**CS 3750 [Fall 2018]**

**Assignment 1**

**Due date: Tuesday, 11 September 2018, by 11:00 p.m.**

***Print your name:* Johnnie Oldfield**

**Answer the following questions:**

1. For each of the following assets, assign a LOW, MODERATE, or HIGH impact level for the *loss of confidentiality, loss of availability,* and *loss of integrity* respectively. Briefly explain your ratings.

[6 + 6 = 12 points]

* 1. An organization managing public information (info. available on public repositories) on its Webserver.

LoC: LOW – With it being public information the data is already being displayed. Even if there is some hidden information it’s probably not very useful to an attacker.  
LoA: LOW – The information is probably not very critical if its being displayed publicly.

LoI: LOW/MODERATE – While the data might not be worth to an attacker, users might find it useful. So changing the data might inconvenience for cause issues for the users.

* 1. A law enforcement organization managing sensitive investigative information.

All three are HIGH impact. The data being kept by law enforcement is very critical to the investigation if any breach of confidentiality, availability, and integrity can be very dangerous as it can impede or even cause the investigation to fail.

1. Suppose a thief tried to break into an old ATM and could jam the card reader and was able to break 5 keys on the numeric pad (0 – 9) though breaking of the 5 keys are not apparent (visibly). Before the thief could break any further key a user approached the ATM and the thief had to hide. The user, ignorant about the break, put in her card, entered his 4 digit PIN, got some cash but could not get the card out. The user left the ATM for help and the thief came back and started trying to discover the user’s PIN. Assuming 3 seconds for each PIN trial, how long the thief would take, in the worst case, to discover the user’s PIN? Explain. [3 points]

~~10x10x10x10 = 10,000 possible PIN numbers~~

~~10,000\*3= 30,000 seconds = 500 minutes = 8.33 hours~~

~~In the worst case it would take the thief over 8 hours to get the correct PIN number.~~

5x5x5x5 = 625 possible PINs

625x3 = 1875 seconds = 31.25 minutes in the worst case.

1. Suppose you want to use a computer to login to your email account that you suspect is infected by a keylogger software. Assuming that you can have both a web browser window and a text editor window open at the same time, can you think of a scheme that allows you to type in your username and password such that the keylogger would not be able to discover the id and the password. You can assume that the keylogger does not have any feature like screen capture or mouse event capture. Explain your scheme. [5 points]

Without a screen capture or mouse event capture functions you can get past the key logger easily. You can type random keys in the text editor while going back and typing your username and password a few keys at a time.

**Submission instructions:** write your name at the top and include answer to each question on this document preferably after each question. Please do not write your answers on a separate document or file. Submit the file through BlazeVIEW dropbox.