

HKU SPACE & UNIVERSITY OF PLYMOUTH

BSc (Hons) Computer and Information Security

PRCO304HK Computing Project

Project Proposals

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Proposal Project 1

Title: Detection and Deletion of Keyloggers in Computer System

A. Brief description

Keylogger, which is a surveillance software installed on a system to record the keystroke made on that system. My project is planned to design a computer program to detect the keylogger software when the computer startup. The second step of my project is deletion the keyloggers after the detection.

As we know, key logger is a program that enable to monitor and records every activities of the computer user by their typing on specific keyboard of a computer or a mobile device. The software tracks or logs on the keys without the knowledge of the user. As the result, it may lead to a great threat to user to leak of the important data while they typing on the keypads. Most of the computer users are laymen users who will not realize the present of the Keylogger and its functions, also they will not have such behavior to remove the important Keylogger when they using of the computer.

The threat is not only to retrieve the data, but also intercept passwords and other confidential information entered through the keyboards. The hackers could steal the PIN codes, bank account numbers, passwords to emails and social networking account credentials. The final results to the loss of the users' property and money from close relatives.

Although there have some paid or free anti-free keylogger program, but we don't know the program is safety or not if there is a back door of the program which will leading to lost the data security. Design of the program will make me completely to understand what the keylogger done and how to avoid it in stealing the data.

In my project, I would like to try to write up the software program by using the computer languages for Keylogger detection and deletion program.

Risk Plan

- Changing requirements and priorities

Consult to the supervisor when facing the critical problems.

- Poor documentation.

Reference to the previous project

Try to use proper citation to code reference, especially the libraries used

- Failure to deliver on time.

Apply VL from company when the progress is obviously slow

Extend the project and graduation year in last resort

- Aware of the laws and regulations related
- Ethical issues of the involving parties

B. Keywords

Keylogger/ Keystroking/ Anti-Keylogger / Capture/ Malicious/ Spyware/ Data leakage

Remove Keylogger

Proposal Project 2

Title: Building Own Encryption Software

A. Brief description

Since data encryption is a big part of cybersecurity and it is an interesting topic to be studied, I want to try building my own encryption software as my final year project. Encryption is the process of converting data into an indecipherable code while in transmit or storage. In our daily living, we acquire an increasing amount of confidential and sensitive data over the course of their lives, we willingly provide this data to entities including business organizations. We expect them to use it solely for the purposes we authorize them to. However, some unethical business or hackers will make a chance to retrieve our sensitive data during transmission. The process of converting data prevents any unauthorized access from hackers or third-parties and keep data intact under lock and key. A good encryption helps to eliminate the issues of cyber-fraud, identity theft of personal data and information. The modern encryption also enable the data transmitted and scrambled in such a way that it can only be decrypted by someone possessing the actual encryption key.

Although there have million software or apps to provide the encryption service by free or pay, but I think that it's not 100% safe because we don't know there may contains the backdoor or the its encryption algorithms may easily to break. As a result, the backdoor vulnerabilities would lead to the leakage of the confidential information or personal information. For the sensitive information, they will not be safe to store or transmit via internet.

My project vision is developing my own encryption software to avoid the said problems. Firstly, I will try to build a software to encrypt the files using existing algorithms. Secondly, I will try to implement the encryption easily in the software.

Risk Plan

- Changing requirements and priorities.

Consult to the supervisor when facing the critical problems.

- Poor documentation.

Reference to the previous project

Try to use proper citation to code reference, especially the libraries used

- Failure to deliver on time.

Apply VL from company when the progress is obviously slow.

Extend the project and graduation year in last resort

- Aware of the laws and regulations related
- Ethical issues of the involving parties

A. Keywords

BYOE (Build Your Own Encryption)/ Encryption/ AWS/ SDK /Data leakage/ Backdoor