address: 192.168.56.1
Public IP Address: 103.25.123.133
Processor: Intel64 Family 6 Model 142 Stepping 9,
GenuineIntel
System: Windows 10.0.18362
Machine: DESKTOP-6930JE6
Hostname: DESKTOP-6930JE6
Private IP Address: 192.168.56.1
Public IP Address: 103.25.123.129
Processor: Intel64 Family 6 Model 142 Stepping 9,
GenuineIntel
System: Windows 10.0.18362
Machine: DESKTOP-6930JE6
Hostname: DESKTOP-6930JE6
Private IP Address: 192.168.56.1
```

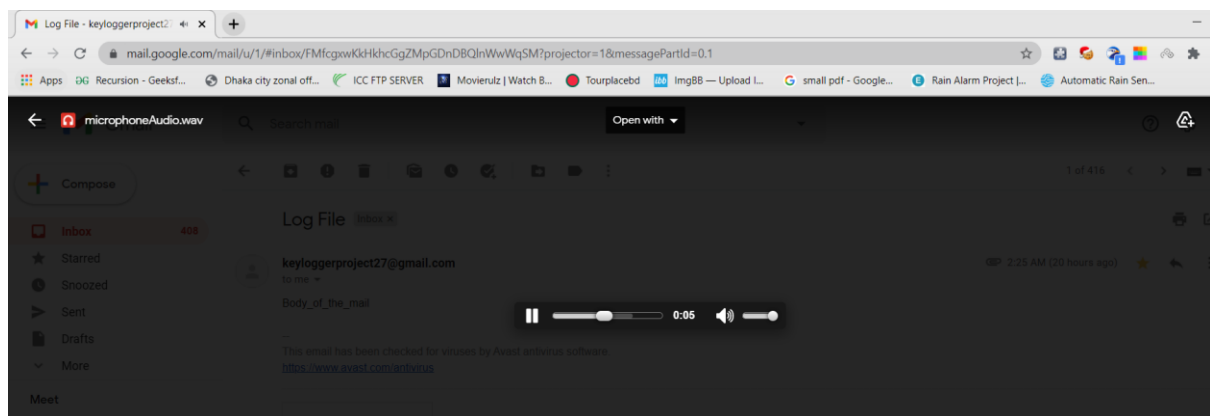
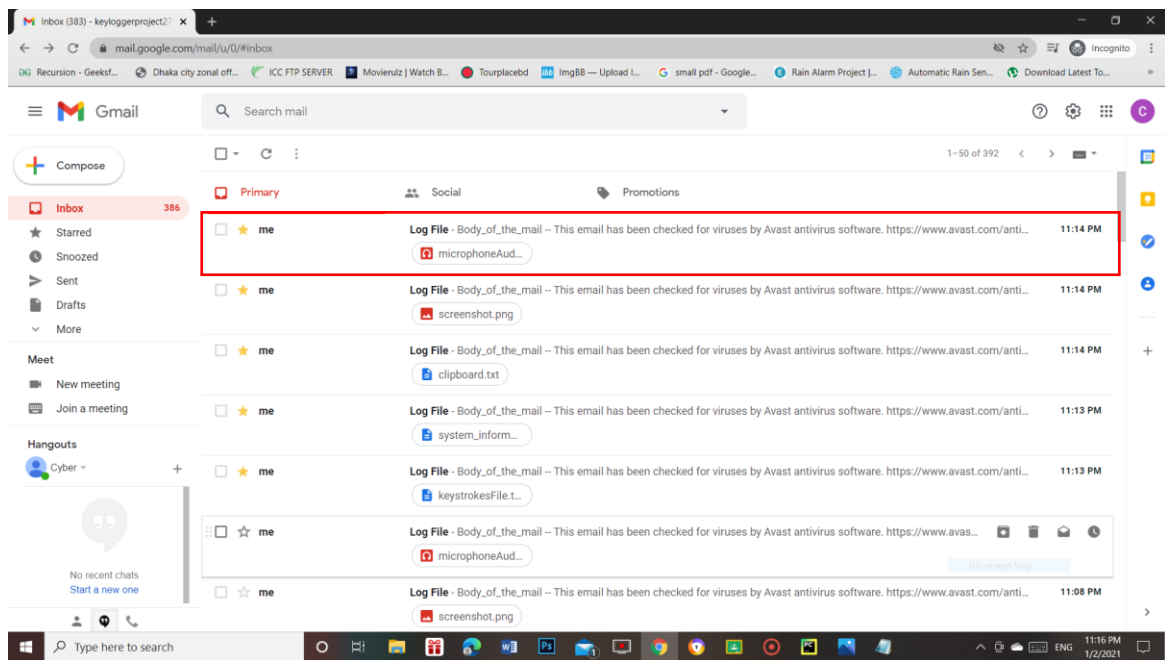




This is recent screenshot when application running in the background.

Screen Shots for feature Microphone





F. TARGETED ATTACK

Isn't spread to the masses, only to the victims I select.

G. GOAL OF THIS PROJECT

The goal of this project is to make a victim aware of these kind of scripts as well as learning how to implement such malicious scripts on his/her own for educational purposes.

H. FUTURE ENHANCEMENT

Platform: In future for better development of this keylogger, we are thinking that in future we will try to add more feature like encryption and decryption. In our project we also add how to

record mouse movements as well. Because its more useful. And make a working executable with logo, Public facing IP address.

I. CONCLUSION

An advanced keylogger system is designed, developed, and demonstrated to detect logging keys, microphone record, clipboard information, recent screenshot and computer details based on the windows platform which is one of the useful method. When a hacker uses this for unethical purposes, he/she will register everything a victim type in the keyboard including victim credit card numbers, passwords, etc. It is recommended we have a foundational knowledge of programming and python fundamentals. Being familiar with common programming concepts as well as python syntax.

The experience of working in project related package and integration of modules developed independently, with just requirement specifications, is a very important achievement for us.