**CS 3750 [Fall 2018]**

**Assignment 3**

**Due date: Monday, 17 September 2018, by 11:00 p.m.**

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**Answer the following questions:**

1. Suppose while trying to access a collection of short videos on a web site, you see a pop-up window stating that you need to download and install a custom video player to view the videos. You approve the installation and the videos play excellent on the new player. Is your computer subject to any threat? Explain. [4 points]

While the video player is preforming as expected, it is most likely a Trojan. It has disguised itself as a useful video player when in reality there is some hidden malicious feature running in the background.

1. Consider the following code fragment:

{ … } // some code doing useful task

if(date == 13 && day == “Friday”)

crash\_system();

{ … } // some code doing useful task

Is the above code a malware? Explain how it affects the computer on which it is running.

[5 points]

The above code implies that a programmer added a logic bomb. After meeting a logic condition, that being Friday 13th, it will activate ‘crash\_system();’ which may do something harmful to the system.

1. Suppose a security firm is selling protective covers for passports with RFID tag storing personal information. The cover costs only $49.99 and protects the passport from being read via radio waves while it is in your pocket. Can you achieve similar protection with lesser cost? Explain. [4 points]

You can cover your card in aluminum foil to act as a Faraday cage. This method is far more cost efficient while providing the same kind of security.

1. Suppose a in a system we have three users A, B, and C who will get ‘owner’ (O), ‘read’ (R), and ‘write’ (W) access to four files F1, F2, F3, F4 according to the following access control policy:

*A is the owner of F1 and F3, and can read and write both; B can read all files except F3, which it can only write to. It also owns F2 and can write to it; C can read F1, F2, F4, can write to F1, F4, and owns F4.*

As security policy administrator, your job is to express the above policy in an access control matrix. Create such a matrix to express the above authorization policy. [7 points]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | F1 | F2 | F3 | F4 |
| A | O, R, W | **-** | O, R, W | **-** |
| B | R | O, R, W | W | R |
| C | R, W | R | **-** | O, R, W |

**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.